

IN THE UNITED STATES DISTRICT COURT
FOR THE EASTERN DISTRICT OF NORTH CAROLINA
WESTERN DIVISION
Civil Action No. 5:12-cv-289-BO

STATE FARM FIRE AND CASUALTY)
COMPANY as subrogee of)
CHRISTOPHER TAYLOR,)
)
Plaintiffs,)
)
v.)
)
LOUISIANA PACIFIC CORPORATION,)
)
Defendant.)
)

PRE-TRIAL ORDER
Local Civil Rule 16.1(d)

Date of Conference: March 31, 2014

Appearances: L. Skye MacLeod, Stephen R. Paul, and Patrick M. Anders, The Law Offices of Stephen R. Paul, PLLC, Chapel Hill, North Carolina for Plaintiffs;

Nathaniel C. Parker and L. Neal Ellis, Jr., Ellis & Parker, PLLC, Wake Forest, North Carolina, and George Murphy, Vinson & Elkins, Houston, Texas for Defendant

I. STIPULATIONS.

- A. It is stipulated that all parties are properly before the Court.
- B. It is stipulated that the Court has jurisdiction over the parties and the subject matter of this action.
- C. It is stipulated that venue is proper in this Court.
- D. It is stipulated that all parties have been correctly designated.
- E. It is stipulated that there is no question as to misjoinder or nonjoinder of parties.
- F. It is stipulated that there are no issues as to capacity of the parties.

G. It is stipulated that this case is governed by the substantive law of the State of North Carolina.

H. All stipulations, contentions, factual issues, legal issues, designations and objections herein are presented without prejudice to the positions taken by any party in pending motions or subsequent motions in limine or to their objections noted herein. The parties reserve their rights to supplement or modify their objections based on rulings on such motions or on proffers for the admissibility of evidence. In addition, the parties reserve their rights to make objections not included in this Pretrial Order in motions in limine to be filed.

I. It is stipulated that to the extent technically feasible, the parties will exclude the reading of objections when deposition testimony is read or presented to the jury.

J. It is stipulated that each party reserves the right to offer at trial any testimony and exhibits designated by the adversary, and the right to use counter-designations as affirmative designations and vice versa.

K. It is stipulated that parties are not bound at trial to call any witness or use or offer any deposition testimony or exhibit designated by that party herein. Each party reserves the right to object to any testimony or exhibit designated by it herein when offered at trial, in whole or in part, by the other party.

L. Facts:

1. It is stipulated that Plaintiff State Farm Fire and Casualty Company (“State Farm”) is an insurance Company authorized to do business in the State of North Carolina.
2. It is stipulated that Christopher Taylor is an owner of the home located at 190 Cedar Valley Lane, Louisburg, Franklin County, North Carolina (“Taylor Home” or “Taylor House”).

3. It is stipulated that Louisiana-Pacific Corporation (“LP”) manufactures a radiant barrier product for use in residential structures called LP TechShield Radiant Barrier (“TechShield”).

4. It is stipulated that on August 29, 2011, Plaintiff State Farm Fire and Casualty Company insured the Taylor Home), under a policy of homeowners insurance.

5. It is stipulated and agreed that photocopies of exhibits may, if otherwise admissible, be received into evidence in lieu of the original of these documents or photographs.

II. CONTENTIONS.

A. Plaintiffs:

1. Factual Issues:

a. LP has admitted that the roof structure of the Taylor Home was constructed with TechShield.

b. In August 2008, Christopher Taylor purchased LP's TechShield product from Builders' FirstSource to use in the new construction as the roof decking of his home. TechShield was installed by a roofing subcontractor hired by the general contractor CBT Management, LLC. The Taylor Home was completed in June 2009.

c. The TechShield was installed properly.

d. On August 29, 2011 the exterior chimney cap of the wood burning stove on the far right hand side of the Taylor Home was struck by lightning.

e. The electrical energy from the lightning strike traveled through the metal chimney cap to the TechShield. The TechShield was energized by electrical energy from the lightning strike causing a fire to ignite in the Taylor Home.

f. LP has admitted that TechShield incorporates a composite of aluminum foil and kraft paper, which is laminated to oriented strand board (“OSB”) by a continuous resin glue line. LP has admitted that conventional oriented strand board (“OSB”) does not incorporate a laminate of aluminum foil and kraft paper. LP has admitted that aluminum foil is conductive of electricity.

g. The TechShield was electrically connected to the Chimney cap and the grounded dryer vent. All parties agree that the primary path to ground of the electrical energy from the lightning strike was from the metal chimney cap, across the TechShield radiant barrier sheathing, and to the dryer vent on the left hand side of the Taylor Home.

h. LP has admitted that the aluminum foil laminate component of TechShield is 0.0018 inches in thickness. The aluminum foil is too thin to sustain electrical energy in small amounts, much less electrical energy from a lightning strike, without melting or ablating with the unreasonably dangerous and increased risk of igniting nearby combustibles.

i. All parties agree that the area of origin of the fire within the Taylor Home was within the Taylor Home’s roof decking, as designated in Deposition Exhibit No. 59.

j. LP has admitted that it did not conduct or commission studies on whether the use of TechShield increases the risk of a structure catching fire when energized by lightning prior to introducing TechShield into the stream of commerce.

k. LP has admitted that it did not conduct or commission studies on whether the use of TechShield increases the risk of surrounding combustibles catching fire when energized by lightning prior to introducing TechShield into the stream of commerce.

- l. All parties agree that the electrical system in the Taylor home, though energized by electrical energy from the lightning strike, was not the cause of the fire.
- m. Defendant's TechShield melted and ablated causing a fire in the Taylor Home.
- n. Defendant's TechShield radiant barrier product creates an unreasonable danger of fire when exposed to electrical energy and created an increased risk of fire hazard in the Taylor Home.
- o. Defendant was negligent in the design of the TechShield radiant barrier product, in that the aluminum foil is too thin, melts through resistive heating and/or ablates when energized by electricity, is known to be directly connected to easily ignited combustible materials, serves as a down conductor, serves as a path to ground for electrical energy, is designed to be connected to grounded systems within a home, and as part of the roof structure is intended to be placed in the highest and most exposed portion of a home.
- p. Defendant failed to properly test, examine and study the TechShield radiant barrier product when energized by electricity in any amount prior to placing it into the stream of commerce.
- q. Defendant negligently failed to warn users, including Christopher Taylor, of defects inherent in the design of its TechShield radiant barrier product.
- r. Defendant breached implied warranties of merchantability in the sale of its TechShield radiant barrier product to Christopher Taylor.
- s. Defendant breached implied warranties of fitness for the particular purpose of roof sheathing in the sale of its TechShield radiant barrier product to Christopher Taylor.

- t. As a result of the fire on August 29, 2011, the Taylor Home and personal property were damaged.
- u. At the time of the fire, Plaintiff State Farm Fire and Casualty Company insured the residence owned by Christopher Taylor, located at 190 Cedar Valley Lane, Louisburg, North Carolina (“the Taylor Home”), under a policy of homeowners insurance.
- v. As a result of the fire on August 29, 2011, Plaintiff State Farm Fire and Casualty Company caused payments to be issued to or on behalf of Christopher Taylor to indemnify losses caused by the fire in the amount of \$157,545.79.
- w. As Christopher Taylor’s homeowners insurer, Plaintiff State Farm Fire and Casualty Company, is subrogated for damages caused by the fire of August 29, 2011.

2. Legal Issues:

- a. Whether Defendant’s TechShield radiant barrier product was unreasonably dangerous creating an increased risk of hazard when exposed to electrical energy?
- b. Whether Defendant negligently designed LP TechShield?
- c. Whether Defendant failed to warn the Taylors of the dangers of TechShield?
- d. Whether Defendant failed to properly instruct the Taylors on installation of TechShield?
- e. Whether the Defendant breached an express warranty to the Taylors?
- f. Whether Defendant breach implied warranties to the Taylors?
- g. What amount of damages are Plaintiffs entitled to recover from Defendant as a result of the fire of August 29, 2011?

B. Defendant:

Defendant states the following contentions as to the facts, factual issues and legal issues:

A. Facts:

Defendant states the following contentions as to the facts:

1. Louisiana-Pacific Corporation (“LP”) is a building materials manufacturer registered to do business and doing business in North Carolina.
2. LP is the manufacturer of a radiant barrier sheathing product called TechShield. TechShield is designed to radiate heat from the sun away from a home’s living space in summer and retain heat within the living space during winter by adhering an aluminum sheet to the underside of roof sheathing panels. LP does not sell TechShield directly to consumers, but sells TechShield to third party distributors, who sell TechShield to retailers, who in turn sell TechShield to consumers. LP publishes installation instructions, material safety data sheet, and warranty information for TechShield on its website. LP provides a 20-year limited warranty for TechShield, which expressly excludes liability for incidental, special, indirect or consequential damages, including damage to property. The warranty requires notification to LP within 30 days of discovering any product non-conformity.
3. Taylor is a licensed general contractor in North Carolina. Taylor was the general contractor for the Taylor House. Taylor selected TechShield for installation in the Taylor House. Taylor failed to review the installation instructions, material safety data sheet, or warranty for TechShield when he researched TechShield on the internet prior to selecting it for the Taylor Home. Taylor purchased TechShield from

Builder's First Source, a building supply retailer. Taylor did not purchase TechShield from LP. Taylor hired subcontractors to install TechShield in the Taylor House. At no time did Taylor review the installation instructions, material safety data sheet or warranty for TechShield prior or during construction of the Taylor House. The Taylor House contains metal nails and other metal components in its roof structure.

TechShield was a component part of the roof system and was integrated with all other building materials into the Taylor House. Taylor completed the Taylor House in July 2009.

4. On August 29, 2011, the Taylor House was struck by lightning and a fire ensued.

5. TechShield was not dangerous or defective. LP did not fail to adequately design, test or examine TechShield to ensure that it met minimum standards of durability, safety, and reliability. LP did not know and should not have known that TechShield was dangerous, not safe, or unfit for its intended use when it manufactured the TechShield installed in the Taylor House. LP did not put TechShield into the stream of commerce when it knew or should have known that it was likely to cause fires. LP did not fail to give Taylor proper and adequate warning of the unsafe and/or defective condition of the TechShield installed in the Taylor House. LP did not fail to properly warn, instruct and/or advise sellers, consumers or users that TechShield was susceptible to damage from direct or indirect lightning strikes. LP did not fail to incorporate adequate warnings in its product literature.

6. The express warranty for TechShield was not addressed to Taylor. Moreover, LP's liability under the 20-year warranty for TechShield excludes incidental, special, indirect, or consequential damages, including damage to the Taylor House. Taylor

failed to notify LP within 30 days of discovery of alleged non-conformity with the warranty.

7. The fire at the Taylor House was caused by an Act of God. Lightning is a well-known and established cause of residential structure fires, and has resulted in the home fires long before Techshield or any radiant barrier products were developed. There is no way to determine whether the Taylor home would have experienced a fire if Techshield were not present. The lightning that struck the Taylor House on August 29, 2011 could have caused a fire whether or not TechShield had been present in the roof structure.

8. After the fire, but prior to notifying LP of any claims against it, Taylor allowed materials from the home in the area in which the fire is alleged to have occurred, including TechShield, to be improperly stored, damaged and removed from the home and disposed of prior to inspection by LP. Taylor failed to preserve important evidence that has hindered LP's ability to investigate and defend itself in this proceeding.

9. State Farm hired Robert McGraw as its fire investigator. Before Mr. McGraw visited the site of the fire State Farm supplied him with materials authored by State Farm expert Ronald Simmons setting forth a theory connecting radiant barrier materials to fires caused by lightning strikes.

10. McGraw has never testified as an expert about fire cause or origin in a residential home fire involving lightning. Because of the fire damage and removal of material before McGraw and other experts had a chance to examine it, the experts were not

able to identify a point of origin of the fire. McGraw is also unable to identify the material that first ignited.

11. State Farm's expert Simmons is not qualified to testify as an expert witness on the subject of lightning induced fires and radiant barriers. Among other things, Simmons never visited the site of the fire, never talked with the homeowner about the fire; never took photos of the site, but instead conducted his research using internet websites.

12. Testing by State Farm's expert Simmons in no way provides a basis for a conclusion that Defendant's TechShield caused the fire in the Taylor house. It does not replicate a lightning strike. The conditions governing a lightning strike are vastly different including among other things the duration of the strike. Simmons' testing does not comply with any standards.

13. Simmons' report submitted during discovery is replete with both factual errors and errors which ignore fundamental laws of physics. Simmons' opinion that radiant barrier increases the risk of fire in homes that are struck by lightning is based on fabricated data and other information. Among other things, Simmons contends that he talked with fire professionals naming only a fire chief in Texas by the name of Billy Westerhausen. Chief Westerhausen denies ever having talked with Simmons.

14. Mr. Simmons' evidence shows: that houses with radiant barrier have been struck by lightning but no fire ensued; there have been houses with radiant barrier struck by lightning where the radiant barrier was not energized; there have been houses with radiant barrier struck by lightning where the radiant barrier was energized but no structure fire resulted; there have been houses struck by lightning with radiant barrier

and the house caught fire but it was determined that the cause of the fire was something other than radiant barrier; there have been houses without any radiant barrier that catch fire from lightning strikes. Mr. Simmons is unable to identify an adequate alternative design.

15. Mr. McGraw's evidence shows: that although he has investigated about 400 fires, this one was the first occasion in which radiant barrier was present; that he has investigated dozens of home fires caused by lightning where radiant barrier was not present.

16. The evidence and opinions of the Defendant LP's experts, Mark Goodson and Dennis Scardino show: that there is no support for the suggestion that TechShield increases the likelihood of lightning strikes to homes; that there is no support for the suggestion that TechShield assures that a fire will result in the eventuality of a lightning strike; that the presence of radiant barrier does not make it any more likely that a fire will result if a house is struck by lightning; that houses struck by lightning may result in fire with or without the presence of radiant barrier and that lightning is a recognized source of ignition for fires in homes; that comparisons of ignitability do not show a link between radiant barrier and increased-risk of lightning-induced fires; that a product is not hazardous or defective simply because it cannot withstand a lightning strike; that the power of lightning can cause any building product to fail or catch fire; that aluminum is essential to the function of radiant barrier and is used in a variety of building products.

B. Factual Issues:

1. Negligence/Failure to Warn or Instruct/Inadequate Design (Claim 1)

- a. Has Plaintiff presented evidence that the TechShield installed in the Taylor House was defective when it left LP's plant?
- b. Has Plaintiff presented evidence that LP was negligent in design of TechShield?
- c. Has Plaintiff presented evidence that LP was negligent in the selection of materials used in manufacturing TechShield?
- d. Has Plaintiff presented evidence that LP was negligent in the assembly process used in manufacturing TechShield?
- e. Has Plaintiff presented evidence that LP was negligent in the inspection of materials used in manufacturing TechShield?
- f. Did Taylor read the installation instructions or material safety data sheet for TechShield?
- g. Would Taylor have read additional or different warnings for TechShield?

2. Breach of Express and Implied Warranties (Claim 2)

- a. Did LP address the express warranty to Taylor?
- b. If so, do the disclaimers, exclusions, modifications and limitations of remedy and liability contained in the express warranty exclude incidental, special, indirect, or consequential damages, including damage to the Taylor House?
- c. Are Taylor's breach of warranty claims against LP barred, in whole or in part, for failure to give timely notice of the alleged breach?

B. Legal Issues:

1. Negligence/Failure to Warn or Instruct/Inadequate Design (Claim 1)

- a. Was the damage caused to the Taylor House directly and proximately caused by the superseding, intervening acts and conduct of others, thereby precluding plaintiff from recovery from defendant?
- b. Was the damage caused to the Taylor House directly and proximately caused by an Act of God?
- c. Was the damage caused to the Taylor House unforeseeable, caused by the unforeseeable acts of third parties, and/or caused by unrelated, unforeseeable and uncontrollable acts of nature?
- d. Were any and all acts performed by, and products designed and manufactured and/or distributed by LP at all times relevant to the Complaint in conformity with the state of the art and the applicable standards of care for the design and manufacture of such or similar products?
- e. Were any alleged damages to the Taylor House caused by the contributory negligent acts of Taylor and not any negligent acts by LP?
- f. Are Taylor's claims against LP barred, in whole or in part, by the doctrine of assumption of the risk?
- g. Did LP act reasonably in designing TechShield?

- h. Did LP fail to adopt a practical, feasible, and otherwise reasonable alternative design?
 - i. Did LP unreasonably fail to provide an adequate warning or instruction that proximately caused Plaintiff's damage?
- 2. Breach of Express and Implied Warranties (Claim 2)
 - a. Does the economic loss rule limit LP's liability for damage to the Taylor House to the replacement cost of the damaged TechShield?
 - b. Should Taylor's claim for breach of implied warranty be dismissed because there is no privity between Taylor and LP?
 - c. Are Plaintiff's claims excluded by the terms of the warranty?
- 3. Are Plaintiff's claims barred in whole or in part by the applicable statutes of limitation?
- 4. Are Plaintiff's claims barred in whole or in part by the doctrines of laches, waiver and/or estoppel?
- 5. Are Plaintiff's claims barred in whole or in part by plaintiff's failure to mitigate damages?
- 6. Are Plaintiff's claims barred by plaintiff's alteration, modification, abuse and/or misuse of the defendant's product?
- 7. Should untimely disclosed reports and expert testimony of Plaintiff's undisclosed expert Thomas W. Eager, and untimely expert testimony from Plaintiffs previously disclosed experts J. Robert McGraw, Jr.,

and Ronald D. Simmons be excluded for violation of Fed. R. Civ. P. 26(a)(2) and 37(c)(1) and the Court's Scheduling Order?

8. Should the reports and testimony of Plaintiff's purported expert witness, Ronald D. Simmons be excluded pursuant to Rule 7 of the Federal Rules of Civil Procedure, Local Civil Rule 7.1, EDNC, and Rule 702 of the Federal Rules of Evidence, for failing to satisfy the requirements for admissible expert testimony set forth by the U.S. Supreme Court in *Daubert v. Merrell Dow Pharmaceuticals, Inc.*, 509 U.S. 579, 579-80 (1993)?
9. Should the reports and testimony of Plaintiff's purported expert witness, J. Rober McGraw, Jr. be excluded pursuant to Rule 7 of the Federal Rules of Civil Procedure, Local Civil Rule 7.1, EDNC, and Rule 702 of the Federal Rules of Evidence, for failing to satisfy the requirements for admissible expert testimony set forth by the U.S. Supreme Court in *Daubert v. Merrell Dow Pharmaceuticals, Inc.*, 509 U.S. 579, 579-80 (1993)?
10. Are Plaintiff's claims barred because the damages were caused by generally recognized, substantially necessary inherent characteristics of the product?
11. Should Plaintiff be allowed to introduce for admission exhibits which it failed to provide to Defendant or describe with sufficient particularity for identification as required by Local Rule 16.1(c)(3)?

III. EXHIBITS

A. Plaintiffs

No.	PLAINTIFFS' EXHIBITS	DEFENDANT'S OBJECTIONS
1	Expert Report of J. Robert McGraw (with Attachments 1-8), 8/22/2012	Duplicative; hearsay; relevance
2	Supplemental and Amended Expert Report of J. Robert McGraw, 11/6/2012	Duplicative; hearsay; relevance; Untimely; Not properly designated
3	Photographs taken by J. Robert McGraw	Insufficient identification; foundation; authentication; relevance; no copy provided
4	File Materials of J. Robert McGraw	Insufficient identification; foundation; authentication; hearsay; relevance; self-serving; duplicative; no copy provided
5	Joint Inspection Sign-In Sheet, 10/21/2011	Foundation; authentication; relevance; no copy provided
6	Expert Report of Ronald D. Simmons, 8/29/2012	Duplicative; hearsay; relevance; Rule 702
7	Supplemental and Amended Expert Report of Ronald D. Simmons, 11/21/2012	Duplicative; hearsay; relevance; Rule 702; Untimely; Not properly designated
8	Photographs taken by Ronald D. Simmons	Insufficient identification; foundation; authentication; relevance; self-serving; no copy provided; rule 702
9	Video and Powerpoint by McDowell Owens	Foundation; authentication; relevance; self-serving; no copy provided; rule 702
10	File Materials of Ronald D. Simmons	Insufficient identification; foundation; authentication; hearsay; relevance; self-serving; duplicative; no copy provided; Rule 702
11	Expert Report of Gary Richetto, 10/13/2012	Duplicative; hearsay; relevance
12	File Materials of Gary Richetto	Insufficient identification; foundation; authentication; hearsay; relevance; self-serving; duplicative; no copy provided
13	Expert Report of Thomas Eagar, 11/19/2012	Duplicative; hearsay;

		relevance; Untimely; Not properly designated
14	Construction-Phase Photographs taken by Christopher and Rosaria Taylor	Insufficient identification; foundation; authentication; relevance; no copy provided
15	Post-Fire Photographs taken by Christopher and Rosaria Taylor	Insufficient identification; foundation; authentication; relevance; no copy provided
16	Photographs taken by Dennis J. Scardino	Insufficient identification; foundation; authentication; relevance; no copy provided
17	Photographs and SEM/EDX Test Results from 9/27/2012 Testing in Denton, TX	Insufficient identification; foundation; authentication; relevance; no copy provided
18	Physical Evidence collected during Joint Site Examination on October 21, 2011	Insufficient identification; foundation; authentication; relevance; no copy provided
19	Kitchen Aid Clothes Dryer with corrugated exhaust duct	Foundation; authentication; relevance
20	Chimney vent section from above the roof	Foundation; authentication; relevance
21	4 Sections of purple colored poly vent material	Foundation; authentication; relevance
22	Fire alarm branch conductors (red/green marks)	Foundation; authentication; relevance
23	Fire alarm branch circuit conductors (blue mark)	Foundation; authentication; relevance
24	Roof sheathing at dryer vent	Foundation; authentication; relevance
25	Roof sheathing at fireplace chimney	Foundation; authentication; relevance
26	2 pieces of damaged roof sheathing (recovered October 22, 2011)	Foundation; authentication; relevance
27	(See Evidence Control Form provided by Element Analytical, PLLC)	Foundation; authentication; relevance; no copy provided
28	Evidence Control Form, Element Analytical, 10/21-22/2011	Foundation; authentication; relevance
29	RIMA International, 7 Important Safety Tips for the Installation of Radiant Barrier, Reflective Insulation, or IRCCs, Technical Bulletin #108, 06/11	Foundation; authentication; relevance
30	LP TechShield Radiant Barrier August 2005 Installation Instructions	
31	LP TechShield Radiant Barrier 2009 Installation Instructions	
32	LP TechShield Radiant Barrier Sheathing 2007 MSDS	
33	Louisiana Pacific/Radiant Barrier EDAX ZAF	

	Quantification of Aluminum Foil	
34	Test Report – Emittance Measurement According to ASTM C1371, 11/10/2011	
35	Test Report – Emittance Test According to ASTM E408, 4/16/2010	
36	Final Statement of Loss, 6/26/2012	Foundation; authentication; hearsay; relevance; self-serving; no copy provided; best evidence rule; spoliation
37	CRC Restoration/Service/Remodel Estimate, 4/9/2012	Foundation; authentication; hearsay; relevance; self-serving; no copy provided
38	CRC Restoration/Service/Remodel Estimate, 3/29/2012	Foundation; authentication; hearsay; relevance; self-serving; no copy provided
39	CRC Labor and Materials Report, 3/29/2012	Foundation; authentication; hearsay; relevance; self-serving; no copy provided
40	CRC Restoration/Service/Remodel Estimate, 1/9/2012	Foundation; authentication; hearsay; relevance; self-serving; no copy provided
41	CRC Price List Variation, Labor and Materials Report, 1/9/2012	Foundation; authentication; hearsay; relevance; self-serving; no copy provided
42	CRC Restoration/Service/Remodel Estimate, 12/8/2011	Foundation; authentication; hearsay; relevance; self-serving; no copy provided
43	CRC Price List Variation, Labor and Materials Report, 3/29/2012	Foundation; authentication; hearsay; relevance; self-serving; no copy provided
44	Additional Living Expense Worksheet, 6/26/2012	Foundation; authentication; hearsay; relevance; self-serving; no copy provided
45	ALE Receipts, 8/2011	Foundation; authentication; hearsay; relevance; self-serving; no copy provided
46	ALE Receipts, 9/2011	Foundation; authentication; hearsay; relevance; self-serving; no copy provided
47	ALE Receipts, 10/2011	Foundation; authentication; hearsay; relevance; self-serving; no copy provided
48	Marriott ExecuStay Invoices, 2/2/12, 1/3/12, 12/2/11, 11/2/11, 10/4/11 (2)	Insufficient identification; foundation; authentication; hearsay; relevance; self-serving; no copy provided

49	Mileage, 8/29/2011-12/25/2011	Insufficient identification; foundation; authentication; hearsay; relevance; self-serving; no copy provided
50	All Invoices produced by Plaintiffs	Insufficient identification; foundation; authentication; hearsay; relevance; self-serving; no copy provided
51	Itemized Personal property Loss prepared by the Taylors	Insufficient identification; foundation; authentication; hearsay; relevance; self-serving; no copy provided; best evidence rule; spoliation
52	Contents Inventory Summary prepared by State Farm, 6/14/2012	Foundation; authentication; hearsay; relevance; self-serving; no copy provided; best evidence rule; spoliation
53	Contents Inventory Summary prepared by State Farm, 4/13/2012	Foundation; authentication; hearsay; relevance; self-serving; no copy provided; best evidence rule; spoliation
54	CRDN of Central and Eastern NC, Garment & Textile Restoration, 9/1/2011	Foundation; authentication; hearsay; relevance; self-serving; no copy provided; best evidence rule; spoliation
55	Franklin County Planning Permit obtained by CRC, 11/4/2011	Foundation; authentication; hearsay; relevance; self-serving; no copy provided
56	Uniform Deposition Exhibits:	
57	No. 3 Plaintiff's Responses to First Set Interrogatories/Request for Production	Relevance; best evidence rule
58	No. 4 Photograph of Exterior of Taylor Home	
59	No. 5 Sketch 1 of Taylor Home	
60	No. 6 Photograph of Exterior of Taylor Home	
61	No. 7 Photograph of Exterior of Taylor Home	
62	No. 8 Photograph of Interior of Taylor Home	
63	No. 9 Photograph of Interior of Taylor Home	
64	No. 12 LP TechShield Material Safety Data Sheet (MSDS)	
65	No. 13 LP TechShield 2005 Installation Instructions	
66	No. 14 LP TechShield 2009 Installation Instructions	
67	No. 17 Element Analytical, PLLC Report dated 8/22/2012 (pp. 1-7 of 24)	
68	No. 18 Photograph of Area of Fire Damage dated 8/30/2011	
69	No. 19 Photograph of Area of Fire Damage dated 8/31/2011	
70	No. 20 Photograph of Area of Fire Damage dated 9/9/2011	
71	No. 21 Photograph of Fire Debris dated 8/30/2011	

72	No. 22 Photograph of Fire Debris dated 8/30/2011	
73	No. 24 Cary Reconstruction Company, Page 3 of Report	Foundation; authentication; hearsay; relevance; self-serving; best evidence rule
74	No. 25 CRC Materials Report, Page 12 of Report	Foundation; authentication; hearsay; relevance; self-serving; best evidence rule
75	No. 26 Claim # 33D493449 item/description list	Foundation; authentication; hearsay; relevance; self-serving; best evidence rule; spoliation
76	No. 30 Summary Background Information for Taylor Fire	Foundation; authentication; hearsay; relevance; self-serving; duplicative
77	No. 31 J. Robert McGraw Expert Report with McGraw handwritten notes	Duplicative; hearsay; relevance; self-serving
78	No. 32 McGraw Report, Attachment 5, Bunn Fire Dept. Report	
79	No. 33 McGraw Supplemental and Amended Report, 11/6/2012; Construction-Phase Color Photographs taken by the Taylors (91)	Duplicative; hearsay; relevance; foundation; authentication
80	No. 34 McGraw Report, Attachment 7, LightningTrax Report	
81	No. 35 McGraw Report, Attachment 6, STRIKEnet Report	
82	No. 36 Rob McGraw, Element Analytical, File Materials	Foundation; authentication; hearsay; relevance; self-serving; duplicative;
83	No. 37 Ronald D. Simmons Expert Report with Simmons handwritten notes	Duplicative; hearsay; relevance; self-serving; Rule 702
84	No. 41 Ronald D. Simmons Amended & Supplemental Report with Simmons handwritten notes, 11/21/2012	Duplicative; hearsay; relevance; self-serving; Rule 702
85	No. 43 "A Strange New Source of Structure Ignition", ISFI 2012 Publication by Ronald D. Simmons, Eric M. Benstock, and McDowell Owens Eng.	Duplicative; hearsay; relevance; self-serving; Rule 702
86	No. 44 "Reflective Radiant Barriers," Fire Findings Summer 2009, Vol. 17, No. 3, by Ronald D. Simmons, Eric Benstock, Rick Bonyata, and Nestor Camara	Duplicative; hearsay; relevance; self-serving; Rule 702
87	No. 45 "Reflective Radiant Barriers, Good for Energy Savings – Bad for Fire Safety" by Ronald D. Simmons, Eric M. Benstock, and Nestor J. Camara	Duplicative; hearsay; relevance; self-serving; Rule 702
88	No. 46 "Reflective Radiant Barriers – Energy Saving Wonder or Disaster Waiting to Happen?", Ron Simmons, Nestor Camara, Eric Benstock, Rick Bonyata	Duplicative; hearsay; relevance; self-serving; Rule 702

89	No. 47 "Unusual Behavior of Radiant Barrier Materials in Fire Causation", by Ronald D. Simmons, Eric M. Benstock, and McDowell Owens Engineering	Duplicative; hearsay; relevance; self-serving; Rule 702
90	No. 48 Ronald Simmons File Material	Foundation; authentication; hearsay; relevance; self-serving; duplicative; Rule 702
91	No. 49 McDowell Owens Video and Powerpoint Excerpt	Foundation; authentication; relevance; self-serving; Rule 702
92	No. 56 Scardino Report, Appendix J, Franklin County Incident Report/911 Call	Duplicative
93	No. 58 Post-Fire Photographs (5) of Taylor Home	Foundation; authentication; relevance;
94	No. 59 Scardino File Material, Construction-Phase Photographs (3) of Taylor Home with Scardino handwritten notes	Duplicative; relevance
95	Expert Report of Dennis J. Scardino, 9/28/2012	
96	File Materials of Dennis J. Scardino	Insufficient identification; foundation; authentication; hearsay; relevance; duplicative; no copy provided
97	Expert Report of Mark Goodson, Undated	
98	File Materials of Mark Goodson	Insufficient identification; foundation; authentication; hearsay; relevance; duplicative; no copy provided
99	Expert Report of Timothy P. Rhoades, 12/17/2012	
100	File Materials of Timothy P. Rhoades	Insufficient identification; foundation; authentication; hearsay; relevance; duplicative; no copy provided
101	PS2-10 Performance Standard for Wood-Based Structural-use Panels, 6/1/2011	Relevance
102	LP TechShield Radiant Barrier 2010 Installation Instructions	
103	Defendant's Rule 26(a)(1) Initial Disclosures	Relevance; duplicative
104	Uniform Deposition Exhibits:	
105	No. 50 Dennis J. Scardino, ESI Fire Analysis Report, 9/28/2012	
106	No. 51 Scardino Report, Appendix A, Reviewed Materials	
107	No. 52 Scardino Report, Appendix B, Dennis J. Scardino CV	
108	No. 53 Scardino Report, Appendix C, Dennis J. Scardino Testimony List	
109	No. 54 Scardino Report, Appendix D, ESI Fee Schedule	
110	No. 55 Scardino File Material, Handwritten ESI Diagram	

	and Notes	
111	No. 60 Scardino Report, Appendix E, with Scardino handwritten notes	
112	No. 61 Scardino Report, Appendix Q, Intertek Test Report, October 28, 2011	
113	No. 62 Scardino Report, Appendix I, Vaisala, Inc. STRIKEnet Report	
114	No. 63 Mark Goodson File Material	Relevance; duplicative
115	No. 64 9/27/2012 Testing, Denton, TX: Photographs of Electrical Conductors	Foundation; authentication Relevance; best evidence rule
116	No. 65 Goodson handwritten notes and questions during Simmons Deposition	Foundation; authentication Relevance;
117	No. 66 Mark E. Goodson Expert Report	
118	No. 67 Goodson Report, CV of Mark E. Goodson	
119	No. 68 Goodson Report, Publications of Mark E. Goodson	
120	No. 69 Goodson Report, Testimony since 1995 of Mark E. Goodson	
121	No. 71 R&D Services Test Report RD1026, ASTM E408, 4/6/2010	
122	No. 72 R&D Services Test Report RD11572, ASTM C1371, 11/10/2011	
123	No. 74 9/27/2012 Testing – Multi-focus Photographs of Electrical Conductor 25	
124	No. 75 9/27/2012 Testing – Photographs of Electrical Conductor 25	
125	No. 76 9/27/2012 Testing – Photographs of Electrical Conductor 25 (post clean)	
126	No. 77 9/27/2012 Testing – Photograph of Electrical Conductor 25 (BMP)	
127	No. 78 9/27/2012 Testing – EDAX of Electrical Conductor 25/25(a)	
128	No. 79 9/27/2012 Testing – Multi-Focus Photographs of Electrical Conductor 26	
129	No. 80 9/27/2012 Testing – Photographs Electrical Conductor 26	
130	No. 81 9/27/2012 Testing – Photographs Electrical Conductor 26 (post clean)	
131	No. 82 9/27/2012 Testing – Photograph Electrical Conductor 26 (BMP)	
132	No. 83 9/27/2012 Testing – EDAX of Electrical Conductor 26/26(a)	
133	No. 84 9/27/2012 Testing – Multi-Focus Photograph of Electrical Conduction 27(a)	
134	No. 85 9/27/2012 Testing – Photographs of Electrical Conductor 27	

135	No. 86 9/27/2012 Testing – Photographs of Electrical Conductor 27 (post clean)	
136	No. 87 9/27/2012 Testing – Photograph Electrical Conductor 27 (BMP)	
137	No. 88 9/27/2012 Testing – EDAX of Electrical Conductor 26/27(a)	
138	No. 89 9/27/2012 Testing – Photographs of Electrical Conductor 18-39	
139	No. 90 9/27/2012 Testing – Electrical Conductor 18-39 images/EDS location	
140	No. 91 9/27/2012 Testing – EDAX of Electrical Conductor 18-39	
141	No. 100 Rhoades File Material	Insufficient identification; foundation; authentication; hearsay; relevance; duplicative; no copy provided
142	No. 101 Rhoades, 10/11/2012 Invoice for Work and Time Spent	
143	No. 102 Rhoades, 12/5/2012 Invoice for Work and Time Spent	
144	No. 103 Defendant LP’s Rule 26(a)(2) Disclosure of Expert Testimony	
145	No. 104 Defendant LP’s Rule 26(a)(2) Supplemental Disclosure of Expert Testimony	
146	No. 105 Timothy P. Rhoades Expert Report, 12/17/2012	
147	No. 106 Rhoades Report, Attachment A, CV of Timothy P. Rhoades	
148	No. 110 Rhoades Report, Attachment B, Prior Expert Testimony	

B. Defendant

No.	DEFENDANT’S EXHIBITS	PLAINTIFFS’ OBJECTIONS
149	Installation Instructions for TechShield	Fed. R.E. 402. Specifically, Plaintiff objects to the use of any TechShield installation instructions that post-date building of the Taylor home (post-2009).
150	Fire Report	
151	Lightning Reports	
152	Invoice from Builders First Source	
153	Surface burn tests	F.R.C.P. Rule 37. These items though subject to Rule

		26(a) disclosure were never previously identified as potential exhibit nor were copies ever produced; insufficient identification; foundation; authentication.
154	TechShield exemplars	
155	Photographs of packaging and labels	
156	Dennis J. Scardino's Curriculum Vitae	
157	Qudra-Fire® 4300 Wood Stove Series Installation, Operation & Maintenance Instructions 250-7061C 12/10/2004	Fed. R.E. 402 and 403; foundation; authentication.
158	Selkirk Canada Corporation “SuperVent Model JSC Insulated Stainless Chimney”, JSC001-ER&B 3490 – 06/07	Fed. R.E. 402 and 403; foundation; authentication.
159	Selkirk Canada Corporation “U.S. Installation Instructions, Warranty and Maintenance Guide”, RM19956-3, 10/09	Fed. R.E. 402 and 403; foundation; authentication.
160	National Fire Protection Administration (NFPA) “Lightning Fires and Lightning Strikes” data sheet	
161	National Fire Protection Administration (NFPA) “Lightning Fires and Lightning Strikes” by BenEvarts, December, 2010, NCF A No. USS51	
162	National Fire Protection Administration (NFPA) “Home and Non-Home Structure Fires Causedby Lightning Fire Reported to Local Fire Departments”, by Ben Evarts, July 2012	
163	NFPA 921, 2011, 2008, 2004, 2001, 1998, 1995, and 1992 (first) Edition, © 2011, 2008, 2004, 2001, 1998, 1995, and 1992 National Fire Protection) Association	F.R.C.P. Rule 37 for failure to comply with Rule 26(a) disclosures as Defendant did not produce these documents; insufficient identification; foundation; authentication.
164	Ignition Handbook © 2003 by Vytenis Babrauskas ISBN 0-9728111-3-3	
165	ESI’s October 21, 2011 Scene Examination Photographs	
166	NOAA National Severe Storms Laboratory, http://www.nssl.noaa.gov/primer/lightning/ltg_damage.html	
167	National Weather Service, Lightning Safety, http://www.lightningsafety.noaa.gov/overview.htm	
168	Underground Weather Data for KLZH Airport for August 29, 2011	
169	Underground Weather Data for KRWI Airport for August 29, 2011	

170	Section 3, Chapter 3 “Lightning Protection Systems”, revised by John M. Caloggero, NFPA Fire Protection Handbook, 18th Edition	F.R.C.P. Rule 37 for failure to comply with Rule 26(a) disclosures as Defendant did not produce this document; insufficient identification; foundation; authentication.
171	U.S. Department of Energy “Radiant Barrier Fact Sheet”	
172	U.S. Department of Energy, Building Technologies Program, “Guide to Determining Climate Regions by County, August 2010 PNNL-17211	Fed. R.E. 402 and 403; insufficient identification; foundation; authentication.
173	“Compliance Guide for Homes in North Carolina”, 2012 North Carolina Energy Conservation Code (NCECC)	Fed. R.E. 402 and 403; insufficient identification; foundation; authentication.
174	“The Investigation of Fires”, by Roblee and McKechnie, ©1981 by Prentice-Hall, Inc.	F.R.C.P. Rule 37 for failure to comply with Rule 26(a) disclosures as Defendant did not produce this document; insufficient identification; foundation; authentication.
175	“Fires and Explosions Determining Cause and Origin”, by Kennedy, ©1985 by Investigations Institute	F.R.C.P. Rule 37 for failure to comply with Rule 26(a) disclosures as Defendant did not produce this document; insufficient identification; foundation; authentication.
176	“Kirk’s Fire Investigation, Second Edition”, by John D. DeHaan, ©1969, 1983 by John Wiley & Sons, Inc.	F.R.C.P. Rule 37 for failure to comply with Rule 26(a) disclosures as Defendant did not produce this document; insufficient identification; foundation; authentication.
177	“Kirk’s Fire Investigation, Fifth Edition”, by John D. DeHaan, Ph.D., ©2002 by Pearson Education, Inc.	F.R.C.P. Rule 37 for failure to comply with Rule 26(a) disclosures as Defendant did not produce this document; insufficient identification; foundation; authentication.
178	“Fire Protection Handbook, Fifteenth Edition”, ©1981 National Fire Protection Association, Section 11, Chapter 12, "Lightning Protection Systems", Revised by Davis	F.R.C.P. Rule 37 for failure to comply with Rule 26(a) disclosures as Defendant did not produce this document; insufficient identification; foundation; authentication.
179	“Lightning Fires”, U.S. Fire Administration Topical Fire Research Series, Volume 2, Issue 6, August 2001 (Rev. March 2002)	

180	“Lightning Sparks Concern for Insurance Industry; Homeowners Claims Rise Sharply Over Last Five Years”, Insurance Information Institute, March 31, 2010	
181	Area of Origin Diagram prepared by Dennis Scardino	
182	ANSI/IEEE C.62 series of impulse test standards	F.R.C.P. Rule 37 for failure to comply with Rule 26(a) disclosures as Defendant did not produce this document; insufficient identification; foundation; authentication.
183	Uman, <i>Lightning</i> , 1969	Fed. R.E. 402 and 403; insufficient identification; foundation; authentication.
184	Uman and Rakok, <i>Lightning, Physics and Effects</i> , 2007	F.R.C.P. Rule 37 for failure to comply with Rule 26(a) disclosures as Defendant did not produce this document; insufficient identification; foundation; authentication.
185	Exhibits contained in Ex. E to ESI report	
186	Deposition Exhibits:	
187	No. 4 Photo/exterior house	
188	No. 5 Sketch 1 (4 pp.)	
189	No. 6 Photo/exterior house	
190	No. 7 Photo/exterior house	
191	No. 8 Photo/interior house	
192	No. 9 Photo/interior house	
193	No. 11 NC Licensing Board Qualifier List	
194	No. 12 LP TechShield Material Safety Data Sheet (5 pp.)	
195	No. 15 LP TechShield Transferable Limited Warranty (2 pp.)	
196	No. 16 Report/Bunn Fire Department	
197	No. 17 Report/Element Analytical, PLLC (pp. 1-7 of 24)	
198	No. 18 Photo	
199	No. 19 Photo	
200	No. 20 Photo	
201	No. 21 Photo	
202	No. 22 Photo	
203	No. 34 LightningTrax report (2 pp.)	
204	No. 35 STRIKEnet report (cover/26 pp.)	
205	No. 50 ESI Fire Analysis Report	
206	No. 51 Appendix A, Reviewed Materials	
207	No. 52 Appendix B, Dennis J. Scardino CV	

208	No. 57 Compliance Guide for Homes in NC	Fed. R.E. 402 and 403; insufficient identification; foundation; authentication.
209	No. 60 Appendix E, Identified Exhibits	
210	No. 61 Intertek Report October 28, 2011	
211	No. 62 Appendix I, Vaisala, Inc. STRIKEnet report	
212	No. 66 Exhibit B	
213	No. 67 CV, Mark E. Goodson PE	
214	No. 68 Publications, Mark E. Goodson PE	
215	No. 70 LP/Radiant Barrier Spc./EDAX ZAF Quantification	
216	No. 71 R&D Services Test Report RD10261	
217	No. 72 R&D Services Test Report RD11572	
218	No. 74 Photographs multi-focus 25 (a-e)	
219	No. 75 Photographs conductor 25 (01-03)	
220	No. 76 Photographs conductor 25 (post clean 01-04)	
221	No. 77 Photograph conductor 25 (BMP)	
222	No. 78 Conductor 25/25(a) control sample etc. (8 pp.)	
223	No. 79 Photographs multi-focus 26 (a-c)	
224	No. 80 Photographs conductor 26 (01-04)	
225	No. 81 Photographs conductor 26 (post clean 01-03)	
226	No. 82 Photograph conductor 26 (BMP)	
227	No. 83 Conductor 26/26(a) control sample etc. (4 pp.)	
228	No. 84 Photograph multi-focus 27(a)	
229	No. 85 Photographs conductor 27 (01-04)	
230	No. 86 Photographs conductor 27 (post clean 01-04)	
231	No. 87 Photograph conductor 27 (BMP)	
232	No. 88 Conductor 27/27(a) control sample etc. (4 pp.)	
233	No. 89 Photographs conductor 18-39 (a-e)	
234	No. 90 Conductor 18-39 images 1-9/EDS location e and e2	
235	No. 91 Conductor control samples 18-39 etc. (19 pp.)	
236	No. 105 Applied Safety Letter 12/17/12 to Ellis/Anthony	
237	No. 106 Applied Safety Attachment A	
238	No. 107 LP TechShield Installation Instructions	
239	No. 108 LP TechShield Installation Radiant Barrier	
240	CV, Tim Rhoades	

C. The Parties reserve the right to make additional objections to any undisclosed exhibit offered by the other Party, for impeachment, rebuttal or any other purpose, at trial.

IV. DESIGNATION OF PLEADINGS AND DISCOVERY MATERIALS

A. Plaintiffs

Document	Portion	Objection	Reason
Plaintiffs' First Set of Interrogatories	1, 2, 3, 4, 5, 7, 8, 9, 10, 11, 12, 13, 14, 15, 16, 17, 18, 19, 20, 21, 22, 23, 24, 25, 26, and 27	ALL	Relevance
Plaintiffs' First Request for Admissions	1, 2, 5, 6, 7, 8, 9, 10, 11, 13, 14, 16, 17, 19, 20, 21, 22, 23, 24, 25, 26, 27, and 28	ALL	Relevance

Plaintiffs reserve the right to seek costs for proving at trial any Request for Admission for which Defendant failed to admit or deny or which was denied by Defendant, including 3, 4, 6, 9, 12, 15, 16, 21, 22, 23, 24, 25, 26, 27, and 28.

Deposition Witness	Beginning (page:line)	Ending (page:line)	Defendant's Grounds for Objection
Dennis Scardino	10:10	10:17	
	28:25	30:20	Speculation
	33:6	36:11	
	38:18	44:8	Calls for legal conclusion
	76:8	80:3	
	118:21	119:6	
	123:9	136:1	
	142:10	144:9	
	151:4	151:15	
	212:20	213:3	
	224:7	225:16	Relevance; hearsay
Mark Goodson	7:3	8:4	
	15:14	16:7	Relevance; hearsay; foundation
	21:9	22:3	
	25:14	26:21	Relevance
	28:5	28:12	
	31:21	32:10	
	33:16	33:25	
	37:23	40:13	
	50:11	51:8	
	51:22	53:2	
	56:16	60:15	

	61:8	62:4	
	64:5	64:22	Relevance; hearsay; foundation
	66:8	66:16	
	70:14	71:12	
	75:14	76:21	
	78:11	78:18	
	92:10	92:17	
	93:1	98:9	
	98:20	99:4	
	99:13	101:4	
	102:1	102:21	
	103:12	104:21	
	105:20	106:15	
	110:9	110:25	
	114:5	114:9	
	114:17	115:20	
	140:4	140:19	Mischaracterization of testimony; speculation
	140:22	140:25	
	145:14	146:13	
	147:12	148:16	
	150:5	150:14	Mischaracterization of testimony
	150:23	152:6	
	153:25	155:14	
	156:6	156:23	Relevance; foundation; speculation
	162:2	162:11	
	165:13	165:20	Relevance; foundation
	166:19	168:1	
	172:17	173:21	Relevance
	174:16	175:5	Relevance
	183:5	183:25	Relevance; foundation
	185:12	186:1	
	188:19	190:21	Relevance; foundation
	205:1	205:5	
Timothy Rhoades	4:23	5:1	
	5:23	6:2	
	6:13	6:25	Relevance
	9:5	16:17	
	16:20	17:15	
	17:23	20:6	18:3-18:16 Attorney Discussion; Privilege Issue
	20:11	21:5	
	21:9	26:13	
	27:22	29:14	29:5-29:14 Mischaracterization
	31:9	31:18	

	33:6	34:22	Relevance; Foundation; Mischaracterization
	35:3	51:11	35:3-37:13 - Relevance; Foundation; Mischaracterization 39:15-40:2 - Speculation; Relevance; Foundation 40:4-40:15 - Relevance; Foundation 44:12-44:15 - Speculation; Mischaracterization; Foundation
	52:15	52:25	Speculation
	54:11	63:12	
	64:4	69:5	
	69:11	69:16	
	70:7	70:18	
	73:2	74:18	
	76:7	76:25	
	78:4	80:1	78:21-79:21 - Foundation; Assumes Facts Not in Evidence
	80:9	80:14	
	81:12	81:25	Incomplete Designation
	82:2	84:15	82:2-82:14 - Legal Conclusion; Relevance; Foundation 83:13-84:8 - Legal Conclusion; Relevance; Foundation
	85:2	89:6	88:16-89:6 - Mischaracterization
	89:16	93:21	
	94:5	108:10	94:19-95:6 - Foundation; Speculation 97:4-97:18 - Foundation; Speculation 101:15-102:8 – Relevance 102:10-103:12 – Relevance 106:7-107:25 - Mischaracterization; Assumes Facts Not in Evidence
	114:24	121:5	
	121:8	126:16	123:7-124:2 - Legal Conclusion; Foundation; Speculation 124:22-125:13 - Legal Conclusion; Foundation; Speculation; Assumes Facts Not in Evidence
	127:9	134:12	127:9-130:5 - Legal Conclusion; Foundation; Speculation; Assumes Facts Not in Evidence 130:14-133:10 - Legal Conclusion; Foundation; Speculation; Assumes Facts Not in Evidence 133:24-134:12 - Legal Conclusion; Foundation; Speculation; Assumes Facts

			Not in Evidence; Mischaracterization
	134:16	137:16	134:16-135:19 - Legal Conclusion; Foundation; Speculation; Assumes Facts Not in Evidence; Mischaracterization 135:20-136:25 - Legal Conclusion; Foundation; Speculation; Assumes Facts Not in Evidence
	140:24	144:3	143:7-144:3 - Legal Conclusion
	144:13	144:24	Relevance
	145:4	145:25	Incomplete Designation
	146:6	146:9	
	146:24	146:25	Incomplete Designation
	153:21	154:7	
	154:13	156:6	
	156:11	157:10	
	165:11	165:24	
	173:3	173:25	
	187:9	188:1	
	189:14	189:25	
	194:1	197:8	
	201:12	217:1	209:1-209:7 - Assumes Facts Not in Evidence; Vague and Ambiguous 216:13-216:17 – Speculation 216:19-217:1 - Speculation
	217:14	219:20	Relevance; Foundation
	220:4	227:1	226:18-227:1 – Legal Conclusion
	227:20	229:15	227:20-228:24 - Speculation; Foundation
	230:10	233:4	230:10-231:7 - Assumes Facts Not in Evidence; Foundation
	233:24	234:2	
	234:25	240:19	235:16-236:10 - Foundation; Assumes Facts Not in Evidence 236:12-240:19 - Foundation; Assumes Facts Not in Evidence
	243:6	244:21	
David Dellwo	5:21	9:4	7:15-8:15 - Relevance; Foundation
	11:14	11:24	
	13:9	13:20	
	14:4	15:5	
	15:25	16:18	
	19:14	19:21	Relevance; Foundation
	21:2	21:6	Relevance; Foundation
	21:17	21:18	Relevance; Foundation
	22:24	23:6	Relevance; Foundation
	24:20	25:19	Relevance; Foundation

	25:25	26:9	Relevance; Foundation
	26:18	27:1	
	29:9	30:15	29:18-29:24 - Speculation
	32:19	33:8	
	34:11	34:21	
	35:21	35:25	
	43:14	43:22	Speculation; Foundation
	44:5	44:22	
	45:7	46:20	45:7-45:10 - Speculation; Privilege 45:18-46:20 - Relevance; Foundation; Privilege
	49:7	49:11	
	49:16	50:2	
Brian St. Germaine	6:22	7:8	
	9:19	9:21	
	10:6	10:25	
	15:22	18:7	17:22-18:7 - Relevance
	19:22	20:4	
	21:23	22:1	
	22:22	23:9	
	24:2	24:25	
	25:6	27:1	
	28:15	28:25	Relevance
	30:12	30:25	
	31:7	31:23	
	32:3	35:7	
	36:12	36:16	Relevance
	36:23	37:8	
	37:12	37:16	
	38:22	39:23	Mischaracterization; Foundation
	40:8	40:16	
	41:8	41:15	Speculation; Hearsay; Foundation
	43:9	44:7	
	45:6	45:21	
	46:16	47:20	
	48:12	51:5	
	51:13	51:20	
	53:6	53:10	
	54:7	54:9	
	54:22	55:18	55:8-55:11 - Speculation
	59:11	60:2	59:22-60:2 - Relevance; Foundation
	60:13	60:18	Relevance; Foundation; Legal Conclusion
	60:25	61:14	Relevance
	62:21	63:18	
	65:8	65:23	65:10-65:12 - Relevance; Privilege

			65:15-65:18 - Relevance; Privilege
	68:10	69:8	
	69:9	69:22	
	70:14	71:3	
	73:17	74:12	Foundation; Hearsay; Speculation
	74:22	75:11	Speculation; Legal Conclusion; Mischaracterization
	79:10	79:13	
	81:25	82:4	Relevance
	83:16	83:22	Relevance
	83:2	83:12	Mischaracterization; Hearsay
	84:3	85:2	
	85:18	86:16	85:24-86:8 - Relevance; Hearsay; Mischaracterization
	87:22	90:1	
	90:8	90:16	
	94:1	94:19	Relevance
	95:17	95:21	Relevance; Mischaracterization
	109:7	109:11	

B. Defendant

Deposition Witness	Beginning (page:line)	Ending (page:line)	Plaintiffs' Grounds for Objection
Christopher Taylor	8:1	8:6	Fed. R.E. 402 and 403.
	10:5	10:7	Fed. R.E. 402 and 403. In addition, the testimony is protected by the attorney/client privilege.
	13:13	13:16	Fed. R.E. 402 and 403. In addition, the testimony is protected by the attorney/client privilege.
	14:4	14:7	
	17:4	17:7	
	17:21	19:5	Specifically, Plaintiff objects to Defendant's question at line 24 as it lacks a proper foundation and assumes facts that Mr. Taylor did not testify to.
	19:9	19:19	Fed. R.E. 402 and 403. In addition, the testimony is protected by the attorney/client privilege.
	25:4	25:24	Fed. R.E. 402 and 403. The he testimony is protected by the attorney/client privilege. Further, Defendant's question at

		line 19 lacks proper foundation and assumes facts not in evidence.
32:9	32:14	Fed. R.E. 402 and 403.
33:18	34:9	Fed. R.E. 402 and 403. In addition, Defendant's question at 34:3 lacks a proper foundation.
39:9	39:22	Fed. R.E. 402 and 403. Further, this particular designation appears to be a typographical error and it is unclear what testimony is to be offered.
40:8	40:9	
63:13	63:22	
75:2	75:4	
75:8	75:24	
76:20	77:1	
78:1	82:25	
84:3	83:9	
87:6	93:23	Fed. R.E. 402 and 403, in that there is no contention that the product was installed improperly. In addition, Defendant's question at 88:3 assumes facts not in evidence in that Mr. Taylor testified that he had no recollection of seeing the product information sheet. As such, he cannot answer whether it impacted his decision. Same objection for Defendant's question at 88:9.
96:8	97:15	Fed. R.E. 402 and 403. Further, Defendant's questions at 96:8 and 96:18 are inappropriate as they assume facts not in evidence. Specifically, that he had no knowledge or awareness of what was written in Exhibits 12, 13 and 15 at the time he was deciding to install TechShield as Mr. Taylor testified that he could not recall. In addition, Mr. Taylor would not have seen Exhibit 14 at the time he was deciding to install TechShield as Exhibit 14 was published after he purchased TechShield.
102:8	102:13	Fed. R.E. 402 and 403.
105:15	105:25	
109:11	109:17	Fed. R.E. 402 and 403; foundation; hearsay.
110:2	110:10	
110:14	110:24	Fed. R.E. 402 and 403 foundation;

			hearsay.
	111:16	111:21	Fed. R.E. 402 and 403 foundation; hearsay.
	113:10	113:19	Fed. R.E. 402 and 403 foundation; hearsay.
	121:19	123:24	Specifically, Plaintiff objects the questions and answers starting at 123:6 through 123:22 pursuant to Fed. R.E. 402 and 403. Plaintiff further objects to the inclusion of 123:23-5 as it is Defendant's question without Mr. Taylor's answer.
	125:16	126:25	
	128:3	129:3	
	131:8	132:12	
	132:13	132:23	
	133:23	135:14	
	138:2	138:4	
	144:5	144:19	
	150:2	150:8	Fed. R.E. 402 and 403.
	153:12	155:13	
	158:9	159:6	
	160:10	160:16	
	165:10	165:18	
	166:25	167:20	
Rosaria Taylor	8:3	9:1	
	19:24	20:14	Fed. R.E. 402 and 403; hearsay; foundation.
	26:19	29:8	Fed. R.E. 402 and 403.
	40:24	41:11	Fed. R.E. 402 and 403.
	41:23	42:9	Fed. R.E. 402 and 403. In addition, Mrs. Taylor is not an expert qualified to offer an opinion relating to TechShield's role in the fire; mischaracterization; foundation.
	43:21	43:23	
	48:12	49:2	Fed. R.E. 402 and 403.
	55:25	56:3	
Ronald D. Simmons	25:24	26:6	Fed. R.E. 402 and 403.
	33:22	34:18	Fed. R.E. 402 and 403.
	39:18	39:21	
	59:25	60:10	
	71:2	71:17	
	73:12	74:24	
	77:5	78:3	
	79:25	80:19	
	115:12	116:24	

	142:8	143:1	
	146:19	147:13	
	151:23	152:12	
	156:6	156:11	
	160:15	160:24	
	161:20	162:12	Fed. R.E. 402 and 403; foundation.
	162:16	163:12	
	163:13	164:1	
	164:3	164:18	
	167:18	168:2	
	168:6	169:1	
	169:3	170:2	
	170:3	170:21	
	173:14	174:14	
	174:15	175:21	
	181:1	181:15	Fed. R.E. 402 and 403. Further, such analysis is outside of Mr. Simmons' expertise; foundation.
	192:6	192:8	Fed. R.E. 402 and 403; foundation.
	192:11	193:4	Fed. R.E. 402 and 403.
	193:5	194:2	Fed. R.E. 402 and 403; foundation.
	194:3	194:22	Fed. R.E. 402 and 403. Further, aside from hearsay, there is no evidence to support the factual basis of defense counsel's question; foundation.
	194:23	195:1	
	195:6	196:3	
	196:4	196:11	
	196:12	197:5	
	197:25	198:4	
	198:5	198:16	
	199:14	200:15	
	200:16	200:23	
	201:14	201:21	
	202:20	202:25	Fed. R.E. 402 and 403.
	205:7	205:11	Fed. R.E. 402 and 403. And, the subject matter is beyond the scope of Mr. Simmons' expert report and opinion.
	206:11	207:1	Fed. R.E. 402 and 403. And, the subject matter is beyond the scope of Mr. Simmons' expert report and opinion.
	207:16	210:5	Fed. R.E. 402 and 403. And, the subject matter is beyond the scope of Mr. Simmons' expert report and opinion.
	210:8	212:11	Fed. R.E. 402 and 403. And, the subject

			matter is beyond the scope of Mr. Simmons' expert report and opinion; foundation.
	224:10	224:24	
J. Robert McGraw, Jr.	32:18	33:8	
	33:21	34:10	Fed. R.E. 402 and 403.
	57:8	57:12	
	57:21	58:1	
	71:9	71:12	
	72:14	72:25	Fed. R.E. 402 and 403. Hearsay (relating to what the fire department told Mr. Taylor); foundation.
	74:9	74:16	Fed. R.E. 402 and 403; assumes facts not in evidence; foundation.
	76:3	77:1	
	77:2	77:22	
	78:18	79:3	
	79:13	80:1	
	80:2	80:24	
	86:19	87:12	
	87:13	88:2	
	93:14	94:10	
	97:10	98:9	
	99:10	99:18	
	100:10	101:3	
	102:20	103:13	
	117:4	117:10	
	130:15	132:11	
	132:19	133:3	
	133:20	133:23	
	135:22	136:77	Hearsay; authentication; foundation.
	139:14	140:1	Fed. R.E. 402 and 403; hearsay; foundation.
	142:5	142:14	Fed. R.E. 402 and 403.
	181:11	182:3	
	212:10	213:22	Fed. R.E. 402 and 403; foundation.
	215:15	216:2	Fed. R.E. 402 and 403; foundation.
	219:16	220:25	Fed. R.E. 402 and 403.
	221:1	221:12	
	221:19	221:25	
228:17	229:10		
237:10	238:6		
238:7	238:11	Fed. R.E. 402 and 403. Further, Mr. McGraw clearly stated that he was not asked to investigate TechShield itself, as	

			such, he is not able to offer an opinion as whether it is defective; foundation.
	239:16	239:23	Fed. R.E. 402 and 403. Further, Mr. McGraw clearly stated that he was not asked to investigate TechShield itself, as such, he is not able to offer an opinion as whether it is defective. Additionally, Mr. McGraw is not qualified to offer any such opinion; foundation.
Gary Marshall Richetto	4:13	4:18	
	6:23	7:3	
	9:21	10:1	
	17:16	17:22	
	25:4	27:20	
	62:18	62:25	
	63:18	65:14	Defense counsel's questions improperly assume that Mr. McGraw and Mr. Scardino were asked to form an opinion as to whether the TechShield was hazardous. Both experts offered opinion regarding the cause and origin of the fire. Neither offered any opinion or comment on whether TechShield was hazardous; mischaracterizes testimony; foundation.
	67:22	68:7	
	70:25	71:11	
	71:13	71:20	
	73:15	74:8	Fed. R.E. 402 and 403.
	75:13	76:5	Fed. R.E. 402 and 403.
	77:18	78:8	Fed. R.E. 402 and 403, particularly because Dr. Richetto already testified that he is not an electrical engineer; foundation.
	81:14	82:23	Defense counsel's question mischaracterizes the opinions of Mr. Simmons; foundation.
	86:10	91:17	
	92:15	92:18	This beyond the scope of Dr. Richetto's report and opinion. Further, he is not an expert in lightning nor is he an electrical engineer; foundation.
94:15	94:20		
96:24	97:14	The hypothetical question posed to Dr. Richetto asks him for opinions beyond his expertise; foundation.	
101:11	105:11	Dr. Richetto is not an expert in lightning	

			nor is he an electrical engineer and seeks information beyond the scope of his opinion; foundation.
	108:18	109:9	
	112:23	113:19	Defendant is asking Dr. Richetto to testify as to what another expert, Mr. Simmons, testified and mischaracterizes testimony; foundation.
	115:25	116:5	Fed. R.E. 402 and 403; Defense counsel's questions is directed at Dr. Richetto but seeks information about what data another expert has; foundation.
	119:3	120:3	Fed. R.E. 402 and 403. Further, Dr. Richetta is not an expert in insurance underwriting; foundation.
	121:1	121:14	
	122:9	123:4	Fed. R.E. 402 and 403. Again, Mr. McGraw was not retained to investigate TechShield itself. He was retained only to investigate the cause and origin of the fire; mischaracterization; foundation.
	123:15	124:16	Specifically, starting at 124:4, Defendant is soliciting information that is beyond Dr. Richetto's expertise; foundation.
	125:14	126:3	Dr. Richetto is not an expert in roofing or building materials; foundation.
	127:8	127:15	Fed. R.E. 402 and 403; foundation.
	131:9	131:23	Fed. R.E. 402 and 403.

A. The Parties reserve the right to introduce summaries of documents, rebuttal, cross examination and impeachment documents at trial.

B. The Parties reserve the right to introduce any documents necessary to demonstrate, clarify, summarize or illustrate evidence to be presented at trial.

V. WITNESSES.

A. Plaintiffs:

NAME	ADDRESS	PROPOSED TESTIMONY
Christopher Taylor	190 Cedar Valley Lane Louisburg, NC 27549	Mr. Taylor is the owner of the home damaged by fire. He is expected to offer testimony concerning the original

		construction of the home, as well as structural and personal property damages resulting from the fire. He will also testify about the events of the fire.
Rosaria Taylor	190 Cedar Valley Lane Louisburg, NC 27549	Mrs. Taylor is the owner of the home damaged by fire. She is expected to offer testimony concerning the structural and personal property damages resulting from the fire. She will also testify about the events of the fire.
Mark Coffey	State Farm Fire and Casualty Co. 4140 Parklake Avenue, Suite 400 Raleigh, North Carolina 27612	Mr. Coffey is expected to testify about the adjustment of the claim, damages to structure and personal property, and payments made by State Farm.
Luke Wind	Cary Reconstruction Company 2410 Reliance Avenue Apex, North Carolina 27539	Mr. Wind will testify about the repair and remediation of the damages resulting from the fire.
Tim Jackson	Cary Reconstruction Company 2410 Reliance Avenue Apex, North Carolina 27539	Mr. Jackson will testify about the repair and remediation of the damages resulting from the fire.
J. Robert McGraw, Jr.	Elemental Analytical, PLLC Post Office Box 1091 Knightdale, North Carolina 27545	Mr. McGraw is an expert in the areas of and expected to render expert testimony relating to the investigation, cause and origin of the fire at the Taylor residence. Objection by Defendant: Untimely expert testimony from Plaintiffs previously disclosed expert J. Robert McGraw, Jr. should be excluded for violation of Fed. R. Civ. P. 26(a)(2) and 37(c)(1) and the Court's Scheduling Order, and excluded pursuant to Rule 7 of the Federal Rules of Civil Procedure, Local Civil Rule 7.1, EDNC, and Rule 702 of the Federal Rules of Evidence, for failing to satisfy the requirements for admissible expert testimony set forth by the U.S. Supreme Court in <i>Daubert v.</i>

		<i>Merrell Dow Pharmaceuticals, Inc.</i> , 509 U.S. 579, 579-80 (1993).
Ronald D. Simmons	McDowell Owens Integrated Forensic Engineering 740 East 13th Street Houston, Texas 77008	<p>Mr. Simmons is an expert in the areas of electrical and electro-mechanical engineering. Mr. Simmons is expected to render expert testimony relating to the defective nature and the unreasonable dangers and hazards of radiant barriers, and in particular the Louisiana-Pacific TechShield radiant barrier installed in the Taylor home. He will also offer testimony concerning the cause of the Taylor fire, electrical arcing, lightning induced arcing, radiant barrier composition, and the effects of heating on radiant barriers. He will provide testimony concerning his testing results.</p> <p>Objection by Defendant: Untimely expert testimony from Plaintiffs previously disclosed expert Ronald. D. Simmons should be excluded for violation of Fed. R. Civ. P. 26(a)(2) and 37(c)(1) and the Court's Scheduling Order, and excluded pursuant to Rule 7 of the Federal Rules of Civil Procedure, Local Civil Rule 7.1, EDNC, and Rule 702 of the Federal Rules of Evidence, for failing to satisfy the requirements for admissible expert testimony set forth by the U.S. Supreme Court in <i>Daubert v. Merrell Dow Pharmaceuticals, Inc.</i>, 509 U.S. 579, 579-80 (1993).</p>
Gary M. Richetto	9711 South Sandusky Ave. Tulsa, Oklahoma 74137	Dr. Richetto is expected to render expert testimony relating to human factors, duties to test and examine products prior to placing them into the stream of commerce, warnings related to

		<p>and instructions which accompanied the Louisiana-Pacific products, including TechShield, and Louisiana-Pacific's failure to properly disseminate information and warnings to its sellers, consumers and users. Dr. Richetto is expected to testify in regard to the inadequacy of the warnings selected and published by Louisiana-Pacific.</p>
<p>Thomas W. Eagar</p>	<p>MIT, Room 4-136 77 Massachusetts Ave. Cambridge, Massachusetts 02139</p>	<p>Dr. Eagar is an expert in the areas of metallurgy and materials science. Dr. Eagar is expected to render expert testimony relating to the defective nature and the unreasonable dangers and hazards of radiant barrier systems, and in particular the Louisiana Pacific Corporation's TechShield Radiant Barrier installed in the Taylor home. Dr. Eagar will rebut the analysis and scientific basis and methodology utilized by Defendant's expert witnesses relating to their hazard rate analysis, as well as rebutting the findings of Mark Goodson of Goodson Engineering and Dennis Scardino of Engineering Systems, Inc. Dr. Eagar will also testify about the properties of melted aluminum and the overall effect of covering the roof with a metal foil, as they relate to the increased hazard rates of radiant barrier systems. He will also offer testimony concerning electrical arcing, lightning induced arcing, TechShield composition, and the effects of heating on the metallurgic properties of radiant barriers. Dr. Eagar is expected to testify concerning the scientific method, and the deficiencies in</p>

		<p>the methodology demonstrated by Defendant's experts.</p> <p>Objection by Defendant: Untimely disclosed reports and expert testimony of Plaintiff's undisclosed expert Thomas W. Eager should be excluded for violation of Fed. R. Civ. P. 26(a)(2) and 37(c)(1) and the Court's Scheduling Order.</p>
Matthew Strawbridge	Bunn Fire Department 2882 NC Hwy. 98W Louisburg, North Carolina 27549	Mr. Strawbridge is expected to testify about facts related to the fire, including but not limited to his response to the fire scene, fire suppression activities, fire report and 911 response.

B. Defendant:

NAME	ADDRESS	PROPOSED TESTIMONY
Dennis J. Scardino , P.E., CFI, CFEI, CFII, CVFI	ESI 16770 Imperial Valley Dr. Suite 150 Houston, TX 77060	Dennis Scardino is a mechanical engineer and expert in forensic failure and fire cause and origin analysis. He may testify as to his background and qualifications, his investigation and inspection of the fire at the Taylor residence, his findings as to the cause(s) thereof, lightning, both generally and its role in the Taylor fire. He may also testify as to the composition, uses and performance characteristics of Techshield and related issues. Defendant directs the Court and Plaintiff to Dennis Scardino's report and file materials previously produced to the Plaintiff, as well as his deposition testimony given in this lawsuit, all of which are incorporated herein. Mr. Scardino may also testify as to the opinions, analysis and testing of State Farms experts, including Robert McGraw and Ron Simmons and

		the deficiencies related thereto.
Timothy Rhoades	Applied Safety & Ergonomics 3909 Research Park Drive Suite 300 Ann Arbor, MI 48108	Dr. Rhoades is expected to testify about: warnings and increased risk of harm in the context of radiant barriers and lightning strikes; that there is no evidence of an increased risk of harm from TechShield; that consequently, a lightning-related warning for TechShield is not necessary; and that manufacturers of other building products including radiant barrier do not publish warnings about lightning strike risks.
Mark Goodson, P.E.	Goodson Engineering 1500 Spencer Road Denton, TX 76205	Mark Goodson is a professional engineer and an expert in failure analysis, material composition and analysis, and origin and cause of fires. He may testify as to his evaluation and analysis of Techshield, of materials preserved from the Taylor fire, and lightning, generally and specifically as it relates to the cause of the Taylor fire. He may also testify to radiant barrier products, generally, including their uses, performance characteristics and applications, and the viability of alternative products, and related issues. Defendant directs the Court and Plaintiff to Mark Goodson's report and file materials previously produced to Plaintiff, as well as his deposition testimony given in this lawsuit, all of which are incorporated herein. Mr. Goodson may also testify regarding the opinions, analysis and testing performed by Ron Simmons, and the deficiencies related thereto.
Brian St. Germain	Louisiana Pacific Corporation 414 Union Street, Suite 2000	Brian St. Germain is the Quality and Technical Manager for the

	Nashville, TN 37219	OSB business of Louisiana-Pacific Corporation. He may testify as to his experience and job duties with Louisiana-Pacific Corporation, as well as his inspection of the Taylor residence. He may also testify regarding the Louisiana-Pacific Techshield product generally, including but not limited to its composition, manufacturing process, performance characteristics, uses, application, certifications, and related issues. He may also testify regarding radiant barrier products in general, including applicable standards and applications, as well as Louisiana-Pacific's Techshield warranty.
David Dellwo	Louisiana Pacific Corporation 1322 Serene Trails Tomball, TX 77375	David Dellwo is a technical field representative for Louisiana-Pacific Corporation. He may testify as to his experiences and job duties for Louisiana-Pacific, as well as his inspection of the Taylor residence. He may also testify regarding the Techshield product generally, including but not limited to its composition, performance characteristics, usage and applications, and related issues. He may also testify regarding the warranty Louisiana-Pacific's Techshield warranty.
Matthew Strawbridge	Bunn Fire Department 2882 NC Hwy. 98W Louisburg, North Carolina 27549	Mr. Strawbridge is expected to testify about the emergency response to the fire at the Taylor house and the preparation of the report by the fire department which concluded that the cause of the fire at the Taylor house was a lightning strike.
Billy Wusterhausen	Round Rock Fire Dep't 221 East Main Street Round Rock, Texas 78664	Mr. Westerhausen is expected to testify that he has never spoken with Ronald Simmons about radiant barriers and that his fire

		<p>department's interest in lightning-related house fires had nothing to do with radiant barriers.</p> <p>Objection by Plaintiffs: F.R.C.P. Rule 37 for failure to comply with Rule 26(a) disclosures. Further, upon information and belief, Mr. Wusterhausen has no information about the Taylor fire, TechShield or other radiant barriers, or any information about radiant barriers' role in lightning related fires.</p>
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C. The Parties reserve the right to call at trial any and all witnesses identified by the other Party.

D. The Parties reserve the right to call at trial Rebuttal and impeachment witnesses as necessary.

TRIAL TIME ESTIMATE 5-6 days.

This the 26th day of March, 2014.

Respectfully submitted,

/s/ L. Skye MacLeod
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APPROVED BY:

WILLIAM A. WEBB
UNITED STATES MAGISTRATE JUDGE

_____, 201__.

IN THE UNITED STATES DISTRICT COURT
FOR THE EASTERN DISTRICT OF NORTH CAROLINA
WESTERN DIVISION
Civil Action No. 5:12-cv-289-BO

STATE FARM FIRE AND CASUALTY)
COMPANY as subrogee of)
CHRISTOPHER TAYLOR)
)
Plaintiffs,)
)
v.)
)
LOUISIANA PACIFIC CORPORATION,)
)
Defendant.)
)

CERTIFICATE OF SERVICE

I HEREBY certify that on March 26, 2014, I electronically filed the foregoing *Joint Pretrial Order* with the Clerk of the Court using the CM/ECF system which will serve such filing on the below-named parties:

L. Neal Ellis, Jr., Esquire
Nathaniel C. Parker, Esquire
Ellis & Parker PLLC
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Wake Forest, North Carolina 27587
Attorneys for Louisiana Pacific Corporation

George Murphy, Esquire
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First City Tower
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Houston, TX 77002
Attorneys for Louisiana Pacific Corporation

Respectfully submitted,

/s/ L. Skye MacLeod

L. Skye MacLeod

N.C. State Bar No. 23844

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November 19, 2012

Law Offices of Stephen R. Paul, PLLC
P. O. Box 16099
Chapel Hill, North Carolina 27516

Attention: L. Skye MacLeod

RE: State Farm Fire and Casualty Company, a/s/o
Christopher Taylor v. Louisiana Pacific Corporation

Dear Ms. MacLeod,

At your request, I have reviewed the reports of Goodson Engineering and ESI in the above referenced matter, wherein it is claimed that the Louisiana Pacific TechShield Radiant Barrier "does not assure or increase the likelihood that a fire will occur in the eventuality that a residential structure is struck by lightning" [ESI report, p.10] and "LP TechShield does not present an increased risk of lightning related fire when lightning strikes a home in which it is installed" [Goodson Engineering report, p.5]. It was requested that I evaluate the scientific bases for these opinions and whether the scientific methodology which was used was proper.

In performing my investigation, I reviewed the following materials:

1. Goodson Engineering report by Mark Goodson to Mr. Neil Ellis, undated.
2. ESI report by Dennis Scardino to Ellis and Anthony, undated.
3. Triad Associates, Inc. report by Dr. Gary M. Richetto, dated October 13, 2012.
4. Element Analytical reports by J. Robert McGraw, Jr. dated August 22, 2012 and November 6, 2012.
5. R.D. Simmons, E.M. Benstock, "A Strange New Source of Structural Fire Ignition."

6. P. Farrey, "Radiant Energy Transfer and Radiant Barrier Systems in Buildings," Florida Solar Energy Center Publication No. FSEC-DN-6-86.
7. NFPA 921 Sections 14.1 and 14.9 through 14.12.2.
8. "Reflective Radiant Barriers – Energy Saving Wonder or Disaster Waiting to Happen?," McDowell Owens Engineering, Kingswood, Texas.
9. RIMA International Technical Bulletin #108.
10. LP TechShield MSDS 11/08/07.
11. LP TechShield Installation Instructions 12/18/10.
12. LP TechShield Warranty.
13. Vaisala STRIKEnet report 328577 for August 29, 2011.
14. Intertek Test Report No. 100544731SAT – 001A dated October 31, 2011.
15. Stereomicrographs and SEM of copper wires performed at Goodson Engineering.

Based upon my investigation, training and education I have made the following observations and I have formed the following conclusions within a reasonable degree of engineering certainty.

1. Both the ESI report and the Good Engineering report expound at length that lightning can cause fires in residential structures. Based upon this discussion both reports conclude the LP TechShield does **not** increase the hazard of lightning causing a fire in a residential structure. There are several problems with this method of scientific inquiry.
 - a. There is no data, test, experiment, literature, etc. provided that compares the hazard rate of lightning striking OSB versus lightning striking RBS. Thus, there is no basis for the conclusion that this hazard rate for OSB and RBS is the same. ESI and Goodson Engineering have merely stated their hypothesis as a conclusion without testing the hypothesis. This violates the scientific method as outlined in NFPA 921, Chapter 4.

This is the fallacy of a "question-begging epithet" [S.M. Engel, *Fallacies and Pitfalls of Language*, Prentice Hall, 1994, Chapter 11].

- b. Both reports attempt to prove a negative, i.e. that RBS does **not** increase the hazard rate of OSB. Proof of a negative requires either considerable statistical data or eliminate of all potential alternatives. Neither the ESI or Goodson Engineering reports provide any statistical data comparing the hazard rate of RBS and OSB nor a thorough analysis of the potential fire ignition modes when lightning strikes these materials.
 - c. Both reports confirm that lightning causes fires and appear to agree that lightning caused this fire. Without any further analysis both conclude that RBS is equivalent to OSB. By claiming knowledge of how lightning ignites OSB, the ESI and Goodson Engineering attribute the same properties of OSB to RBS without any proof, connection or analysis. There is no nexus between the data they present for OSB products and RBS. This is the fallacy of a sweeping or hasty generalization [Engel, Chapter 8].
 - d. By focusing most of their reports on the fact that lightning can cause fires, ESI and Goodson Engineering have committed the "irrelevant thesis" fallacy [Engel, Chapter 16]. The question is not whether lightning can cause fires, but whether the presence of the aluminum foil increases the likelihood of a fire. There is no such analysis in either the ESI or the Goodson Engineering reports.
-

For all the reasons noted above, the methodology of both ERI and Goodson Engineering is scientifically flawed.

- 2. There is affirmative evidence from the Taylor residence that the aluminum on the LP TechShield melted [for example see photographs 19 and 23 of the Element Analytical report of August 22, 2012]. Melting of the aluminum foil over such large areas will produce aluminum beads of sufficient size to detach by gravity. The size of the drops are controlled by surface tension forces, gravity forces and any electromagnetic forces if electrical arcs are present [References 1 and 2]. If the melting is caused by resistive heating (as demonstrated by McDowell Owen tests on RBS), the temperature of the aluminum beads (drops) will be greater than the melting point (1200°F) and

less than the boiling point (3000°F). If the melting is caused by arcing, the temperature will be closer to the boiling point [Reference 3]. In either case, the temperature and size of the beads is sufficient to ignite nearby combustibles. Examples (evidence) of such ignition by molten metal beads is provided in NFPA 51B Standard for Fire Prevention During Welding, Cutting and Other Hot Work.

Thus, it is clear that RBS differs from OSB in that RBS can produce molten aluminum beads, whereas OSB, which does not contain aluminum cannot produce aluminum beads. On this basis alone LP TechShield RBS is most assuredly different than OSB, and these differences were observed by melting and beading of the aluminum foil on the RBS in the attic of the Taylor residence. RBS is more hazardous than OSB when struck by lightning because the aluminum can (and did) melt and the molten metal can drop by gravity onto highly combustible materials such as the Styrofoam vents that were immediately below the LP TechShield.

Photograph 23 from the Element Analytical report of August 22, 2012 confirms that the lightning produced arcing which led to melting of the aluminum foil on the LP TechShield. This photograph shows the steel exhaust vent penetrating the RBS with localized melting of the foil several inches distant from the penetration. Such arcing would be initiated by the localized contact between the foil and the exhaust vent [Reference 4] and the arc would have been sustained to a distance of several inches from the initial point of contact by the high voltages in the lightning event.

-
3. By placing a metal foil in the roof cover of the building, the manufacturer of LP TechShield created a poor man's Lightning Protection System (LPS). An LPS is a metallic shield (Faraday cage) which rearranges the static electric field created by the lightning storm [References 5 and 6]. Metallic conductors that reach above the house, such as the stainless steel chimney cap or the peak of an RBS roof, act as air terminals to attract the lightning. These principles are described in NFPA 780 and References 5 and 6. This ability to act as an air terminal is a feature of RBS that does not exist in OSB.

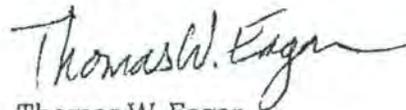
The problem is that the aluminum foil is too thin to act as a down conductor the lightning current to ground [NFPA 780 Table 4.1.1.1.1]. According to the NFPA, aluminum down conductors must be 1.63 millimeters thick, whereas the foil on the RBS is 0.01 mm thick or stated in the reverse, RBS is just too thin to serve as a down conductor in the LPS that is designed into the RBS by

the manufacturer. LP TechShield violates the known scientific requirements of NFPA 780. On this basis it is not fit for its purpose, whether that purpose was intentional or not. LP TechShield is a defective product.

CONCLUSION

The methodology used by ESI and Goodson Engineering to conclude that RBS and OSB do not differ in their response to lightning was scientifically flawed. The analyses presented herein concerning arcing and melting of the aluminum foil in the RBS during a lightning strike, as well as the propensity of the RBS to serve as an air terminal and a down conductor in an unintentional LPS, are based upon known scientific principles described in various NFPA documents. These principles demonstrate that RBS is indeed more hazardous than OSB when assaulted by lightning, contrary to the unsupported assertions of ESI and Goodson Engineering. While the extensive use of RBS is relatively recent and there is insufficient statistical data to establish the relative hazard rate of RBS versus OSB, the question with respect to the Taylor residence is whether the LP TechShield demonstrates the damage and the location with respect to the fire origin such that a reasonable person could conclude that the presence of the foil backing on the RBS contributed to the fire. Statistics are not possible, nor are they relevant to a single building. The proper question is whether the LP TechShield contributed to ignition of the fire at the Taylor residence. That is a factual question that must be determined by others.

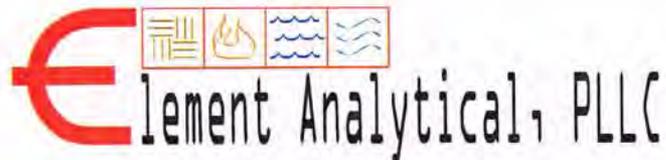
Sincerely yours,


Thomas W. Eagar

jh

REFERENCES

1. J.F. Lancaster, *The Physics of Welding*, 2nd Edition, Pergamon Press, 1986, Chapter 3, Section 3.7.1
 2. Y.S. Kim and T.W. Eagar, "Analysis of Metal Transfer in Gas Metal Arc Welding," *Welding Journal*, 1993, p.269s - 276s
 3. A. Block-Bolten and T.W. Eagar, "Metal Vaporization from Weld Pools," *Metallurgical Transactions Volume 15B*, 1984, p.461
 4. R. Holm, *Electric Contacts*, 4th Edition, Springer Verlag, 1967
 5. V.A. Rakov and M.A. Uman, *Lightning*, Cambridge University Press, 2003
 6. M.A. Uman, *The Art and Science of Lightning Protection*, Cambridge University Press, 2008
-



November 6, 2012

Ms. L. Skye MacLeod, Esq.
Law Offices of Stephen R. Paul
Post Office Box 16099
Chapel Hill, North Carolina 27516

Subject: Residential Fire Investigation
Case: State Farm Fire and Casualty Company a/s/o Christopher Taylor
v. Louisiana Pacific Corporation
Case No: 5:12-cv-289-BO
Loss Location: 190 Cedar Valley Lane
Louisburg, North Carolina 27549-9713
Claim Number: 33-D493-449 (State Farm Insurance Co.)
Date of Loss: August 29, 2011
Element File: 11-0186-02

Dear Ms. MacLeod:

Pursuant to your request, this writing supplements and amends my original report dated August 22, 2012. The purpose of this supplement is to correlate my field observations of 2011 with data collected during recent joint inspection occurring after issuing my original report. Additionally, this report amends my opinion regarding the artifacts of electrical activity present along the fire alarm branch circuit wiring.

My *curriculum vitae*, list of my testimony within the last four (4) years, list of publications, and rate schedule remain unchanged from that provided with my original report. Element Analytical, PLLC, has received \$8971.20 in compensation for this investigation, with an additional \$4,145.75 in invoicing pending.

I may use photographs, diagrams, documents, or other demonstrative aids to explain or clarify my opinions and testimony. I reserve the right to supplement this report to the extent necessary if additional relevant information becomes available, in response to testimony offered by other witnesses or experts, or in response to questions presented during my deposition, trial, or other testimony.

Materials reviewed in preparation of this supplemental and amended report include:

Element Analytical, PLLC
Post Office Box 1091 Knightdale, North Carolina 27545
(888) 875-5973 (phone/fax) www.elementanalytical.com NC PE Firm P-0658
Providing Engineering Analysis, Investigation, and Inspection Solutions.

Ms. L. Skye MacLeod, Esq.
Re: Taylor – Residential Fire Investigation
Case No: 5:12-cv-289-BO
November 6, 2012

1. Element Analytical, PLLC, File 11-0186-02
2. Wiring artifacts (evidence items 5 and 6) collected from 190 Cedar Valley Lane, Louisburg, North Carolina 27549-9713
3. House plans for “Residence of Chris & Tasha Taylor”, drawn by Casey Design of Wake Forest, North Carolina, (undated) as provided by Christopher Taylor
4. Photographs/micrographs, x-rays, SEM data, and CT scans from Goodson Engineering generated during the September 27, 2012, joint inspection
5. Report of Goodson Engineering (undated) re: File #7376

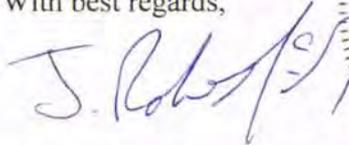
I relied on the above as well as my knowledge, skill, education, training, experience, first hand observations at the fire scene, and inspection of artifacts recovered from the scene to develop the opinions presented in this matter to a reasonable degree of engineering certainty.

During collection of the fire alarm branch circuit wiring from the fire scene, I noted two areas on those conductors displaying conditions consistent with electrical arcing activity. The following captioned and annotated photographs clarify and explain the fire alarm circuit wiring (14/3 cabling labeled evidence item #5) location before collection from the attic space to aid in correlating field and laboratory observations. The two regions of electrical arcing activity developed upslope from and outside of the area of fire origin previously discussed and described in my August 22, 2012, report.

Review of data generated during the September 27, 2012, examination by others and my visual inspection of the subject wiring since shows the artifacts of electrical arcing along the fire alarm circuit wiring (14/3 cabling labeled evidence item #5) on the grounding conductor absent a corresponding witness/arcing mark on an adjacent conductor. This condition supports arcing at these two regions, which falls outside my area of fire origin, likely occurring during the lightning event rather than from insulation degradation during fire progression.

The area of fire origin discussed and described in my August 22, 2012, report remains unchanged, and none of this new information alters my opinions regarding the area of fire origin or fire cause.

With best regards,



J. Robert McGraw, Jr., P.E., C.F.I., C.F.E.I.

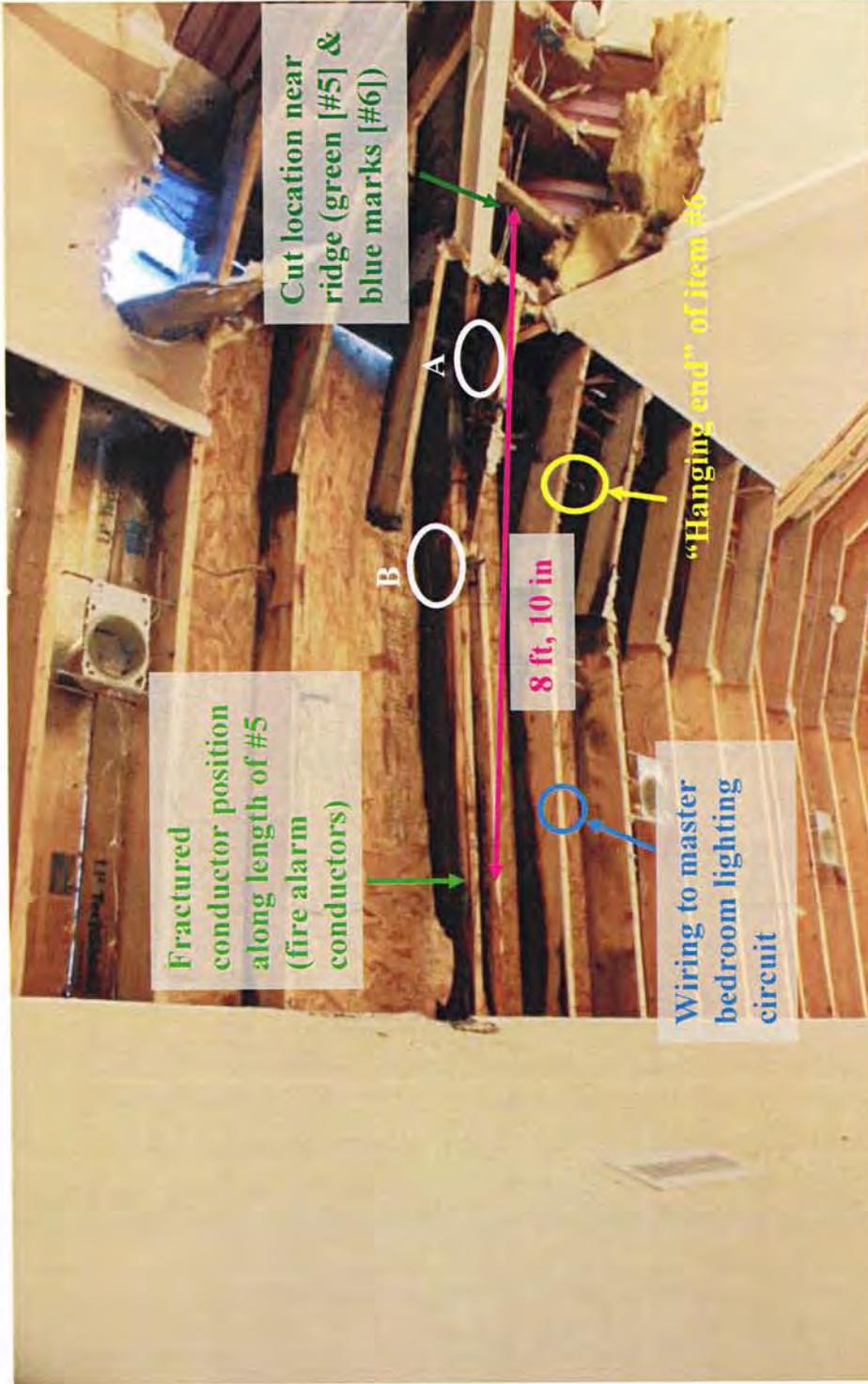
Attachments: Captioned Photographs (21)

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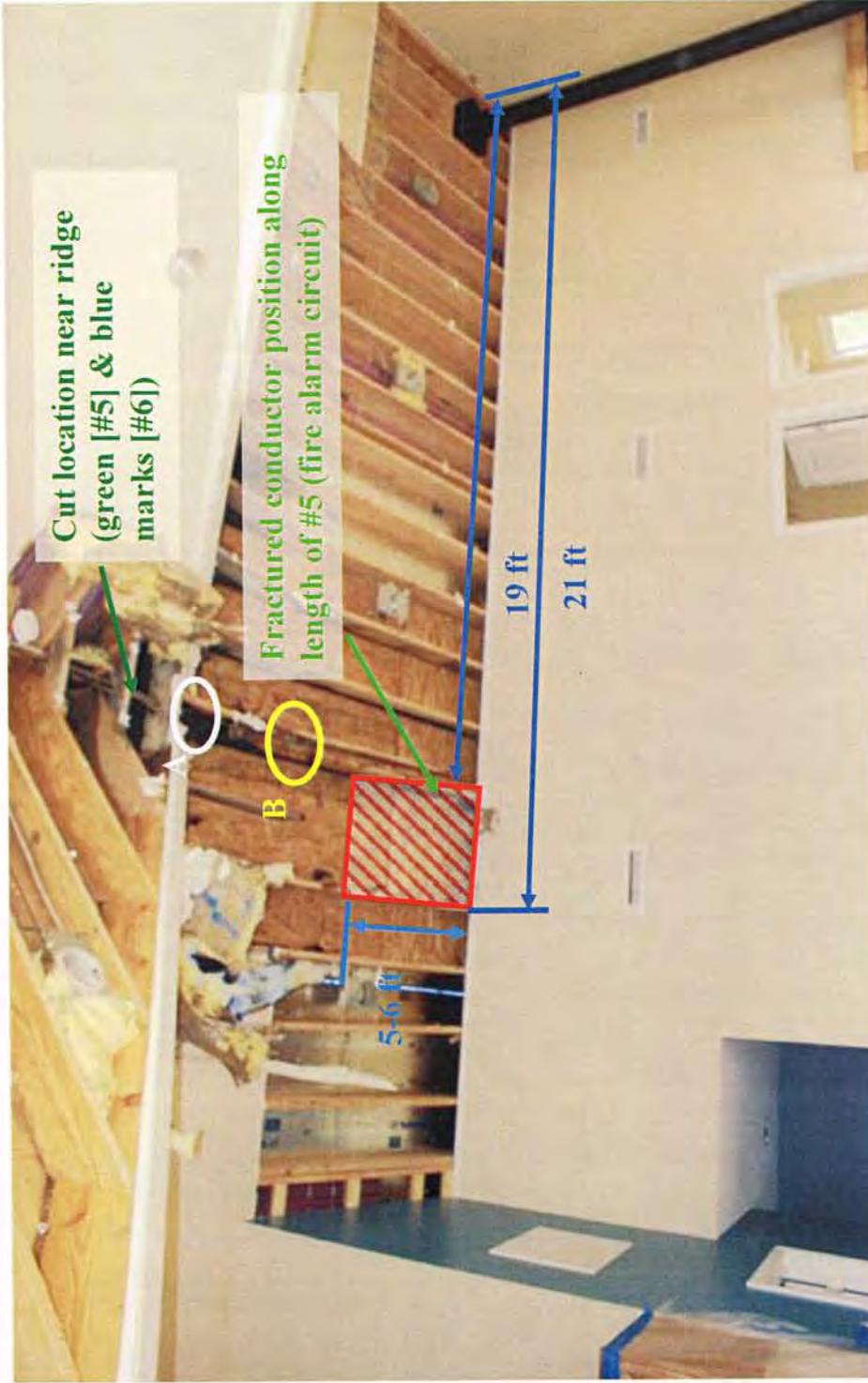


Photograph 1: View looking eastward toward the ceiling/attic space above the living room. Certain characteristics of the collected wiring (items 5 and 6) and the routing of wiring to master bedroom lighting are noted. The distance from the cut end of item #5 to the mechanically fractured conductor was 8-feet, 10-inches as shown. Measurements indicated regions of electrical activity about 22-inches (A) and 68-inches (B) from the field cut near the roof ridge. Region 'B' was sectioned from the collected wiring by others during the September 27, 2012, joint examination.

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Photograph 2: Northward view of the living room vaulted ceiling. A hatched box approximates the portion of the area of fire origin above the living room described in my August 22, 2012, report. The approximate location of the areas of electrical activity (A and B) and the fractured conductor along the fire alarm branch circuit are denoted.

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Photograph 3: Alternative view of the living room ceiling/attic space. Artifacts of electrical activity on item #5 identified during my October 21, 2011, field inspection were positioned upslope from and outside of the area of fire origin described in my original report.

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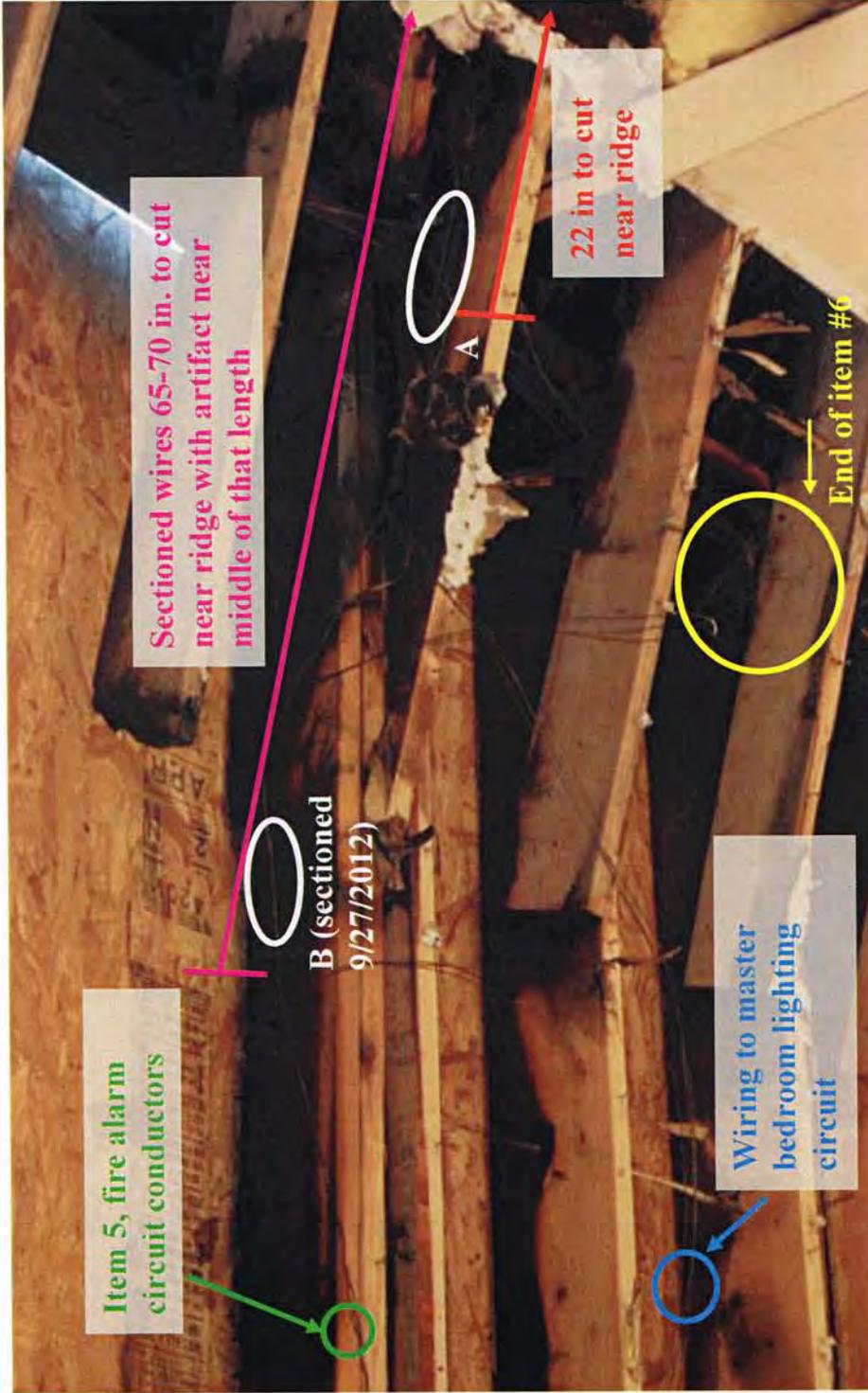


Photograph 4: Looking upward at the forward projecting roof ridge, a circle surrounds the position where items 5 and 6 were cut out. For orientation purposes, a northerly cardinal direction is to the left of this vantage.

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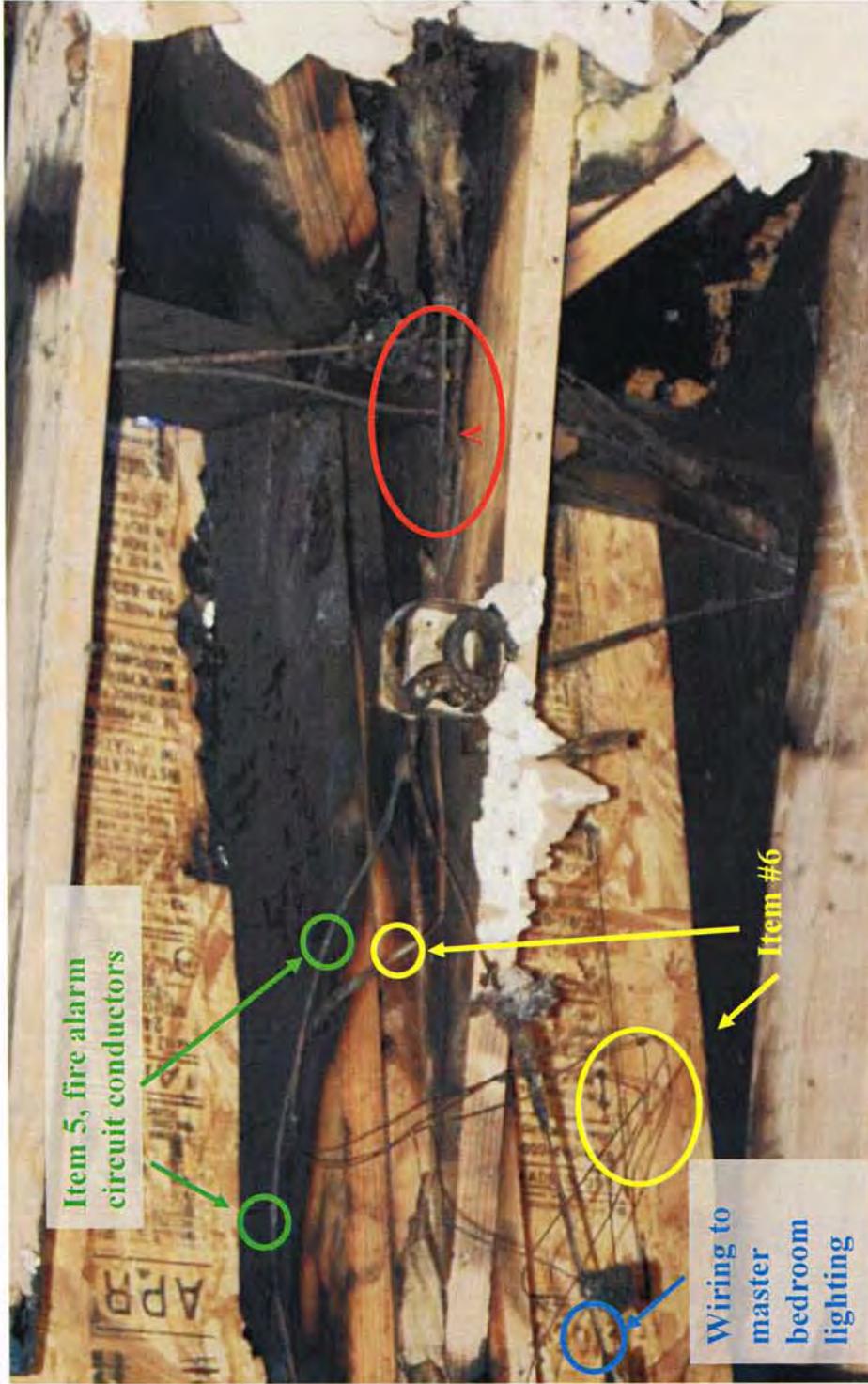


Photograph 5: The regions of electrical activity along the length of the conductors constituting item #5 are denoted (A and B). Respective dimensions to the field cut location near the roof ridge, shown in Photograph 3, are noted. The hanging end of item #6, the recovered section of which totaled about 88.5 inches in length, is encircled.

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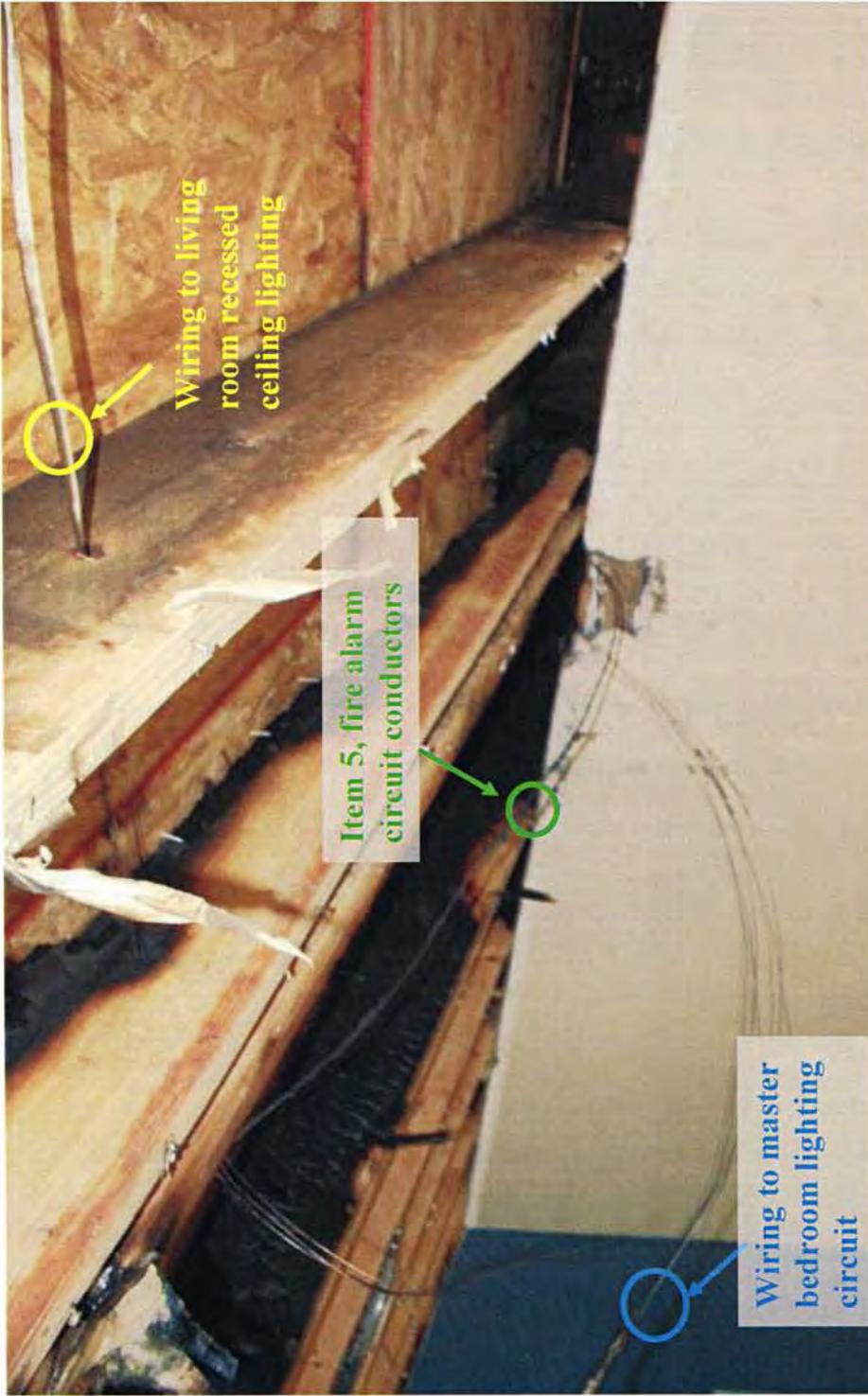


Photograph 6: A red oval surrounds the position of field-identified area of electrical activity, designated herein as region 'A', along the fire alarm circuit conductors (item 5). The respective positions of evidence items 5 and 6 are indicated.

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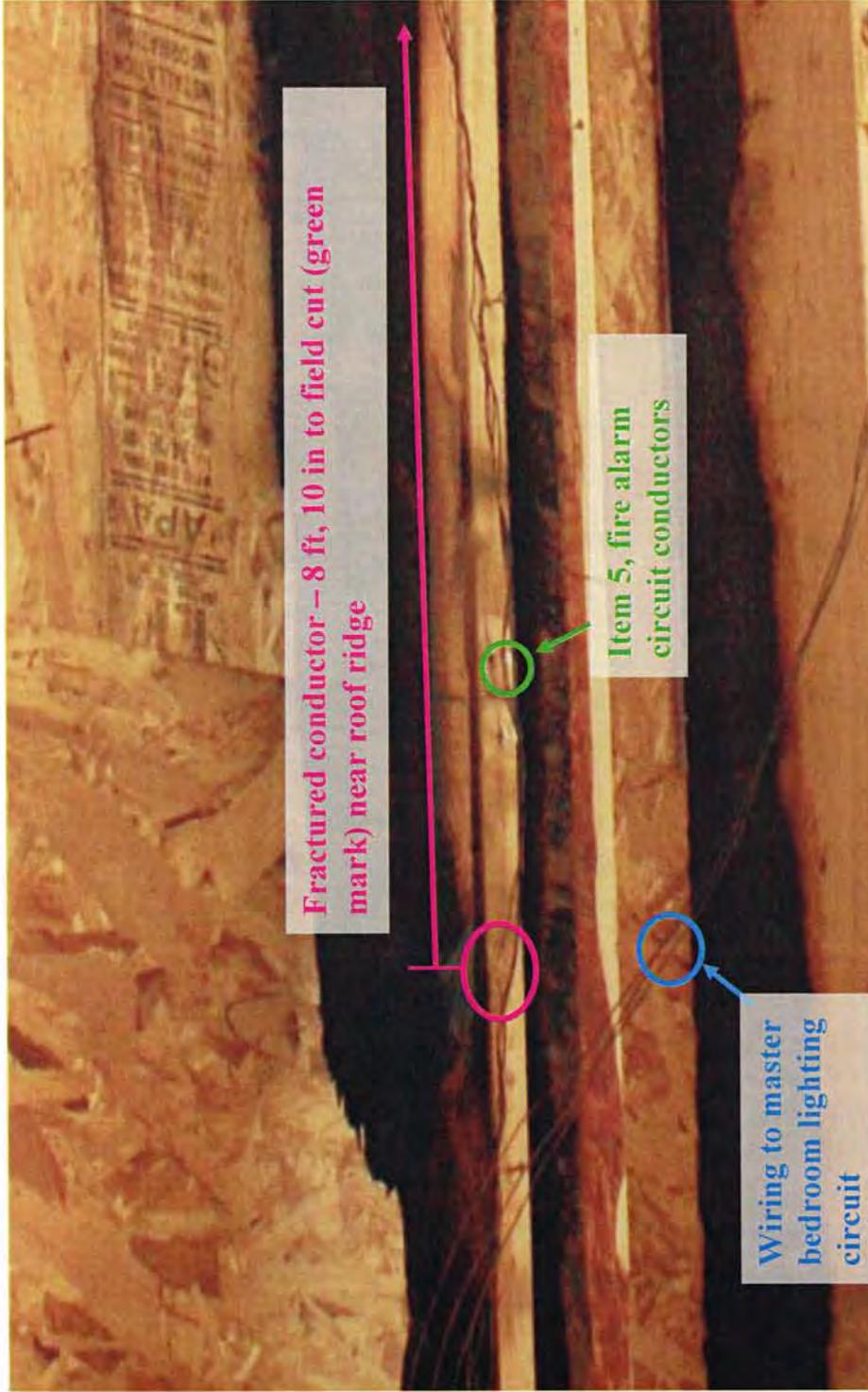


Photograph 7: View down slope toward the area of fire origin near the northern living room wall. Wiring serving the ceiling lights, master bedroom light circuit, and fire alarm circuit (item #5) are indicated.

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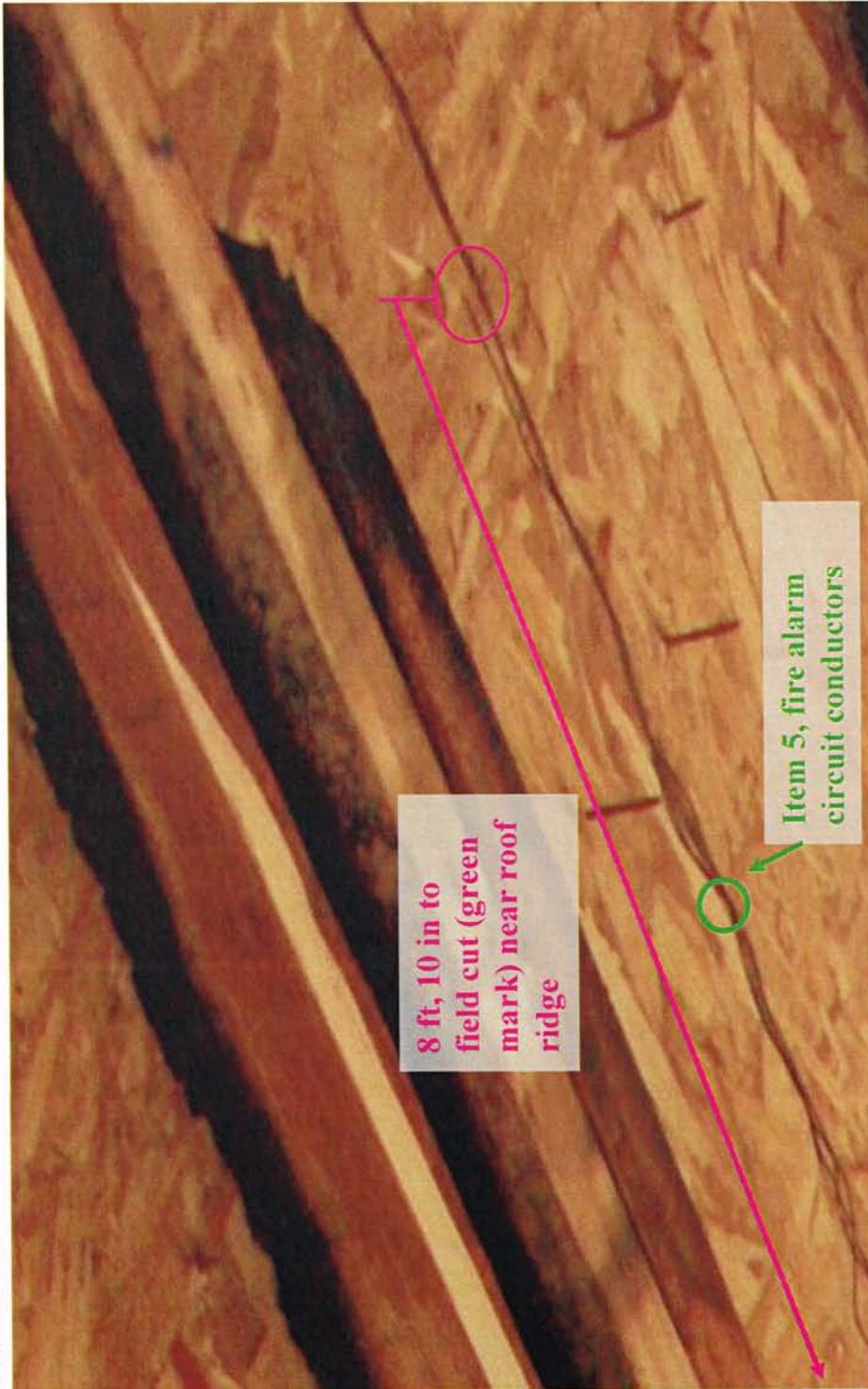


Photograph 8: Close-up view depicting the location of the fractured conductor (encircled in purple) along the fire alarm circuit (item #5) with the position relative to the field cut near the roof ridge indicated. (Note: image cropped and enlarged from Photograph 1)

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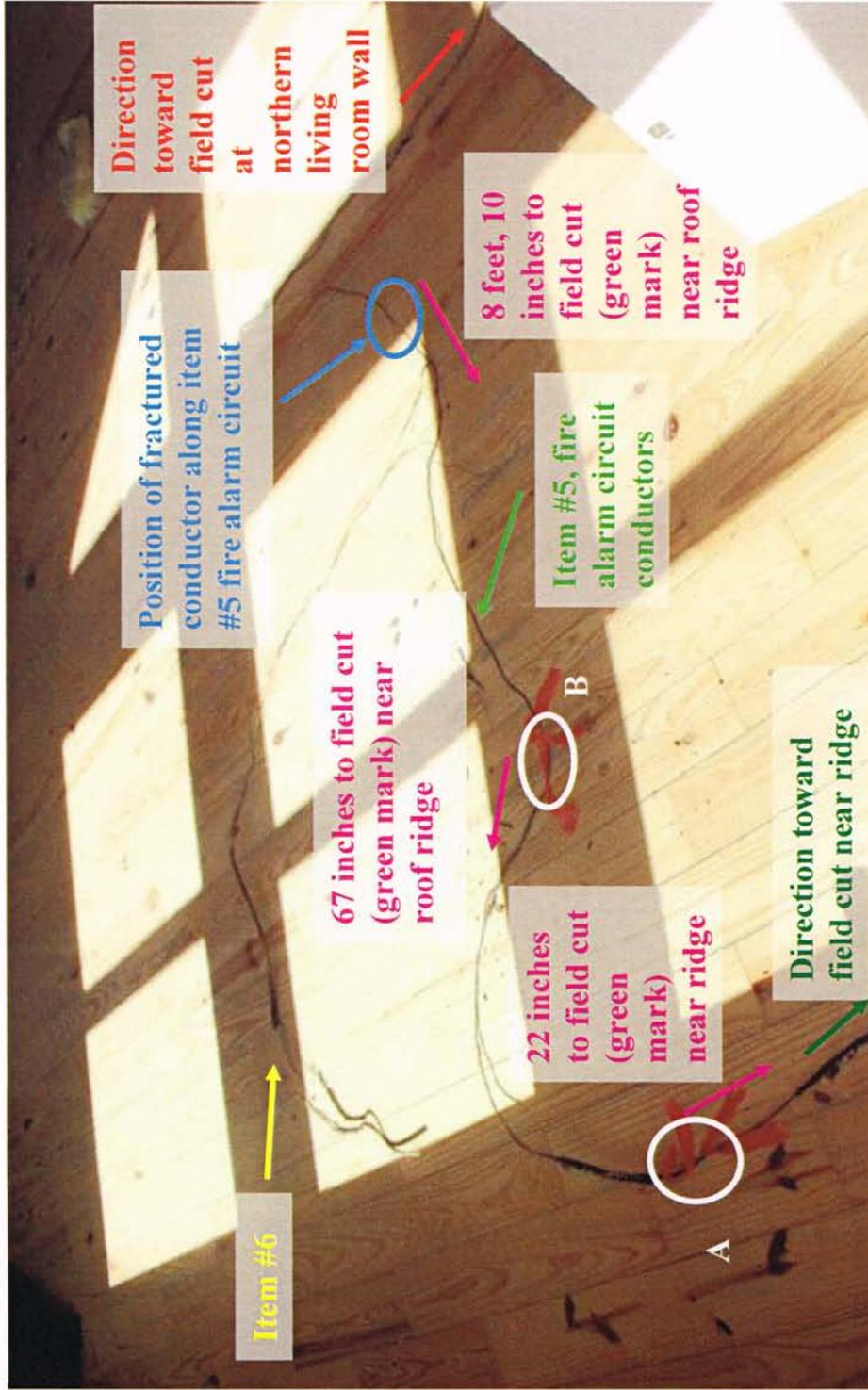


Photograph 9: Alternative view of the fractured conductor (encircled in purple) along the length of item #5. (Note: Image cropped and enlarged from Photograph 3)

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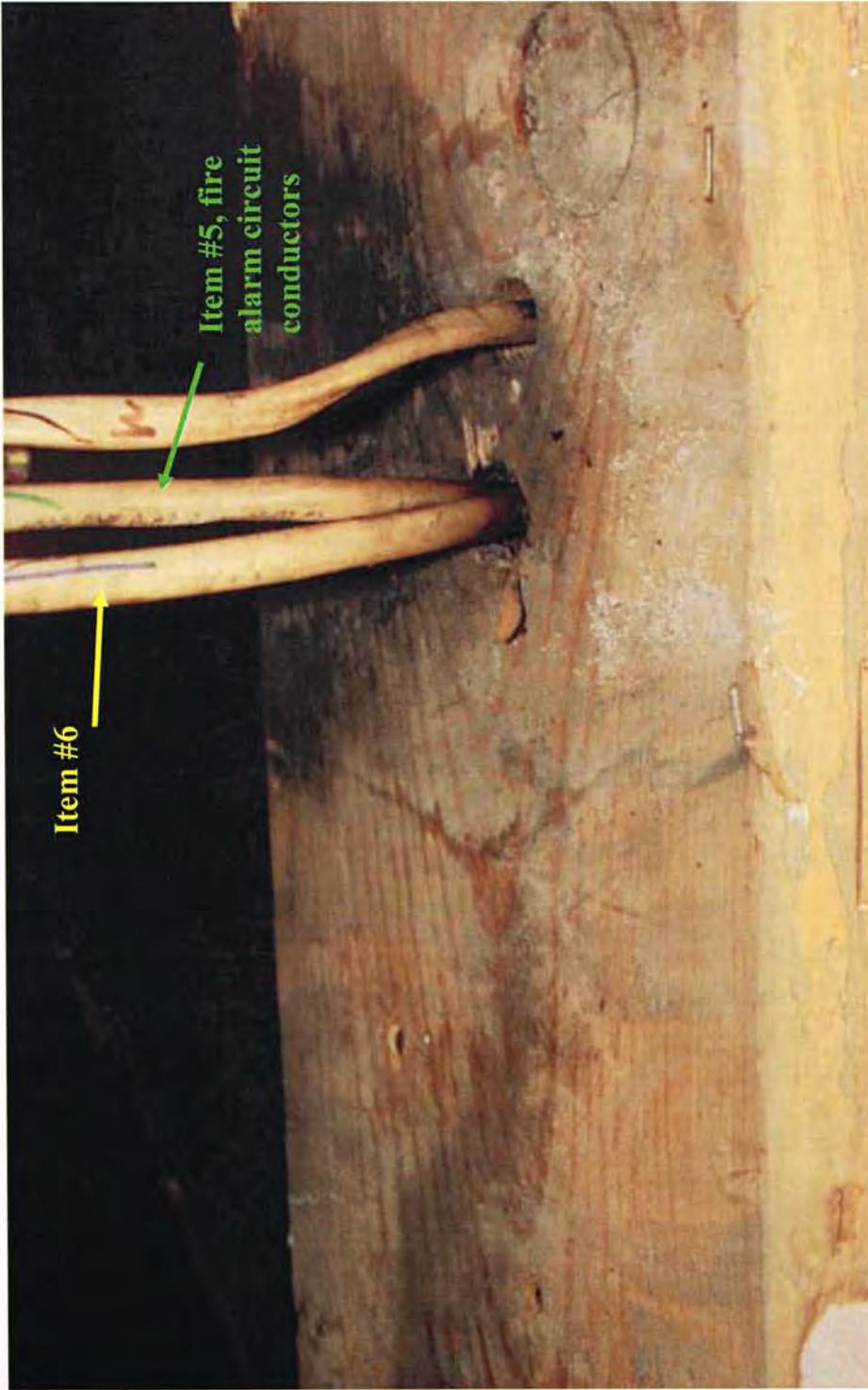


Photograph 10: View of wiring collected as items #5 and #6 during the October 2011 joint site inspection. The relative dimensions from the field-cut end (green mark) of item #5 to the regions of electrical activity (A and B) and the fractured conductor are depicted. Conductors of region 'B' were cutout from the length of this wire during the September 27, 2012 wiring inspection.



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Photograph 11: Close-up view wires marked for orientation near the ridge before the fire alarm circuit conductors item #5 (green mark) and wires of items #6 (blue mark) were cut. This photograph is captured looking southward.

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Photograph 12: View of the position along the northern living room wall where the fire alarm circuit conductors (item #5) were cut for removal at the field-applied red marking.

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Photograph 13: An oval surrounds apparent electrical activity, as identified during field examination on October 21, 2011, denoted in this supplemental report as region 'A'. This condition presented 22 inches north along the fire alarm circuit conductors (item #5) from the field cut near the ridge (green mark). The artifact developed upslope from and outside of my area of fire origin.

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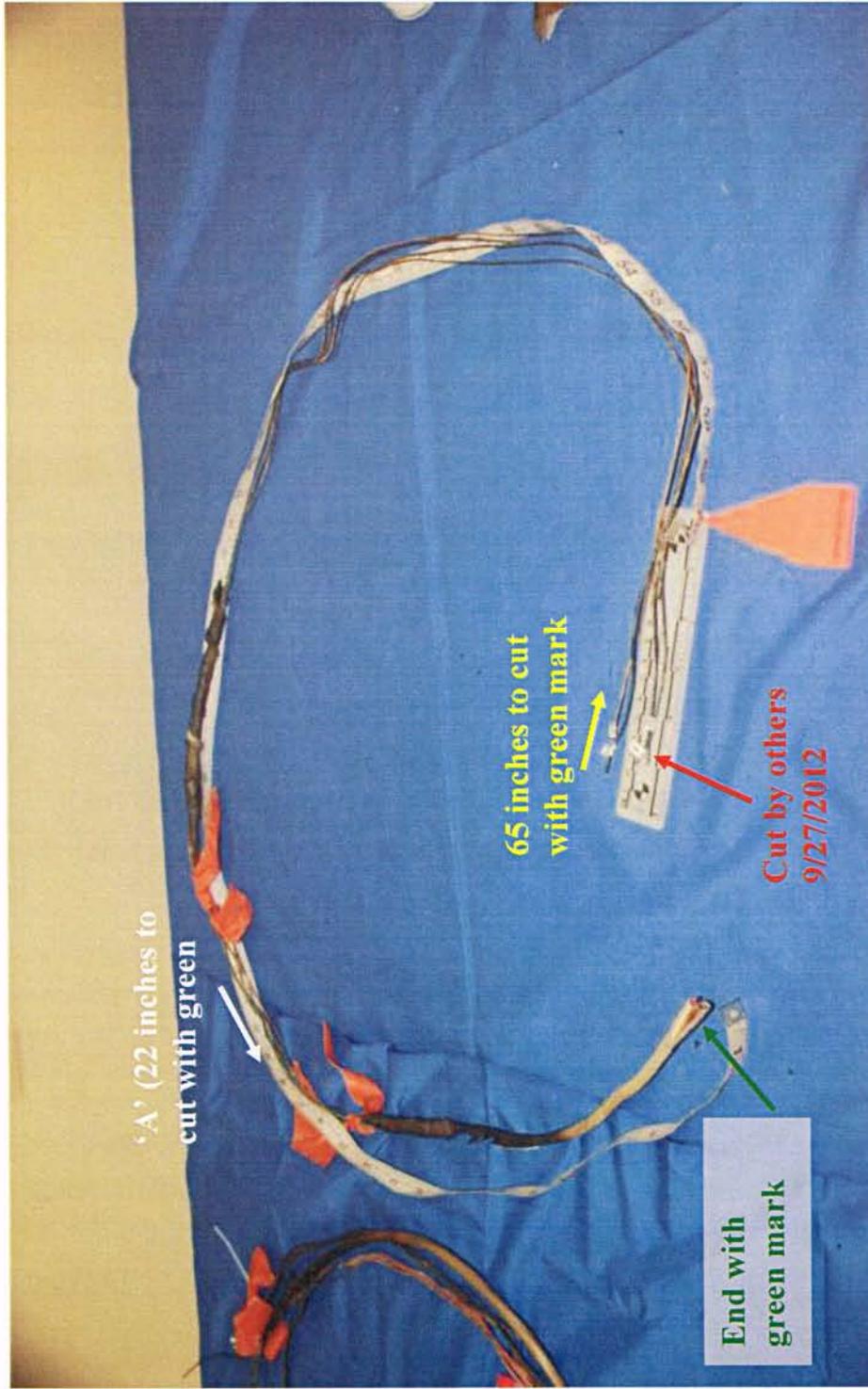


Photograph 14: An oval surrounds the artifacts of electrical activity identified during field examination on October 21, 2011, denoted in this supplemental report as region 'B'. The condition was positioned along the fire alarm circuit conductors (item #5) about 67 inches north from the field cut near the ridge (green mark.). This artifact was located in the middle of the region sectioned during the September 27, 2012, inspection by others. The artifact was located upslope from and outside of my area of fire origin.

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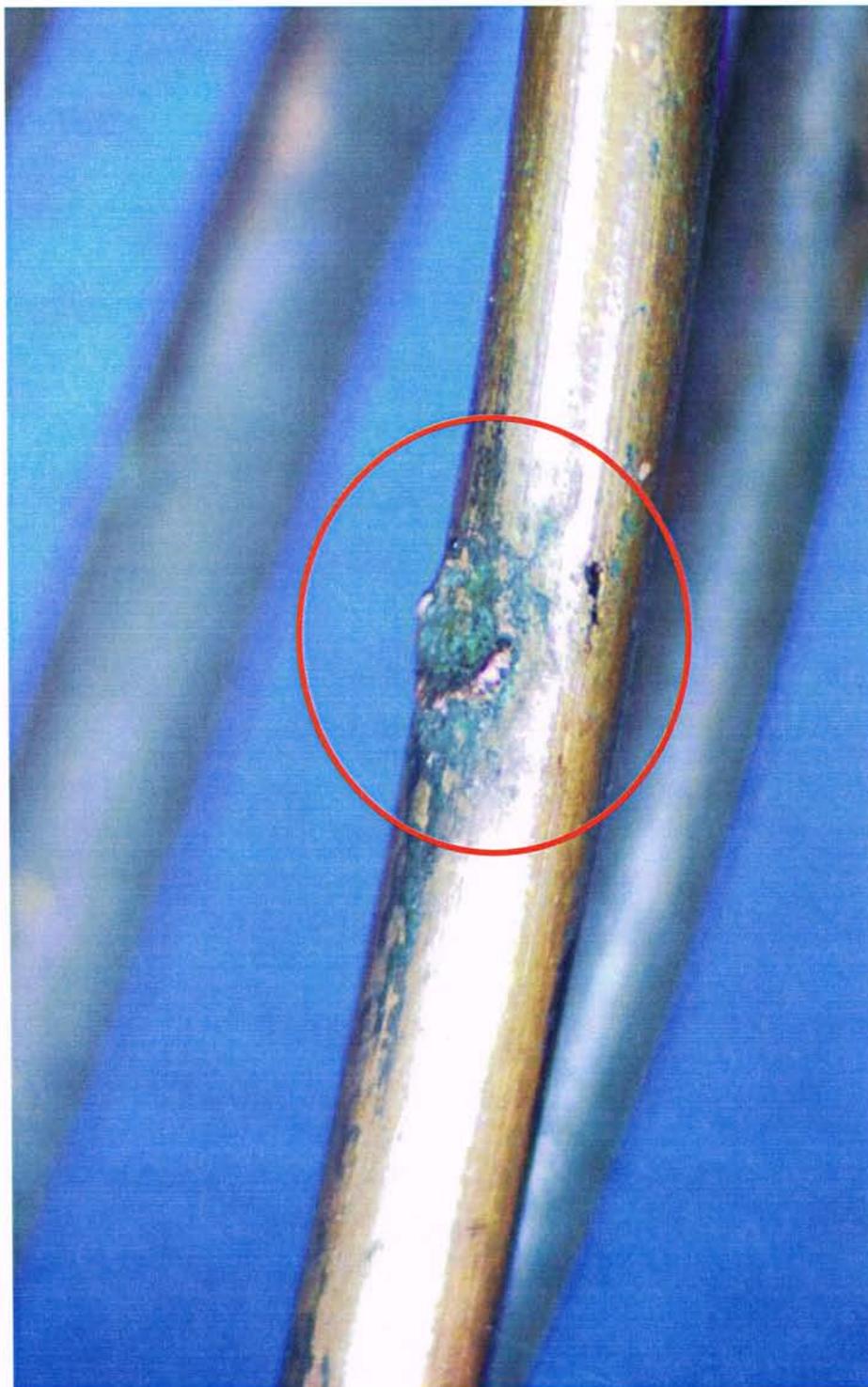


Photograph 15: View of the fire alarm conductors during my visual examination after the September 2012 inspection by others. The cut end (green mark) from near the roof ridge, position of the artifact in region 'A' and the length to the cut ends (5, 15, 18, 8) are indicated.

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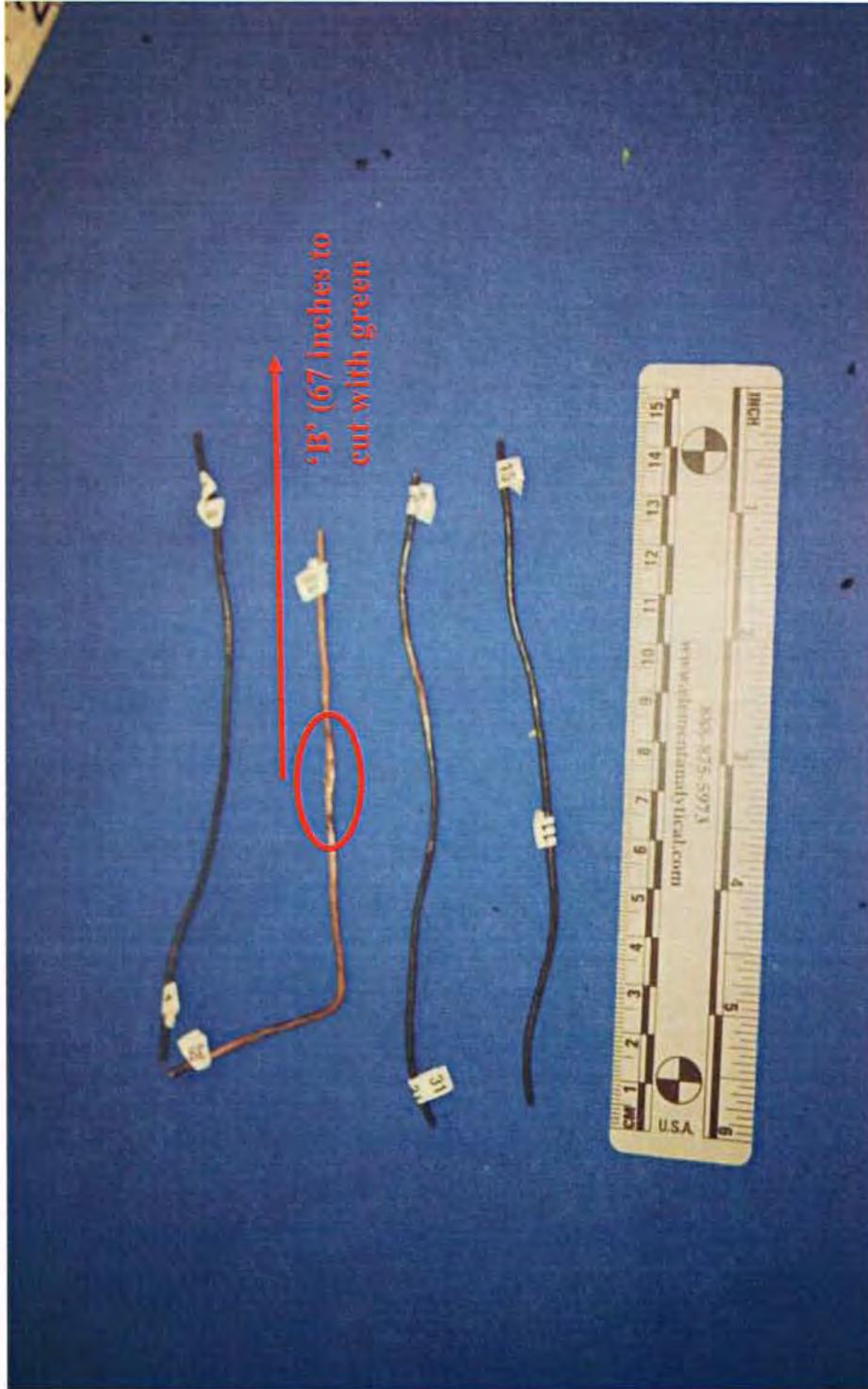


Photograph 16: Close-up view of the region identified in this supplemental report as 'A' captured during my recent visual examination of the fire alarm conductors (item #5). The encircled artifact was positioned 22 inches north of the field-cut end near the roof ridge.

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Photograph 17: View of conductors from the fire alarm circuit (item #5) sectioned by others during the September 27, 2012 inspection. A circle surrounds the artifact of electrical activity, identified as region 'B' in this supplemental report, that was positioned about 67 inches north of the cut end with the green mark near the roof ridge.

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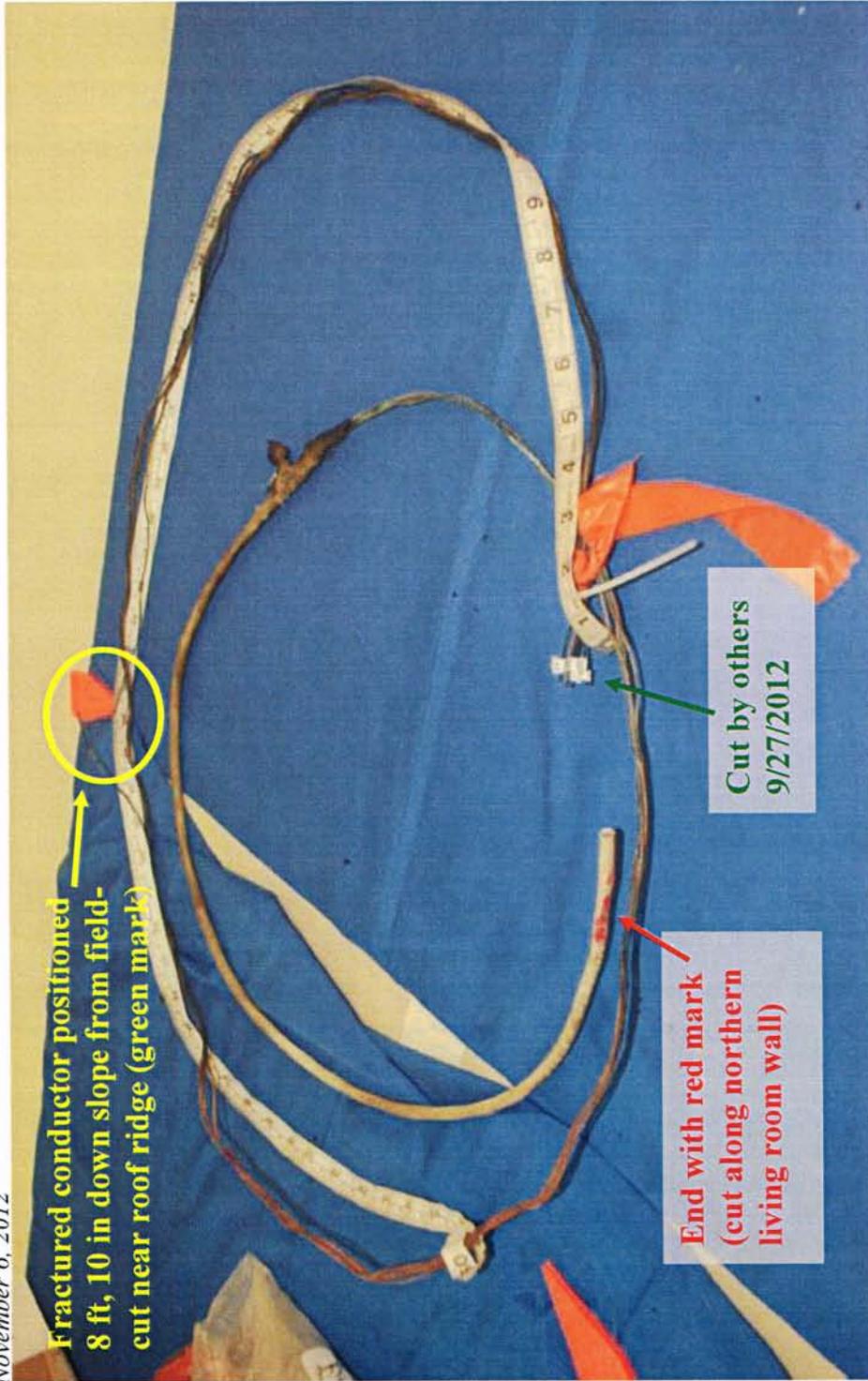


Photograph 18: Close-up view of the region identified in this supplemental report as 'B' captured during my recent visual examination of the fire alarm conductors (item #5). This artifact was positioned in the middle area of the conductor marked with ends 18 (southern extent) and 39 (northern extent) during the September 27, 2012, inspection by others. My measurements indicated this artifact positioned about 67 inches north of the field cut end near the roof ridge.

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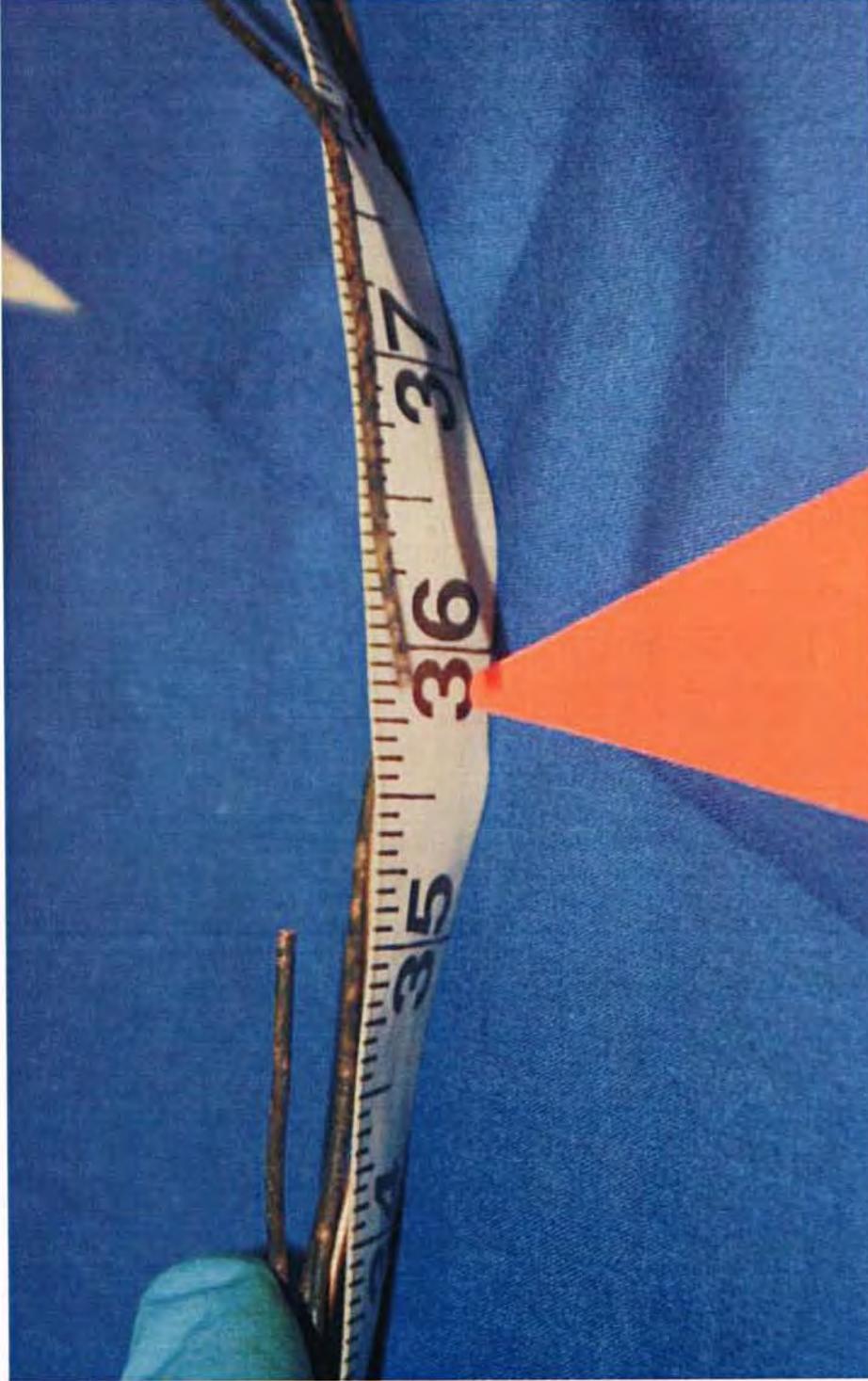


Photograph 19: View of the remaining portion of the fire alarm circuit conductors originally down slope from those sectioned during the September 27, 2012 inspection by others. The overall length of the wiring shown here is 12 feet, 4 inches, and the fractured conductors (encircled) were positioned 8 feet, 10 inches down slope from the cut near the roof ridge.

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Photograph 20: Close-up view of the region of the fractured conductor along the fire alarm circuit conductors, item #15. Dimensional analysis revealed this condition positioned 8 feet, 10 inches north of the field cut end near the roof ridge.

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Photograph 21: View looking upward at the northern roof slope above the living room in an image captured during construction and provided by the homeowner.

Element File 11-0186-02



IN THE UNITED STATES DISTRICT COURT
FOR THE EASTERN DISTRICT OF NORTH CAROLINA
WESTERN DIVISION
Civil Action No. 5:12-cv-289-BO

STATE FARM AND CASUALTY)
COMPANY as subrogee of)
CHRISTOPHER TAYLOR,)
)
Plaintiffs,) Volume I of I
) Pages 1-248
v.)
) 9:02 a.m.-4:36 p.m.
LOUISIANA PACIFIC CORPORATION,)
) (VIDEOTAPED)
Defendant.)

Deposition of: J. ROBERT MCGRAW, JR.
November 26, 2012

at the law offices of Ellis & Anthony, 343 South White
Street, Suite C, Wake Forest, North Carolina.

APPEARANCES

For Plaintiffs: L. Skye MacLeod, Esq.
THE LAW OFFICES OF STEPHEN R. PAUL
Post Office Box 16099
Chapel Hill, NC 27516

For Defendant: L. Neal Ellis, Jr., Esq.
Nathaniel C. Parker, Esq.
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SUPERIOR COURT REPORTING, INC.
Post Office Box 1528
Wake Forest, NC 27587
(919) 556-2597

Reported By:
Frances A. Graham

Videographer:
Danny A. Graham

J. Robert McGraw Jr. 11-26-12

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No. 29	List of Prior Testimony	43
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No. 36	File/Rob McGraw, Element Analytical	240

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J. Robert McGraw Jr. 11-26-12

the question must be made at the time such question is asked or objection is waived as to the form of the question;

6. The signature of the deponent to the transcript of his testimony is hereby required;

7. Except as waived by these stipulations, the provisions of the Federal Rules of Civil Procedure shall apply to the taking of said deposition and to its submission to the respective deponent, certification, and filing with the appropriate noticing attorney.

J. Robert McGraw Jr. 11-26-12

STIPULATIONS

It is hereby stipulated and agreed between the parties to this action, through their respective counsel of record, that:

1. The deposition of J. Robert McGraw, Jr. may be taken on November 26, 2012, beginning at 9:00 a.m. at the law offices of Ellis & Anthony in Wake Forest, North Carolina, before Frances A. Graham, a notary public;
2. Said deposition shall be taken for the purpose of discovery or for use as evidence in the above-entitled action, or for both purposes;
3. Any objection of any party hereto as to notice of the taking of said depositions or as to the time or place thereof, or as to the competency of the person before whom the same shall be taken, is hereby waived;
4. The Federal Rules of Civil Procedure shall control the taking of said depositions and the use thereof in court;
5. Objections to questions and motions to strike answers need not be made during the taking of this deposition but may be made for the first time during the progress of the trial of this case, or at any pretrial hearing held before any judge for the purpose of ruling thereon, or at any other hearing at which said deposition might be used, except that an objection as to the form of

1 (Whereupon at 9:02 a.m.)
 2 J. ROBERT MCGRAW, JR., being first duly sworn, testified as
 3 follows on
 4 EXAMINATION BY MR. ELLIS:
 5 MR. ELLIS: Why don't we begin by
 6 identifying who is here. I'm Neal Ellis and I'm here for
 7 Louisiana Pacific.
 8 MS. MACLEOD: And I'm Skye MacLeod and I'm
 9 here on behalf of State Farm Mutual Insurance Company.
 10 MR. ELLIS: The witness is Mr. McGraw?
 11 MR. MCGRAW: Yes. Rob McGraw.
 12 Q. Mr. McGraw, tell us, first of all, what your
 13 full name is.
 14 A. My name is James Robert McGraw, M-C-G-R-A-W,
 15 Jr., I go by Rob.
 16 Q. And where do you live?
 17 A. I live at 315 Camden Branch Drive in Cary,
 18 North Carolina.
 19 Q. Where are you employed?
 20 A. I'm self-employed. The company name is
 21 Element Analytical; we are based out of Knightdale, North
 22 Carolina.
 23 Q. When you say you are self-employed does that
 24 mean that you are the only employee of the company or are
 25 there others?

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1 A. Myself and my partner. We don't have any
2 employees, we are both owners.
3 Q. What is your partner's name?
4 A. Michael Lester.
5 Q. How long have you been with Element
6 Analytical?
7 A. Four years and three months.
8 Q. And would you tell us what the nature of the
9 business of Element Analytical is?
10 A. We are consulting forensic engineers.
11 Q. What does that mean to be a consulting
12 forensic engineer?
13 A. We apply our engineering knowledge,
14 education, and training to the investigation and analysis
15 of failures that may involve anything related to
16 structures, fires, water damage, storm damage, product
17 failures, component issues.
18 Q. Can you give us some examples of what that
19 means, what kinds of products you work with? What kind of
20 product failures are you involved with?
21 A. Yes, sir. We look at various appliance
22 failures that may be the result of, or produce water
23 damage, or fire damage. Any kind of variety of product
24 that may sustain a loss or sustain some sort of damage we
25 may be involved in looking at, whether it be a fire or

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1 explosion, water damage, personal injury. Those are the
2 types of products we can become involved and look at.
3 Q. Do you work with automobile accidents?
4 A. I do not.
5 Q. Have you in the past?
6 A. I have.
7 MR. ELLIS: I'm going to ask the reporter
8 to mark as the first deposition exhibit your curriculum
9 vitae. That would be Exhibit No. 27; is that correct?
10 (DEFENDANT'S EXHIBIT NO. 27 MARKED)
11 Q. Do you have Exhibit 27 in front of you?
12 A. I do.
13 Q. Can you identify that, please?
14 A. Yes, sir. It is my resume or curriculum
15 vitae.
16 Q. Tell us, first of all, where you were
17 educated, sir.
18 A. I received a Bachelor of Science degree in
19 Civil Engineering with a Construction Option from North
20 Carolina State University. I followed that with a Master
21 of Science in Fire Protection Engineering from the
22 University of Maryland at College Park.
23 Q. When you studied civil engineering at N.C.
24 State, could you tell us basically what that involved?
25 A. It involved understanding how things were

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1 constructed. After establishing a basic fundamentals of
2 engineering statics and dynamics and solid mechanics, the
3 focus then was on additional structural analysis, building
4 systems, and various construction activities, estimating,
5 things of that sort.
6 Q. This says here that you had a construction
7 option; is that correct?
8 A. That is correct.
9 Q. What does that mean?
10 A. Well, the degree program has now changed;
11 it's now entitled, I believe, Civil Engineering and
12 Construction Management, I don't know the exact current
13 designation. But a civil engineering degree with the
14 construction option at that time was a focus on,
15 essentially, the management and activities that might
16 undergo someone, that might be undertaken, rather, by
17 someone that's a general contractor.
18 Q. Were you ever involved in the construction
19 business yourself?
20 A. No, sir.
21 Q. Have you ever constructed a home?
22 A. No, sir.
23 Q. Next on your resume you indicate that you
24 attended the University of Maryland at College Park and
25 obtained your Master of Science; is that correct?

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1 A. In Fire Protection Engineering; yes, sir.
2 Q. Tell us what is meant by fire protection
3 engineering.
4 A. Fire protection engineering is the
5 application of engineering principles to the study and
6 analysis of fire dynamics, flame spread, investigation of
7 fires, protection of life safety, design and development of
8 life safety systems, sprinkler systems, and other fire
9 protection particular applications or products.
10 Q. Does that mean that you concentrated, then,
11 in devices or equipment that would protect a home from
12 fires?
13 A. No, sir.
14 Q. What does it mean?
15 A. Well, the concentration that I had was
16 related to fire dynamics, flame spread, and heat transfer.
17 Q. What do you mean by fire dynamics?
18 A. Well, fire dynamics is the understanding of
19 the physics of fire, how it interacts with its surrounding
20 environment, and then understanding how that applies for
21 predicting heat release rates, measuring heat release rates
22 in the laboratory we did in certain cases, and how that
23 then interacts with the building systems.
24 Q. You also mentioned flame spread; what does
25 that mean?

<p style="text-align: right;">Page 10</p> <p>1 A. Well, flame spread in and of itself is just 2 the study of the buoyant gases produced by combustion. 3 Q. I'm sorry, say that again. What? 4 A. Flame spread would just be understanding and 5 studying the buoyant gases in the products of combustion, 6 the flame itself, and how that affects the materials it's 7 around in terms of ignition, or after ignition, then 8 preheating and self-exposing other materials nearby, and 9 how that fire then progresses through the spread of flame. 10 Q. I think you mentioned a third area that was 11 part of this concentration. What was that? Fire dynamics, 12 flame spread, and something else. 13 A. I don't recall exactly what I mentioned. 14 Q. Is there another area? 15 A. Well, there are a variety of different areas 16 of concentration that can be undertaken. There are a 17 variety of different aspects of fire protection 18 engineering, whether it's an area of concentration or not. 19 Fire protection engineering encompasses, in 20 addition to what we've discussed, fire investigations, 21 understanding different material behavior. There are 22 certain people that undertake certain studies of specific 23 material rather than more broad. 24 Q. All right. Working down your resume here, 25 in terms of your professional experience, you indicate that</p>	<p style="text-align: right;">Page 12</p> <p>1 technical questions pertaining to fire origin and cause 2 analysis" mean? 3 A. That means providing my services in a 4 consultative manner to help answer technical questions 5 related to fire origin and cause analysis; fire origin and 6 cause analysis could otherwise be stated fire 7 investigations. 8 Technical questions arise from anything from 9 clients wanting to know where did the fire start, what 10 caused the fire, all of the above, what other issues may be 11 involved? There can arise questions such as survivability 12 during fires, fire spread, discussion about products that 13 may cause fires to spread faster or further or sooner. 14 Other technical questions that arise oftentimes involve 15 fire suppression and detection systems and how they 16 interacted with the environment during the event. 17 Q. The next item is fire protection systems 18 evaluations; what does that mean? 19 A. Evaluation of fire protection systems that 20 I've performed include analysis of sprinkler systems for 21 performance, analysis of sprinkler systems for failures, 22 analysis of fire suppression systems, mostly in the 23 commercial kitchen hood type of environment or application, 24 as well as detection systems and smoke detector presence or 25 absence during or after an event.</p>
<p style="text-align: right;">Page 11</p> <p>1 you are a principal engineer with Element Analytical; is 2 that right? 3 A. Yes, sir. 4 Q. And that's your present position? 5 A. Yes, sir. 6 Q. Were you a principal engineer with Element 7 Analytical beginning in August 2008? 8 A. Yes, sir. 9 Q. Looking at the description there of what you 10 do as a principal engineer, can you describe for us what 11 you do with respect to each one of these items, management 12 of engineering investigations first? 13 A. I can. 14 Q. Go ahead. 15 A. In terms of management of engineering 16 investigations and inspections, I would categorize that 17 together, just means the overall management of our 18 assignment, our investigation or inspection assignment, 19 from the beginning of receipt of it to coordinating an 20 inspection, performing whatever inspections may be needed, 21 follow up with our clients or whoever else they may choose 22 to have involved, and then up to and including and through 23 today's type of events, depositions, and wherever cases may 24 end up. 25 Q. What does "consultation in the solution of</p>	<p style="text-align: right;">Page 13</p> <p>1 Q. All right. The next item is structural 2 damage assessment; what does that mean? 3 A. We assess the nature and extent of damage to 4 structures for various types and causes of loss. 5 Q. When you say you assess it, what does it 6 mean you actually do? Do you assess dollar amounts of 7 damage that have been caused to a structure as a result of 8 the fire, or something else? 9 A. Typically, not a dollar amount. The 10 structural damage assessment can be due to fires. We have 11 done post fire damage assessments to help clients 12 understand what needs to be removed and replaced, and we 13 also do structural damage assessment related to foundation 14 settlement, storm damage, water damage. Most often it 15 involves the nature and extent of the damage, how much is 16 affected, and then what component or components require 17 removal, replacement, or augmentation. 18 Q. How soon after a fire has occurred would you 19 do a structural damage assessment? 20 A. Depends on when the client calls. It 21 depends on when the client calls to receive the assignment, 22 and then they may have certain other requirements or 23 stipulations or boundaries under which scheduling might 24 occur after that. 25 Q. Would you want to be on the scene in order</p>

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1 to perform an assessment like that as soon after the fire
2 has occurred as possible?
3 A. Yes.
4 Q. Why is that?
5 A. Well, any type of assessment you would want
6 to be able to look at it as soon as after the event as
7 possible. That's a broad term, "as soon as possible."
8 That can vary, depending on the nature and the
9 circumstances of any situation, what the soonest is. But
10 in order that things may not change or that they would
11 change as little as possible, then, that would be a factor
12 involved in that question.
13 Q. All right. Would you also want to be on the
14 scene in order to investigate the location of origin of a
15 fire as soon as possible after a fire has occurred?
16 A. Ideally, but it's not always necessary.
17 Q. Have you been on the scene of a place where
18 a fire has occurred as soon as the day that the fire has
19 taken place?
20 A. I have. I have been on the scene as late as
21 six months or a year afterwards for a first inspection.
22 Q. But, ideally, you would want to be there as
23 soon after the fire occurs as possible, correct?
24 A. I think, ideally, anybody that does this
25 type of work would want to see the situation as much as

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1 possible in an undisturbed state, but we don't always work
2 under ideal conditions.
3 Q. The next item here is building material
4 defects; what does that mean?
5 A. That means assessment of various building
6 materials that may have or may be alleged to have a defect.
7 Q. Can you tell me what kind of building
8 materials you have investigated for defects?
9 A. The most prevalent building material that
10 I've looked at typically involves cladding for windows,
11 doors. In the early 2000s we did a lot with the exterior
12 insulation of finish systems for synthetic stucco. We
13 looked at a lot of hardboard Masonite products.
14 Building material defects can also include
15 roofing, wallboard, gypsum sheathing, roof sheathing. Any
16 sort of building material that could be applied could be
17 investigated for various aspects, and that's what that is
18 intended to encompass.
19 Q. Who have your clients typically been when
20 you've investigated for building material defects?
21 A. They typically have been a representative of
22 the homeowner's insurance company or, rather, the
23 property's insurance company, or representative of an
24 insurance company for a contractor or entity that may have
25 performed work at that location.

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1 Q. Have you ever investigated radiant barrier
2 sheathing as a possible building material defect?
3 A. Yes.
4 Q. In what case?
5 A. This particular case.
6 Q. Just this one?
7 A. Yes, sir.
8 Q. So you have never before this case been
9 involved with investigating radiant barrier sheathing as a
10 possible defective product?
11 A. That's correct.
12 Q. Have you been involved with investigations
13 of fires and structures where radiant barrier sheathing was
14 present, other than the Taylor house?
15 A. Not that I'm aware of.
16 Q. You don't know?
17 A. I have not seen it, but it may be present
18 and I wasn't aware of it, in terms of it may have been
19 obscured from whatever area I may have been dealing with.
20 Q. All right. When we are talking about areas
21 in the home, do you recognize that radiant barrier
22 sheathing could exist, not just in a roofing system of a
23 home, but in other parts of a home as well?
24 A. Yes. From what I've reviewed, I can see
25 that to be a possibility. I have not seen radiant barrier

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1 sheathing in another structure other than this structure.
2 Q. I see. But you have heard of it being used
3 in parts of structures other than as part of a roofing
4 system?
5 A. Based on my review of materials from this
6 case, yes. That's the only exposure I have to it.
7 Q. All right. This also says that you've
8 looked at water damage assessments; what does that mean?
9 What is water damage assessment?
10 A. Investigating the source, nature, and cause
11 of water damage, whether that be from potable water,
12 rainwater intrusion, or surface water flooding; any of
13 those would fall into that category.
14 Q. The next item here is appliance/product
15 failures; what does that mean?
16 A. Inspection or investigation of appliances or
17 -- when I say product, it may not be an electronic
18 appliance or electrical appliance, rather, for an alleged
19 failure, whether that be that it produced or was the origin
20 for a water leak, or maybe it was the origin for some sort
21 of fire, or some other event that has caused damage. We've
22 been asked to undertake an inspection to answer the
23 question why. That's typically what our work involves;
24 there is a why question and we seek out to answer that.
25 Q. Give me some examples of the kinds of

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1 appliance or appliance failures you've dealt with.
2 A. I've looked at recessed ceiling lights, I've
3 looked at laundry appliances, washers and dryers, kitchen,
4 excuse me, small kitchen appliances, countertop items such
5 as coffeemakers, toasters. I've had occasions to look at
6 dishwashers. Any of those would fall in that category.
7 Q. The last item here is interpretation of
8 codes and standards. What do you mean by that?
9 A. We are sometimes called upon to review a
10 particular code or standard by our client and ask how it
11 may apply to their case in our evaluation of the data that
12 we've been presented.
13 Q. In connection with the Taylor home were you
14 asked to interpret any codes and standards?
15 A. No, sir.
16 Q. Did any codes and standards apply to the
17 investigation which you conducted in connection with this
18 case?
19 A. The code or standard that would apply to the
20 investigation would be the National Fire Protection
21 Association Guide for Fire and Explosion Investigations,
22 No. 921.
23 Q. No. 921. All right. And did you follow
24 NFPA 921 in connection with the investigation in this case?
25 A. I strive to follow it and use it as guiding

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1 principles in my investigation.
2 Q. Were there parts of the standard that you
3 could not follow in this case?
4 A. Yes.
5 Q. What parts of the standard were you not able
6 to follow?
7 A. There would be parts of the standard that
8 would relate to maybe marine vehicles, automotive vehicles,
9 wildfire investigations, things that don't apply to
10 structure.
11 Q. As to those parts of NFPA 921 that would
12 apply to the Taylor home, were there any parts of the
13 standard that you were not able to fully comply with?
14 A. I haven't done an assessment for compliance;
15 I'm not sure that's my role to determine compliance. I
16 strove to meet the general principles of it during the
17 course of my investigation and analysis. I'm not aware
18 that I did not comply and there was no particular section
19 that I have chosen to not comply with.
20 Q. I'm not talking about your personal
21 compliance now, necessarily. Are you aware of any part of
22 NFPA 921 that you were not able to meet because of the
23 status or condition of the home as you saw it, or anything
24 else that might have prevented you from being able to
25 conduct your investigation fully in accordance with 921?

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1 A. No. None of that would have changed the
2 ability to conduct the investigation in accordance with
3 921.
4 Q. What does that mean? You said --
5 A. You asked a broad question.
6 Q. Yes.
7 A. So none of the status of the home, which I
8 believe was your question, affected the ability to conduct
9 the investigation in accordance with the guiding principles
10 of NFPA 921. So am I aware? No, I'm not aware of any.
11 Q. All right. Who are your principal clients?
12 A. The majority of our clients are related to
13 the insurance industry as most of our casework is derived
14 from some kind of insurance claim, whether they be
15 adjusters, attorneys, or some in-house investigators for
16 those type of entities.
17 Q. Have you done work for State Farm in the
18 past?
19 A. I have.
20 Q. About how many fire investigations have you
21 conducted for State Farm?
22 A. I do not know; it's not something that I
23 track.
24 Q. Just give me an estimate.
25 A. I'd prefer not to estimate. I do not know

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1 off the top of my head how many fires I've investigated for
2 State Farm.
3 Q. You can't even give me an estimate?
4 A. It would be a guess at this point.
5 Q. How many total fire investigations have you
6 done as a principal engineer for Element Analytical?
7 A. I don't know. I'd have to look back at my
8 records. If I was to estimate, and this is just an
9 estimate, somewhere on the order between 150 and 200 since
10 we began the company in 2008. That's just an estimate. I
11 don't know. I'd have to look at my records.
12 Q. And were all of those for insurance industry
13 clients?
14 A. No.
15 Q. Who else have you done fire investigations
16 for?
17 A. For various law firms that have hired us,
18 hired me.
19 Q. Do you know whether or not they were
20 representing insurance industry clients?
21 A. I don't know for certain. Some of them
22 were, some of them likely were not. I don't know who they
23 represented; they don't always tell us.
24 Q. All right. As you sit there, would you be
25 able to tell us how many fire investigations you estimate

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1 you've done for State Farm in excess of five?
2 A. I'm not going to estimate how many I've done
3 and try to give bracketing to the number. I don't know.
4 If it's a number that you need, we can deal with that if
5 you need to know specifically. I don't know how many I've
6 done for State Farm. It would just be pulling a number out
7 of thin air, and I don't think that's appropriate for a
8 deposition.
9 Q. Can you tell me whether or not the number
10 exceeds ten?
11 A. I believe that it would, yes.
12 Q. Can you tell me whether it exceeds twenty?
13 A. Yes.
14 Q. Does it exceed fifty?
15 A. I don't know.
16 Q. The next item here on your resume is
17 professional engineer with Forensic Engineering,
18 Incorporated, in Raleigh, from January 2002 to 2008; is
19 that right?
20 A. Yes, sir.
21 Q. Can you tell me how the work that you were
22 doing with Forensic Engineering from 2002 to 2008 differed
23 from what you presently do as a principal engineer with
24 Element Analytical?
25 A. The general work was the same. There was

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1 some less management, company management of course, since I
2 was not an owner. There was a period of time when I did
3 supervise additional investigators, provide some level of
4 oversight there. And for some period of time during that
5 duration I did work on vehicle accident reconstruction
6 investigations, which I no longer perform.
7 Q. Would you tell us what you mean by vehicle
8 accident reconstruction?
9 A. Vehicle accident reconstruction, the types
10 of activities we undertook in that situation, involved
11 collisions between automobiles or automobiles and
12 pedestrians to understand whether it's a question of speed,
13 sight distance, fault. There were a variety of different
14 questions, technical questions, that could have been
15 applied to any particular case.
16 Q. About how many vehicle accident
17 reconstruction cases did you do while you were with
18 Forensic Engineering?
19 A. I do not know.
20 Q. Are you able to estimate it?
21 A. No, sir.
22 Q. About how many fire investigations did you
23 do while you were with Forensic Engineering?
24 A. I do not know.
25 Q. Are you able to estimate it?

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1 A. I'm not able to estimate.
2 Q. Are you able to estimate what part of your
3 time was devoted to vehicle accident reconstruction as
4 distinguished from other parts of your job elements here at
5 Forensic Engineering?
6 A. During that time frame, less than five
7 percent if I had to estimate.
8 Q. Are you able to estimate what part of your
9 job was devoted to fire investigation work?
10 A. Probably along the lines of 60 percent.
11 That's an estimate.
12 Q. One of the items here under Forensic
13 Engineering is fire cause and origin. Do you see that?
14 A. I do.
15 Q. Are you able to estimate how many times
16 while you were with Forensic Engineering you were involved
17 with the determination of fire cause and origin?
18 A. I believe you asked me that a moment ago.
19 I am not able to estimate that.
20 Q. I said generally fire investigation, but
21 with respect to fire cause and origin, specifically?
22 A. No, sir.
23 Q. You are not able to estimate that?
24 A. No, sir. Not as I sit here today.
25 Q. Prior to 2002 what was your job?

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1 A. Prior to 2002 my job title was engineer in
2 training, also at Forensic Engineering.
3 Q. In what way was being an engineer in
4 training different from being a professional engineer with
5 Forensic Engineering?
6 A. Well, the notable difference was I had no
7 supervision role as an engineer in training, number one.
8 Number two, the engineer in training designation resulted
9 from my passing the first Principles of Practices of
10 Engineering examination during college, which sets a
11 professional designation, so the company chose that same
12 designation for their personnel.
13 So after January 2002 when I completed the
14 second half of that Principles and Practices of Engineering
15 exam, which necessitated requisite experience, then the
16 title was changed because I had professional licensure at
17 that point.
18 Q. I thought you mentioned something about a
19 supervision role with respect to engineer in training.
20 What was that about?
21 A. You asked what the difference was.
22 Q. Yes.
23 A. One of the differences with my role at that
24 company is I did not have a supervision role while I was an
25 engineer in training; that did not come until a later time.

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1 Q. And during the period of time that you acted
2 as an engineer in training were you involved with fire
3 cause and origin work?
4 A. Yes.
5 Q. Can you estimate, approximately, how many
6 fire cause and origin investigations you did during that
7 period of time?
8 A. I cannot. During my tenure at Forensic
9 Engineering I investigated hundreds of fires. That's the
10 best I can tell you.
11 Q. But you are not able to tell me or give an
12 estimate as to how many fire cause and origin cases you
13 worked on?
14 A. No more definitively as I sit here; no, sir.
15 Q. When did you obtain your professional
16 engineering license?
17 A. January of 2002, for North Carolina.
18 Q. If I ask you to tell me by looking at the
19 various items that are listed here under Engineer in
20 Training experience, are you able to give me an estimate as
21 to what part of your time was devoted to each one of these?
22 A. Probably not.
23 Q. Prior to being an engineer in training with
24 Forensic Engineering how were you employed?
25 A. Prior to being an engineer in training with

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1 Forensic Engineering I was in graduate school.
2 Q. That was the period of time that you spent
3 at the University of Maryland?
4 A. Yes, sir.
5 Q. And prior to going to graduate school how
6 were you employed?
7 A. Prior to going to graduate school I was in
8 undergraduate school at North Carolina State University.
9 Q. Your resume indicates that you served with
10 the Swift Creek Fire Department in Wake County; is that
11 correct?
12 A. I still serve there.
13 Q. All right. Are you a volunteer fireman?
14 A. Yes, sir.
15 Q. And that started in February of 1999?
16 A. That's correct.
17 Q. Were you responsible as a member of the
18 Swift Creek Fire Department for performing fire
19 investigation work?
20 A. We do, yes. In certain situations,
21 yes, sir.
22 Q. I'm asking about you; you said "we do."
23 A. Yes. In certain situations, yes, I do.
24 Q. Are you able to estimate for me how many
25 fire investigations you've actually done for the Swift

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1 Creek Fire Department?
2 A. I cannot estimate that. The fire
3 investigations that I undertake as a member of the
4 department are those fires that are small or incipient in
5 nature and, typically, would not require any type of follow
6 up. The way our arrangement is, when we undertake an
7 investigation that requires documentation and additional
8 witness statements and follow up, we bring in the local
9 fire marshal's office to undertake those activities.
10 Q. What would the local fire marshal's office
11 be for Swift Creek?
12 A. Wake County fire marshal's office.
13 Q. This indicates that you were with another
14 fire department for some period of time; is that correct?
15 A. Yes, sir, while I was in graduate school.
16 Q. That's Prince George's County, Maryland,
17 then?
18 A. Yes, sir. The Greenbelt Fire Department,
19 which is part of the Prince George's County system.
20 Q. During the course of your work with the
21 Prince George's County fire department did you perform fire
22 investigations?
23 A. No, sir.
24 Q. In turning the page on your resume there is
25 a list that begins under an item entitled Professional

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1 Development. Do you see that?
2 A. Yes, sir.
3 Q. What are those? This goes over two pages.
4 A. Yes, sir. The professional development list
5 are various courses or seminars and activities undertaken
6 to maintain my professional continuing education.
7 Q. What is the requirement for continuing
8 education for a professional engineer?
9 A. Fifteen hours per year.
10 Q. So these are all courses, then, that you
11 went to in order to maintain that licensure requirement?
12 A. These are courses that I've attended and
13 participated in in order to maintain my licensure
14 requirement as a licensed professional engineer and also my
15 fire investigation certifications.
16 Q. Have you taken any courses that are devoted
17 strictly to the study of lightning?
18 A. I've taken one seminar that was related to
19 lightning, particularly, and that was put on by one of the
20 companies that has a lightning detection network, I guess
21 is the right term.
22 Q. What is a lightning detection network?
23 A. Well, it was put on by the Vaisala Company
24 that produces the STRIKEnet/STRIKEfax data product, and
25 they have a system of technology that detects the location,

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1 presence, and details of lightning events.
2 Q. Which course was that?
3 A. It was entitled Lightning 101, it's on page
4 number three. I attended that during 2003.
5 Q. That's Lightning 101 Seminar by Vaisala,
6 Inc. in Raleigh, North Carolina, April 30, 2003; is that
7 correct?
8 A. That's correct.
9 Q. How many hours was that seminar?
10 A. I don't recall.
11 Q. Was it a full day?
12 A. I don't recall.
13 Q. Do you know whether it was a half day?
14 A. I don't recall.
15 Q. You don't know? That's the only one on your
16 list that's devoted to a study of lightning?
17 A. Yes, sir.
18 Q. Looking down at the Professional
19 Associations which you've listed on the next page of your
20 resume, do you hold a leadership position in any of those
21 associations?
22 A. I do not.
23 Q. Do you do anything with those associations
24 other than to participate as a member?
25 A. No, sir.

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1 Q. The next item further down on your resume is
2 Publications. Do you see that?
3 A. Yes, sir.
4 Q. Were these publications all performed in
5 connection with your master's degree work?
6 A. Yes, sir.
7 Q. And they are, principally, devoted to
8 painted gypsum wallboard; is that correct?
9 A. That was the study undertaken; flammability
10 and dehydration of painted gypsum wallboard.
11 Q. Why did you pick painted gypsum wallboard as
12 a product to study?
13 A. Kind of the nexus for developing the thesis
14 was to understand two aspects of gypsum wallboard as it
15 could pertain to fire investigations, one being
16 flammability and two being dehydration.
17 The dehydration aspect with regard to how the
18 calcium sulphate dihydrate performs under various exposures
19 to fire heat fluxes and how can that predict anything about
20 the fire? And the second being, it's listed first but the
21 second being flammability, to understand how different
22 amounts of paint on gypsum wallboard affects flammability.
23 One aspect that comes to mind is tenements or apartments
24 that are rented and painted consecutively and over maybe
25 tens or dozens of times, how does that affect fire spread

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1 on those surfaces.
2 Q. Have you had occasion to use that study work
3 while you were at the University of Maryland in connection
4 with your work as an engineer?
5 A. Yes.
6 Q. And was that in connection with trying to
7 determine cause and origin of fires in buildings that may
8 have had painted gypsum wallboard?
9 A. Yes.
10 Q. At the top of this page you've listed your
11 Professional Registrations. Are all those current?
12 A. Yes.
13 Q. You've also listed Certifications. Do you
14 see that?
15 A. Yes, sir.
16 Q. Are all those current?
17 A. Yes.
18 Q. Can you tell me, in connection with all of
19 your work as a professional engineer or even as an engineer
20 in training, approximately how many homes you've seen
21 damaged by fires caused by lightning?
22 A. I cannot tell you that.
23 Q. Can you give me even an estimate?
24 A. No, sir.
25 Q. More than a hundred?

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1 A. Sir, I'd be purely guessing at this point.
2 It's not something that I track, specifically, or that I
3 have on the top of my head.
4 Q. Are you able to say whether it's more than
5 ten?
6 A. Not as I sit here, no. Not with a level of
7 certainty that I would feel comfortable telling you under
8 oath. I'd have to review records to get that information.
9 Q. All right. And if I asked you whether or
10 not you could tell me if you investigated fires caused by
11 lightning in homes more than five times, you wouldn't be
12 able to tell me that either?
13 A. I can probably think of five specific
14 instances; after that, it would be purely guessing.
15 Q. And you're not able to tell me, by estimate
16 or otherwise, the number of homes in which you investigated
17 a fire where the home had radiant barrier sheathing?
18 MS. MACLEOD: Objection to form.
19 Q. Yes, that may have been way complicated.
20 I didn't follow it myself.
21 Can you tell me, as you sit here,
22 approximately how many homes where you investigated fires
23 radiant barrier sheathing was present?
24 A. I know of one.
25 Q. And that's the Taylor home?

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1 A. That's correct.
2 Q. All right. And you can't tell us whether or
3 not it was present in any others?
4 A. It may have been present and I wasn't aware
5 of it. I have not seen it in another residence.
6 Q. So the very first occasion on which you've
7 done some work, fire investigation work, on a home that was
8 damaged by a lightning-induced fire and radiant barrier
9 sheathing was present, was the Taylor home?
10 A. Yes.
11 Q. In this particular case, can you tell me who
12 it was that retained you?
13 A. I was retained by Mark Coffey.
14 Q. Who is Mark Coffey?
15 A. Mark, as far as I know he still is, at the
16 time was an adjuster for State Farm Insurance Company.
17 Q. Can you tell me when you were first
18 contacted by Mr. Coffey?
19 A. I was first contacted on the 12th of
20 September 2011.
21 Q. You're looking at something now; is that
22 correct?
23 A. Yes.
24 Q. What is it you are looking at?
25 A. Contents from my investigation file.

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1 Q. What is the specific thing which you are
2 looking at?
3 A. The Case Form is what we call it; it's the
4 form we input all the information we receive on the
5 location and what the assignment is of a particular case.
6 Q. And has that been produced to us, do you
7 know?
8 A. I've been told that it has.
9 Q. That indicates that you were first contacted
10 in connection with this case on September 12, 2011?
11 A. Yes.
12 Q. About a fire that occurred at the Taylor
13 home on August 29, 2011; is that correct?
14 A. That's what I was told.
15 Q. What were you told by Mr. Coffey about your
16 project?
17 A. I was told that this house had sustained
18 fire; that they thought that lightning may possibly be
19 related to this; that it was located in Louisburg, North
20 Carolina; and he needed an origin and cause investigation
21 into the fire. He informed me that the house had sheathing
22 with radiant barrier and he was going to send me some
23 information on that, as well as the details of the claim he
24 would forward by email.
25 Q. What else did he tell you about the fact

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1 that the house had radiant barrier sheathing?
2 A. The only other thing, I have a note that he
3 told me that he was going to send me an article on it.
4 Q. An article?
5 A. Yes, sir.
6 Q. Did he tell you what the article was?
7 A. I don't recall if he told me at that time,
8 specifically, about it. I recall he said, I believe, that
9 an article had been found or located by the homeowner and
10 it had to do with the radiant barrier performance under the
11 influence, potentially under the influence of lightning, or
12 just the radiant barrier performance.
13 Q. Did he ask you to read the article?
14 A. I don't know that he indicated one way or
15 the other.
16 Q. He said he was going to send you the
17 article?
18 A. He did.
19 Q. Did he send you the article?
20 A. He did.
21 Q. What was the article titled?
22 A. The article is entitled "Reflective Radiant
23 Barriers Good for Energy Savings - Bad for Fire Safety."
24 Q. Is that an article that was prepared by
25 McDowell Owens Engineering?

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1 A. It is.
2 Q. When did you receive that article?
3 A. September 12, 2011.
4 Q. So the same day that Mr. Coffey called you,
5 you received a copy of the article?
6 A. He forwarded the article to me as he
7 indicated he would.
8 Q. By fax? Emailing?
9 A. Email.
10 Q. I'm sorry?
11 A. Email.
12 Q. Email attachment?
13 A. Yes, sir.
14 Q. What did Mr. Coffey tell you was the
15 significance of the article that he was sending to you?
16 A. I don't recall specifically what he told me.
17 I don't have a note of what he told me about anything
18 regarding the significance of it. He indicated he would
19 send me the article that the homeowner had located about
20 this particular product.
21 Q. When you received it on September 12, did
22 you read it?
23 A. I read it. I don't know when I read it.
24 Q. Did you read it before you went out and did
25 any fieldwork in connection with this investigation?

1 A. Yes.
 2 Q. After having read the article but before
 3 conducting any fieldwork, did you have any additional
 4 discussions with Mr. Coffey about radiant barrier
 5 sheathing?
 6 A. No, sir.
 7 Q. Did you have conversations with anyone about
 8 radiant barrier sheathing before actually going out and
 9 doing fieldwork in connection with this case?
 10 A. No, sir.
 11 Q. I'm going to ask you a broader question.
 12 Do you recall having discussions with anyone
 13 about radiant barrier sheathing in connection with the
 14 Taylor home fire?
 15 A. I have spoken with my business partner about
 16 it in the course of normal case review in discussion and
 17 review of cases that we do. I've spoken with Ms. MacLeod;
 18 I've spoken with Mr. Coffey; I've spoken with Mr. Taylor;
 19 I've spoken with Frank Strakonsky.
 20 Q. I'm sorry. Could you spell that for me?
 21 A. S-T-R-A-K-O-N-S-K-Y. Strakonsky. I'm not
 22 sure how you pronounce it. He's a representative of State
 23 Farm.
 24 Q. Strakonsky?
 25 A. S-T-R-A-K-O-N-S-K-Y.

1 Q. The homeowner?
 2 A. He was my point of contact I was told to
 3 coordinate with.
 4 Q. When did you talk to Mr. Taylor?
 5 A. September 15, 2011.
 6 Q. Did you try reaching him before
 7 September 15?
 8 A. I do not have a note of that. When I took
 9 the case in from Mr. Coffey, I informed him that my first
 10 availability would be the 19th or the 20th of September,
 11 and he assigned the case and I accepted it under that
 12 understanding.
 13 Q. Meaning your first availability to go out
 14 and actually look at the scene of the fire?
 15 A. Yes, sir.
 16 Q. What was the actual day that you went out
 17 and looked at the fire scene?
 18 A. September 19, 2011.
 19 Q. Prior to going out on September 19, 2011,
 20 did you do any work in connection with this investigation?
 21 A. None other than what we've discussed.
 22 (DEFENDANT'S EXHIBIT NO. 28 MARKED)
 23 Q. I'm showing you what's been marked as Exhibit
 24 No. 28. Can you identify what that is for us, please?
 25 A. I can.

1 Q. Strakonsky maybe.
 2 MS. MACLEOD: I think it's Strakonsky.
 3 MR. ELLIS: Strakonsky? Okay.
 4 A. And I have spoken with Ms. MacLeod, and I've
 5 spoken with Ron Simmons of McDowell Owens.
 6 Q. When did you first begin to perform work in
 7 connection with this investigation?
 8 A. I'm not sure what you mean by work.
 9 Q. Anything? Anything that you did?
 10 A. On September 12, 2011.
 11 Q. You had a call?
 12 A. Uh-huh.
 13 Q. What's the next thing that you did in
 14 connection with the investigation?
 15 A. Entered the information that we received,
 16 set up a case file, then coordinated an inspection with the
 17 appropriate parties.
 18 Q. All right. When you say "coordinated an
 19 inspection with the appropriate parties," does that mean
 20 that you set up a time to go investigate and look at the
 21 scene of the fire?
 22 A. Yes.
 23 Q. And who was it you contacted in connection
 24 with that?
 25 A. Christopher Taylor.

1 Q. What is it?
 2 A. It is a listing of our company's rate
 3 schedules.
 4 Q. Does that show your billing rate?
 5 A. It does.
 6 Q. It also shows Mr. Lester's billing rate; is
 7 that correct?
 8 A. It does.
 9 Q. Your billing rate is \$160 an hour?
 10 A. Yes, sir.
 11 Q. This also indicates what the fees would be
 12 for certain kinds of charges that may be incurred in
 13 connection with your work; is that right?
 14 A. Yes, sir.
 15 Q. Can you tell me, to date, how many hours
 16 you've put into this particular matter?
 17 A. I cannot tell you off the top of my head how
 18 many hours, no.
 19 Q. Can you give me an estimate of the number of
 20 hours of work you've performed on it?
 21 A. I cannot. I can look at my recent reports
 22 and give you the number of what we've billed as a company.
 23 I would have to break out expenses and any time Mr. Lester
 24 may have to get to a number of hours.
 25 Q. Can you tell me whether or not you've spent

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1 more than ten hours on it?
2 A. Yes.
3 Q. Twenty?
4 A. Yes.
5 Q. Thirty?
6 A. I don't know. I'd have to run the numbers.
7 Q. Are you able to tell me how much you and
8 Element Analytical have charged in connection with your
9 work on this matter?
10 A. Yes.
11 Q. How much is that?
12 A. As of the 6th of September and issuance of
13 my supplemental report, we had received \$8,971.20 in
14 compensation with an additional \$4,145.75 in pending
15 invoicing.
16 There's been additional time in preparation
17 for the deposition and gathering the evidence and renting a
18 trailer for today's activities as well that I have not yet
19 recorded.
20 Q. Since September 6?
21 A. Yes.
22 Q. Do you know about how much additional time
23 you've spent since September 6?
24 MS. MACLEOD: I'm going to object to form.
25 A. Since the 6th of September I've probably

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1 spent between sixteen and twenty-four hours related to this
2 matter.
3 Q. Has that been charged to your client?
4 A. Some of that will be. Some of that would be
5 charged to you for deposition and evidence gathering for
6 today's compliance with the subpoena.
7 Q. All right.
8 A. I apologize, Mr. Ellis. I said September 6,
9 my supplemental report was November 6, so the numbers and
10 all apply, the date is different. I apologize for that.
11 Q. So if we just substitute November 6 for
12 September 6, we will come out with the right hours?
13 A. Yes, sir.
14 Q. Other than the testimony which you've given
15 here today in connection with this case, have you given
16 testimony in other pieces of litigation?
17 A. I have.
18 Q. And did you create a list of those in
19 connection with your expert report?
20 A. I did.
21 (DEFENDANT'S EXHIBIT NO. 29 MARKED)
22 Q. I'm showing you what's been marked as
23 Exhibit No. 29. Can you identify that?
24 A. I can.
25 Q. What is it?

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1 A. It's a list of my deposition and trial
2 testimony given in the last four years.
3 Q. The first one on the list there is David
4 Stagemeyer et al versus John R. Sturges et al. Do you see
5 that?
6 A. Yes, sir.
7 Q. And in the column on the far left of this
8 page there is a "D" which appears next to it; is that
9 correct?
10 A. Yes.
11 Q. Does that stand for deposition?
12 A. It does.
13 Q. You gave a deposition in that case then?
14 A. Yes.
15 Q. Was that on January 30, 2008?
16 A. Yes.
17 Q. And can you tell us the subject matter of
18 your testimony?
19 A. That was a fire origin and cause
20 investigation involving a residence under construction.
21 Q. Was the residence in Nash County?
22 A. Yes. To the best of my recollection.
23 Q. What did you determine to be the fire cause
24 and origin?
25 A. The fire origin, the specific origin was

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1 undetermined due to the extent of damage and delay in
2 notification. The cause was determined to be -- specific
3 cause was undetermined, but the nature of it was that it
4 was an incendiary event.
5 Q. And what does it mean to be an incendiary
6 event?
7 A. Incendiary means that the fire was started
8 by a person or persons in a situation in which they should
9 have known that it should not have been started.
10 Q. Were you able to determine how the person
11 started the fire?
12 A. In this particular case, no.
13 Q. How soon after the fire were you asked to
14 investigate it?
15 A. I do not know.
16 Q. Was it a day?
17 A. I do not know.
18 Q. A week?
19 A. The fire was five or more years ago. I do
20 not know, do not recall, and I no longer have access to
21 those file records.
22 Q. When you say you no longer have access to
23 the records, what does that mean?
24 A. That's a Forensic Engineering file; I'm no
25 longer associated or employed with them.

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1 Q. You never testified at trial in connection
2 with that case?
3 A. No, sir.
4 Q. Do you know whether or not it went to trial?
5 A. I do not know.
6 Q. Was there an attorney that you worked with
7 on the case?
8 A. There was.
9 Q. What was the attorney's name?
10 A. Steve Lawrence.
11 Q. Was Mr. Lawrence's firm representing the
12 plaintiff or the defendant in the case?
13 A. In that case they were representing the
14 plaintiff.
15 Q. Do you know whether or not this was a
16 subrogation matter where an insurance company was involved
17 or not?
18 A. I don't know the details there. An
19 insurance company was involved. There may have been some
20 subrogation matters involved at some point in time. I
21 recall that being an issue that he was dealing with, with
22 potentially some other attorneys, so I do not know the
23 details of that; I was never privy to that.
24 Q. Do you know who the attorney was for the
25 defendant in the case?

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1 A. I do not recall.
2 Q. The next item here is Leonard Spruill et al
3 versus Energy Systems Analysts, Inc. Do you recall that
4 matter?
5 A. Yes.
6 Q. And that has a "D" next to it, so that was a
7 deposition you gave; is that correct?
8 A. Yes.
9 Q. And did you appear on behalf of Energy
10 Systems Analysts, Inc.?
11 A. Yes.
12 Q. They were the defendant in the lawsuit; is
13 that correct?
14 A. One of the defendants.
15 Q. That matter was in Johnston County, correct?
16 A. Yes.
17 Q. You gave the deposition on May 27, 2011?
18 A. Yes. That's not where I gave -- That's not
19 where the incident occurred nor where I gave my deposition;
20 that's where that case was brought forth, Johnston County.
21 Q. Understand. The deposition, though, that
22 you gave in connection with the case was on May 27, 2011?
23 A. Yes, sir.
24 Q. Can you tell us what the subject matter of
25 your testimony was?

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1 A. I was deposed as a standard of care expert
2 with regard to the installation and purging of gas systems
3 and oversight of that by other associated entities.
4 Q. Did you testify at trial in that case?
5 A. No, sir.
6 Q. Who was the attorney that you worked with in
7 connection with that one?
8 A. David Coates.
9 Q. Do you know who the attorneys were that were
10 representing the plaintiffs?
11 A. I can think of two right now, I believe
12 there was a third and I'm drawing a blank. Ted Smythe,
13 S-M-Y-T-H-E, and David Stradley, and I think there was a
14 third but I'm drawing a blank. Andrew Cioffi.
15 Q. So it was the explosion of the plant in
16 Johnston County?
17 A. No, sir.
18 Q. What was the explosion?
19 A. It was at a plant in Wake County.
20 Q. In Wake County?
21 A. Yes, sir.
22 Q. Which plant was it?
23 A. The ConAgra Foods plant.
24 Q. ConAgra?
25 A. Yes, sir.

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1 Q. And what opinion did you give in connection
2 with that case?
3 A. I gave opinions regarding the standard of
4 care with regard to installation and purging of gas piping
5 that was pertinent to the development of events leading up
6 to the incident.
7 Q. And was your opinion that the standard of
8 care with respect to the installation of the piping was
9 negligent?
10 A. I think I'd have to go back and actually
11 review the documents in that case to tell you what my
12 specific opinions were. I don't recall the specific
13 opinions of this case. They had to do with the standard of
14 care for a variety of entities, not necessarily as it
15 pertained just to one sole entity.
16 Q. So your opinion, then, as to either breach
17 or maintenance of the standard of care was given as to more
18 than just one entity?
19 A. Yes.
20 Q. Do you recall what those entities were?
21 A. The particular entities that were involved,
22 in addition to Energy Systems Analysts, was Jacobs
23 Engineering, Southern Industrial Constructors -- I think
24 it's Constructors, or Contractors -- we call them Southern
25 Industrial, and I don't recall the other -- ConAgra

1 themselves -- the other defendants or potential defendants.
2 Questions arose about what the role of each particular
3 party or employee of a party was, or should have been, or
4 could have been.

5 Q. And did you determine in your view that any
6 of these entities breached the standard of care?

7 A. Yes.

8 Q. Which ones?

9 A. Well, I think they -- I think I'd have to
10 look back at my specific listing of opinions and how I was
11 disclosed as an expert to give you those details, without
12 talking off the top of my head, and I don't want to either
13 neglect someone that I may have included nor include
14 someone or some aspect of an issue that would be improper
15 to recollect.

16 Q. The answer is as you sit here you don't
17 know?

18 A. I don't recall, specifically.

19 Q. The next item down -- By the way, I can't
20 recall whether I asked you this. Did you testify at trial?

21 A. No.

22 Q. The next item here is Nationwide Mutual Fire
23 Insurance Company versus Research Products, Gwyn
24 Electrical, Plumbing, Heating, and Cooling Company, John
25 Does 1-5. Do you see that?

1 within that product.

2 Q. And what was it specifically that led you to
3 determine that the product was the cause of the fire?

4 A. The product itself exhibited localized heat
5 damage and electrical arcing activity evidence inside of
6 its housing, and that was the extent of my discussion or
7 investigation assignment with regard to cause.

8 Q. What attorney did you work with in
9 connection with that?

10 A. I don't recall his name.

11 Q. Do you recall the name of any of the lawyers
12 on the other side of the case?

13 A. I was deposed by Marshall Wall.

14 Q. Did you testify at trial in that case?

15 A. No. It did not go to trial.

16 Q. All right. The next one is Bost
17 Construction Company versus Mary Lynn Baukmun Blondy, and
18 Bost Construction Company versus Tri-City Contractors,
19 Inc.; is that right?

20 A. Yes, sir.

21 Q. And you testified in that case on behalf of
22 Tri-City Contractors; is that correct?

23 A. Yes, sir.

24 Q. And that was a deposition, correct?

25 A. Yes.

1 A. Yes.

2 Q. You gave a deposition in that case?

3 A. Yes.

4 Q. The deposition was on behalf of Nationwide
5 Mutual Fire Insurance Company; is that right?

6 A. Yes.

7 Q. And you gave that deposition on September 9,
8 2011; is that correct?

9 A. Yes.

10 Q. And the case was pending in Guilford County
11 and has the file number on the far right-hand side of the
12 document; is that correct?

13 A. Yes.

14 Q. What was the subject matter of your
15 testimony in that case?

16 A. Fire origin and cause.

17 Q. What kind of a fire was it?

18 A. This was a fire in a residential structure
19 that originated at an air cleaner in the basement of the
20 dwelling.

21 Q. What was your opinion?

22 A. My opinion was that the fire originated at
23 the April Aire brand air cleaner, and that the damage
24 indicated the fire originated inside that product and that,
25 generally, that product was the cause of the fire; failure

1 Q. Did you testify at trial in the case?

2 A. No.

3 Q. The deposition was given on November 17,
4 2011; is that right?

5 A. Yes.

6 Q. The case was, or is, pending in Chatham
7 County with the number that is given on the far right-hand
8 side of the form; is that right?

9 A. Yes.

10 Q. What was the subject matter of your
11 testimony in that case?

12 A. The subject matter in that case was
13 regarding alleged construction defects pertaining to water
14 intrusion, with the allegation being that the drainage
15 installed by my clients, or the contractor that I
16 represented, was improper.

17 Q. So this didn't relate to a fire; it related
18 to water damage?

19 A. Yes, sir.

20 Q. And can you tell me specifically what your
21 opinion was in the case?

22 A. My opinion was that the drainage system as
23 installed was properly sized for the anticipated normally
24 occurring weather and that the events that led to the water
25 damage weren't related to the design of that system.

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1 Q. What attorney did you work with?
2 A. David Wisz, W-I-S-Z.
3 Q. Do you recall the attorney's name on the
4 other side of the case?
5 A. The deposing attorney was Dan Bryson.
6 Q. Is that case still pending?
7 A. I believe not.
8 Q. Are any of the cases on this list still
9 pending?
10 A. Not to my knowledge.
11 Q. So you've never given testimony at trial in
12 connection with any case; is that right?
13 A. That's not correct.
14 Q. What cases have you given testimony at trial
15 in?
16 A. I've given testimony at trial in cases
17 previously; one time as a fact witness, the second instance
18 as an expert.
19 Q. Would that be prior to the four years on
20 this form?
21 A. Yes.
22 Q. Tell me first about the fact witness
23 testimony that you've given at trial.
24 A. The fact witness matter, I became involved
25 in an accident reconstruction involving a pedestrian and I

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1 documented the accident scene location and testified as to
2 the physical geometry of that incident site.
3 Q. And you were just giving fact evidence?
4 A. Yes.
5 Q. And that was while you were employed by
6 Forensic; is that correct?
7 A. Yes.
8 Q. And you said you also testified at trial as
9 an expert in a case?
10 A. Yes.
11 Q. When was that?
12 A. I don't recall. The 2003, 2004, 2005 time
13 frame; I'd have to look at my records.
14 Q. Do you recall the name of the case?
15 A. I do not recall the specific case name.
16 Q. Do you recall any of the names of the
17 parties that were involved in the case?
18 A. The only party I can recall specifically is
19 I think it was Bern, B-E-R-N, Square, and the only reason I
20 know that is because I drive by it frequently and I see the
21 shopping center sign at the incident location.
22 Q. You said Bern Square?
23 A. Uh-huh.
24 Q. And what attorney did you work with in
25 connection with your expert testimony in that case?

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1 A. Bill Lederer, L-E-D-E-R-E-R. It was two
2 attorneys, the other one's name was Curtis, and I don't
3 remember his last name as I sit here.
4 Q. Who were the attorneys on the other side of
5 the case from you?
6 A. The two attorneys I recall, Scott Hart and
7 Scott Scurfield.
8 Q. What was the subject matter of your expert
9 testimony in that case?
10 A. It was a personal injury slip/fall case in a
11 parking lot.
12 Q. What was the nature of the opinion that you
13 gave?
14 A. The nature of the opinion that I gave was
15 that the material applied to the parking lot presented a
16 slippery surface and that the parking lot, that there are
17 no standards for parking lots in terms of slip resistant
18 slope designed for pedestrian use.
19 Q. Did you give a deposition in that case
20 before testifying at trial?
21 A. I believe I did.
22 Q. Other than the Bern Square matter which you
23 just identified, have you ever testified as an expert at
24 trial in a case?
25 A. No.

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1 Q. Were you qualified as an expert in that
2 case?
3 A. Yes.
4 Q. And the nature of the expertise that you
5 were qualified to give?
6 A. I believe the judge qualified me as an
7 expert civil engineer.
8 Q. So you've never been qualified to testify at
9 trial in a case as an expert witness in fire
10 investigations, fire cause or fire origin; is that correct?
11 A. Never had the occasion to get to that point;
12 no, sir.
13 Q. Have you given other depositions than the
14 ones that are on this list here?
15 A. Yes.
16 Q. How many of those have you given?
17 A. I don't recall exactly how many I've given.
18 The few we just spoke about. I'd have to look at my
19 records. I don't recall. I did not produce those as that
20 was not a requirement for the Rule 26 report.
21 Q. Understand. Do you know whether or not
22 you've ever testified about fire cause and origin in a
23 residential home fire involving lightning?
24 A. I have not. Have not had the occasion to.
25 Q. Neither by deposition or at trial?

1 A. No, sir.
2 MR. ELLIS: Let's take a short break.
3 (Pause in proceedings 10:17-10:25 a.m.)
4 Q. Mr. McGraw, we had talked a little bit
5 earlier about the work that you had performed initially on
6 the fire investigation of the Taylor home. Do you recall
7 that?
8 A. Yes, sir.
9 Q. And you told us that you went out to visit
10 the home for the first time on September 19, 2011; is that
11 correct?
12 A. Yes, sir.
13 Q. Were there any other occasions on which you
14 visited the Taylor home?
15 A. Yes.
16 Q. What were the other occasions?
17 A. I returned on October 21, 2011 with
18 representatives of Louisiana Pacific to conduct a joint
19 inspection of the residence. I returned on the morning of
20 October 22, 2011 to retrieve or recover an item, a section
21 of the radiant barrier sheathing at the back of the house
22 outside, that I did not pick up the previous day.
23 Q. When you say a section of the radiant
24 barrier sheathing, where was the section taken from?
25 A. The section was lying on the back of a

1 level structure when I first saw it.
2 Q. When was the first time you saw this
3 section?
4 A. I probably observed this section being there
5 -- I think if I look at my pictures, it was there on the
6 19th of September. It may have been a separate one that
7 was loose laying on the ground nearby, but that's where it
8 was collected from.
9 Q. Do you know what part of the roof that
10 section came from?
11 A. I do not.
12 Q. Did you ever ask the homeowner where it came
13 from?
14 A. I did not. It was a section that may be a
15 foot square; it had no identifying indications on it to
16 indicate specifically from which part of the roof it was
17 originally installed.
18 Q. Prior to going out to see the Taylor home
19 for the first time on September 19, did you read the
20 article that was furnished to you that had been authored by
21 Mr. Simmons?
22 A. Yes.
23 Q. What conclusions did you draw, if any, from
24 reading the article by Mr. Simmons?
25 A. I didn't draw any conclusions from the

1 structure, a wooden structure, I don't know if it was a
2 doghouse or what it was, behind the house. I had occasion
3 to view it with my client's representative on the 21st and
4 she asked me to collect it, and in the course of the
5 afternoon's activities the day before I forgot to pick it
6 up, so I went back to get it as requested.
7 Q. When you say you had a chance to view it
8 with your client's representative, do you mean Ms. MacLeod?
9 A. Yes, sir.
10 Q. Was that section of the radiant barrier
11 sheathing ever seen by the representatives of Louisiana
12 Pacific?
13 A. I don't know if they saw it laying out there
14 in the back and open for everybody to see or not. It was
15 back there in the back laying out on the top of this wooden
16 shed roof.
17 Q. When you say you retrieved it, where did you
18 take it?
19 A. I took it to our evidence storage locker and
20 annotated the evidence control form and kept it with the
21 other items that were collected the previous day.
22 Q. Where was this piece of radiant barrier
23 sheathing located on the roof of the Taylor home?
24 A. I do not know. It was not on the roof; it
25 was separated from the house, laying on this other lower

1 article.
2 Q. Did you do any additional work or study into
3 the nature of radiant barrier sheathing before visiting the
4 Taylor home on September 19?
5 A. I don't recall doing any; no, sir.
6 Q. After the inspection which you made on
7 September 19, did you do any additional study or work into
8 the nature of radiant barrier sheathing?
9 A. I'm not sure what you mean by "into the
10 nature of radiant barrier sheathing." After the 19th,
11 I would have re-reviewed the article, probably performed a
12 Web search to see if there were other articles of that
13 nature related to the product, and also at some point in
14 time I retrieved from the Louisiana Pacific website the
15 installation instructions for the product.
16 Q. Do you remember doing a Web search on
17 radiant barrier sheathing?
18 A. I've done a number of them since the case
19 began just to see what's out there and what documentation
20 or comments or whatever may be around.
21 Q. Have you looked or reviewed any articles
22 about radiant barrier sheathing that you found on the Web?
23 A. The articles I've reviewed are those that
24 have been published by McDowell Owens.
25 Q. All authored by Mr. Simmons; is that

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1 correct?
2 A. Yes, sir.
3 Q. So that's the only literature you found on
4 the Web about radiant barrier sheathing?
5 A. I believe it is, yes, sir, other than the
6 insulation instructions. I did find a -- if I can refer to
7 my file so I can get the right name here for you. I did
8 find a document entitled "Seven Important Tips for the
9 Installation of Radiant Barrier, Reflective Insulation, or
10 IRCCS." That was after my initial investigation
11 activities.
12 Q. When did you find that?
13 A. I don't recall. Late October or November of
14 this year.
15 Q. And were you tipped off to the presence of
16 that article before you found it, or did you find it in the
17 course of doing a search yourself?
18 A. No. I found it in the course of doing a
19 search myself in preparation for what I thought was the
20 night of your deposition.
21 Q. So you went to the Taylor home on
22 September 19. What time of day did you go there?
23 A. Pardon me for a second and let me get this
24 organized. I agreed to, and don't have reason to otherwise
25 think that I met with Mr. Taylor at 9:00 a.m., so morning

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1 hours.
2 Q. Was anyone else present at the Taylor home
3 other than you and Mr. Taylor?
4 A. No, sir.
5 Q. No?
6 A. No.
7 Q. Tell me about your discussion with
8 Mr. Taylor when you arrived on September 19.
9 A. What do you want to know?
10 Q. What was said?
11 A. I arrived before Mr. Taylor, so when he
12 arrived, we met in the front yard and I asked him to give
13 me some background history about the house and what he knew
14 about the events surrounding the fire, its discovery, and
15 activities that had occurred since that incident.
16 Q. You asked him about the discovery of the
17 fire?
18 A. Yes.
19 Q. What did he tell you?
20 A. Mr. Taylor told me that his family was away
21 from the house, he was the first to arrive home, observed
22 smoke from the roof ridge, went into the house; it's a two
23 story house with the essential living quarters upstairs.
24 He found smoke on the first floor, proceeded to the second
25 floor, and observed additional smoke there. Sometime

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1 during this period he called 9-1-1. He observed the gypsum
2 board ceiling finish of the northern roof slope over the
3 living room to be turning brown, and he evacuated I believe
4 it was some pets from the house, and awaited the arrival of
5 the fire department.
6 Q. What time did he arrive at the house?
7 A. I recall him saying sometime after
8 5:00 o'clock p.m. I don't know that he told me,
9 specifically. I'm happy to look through my notes here. I
10 don't recall specifically what time he told me, if he told
11 me an exact time that he arrived.
12 He had noted there being an ongoing
13 thunderstorm in the area, and he did tell me that his 9-1-1
14 call was at 5:51 p.m. How long he had been there exactly,
15 I don't have a note of that.
16 Q. You said there was an ongoing thunderstorm
17 in the area?
18 A. There were thunderstorms in the area that
19 day, is what he told me.
20 Q. Did he tell you anything about the severity
21 of the thunderstorms in the area that day?
22 A. He told me there was sufficient rainfall or
23 such intense rainfall that he actually delayed coming home
24 a few minutes to not get completely drenched from wherever
25 he was departing, led me to believe it was a severe event

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1 in terms of copious lightning and thunder and deluge
2 rainfall.
3 Q. Did you yourself have any specific
4 recollection as to what the weather conditions were like on
5 August 29?
6 A. August 29 would have been during the passage
7 of some portion of Hurricane Irene that passed the coastal
8 area of North Carolina. Do I specifically recall the
9 weather that day, today? No. Other than that, I do not.
10 Q. Did you do any study into the severity of
11 the thunderstorms that were in the Louisburg area on
12 August 29?
13 A. I obtained weather records from
14 weatherunderground.com, from local recording stations, as
15 well as lightning reports.
16 Q. And what can you say about the severity of
17 the thunderstorm that occurred on August 29 in the
18 Louisburg area?
19 A. It was a thunderstorm with lightning. I
20 don't know that I am here to discuss the severity of it, or
21 don't know that I understand how you classify the severity
22 of it in the nature of your question.
23 Q. Do you know whether the frequency of
24 lightning strikes during the course of that thunderstorm
25 was greater than usual with a thunderstorm, or less?

1 MS. MACLEOD: Objection to form.
 2 A. I have not studied the frequency of
 3 lightning within any particular storm or storms. I can
 4 tell you what the results of the lightning data show in
 5 terms of number of strikes for the time periods that were
 6 collected, and that the intensity of the strikes increased
 7 between, I believe, before -- When I say intensity, the
 8 number of lightning strokes increased between 4:24 p.m. and
 9 5:53 p.m. time on the day of the fire within a five mile
 10 radius of his house.
 11 Q. Were you able to determine, either by
 12 talking with Mr. Taylor or otherwise, about when it was
 13 that the lightning struck his home?
 14 A. No. I spoke to the neighbor who -- Not with
 15 any specificity. I spoke to the neighbor that was home and
 16 observed what he termed a decidedly louder thunder boom and
 17 a flash of lightning in the late afternoon hours the day of
 18 the fire, but he could not -- And then he later observed
 19 the fire department having arrived at Mr. Taylor's house.
 20 He could not give me a time frame other than late afternoon
 21 hours after he arrived at home.
 22 Q. Were you able, independent of that, to place
 23 the timing of the lightning strike, even within a range of
 24 time?
 25 A. The information that I have shows 392

1 2009 time frame; he served as the general contractor. He
 2 provided a list of the contractors that assisted during
 3 the construction activities as the best he could recall at
 4 the time.
 5 Q. He tried to identify the contractors who
 6 were involved in the initial construction of the house?
 7 A. Subcontractors, yes.
 8 Q. All right. Is there anything else that you
 9 can recall that he related to you about the construction of
 10 the home?
 11 A. He related a variety of things. I'm not
 12 sure, I mean, if you have a specific question to help me
 13 understand what you want to know without me reading every
 14 note that I have.
 15 Q. Well, I'm just trying to find out what he
 16 told you.
 17 A. He just described the layout of the house,
 18 and described to me the interaction between himself and the
 19 subcontractors and how the house was built. It's a two
 20 story house with a slab on grade first floor and the second
 21 floor is framed with wood stud walls and shingle roofing,
 22 much of which could be discerned without his presence
 23 because of the nature of the building.
 24 Q. Did he tell you who did the electrical
 25 wiring in the home?

1 strikes between the 4:24 p.m. and the 5:53 p.m. within that
 2 range of Mr. Taylor's -- within a five mile radius of
 3 Mr. Taylor's house. The closest strikes within a tenth of
 4 a mile or so were around 5:00 p.m. Which particular stroke
 5 affected the residence, I don't know. Or strokes.
 6 Q. So you met in front of the house with
 7 Mr. Taylor on September 19; he told you about his discovery
 8 of the fire. What else did he relate to you?
 9 A. He provided access to the house, the house
 10 was locked when I got there, and he described to me just
 11 the general construction of the house since he served as
 12 the general contractor, described what he observed when the
 13 fire department was there, described what the fire
 14 department had told him, and what activities had occurred
 15 since the fire, and provided some background information
 16 about other contractors involved in the construction of the
 17 house.
 18 Q. What did he tell you about the construction
 19 of the home? What did Mr. Taylor tell you about the
 20 construction of the home?
 21 A. The house was built in 2009. I'm not sure
 22 what else you want to know. That's a broad question.
 23 Q. I'm just asking what he told you about the
 24 construction of the house.
 25 A. He told me that the house was built in the

1 A. He did.
 2 Q. Who did that?
 3 A. He stated that the electrical wiring was
 4 done by himself and his father.
 5 Q. What did he tell you about his own
 6 background in terms of construction experience?
 7 A. He told me that after this particular house
 8 was built, the market, housing market, kind of went south,
 9 so to speak -- sorry to use a colloquium -- his company
 10 went out of business, so he no longer was doing
 11 construction work. He had a general contractor's license
 12 before that slump in the housing market.
 13 Q. Did he tell you who did the installation of
 14 the roof?
 15 A. Which portion of the roof?
 16 Q. Well, since you've got several portions of
 17 the roof there, apparently, tell me which portions and who
 18 did it.
 19 A. Well, he had J & H Framers frame the roof
 20 structure and install the roof sheathing, and then he had
 21 another company, actually it wasn't a company, an
 22 individual, Rocky Faircloth, did the roofing.
 23 Q. I'm sorry. I couldn't hear what you just
 24 said?
 25 A. He did the roofing, so I just wanted to

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1 provide the distinction between the framing and the
2 roofing.
3 Q. The contractor that provided the roof
4 sheathing was J & H; is that correct?
5 A. They are the ones that installed the roof
6 sheathing.
7 Q. They installed it. Okay. Who specified the
8 roof sheathing?
9 A. As far as I know from what he told me,
10 Mr. Taylor purchased and provided the roof sheathing to
11 J & H Framers.
12 Q. Did you and he on the 19th of September have
13 any discussion about radiant barrier sheathing?
14 A. I believe so.
15 Q. Can you tell me what discussion you had with
16 him?
17 A. I believe he informed me that radiant
18 barrier sheathing was installed on the roof; Louisiana
19 Pacific TechShield. He was familiar enough with the
20 product and it being his house that he knew some details
21 about it.
22 He probably, I don't know for certain, asked
23 me whether I had received the article that he had provided
24 to, either provided to or directed Mr. Coffey to. I think
25 he inquired if I had ever seen the material before, and he

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1 may have had some general questions about that.
2 Q. What were his general questions about the
3 article or about radiant barrier sheathing?
4 A. I think his general questions were if I had
5 seen the material before, and if I had seen the article
6 before, or known of anybody else that may have run across
7 that article or the product. I don't recall with
8 specificity everything that we spoke about.
9 Q. When he asked you whether or not you had
10 seen radiant barrier sheathing before, what did you say?
11 A. I think I would have had to have said no,
12 this is the first instance I've had to see it in place.
13 Q. When he asked you whether or not you had
14 read the article by Mr. Simmons, what did you say?
15 A. I would have indicated that it was provided
16 by Mr. Coffey and that I had reviewed it.
17 Q. What discussion did you have with Mr. Taylor
18 about the article?
19 A. I don't recall.
20 Q. Were you discussing with Mr. Taylor the
21 possibility that radiant barrier sheathing was involved in
22 some way in the causation of the fire?
23 A. I don't know exactly what we discussed, or
24 not, and I don't recall if observations were pointed out to
25 him about the condition of the sheathing or not. I don't

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1 recall.
2 Q. You mentioned that Mr. Taylor apparently had
3 some knowledge about radiant barrier sheathing. Did he
4 tell you how he had acquired his knowledge?
5 A. No, sir, I don't believe that he did.
6 Q. Do you know whether or not he had used it in
7 his prior construction work?
8 A. I do not know.
9 Q. Is the nature of his work residential
10 construction, or do you know?
11 A. That was the impression he gave me; that was
12 the nature of the work that he had been doing. I don't
13 know what the nature of his work is now.
14 Q. You also indicated that the discussion with
15 Mr. Taylor before you entered the house also had to do with
16 what the fire department told him.
17 A. Yes.
18 Q. What did the fire department tell
19 Mr. Taylor?
20 A. The fire department told him they'd had,
21 what he reported as about five other lightning fires the
22 same night of his, in the area. He possessed a copy of the
23 fire department report at the time, which indicated that
24 the cause of his fire, the fire damaging his house rather,
25 was lightning related.

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1 Q. Did he hand you a copy of the fire
2 department report?
3 A. I don't recall.
4 Q. Do you have a copy of the fire department
5 report now?
6 A. I do.
7 Q. Do you remember getting it from some other
8 source other than Mr. Taylor?
9 A. I requested a copy of the fire department
10 report from the Bunn Fire Department; they faxed me a copy.
11 I don't know whether he handed me his copy to review or
12 not.
13 Q. We'll get to that in just a minute.
14 But you said that Mr. Taylor told you that
15 there were five other fires, meaning residential fires?
16 A. He did not say. He said five other
17 lightning fires that night. That's what he told me.
18 Q. Five other lightning fires?
19 A. That's what the fire inspector told him.
20 That's the best I know.
21 Q. Who was the fire inspector that he talked
22 to?
23 A. He did not say, and he could not recall.
24 Q. Did you yourself ever talk to the Bunn Fire
25 Department?

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1 A. Only to request a copy of the fire
2 department report.
3 Q. Did you ever talk with the fire inspector
4 who talked with Mr. Taylor about the five other lightning
5 fires?
6 A. No, sir.
7 Q. Did you try to find out who that was?
8 A. I did not.
9 Q. Did you make any effort to look into the
10 five other lightning fires that occurred during that storm?
11 A. I was not retained to investigate those
12 fires.
13 Q. I understand that, but my question is, did
14 you make any effort to look into the five other lightning
15 fires?
16 A. No, sir.
17 Q. Your discussion with Mr. Taylor also
18 involved activities since the fire occurred on August 29.
19 What did he tell you about what other activities occurred?
20 A. He indicated that since the fire had
21 occurred, certain contents and personal belongings had been
22 removed from the residence, certain circuit breakers had
23 been turned back on, and interior finishes and building
24 materials, some of which had been removed, some had been
25 discarded, and he provided general descriptions of those

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1 specifics.
2 Q. Did you make notes of what he told you about
3 what had been removed from the house?
4 A. I did.
5 Q. Do you have those with you?
6 A. I do.
7 Q. We will get to those probably a little
8 later. Did he itemize what specifically had been taken
9 from the house?
10 A. I don't believe he itemized, no. There may
11 have been certain items or areas that I specifically
12 inquired about and we discussed those in more specificity,
13 but he didn't itemize furniture or contents that had been
14 removed, nor did I ask for an itemized list for those
15 items.
16 Q. All right. Had any construction work,
17 repair construction work, been performed on the house at
18 the time that you saw it on September 19?
19 A. At the time that I saw it, the area of fire
20 damage had been covered with oriented strand board or OSB
21 roof sheathing and a blue tarp over the north slope of the
22 roof and part of the south.
23 Q. Who did that work?
24 A. My understanding that the restoration
25 contractor, Cary Reconstruction, was the ones that

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1 performed that work, and it began before I received my
2 assignment.
3 Q. Had Cary Reconstruction performed any
4 removal of any part of the fire damaged area before you saw
5 it on August -- I'm sorry, on September 19?
6 A. Portions of it were removed. I don't know
7 who removed it, whether it was removed by the restoration
8 company or during fire department activities.
9 Q. What portions had been removed before you
10 saw the house on September 19?
11 A. Some sections of the northern roof slope,
12 roof sheathing and roofing had been removed. There was at
13 least one, well, portions of two ceiling rafters or roof
14 joists -- it was a vaulted ceiling so ceiling rafters may
15 be the best term -- had been removed. Some wiring had been
16 cut. And that's what, from the general area of origin, had
17 been removed, in addition to some gypsum board ceiling
18 finish.
19 Q. When you say "the general area of origin,"
20 what do you mean by that?
21 A. Well, you asked what fire damaged materials
22 had been removed. Those materials were removed from the
23 area of the roof that had burned, or general region of the
24 roof that had burned through, so that's what I mean by
25 general area of origin. Within the bounds of the extent of

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1 fire damage.
2 Q. So portions of the northern roof slope,
3 including the sheathing and roofing materials, had been
4 removed; is that correct?
5 A. Yes.
6 Q. You don't know whether or not they were
7 removed by the fire department when it came to respond to
8 the fire, or by Cary Reconstruction; is that right?
9 A. I do not. I would have reason to believe
10 some of both may have occurred. I don't know.
11 Q. As to those portions of the northern roof
12 slope that were removed, did you make any effort to try and
13 locate the removed portions?
14 A. I inquired with Mr. Taylor as to their
15 location, and I was told that they had been placed into a
16 dumpster and removed from the site to a landfill.
17 Q. By dumpster, what do you mean?
18 A. I mean a metal dumpster that is oftentimes
19 termed a construction dumpster. That's what I mean.
20 Q. So that would have been a dumpster that was
21 brought to the site after the fire damage occurred in order
22 to place fire damaged material?
23 A. I don't know when it was brought there or
24 who brought it.
25 Q. Mr. Taylor doesn't keep a dumpster on his

1 property, though, does he?
 2 A. I wouldn't expect so. He may, but I don't
 3 know.
 4 Q. Was there a dumpster on the property when
 5 you were there?
 6 A. There was.
 7 Q. There was a dumpster on the property?
 8 A. There was.
 9 Q. Did you look into the dumpster to see
 10 whether or not any of the fire damaged material that had
 11 been removed from the roof was in that dumpster?
 12 A. I looked in the dumpster and I don't recall
 13 seeing any fire damaged roofing materials. The materials
 14 in there appeared to be interior finishes. There were some
 15 ceiling fans in there, or ceiling fan remains. I don't
 16 recall any fire damaged roofing or roof structure materials
 17 in that dumpster from what I looked through.
 18 Q. So Mr. Taylor told you, though, that the
 19 portions of the northern roof slope that had been removed
 20 had been placed into a dumpster and the material in them
 21 had been taken to where?
 22 A. He said it had been emptied. There was an
 23 area of the -- I remember on the right-hand side of the
 24 house there was an area on the ground where there appeared
 25 material had been there that was burned or had been burned.

1 that, no.
 2 Q. Can you tell me what the approximate size
 3 was, in square feet, of the sheathing that was removed from
 4 the roof?
 5 A. The approximate size of the sheathing
 6 removed from the roof was about twelve feet wide, that
 7 being east to west, and sixteen to twenty feet north to
 8 south down along the slope. That's an approximation from
 9 reviewing the photographs.
 10 Q. So it's about twelve by sixteen to twenty
 11 feet?
 12 A. Yes.
 13 Q. And that would be about how many square
 14 feet? You've got a calculator, don't you? An engineer
 15 ought to have a calculator with him.
 16 A. A twelve by twenty would be two hundred
 17 forty; is that right?
 18 Q. Approximately two hundred forty square feet
 19 of the northern slope roof was removed?
 20 A. Roof sheathing, yes.
 21 Q. And that was replaced with OSB?
 22 A. Yes.
 23 Q. OSB stands for?
 24 A. Oriented strand board.
 25 Q. So you've had this conversation now with

1 I asked him where is it? and he said it had been placed
 2 into a dumpster and the dumpster had been emptied, did not
 3 tell me where it went to.
 4 Q. Okay. Did you make any effort to determine
 5 whether or not Cary Reconstruction still had some of those
 6 materials?
 7 A. Not of the roofing materials, no.
 8 Q. What about the fire department, did you
 9 check with them to see whether or not they had retained any
 10 of the removed portions of the roof?
 11 A. It would be unusual for them to retain that.
 12 I did not check with them.
 13 Q. Do you know whether or not Mr. Taylor had
 14 had discussions with anyone about retention of those
 15 portions of the roof that had been removed?
 16 A. I do not.
 17 Q. Do you know whether or not Mr. Taylor had
 18 been warned by anyone that those sections of the northern
 19 roof slope might be evidence in a later claim or lawsuit?
 20 A. I do not.
 21 Q. Did you have discussions with Mr. Taylor
 22 about whether or not those portions of the northern roof
 23 slope that had been removed might be evidence in the case?
 24 MS. MACLEOD: Objection to form.
 25 A. I don't believe that I had discussions about

1 Mr. Taylor and he's allowed you access to the house. What
 2 did you then do?
 3 A. Well, before I had the conversation with
 4 Mr. Taylor, I began documenting the exterior of the house
 5 with photographs and notes. And then once he provided
 6 interior access, then I began documenting the first and
 7 second floor and the attic of the house with notes and
 8 photographs and diagrams.
 9 Q. And those notes are notes that you brought
 10 with you today?
 11 A. Yes.
 12 Q. What did you see of significance as you were
 13 documenting the condition of the house?
 14 A. Well, the most significant, the thing of
 15 most significance that I saw was that the fire damage was
 16 focused at the northern roof slope of the house. No fire
 17 damage to the exterior walls. No fire damage to the first
 18 floor. And the living space of the second floor was void
 19 of fire damage was well. The damage was within the
 20 confines of the attic space.
 21 Q. And why was that significant to you?
 22 A. Well, it's significant in that it, number
 23 one, helps to establish, working from the areas of least
 24 damage to most damaged in a systematic manner, where the
 25 fire originated. And then once I established an area where

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1 the fire originates, then you start evolving various
 2 hypotheses as to potential ignition sources and causes.
 3 And fires in attics, by nature that there is limited
 4 materials there, starts to reduce your list of potential
 5 hypotheses as you perform your investigation.
 6 Q. So you were taking notes as you went along,
 7 documenting the condition of the home with photographs and
 8 with your notes. What else did you do?
 9 A. Took measurements. And then I inspected the
 10 first floor, second floor, the attic, exterior from ground
 11 level, and also inspected the roof.
 12 Q. When you say you inspected the roof, how did
 13 you do that?
 14 A. By ladder.
 15 Q. You actually got up on top of the roof?
 16 A. Yes.
 17 Q. Did you remove the blue tarp?
 18 A. No. The integrity of the roof was
 19 questionable and there would have been a safety concern at
 20 that point to remove the tarp or walk across that area.
 21 Q. When you say it was questionable, why was
 22 that?
 23 A. Well, there was rafters or ceiling joists,
 24 one of which was missing and others had been compromised or
 25 partially compromised by fire, so I didn't want to add any

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1 loading to it that might result in some type of collapse.
 2 Q. So what were you looking for on the roof?
 3 A. On the roof I was looking for evidence, at
 4 that point when I went to the roof, looking for evidence of
 5 a potential lightning strike.
 6 Q. Did you find anything of significance when
 7 you were on the roof?
 8 A. I did.
 9 Q. Tell me what you found.
 10 A. I found on the chimney cap, it had a
 11 stainless steel metal chimney cap, and the top of the
 12 chimney cap I found evidence of pitting and melting around
 13 the portion of the perimeter of it. I did not find that on
 14 other -- I did not find that on the dryer vent or other
 15 projections above the roof.
 16 Q. And what significance did that have for you?
 17 A. The artifacts there were indicative of
 18 melting, in my experience, and had the significance of
 19 being supportive of the point where lightning struck the
 20 dwelling.
 21 Q. You said you got up into the attic area?
 22 A. I did
 23 Q. How did you access the attic area?
 24 A. The attic area on the northern side above
 25 the bathroom and northern bedrooms was not vaulted and

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1 there was a pull-down staircase in the bathroom/laundry
 2 room; that's how I accessed that area.
 3 In the front on the south side there was a
 4 small attic space formed by knee wall that you could access
 5 with a kind of a crawl space door there in the living room
 6 to that knee wall area.
 7 Q. But you accessed the northern slope by a
 8 staircase?
 9 A. A pull-down staircase.
 10 Q. Pull-down staircase?
 11 A. Yes, sir.
 12 Q. What portion of the attic were you able to
 13 see from the staircase on the northern slope?
 14 A. I could exit off of the staircase and walk
 15 through that area, the portion above the bathroom and the
 16 portion above the master bedroom and his daughter's room.
 17 They were only two bedrooms in the house.
 18 Q. So were you able to get a pretty full
 19 picture of the northern slope of the roof?
 20 A. As best as you can get crawling through an
 21 attic.
 22 Q. You had to crawl, you say?
 23 A. Yes.
 24 Q. So you were on your hands and knees?
 25 A. Squatting, crawling, yes. It was three,

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1 three and a half foot of height, so you had to crawl from
 2 rafter to rafter.
 3 Q. All right. Did you also access the southern
 4 slope?
 5 A. Just the areas in the knee wall spaces along
 6 the front wall.
 7 Q. Was there fire damage on the southern slope?
 8 A. Not in those regions.
 9 Q. In any part of the southern slope of the
 10 roof was there fire damage?
 11 A. The fire damage I saw on the southern slope
 12 was very much near the peak of the roof.
 13 Q. Having then taken a look at the area in
 14 which the fire damage occurred on the northern slope, can
 15 you give us an approximate size to that area where the fire
 16 damage occurred? In square feet?
 17 A. Where the fire damage occurred?
 18 Q. Yes.
 19 A. Where the fire damage occurred, I really
 20 can't give you an estimation of the approximation. We
 21 spoke about the area where the roof sheathing was removed.
 22 There are areas of that where they put the temporary roof
 23 sheathing that had minimal damage to the rafters. There
 24 are other areas of the roof slope outside those bounds that
 25 also have evidence of scorching, smoke stains, and there

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1 were melted plastics outside those bounds.
2 Q. Outside the one hundred twenty square feet
3 that we were just talking about?
4 A. Two hundred and forty square feet.
5 Q. I'm sorry. Two hundred forty. Yes.
6 A. The two hundred forty square feet that we
7 were talking about in terms of the area where temporary
8 roof sheathing had been installed.
9 Q. So you photographed the area of interest on
10 the northern slope of the roof; is that correct?
11 A. I photographed the northern slope from the
12 inside and outside, yes.
13 Q. All right. You made notes. What did you do
14 next after having accessed that part of the home?
15 A. I don't know that there was anything else
16 that I did after documenting the scene, photographing it,
17 and making my notes. After that point, I got to a point to
18 call my client and give him an update.
19 Q. When you were in the house on September 19,
20 were you able to identify a point of origin of the fire?
21 A. Due to the extent of fire damage and the
22 materials removed, I have not identified a specific point
23 of fire origin any more specific than the ten by twelve
24 area that I can discern.
25 Q. And that's the ten by twelve area that

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1 you've identified in the course of your report?
2 A. That's the area where there is the greatest
3 fire damage to the remaining rafters. And one rafter there
4 is not present; whether it was removed or consumed I'm not
5 certain. But that's where the heaviest fire damage is, and
6 it extends upslope, actually extends upslope, down slope,
7 and across the slope slightly from that region.
8 Q. So you weren't able to identify a specific
9 point of origin of the fire because of the removal of parts
10 of the roof; is that right?
11 MS. MACLEOD: Objection to form.
12 A. Correct.
13 Q. Were you able to identify a specific source
14 of origin of the fire?
15 A. I'm not certain what you mean by source of
16 origin.
17 Q. Where the fire started?
18 A. You mean the area of origin?
19 Q. No. I don't mean a square foot area or
20 anything. I mean, you know, what exactly was it that
21 caused the fire? Where did it initially combust?
22 A. That would be point of origin.
23 Q. You weren't able to do that?
24 A. We just discussed that.
25 Q. You weren't able to do that, were you?

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1 A. I have not identified a specific point of
2 fire origin with the physical evidence that is here.
3 Q. All right. You said that you talked with
4 your contact at State Farm; is that correct?
5 A. I did.
6 Q. How soon after you looked at the Taylor home
7 did you make that call?
8 A. The same day.
9 Q. And was it Mr. Coffey that you called?
10 A. It was.
11 Q. What did you tell Mr. Coffey?
12 A. I informed Mr. Coffey that we had a fire
13 that originated in the attic; that the most I could tell
14 with the damage left was that the point of fire origin was
15 above the height of the ceiling insulation; and the
16 physical evidence at that time indicated lightning strike
17 probably to the chimney cap with a path to ground through
18 the radiant barrier sheathing and the dryer duct.
19 We discussed some of the background
20 information that Mr. Taylor had given me regarding him
21 being a general contractor and the other subcontractors
22 involved; discussed whether he wanted me to obtain a
23 lightning report; and also discussed my need or desire at
24 that time to examine the dryer and also to look at the
25 wiring through that region in more detail. That was not

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1 performed that day. I gave him a preliminary verbal report
2 and requested further direction.
3 Q. Were you able to determine when you went out
4 there on September 19 what the path to ground was of the
5 lightning strike?
6 A. On September 19, yes, when I examined the
7 chimney cap I saw evidence there of the melting that we
8 discussed. And then from there, from the position of the
9 chimney across the northern slope to the dryer, there was
10 evidence that passed through the area where the roof
11 sheathing had been removed and also the area of fire origin
12 of what, in my estimation, appeared to be electrical damage
13 to the aluminum lamina of the radiant barrier sheathing,
14 that proceeded down the dryer vent components with evidence
15 where the dryer would have connected to the duct
16 transition.
17 Q. Did you examine the dryer that day?
18 A. No, sir. The dryer had been removed from
19 the site before my inspection.
20 Q. Did there come a point in time when you did
21 examine the dryer?
22 A. Yes.
23 Q. How were you able to determine without
24 seeing the dryer that the lightning strike had passed
25 through the dryer?

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1 A. Well, that was the path that I saw, and
 2 Mr. Taylor indicated that there was a dryer there that was
 3 functional at the time of the fire, so I deduced that that
 4 was the probable path to ground.
 5 Q. What was it, evidence-wise, that led you to
 6 believe that it passed through the dryer?
 7 A. I had electrical arcing on the dryer duct
 8 that was there, and if there had not been a dryer there,
 9 there would be no reason for that to be present.
 10 Q. So you found arcing on the dryer duct?
 11 A. Yes.
 12 MR. ELLIS: Why don't we take a short break.
 13 (Pause in proceedings 11:13-11:25 a.m.)
 14 Q. Mr. McGraw, you told us earlier this morning
 15 that you located a piece of the radiant barrier sheathing
 16 that was on top of some structure outside the house, could
 17 have been a doghouse. Do you remember that?
 18 A. I do.
 19 Q. Do you have any photos of that?
 20 A. I do. It would be on my disk of
 21 photographs. If you look at my photograph No. 2 in my
 22 report, the doghouse structure is visible.
 23 Q. So the structure is visible. Is the radiant
 24 barrier sheathing section visible, too?
 25 A. I don't see that section in that photograph.

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1 As I mentioned before, I don't recall whether it was on the
 2 ground nearby and I set it up there to just look at it, or
 3 whether it was already laying there. I do have photographs
 4 of it in the photographs that I understand have been
 5 provided.
 6 Q. Had that section of the radiant barrier
 7 sheathing been affected in any way by the fire or by
 8 electrical activity, to your knowledge?
 9 A. Yes.
 10 Q. And what did it show?
 11 A. That section of radiant barrier sheathing,
 12 to my recollection without looking at any of the specific
 13 photographs, showed that it had some soot damage and some
 14 smoke damage to it. The lamina was partially damaged as
 15 was the paper portion of the radiant barrier between the
 16 OSB sheathing and the lamina, and if paper is the wrong
 17 terminology, I apologize.
 18 Q. How had it been damaged? By fire or by
 19 handling? By electrical activity?
 20 A. I don't know.
 21 Q. Did that section of the radiant barrier
 22 sheathing become a part of your inventory?
 23 A. It did.
 24 Q. Do you know what number on your inventory is
 25 associated with that section?

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1 A. I do.
 2 Q. Can you tell us what it is?
 3 A. It is actually two pieces; I may have said
 4 one earlier. No. 9, item No. 9.
 5 Q. And who has possession of that now?
 6 A. I have possession of that.
 7 Q. Is that part of the material that you
 8 brought with you today?
 9 A. Yes.
 10 Q. Thank you. We were on the telephone call
 11 that you made to State Farm. Was that a call with
 12 Mr. Coffey, again?
 13 A. It was.
 14 Q. Can you tell us, specifically, what you told
 15 Mr. Coffey about your findings at that point in time?
 16 A. I think we've reviewed that.
 17 Q. Just tell me.
 18 A. Again?
 19 Q. Yes.
 20 A. At that time, I told Mr. Coffey that the
 21 fire origin was in the attic above the height of the,
 22 appeared to be above the height of the roof insulation
 23 along the northern slope, and that the physical evidence
 24 indicated lightning strike to the chimney cap with a path
 25 to ground through the radiant barrier sheathing and

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1 indications of that going through the dryer as well.
 2 Again, we discussed the work done by the,
 3 excuse me, the construction arrangements with Mr. Taylor's
 4 company being general contractor, and I provided additional
 5 information as Mr. Coffey requested. We discussed whether
 6 he wanted me to obtain a lightning strike report as well as
 7 getting the dryer -- I understood the dryer had been
 8 removed from the site -- getting that brought back, and to
 9 examine additional artifacts there on the scene. We also
 10 discussed the extent of damage and what materials may have
 11 been burned away, what may have been removed, which, I
 12 don't have specific knowledge of how that exactly played
 13 out because it was done before I was there.
 14 Q. Did you discuss with Mr. Coffey what the
 15 cause of the fire was?
 16 A. I think at that point I told him that the
 17 evidence at that time indicated it was a lightning event
 18 that sought a path to ground through the radiant barrier
 19 sheathing.
 20 Q. But you did not tell him that the cause of
 21 the fire was the radiant barrier sheathing?
 22 MS. MACLEOD: Objection to form.
 23 A. I don't know whether we discussed that at
 24 that point in time or not. He, again, provided me the
 25 radiant barrier sheathing article. I discussed with him

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1 where I felt the area of origin was across the roof slope
2 as well as within the attic space and my observations with
3 regard to potential evidence of lightning strike, and he
4 indicated he would review all that with their in-house
5 persons and give me direction as to how to proceed from
6 there.
7 Q. But just to make clear, you did not tell him
8 that you believed the cause of the fire was radiant barrier
9 sheathing?
10 A. No.
11 MS. MACLEOD: Objection to form.
12 A. Not at that time.
13 Q. Now you mentioned that the dryer had been
14 taken from the scene of the fire; is that right?
15 A. I believe in my discussions with Mr. Taylor
16 I inquired as to its location, and it was collected with
17 the -- The impression I got, it was collected with the
18 other contents of the house.
19 Q. Meaning tossed in the dumpster or what?
20 A. No. I believe it was inventoried and
21 retained by Cary Reconstruction, according to what
22 Mr. Taylor told me.
23 Q. So Cary Reconstruction actually created an
24 inventory of material that was taken from the house?
25 A. I don't know whether they created an

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1 inventory or not. I requested, and the dryer was brought
2 back for the October inspection. There was some type of
3 inventory sticker on it; maybe they didn't apply it, maybe
4 it was there before. I don't remember. It had an item
5 number on it, I don't recall what it said. It would have
6 been photographed.
7 Q. But Cary Reconstruction apparently retained
8 some of the items that were taken from the home; is that
9 right?
10 A. Apparently. I don't know what they took.
11 I don't know exactly what their extent or scope of work
12 was. I don't know what they -- I know how they oftentimes
13 perform or what they are asked to perform. In this
14 particular case, I don't know what they exactly did.
15 Q. Who was directing Cary Reconstruction?
16 A. I don't know. My point of contact to
17 coordinate the dryer return was Luke Wynd, W-Y-N-D.
18 Q. Did you ever ask Cary Reconstruction for an
19 inventory of what they took from the house?
20 A. No, sir.
21 Q. Have you ever had a conversation with
22 Mr. Wynd or anybody else at Cary Reconstruction about what
23 they took from the house?
24 A. None other than discussions for the dryer's
25 return; no, sir. I don't know what their involvement

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1 exactly is.
2 Q. Do you know whether or not they have
3 retained any items other than the dryer from the house?
4 A. I don't know.
5 Q. Now you apparently came into possession
6 yourself of some items from the home; is that correct?
7 A. Yes.
8 Q. And that's on an inventory that you've
9 maintained?
10 A. Yes.
11 Q. When did you take items from the Taylor
12 home?
13 A. The items that were collected from the
14 Taylor home were collected on October 21 during the course
15 of the joint inspection, and the two additional pieces that
16 I got the following day.
17 Q. The two additional pieces being what?
18 A. The two additional pieces, item No. 9, the
19 two pieces of damaged roof sheathing from the outside
20 debris, laying on the outside of the house.
21 Q. All right. How have you maintained what you
22 took from the house on October 21?
23 A. The items were wrapped individually with the
24 exception of the dryer vent exhaust duct which was put
25 inside of the dryer. They were numbered, wrapped, and I've

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1 maintained them at our storage facility. We have a rental
2 facility that we rent space to store items. Other than the
3 particular items that have been shipped for inspection,
4 items No. 5 and 6, that's where they have remained.
5 Q. Did Mr. Coffey in his conversation with you
6 on September 19 ask for a written report?
7 A. No.
8 Q. Did you prepare a written report for him?
9 A. No.
10 Q. Did you tell him that you were not going to
11 be able to identify a point of origin for the fire because
12 of the removal of materials from the roof?
13 MS. MACLEOD: Objection to form.
14 A. I don't believe, no, I did not tell him
15 that. I have identified an area of origin within a ten by
16 twelve area on the northern slope of the roof; within that
17 region. That being the area of fire origin within that
18 region, I can't be more specific. That's the area of
19 origin identified from my analysis.
20 Q. Is there a difference between an area of
21 origin and a point of origin?
22 A. Yes.
23 Q. What's the difference?
24 A. Well, the area of origin is associated with
25 the area where the fire started. It can be very large, it

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1 can be more defined and refined.
2 Point of origin is typically defined by
3 NFPA 921 as the exact point where the fire originated. The
4 exact point. And sometimes the exact point can be no more
5 than an area of a chair. In this particular case, I'd have
6 to say my area of origin and my point of fire origin would
7 be the same in that approximately hundred and twenty square
8 foot area of the northern roof slope where there is the
9 most fire damage remaining evident.
10 Q. All right. You do recognize that there is a
11 difference, though, between a point of origin and an area
12 of origin in 921?
13 A. There is.
14 Q. All right. And you are not able to identify
15 the specific point of origin; is that correct?
16 A. I'm not able to identify a specific point of
17 origin, no. While that is the case, I am able to identify
18 an area of origin, and within that region I am able to make
19 certain analyses from the remaining artifacts to help
20 establish how the fire progressed and what potential
21 ignition sources may be there. So while a specific point
22 of origin may not be able to be discerned, that does not
23 eliminate the potential for being able to establish the
24 origin and cause of the fire.
25 Q. My question to you, though, was, you were

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1 not able to identify a specific point of origin of the
2 fire; is that correct?
3 MS. MACLEOD: Objection to form.
4 A. Oftentimes the specific point of origin of
5 the fire is destroyed by the nature of the fire itself.
6 In this particular case, I believe that the
7 point of origin along the roof slope was damaged during the
8 normal course of the fire department operations and/or was
9 consumed during that event, during the fire event.
10 Q. Is the answer to my question that you were
11 not able to identify a specific point of origin of the
12 fire?
13 MS. MACLEOD: Objection to form.
14 A. I have not been able to identify a specific
15 point of origin where the fire originated within my defined
16 area of origin, nor do I believe any of the other
17 investigators involved have identified a specific point of
18 origin.
19 Q. As a fire investigator, why is it important
20 or significant to try and identify a specific point of
21 origin of a fire?
22 A. Well, once we identify the area of origin,
23 we want to identify the point of origin to understand what
24 potential ignition sources are there and what materials
25 first ignited.

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1 In this particular case, with all of the
2 evidence and looking at the totality of the information
3 that's there, the area of origin is sufficient to identify
4 and rule out a number of potential ignition sources. Other
5 ignition sources routed through that area have been
6 eliminated, and we can use our reasoning and logic to come
7 to an analysis as to the nature of the fire event,
8 regardless of being able to, or not to, pinpoint a specific
9 point of origin.
10 Q. Were you ever able to identify a specific
11 material that first ignited?
12 A. I was not asked to identify the specific
13 material first ignited. I've identified the area of origin
14 and I've identified that the lightning has energized the
15 radiant barrier shield -- excuse me, the radiant barrier
16 sheathing across the northern roof slope passing through my
17 area of origin. The material classification that was first
18 ignited, in my estimation, is some building material,
19 building component, whether that be a specific portion of
20 the radiant barrier, the lamina or its interaction with the
21 nearby roof vents or other building materials; others were
22 asked to investigate that.
23 Q. So you don't know what the material first
24 ignited was?
25 MS. MACLEOD: Objection to form.

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1 A. The material first ignited was building
2 materials within the area of origin as I've identified and
3 outlined in my report.
4 Q. Some kind of building material?
5 A. Well, within that area we have radiant
6 barrier sheathing, we have wooden roof joists, we have
7 Polyvent material, we have electrical wiring, we have
8 fiberglass batt insulation. The fiberglass batt insulation
9 is not going to ignite in and of itself; the electrical
10 wiring there showed evidence of failure. So we are back to
11 the radiant barrier sheathing interacting with the other
12 nearby components.
13 Q. You told me just a few minutes ago that it
14 was up to others to make a determination as to what the
15 first ignited material was; is that correct?
16 A. In this particular case, I was asked to
17 investigate or report on the origin of the fire and the
18 cause, in a general sense. I was informed that Mr. Simmons
19 was retained to discuss the propensity of radiant barrier
20 sheathing and its material properties; its propensity to
21 start fire, spread fire, whatever the findings of his study
22 may result in.
23 Q. So does that mean you were not retained to
24 determine what the first ignited material was?
25 A. I was retained to present an overview

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1 summary of my findings and to perform an analysis of the
 2 area of origin, and to discuss the causes as I could and as
 3 I have done in my report.
 4 Q. My question to you was whether or not you
 5 were retained to identify what the first ignited material
 6 was?
 7 A. Well, identifying the first --
 8 Q. Is that yes or no?
 9 MS. MACLEOD: Objection.
 10 A. Yes.
 11 Q. You were retained to identify the first
 12 ignited material?
 13 A. When I was retained on September 12, 2009, I
 14 was retained to do an origin and cause investigation.
 15 During the course of the whole analysis and investigation
 16 process that's evolved, some of that assignment has been
 17 refined.
 18 Q. Can you answer my question, though?
 19 A. I think I have answered your question.
 20 Q. I asked you whether or not you were retained
 21 to identify what the first ignited material was, and you
 22 told me earlier that that was up to others and now you are
 23 telling me that during the course of your examination it
 24 was refined in some way. So I really want you to answer
 25 the question as to whether or not you were retained to

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1 identify what the first ignited material was?
 2 MS. MACLEOD: Objection to form.
 3 A. I think I can answer your question this way.
 4 I was retained to conduct a fire origin and
 5 cause investigation and analysis of the event; I have done
 6 so. I have established the area of origin along the
 7 northern roof slope within a ten by twelve square foot
 8 area, approximately, and within that region I have
 9 identified the material first ignited to be building
 10 components in that area that occurred when sufficient
 11 energy was imparted by lightning onto those materials.
 12 What that specific material was is burned away and I can't
 13 -- That's the nature of the fire, that it's not there.
 14 Q. All right. After talking with Mr. Coffey
 15 and relaying to him what you saw during your visit on
 16 September 19, what did you then do?
 17 A. After September 19, I requested a copy of
 18 the fire department report -- actually it was also on
 19 September 19. On the 20th I spoke with Mr. Strakonsky of
 20 State Farm and discussed the situation with him,
 21 essentially reviewing what I had already advised Mr. Coffey
 22 as to.
 23 Q. Mr. Coffey is an adjuster; is that right?
 24 A. Yes.
 25 Q. He was the adjuster assigned to this

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1 particular fire?
 2 A. He's the one that retained me.
 3 Q. What's Mr. Strakonsky's relationship to
 4 this?
 5 A. He works in what I've been told or what I
 6 understand to be termed the fire products unit for State
 7 Farm.
 8 Q. What's your understanding of what the fire
 9 products unit of State Farm is?
 10 A. My understanding is that they are the
 11 representatives that typically get involved with regard to
 12 subrogation or product, potential product liability issues.
 13 I don't think I've ever been given a specific description
 14 of what they do or seen a specific description of what they
 15 do or what their role is. That's my understanding.
 16 When I provided my initial report to Mr.
 17 Coffey, his response was "I will check with our fire
 18 products unit and I will let you know, or someone from
 19 there will call you."
 20 Q. So Mr. Strakonsky called you on
 21 September 20, the day after you talked with Mr. Coffey?
 22 A. Yes.
 23 Q. And tell us what was said during the course
 24 of that conversation with Mr. Strakonsky.
 25 A. I reviewed with him the general scope of

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1 what I had performed at the Taylor residence. I informed
 2 him that the fire origin was in the attic above the height
 3 of the insulation along the roof sheathing area and that
 4 there was evidence of lightning activity. I, again,
 5 related the desire to examine the clothes dryer.
 6 I discussed with him Mr. Taylor being the
 7 general contractor for the house, the subcontractors that
 8 were involved, and he indicated to me he would, in his
 9 words, do some additional research or look into whatever he
 10 needed to do with regard to his job and they would advise
 11 further as to what would occur.
 12 Q. And did you have later conversations with
 13 Mr. Strakonsky?
 14 A. I do not believe so. My records do not
 15 reflect any. I don't recall any.
 16 Q. Did you have conversations with anyone else
 17 from the State Farm fire products unit?
 18 A. No.
 19 Q. Were all your subsequent conversations with
 20 State Farm with Mr. Coffey?
 21 A. Yes.
 22 Q. Are those documented in your notes?
 23 A. Yes.
 24 Q. After the conversation then with
 25 Mr. Strakonsky on September 20 -- Let me back up just a

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1 second.

2 During the conversation with Mr. Strakonsky

3 on the 20th, did you discuss the role of radiant barrier

4 sheathing in this fire, if any?

5 A. I believe we probably did. I believe, I

6 don't have note of it, but I believe somehow or another he

7 had a copy of the article that was originally provided to

8 me. The discussions that I would have had with him would

9 have revolved around the observations I had made on the

10 scene indicating the electrical tracking across the surface

11 of the radiant barrier and the lightning event being

12 evidenced at that time, and that tracking passing through

13 my area of fire origin.

14 Q. Did you discuss the article by Mr. Simmons?

15 A. I'm sure we did. I don't recall

16 specifically what was discussed.

17 Q. Did Mr. Strakonsky ask you for your views

18 about the Simmons' article?

19 A. I don't believe so.

20 Q. Did you tell him what your views were?

21 A. I don't recall being asked or telling.

22 Q. Did you make a written cause and origin

23 report to State Farm?

24 A. I was never asked to, so, no.

25 Q. Did they ask you not to do it?

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1 A. At this point in time the investigation was

2 ongoing, and my notes indicate soon after talking to

3 Mr. Strakonsky, within a few days, I think nine or ten

4 days, I received a voicemail from Mr. Coffey indicating

5 that Louisiana Pacific was requesting a joint inspection of

6 the house.

7 At that time, the next conversation I had

8 with a representative of State Farm was with Ms. MacLeod

9 and direction of my investigation and reporting at that

10 point turned to her direction.

11 Q. Instead of State Farm?

12 A. At that point, I was directed to report to

13 her.

14 Q. Instead of State Farm?

15 A. Yes. I'd have to look at my -- I'd have to

16 look at my emails. I have an email from Mr. Coffey to me

17 indicating she was their representative and I was to take

18 direction from her.

19 Q. All right. So after you were told to begin

20 conversing with Ms. MacLeod about this, you no longer had

21 any conversations with State Farm people?

22 A. I think I had one more phone call from

23 Mr. Coffey. I believe after our joint inspection I gave an

24 update to Ms. MacLeod and asked whether I was to contact

25 State Farm or her, and she said at that point she would

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1 take care of the contact there.

2 Q. Between the period of time when the joint

3 inspection with Louisiana Pacific representatives occurred,

4 and your conversation with Mr. Strakonsky, did you have

5 conversations with anyone about the Taylor home fire?

6 A. Only with Ms. MacLeod and Mr. Coffey to

7 coordinate that inspection, and to Mr. Wynd regarding the

8 clothes dryer location.

9 Q. Prior to going on the inspection on October

10 21, did you have conversations with Ms. MacLeod about the

11 Simmons' article?

12 A. I believe we probably did. I don't have

13 specific notes of what we discussed other than that I gave

14 her an update as to what I knew and what was planned for --

15 what I had in mind would plan to occur or anticipated would

16 occur on the 21st.

17 Q. I understand you may not have notes of your

18 conversations, but do you recall what was discussed with

19 Ms. MacLeod about radiant barrier sheathing and the

20 Simmons' article?

21 A. What I would have discussed would have

22 pertained to my gatherings from the article and my

23 observations from the site, being that we have a lightning

24 event and apparent path to ground that passes through the

25 area of fire origin. And at that point before the joint

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1 inspection, that would have been the extent of that

2 conversation.

3 Q. So you didn't discuss the Simmons' article;

4 you just discussed what you saw on the way of the path to

5 ground of the lightning strike?

6 A. I'm saying we probably did discuss the

7 Simmons' article, yes, in that context, and in the context

8 of how the information that he's outlined pertains to this

9 particular incident or could pertain to this particular

10 incident.

11 Q. Tell me about that. What did you discuss

12 about what Simmons was saying in his article and how it

13 might pertain to this incident?

14 A. I don't recall the conversation,

15 specifically. I guess what I would have discussed was that

16 the data that I had to analyze supported a lightning event

17 at the Taylor residence, and that the information conveyed

18 in Mr. Simmons' article showed or confirmed or demonstrated

19 how the path to ground can occur from chimney across the

20 radiant barrier to a number or variety of different

21 potential paths to ground, and that his article apparently,

22 the testing they did, rather, showed the potential for that

23 material to become ignited during that -- while becoming

24 energized.

25 Q. Did you say that or did Ms. MacLeod say

1 that?
2 A. I believe I said that, because I had
3 reviewed the article previously.
4 Q. Did she ask you for your opinion of how the
5 Simmons' article applied to this particular case?
6 A. I don't recall. I believed at that time
7 that the -- You asked a broad question there; did she ask
8 my opinion? But at the time before the joint inspection
9 I believe that I indicated to her that the evidence I had
10 supported a lightning event, and my review of the article
11 indicated that the particular properties that he had
12 researched and identified may be pertinent to this fire,
13 but I didn't know, and that's why we needed to go back and
14 look at the house.
15 Q. What were you told about the arrangements to
16 inspect the house on October 21?
17 A. I was told that Mr. Coffey had been
18 contacted by Laura Proctor of Louisiana Pacific and they
19 would like to have somebody inspect the Taylor house, and I
20 was asked whether I wanted to be there at that time or not,
21 I indicated in the affirmative, and the next phone call I
22 got the following day was from Mr. George Murphy.
23 Q. George Murphy of what organization?
24 A. Vinson & Elkins is what I understood at the
25 time. He indicated that he needed to coordinate a joint

1 inspection with me for himself and origin and cause
2 personnel and representatives of Louisiana Pacific. We set
3 up some tentative dates and he was to check back with me.
4 I advised Mr. Coffey of the contact, and at
5 that time I was told to contact Cary Reconstruction for
6 coordination of the dryer return.
7 Q. The dryer return to the Taylor home?
8 A. Yes.
9 Q. Was the dryer returned to the Taylor home?
10 A. Yes.
11 Q. Before October 21?
12 A. Yes.
13 Q. When was it returned?
14 A. I do not know. At that time I requested
15 that it be returned and was told it would be returned to
16 the site before October 13.
17 Q. So you don't know when it was returned, but
18 you were told that it might be before October 13?
19 A. And the reason for the October 13 was that
20 was the earliest date that Mr. Murphy and I were discussing
21 at the time. I don't have confirmation that I made a note
22 when it was returned.
23 Q. Who would be at the home to receive the
24 dryer or anything else that was delivered to it before
25 October 21?

1 A. I don't know. The house had a lock box on
2 the front that was access for the restoration company
3 personnel. Other than that, I don't know the answer to
4 your question.
5 Q. So Cary Reconstruction people could have
6 brought the dryer back at any time prior to October 21, for
7 all you know?
8 A. For all I know.
9 Q. They had complete access to the home?
10 A. I don't know what their access arrangements
11 were to the home.
12 Q. There was a lock box with a lock on it and a
13 key inside; is that correct?
14 A. That's my recollection.
15 Q. Did you have access to that lock box?
16 A. I believe that for the joint inspection I
17 did, yes. Before that time, I don't recall having access
18 to it.
19 Q. Are we talking about a combination lock or a
20 key lock?
21 A. It's a combination lock like a realtor may
22 use on a rental dwelling.
23 Q. Did you get the combination to the lock,
24 then?
25 A. Evidently, I did.

1 Q. At some point the Cary Reconstruction people
2 obviously delivered the dryer to the house and put it back
3 in place?
4 A. Yes.
5 Q. Do you know how much other access they had
6 to the home other than replacing the dryer?
7 A. I do not.
8 Q. Did anyone else have access to the home that
9 you are aware of?
10 A. I presume Mr. Taylor had a key to the house.
11 I don't have reason to believe anyone else had access to
12 the house. There was no evidence that anyone accessed the
13 house, altered or changed anything, between the inspections
14 that I performed.
15 Q. You were at the inspection that took place
16 on October 21; is that correct?
17 A. I was.
18 Q. Who else do you recall having been present
19 for the October 21 inspection of the home?
20 A. If you will let me look at the list of folks
21 that signed in, I'll tell you.
22 Those present included myself, David Dellwo,
23 I believe, of Louisiana Pacific, D-E-L-L-W-O. If I
24 mispronounce names, I apologize;
25 George Murphy of Vinson & Elkins;

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1 Mark Loose, L-O-O-S-E, of Exponent;
2 Dennis Scardino of ESI;
3 Laura Proctor of Louisiana Pacific;
4 Brian St. Germain, G-E-R-M-A-I-N -- I hope I
5 pronounced that correctly -- of Louisiana Pacific; and
6 Ms. MacLeod.
7 Those were the persons present.
8 Q. As to the way in which the inspection was
9 conducted, did you lead people around or did everybody look
10 at the home on their own?
11 A. The way I conduct my joint inspections is,
12 I, when everybody arrives, try to have a little
13 introduction session and provide background information
14 about what I know about the event at that time, the facts
15 that I've been told, and then make access available for
16 those other persons to do their documentation in their
17 systematic manner. Usually that lasts an hour, maybe an
18 hour and a half.
19 After such time, or during that time,
20 sometimes it may occur we get to a point where there are
21 items of interest that want to be looked at in more detail
22 and then that becomes more collaborative and everyone might
23 anticipate at that time.
24 Q. When you gave the background information to
25 the folks from Louisiana Pacific, what did you say?

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1 A. I develop a little background information
2 sheet, kind of a brain tickler, and at that point in time I
3 just reviewed that information with them. That includes
4 the date of the fire, when I received the assignment, when
5 I inspected, what I may have learned in terms of factual
6 information from tax records, brief summaries from what the
7 insured or homeowner occupant may have told me, or any
8 other interviews, what information may be learned at that
9 point from the fire department report or weather records,
10 and then I generally follow up with just an outline of what
11 the scene or site condition is, if anything has changed, or
12 what I might know about that.
13 Q. Do you have the notes in front of you that
14 you used?
15 A. Yes.
16 Q. Could I see those for just a second? I'll
17 return it to you; I'm not going to mark it as an exhibit.
18 A. They should be in whatever has been
19 produced.
20 Q. Did you stick pretty much to the outline
21 that you prepared there?
22 A. I don't have any reason not to. Yes, sir.
23 Q. You did go over the report from the fire
24 department about the fire investigation that they
25 conducted; is that correct?

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1 MR. ELLIS: Let's go off the record for just
2 a second.
3 (Pause in proceedings 12:03-12:03 p.m.)
4 Q. Nathaniel has gone to make a copy of your
5 notes and we will have them marked in just a second, but in
6 the meantime, we will work off the copy that you've got in
7 front of you.
8 A. I don't have a copy in front of me.
9 Q. Oh, that's right.
10 A. We can try to proceed.
11 Q. Maybe from your recollection then, and if
12 you have any doubt about it, we can confirm it when the
13 copy is back.
14 A. Clear it up.
15 Q. You said that you don't have any reason to
16 believe that you deviated from what's on your outline; is
17 that correct?
18 A. No, sir. I used the outline to make sure I
19 hit the points that are there, and of course would answer
20 whatever questions may arise.
21 Q. You covered what the Bunn Fire Department
22 had found during the course of their investigation of the
23 fire; is that correct?
24 A. I believe that I did. It's indicated in the
25 notes specifically what I said. I probably would have just

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1 indicated the general narrative text that they used and if
2 asked would have made my copy of the fire department report
3 available.
4 Q. So you would have told the people from
5 Louisiana Pacific that the Bunn Fire Department
6 investigation had showed that the Taylor home fire was
7 caused by lightning?
8 A. I'd have to look at my notes, but I believe
9 that's what the fire department report says and I believe
10 that would have been conveyed.
11 Q. At any point during the course of your
12 briefing of the Louisiana Pacific people did you tell them
13 that you believed that the Taylor home fire had been caused
14 by the radiant barrier sheathing?
15 A. I don't believe at any point I've had
16 discussions with any Louisiana Pacific representatives,
17 before today, about my opinions as to the cause of the
18 fire. So that's not something I would have discussed.
19 (DEFENDANT'S EXHIBIT NO. 30 MARKED)
20 Q. I'm handing you what's been marked as
21 Exhibit No. 30. Is that a copy of the notes that you used
22 in connection with your briefing of the Louisiana Pacific
23 people at the site on October 21, 2011?
24 A. Yes, sir.
25 Q. And you'll see that your outline does not

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1 include any item relating to cause of the fire; is that
2 correct?
3 A. Only what the fire department report says.
4 Q. Just what the fire department said?
5 A. Yes. There is not any speculation or
6 causation or opinion discussion as to my analysis.
7 Q. Did you tell the people from Louisiana
8 Pacific where you believed the area of origin of the fire
9 was?
10 A. I believe I probably did discuss with them
11 where the area of damage was, being that we have most of
12 the damage is in the attic. I don't think that we
13 discussed it in any greater detail than that; I don't
14 recall if we did.
15 Typically, during these types of on-site
16 briefings that's one of the questions. Where is the most
17 damage? or What's the area of focus? or something like
18 that, and I'm sure that was asked and answered in a general
19 manner.
20 Q. Answered by you?
21 A. Yes.
22 Q. So you would have indicated the general area
23 of origin of the fire to the people from Louisiana Pacific;
24 is that right?
25 A. I think I would have indicated where the

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1 greatest fire damage was, and they can make their
2 assessment from there.
3 Q. Did the people from Louisiana Pacific, after
4 having heard your briefing, go about their own inspection
5 of the structure?
6 A. Yes.
7 Q. Did you lead them around or try to guide
8 them in any way?
9 A. No, sir. They performed their inspection of
10 the structure, inside and outside. I intermingled with,
11 you know, crossed their paths or whatnot as I was preparing
12 for other activities or performing other documentation,
13 until such time as there were items that we wanted to look
14 at collectively, and that was done in a collaborative
15 manner. I don't think anybody was leading anybody; it was
16 collaborative.
17 Q. So there were specific items, then, that you
18 had a collaborative discussion with the Louisiana Pacific
19 people about?
20 A. Yes.
21 Q. Do you recall what the specific items of
22 discussion were?
23 A. The specific items we looked at,
24 collaboratively and together, was the electrical service to
25 the house. I think there was a question about where the

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1 LP gas line was, excuse me, LP gas tank was; I may have
2 pointed that out to them.
3 The items on the left or the west side of
4 the house, including the water heater, electrical service
5 panels, meter base, and the network interface device for
6 telephone or -- yes, just network interface device -- we
7 looked at all those collaboratively together.
8 We proceeded then, I believe, I could have
9 the order wrong, slightly out of order, looked at the
10 electrical panels, both of them downstairs, together. We
11 looked at the clothes dryer together. We did perform some
12 inspections in the attic, I think; you know, they were in
13 there, I was in there at the same time. I think we were on
14 the roof together. And then there was discussion
15 ultimately about the items that I had desired to collect
16 and how to go about doing that, if there were any opinions
17 or suggestions, as well as anything that they may have
18 wanted recovered.
19 Q. Were there any specific items that they
20 wanted to have recovered?
21 A. My recollection was that they requested the
22 roof sheathing around the dryer vent and the chimney to be
23 recovered. That required -- And the reason I recall that
24 is, that required me to get in touch with Mr. Wynd, after
25 discussing with Ms. MacLeod, to get them to come out and

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1 cover up the hole that I was preparing to cut in the roof
2 so that the dwelling would not sustain additional damage
3 from inclimate weather.
4 Q. Did you collect the sheathing around the
5 dryer and the chimney?
6 A. I did. I collected some sheathing around
7 the clothes dryer about the width of one rafter space and
8 four/five feet long, I don't recall exact dimensions, and
9 then about four square feet, four to six square feet around
10 the chimney penetration, chimney flashing penetration.
11 Q. And you still have those?
12 A. Yes, sir.
13 Q. You also indicated that there were items
14 that you desired to collect from the house; is that
15 correct?
16 A. Yes.
17 Q. What were the specific items that you
18 desired to collect yourself?
19 A. I collected the clothes dryer -- it was all
20 collected; it's on the inventory list -- the clothes dryer
21 with its dryer duct as well as some electrical wiring,
22 routing, running through the area of origin, and I
23 collected a section of the purple-colored vent material,
24 and then the two pieces of roof sheathing from the outside
25 debris.

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1 My evidence list has nine items shown, but
2 during the course of the activities I never had an item
3 No. 4, so there is no item No. 4; it's listed as no item.
4 Q. The electrical wiring that you wanted to
5 collect, those were pieces of what part of the wiring
6 system?
7 A. The wiring that was collected, items No. 5
8 and 6. Item No. 5 is branch circuit wiring for the smoke
9 detectors; I think it may have been labeled electrical
10 panel fire alarm. And item No. 6 actually served the
11 recessed ceiling lights in the living room area -- it's a
12 great room, I call it the living room -- along the northern
13 slope.
14 Q. Approximately how much wire did you collect?
15 A. The section of the fire alarm circuit is
16 about sixteen feet long, and the section of the -- let me
17 look at my notes -- the section serving the recessed
18 ceiling fixtures is about seven feet and a quarter; seven
19 feet four inches long.
20 Q. You said that you did some collaborative
21 inspections in the attic with the LP people; is that right?
22 A. I seem to recall that one may have been in
23 the attic space and another -- When you went up in the
24 attic from the pull-down stairs there was a little bit of a
25 landing, so to speak, near the HVAC unit, I seem to recall

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1 being in there, you know, somebody was in taking pictures
2 and then we swapped out in the course of what we were
3 doing. Specifically other details I don't recall.
4 Q. Do you remember anything about what you
5 discussed with the LP people as you were inspecting the
6 attic area?
7 A. No. No, I don't.
8 Q. All right. What about when you were on top
9 of the roof with the LP people, do you remember any of the
10 discussion with them as you were on the roof?
11 A. The only discussion I recall with them was
12 just to point out where I made certain observations on the
13 chimney cap.
14 And as far as the attic, thinking back, the
15 only discussion I would have had with them would have been
16 to identify areas of the rafters where I had marked
17 apparent artifacts, positions of apparent artifacts, on the
18 radiant barrier sheathing so they would understand what I
19 saw and why I made markings on the chimney cap. I made
20 cardinal directional markings on the chimney cap as well as
21 indications on the sides of the rafters.
22 Q. Did you say you made some markings on the
23 radiant barrier sheathing?
24 A. No. I made markings on the -- I made
25 markings on the ceiling rafters below those potential

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1 locations. Just drew an arrow for future reference so when
2 we came back we could reference those, and so they would
3 show up in photographs as well.
4 Q. Did you make any comments to the LP people
5 about radiant barrier sheathing as you were inspecting the
6 attic or the roof?
7 A. Not that I recall.
8 Q. Did they make any comments to you about it?
9 A. I don't recall. Don't recall any, no.
10 Q. Did you make any comments to the people from
11 LP about the removal of portions of the roof and the fact
12 that they were not available?
13 A. I don't think I made comment. I think I
14 made them aware through the course of my briefing that
15 portions of the roofing were cut out by the fire department
16 and some of the fire debris -- some of the roof section had
17 burned away and was consumed by the events of the
18 combustion, and some other of the debris had apparently
19 been removed from the site and discarded before that date.
20 Q. Did you make any comments to the people from
21 LP, the representatives of LP, about the impact on your
22 investigation due to the removal of materials from the
23 home?
24 A. I don't think I made any comment with regard
25 to removal of materials, the impact of materials removed or

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1 consumed during the fire, to them.
2 Q. When you looked at the home on October 21,
3 that approximately two hundred forty square foot part of
4 the northern slope of the roof had already been removed,
5 correct?
6 A. There's an area of two hundred forty square
7 feet where there is OSB sheathing that's been applied
8 temporarily, covered by tarpaulin. Some portion of that I
9 understood to be removed, other portions of that likely
10 burned away during the fire. That's all I know about the
11 extent of either.
12 Q. All right. But that's the condition that
13 existed at the time of the inspection on October 21; the
14 two hundred forty square feet had been removed and replaced
15 by OSB?
16 A. Two hundred twenty [sic] square feet of the
17 roof sheathing, the roof area, had been covered by
18 temporary OSB, the TechShield that was there before, what
19 hadn't burned away, had apparently been removed and
20 discarded.
21 Q. All right. Do you know whether or not the
22 part of the roof that was not damaged during the fire or
23 removed for any reason, that was clad in TechShield, was
24 that TechShield ultimately removed or not?
25 A. I don't know how it became not to be on the

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1 roof anymore. I don't know what was -- I believe some
 2 burned away, I don't know who may have removed it, I don't
 3 know how it got removed; I don't know about it. I was not
 4 there for that.
 5 Q. Let's take the south slope of the roof,
 6 okay. Was any part of that TechShield sheathing removed,
 7 to your knowledge? Ever?
 8 A. That along the south slopes of the roof
 9 there is some missing at the peak. Looks to me like it's
 10 burned away.
 11 Q. All right. So that part of the TechShield
 12 is gone; is that correct?
 13 A. That part of the roof structure, yes.
 14 Q. Is there still TechShield on the roof? If
 15 we went out there today would we see TechShield?
 16 A. I have no idea. I have not been to the
 17 house since October 22 last year.
 18 Q. So you don't know whether or not the
 19 condition has changed?
 20 A. No idea.
 21 Q. So the last time that you actually saw the
 22 Taylor home was during the joint inspection that occurred
 23 on October 21?
 24 A. The last time I saw it was the following day
 25 when I went to get the two sections of sheathing out back.

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1 Q. Right. So the last time would have been
 2 October 22?
 3 A. Yes, sir.
 4 Q. Did you do any more inspection of the home
 5 on October 22, or did you just go to pick up those
 6 sections?
 7 A. No, sir. I just picked up those two
 8 sections that was discussed to retrieve and that was it.
 9 Q. Other than Mr. Lee and Mr. Taylor, did you
 10 interview anyone else in connection with your
 11 investigation?
 12 A. I did not. I gathered from Mr. Taylor he
 13 was the only person home at the time of the fire. He had
 14 substantial knowledge about the history of the house,
 15 having been intimately involved in the construction of it.
 16 He learned, I don't recall, I guess during
 17 the course of one of our conversations, that his neighbor
 18 may have been home at the time of the fire, so I left a
 19 business card for him on the 21st and he subsequently
 20 called me back. Nobody else was interviewed.
 21 Q. Do you know whether or not Mr. Taylor looked
 22 into any of those five other lightning fires that occurred
 23 in the area on August 29?
 24 A. I do not know.
 25 Q. You didn't, in any event?

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1 A. I was not retained to investigate them,
 2 I'm not privy to that information, and don't know where
 3 they are.
 4 Q. Had you heard about the potential cause for
 5 any of the other fires that occurred that night?
 6 A. None other than what Mr. Taylor was
 7 apparently told by -- He said the fire inspector said they
 8 had five other lightning fires that night.
 9 Q. And you don't know whether any of those
 10 other five homes, obviously, had radiant barrier product in
 11 them?
 12 A. I don't know anything about them, whether
 13 they were small fires, large fires, commercial,
 14 residential. Don't know.
 15 Q. After October 22 when you picked up those
 16 two sections of radiant barrier sheathing from the Taylor
 17 home, what did you then do in connection with your
 18 investigation?
 19 A. After the 22nd of October, I had
 20 conversation with Mr. Lee, the neighbor, and then had
 21 additional conversations with Ms. MacLeod to confirm what
 22 was removed from the house and to discuss what additional
 23 research or follow up may occur; that I had spoken again
 24 with Mr. Taylor to reestablish and confirm my notes about
 25 the subcontractors involved in the construction of the

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1 house from what he had told me on the scene.
 2 I had occasion to request inspection permit
 3 details from Franklin County and then had a conversation as
 4 well with Mr. Coffey a few days later.
 5 Q. When was it you talked with Mr. Coffey?
 6 A. The 25th of October.
 7 Q. And what did you all discuss during the
 8 course of that conversation?
 9 A. He was inquiring as to the status of the
 10 investigation. I provided him an update and related that I
 11 was awaiting direction from Ms. MacLeod as to what further
 12 may need to occur from an investigation standpoint.
 13 Q. You had talked with Ms. MacLeod by that
 14 time?
 15 A. I had.
 16 Q. And I think you just told us that part of
 17 your discussion with Ms. MacLeod had to do with the
 18 additional work that you might be performing in connection
 19 with this fire?
 20 A. Yes.
 21 Q. And what was discussed?
 22 A. I'm sorry?
 23 Q. What was discussed with Ms. MacLeod about
 24 your additional work?
 25 A. At that time what was discussed was, I

1 think, I wanted to just reconfirm with Mr. Taylor who the
2 various contractors were and what their roles were in the
3 construction of the house, and that I wanted to obtain what
4 I could from the Franklin County permitting and inspections
5 department.

6 I was continuing -- There was a question at
7 that point from what I had told her about my opinion as to
8 the origin of the fire and as to the cause being a
9 lightning related event that sought path to ground through
10 the radiant barrier sheathing, with the ignition along that
11 path within the area of origin, there was a question as to
12 what additional research could be undertaken into answering
13 the question, or questions, about the performance of
14 radiant barrier sheathing.

15 Q. What, specifically, do you recall about that
16 part of it?

17 A. I specifically recall the question being
18 What was the role of the radiant barrier sheathing in the
19 development, ignition, and/or spread of the fire? That
20 being the question to seek out an answer to.

21 Q. That you were to seek out an answer to?

22 A. That was the question that she and I
23 discussed, and at that point in time, I had related to her
24 that research or testing analysis along those lines may
25 need to be undertaken. I had the Ron Simmons' article from

1 training, or experience.

2 Q. That's a professional no-no, right, to try
3 and take on something outside your professional area of
4 experience and expertise?

5 A. Well, I felt that the -- I hate to use the
6 colloquialism reinventing the wheel, but I felt some of my
7 effort if I undertook a study may reinvent the wheel, where
8 others may have a different baseline knowledge, and to
9 better serve my client they may want to investigate another
10 means for that to be done other than for it to be produced
11 by me.

12 (DEFENDANT'S EXHIBIT NO. 31 MARKED)

13 Q. I'm showing you what's been marked as
14 Exhibit No. 31. Can you identify that, please?

15 A. I can.

16 Q. What is it?

17 A. Appears to be a copy of my report dated
18 August 22, 2012.

19 Q. I'll ask you to go to page number six of
20 your report. At the end of the paragraph before your
21 Summary and Opinions begins, did you make this statement?

22 "Analysis, testing, and/or review of the
23 Louisiana Pacific TechShield radiant barrier
24 sheathing for ignition propensity, material
25 properties, or susceptibility to damage from

1 what Mr. Coffey had sent me, and I think she was under
2 review of that at the time.

3 Q. Did you tell her that you thought you could
4 do that work?

5 A. Ultimately, when I was asked to provide an
6 estimate for the cost of doing that, and after having
7 looked into reviewing his article, I deferred and said that
8 I believed that the testing instrumentation and potential
9 electrical engineering expertise necessary falls outside of
10 my scope of practice and therefore I couldn't provide a
11 good estimate for that.

12 Q. Why did you feel that it fell outside the
13 scope of your practice?

14 A. Well, dealing with -- In reviewing his
15 article and looking at the lightning data, and looking at
16 how the testing he had done, some of the measurements that
17 had been taken in terms -- not the measurements, some of
18 the instrumentation that had been used and my understanding
19 that there may be detailed electrical engineering knowledge
20 necessary to properly develop and design a test, I felt
21 like that fell outside of my area of expertise as a fire
22 investigation specialist/fire protection engineer/civil
23 engineer, and outside the general area of engineering that
24 I practice in. We are instructed and licensed not to
25 practice outside of areas where we don't have education,

1 lightning insult falls outside the scope of
2 my assignment."

3 A. I did.

4 Q. You made that statement, correct?

5 A. I did. That pertained back to, again, the
6 research and testing I was asked to do last year, not being
7 asked to do that, and knowing at that time it was my
8 understanding Mr. Simmons had been retained to speak to the
9 testing that he had done.

10 Q. What do you mean by ignition propensity?

11 A. The way I read Mr. Simmons' report, excuse
12 me, his paper and his reports, is that he has indicated
13 that the radiant barrier itself can become ignited from
14 being insulted by lightning, whether that be because it's
15 energized, we have an electrical arcing event, or through
16 resistance heating actually igniting the radiant barrier.
17 He has produced the reports and articles that he has, and
18 was going to let that -- That's what I mean there by
19 ignition propensity.

20 Q. All right. So the ability of the radiant
21 barrier sheathing to be ignited was something that fell
22 outside the scope of your assignment?

23 A. Yes.

24 Q. What do you mean by material properties?

25 A. Whatever properties that it may be. I've

1 not undertaken a detailed study of the radiant barrier,
2 other than a visual inspection, to know that it looks to be
3 -- I understand from review of the file documentation
4 since, some of the details, but at this time it looked to
5 me to be an OSB type material with a glued on, so to speak,
6 foil lamina.

7 But in terms of other material properties
8 that may be of interest specifically to the component
9 makeup of aluminum, or any structural properties that may
10 have occurred, to be undertaken in investigation, that's
11 not something that I was asked to look into.

12 Q. What did you mean by susceptibility to
13 damage from lightning insult?

14 A. What I meant by that was the susceptibility
15 of the radiant barrier lamina to the damage that
16 Mr. Simmons has demonstrated in his articles to be
17 prominently caused by energization from lightning, the way
18 I understand it, the manifestation of that damage or what
19 can occur. I think in some of the photographs, or maybe
20 they were excerpts from videos, video frames, that they
21 show with regard to how that material performs in terms of
22 ejecting molten alumina, apparently, and electrical
23 sparking during the testing that they've done.

24 Q. So that fell outside the scope of your
25 assignment?

1 A. That is what the narrative indicates. I
2 don't know whether that was their conclusion or whether
3 that's their reporting of the fire marshal's conclusion.
4 They did not undertake, to my knowledge, a detailed
5 investigation of anything other than the activity that
6 could have occurred between 5:55 p.m. and 7:44 p.m. the
7 evening of the event.

8 Q. You mean when they were there?

9 A. Yes.

10 Q. And they were there as the fire was going
11 on, correct?

12 A. Yes.

13 Q. So they actually saw the area where the fire
14 originated; is that correct?

15 A. No, not necessarily.

16 Q. Well, they were present on the scene,
17 correct?

18 A. Yes. During the suppression.

19 Q. You said they might not necessarily see the
20 area where the fire originated; why would that be?

21 A. That area may have burned away before they
22 got there, the point of origin.

23 Q. All right. They were obviously there before
24 the two hundred forty square feet of the roof were removed
25 too, right?

1 A. Yes. The intent of my statement there was
2 to encompass all of the specific testing of that product
3 fell outside the scope of my assignment.

4 Q. And your understanding was that that had
5 been assigned to Mr. Simmons to do?

6 A. Yes. I was asked to produce a report
7 discussing the origin of the fire and the causation in
8 general, by Ms. MacLeod.

9 Q. Before I get to the body of your report,
10 there are some parts to the report that were enclosed as
11 exhibits to it that I want you to go ahead and identify for
12 us.

13 (DEFENDANT'S EXHIBIT NO. 32 MARKED)

14 Q. I'm showing you what's been marked as
15 Exhibit No. 32. Can you tell us what that is?

16 A. It is a copy of the Bunn Fire Department
17 report No. 11-0000216.

18 Q. All right. And this is the report that you
19 obtained by asking the Bunn Fire Department to provide it
20 to you; is that right?

21 A. Yes.

22 Q. And the Bunn Fire Department concluded, as
23 is indicated on the third page of this exhibit, that the
24 fire appeared to be caused by a lightning strike; is that
25 correct?

1 MS. MACLEOD: Objection to form.

2 A. I don't know how much of that square feet of
3 the roof was removed versus what burned away.

4 Q. But they were obviously there before that
5 section of the roof got removed?

6 MS. MACLEOD: Objection to form.

7 A. The two hundred forty square feet I
8 referenced before is not what was removed; that's what was
9 temporarily covered. They were before that two hundred
10 forty square feet of temporary roof covering was applied.

11 Q. Right. Let's come back to your report,
12 Mr. McGraw. Page three of the report, at the end of the
13 second paragraph under Background Information, you make the
14 statement:

15 "The smoke detectors were not monitored
16 off-premises, and Mr. Taylor did not recall
17 an audible alarm from the smoke detectors."
18 Do you see that?

19 A. I do see that.

20 Q. Do you attach any significance to that?

21 A. I do.

22 Q. What's that?

23 A. Well, smoke detectors monitored
24 off-premises, if they had been such, then we might be able
25 to establish a more specific point of time of activation

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1 and that might also change. There is a different
 2 notification timeline whether a system is monitored or not.
 3 It's a question that always commonly comes up; whether a
 4 smoke detection -- Are there smoke detectors present? Yes
 5 or no. Did they activate? Yes or no. Were they monitored
 6 off-site? In the course of normal investigation that's a
 7 question we try to cover.
 8 With regard to not hearing an audible alarm
 9 from the smoke detectors, when he arrived he reported smoke
 10 down to about head height on the first floor with a good
 11 smoke condition upstairs. And with the detectors being
 12 hard-wired to the system, their not activating says, in my
 13 mind at that point, with the smoke conditions present,
 14 something has de-energized that circuit and, potentially,
 15 caused them to have ceased activating, if they activated
 16 ever.
 17 Q. All right. Further on down in the last
 18 paragraph on this page you make the statement:
 19 He, referring to Mr. Taylor, "discovered
 20 many electrical and electronic devices
 21 suddenly inoperable or improperly
 22 functioning after the fire."
 23 Did you make that statement?
 24 A. Yes. That's what he told me.
 25 Q. Did you attach any significance to that?

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1 A. I did.
 2 Q. What was that?
 3 A. I attached a couple of things to that. He
 4 described, and I listed, the devices that he reported,
 5 numerous electronic devices, the water heater, and some
 6 telephone and computer equipment. I attached a
 7 significance to that, coupled with the lightning report
 8 confirmation that the house did sustain a lightning insult,
 9 that a strike did occur and that these multiple other areas
 10 or multiple other items, excuse me, multiple other items
 11 and appliances or products were affected by the fire and
 12 those items and appliances did not erupt in fire from that
 13 event.
 14 Q. The last sentence on page three says:
 15 "Mr. Taylor learned of multiple other
 16 lightning related fires in the area on the
 17 same night as the fire damaging his house."
 18 Is that correct?
 19 A. Yes. That stems from his report that the
 20 fire inspector told him there were five other --
 21 Q. Lightning fires that night?
 22 A. That's what he was told and that's what he
 23 conveyed to me.
 24 Q. But you didn't follow that up?
 25 A. I've not been asked to follow that up. I've

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1 been asked to investigate this particular case.
 2 Q. Apart from the specific assignment that you
 3 were given, did you think it would be advisable to go back
 4 and take a look at the five other lightning fires that
 5 occurred that night?
 6 A. I've not been asked to look at any other
 7 fire in this particular case than the one we have at hand.
 8 The details of those doesn't pertain to the evidence and
 9 the physical remains and the layout of this particular
 10 house. So this particular fire at the Taylor residence is
 11 the one that I've been asked to investigate, not other
 12 events that may provide extraneous information.
 13 Q. Would it be important for you to know or not
 14 know whether or not the other lightning-induced fires
 15 involved radiant barrier sheathing or not?
 16 A. No.
 17 Q. It would not?
 18 A. No. Because I have not been asked to look
 19 at those fires. I've been asked to look at this particular
 20 fire and look at the circumstances of this event, not other
 21 events that may have occurred that same time frame, or any
 22 other time frame for that matter.
 23 Q. Even in the same storm?
 24 A. I've been asked to look at the fire at the
 25 Taylor residence that occurred on August 29 of 2011, and

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1 I've based my opinions, my findings and conclusions, on the
 2 facts of the evidence of this particular case.
 3 Q. I know what you were asked to do.
 4 Did you ever tell the people from State Farm
 5 or their attorneys that you thought it might be important
 6 for you or someone else to take a look at the five other
 7 lightning-induced fires that night?
 8 A. No, I don't believe that I did. I believe I
 9 told them what Mr. Taylor had conveyed to me, and I told
 10 them how the particular details and the totality of the
 11 evidence in this particular case, at this particular
 12 structure, on this day, with this event, pertained to this
 13 analysis and investigation as to the origin and cause of
 14 the fire.
 15 Q. Apart from what you were assigned and asked
 16 to do, do you believe that it would be important to go back
 17 and take a look at those five other lightning-induced
 18 fires?
 19 MS. MACLEOD: Objection to form.
 20 A. I do not. If I believed that it would be
 21 important to look at any particular event, from any
 22 particular storm event, that would be all I'd be doing is
 23 looking at other potentials that occurred at or about the
 24 same time as any investigation I ever undertake, water
 25 damage, storm damage, structural damage, or otherwise.

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1 What's important is what I've been assigned
2 in this particular case and the facts of this case at hand,
3 and how the particular materials interact in this
4 particular structure and how they are configured here.
5 Q. Would it be important for you to know,
6 though, that there were other lightning-induced fires on
7 the evening of August 29 where radiant barrier sheathing
8 was not involved?
9 MS. MACLEOD: Objection to form.
10 A. No.
11 Q. That would not be important for you to know?
12 A. There are lightning-induced fires that can
13 occur at any time in any particular place; I've not been
14 asked to investigate those.
15 Q. Would it be important for you to know that
16 some of the homes that had lightning-induced fires on
17 August 29, in fact, had radiant barrier sheathing?
18 MS. MACLEOD: Objection to form.
19 A. No. I've been asked to look at this
20 particular case and analyze the facts and the physical
21 evidence of this particular site as it pertains to the fire
22 loss that occurred. I've not been asked to investigate the
23 other ones. And what may or may not occur at another
24 house, while it may be interesting it's not what, in fact,
25 occurred here and it's not comparative to this case.

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1 Q. So, knowledge as to whether or not radiant
2 barrier sheathing was involved in any other lightning
3 strike-induced fire in the Franklin County area on
4 August 29 would not be an important thing for you to look
5 at; is that correct?
6 MS. MACLEOD: Objection to form.
7 A. I do not believe so, for the reasons that
8 I've stated. That I've been asked to look at this
9 particular fire and make an assessment as to the origin and
10 cause of the fire with the facts at hand, with the
11 conditions presented, and the analysis was taken with that
12 in mind.
13 Q. On page four of your report, if you will
14 turn to that please. Under the Summary of Inspections in
15 the first paragraph at about the middle you make the
16 statement:
17 "Some burned debris, including roof framing
18 components had been removed and discarded
19 before my initial visit to the residence."
20 Did you make that statement?
21 A. I did.
22 Q. Apart from what you have already described
23 as what had been removed and discarded before your initial
24 visit on September 19, do you recall anything else now that
25 had been removed from the home?

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1 A. Can you restate that question, please?
2 Q. Do you recall anything else other than what
3 you've already testified to that was removed from the home?
4 A. No. None other than what I've already
5 testified to.
6 Q. In the second paragraph at the end of it you
7 make the statement:
8 "The grounding electrode conductor showed
9 discoloration accompanied by possible
10 artifacts of electrical arcing where it
11 passed through the bottom of the service
12 panel enclosure."
13 Do you see that?
14 A. Yes.
15 Q. What is the significance of that?
16 A. The grounding electrode conductor connects
17 the house grounding system, the branch circuit conductors
18 in that ground bus, to the grounding, ground rod, so it is
19 the path to ground for the whole house, for the whole
20 house's electrical system.
21 Q. Do you have a picture that shows this?
22 A. I do.
23 Q. Can you tell us what that one is?
24 A. Picture or photograph No. 4 on page nine of
25 my report is one of those.

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1 Q. Are there others?
2 A. There are.
3 Q. I'm sorry. What are they?
4 A. There are other pictures that I have that
5 are on the photographs that have been provided; they are
6 not part of the report.
7 Q. I thought you were looking for them.
8 A. No, sir. I'm sorry. There are other
9 photographs on the disk of photographs that I understand
10 have been provided that show that area.
11 Q. But they are not in your report?
12 A. No, sir.
13 Q. Does photograph No. 4 show the electrical
14 arcing that you've referred to in your report?
15 A. I have encircled the region there where that
16 appeared to have occurred.
17 Q. Tell me what it is about that region that
18 leads you to believe that electrical arcing occurred there.
19 A. In my inspection of that region there in the
20 field there was evidence of pitting on the wiring and/or
21 the housing of the subpanel there, electrical panel, and
22 that's what led me to that.
23 Q. Did you collect evidence from this area?
24 A. No.
25 Q. So this still exists at their house or it

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1 was in existence at least as of the time that you took this
2 photograph; is that correct?
3 A. It was there when I took the photograph;
4 I did not collect it.
5 Q. Why did you decide not to collect it?
6 A. It was not requested to be collected, and at
7 that point in time I felt that the photographs that I took
8 documented its condition and didn't collect it.
9 Q. Is it possible that the discoloration that
10 you've referred to there in photograph No. 4 could be due
11 to something other than electrical activity?
12 A. The discoloration there in photograph No. 4
13 is a darkened soot-like black, apparent discoloration.
14 While some of that discoloration may be, potentially, the
15 pitting and such I would not expect from anything other
16 than that being energized.
17 Q. But the discoloration could be due to
18 something like corrosion? Oxidation?
19 A. I did not see evidence of corrosion there.
20 Typically, the corrosion I see on copper material produces
21 a green copper oxide corrosion condition; that's not
22 present on this. It had some reddish discoloration
23 extending outward from the area of pitting as well as the
24 blackish, black type color discoloration that presented
25 with a soot-like coloration.

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1 Q. Is it possible, though, that it's due to
2 something other than electrical arcing and electrical
3 activity?
4 MS. MACLEOD: Objection to form.
5 Q. Do you recognize that, or not?
6 A. I have not analyzed what it could be due
7 from. I've provided you the analysis of what my assessment
8 was, based on the inspection of that that I performed.
9 Q. My question to you is whether or not it's
10 possible that it could be due to something other than
11 electrical activity?
12 MS. MACLEOD: Objection to form.
13 A. I've related to you what I think the
14 discoloration has been caused by.
15 Q. You still haven't answered my question.
16 A. Mr. Ellis, I don't know how else to answer
17 your question other than to tell you what I think it was
18 caused by.
19 Q. Is it possible that it could be due to
20 something else, sir?
21 MS. MACLEOD: Objection to form.
22 Q. Can you answer that question?
23 A. Based on my review of that, and my
24 inspection of it, and looking at that, that's my opinion as
25 to its development.

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1 Q. Can you not answer my question?
2 MS. MACLEOD: Objection.
3 Q. Are you certain that it's due to electrical
4 activity, or is it possible that it's due to something
5 else?
6 MS. MACLEOD: Objection to form.
7 A. Based on my review of the house in its
8 totality, and inspection of the systems, that, in my
9 opinion, to a reasonable degree of certainty, was the
10 result of that grounding electrode conductor becoming
11 energized.
12 Q. So you are certain?
13 A. Reasonably.
14 Q. You are familiar with what the NFPA 921 says
15 about possible, right? And possibility?
16 A. Yes, I believe so.
17 Q. Okay. Using and applying what you know,
18 NFPA 921 possibility, to this, is it possible that it's
19 something other than electrical activity that caused that?
20 MS. MACLEOD: Objection to form.
21 A. I'm offering you my opinion as to a
22 reasonable degree of certainty.
23 Q. That's not my question, though. I mean, I'm
24 entitled to ask you questions. You said you conducted this
25 investigation pursuant to NFPA 921.

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1 A. Yes.
2 Q. And you know that NFPA 921 deals with the
3 realm of possibility, don't you?
4 A. Which section are you referring to?
5 Q. Section 18.
6 A. That's a chapter. Which part of it?
7 Q. I don't have a specific part, but you're
8 familiar with that.
9 A. I'd like to look at the text to apply it to
10 the question.
11 Q. Do you know that it deals with the realm of
12 possibility?
13 A. There's a section that talks about
14 possibility.
15 Q. Using the NFPA 921 definition of possible
16 and possibility, is it possible that discoloration and the
17 pitting is due to something other than electrical activity?
18 MS. MACLEOD: Objection to form.
19 A. I don't think that NFPA 921 defines possible
20 and possibility.
21 Q. You don't think it defines it?
22 A. I don't think in its definition --
23 Q. You don't think it addresses and provides a
24 definition that would guide a fire investigator as to
25 what's possible and what's not; is that correct, or not?

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1 MS. MACLEOD: Objection to form.
2 A. I think you've asked more than one question
3 there. I don't think that possible and possibility are
4 specifically defined in its definitions list, off the top
5 of my head; if it is -- if's in there, it's in there. I
6 would like to look at a copy if you would refer me to the
7 section you'd like to look at.
8 Q. I don't have it with me. I'm not, you know,
9 the expert on fire investigation. You said you conducted
10 it in accordance with NFPA 921; that's why I asked the
11 question.
12 A. I said I follow the guiding principles of
13 NFPA 921 in the course of my investigations.
14 Q. Uh-huh. Is there more to your answer?
15 A. If you had a section, a specific section,
16 dealing with that, pertinent to that question, I would be
17 more than happy to review it so that I understand your
18 question in the context of the document to which you are
19 referring.
20 Q. All right. Page five of your report in
21 about the middle of the page you make the statement:
22 "Examination of the Louisiana Pacific
23 TechShield sheathing revealed multiple
24 positions of scorching and/or melting of the
25 radiant barrier foil surface."

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1 Do you see that?
2 A. I do.
3 Q. Are there photographs in your report that
4 depict that?
5 A. Yes.
6 Q. Can you tell us what they are?
7 A. I can. I would refer you to photographs 17,
8 18, 19, 22, 23, 24, 27 -- excuse me, not 27.
9 Q. Run those numbers by me again one more time.
10 A. Seventeen, 18, 19, 22, 23, 24. Those are
11 the ones that depict areas of that type of damage to the
12 radiant barrier sheathing.
13 Q. All right. Let's look at photo No. 17
14 first. What I'd like for you to do -- Do you have a pen
15 over there?
16 A. I do.
17 Q. Can you, on the copy that's been marked as a
18 deposition exhibit here of your report, circle what you
19 believe shows scorching and/or melting of the radiant
20 barrier foil surface?
21 A. The red arrows denote those regions as I
22 could see in field inspection and also in photographic
23 examination. This is a wide-out view of that portion of
24 the northern roof slope. So shall I circle each red arrow?
25 Q. You don't need to do that. I'm having

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1 trouble seeing it. Do you have any better photograph of
2 the specific areas that are depicted here, or not?
3 A. If you look at, for example, the right side,
4 the two red arrows on the right side, photograph 18 is a
5 close-up view of that region with the two red arrows there
6 indicating those same regions of the damage to the radiant
7 barrier sheathing.
8 Q. And the areas of scorching and/or melting of
9 the radiant barrier foil surface are the ones with the red
10 arrows on photograph 18; is that right?
11 A. Yes. I would clarify, back to photograph
12 17. Each of the red arrows indicates an artifact area as
13 is shown in close-up on photograph 18 or 19.
14 Q. Say that again. I'm sorry.
15 A. The red arrows in photograph 17 in the
16 wide-out view indicate damage to the radiant barrier
17 sheathing such as that shown in photograph 18. I picked
18 one to zoom in on for the purposes of the report.
19 Q. Okay. Other than what appears at these red
20 arrows, did you depict in any way evidence of radiant
21 barrier scorching and/or melting?
22 A. I'm not sure I understand your question.
23 Q. Other than what you have documented here
24 with the red arrows in photograph 17 and photograph 18,
25 have you depicted or documented in any way any other

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1 evidence of radiant barrier scorching or melting?
2 A. In the additional photographs that I listed
3 would be a portion of that documentation.
4 Q. Are they all one of these red arrows here?
5 A. No. I photographed those areas and also
6 made a sketch and denoted their approximate positions on my
7 sketch.
8 Q. Are there other areas other than the ones
9 that appear with the red arrows?
10 A. Yes, there are. Yes, sir, there are. If
11 you look at, for example, photographs 22, 23, and 24, those
12 areas are around the clothes dryer vent termination
13 penetration through the roof.
14 Q. All right. The area around the dryer vent,
15 22, 23, and 24. Any others?
16 A. None in my report. I had photographed --
17 I'd have to refer to my photographs in detail and my notes
18 to elicit other specific areas. I've indicated in the
19 photographs those areas which are visible in those images.
20 Q. And those are the ones that appear with red
21 arrows. So you've got six of them in photograph 17; is
22 that correct?
23 A. There were six areas that I indicated in
24 photograph 17.
25 Q. And two of those areas, of the six, are

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1 shown up close in photograph 18; is that correct?
2 A. Two of them are noted in paragraph 18, yes.
3 Q. And the others that you found are located in
4 the vicinity of the dryer vent that are depicted in
5 photographs 22, 23, and 24?
6 MS. MACLEOD: Objection to form.
7 A. We have some near the dryer vent depicted in
8 those three photographs. We also have one in that region
9 in photograph No. 19 depicted.
10 Q. Where is the area in photograph 19 located?
11 A. I believe that area is located in photograph
12 17, the second arrow from the left, I believe that is the
13 region that it is located. It could be the left most
14 arrow, it could be the second left most arrow; I don't
15 recall right now. I can look at my photographs and give
16 you that, if necessary.
17 Q. Just to be clear, then. Photograph 19
18 depicts an area that's one of the two red arrows in your
19 photograph 17; in other words, one of the six?
20 A. Yes, I believe so.
21 Q. And what photograph 18 in a close-up depicts
22 are two areas that appear around the chimney area in
23 photograph No. 17, correct?
24 A. Yes.
25 Q. So what's depicted in your report, really,

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1 is a total of six areas of scorching or melting of the
2 radiant barrier, plus some that appear around the dryer
3 vent that are shown in photographs 22, 23, and 24; is that
4 right?
5 A. That's what I depicted in my report with
6 representative photographs of those taken on site.
7 Q. And looking at the section that is depicted
8 in photograph No. 17, the ones that are reflected at the
9 red arrows are the only ones that you are aware of that
10 show scorching or melting of the radiant barrier foil
11 surface?
12 MS. MACLEOD: Objection to form.
13 A. Those are the ones I identified.
14 Q. Sir?
15 A. Those are the ones I identified.
16 Q. Right.
17 A. Quite conceivably, some of them existed at
18 the incipient stage of the fire and burned away.
19 Q. Photograph No. 18 shows a close-up of an
20 area where you say there was melting or scorching, correct?
21 A. Yes.
22 Q. This doesn't show any burning of the paper
23 substrate in it, does it?
24 A. I don't see any there.
25 Q. In any of the areas depicted by your

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1 photographs do you show any burning away or burning of the
2 paper substrate?
3 A. Photograph 19 appears to show some of that.
4 Q. Tell me, specifically, what in 19 shows
5 that.
6 A. Photograph 19, if we consider that artifact,
7 the largest portion of the artifact, to be somewhat
8 T-shaped, on the left-hand side there's some -- above it
9 there's a staple with the remains of the purple colored
10 Polyvent material present. Directly below that there is
11 some apparent scorching of the paper facing as well as at
12 the bottom of the stem of the "T" there appears to be some
13 apparent scorching of the paper facing and carrying over to
14 the aluminum lamina.
15 Q. Are you talking about the blackened areas
16 or something that looks a little off color?
17 A. The blackened area is consistent with soot
18 carbon, a product of combustion.
19 Q. And that in your opinion is something that
20 depicts the paper substrate burning?
21 MS. MACLEOD: Objection to form.
22 A. The way I've reported it, in my estimation,
23 analysis, and training, it appears to be an area where
24 there is some melting and scorching of that radiant barrier
25 product.

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1 Q. All right. Let's go to page five of your
2 report.
3 A. Did you say five?
4 Q. Right. Five. You make the statement there
5 under Analysis of Incident:
6 "Analysis of charred structural framing,
7 heat damage patterns, and my inspections of
8 the dwelling indicate the fire damaging the
9 structure originated in the attic along the
10 northern roof slope above the living room."
11 Is that right?
12 A. That's, yes, the general summary
13 introduction sentence.
14 Q. All right. Do you have a photograph which
15 depicts the area of origin that you determined?
16 A. I do. Photographs 10 and 12, as well as 13,
17 16, show portions of the area of origin. It's denote
18 specifically in photographs 10 and 12 as well as some
19 photographs in my supplemental report.
20 Q. All right. I'd like to try and hone in a
21 little bit more on what you determined to be the area of
22 origin of the fire. On page six of your report you say at
23 the top:
24 "The area of fire origin falls within the
25 10 to 12 square foot area just south of the

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1 living room, northern knee wall position
 2 between 19 and 21 feet west of the eastern
 3 living room wall."
 4 Is that correct?
 5 A. That's what I state.
 6 Q. And you further state:
 7 "Due to materials discarded, a more specific
 8 point of fire origin cannot be delineated."
 9 Is that correct?
 10 A. Yes.
 11 Q. Looking at the photos that you pointed out
 12 to us that show the area of fire origin, I think you
 13 started with photograph No. 10 on page 12; is that right?
 14 A. Yes.
 15 Q. Can you tell us whether or not -- And by the
 16 way, let's try to orient ourselves first with direction.
 17 Can you tell us which direction north would
 18 be, looking at this photograph, photograph No. 10?
 19 A. This photograph is looking upwards towards
 20 the ceiling, and northward. The front of the house faces
 21 south. So this photograph is looking northwards towards
 22 the rear living room wall ceiling juncture.
 23 Q. The direction, then, that the camera is
 24 faced is towards the north?
 25 A. Yes. Generally northward.

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1 Q. All right. Looking at your area of fire
 2 origin there, can you tell me whether or not the area of
 3 fire origin extends northward and down slope behind that
 4 partition wall that's depicted in the photograph?
 5 A. The area of origin there as I've shown it is
 6 the 19 to 21 feet measured from the wall, the five to six
 7 feet measured there from the northern living room wall.
 8 The area of origin may extend slightly down slope northward
 9 on top of that wall or right where that wall is. With the
 10 amount of material that was there, had been burned away,
 11 the best I can do is bracket it in that region.
 12 Q. If you were to extend the partition wall
 13 directly up, say, into the roofing, how far beneath where
 14 that line would exist does your area of origin go?
 15 A. It would not go more than a foot, a foot or
 16 less, depending on -- I don't know exactly where it was and
 17 I don't exactly know how the Polyvent channel was
 18 terminated there, but the roof channel terminated there
 19 along that wall plane, so to speak. But down slope of that
 20 wall plane there were no roof channels because it was an
 21 open attic space, not vaulted ceiling.
 22 Q. So if you were to take the roof partition
 23 directly up to the roof, you are saying that the vent
 24 channels did not exist below that down slope of it?
 25 A. They went to -- The wall is four inches

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1 wide. There's a two-by-four plus half-inch sheetrock on
 2 each side so, nominally, four inches wide. The vent
 3 channels are used to ventilate the vaulted ceiling space
 4 above the living room. They were not used to ventilate or
 5 they were not continued down slope above the master bedroom
 6 area.
 7 Q. So where that wall partition would have
 8 intersected the roof, the roof channels, the vent channels,
 9 do not go down slope?
 10 A. They may go down slope some. I don't know.
 11 It depends on if they were using short sections or long
 12 sections. They may just stick a whole section up there and
 13 it might extend eight inches past that, it might extend two
 14 inches, it might stop right there. I don't know with
 15 regard to that particular up plane of the wall where it
 16 would meet the roof, and this particular picture doesn't
 17 depict that and how much further it may go.
 18 Q. Is it your opinion that the area of fire
 19 origin would not extend down slope beyond where the vent
 20 channels were?
 21 A. The roof framing down slope beyond the roof
 22 channels was not as severely damaged as that which is
 23 within the area of origin that I've identified. So based
 24 on the analysis of the fire charring to the rafters, that
 25 brings me to this area of fire origin within which the

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1 point of fire origin falls.
 2 Q. How far down did the charring on the roof
 3 rafters go?
 4 A. The rafters were charred down slope, I don't
 5 recall specifically, about three feet or so, predominantly
 6 above the routing of plastic wrapped HVAC flexible
 7 ductwork.
 8 Q. Photograph 21, let's take a look at that.
 9 A. That's the area I'm referring to.
 10 Q. And that shows charring, does it not, on the
 11 rafters?
 12 A. It does.
 13 Q. Going down slope?
 14 A. Above the positions where the ductwork was
 15 routed, plastic wrapped flexible ductwork was routed, and
 16 that plastic wrapping has been consumed.
 17 Q. You can't see any vent channels on this,
 18 obviously, right?
 19 A. Not in that picture, no. It's evident in
 20 some pictures that I've reviewed that were taken at the
 21 time of construction how that was configured. It's also
 22 evident in some pictures taken elsewhere in the attic space
 23 looking back along that wall.
 24 Q. And is what appears on the right-hand side
 25 of photograph 21 the partition wall going up?

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1 A. It is.
2 Q. How far down slope from where that partition
3 wall intersects the rafters did that charring go?
4 A. As I estimated a minute before, it appears
5 -- I did not measure it specifically -- it appears three
6 feet or so. And looking above it, the temporary roof
7 sheathing can be seen, too, where it's applied above that
8 area, which is much less region.
9 Q. Are these charred rafters within your area
10 of origin?
11 A. No, sir.
12 Q. What caused the charring of these rafters
13 that are depicted in photograph 21?
14 A. As I mentioned before, I believe that when
15 the flexible ductwork covering, the plastic covering,
16 became involved, that it then spread the fire to this
17 region, in addition to some amount of fire spread will
18 spread down slope, much slower than upslope, but it can
19 spread down slope.
20 Q. I didn't make out what you said, though,
21 about -- Were you referring to the vent channels just then?
22 A. No, sir. I was referring to the ductwork
23 that you see in the bottom of the picture.
24 Q. Yes. Got that.
25 A. When it became involved that's what I

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1 believe caused this localized charring here.
2 Q. That ductwork caused the charring on these
3 rafters?
4 A. When it became involved I believe that some
5 of it affected the depth of the char here, yes.
6 Q. Is the ductwork that's depicted here in
7 photograph 21, was that always in the same position as it's
8 depicted here, or did it fall?
9 A. No, it was hanging.
10 Q. Where was it hanging?
11 A. Hanging from the rafters. There were some
12 nylon straps or some sort of, I believe nylon plastic
13 straps holding it up at the time of the fire.
14 Q. Are those the straps that appear on the
15 photograph? The black things that are hanging down?
16 A. There were two runs of ductwork through
17 there, so their black straps remains are hanging down.
18 Q. Looking at the straps on the far left
19 portion of photograph No. 21, do you believe those straps
20 would have held the ductwork?
21 A. At what time?
22 Q. Well, before the fire?
23 A. Before the fire, yes.
24 Q. Okay. And is it your opinion that what
25 caused the charring on those rafters here in photograph 21

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1 was the involvement of the ductwork in the fire that was
2 hanging from those straps depicted on photograph 21?
3 A. I believe that the involvement of the
4 ductwork during the fire influenced the charring here, as
5 well as fire spread down slope from the area of origin.
6 Q. How did the ductwork get involved in the
7 fire?
8 A. I don't know. I wasn't there when it became
9 involved. From looking at the totality of the information,
10 the plastic vent channels or other material that has burned
11 upslope from that and has fallen down into that region
12 could provide the ignition source for that ductwork.
13 MR. ELLIS: Why don't we take a quick break
14 and eat a sandwich.
15 (Pause in proceedings 1:16-1:45 p.m.)
16 Q. Mr. McGraw, if you would please, we are back
17 on your report, page six. In the second paragraph on page
18 six you make the statement:
19 "...the artifacts of electrical arcing along
20 the fire alarm circuit conductors represent
21 damage from fire-induced arcing, oftentimes
22 [sometimes] termed arcing through char."
23 Do you see that?
24 A. I see that sentence.
25 Q. You made that statement, sir?

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1 A. In my original report I did, yes, make that
2 statement based on my limited inspection of the wiring to
3 date, to that date. Since then, and after reviewing of
4 other data, having reviewed that and inspected those wires,
5 looking at them again, I have changed my opinion there.
6 Q. We will talk about the change in your
7 opinions. Let me ask, first of all, what is meant by
8 arcing through char?
9 A. Arcing through char being an electrical
10 discharge across a conductive or semi-conductive medium.
11 Materials as they burn, char, become carbonaceous and
12 slightly semi-conductive, and if you have an electrical
13 discharge, a luminous electrical discharge that produces
14 heat across that from a differing potential voltage, then
15 that would be arcing through char.
16 Oftentimes and as was believed to be the
17 case here, or actually is in the case here, the circuit
18 breaker was tripped. Oftentimes for the fire alarm
19 circuit, the circuit breaker was tripped, and oftentimes
20 the arcing through char is what may produce that tripping
21 of circuit breakers as the fire progresses.
22 Q. How did you believe the arcing took place in
23 this case? And I'm going back to your thinking as of
24 August 22 when you made this initial report and arrived at
25 the opinion that this was arcing through char.

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1 A. The data that I had when I produced the
2 initial report, in my analysis of the facts of the case and
3 the geometry of the roof, I had two areas of electrical
4 arcing artifacts along the fire alarm branch circuit, both
5 areas were upstream and outside of my area of origin, and
6 that was coupled with a tripped circuit breaker.
7 In my experience, the totality of that
8 combined, in my experience, is indicative of arcing through
9 char. That was based on simply a field examination of
10 wiring, analysis of photographs, and understanding of the
11 layout of the structure at that time.
12 Q. You did a field examination of the wiring?
13 A. I looked at it and identified potential
14 arcing sites and made certain measurements.
15 Q. Is that depicted in a photograph in your
16 initial report?
17 A. The wiring as I inspected it, yes.
18 Photographs 14 and 15 show wiring after having been
19 removed, 15 showing one of those artifacts of electrical
20 arcing damage.
21 Q. Can you tell me more specifically by looking
22 at photograph 15 what it is in that circled area that led
23 you to believe there was arcing through char?
24 A. The encircled area is the artifact left by
25 the arcing event on that wiring; electrical wire in the

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1 copper is melted. The arcing through char, initial arcing
2 through char opinion, wasn't determined based on any one
3 specific condition of the wiring, it wasn't based on any
4 one specific item. It was based on two areas of electrical
5 activity upstream and outside of my area of fire origin
6 along a circuit that had a breaker that had been tripped.
7 Coupling all that together, based on the
8 information I understood at the time, I believed that to be
9 fire-induced or arcing through char. When I say arcing
10 through char, I'm referring to the wiring becoming damaged
11 during the progression of the fire. It wasn't any one
12 particular thing you might see in this particular
13 photograph; it was my assessment of those facts together.
14 Q. Looking again within that red circle there,
15 what is the evidence that there was arcing?
16 A. Within the red circle there is resolidified
17 copper that had been molten along the upper conductor -- I
18 guess you would call it the upper conductor; it's kind of
19 hard to describe verbally -- there are two spots, the more
20 prominent one towards the right, the lesser prominent one
21 towards the left. Between those there was some material
22 that had been somewhat pitted or missing.
23 Q. If you would please use a pen and let's
24 circle each one of those areas and talk about them. Maybe
25 what you could do is circle them, draw a line out to the

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1 side and say "1" and then another one "2" and another one
2 "3" so we can identify specifically what you are talking
3 about.
4 A. Within the circle there are three anomalies
5 on the wire; two towards the upper portion, one downward.
6 Which one would you like me to start with?
7 Q. The one on the right first.
8 A. The upper one on the right?
9 Q. Yes.
10 A. We will call that No. 1. That is where
11 copper has resolidified there after the arcing event. It
12 just is, because of the configuration where it was, I guess
13 determined, and the material properties, why it is in the
14 manner, shape, and size it is.
15 Q. All right. Let's go on to the next one.
16 A. The left one, No. 2, again that's the
17 smaller region of resolidified copper. That's the region,
18 No. 1 and 2 is the region that was examined in September in
19 joint examination of the wiring with performed CT scan and
20 so forth. That is also evidence of melted resolidified
21 copper there.
22 The inspection at the time of the photograph
23 and issuance of this report, No. 3, I believe that to
24 possibly be another artifact. There is no artifact on that
25 wire; it must be some kind of debris that was on the wire

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1 there, the one that's furthest down.
2 Q. So that's not an artifact from arcing?
3 A. Evidently not. It's not present on the
4 wires as I've last looked at them after they have been
5 cleaned and following the joint inspection in September.
6 Q. And you now believe that to be some kind of
7 debris that was stuck to the wire?
8 A. I don't know what it is. It's not there
9 today.
10 Q. The rationale, though, for your initial
11 opinion that this was arcing through char, as I understand
12 it, was that there were two areas of electrical activity
13 that you say were outside the area of origin, and that
14 there was a breaker that had been tripped; is that correct?
15 A. Yes.
16 Q. Was there anything else that led you to the
17 arcing through char opinion in the initial report?
18 A. The reason for using that rationale was to,
19 in my mind, was for using the principle that's outlined in
20 NFPA 921 and other fire investigation texts of arc mapping,
21 using electrical arcing faults to identify certain aspects
22 and circumstances about the fire.
23 And with regard to fires that oftentimes
24 undergo exposure during -- excuse me, regarding circuits
25 that undergo exposure to fire during the progression of

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1 events with a trip breaker and multiple areas of electrical
2 activity on them, in my experience to that time, was most
3 commonly caused by fire-induced arcing or arcing through
4 char.
5 Q. And the conductor that we are talking about
6 was a fire alarm conductor; is that right?
7 A. That's along the fire alarm circuit, yes.
8 There were four conductors in that wire bundle.
9 Q. Going back to photo No. 12, you told us
10 before that there was a portion of the roof that had been
11 taken out and replaced by OSB. Are you able, by looking at
12 photograph No. 10 on page 12, to identify the approximate
13 area in which that portion of the roofing the radiant
14 barrier sheathing had been removed and replaced by the OSB?
15 A. In photograph No. 10 it is not clear from
16 that photograph -- I can estimate it, yes, in photograph
17 No. 10, what portion of the roof is covered by temporary
18 OSB. I believe photograph 12 shows it more clearly.
19 Q. Okay. Just to be clear, if you look at
20 photograph No. 12, would you take a pen and just mark the
21 outline of the area that's represented by --
22 A. So I'm going to mark photograph No. 12 on
23 the right-hand side, I'll mark the eastern bound; again,
24 this photograph is looking upwards and toward the north.
25 On the left-hand side, I'll mark the western bound.

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1 Q. All right.
2 A. That's approximately, by looking at the
3 joist spaces which were about sixteen inches on center,
4 approximately twelve feet wide I think we talked earlier.
5 Q. Can you tell how far to the north the OSB
6 would have extended?
7 A. Not from photograph 12.
8 Q. Is there another photograph that we can use
9 to show that?
10 A. Photograph No. 21 in my report does show a
11 portion of that area.
12 Q. I'm sorry. How does photograph 21 show
13 that?
14 A. In the top center of the photograph there is
15 a yellow arrow; above that arrow is darkened roof sheathing
16 still there, it's been charred. Just to the right of that
17 arrow there is a section of the undamaged OSB that's
18 visible. That's the extent of the OSB replacement down
19 that section. I may have other photographs collected that
20 are taken that may show it differently, from a different
21 vantage.
22 Q. So it goes as far down as the yellow arrow?
23 A. Not quite.
24 Q. Not quite to the yellow arrow?
25 A. (no audible response)

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1 Q. Not quite to the yellow arrow?
2 A. Not quite.
3 Q. All right. You say in your report that the
4 area of origin is in an area about ten to twelve square
5 feet; is that correct?
6 A. Yes. The point of origin within that region
7 of ten to twelve square feet.
8 Q. And looking at photograph No. 12, that would
9 be the rectangular area that's depicted in the red
10 crosshatching?
11 A. In photographs 10 and 12, I've attempted to
12 use the red hatched area to give an idea of where that
13 approximate area would be.
14 Q. And I think you told us that if you were
15 looking to the north, the area of origin would extend to
16 the north or down slope behind where the wall partition
17 goes up, correct?
18 A. I think what I said was that the greatest
19 area of damage is right there at or above the wall region;
20 where that specific point of origin is may be as far as
21 eight or twelve inches down slope north of that living room
22 wall plane, with the information that is left to look at.
23 Q. Thank you.
24 A. My review of Mr. Scardino's report puts the
25 area of origin in the same area.

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1 Q. All right. On page seven of your report at
2 the beginning of the third paragraph, full paragraph, you
3 say:
4 "Lightning energized the Louisiana Pacific
5 TechShield radiant barrier along the
6 northern roof slope and produced electrical
7 tracking in a path between the initially
8 struck woodstove chimney and the grounded
9 dryer exhaust roof termination."
10 Is that correct?
11 A. Yes.
12 Q. And what evidence of tracking did you find?
13 A. When I use tracking there I'm referring to
14 the scorched and melted sections of the radiant barrier
15 from east to west across the roof slope, some of which we
16 talked about before the recent break and some of those are
17 shown in photograph, denoted, I think it was 17 -- let me
18 confirm -- 17.
19 Q. So if we are looking at the red arrows
20 there, you are saying that the path would have been along
21 where these red arrows are pointing?
22 A. The red arrows denote the scorching and
23 melting of the radiant barrier produced by electrical
24 tracking across the surface of the northern roof slope.
25 Q. Is what I said correct, namely, that where

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1 your red arrows are pointing does that depict the path of
2 the electrical tracking?
3 A. The red arrows depict those artifacts along
4 that path that I was able to identify.
5 Q. Does the path go somewhere else other than
6 where the arrows are?
7 A. I don't know where the path exactly goes. I
8 can just tell you where the artifacts are that I was able
9 to identify.
10 Q. You can't tell us where the path is?
11 A. What I can tell you is that these were the
12 artifacts that I found and they began at the chimney and
13 went towards the dryer area, they weren't linear, it was in
14 an irregular fashion if you connected the dots, so to
15 speak. These that I have identified in photograph 17 are
16 those that were evident.
17 Q. I'm still not sure if I've got a clear
18 answer to my question, though.
19 If we were to look at where the red arrows
20 are pointing, are these on the path?
21 A. Yes, they are on the path. Once the radiant
22 barrier became energized, the entire radiant barrier is
23 energized, so these are the artifacts along that path that
24 was energized.
25 Q. Are you saying that the path was energized

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1 or the entirety of radiant barrier was energized, now?
2 A. What I'm saying is that the radiant barrier
3 foil, it's aluminum so it's essentially continuous on each
4 sheet, so many of these paths occurred at -- excuse me,
5 some of these artifacts occurred where joints in the
6 sheathing were and there may have been an electrical
7 discharge there that produced them. Others of them such as
8 that in photograph 18 occurred around the chimney where
9 there were nails that were present.
10 Q. Right. Maybe my question wasn't clear.
11 I'm trying to get at the electrical track,
12 the path that you referred to in your report, and at one
13 point you were telling us that the entirety of the radiant
14 barrier sheathing system was energized but we were talking
15 about an electrical path as well, so which is it?
16 MS. MACLEOD: Objection to form.
17 A. I guess, visually, these artifacts created a
18 path in my mind from the position of the chimney to the
19 dryer vent. Electrically -- With my knowledge and
20 experience of electrical engineering and electricity, once
21 that sheet of foil becomes energized, it's energized, it's
22 a four-by-eight sheet, that's the size of the sheathing,
23 and then these artifacts denote localized scorching,
24 melting along what I feel is the path to ground. How it
25 exactly got there, I don't know, but it's the path to

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1 ground from the chimney, the artifacts along the path to
2 ground from the chimney to the dryer vent termination.
3 Q. And that path is --
4 A. Some of those artifacts burned away in the
5 course of the fire so I don't know, I'm not trying to get
6 around your question, but I don't know exactly how it went
7 through those areas that were burned away.
8 Q. But it's your belief that the red arrows
9 mark where the path to ground went?
10 MS. MACLEOD: Objection to form.
11 A. The red arrows denote the artifacts of
12 scorching and arcing which I believe to be indicative of
13 electrical tracking along the path to ground.
14 Q. All right. Typically, do you find studying
15 or investigating aluminum after a fire provides much real
16 information in light of the low melting point of aluminum?
17 A. Yes.
18 Q. And why is that?
19 A. Well, there's a number of different degrees
20 of insult that a fire can impinge upon any metal. So
21 studying the aluminum after the fire may allow some
22 analysis of relative temperatures that it may have
23 achieved. In this particular case, studying
24 the aluminum and finding that we have melted sections away
25 from the area where we had combustion supports the energy

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1 from the lightning causing that damage.
2 Q. Is the only evidence of something that
3 actually burned along your path to ground what appears in
4 photograph 19?
5 A. No.
6 Q. What else?
7 A. That's the only photograph that's included
8 in my report here. It's not easy to discern it, but in
9 photograph 12 on the bottom left corner, the rafter channel
10 to the left of the recessed fixture, there is a section of
11 the Polyvent there that is scorched as well.
12 Q. I'm sorry. Where is that?
13 A. On the bottom left corner above the wall
14 there is a section of the purple Polyvent that is scorched
15 as well. It's not really evident in the picture here, it's
16 evident upon review of the digital photographs.
17 Q. Can you use your pen and mark what you're
18 talking about?
19 A. Sure. Circle?
20 Q. Just put an "A" next to that.
21 A. An "A." (complied)
22 Q. And you say that's evidence of the vent
23 burning?
24 A. I think your question was is there evidence
25 of scorching elsewhere along the roof?

1 Q. Yes.
 2 A. And that vent there had evidence of soot on
 3 it, and melting.
 4 Q. The vent did?
 5 A. The remains under the staple.
 6 Q. The vent had evidence of burning. What
 7 about the sheathing?
 8 A. I don't recall. I would have to look at the
 9 rest of my pictures. I believe there were some other
 10 areas. I recall one picture, in particular, that the
 11 photograph depicts a rafter adjoining the radiant barrier
 12 and there appears to be some amount of black soot coming
 13 out from where those two meet. I recall that in my
 14 pictures. Other ones, I would have to look at my pictures,
 15 individually, to identify specifics.
 16 Q. But what you marked as "A" on photograph
 17 No. 12 doesn't show burning of the radiant barrier
 18 sheathing; it, instead, shows burning on the vent; is that
 19 correct?
 20 MS. MACLEOD: Objection to form.
 21 A. I believe there was some scorching of the
 22 radiant barrier there. I'd have to, again, review the
 23 photograph to give you the details.
 24 Q. Your photograph is not in the report,
 25 though, is it?

1 available combustibles that were within the area of origin?
 2 A. I have a general knowledge of various
 3 available, I mean, ignition temperatures of certain
 4 materials, and have also imparted some review of
 5 Mr. Simmons' work towards some of those other materials as
 6 well.
 7 Q. In your opinion would this fire have
 8 occurred if lightning had not struck the Taylor house?
 9 MS. MACLEOD: Objection to form.
 10 A. The energy necessary for this fire to occur
 11 was imparted by lightning.
 12 Q. So it wouldn't have occurred, would it,
 13 unless lightning had struck the house?
 14 A. I don't believe so, no.
 15 Q. If this structure had not had radiant
 16 barrier installed in it and had been struck by lightning
 17 somewhere, could a fire have occurred?
 18 MS. MACLEOD: Objection to form.
 19 A. A fire could conceivably occur if the house
 20 did not have radiant barrier. The facts of the
 21 circumstances are that we did have the radiant barrier in
 22 this house and we did have other building components that
 23 were subjected to insult from the lightning energy, and the
 24 fire occurred along the energized radiant barrier.
 25 Q. My question is pretty simple, though. It

1 A. No. I understand it's been provided.
 2 Q. Your report on page seven says:
 3 "Sufficient energy was imparted into or onto
 4 available combustibles within the area of
 5 fire origin due to the lightning-induced
 6 energy/heating that flaming combustion
 7 developed."
 8 Is that right?
 9 A. That's what I say; yes, sir.
 10 Q. What were the available combustibles within
 11 the area of fire origin?
 12 A. In that area of fire origin we have the
 13 roof, the radiant barrier roof sheathing, there are roof
 14 rafters, the purple-colored Polyvent ventilation channels,
 15 and fiberglass batt insulation -- fiberglass of course not
 16 being really combustible. There were electrical wiring
 17 conductors run through that region as well.
 18 Q. Can you tell me what energy would be
 19 necessary in order to cause available combustibles within
 20 the area of fire origin to burst into flame?
 21 A. Those materials would have to be subjected
 22 to temperatures above their ignition temperature for
 23 flaming combustion to occur.
 24 Q. Is that something that you looked at? What
 25 the ignition temperature was of the various types of

1 was, that if the structure had not had radiant barrier in
 2 it and it had been struck by lightning, could a fire have
 3 occurred?
 4 MS. MACLEOD: Objection to form.
 5 A. I haven't studied this particular house
 6 under various circumstances or lightning scenarios, rather,
 7 to determine if a fire could have occurred or not. What
 8 I've been asked to investigate is the particular facts of
 9 this case and the developed fire that occurred on the
 10 29th of August 2011.
 11 Q. You see in the last sentence of this report:
 12 "I understand others to be undertaking
 13 analysis of the Louisiana Pacific TechShield
 14 radiant barrier as it pertains to specific
 15 fire ignition mechanisms and/or other
 16 material performance aspects."
 17 Is that correct?
 18 A. That is.
 19 Q. And are the others that were undertaking the
 20 analysis of the LP TechShield as it pertains to specific
 21 fire ignition mechanisms and/or other material performance
 22 aspects, Mr. Simmons?
 23 A. That is to whom I was referring.
 24 Q. Have you investigated lightning fires where
 25 radiant barrier sheathing was not present?

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1 A. I have.
 2 Q. How many of those have you investigated?
 3 A. Dozens. I don't have a specific number.
 4 Q. On page 24 of your report you show photos
 5 there of the chimney cap; is that correct?
 6 A. I do.
 7 Q. And what kind of material is the chimney cap
 8 made of?
 9 A. My review of the manufacturer's information
 10 is it's stainless steel.
 11 Q. And what you are showing at the arrows there
 12 are points of melting and pitting caused by the lightning
 13 strike; is that correct?
 14 A. Yes.
 15 Q. Can you tell us what kind of energy was
 16 needed to have caused that kind of melting and pitting on
 17 the chimney cap?
 18 A. I can't tell you what kind of energy; I know
 19 the melting temperature of stainless steel is only 2,600
 20 degrees.
 21 Q. So it would have had to have been somewhere
 22 in excess of 2,600 degrees?
 23 A. Roughly, yes. That was the only area of the
 24 chimney cap that showed any evidence of melting was the
 25 perimeter at the top part.

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1 Q. You recently prepared a supplemental and
 2 amended report; is that right?
 3 A. Yes.
 4 Q. Is that dated November 7, 2012?
 5 A. No, sir.
 6 (DEFENDANT'S EXHIBIT NO. 33 MARKED)
 7 Q. I've handed you what's been marked as
 8 Exhibit 33. Is the covering letter to Exhibit No. 33 dated
 9 November 7, 2012 from Ms. MacLeod?
 10 A. Yes.
 11 Q. And is the date on your report which appears
 12 in Exhibit No. 33, November 6, 2012?
 13 A. Yes.
 14 Q. In the first paragraph of your report you
 15 say:
 16 "The purpose of this supplement is to
 17 correlate my field observations of 2011 with
 18 data collected during recent joint
 19 inspection occurring after issuing my
 20 original report."
 21 Is that right?
 22 A. That is what it says. I meant to be more
 23 clear, I guess. The joint inspection of the wiring that
 24 occurred in Denton, Texas, during September was the joint
 25 inspection referred to there.

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1 Q. You weren't referring then to October 21?
 2 A. No, sir. No, sir. I apologize for that.
 3 Q. What was the date of the joint inspection in
 4 Texas of the wiring?
 5 A. I think it was the 26th or 27th of
 6 September, I'm not sure; the dates are muddled in my head.
 7 I have the 27th indicated in my report, so September 27,
 8 2012.
 9 Q. Were you a part of the joint inspection?
 10 A. No, sir.
 11 Q. So you didn't go to Texas to actually take a
 12 look at the testing of the wires?
 13 A. No, sir.
 14 Q. How did you learn about the results of the
 15 testing?
 16 A. I was provided copies of photographs,
 17 micrographs, x-rays, scanning electron microscopy data, and
 18 CT scans. From that, I also learned from review of the
 19 report issued by Mark Goodson of Goodson Engineering that
 20 that inspection occurred. As we were trying to coordinate
 21 that inspection here for a period of time in Raleigh, I
 22 knew that it was to be undertaken, so I was aware that it
 23 was ongoing.
 24 Q. Were you aware of it through Ms. MacLeod?
 25 A. Yes.

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1 Q. Were you also aware of it through
 2 Mr. Simmons?
 3 A. I don't believe I had spoken to Mr. Simmons
 4 about it. Ms. MacLeod had asked me to help do some
 5 coordination here in Raleigh for it, and then ultimately
 6 she asked me to meet with Mr. Parker to transfer custody of
 7 some of the evidence so it could be sent to the facility
 8 for the inspection.
 9 Q. Did you talk with Mr. Simmons about the
 10 results of the testing that was conducted in Texas?
 11 A. I don't believe he and I have spoken about
 12 it.
 13 Q. At all, since testing was conducted?
 14 A. No.
 15 Q. In the last sentence of that first paragraph
 16 of your report you say:
 17 "...this report amends my opinion regarding
 18 the artifacts of electrical activity present
 19 along the fire alarm branch circuit wiring."
 20 Is that right?
 21 A. That is correct.
 22 Q. Can you tell me what specific changes you
 23 made to your earlier opinion?
 24 A. Yes, sir. I no longer hold to those
 25 artifacts being the result of arcing through char or

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1 fire-induced arcing. The artifacts present are on the
2 grounding wire conductor only. Electrical arcing through
3 char would be anticipated on a branch circuit to be between
4 the grounding conductor and the energized conductor or the
5 energized conductor and the grounded conductor. We don't
6 have mating surfaces; it's just along the one conductor.
7 So, in light of the new data and review of the new relevant
8 data, I amended my original opinion.
9 Q. You say you didn't talk with Mr. Simmons
10 about this; is that correct?
11 A. That's correct.
12 Q. Who did you talk with about this?
13 A. I reviewed Mr. Goodson's report, I reviewed
14 the data that was produced from it, and I had conversations
15 with Ms. MacLeod; she attended the inspection in Denton.
16 I also inspected the wiring before issuing this report.
17 Q. When did you inspect the wiring?
18 A. October 22, this year, 2012.
19 Q. Was that after the wiring came back into
20 your possession?
21 A. It was.
22 Q. And that was the day after -- no, I'm sorry,
23 we're talking about 2012. Was there anything that prompted
24 your physical inspection of the wiring on October 22?
25 A. In reviewing my documentation in preparation

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1 for anticipated deposition and conversations with Ms.
2 MacLeod, and reviewing my report, I believe there was more
3 than one artifact -- couple things. I believe there was
4 more than one artifact along that branch circuit conductor
5 and so I wanted to confirm that because I saw two in the
6 field. Evidently, one was sectioned out on the 27th of
7 September for CT scan x-ray, and one was not.
8 In addition, in reviewing my photographs of
9 my original report, photograph No. 20, excuse me, 15,
10 photograph 15, where I've circled those artifacts, I
11 believe there was artifacts on multiple conductors based on
12 my field inspection and review of photographs.
13 After consulting with Ms. MacLeod, I
14 inquired whether I would be able to look at it to assess
15 whether my original observations were the same or not.
16 Q. You said you found two artifacts; is that
17 right? On the conductor? In fact, I think you said that
18 in your amended report on page two.
19 A. That's correct. There are two artifacts of
20 electrical arcing along the fire alarm branch circuit
21 conductor. On photograph No. 15 we've circled two portions
22 of one artifact.
23 Q. All right.
24 A. The second area of artifact doesn't show up
25 very well in my initial report. The supplemental report

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1 identifies that area as well in more detail.
2 Q. Just to be clear, let's go to page two of
3 your report. You say:
4 "...I noted two areas on those conductors
5 displaying conditions consistent with
6 electrical arcing activity."
7 MS. MACLEOD: Just so we are clear for the
8 record, right now you are talking about the amended and
9 supplemental report, not the original report?
10 MR. ELLIS: Right. We are on Exhibit
11 No. 33, on page two.
12 A. Second full paragraph?
13 Q. Yes. You say:
14 "...I noted two areas on those conductors
15 displaying conditions consistent with
16 electrical arcing activity."
17 Is that right?
18 A. Yes.
19 Q. Those two conditions are not the areas that
20 you marked on photograph 15 in the original report; there's
21 only one there. Is that right?
22 A. That is correct. In Photograph 15 there's
23 only one artifact; it's got two bulges in it with some
24 material loss between them. That section in photograph 15
25 of my original report is the section of wiring that was

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1 sectioned out and cut out and put into the CT machine in
2 Denton, Texas on the 27th of September 2012.
3 Q. I'm sorry. So what's in photograph 15 there
4 was sectioned out and examined in Texas?
5 A. That's my understanding, yes.
6 Q. All right. Now you say there's another area
7 that shows an artifact of electrical arcing on that fire
8 alarm branch circuit; is that right?
9 A. Yes.
10 Q. Is that depicted in a photograph somewhere?
11 A. In my supplemental report, yes.
12 Q. Let's go to that. Where is it shown?
13 A. It's shown in multiple photographs in my
14 supplemental report. I can go through every single one of
15 them, and that's fine; if you would rather me start with
16 the close-up views of it, that's fine as well. Tell me
17 what you would rather me address first.
18 Q. Yes, I need the numbers of all the
19 photographs, so you can do them in order if you like. That
20 might be the easiest way.
21 A. In my supplemental report, the two areas of
22 electrical arcing along the fire alarm branch circuit
23 conductor are denoted "A" and "B," "A" being at the
24 uppermost near the ridge, "B" being the section that is
25 further down slope and is also the section that was

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1 depicted in photograph 15 of my original report that I
2 denoted as "B" is that that was sectioned out and examined
3 in Denton, Texas. So throughout the photographs, "A" and
4 "B" designations in my supplemental report identify those
5 areas.
6 Q. You're talking about "B" being the one that
7 appears in photograph 15 of the original report and "A"
8 being the one that doesn't appear in a photograph on the
9 original report?
10 A. That's correct.
11 Q. "B" was sectioned out and examined in
12 Denton, Texas, "A" was not.
13 A. That's correct.
14 Q. And "A" appears -- Why don't we just go
15 through here and capture all the photographs where you are
16 showing the part of "A."
17 A. It should be shown in photographs 1, 2, 3,
18 5, 6, 10, 13, 14, 15, 16, 17, 18. Those are the ones that
19 show either "A" or "B."
20 Q. And you're now opining that with respect to
21 the arcing at both locations "A" and "B" as they appear in
22 the photos in your supplemental report, that those areas of
23 electrical arcing were due not to arc through char; is that
24 correct?
25 A. There was not arcing amongst the conductors

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1 in the bundle from fire progression, no.
2 Q. Is the answer to my question that it's not
3 arc through char?
4 A. Not necessarily.
5 MS. MACLEOD: Objection to form.
6 A. Not necessarily. My opinion is it's not
7 fire-induced electrical arcing during progression of the
8 event.
9 Q. All right. Then how did those artifacts
10 appear?
11 A. Well, the artifacts that I have were the
12 melted and resolidified copper along the conductors.
13 Q. What caused them?
14 A. The physical condition of the wiring
15 indicates to me that it was an electrical arc, a high
16 temperature luminous discharge from a differing potential
17 voltage between that wiring and something that was nearby,
18 and likely from the radiant barrier becoming energized from
19 the lightning.
20 Q. You're saying that somehow there was an arc
21 from the radiant barrier sheathing onto the wiring to
22 produce those artifacts?
23 A. Yes.
24 Q. And what is the evidence of that?
25 A. Well, the evidence of that is that we have a

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1 lightning strike, evidence of lightning stroke, confirmed
2 lightning activity in the area, confirmation that the
3 radiant barrier became energized, and the damage to that
4 wiring is consistent with that caused by electricity.
5 There is no other electricity there other than the
6 lightning-induced electricity along those wires because
7 there is no mating surface on the other wires for the
8 energy to have been imparted to or from.
9 Q. If there was an arc from the radiant barrier
10 sheathing to these wires would there be some evidence of
11 that in these artifacts?
12 MS. MACLEOD: Objection to form.
13 A. I don't know.
14 Q. Would you expect to see aluminum?
15 MS. MACLEOD: Objection to form.
16 A. I'm not a metallurgist. I know that the
17 wiring is covered by insulation, and how that insulation
18 interplays with providing a separation between the radiant
19 barrier and the copper wiring, you would have to ask
20 somebody that has a metallurgical background to give the
21 details there.
22 Q. But you are the one who made the opinion
23 that it jumped from the radiant barrier sheathing onto the
24 wire. Now you're telling me I've got to go talk to a
25 metallurgist about it?

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1 MS. MACLEOD: Objection to form.
2 A. I'm telling you based on my education,
3 training, and experience that's my opinion as to how it
4 likely occurred.
5 Q. And you wouldn't have expected that there
6 would be any aluminum on the conductor if it had arced from
7 the radiant barrier sheathing?
8 MS. MACLEOD: Objection to form.
9 A. I did not say whether I would or would not
10 expect aluminum to be on the conductor. What I told you
11 was that the cable has insulation around it, the grounding
12 wire has a paper-like insulation around it, and when the
13 electrical arcing event occurs how that material from
14 either surface becomes deposited and interacts with any
15 barriers between the potential voltage sources, I don't
16 know how that occurs.
17 Q. You don't know? You don't know whether
18 aluminum ought to be expected, had there been an arcing
19 between the radiant barrier sheathing and the conductor?
20 MS. MACLEOD: Objection to form.
21 A. I don't know whether it's to be expected or
22 not, evidently neither does Mr. Goodson because he's opined
23 that these artifacts are from the lightning event as well.
24 My review of the SEM scanning showed no aluminum there on
25 that wire. Again, I'm not a metallurgist; that question

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1 may be more directed towards them in terms of material
 2 properties.
 3 Q. Your examination showed no aluminum?
 4 A. I didn't examine it for aluminum.
 5 Q. I thought you just said that when you looked
 6 at it you didn't find any?
 7 A. I said my review of the SEM scans that were
 8 conducted on the 27th of September, that's my
 9 interpretation of that data.
 10 Q. That there was no aluminum there?
 11 A. I did not see any in the scan of that. That
 12 doesn't determine -- The data from the scan doesn't
 13 determine whether there should or shouldn't be any aluminum
 14 there; that has to do with how the materials interact.
 15 Q. Did Ms. MacLeod ever suggest to you in any
 16 conversations with her before you made your amended and
 17 supplemental report that you ought to reconsider whether or
 18 not the arcing that occurred was arcing through char or
 19 arcing through electrical activity?
 20 A. I don't think she ever suggested that that
 21 be reconsidered. I think that -- When I was told that
 22 there was only electrical activity on the grounding
 23 conductor, then, myself, under self-review of my report,
 24 wanted to understand the artifacts that I believed I saw in
 25 the field versus what they saw on the 27th of September

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1 examination, I'm the one the prompted the review of that,
 2 that ultimately led to the amendment of my report.
 3 Q. Just to be clear. No one suggested to you
 4 that you ought to consider changing your report so that
 5 where you had opined earlier that there was arcing through
 6 char, it should now be arcing through electrical activity?
 7 A. I reviewed the new relevant information,
 8 including Mr. Goodson's and Mr. Scardino's report,
 9 Mr. Simmons' reports, and my review of the data from the
 10 27th of September, and determined that supplementing and
 11 amending of my report was appropriate.
 12 Q. That doesn't answer my question, and I will
 13 ask it again until you answer it, and that is, are you
 14 telling us that no one suggested to you that you should
 15 change your opinion that this was arcing through char to
 16 arcing through electrical activity?
 17 A. I don't believe so, no.
 18 Q. I don't believe so?
 19 A. The conversation -- Ms. MacLeod and I
 20 discussed the situation. I don't recall her suggesting
 21 that I needed to change my report. She may have, when I
 22 told her that that may change my opinion, she may have said
 23 that that may require an amendment of my report rather than
 24 a supplement. I don't recall exactly how those
 25 conversations went. I specifically recall coming to the

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1 conclusion during my inspection that I needed to properly
 2 address the situation of new information that had come
 3 about.
 4 Q. Have you seen Mr. Simmons' amended
 5 supplemental report?
 6 A. I have reviewed it.
 7 Q. When did you review it?
 8 A. Last night. I received it on Thanksgiving.
 9 Q. Did you know in advance of making your own
 10 amended and supplemental report that Mr. Simmons was going
 11 to change his opinion about arcing through char as well?
 12 A. I think that when Ms. MacLeod discussed with
 13 me the findings of the September 27 inspection of the
 14 electrical activity only on the grounding conductor, she
 15 may have mentioned that Mr. Simmons may have to be revising
 16 or amending his report at that time, too.
 17 Q. And that's before you said you would revise
 18 yours, right?
 19 A. It was probably before; yes, sir. I
 20 undertook a review of the information and determined that I
 21 needed to make a revision.
 22 Q. But you determined that you were going to
 23 make that revision after Ms. MacLeod told you that
 24 Mr. Simmons would probably have to change his report as
 25 well, right?

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1 A. I remember discussing with Ms. MacLeod the
 2 artifacts there that I've circled in photographed 15, and
 3 my analysis, initial analysis, of the fire alarm circuit,
 4 the trip breaker, the multiple arcing artifacts outside of
 5 my area of origin. I don't think I had determined at that
 6 time that I was to amend my report. I approached it from
 7 the standpoint of this is what I recalled about the data, I
 8 would like to review it again. Upon review of that is when
 9 I determined I needed to amend my report.
 10 Q. But you heard Ms. MacLeod say, first, that
 11 based upon the data that had been presented, Mr. Simmons
 12 was going to change his report to reflect that this was not
 13 arcing through char, and then you went through your
 14 analysis and changed your report; is that right?
 15 A. I don't recall the exact timeline and
 16 sequence of that, sir.
 17 Q. You don't recall now?
 18 A. No, I don't recall the sequence. I believe
 19 that I was told he was going to issue an amended report;
 20 I don't believe I was told all of the nuances of what he
 21 was going to be amending. But I did learn before issuing
 22 my report that he would be issuing an amended report as
 23 well.
 24 Q. And you knew that the amendment that
 25 Mr. Simmons was going to make was that this was no longer

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1 arcing through char, it was arcing through electrical
2 activity, right?
3 A. I knew that there was going to be an
4 amendment regarding the arcing through char opinion. I was
5 not provided with the wording or exact identification of
6 what other supplements or amendments he might make.
7 Q. And then you went and did your own analysis
8 and you decided to amend your report as well, correct?
9 A. I don't recall the sequence of when I found
10 out he was going to write an amended report versus when I
11 exactly determined I was going to need to write one.
12 Q. The amended and supplemental report which
13 you put together, dated November 6, 2012, doesn't change
14 any of the opinions that you reached in the earlier report
15 about fire causation; is that correct?
16 A. That's correct.
17 Q. And once again, the scope of what you're
18 opining to hasn't changed either. In other words, you are
19 not dealing with the fields of propensity to create a fire
20 and fire causation from the first report?
21 MS. MACLEOD: Objection to form.
22 A. The supplemental report doesn't expand or
23 change the scope of my investigation or assignment. It
24 does present in a factual manner the geometry of those
25 wiring artifacts collected within the attic space.

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1 Q. When you say it changed the geometry, what
2 do you mean?
3 A. I didn't say changed the geometry; I said it
4 presents the geometry of the artifacts collected in the
5 attic space.
6 What I said before that was, my supplemental
7 report doesn't change the scope of what my opinions about
8 origin and cause were, as in my initial report, with regard
9 to all except for the arcing through char.
10 Q. You just referred to geometry. Can you put
11 that in some sort of lay language?
12 A. Yes. So what I looked at with regard to the
13 wiring for the supplemental report was to establish where
14 those artifacts of arcing were, dimensionally and
15 physically, with respect to the area of fire origin.
16 Q. I think I understand. Looking at your
17 photograph No. 2 in your supplemental report, we still have
18 a ten by twelve area of origin; is that correct?
19 A. Yes. Based on everything that I reviewed,
20 that's the area of origin I'm able to establish, with the
21 point of fire origin therein.
22 Q. Could the area of origin be greater than
23 that ten by twelve square foot area?
24 A. I don't believe so, based on all the
25 information that I've reviewed.

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1 Q. Could it be less than the ten by twelve
2 square foot area?
3 A. I can't discern it to any smaller degree
4 than what I've been able to identify in my reports.
5 Q. Is there any part of your supplemental
6 report, Exhibit No. 33, which is a correction of what you
7 said in your original report?
8 A. I guess the correction would be the amending
9 my opinion that the electrical activity along this fire
10 alarm branch circuit was not arcing through char from
11 fire-induced exposure but rather electrical activity.
12 Q. The rest of your report and the part of it
13 that has to do with geometry, namely, the placement of the
14 "A" and "B" segments of the fire alarm conductor is new; is
15 that right?
16 A. It is new, as is the last photograph which
17 was provided by the homeowner of the roof area during
18 construction. That's the portion that supplements my
19 original report.
20 Q. Tell me about the photograph you're talking
21 about now that the homeowner provided.
22 A. No. 21.
23 Q. What about the photograph that follows
24 that's not numbered, where did that come from? I've got a
25 picture of a wire.

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1 A. I have no idea.
2 Q. Do you know what that depicts?
3 A. That photograph appears to be a larger image
4 of my photograph No. 16 in my supplemental report. I don't
5 recall providing that with my supplemental report, but it
6 may be one that I provided to Ms. MacLeod during deposition
7 preparation.
8 Q. So you think the photograph that follows
9 photograph No. 21 in this exhibit is another photograph of
10 what appears in photograph 16 of your supplemental report?
11 A. Yes. It appears to be photograph 16 without
12 the annotations, printed in an eight-and-a-half-by-eleven
13 size, which I may have printed and provided her during one
14 of our meetings.
15 Q. Let's go to photograph 21.
16 A. I'm ready.
17 Q. This is a view looking upward at the
18 northern roof slope above the living room in an image
19 captured during construction and provided by the homeowner;
20 is that right?
21 A. That's what I understand, yes.
22 Q. Are you able to discern on photograph 21 of
23 your supplemental report where the area of origin that you
24 determined is located?
25 A. Yes.

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1 Q. Can you take a pen and mark that for me?
2 A. How would you like it marked?
3 Q. Mark it in a rectangle and then in a line
4 from it let's put a "C."
5 A. (complied)
6 Q. Can I see that please?
7 A. (complied)
8 Q. What you've shown here in this rectangle,
9 which you've marked as "C" on photograph 21, shows the area
10 of origin extending further to the north or down slope than
11 where the partition wall would intersect the roof; is that
12 right?
13 A. I'm not sure I intended to -- I think I
14 intended to -- I don't know how the geometry is here. I
15 intended for it to be right at that intersection there
16 where that wall is, maybe the back side of it. As you see
17 from this photograph, the Polyvent channels do not extend
18 past that wall plane, and I'm not intending to represent
19 that rectangle as exactly the area I've been able to
20 represent on others without further study of the
21 photograph.
22 Q. But it was your opinion earlier that the
23 area of fire origin actually did extend northward and down
24 slope from where the wall partition would intersect roof?
25 MS. MACLEOD: Objection to form.

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1 A. I believe I said just from the living room
2 plane of that wall, which is four inches thick, from that
3 living room plane I think I said as much as a foot
4 northward. That picture with the roof slope and the angle
5 of the camera, it's hard to tell exactly what your
6 dimensions are.
7 Q. And you also just observed for us that these
8 vents, at least in the area of origin where you've marked
9 it, do not extend beyond where the wall partition would
10 extend upward and hit the roof; is that right?
11 A. They appear not to extend beyond the back
12 side or the north side of that partition knee wall.
13 Q. In your area of origin?
14 A. Yes.
15 Q. But in other areas they apparently extend
16 further to the north, right? The down slope?
17 A. In other areas outside the area of origin
18 they appear they may have. In other areas outside the area
19 of origin they appear that they stop short.
20 Q. Doesn't seem to be any real regularity to
21 that, does it?
22 MS. MACLEOD: Objection.
23 A. I think the only thing that matters is how
24 the configuration was in the area of origin.
25 Q. My question was, there doesn't seem to be

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1 any regularity in where these vent shells are located, is
2 there?
3 MS. MACLEOD: Objection to form.
4 A. I don't know what phase this construction
5 occurred and what their methodology was for installing
6 them, what may or may not have been regular to them, or
7 not.
8 MR. ELLIS: Why don't we take a short break?
9 (Pause in proceedings 2:51-3:08 p.m.)
10 Q. Mr. McGraw, looking at photograph No. 17 in
11 your original report --
12 A. You said original?
13 Q. Yes.
14 A. I don't have that in front of me. Okay.
15 Q. Got 17?
16 A. Yes, sir.
17 Q. When we were talking about this photograph
18 earlier, you were pointing out to us the areas of scorching
19 that you had located on the LP radiant barrier sheathing,
20 right?
21 MS. MACLEOD: Objection to form.
22 A. That's what the arrows denote.
23 Q. Right. And I think you told us that all of
24 those arrows would have been along a path that the
25 electricity took from where the lightning bolt struck the

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1 chimney, over to the dryer vent and then to ground; is that
2 right?
3 A. I believe that to be the case.
4 Q. You also told us that you believe the entire
5 sheet of radiant barrier sheathing would have been
6 energized by the electrical activity; is that correct?
7 A. It's my understanding that each
8 four-by-eight sheet of the radiant barrier sheathing the
9 alumina is continuous, so it should stay in its same
10 potential across it. So if you energize one side of it,
11 the other side should go to the same voltage on that sheet.
12 Q. The same voltage throughout the sheath?
13 A. It's a conductor. I don't see why it would
14 be -- There may be an electrical wave on a micro scale, but
15 you would have to ask an electrical engineer about the
16 variation there. But it's my understanding when a
17 conductor becomes energized, the conductor is energized.
18 Q. So you believe it would have been the same
19 voltage throughout the sheath?
20 A. Each individual sheet.
21 Q. Each individual sheet?
22 A. Yes.
23 Q. Then why is the scorching that you've
24 identified on photograph 17 along this path that is marked
25 by the red arrows, why don't we see scorching activity in

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1 evidence throughout the radiant barrier sheets?
2 MS. MACLEOD: Objection to form.
3 A. Most of those paths along that region are
4 either (a) near the chimney cap, excuse me, the chimney
5 flashing, no penetrations on the right-hand side as shown
6 in photograph No. 18. Or if you look right above that in
7 photograph 18, there is a joint in the sheathing across
8 that region, so there is a joint in the sheathing at many
9 of those arrows between an upslope and a down slope sheet.
10 Q. A joint in the sheathing? Okay.
11 A. Yes. They are installed in four-by-eight
12 sections across the whole roof surface, roof slope, so
13 there are multiple sheets.
14 Q. All right. But that doesn't explain to me
15 why, if you've got the same voltage, you've got scorching
16 in just one area.
17 A. Was that a question?
18 Q. Yes.
19 MS. MACLEOD: Objection to form.
20 Q. Can you explain to me why?
21 A. What I'm saying is this scorching there, if
22 you look on photograph No. 19, is a general -- that's the
23 reason I included that. It shows that we have two sheets
24 there, one upper slope, one lower, one more higher on the
25 slope, one lower on the slope, with the artifact of

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1 scorching and electrical activity where those sheets join.
2 That tells me that those sheets were at a different
3 potential voltage for electrical arcing to occur at the
4 time that artifact was developed.
5 Q. So the scorching occurs along a seam or a
6 joint between the two sheets of radiant barrier sheathing?
7 MS. MACLEOD: Objection to form.
8 A. Most of that which I identified in
9 photograph 17 occurred along those joints.
10 Q. Could you explain why any scorching would
11 occur other places than at the joint between sheaths?
12 A. Because the radiant barrier at that area
13 encountered another conductive material as a potential
14 voltage and electrical discharge in the form of an arc
15 occurred.
16 Q. So you believe an arc would have occurred
17 where the red arrows are that are not along a seam?
18 MS. MACLEOD: Objection to form.
19 A. Most of those that are not along the seam
20 are shown in photograph 18, and then also in photographs
21 23 and 24, 22, around the dryer vent. As far as where the
22 exact layout of all the seams were, I don't recall.
23 Q. Is it your view now that the path of
24 electrical activity followed the seam; that that's where
25 this evidence of electrical tracking occurs?

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1 MS. MACLEOD: Objection to form.
2 A. The artifacts that I've identified with
3 these arrows in photograph 17 generally does follow that
4 seam, and then it progresses past the area of origin to the
5 dryer vent.
6 Q. When you look at your photograph No. 18 and
7 you see those spots that are marked with your red arrows,
8 is that an area where the aluminum has vaporized or melted
9 or caught on fire? Tell me what your thinking is on that.
10 A. It appears to be in one or more of those
11 categories, yes.
12 Q. But you don't know which?
13 A. No. It appears that that area is, I don't
14 know if vaporized is the right word, I think the term I've
15 heard used is ablate, ablation; that's what appears to be
16 there. Those nails were securing the chimney flashing to
17 the roof. Excuse me. Let me clarify that. Those
18 artifacts occurred around nails that were securing the
19 chimney flashing to the roof.
20 Q. And what is meant by the term ablate?
21 A. Ablate, my understanding is it's when the
22 material essentially, the easiest way to think of it, it
23 vaporizes. But it melts, erupts is not necessarily the
24 right word but that's the way it's easy for me to think,
25 from electrical energization. You end up with a void along

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1 the surface.
2 Q. Looking again at photograph 17 and along the
3 seam between the radiant barrier sheets, do you see that?
4 A. I'm looking at photograph 17.
5 Q. Is it your understanding that those sheets
6 of sheathing are connected so that the aluminum metal is
7 connected from one sheet to the other?
8 A. I don't know whether the aluminum metal is
9 connected from one sheet to the other. I did not see a
10 physical connection between the sheets; they abutted each
11 other. There were no metal clips connecting the sheets
12 along the surface of the roof.
13 Q. No metal clips or staples?
14 A. No metal clips to provide -- There were no
15 metal clips along the seams of the roof sheathing.
16 Q. Is your understanding that the aluminum from
17 one sheet is in contact with the aluminum from an adjoining
18 sheet?
19 MS. MACLEOD: Objection to form.
20 A. I don't have an understanding along those
21 lines. I don't know whether it is, whether it was; it
22 doesn't need to be to allow for electrical discharge of
23 high voltage.
24 Q. Is it your opinion that the first ignition
25 occurred along this path that's marked by your red arrows?

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1 A. I think you're going to have to be more
2 specific in your question. That's kind of a vague
3 question.
4 Q. You're got a path, apparently, that's what
5 you testified to, that connects the red arrows; is that
6 right? Is that right?
7 MS. MACLEOD: Objection to form.
8 A. Yes, that's a path.
9 Q. Is it your opinion that somewhere along the
10 path that would be the seam between the radiant barrier
11 sheaths, first ignition occurred?
12 MS. MACLEOD: Objection to form.
13 A. I'm not testifying that the path is only
14 along the radiant barrier seam, but it's my opinion that we
15 had ignition along that path within the area of fire origin
16 that caused the greatest damage, and also in areas such as
17 photograph 19 where we have scorching of the radiant
18 barrier.
19 Q. Tell me again where No. 19 is on
20 photograph 17.
21 A. I believe No. 19 is one of the left most
22 arrows, one of the two most left arrows in photograph 17.
23 Given the configuration of the rafters and the position of
24 the roof sheathing joint, I believe it to be the second
25 arrow from the left in photograph 17.

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1 (DEFENDANT'S EXHIBIT NO. 33 SHOWN)
2 Q. Returning to Exhibit No. 33, which was your
3 supplemental and amended report, there are a number of
4 pictures that are attached to the back of the report. I
5 think you told us that these were supplied by the owner; is
6 that correct?
7 A. I don't believe I've testified with regard
8 to anything about these photographs except for the one
9 immediately following my photograph 21.
10 Q. Where did you get the photographs that
11 appear after your photograph 21?
12 A. I received these photographs when you handed
13 me this exhibit today.
14 Q. You hadn't seen them before?
15 A. I received one of them, I believe, which was
16 included as photograph 21 in my report. Before today,
17 that's the only one I've seen.
18 MS. MACLEOD; And if you will look at the
19 cover letter from November 7, these photographs were
20 produced to me, and from me to you as part of the
21 supplemental discovery package.
22 Q. Did you rely upon these photographs in any
23 way in reaching your opinion?
24 A. No. I just received the photographs here in
25 front of me today.

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1 Q. Having looked at them today is, or are, any
2 one of these significant with respect to the opinions that
3 you've made?
4 A. I have not studied these photographs.
5 Q. Mr. McGraw, do you know whether or not there
6 are any building requirements or standards for residential
7 construction that require building materials to be built to
8 withstand lightning strikes?
9 A. Rephrase the question again.
10 Q. Are there any building requirements or
11 standards for residential construction that require
12 building materials to be built to withstand lightning
13 strikes?
14 A. Off the top of my head I do not know any
15 requirements of such in the residential building code.
16 Q. Do you know what the range of voltage is
17 that a lightning bolt carries?
18 A. The range of voltages that I understand from
19 my review of various references is anywhere from tens of
20 thousands to hundreds of thousands of volts.
21 Q. Do you know if any building materials are
22 constructed or built to withstand that kind of charge?
23 A. I don't know whether any building materials
24 are constructed to withstand that kind of charge. I know
25 that lightning protection systems are marketed, designed,

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1 and developed to withstand lightning, to direct lightning.
2 I know that such systems are in use throughout the world,
3 various places, and effectively convey lightning energy in
4 a safe manner.
5 Q. Let's take lightning protection systems out
6 of it for a minute. Do you know of any building materials
7 that are built to withstand the kind of charge that a
8 lightning bolt delivers?
9 A. I don't think that's the intent of the
10 building code. The building code with regard to most
11 residences has to do with loading, structural loading, wind
12 loading, foundation support, and such. I don't know of
13 any, off the top of my head, lightning sustainability
14 requirement, to coin the phrase maybe.
15 Q. I asked you about lightning sustainability
16 requirements in an earlier question. But my question to
17 you now is, are you aware of any building materials that
18 are built and constructed to withstand the charge that a
19 lightning bolt would deliver?
20 MS. MACLEOD: Objection to form.
21 A. Lightning protection systems would be the
22 only thing that comes to mind.
23 Q. All right. Is it your opinion that a
24 building material that will not withstand the charge of a
25 lightning bolt is defective or not?

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1 MS. MACLEOD: Objection to form.
2 A. I don't have an opinion and have not been
3 asked to offer an opinion along those lines.
4 Q. I know that you haven't been asked to, but
5 do you have any opinion at all with respect to that?
6 MS. MACLEOD: Objection.
7 Q. Would a rafter, for instance, that's not
8 built to withstand a lightning bolt charge be defective?
9 MS. MACLEOD: Objection to form.
10 A. Well, I think a rafter is a sawn piece of
11 wood, you don't really built it, so I have an issue with
12 the way your question is worded. But I haven't been asked
13 to develop or investigate any matters with regard to that,
14 so I don't have an opinion to offer to you here today.
15 Q. And you can't tell me, apart from the
16 assignment that you were given, whether or not a building
17 component is defective if it's unable to withstand a
18 lightning bolt?
19 MS. MACLEOD: Objection to form.
20 A. I think that there is some vagueness in your
21 question in terms of withstanding. There's a variety of
22 the types of damage that lightning can impose upon a
23 material, so it's too broad of a question to give you a
24 specific answer.
25 Q. Catch fire?

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1 A. Some materials are non-combustible and could
2 sustain damage from lightning, so it's too broad of a
3 question to answer.
4 Q. How about a rafter? What's a rafter made
5 out of?
6 A. Most rafters are made of wood, although --
7 Q. Let's take a wooden rafter. Do you have an
8 opinion as to whether a wooden rafter is defective because
9 it won't withstand or catch fire if a lightning bolt hits
10 it?
11 MS. MACLEOD: Objection to form.
12 A. I don't believe that a rafter that doesn't
13 catch fire when a lightning bolt hits it would be
14 defective.
15 Q. All right. Do you know whether or not there
16 are aluminum products that are used in building
17 construction?
18 A. Yes.
19 Q. How many different products can you name
20 that have aluminum in them?
21 A. Radiant barrier, HVAC ductwork, HVAC
22 fittings and components, electrical wiring. There are some
23 fasteners that are aluminum. There's a myriad of different
24 aluminum components used in building construction.
25 Q. It's pretty pervasive, isn't it, in building

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1 construction?
2 A. Generally, yes.
3 Q. Were you able to find other aluminum
4 components in the attic of the Taylor home when you
5 inspected it?
6 A. I don't recall looking for any other -- I
7 don't recall looking for any aluminum components at all.
8 TechShield happens to have aluminum lamina on it. I don't
9 recall observing any other components that were obviously
10 aluminum in the attic of the home.
11 Q. You didn't look for them?
12 A. I did not look for them, no. I do recall
13 the dryer vent termination I believe had some aluminum HVAC
14 tape around it; I recall seeing that in the attic.
15 Q. I'd like to return to the opinion that you
16 gave about the arcing of the radiant barrier to the wire.
17 Do you remember giving that opinion?
18 A. I remember discussing that.
19 Q. I think you told us that one of the reasons
20 that the aluminum might not appear on the piece of the
21 artifact which was tested is because it might have hit the
22 insulation on the wire; is that right?
23 A. It could have. I don't know. If the
24 aluminum produced electrical sparking where those ejected
25 pieces ended up, I don't know. If it ablated and we end up

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1 with some amount of vaporization where we first have our
2 electrical discharge, I don't know how that exact mechanism
3 would work on a small scale.
4 Q. You don't know how it would work? How does
5 it pass through the insulation?
6 A. The insulation for most residential wiring
7 is rated at 600 volts. The electrical energy imparted by
8 lightning as we just discussed exceeds that, so it can pass
9 through the insulation. The conductive property or the
10 insulative properties of that insulation is not rated for
11 tens or hundreds of thousands of voltage.
12 Q. At the point in which it would pass through
13 the insulation, would there be any evidence that it had
14 passed through?
15 MS. MACLEOD: Objection to form.
16 A. I don't know. You'd have to ask somebody
17 that studies those type of events in detail.
18 Q. You still have the wire, though, right?
19 A. Yes.
20 Q. Have you examined the wire recently to see
21 whether or not there was any evidence that an electrical
22 arc might have passed through it?
23 A. I'm not sure that I understand your
24 question.
25 Q. You were telling us that the arc went from

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1 the radiant barrier sheathing through the insulation of the
2 wire, right?
3 A. The electrical voltage potential created the
4 arc.
5 Q. Did you look at the wire for any evidence to
6 support your theory that this arc would have passed through
7 the insulation to the wire?
8 A. There's no insulation left to look at.
9 Q. There's no insulation left on the wire?
10 A. Not in the area where the artifacts of
11 electrical arcing are.
12 Q. I'm going to ask you in a few minutes if you
13 wouldn't mind going out to where your truck or trailer is
14 to find that for us, okay?
15 A. To find what?
16 Q. The wire that you say the radiant barrier
17 sheathing arced to.
18 A. Fair enough.
19 (DEFENDANT'S EXHIBIT NO. 34 MARKED)
20 Q. I'm showing you what's been marked as
21 Exhibit No. 34. Can you identify that for us, please?
22 A. I can.
23 Q. What is it?
24 A. It is attachment No. 7 to my initial report,
25 it's entitled LightningTrax report No. LT60080-291153.

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1 Q. And what was the purpose of attaching this
2 report to your expert report?
3 A. During the course of my investigation I
4 obtained two lightning strike, LightningTrax type reports,
5 this one and one from Vaisala through STRIKENet, and the
6 purpose was to investigate what those detection systems
7 identified with regard to lightning strokes around the
8 Taylor residence at the time of the fire.
9 Q. What did this one tell you?
10 A. This particular report tells me that there
11 were fourteen strokes detected within a one mile radius of
12 the residence location. Those strokes ranged in time from
13 about 4:47 p.m. until 7:47 p.m., most of them falling
14 between 4:47 and 5:25.
15 (DEFENDANT'S EXHIBIT NO. 35 MARKED)
16 Q. I'm showing you what's been marked as
17 Exhibit No. 35. Can you tell us what that is, please?
18 A. It's a copy of attachment No. 6 to my
19 report, which is the STRIKENet report by Vaisala,
20 V-A-I-S-A-L-A, No. 305061 their report number.
21 Q. And how are you using this report?
22 A. Just as the other; to investigate the
23 occurrence of recorded lightning strokes in the area of the
24 Taylor residence on the day of the fire.
25 Q. What did that show about the number of

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1 lightning strikes within a five mile radius of the Taylor
2 home?
3 A. It showed 392 strikes within a five mile
4 radius of the Taylor home between 6:00 p.m. on August 28
5 and 5:59 p.m. on August 29.
6 Q. I'm sorry. Six p.m. on what?
7 A. August 28, and 5:00 p.m. on August 29. It's
8 a 24-hour format for their --
9 Q. Do you know how many homes within that five
10 mile radius were struck by lightning during that period of
11 time?
12 A. I do not.
13 Q. Do you know how many homes within that five
14 mile radius have radiant barrier sheathing?
15 A. I do not.
16 Q. Do you know how many total homes were in
17 that five mile radius?
18 A. No.
19 Q. Do you know how many of the homes in that
20 five mile radius with radiant barrier sheathing were struck
21 by lightning?
22 A. At least one of them.
23 Q. Do you know how many of those homes with
24 radiant barrier sheathing were not struck by lightning?
25 A. I do not.

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1 Q. You told us that you've investigated a
2 number of residential fires caused by lightning strikes,
3 right?
4 A. Yes.
5 Q. Several dozen?
6 A. I would say dozens, yes. Of the hundred
7 fires I've investigated, dozens of those would have been
8 lightning, lightning related.
9 Q. And the only one that you are aware of that
10 had radiant barrier sheathing in it was the Taylor home; is
11 that correct?
12 A. Yes.
13 Q. Would you agree that whether or not radiant
14 barrier sheathing is present in a house, that a house
15 that's struck by lightning can catch fire?
16 MS. MACLEOD: Objection to form.
17 A. I've not been asked to investigate that
18 aspect in this case.
19 Q. I understand you've not been asked to
20 investigate that. But would you agree, based upon your
21 experience, that a house that's struck by lightning, that
22 doesn't have radiant barrier sheathing in it, can catch
23 fire?
24 A. That's true. A house can catch fire if its
25 struck by lightning.

1 Q. And you would agree that if a house is
2 struck by lightning it could result in a fire whether or
3 not radiant barrier is present in it, or not. Right?

4 A. It could. But in this particular case we
5 are dealing with a fire in a house that has radiant barrier
6 with a path to ground and the area of origin falling within
7 that region.

8 Q. I don't need to hear your parroting that
9 each time; you can just answer the questions I've asked.

10 Have you investigated residential fires
11 caused by lightning where something other than radiant
12 barrier ignited the fire?

13 A. Yes.

14 Q. In fact, you've done it dozens upon dozens
15 of times, right?

16 MS. MACLEOD: Objection to form.

17 A. I've investigated dozens of lightning fires,
18 lightning-related fires.

19 Q. Where what ignited was something other than
20 radiant barrier, right?

21 A. Yes.

22 Q. Can you give me sort of a sampling of what
23 other materials ignited in those dozens upon dozens of
24 cases?

25 MS. MACLEOD: Objection to form.

1 Q. All right. And in this particular case you
2 were asked not to prepare a cause and origin report, right?

3 A. I'm not sure that I understand your
4 question. I was asked to prepare a report and did so in
5 August of this year.

6 Q. That's the expert report that you prepared
7 in connection with this litigation, right?

8 A. That is the initial report I prepared.

9 Q. But when you first visited the Taylor home
10 back in August of 2011, I'm sorry, September of 2011, you
11 were asked not to prepare a cause and origin report, right?

12 MS. MACLEOD: Objection to form.

13 A. When I first investigated the fire and
14 provided a verbal report to my clients I was not given
15 direction. Initially, that they would want to see what
16 needed to be done, which led to the joint inspection.
17 After that time, I took direction from Ms. MacLeod and I
18 don't know that I was ever told not to produce a report
19 during that time frame.

20 Q. Did you ever ask the people from State Farm
21 or Ms. MacLeod whether you could prepare a cause and origin
22 report on the Taylor residence?

23 A. No. I believe I was told at that time that
24 they didn't need further work done and that they were
25 considering how they were going to proceed with regard to

1 A. The cases that come to mind involve
2 corrugated stainless steel tubing, energized electrical
3 wiring -- cable television in one case, and the other case
4 that readily comes to mind was satellite dish wiring, as
5 well as chimneys struck by lightning.

6 Q. How many approximate cause and origin
7 reports have you completed during the course of your career
8 as a fire investigator?

9 A. I've completed hundreds of cause and origin
10 investigations; some of them require reports, some of them
11 don't. I do not have a number within that hundreds of
12 investigations to give you.

13 Q. Within the hundreds that you have made,
14 however, have you reported that the cause of a fire to a
15 residential home was a lightning strike?

16 A. I think I understood your question to be,
17 have I reported within those hundreds that the cause was a
18 lightning strike?

19 Q. Yes.

20 A. Yes.

21 Q. In fact, you've done that dozens upon dozens
22 of times, right?

23 MS. MACLEOD: Objection to form.

24 A. I have reported that the energy source for
25 the fire is lightning, yes, in probably dozens of cases.

1 their aspects, whether it be the State Farm in-house
2 persons or Ms. MacLeod's consultation to them.

3 Q. On those hundreds of occasions where you've
4 done a fire investigation on a residence, did you ever
5 reach an opinion as to the cause and origin of the fire
6 without actually visiting, physically, the scene of the
7 fire?

8 A. I have been involved in the investigation of
9 certain incidents where the scene is no longer available
10 for inspection. Recalling one specifically off the top of
11 my head, I'm having difficulty in doing that, other than
12 one restaurant explosion incident I'm aware of that sticks
13 in my head for some reason. But I have performed
14 engineering investigations and not visited the scene
15 because of extenuating circumstances or for some other
16 reason.

17 Q. One reason you just told us about was
18 because the scene no longer existed, right?

19 A. I think in that case the scene no longer
20 existed. I don't recall. I don't even know when that was,
21 probably eight or nine years ago, or more.

22 Q. All right. When you conduct a fire
23 investigation of origin you want to be able to visit the
24 scene where the fire occurred, don't you?

25 A. It depends on the aspects of the

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1 investigation for which you are participating and your
 2 clients ask for consultation. Some aspects require visit
 3 to the scene and others may not.
 4 Q. In the case of a fire investigation like you
 5 conduct, where you reach an opinion as to the cause and
 6 origin of a fire, is it important for you to visit the
 7 scene of the fire?
 8 A. It's helpful but it's not necessary.
 9 Q. It's not necessary for you to visit?
 10 A. No. You can review others' materials and
 11 come to some determinations; it may not be ideal but it can
 12 be done.
 13 Q. So you could have done that in this case,
 14 huh? You could have just taken other people's photographs
 15 and measurements and you'd feel perfectly comfortable
 16 reaching the opinions you did on cause and origin of this
 17 fire?
 18 MS. MACLEOD: Objection to form.
 19 Q. Is that right?
 20 A. I don't think I can make an assessment on
 21 that because that's not what happened in this case for me,
 22 so I can't make that assessment for you from my viewpoint.
 23 Q. I'm giving you a hypothetical. The
 24 hypothetical is that instead of actually visiting the fire
 25 yourself, even though the scene exists, it's there, the

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1 evidence exists, would you feel comfortable in reaching
 2 opinions as to the cause and origin of the fire without
 3 actually visiting it?
 4 A. It depends on the circumstances of the case
 5 and the questions which I've been asked to address.
 6 Q. I'm talking about this case.
 7 A. I can't -- I think my answer to your
 8 question is biased because I've been to the scene twice, so
 9 I don't really have a good basis for answering your
 10 question in a hypothetical manner in this particular case.
 11 Q. You do completely, though. I'm giving you
 12 all the facts that you need.
 13 A. But you are asking me to answer a
 14 hypothetical question based on information that I have, so
 15 if the information I have is not hypothetical, I can't make
 16 that assessment for a hypothesized person or investigator
 17 that I don't know who is. I don't know how to answer your
 18 question any other way.
 19 Q. You don't have to; you can make it for
 20 yourself. My question is whether you, Rob McGraw, as a
 21 fire investigator would feel comfortable reaching opinions
 22 as to the cause and origin of this fire, the Taylor home
 23 fire, without actually visiting the scene?
 24 MS. MACLEOD: Objection to form.
 25 A. Yes, there are certain opinions that I could

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1 come to without visiting the scene.
 2 Q. As to the cause and origin you would reach
 3 an opinion?
 4 A. Potentially. It may be undetermined, I
 5 don't know, but I could potentially do it.
 6 Q. And you feel comfortable doing it?
 7 A. I wouldn't offer an opinion I didn't feel
 8 comfortable for. You are asking me a hypothetical
 9 question.
 10 Q. That's right.
 11 A. What I'm telling you is that there would be
 12 -- There are certain opinions that could be derived, in my
 13 estimation, from review of the field data, if you are
 14 asking me to derive it from the data that I have, that I
 15 collected. That's the only understanding I have of your
 16 question. Yes, I could come to opinions about it.
 17 Q. On how many occasions out of the hundreds of
 18 fire investigations that you've done did you reach an
 19 opinion as to the cause and origin of a fire without
 20 actually visiting the scene?
 21 A. I don't have a number that I could tell you
 22 off the top of my head.
 23 Q. One? You told me about the one where the
 24 scene no longer existed.
 25 A. Yes, sir, I did. And to be honest with you,

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1 I don't recall what the scope of my assignment in that case
 2 was, exactly. I remember some of the generalities of the
 3 case. I don't recall the scope of my assignment, whether I
 4 was asked to consult regarding the origin and cause or
 5 other aspects. I was using that as an example for times
 6 that I get involved when the scene is not available and you
 7 can't go to the scene.
 8 I don't keep a record of which scenes or
 9 which cases I have that I go to a scene, which ones I
 10 don't; I don't keep a record of that.
 11 Q. Can you remember more than one?
 12 A. I remember some previous instances of some
 13 product failure cases where products were brought for lab
 14 exam and we were asked to come to an opinion as to the
 15 origin or cause of the fire with regard to that product,
 16 when the scene was no longer available.
 17 Q. In that case, you are talking about a
 18 product that's suspicious, correct?
 19 A. In that case we're talking about a product
 20 that they asked for evaluation of, suspicious or otherwise.
 21 Q. It's a specific product that they asked for
 22 an evaluation of, right?
 23 A. Yes.
 24 Q. Are you presently involved in any other
 25 claims involving radiant barrier?

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1 A. Radiant barrier sheathing?
2 Q. Yes.
3 A. Not to my knowledge.
4 Q. You would know, wouldn't you?
5 A. Unless it's involved in one of the houses or
6 structures I've looked at and it's concealed behind a wall
7 or ceiling space. I've not seen it on another
8 investigation that I'm currently participating in.
9 Q. Have you had conversations with attorneys
10 other than Ms. MacLeod about this case?
11 A. With Mr. Murphy.
12 Q. Mr. George Murphy of the Vinson & Elkins
13 firm?
14 A. Yes.
15 Q. Anybody else?
16 A. No, sir. And those conversations with
17 Mr. Murphy pertained to coordination of the inspection and
18 then just interaction on the scene.
19 Q. In the course that you took which was
20 referred to as, I think, Lightning 101, do you remember
21 that seminar?
22 A. Yes.
23 Q. Did you receive some training or education
24 about what it is that attracts lightning?
25 A. I don't recall that course. That course was

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1 nine years ago. I don't recall specifically what was
2 covered during that seminar.
3 Q. Do you know what it is that attracts
4 lightning?
5 A. Lightning is an electrical discharge where
6 there is a varying potential voltage because of the charge
7 of the cloud versus the charge of the ground. I'm not a
8 lightning expert and I'm not here to offer expertise in
9 lightning.
10 Q. With respect to the opinion that you gave us
11 just a little while ago about the arcing from the radiant
12 barrier sheathing to the fire alarm conductor, did you find
13 any physical evidence to support that opinion?
14 A. The artifacts on the fire alarm conductor
15 being only present on the grounding conductor, are the
16 artifacts there that tell me that it became energized?
17 The lack of artifacts on the energized
18 conductor or conductors within that bundle tells me that
19 the energization of the grounding conductor did not occur
20 from those sections of wiring. The evidence of the
21 lightning stroke damage to the chimney cap and radiant
22 barrier being energized, working through the hypotheses
23 there, that's the only other potential different voltage
24 source that I find in that area where those artifacts
25 occurred.

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1 Q. I'm sorry. How does the physical evidence
2 around the chimney cap help you with this?
3 A. The chimney cap evidence on the top of
4 lightning strike melting the stainless steel, and then with
5 the tracking across the radiant barrier supporting the
6 radiant barrier itself becoming energized.
7 Q. It supports it becoming energized, but what
8 physical evidence supports the opinion that there was
9 arcing from the radiant barrier sheathing to the conductor?
10 MS. MACLEOD: Objection to form.
11 A. That's the physical evidence I just told
12 about. We have physical evidence that the radiant barrier
13 became energized. We have physical evidence that the
14 grounding conductor became energized and was not energized
15 by its adjacent conductors in the wiring bundle.
16 Using the scientific methodology as
17 prescribed in 921 for our fire investigation, as I did for
18 my whole investigation, I ran through the possibilities and
19 the hypotheses of what could have energized that wire, and
20 I'm left with only the radiant barrier.
21 So I'm using the totality of the information
22 from the energized radiant barrier and the condition of the
23 grounding wire with the artifacts on it, absent that mating
24 surface on adjacent conductors, to come to that.
25 Q. And tell me why it is that there wasn't any

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1 evidence -- How the fact that there is no evidence of
2 arcing on the other wires, and just grounding wire, help
3 you with this?
4 MS. MACLEOD: Objection to form.
5 A. My experience, and all the courses I've been
6 to that discuss wiring artifacts after a fire, and arc
7 mapping, the two conductive surfaces that have a different
8 potential voltage when they contact you have material
9 deposition on each surface.
10 So, had the insulation on one of the
11 energized conductors become degraded and contact the
12 grounding conductor, I would expect material deposition
13 during the course of that event, which we don't have here;
14 we don't have a mating surface.
15 Q. Could you go out to your trailer or truck,
16 or whatever you brought, and bring in the wiring that we've
17 been talking about, and also the sections that I think have
18 been referred to in your reports as item No. 9, which is
19 the sheet of radiant barrier sheathing?
20 A. The wiring section and item No. 9?
21 Q. Right.
22 A. Yes.
23 MR. ELLIS: Let's take a break while you are
24 doing that.
25 (Pause in proceedings 3:55-4:15 p.m.)

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1 Q. Mr. McGraw, we've talked during the course
2 of your deposition about this electrical path, right?
3 A. Yes.
4 Q. And you've showed us on various photographs
5 and exhibits the red arrows that delineate the path,
6 correct?
7 MS. MACLEOD: Objection to form.
8 A. I believe that the arrows we were looking at
9 in that particular photograph was photograph 17 of my
10 original report, I think is the number.
11 Q. Right. But that delineates the path; is
12 that correct? Photograph 17?
13 A. The arrows delineate the artifacts that I
14 saw that I believed to be along the path. I don't know
15 what the exact path was; it could be a branch path. I
16 don't know.
17 Q. Was this path an area of higher voltage or
18 was it the same voltage throughout the sheets of radiant
19 barrier sheathing?
20 MS. MACLEOD: Objection to form.
21 A. I don't know. I wasn't there to make that
22 measurement at the time of the event.
23 Q. I understand that. But based upon the
24 evidence, are you able -- I'm sorry. Based upon the
25 evidence, are you able to make any sort of opinion as to

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1 whether there was a difference in voltage or current along
2 this path that's depicted on your drawings as distinguished
3 from the rest of the radiant barrier sheathing?
4 MS. MACLEOD: Objection to form.
5 A. Based upon the evidence that I saw looking
6 at the house during my visits there, the melting areas
7 supported an electrical arcing event, even a luminous
8 discharge, where there was varying potential voltage. So
9 based on that there would be some variation of the voltage
10 on either side of those artifact positions.
11 Q. That you had, according to your supplemental
12 report, an arcing event which occurred outside this path,
13 in fact, outside your area of origin, according to your
14 testimony, between the radiant barrier sheathing and the
15 fire alarm conductor; is that right?
16 MS. MACLEOD: Objection to form.
17 A. There are multiple areas, in my opinion, of
18 electrical arcing along the radiant barrier outside of my
19 area of origin. And yes, the artifacts of electrical
20 activity that in my opinion are likely related to the
21 lightning event, to the fire alarm branch circuit
22 conductors, fell outside of my area of origin as well.
23 Q. But they were due to the electrical
24 activity; is that correct?
25 A. Due to the lightning event?

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1 Q. Yes.
2 A. Possibly, yes. That may be an additional
3 denotation or demarcation of branch path to ground there
4 that the energy from the lightning was seeking all paths to
5 ground or all available paths to ground there.
6 Q. So the path may have deviated from that line
7 across the seam up to where the arcing occurred; is that
8 right?
9 MS. MACLEOD: Objection to form.
10 A. Much as lightning can present in a branch
11 fashion, the path across these conductive materials or
12 media is an extension of that which we might see in the sky
13 in a branch lightning stroke. So for it to come from the
14 clouds to the ground and deviate a few feet across the roof
15 sheathing is possible. I've just pointed out in the
16 photograph what was evident during my inspection.
17 Q. Right. But now you've connected it to the
18 arcing which you say occurred from the radiant barrier
19 sheathing up to the fire alarm conductor, and from what you
20 just told us, that could have occurred anywhere on the
21 sheet, right?
22 A. I'm not sure that I follow that question.
23 Q. I thought you said that there could have
24 been arcing like this occurring virtually anywhere on the
25 radiant barrier sheathing because the path could have

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1 jumped around.
2 A. I don't recall saying that. What I recall
3 telling you is that the path may have taken a branch type
4 of manifestation. If you looked at it in a plan type of
5 view across the roof sheathing, I don't know. Certain
6 portions of the path burned away is the nature of the fire,
7 and I have used those red arrows in photograph 17, which
8 we've referred to multiple times, to denote those artifacts
9 that I saw along that one seam.
10 Q. You told us that you observed limits on your
11 expertise here when reaching your opinions in this case; is
12 that correct?
13 A. Try to.
14 Q. You did observe them; you didn't go outside
15 your area of expertise, did you?
16 A. I don't believe so.
17 Q. And you also told us that you observed areas
18 on the limitation of your assignment, correct?
19 A. I observed the assignment as my clients had
20 requested me to.
21 Q. And the limitations on your assignment were
22 that you were not going to get into the areas of -- and I
23 want to make sure I got this right -- ignition propensity,
24 material properties, or susceptibility to damage from
25 lightning insult. Right?

1 A. It is my understanding that Mr. Simmons was
2 undertaking a study and analysis of those aspects of the
3 TechShield.

4 Q. And those areas were not part of your
5 assignment?

6 A. No.

7 Q. Do you have an opinion in this case, then,
8 as to whether or not the radiant barrier sheathing is a
9 defective product?

10 A. I have not been asked to develop an opinion,
11 nor do I have an opinion in this particular case.

12 Q. Do you have an opinion as to whether or not
13 radiant barrier sheathing is a hazardous product?

14 MS. MACLEOD: Objection to form.

15 A. Radiant barrier sheathing has different
16 properties than what we might say conventional OSB
17 sheathing in that it has an aluminum lamina on it, so from
18 that standpoint it presents a different hazard. In the
19 event of becoming in contact with any kind of voltage
20 source it can, potentially, become energized for a
21 distance, depending upon the configuration of its
22 installation.

23 Q. But any number of things can do that because
24 they've got aluminum in them, right, that conducts
25 electricity?

1 your assignment, did you reach an opinion in this case that
2 the cause of the fire in the Taylor home was the radiant
3 barrier sheathing?

4 MS. MACLEOD: Objection to form.

5 A. My opinion as to the cause of the fire is
6 that the lightning-induced energy imparted into available
7 combustibles within the area of fire origin along the
8 course of the radiant barrier produced heating and then
9 flaming combustion ensued.

10 Q. As I read that, that's not an opinion that
11 the radiant barrier sheathing caused the fire. Is that
12 what you intended?

13 A. What I'm telling you is that the energy that
14 caused the fire is from lightning. The lightning energy
15 resulted in ignition along the path of the electrical
16 tracking on the radiant barrier. Other than that, I have
17 not developed an opinion regarding to Louisiana Pacific
18 being a cause of the fire -- excuse me, the Louisiana
19 Pacific TechShield being a cause of the fire.
20 (DEFENDANT'S EXHIBIT NO. 36 MARKED)

21 Q. I'm showing you what's been marked as
22 Exhibit No. 36. Can you identify what No. 36 is?

23 A. This appears to be a photocopy of my case
24 investigation file contents, with a cover letter dated
25 November 19 from Ms. MacLeod, and it appears to be the

1 MS. MACLEOD: Objection to form.

2 A. I don't really follow that question. You
3 said any number of things can do that; I'm not sure what
4 "that" is referring to. Sorry.

5 Q. There may be a thousand different aluminum
6 type products that you might find in a house that could
7 conduct electricity, right?

8 A. There are a number of different metal
9 products, aluminum products, that can conduct electricity,
10 yes.

11 In this particular case, the aluminum lamina
12 of the TechShield is applied to the roof sheathing, which,
13 the only thing you can compare to there is other types of
14 roof sheathing, not other types of building products that
15 may not be roof sheathing.

16 Q. Understanding both the limitations on your
17 expertise, which you say you observed, and the limitations
18 on your assignment, which you say you observed, did you
19 reach an opinion in this case that the Louisiana Pacific
20 radiant barrier sheathing is a hazardous product?

21 MS. MACLEOD: Objection to form.

22 A. I have not reached an opinion one way or the
23 other in that aspect.

24 Q. And again, understanding what the
25 limitations on your expertise are, and the limitations on

1 contents, absent both of my reports, up to and after -- up
2 to the day of my supplemental report preparation.

3 Q. Have you generated more notes since the date
4 of your supplemental report?

5 A. I have additional documents in my file since
6 the date of my report, to include some email correspondence
7 from Ms. MacLeod, my deposition subpoena and notice of
8 deposition, the report of Mr. Simmons, and a couple of
9 other photographs provided by the homeowners.

10 Q. Sorry. Photographs provided by who?

11 A. Photographs provided to me by Ms. MacLeod,
12 but ultimately by the homeowners.

13 Q. You're talking about the ones that we just
14 saw in a deposition exhibit here?

15 A. I presume they are in that stack. I don't
16 know. I haven't studied those.

17 MR. ELLIS: Skye is shaking her head, so
18 let's go off the record for just a second to make sure we
19 are talking about the same thing.
20 (Pause in proceedings 4:28-4:29 p.m.)

21 Q. Mr. McGraw, if you would please take a look
22 at Exhibit No. 36. Flip to the third page. About halfway
23 down you will see a handwritten note and I'm sorry I just
24 can't read it, but I can make out the "requested
25 contractor" part of it, I think.

1 A. Which page are you on? They are numbered at
 2 the top.
 3 Q. The third page, 1/11.
 4 A. Okay. Yes.
 5 Q. Do you have that?
 6 A. Yes, I do. That is a September 12, 2011
 7 conversation, first conversation I had with Mr. Coffey, and
 8 my initials JRM, that's just how I make my shorthand,
 9 "requested contractor demolition be delayed pending origin
 10 and cause work."
 11 Q. All right.
 12 A. When I received the case I was told that
 13 certain demolition activities were ongoing or planned.
 14 Q. Do you know whether or not demolition or
 15 remedial activities took place after you made this request?
 16 A. I do not know.
 17 Q. On your page that's marked at the top 7/11,
 18 in the lower half you will see a handwritten note under
 19 December 2 of 2011 that starts "Instrumentation."
 20 A. Yes.
 21 Q. Would you read that for us, please?
 22 A. Yes. "Instrumentation and expertise of use
 23 not within my typical area of expertise."
 24 Q. What does instrumentation mean?
 25 A. That's referring back to our conversation a

1 through and/or were cut out. Aluminum wires with arcing,
 2 fire alarm circuit (red/green) a few feet down slope from
 3 ridge along rear slope aligned with rafters compromised.
 4 Will ship items to Mr. Simmons."
 5 Q. What was the occasion of your call on
 6 March 26?
 7 A. She called me on March 26 to advise me, to
 8 inquire as to where my general area of fire origin was,
 9 based on my investigation and field inspections, and also
 10 to inquire specifics about the wiring that was collected,
 11 what my observations were, and to request that I ship those
 12 to Mr. Simmons.
 13 Q. Did you ship them to Mr. Simmons?
 14 A. Yes.
 15 Q. Let's turn to the page that's marked in the
 16 top right-hand corner A/A/AS. It's about this deep.
 17 A. You can't read my writing. I apologize.
 18 Can you give me a date on the left-hand side?
 19 Q. It's 10/10/12, and there is an 11/1/12.
 20 A. Yes. That should be A4/A5 but I found it;
 21 10/10/12, 11/1/12, yes.
 22 Q. If you will go down then to the notes for
 23 November 1, 2012, can you read those please?
 24 A. Yes. "Call from Attorney MacLeod to discuss
 25 progress on supplemental report. Definitely wants

1 few hours ago when I was asked to develop an outline or
 2 protocol and estimate for testing to assess further
 3 characteristics of the radiant barrier. This is the
 4 eventual outcome of that request and my response to
 5 Ms. MacLeod by telephone conversation.
 6 Q. This was your set of notes from the
 7 telephone call with Ms. MacLeod on December 2, 2011?
 8 A. Yes. I was indicating to her that I
 9 understood Mr. Simmons -- and she knew at the time with his
 10 article -- to have already undertaken some research, didn't
 11 know what other research had been done, and I felt like
 12 testing of that material with regard to instrumentation and
 13 developing that system was outside of my area of expertise.
 14 Q. Turn to your page marked in the top
 15 right-hand corner 9/11.
 16 A. Yes.
 17 Q. The note in the margin is for March 26,
 18 2012?
 19 A. Yes.
 20 Q. Would you just start reading at the top of
 21 the page there for me?
 22 A. Yes. "Called Ms. MacLeod," I notate her
 23 phone number, "general area of origin, roof rear slope
 24 framing about ten to twelve square foot area above the wall
 25 between living room and master bedroom where rafters burned

1 description of two areas evidence of electrical activity,
 2 (EEA) as they relate to my area of origin. She's still
 3 considering whether any other clarification of my original
 4 report is needed. She'll keep me up to date as she
 5 continues review."
 6 Q. My handwriting is actually much worse than
 7 yours.
 8 A. I've had to read pages of notes into
 9 records, so.
 10 Q. Just let me check through here one last
 11 time.
 12 MR. ELLIS: That's all of the questions that
 13 I have for you.
 14 MS. MACLEOD: I don't have any questions.
 15 FURTHER, DEPONENT SAITH NOT
 16 (Whereupon at 4:36 p.m. the deposition was concluded)
 17
 18
 19
 20
 21
 22
 23
 24
 25

J. Robert McGraw Jr. 11-26-12

IN THE UNITED STATES DISTRICT COURT
FOR THE EASTERN DISTRICT OF NORTH CAROLINA
WESTERN DIVISION
Civil Action No. 5:12-cv-289-BO

STATE FARM AND CASUALTY COMPANY as subrogee of CHRISTOPHER TAYLOR, Plaintiffs,
v. J. Robert McGraw, Jr.
LOUISIANA-PACIFIC CORPORATION, Defendant.

I, J. Robert McGraw, Jr., hereby certify that I was first duly sworn by Frances A. Graham, Notary Public, prior to the commencement of my deposition on November 26, 2012 in Wake Forest, North Carolina;

That review, examination, and signing of the deposition was not waived.

The foregoing constitutes a true and accurate transcript of said deposition: (check one)

(a) No changes are necessary.

(b) I desire that the changes attached hereto described on the Errata/Signature Page to my deposition be incorporated into said deposition.

WITNESS MY HAND AND SEAL this day of 2012.

J. ROBERT MCGRAW, JR. (SEAL)

J. Robert McGraw Jr. 11-26-12

STATE OF NORTH CAROLINA
COUNTY OF WAKE CERTIFICATE OF REPORTER

I, Frances A. Graham, Notary Public in and for the above county and state, do hereby certify that the deposition of J. Robert McGraw, Jr. was given before me at the time and place hereinbefore set forth;

That the witness was first duly sworn by me to testify to the truth, the whole truth and nothing but the truth;

That thereupon the foregoing questions were asked and foregoing answers made by the witness and were duly recorded by me by means of stenomask, then reduced to typewritten form by me personally or under my direction;

That at the conclusion of this proceeding counsel for Mr. Taylor specifically requested he read and sign his deposition;

This document, 247 page.s plus this Certificate of Reporter, page 248, to the best of my knowledge and belief is a true and correct transcript of that proceeding on November 26, 2012;

I further certify that I am not of counsel to any of the parties, nor am I interested in the event/outcome of this case.

IN WITNESS WHEREOF I have hereunto set my hand and seal on December 6, 2012.

FRANCES A. GRAHAM
Notary Public
Wake County, North Carolina
Notary No. 19940960108

J. Robert McGraw Jr. 11-26-12

NORTH CAROLINA
ERRATA/SIGNATURE PAGE
COUNTY

The North Carolina Rules of Civil Procedure provide that any changes in form or substance which the witness desires to make to his deposition shall be entered by the witness upon a correction page with a statement of the reasons given by the witness for making them.

Table with 3 columns: Page, Line, Correction, Reason. Multiple empty rows for recording corrections.

Any additional corrections should be made on a separate sheet and attached hereto.

I, J. Robert McGraw, Jr., have read the foregoing 246 pages, this errata sheet being page 247, and the same is a true and correct transcript of my testimony given on November 26, 2012, except such corrections listed above.

J. ROBERT MCGRAW, JR.

Subscribed and sworn to before me this day of 2012.

Notary Public

My commission expires:

1 IN THE UNITED STATES DISTRICT COURT
2 FOR THE EASTERN DISTRICT OF NORTH CAROLINA
3 WESTERN DIVISION

4 STATE FARM FIRE and CASUALTY
5 COMPANY as a subrogee of
6 CHRISTOPHER TAYLOR,

7 Plaintiffs,

8 vs. Case No. 5:12-CV-289-BO

9 LOUISIANA-PACIFIC CORPORATION,
10 Defendant.

11
12
13
14
15 Deposition of:

16 BRIAN MICHAEL ST. GERMAIN

17 Taken on behalf of the Plaintiffs
18 December 10, 2012

19
20
21
22
23 *Elite Reporting Services*
24 www.elitereportingservices.com
25 STEPHANIE LAKE JONES, LCR
P.O. Box 292382
Nashville, Tennessee 37229
(615)595-0073

1 I N D E X

2 PAGE

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5 Examination
6 by Mr. Anders 5

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10 E X H I B I T S

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13 Exhibit No. 1
14 LP TechShield Installation
15 Instructions 38

16 Exhibit No. 2
17 "7 Important Safety Tips for the
18 Installation of Radiant Barrier,
19 Reflective Insulation, or IRCCs" 69

20 Exhibit No. 3
21 "20-Year Transferable Limited
22 Warranty" 88

23 Exhibit No. 4
24 "Test Report: Emittance Measurement
25 According to ASTM C1371 on TechShield
Radiant Barrier" 105

26 Exhibit No. 5
27 "Test Report: Emittance Tests
28 According to ASTM E408 on
29 Louisiana-Pacific TechShield
30 Foil-Faced Oriented Strand Board" 105

1
2 A P P E A R A N C E S

3
4
5 For the Plaintiffs:

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12
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20 Suite 2500
21 Houston, TX 77002
22 (713)758-2693
23 grmurphy@velaw.com

1
2 S T I P U L A T I O N S

3
4
5 The deposition of **BRIAN MICHAEL ST. GERMAIN** was
6 taken by counsel for the Plaintiffs, at the offices
7 of Bradley, Arant, Boulton, Cummings, 1600 Division
8 Street, Suite 700, Nashville, Tennessee, on
9 December 10, 2012 for all purposes under the Civil
10 Rules of Federal Procedure.

11 The formalities as to notice, caption,
12 certificate, et cetera, are waived. All objections,
13 except as to the form of the questions, are reserved
14 to the hearing.

15 It is agreed that STEPHANIE LAKE JONES, Notary
16 Public and Licensed Court Reporter for the State of
17 Tennessee, may swear the witness, and that the
18 reading and signing of the completed deposition by
19 the witness are not waived.

1 * * *
2 **BRIAN MICHAEL GERMAIN,**
3 **was called as a witness, and after having been duly**
4 **sworn, testified as follows:**

6 **EXAMINATION**

7 **QUESTIONS BY MR. ANDERS:**

8 Q. Mr. St. Germain, my name is Patrick Anders
9 and I represent State Farm in the lawsuit captioned
10 State Farm as subrogee of Christopher Taylor versus
11 Louisiana-Pacific Corporation and I'm here to take
12 your deposition today. I'm sure you've had an
13 opportunity to discuss this with your attorney, but
14 if I could just set forth a few ground rules as we
15 begin.

16 First and most important, if you don't
17 understand a question that I ask you, if I ask you
18 too quietly, if I mumble, if I ask you a question
19 that in any way you're uncomfortable with, could
20 you let me know that?

21 A. **Yes.**

22 Q. All right. Otherwise, I will assume that
23 you did understand my questions.

24 A. **Okay.**

25 Q. Is that a fair assumption for me to make?

1 Q. And what is your title with
2 Louisiana-Pacific Corporation?

3 A. **Quality and technical manager, OSB business.**

4 Q. Quality and technical manager, OSB business?

5 A. **Right.**

6 Q. How long has that been your title at the
7 company?

8 A. **Six and a half years.**

9 Q. And how long all told have you been employed
10 by Louisiana-Pacific?

11 A. **15 years.**

12 Q. Before you were a quality and technical
13 manager for the OSB business, what was your
14 position with the company?

15 A. **Prior to that, I was the regional quality
16 manager for the northern region.**

17 Q. And out of curiosity, what is the northern
18 region?

19 A. **At the time, it was comprised of six OSB
20 plants, primarily in the northern U.S. and Canada.**

21 Q. And if you've been with the company for
22 15 years, we've accounted for approximately 12 and
23 a half of those years, have you had any positions
24 previous to those?

25 A. **Yes. Previous to regional quality manager,**

1 A. **Yes.**

2 Q. If I ask you a question that you feel calls
3 for a "yes" or a "no" answer, could you verbalize
4 your response as "yes" or "no," rather than nodding
5 or shaking your head or saying "uh-huh" or "huh-uh"
6 so that we don't end up arguing later over what
7 your answer actually was; is that fair?

8 A. **Yes.**

9 Q. And if I remind you to do that at any point
10 during the deposition, I hope you won't hold that
11 against me.

12 A. **I won't.**

13 Q. If you need to take a break at any point,
14 this is not an endurance contest, I don't think
15 it's going to go forever, but if you need to take a
16 break at any point just let me know and I'll be
17 happy to accommodate you. I would ask that if you
18 wish to take a break and I have a question pending,
19 that you answer the question completely before we
20 begin our break; is that fair?

21 A. **That's fair.**

22 Q. Could you state your full name, please?

23 A. **Brian Michael St. Germain.**

24 Q. And how are you employed?

25 A. **By Louisiana-Pacific Corporation.**

1 **I was the SPC implementation manager, statistical
2 process control, implementation manager.**

3 Q. "SPC" stands for statistical process
4 control?

5 A. **Correct.**

6 Q. And does that account for your full career
7 with Louisiana-Pacific Corporation?

8 A. **No. Prior to that, I was a research and
9 development technician for the siding business.**

10 Q. Any particular sort of siding?

11 A. **LP siding.**

12 Q. LP stands for Louisiana-Pacific?

13 A. **Louisiana-Pacific, yes.**

14 Q. So all forms of siding, or did you have a
15 specific area of concentration?

16 A. **It was the SmartSide business.**

17 Q. Can you tell me what SmartSide is?

18 A. **SmartSide is our strand based siding
19 product.**

20 Q. When you say a "strand based siding
21 product," I'll let you know when I think of
22 Louisiana-Pacific, one of the things I think about
23 is a product called oriented strand board by lay
24 people. Is that what we're talking about?

25 A. **It's very similar, you know, different**

1 **performance requirements.**
 2 Q. And since -- OSB is typically used as
 3 siding, is it?
 4 A. **No.**
 5 Q. But a SmartSide can be used as siding?
 6 A. **Yeah, it's a different product. It's a**
 7 **similar substrate, but then it's going to have**
 8 **different features that enable it to be used**
 9 **outside.**
 10 Q. Was SmartSide a radiant barrier siding
 11 product?
 12 A. **No.**
 13 Q. How were you employed before coming to
 14 Louisiana-Pacific?
 15 A. **Weyerhaeuser Corporation.**
 16 Q. And can you tell me approximately what years
 17 you were with Weyerhaeuser?
 18 A. **'96 through sometime '99.**
 19 Q. And did you begin with Louisiana-Pacific
 20 about '99?
 21 A. **Yes, '99, yes.**
 22 Q. And what did you do for Weyerhaeuser?
 23 A. **Product technician at an oriented strand**
 24 **board plant.**
 25 Q. Was that the only position you had with

1 Q. Have you had any other specialized
 2 education?
 3 A. **Yes.**
 4 Q. Tell me about that.
 5 A. **Primarily in the area of statistics, process**
 6 **control, industrial experimentation.**
 7 Q. And do you consider those to be the same
 8 field, or different fields?
 9 A. **Related but probably different disciplines**
 10 **within.**
 11 Q. Tell me about your training in statistics.
 12 A. **Most of what we do is understanding process**
 13 **variability and then how to interpret your data.**
 14 Q. And how have you obtained a training in
 15 statistics?
 16 A. **I've had classes both in college as well as**
 17 **the secondary courses.**
 18 Q. Where have you had your secondary courses in
 19 statistics?
 20 A. **Primarily through Donald Wheeler. He's --**
 21 **SPC Press, I think, is the name of his company.**
 22 **Donald Wheeler is one of the most recognized**
 23 **statisticians in the U.S., several publications.**
 24 Q. And does Mr. Wheeler teach conventional
 25 courses in a classroom, or how does he convey that

1 Weyerhaeuser?
 2 A. **Yes.**
 3 Q. How were you employed before Weyerhaeuser?
 4 A. **That was my first post college position.**
 5 Q. Okay. Which is a good lead-in to a question
 6 that I was going to ask you. Tell me about your
 7 educational background.
 8 A. **I have a wood science degree, a Bachelor of**
 9 **Science in wood science from Michigan Tech**
 10 **University.**
 11 Q. Where is Michigan Tech located?
 12 A. **Houghton, Michigan.**
 13 Q. Houghton?
 14 A. **Houghton, H-O-U-G-H-T-O-N.**
 15 Q. When did you obtain your bachelor's in wood
 16 science?
 17 A. **'96.**
 18 Q. And how many years all told did you attend
 19 Michigan Tech?
 20 A. **Five, five and a half.**
 21 Q. Have you attended any other colleges?
 22 A. **No.**
 23 Q. Since obtaining your Bachelor of Science in
 24 wood science, have you done any graduate work?
 25 A. **Not graduate work, no.**

1 education?
 2 A. **They're usually through week-long seminars.**
 3 **So week-long classes, kind of focused education.**
 4 **They're usually -- each course is about three**
 5 **continuing education units.**
 6 Q. Now, as an attorney, when I think of -- I
 7 have a specific meaning when I think of continuing
 8 education credits. In what field would your
 9 courses in statistics through Donald Wheeler,
 10 toward what field would those continuing education
 11 credits apply?
 12 A. **Those ones probably in the areas of either**
 13 **mathematics or statistics.**
 14 Q. Are you a member of any professional
 15 societies or organizations or licensed professions
 16 that would require you to maintain continuing
 17 education credits?
 18 A. **No, I'm not.**
 19 Q. But if you were, these would apply?
 20 A. **Yes.**
 21 Q. Have we covered the extent of your education
 22 in statistics, college and courses through
 23 Donald Wheeler?
 24 A. **No. I've also taken courses through the**
 25 **University of Tennessee in Knoxville.**

1 Q. As for those courses, are we speaking of --
 2 the courses at the University of Tennessee, are we
 3 speaking of the same thing, week-long seminars,
 4 that sort of thing?
 5 A. **Yes. Qualifying for about the same CEU**
 6 **type.**
 7 Q. All right. Let's talk about process
 8 control. Tell me what you mean by "process
 9 control."
 10 A. **Process control is specific if you have a**
 11 **lot of variation in any manufacturing process. So**
 12 **it's really -- that variation is what dictates the**
 13 **product quality. So I'm being able to understand**
 14 **it and control it. There's a whole science behind**
 15 **that, which is SPC.**
 16 Q. So as to minimize the variability of the
 17 product?
 18 A. **Identify it first, and then be able to look**
 19 **for, you know, reasons or ways to minimize it.**
 20 Q. And where have you obtained continuing
 21 education in process control?
 22 A. **Those classes that I've already spoken**
 23 **about. That's what they are geared towards.**
 24 Q. I believe you also mentioned industrial
 25 experimentation?

13

1 I suspect I know the answer to this, but
 2 have you ever been convicted of a felony?
 3 A. **No, I haven't.**
 4 Q. What, if anything, did you do to prepare for
 5 today's deposition?
 6 A. **I came in this morning and met with George**
 7 **and Laura at LP and came over here.**
 8 Q. You met with George and Norma?
 9 A. **Laura, Laura Proctor.**
 10 Q. And what is Laura Proctor's position?
 11 A. **She is in our legal team. I don't know her**
 12 **exact title.**
 13 Q. Is she an attorney or a paralegal?
 14 A. **Attorney.**
 15 Q. Did you review any documents to review for
 16 today's deposition?
 17 A. **No, I haven't.**
 18 Q. And apart from meeting with George and
 19 Laura Proctor, you haven't done anything else to
 20 prepare for today's deposition?
 21 A. **No.**
 22 Q. Can you describe your duties as quality and
 23 technical manager, OSB business for me?
 24 A. **I'm accountable for all of product quality**
 25 **and ensuring our products meet customer**

15

1 A. **Yes.**
 2 Q. Tell me what you mean by that.
 3 A. **Design of experiments is what it's typically**
 4 **referred to. There is a -- that was taught through**
 5 **Donald Wheeler. There's a whole process for**
 6 **conducting industrial experimentation that helps**
 7 **you isolate variables and better understand sources**
 8 **of variability and what's impacting them.**
 9 Q. And that's also taught through
 10 Donald Wheeler's program?
 11 A. **Yes.**
 12 Q. Do you have any plans to seek further
 13 education apart from the continuing industrial
 14 education that you spoke of?
 15 A. **I'm currently enrolled in leadership classes**
 16 **at Belmont here in Nashville.**
 17 Q. And is that on behalf of Louisiana-Pacific?
 18 A. **Yes.**
 19 Q. By way of a few background questions, have
 20 you ever given a deposition prior to today?
 21 A. **No, I haven't.**
 22 Q. Have you ever testified in a court or before
 23 an administrative panel?
 24 A. **No, I haven't.**
 25 Q. You're doing fine.

14

1 **expectations. That's my primary function.**
 2 Q. How do you go about being accountable for
 3 product quality and ensuring that products meet
 4 customer expectations?
 5 A. **I'm accountable for all of our quality**
 6 **systems at the plant level.**
 7 Q. Is that throughout the corporation or --
 8 A. **Within the OSB business.**
 9 Q. And when you say the OSB business, what
 10 products come within the ambit of the OSB business?
 11 A. **Everything, we have 12 manufacturing sites.**
 12 **So there's OSB based products, there is various**
 13 **special features to those products that can**
 14 **differentiate them.**
 15 Q. Could you --
 16 A. **The special features? So obviously --**
 17 Q. Or if you want to name the products and tell
 18 me --
 19 A. **Yes.**
 20 Q. -- how they're distinguished.
 21 A. **Okay. TechShield would be one. We have**
 22 **various grades of OSB flooring. We manufacture rim**
 23 **board. We make a FlameBlock, it's a fire resistant**
 24 **OSB product.**
 25 Q. Any other products come to mind?

16

1 A. **No.**
 2 Q. So I have TechShield, OSB flooring, ring
 3 board?
 4 A. **Rim board.**
 5 Q. What is rim board?
 6 A. **Rim board is if you were installing a -- if**
 7 **you were building a house, when you're doing your**
 8 **floor system, you're going to lay out all of your**
 9 **I-joists or your floor trusses, basically. And**
 10 **then surrounding the perimeter of that, the rim**
 11 **around it is your rim board which attaches to the**
 12 **joists.**
 13 **We also make -- I guess there's other**
 14 **variations of OSB that we make. We make web stock**
 15 **which actually goes in the I joists of the floor**
 16 **systems or roof systems. And then, of course, OSB**
 17 **sheathing, just standard OSB sheathing. That's the**
 18 **primary product.**
 19 Q. Uh-huh. Have we covered all the products
 20 for which you're responsible for ensuring quality?
 21 A. **Yes.**
 22 Q. Correct me if I'm wrong, but
 23 Louisiana-Pacific is a multinational corporation?
 24 A. **Yes.**
 25 Q. Are you responsible for the company's OSB

17

1 product quality worldwide, or solely within the
 2 United States or a specific geographic region?
 3 A. **Primarily through the -- I'm directly**
 4 **accountable for the United States or I should say**
 5 **North America, U.S. and Canada. I also have some**
 6 **accountability for South America, but not direct.**
 7 **It's more of a resource.**
 8 Q. You're a resource for the company's South
 9 American operations?
 10 A. **We have a South American division, yes, sir,**
 11 **and that's -- I provide them support.**
 12 Q. Do you have a staff?
 13 A. **Yes.**
 14 Q. How large is your staff?
 15 A. **I have three direct reports, one indirect**
 16 **report, and then underneath those, it gets down**
 17 **into the plant level staff.**
 18 Q. And by the three direct reports, would those
 19 be people responsible for specific product lines or
 20 geographic regions, how does that work?
 21 A. **No. I have one quality manager, who all of**
 22 **the plant quality managers report directly to him.**
 23 **So he's more on the manufacturing side. I have a**
 24 **product process development manager who oversees**
 25 **new product development and new process**

18

1 **development. Then I also have a customer service**
 2 **manager.**
 3 Q. You said that you oversee new product
 4 development?
 5 A. **Yes.**
 6 Q. Would that be solely within the OSB business
 7 division of the company, or would it pertain to
 8 other products as well?
 9 A. **Primarily the OSB business. We do have a**
 10 **shared oversight into the other businesses as well.**
 11 Q. And I believe you mentioned that person's
 12 title was a product process manager?
 13 A. **Product process development manager.**
 14 Q. Development manager. I'm sorry.
 15 Who is the company's product process
 16 development manager?
 17 A. **Jeff Jayne.**
 18 Q. And how do I spell the last name?
 19 A. **J-A-Y-N-E.**
 20 Q. And is Mr. Jayne here in Nashville as well?
 21 A. **No, he's in Sagola, Michigan.**
 22 Q. Are you familiar with the development of the
 23 LP TechShield product?
 24 A. **No.**
 25 Q. Do you know when the product was developed?

19

1 A. **Approximately.**
 2 Q. Approximately when was it developed?
 3 A. **Approximately -- well, LP took the name and**
 4 **the product in roughly 2000, '99 or 2000.**
 5 Q. Okay. You said the company took the name
 6 and the product?
 7 A. **It was previously manufactured by a company**
 8 **called Kool Ply.**
 9 Q. How do I spell the name of that company?
 10 A. **Cool with a K. So K-O-O-L, ply, P-L-Y.**
 11 Q. Is that one word or two?
 12 A. **I think it's dashed or hyphenated.**
 13 Q. Was the product known as TechShield when it
 14 was manufactured by Kool Ply?
 15 A. **No, it was known as Kool Ply. And I'll have**
 16 **to go back. I mean, I'm not exactly sure if**
 17 **Kool Ply was the brand name or if that was the name**
 18 **of the company, and the company name might have**
 19 **been something different. I've always just heard**
 20 **it referred to as Kool Ply.**
 21 Q. And you said that was approximately 12 years
 22 ago?
 23 A. **Yes.**
 24 Q. Do you know when Kool Ply developed the
 25 product?

20

1 A. **They had been on the market for a while**
2 **prior to that. I don't know. I don't know the**
3 **specific date or even an approximate date.**
4 Q. If you know, did Louisiana-Pacific acquire
5 Kool Ply, or did it purchase the product?
6 A. **We acquired Kool Ply.**
7 Q. And would that mean you -- and by "you," I
8 mean Louisiana-Pacific acquired all of Kool Ply's
9 assets, manufacturing the product itself,
10 et cetera?
11 A. **I don't know all the details.**
12 Q. Fair enough. And that would have occurred
13 sometime around the year 2000?
14 A. **Yes.**
15 Q. Do you know -- and I may have already asked
16 you this, but do you know how long Kool Ply had had
17 the product on the market at the time LP took it
18 over?
19 A. **It was for several years. I don't know how**
20 **many. I mean, I believe it was quite a while, say**
21 **upwards of ten years. But I don't know**
22 **specifically how long they had it, no.**
23 Q. Correct me if I'm wrong, but when that
24 occurred, you would have been regional quality
25 manager for the northern region?

1 **home's energy costs by making use of radiant**
2 **barrier materials. Radiant barrier limits --**
3 **radiation from the sun is really what we're trying**
4 **to protect from. So that tends to heat up the**
5 **roof. And so this product helps limit the amount**
6 **of the sun's heat that radiates into the attic.**
7 Q. And Louisiana-Pacific's radiant barrier
8 sheathing is known as TechShield, correct?
9 A. **Correct.**
10 Q. Going forward in the deposition, I'm going
11 to be using the term a whole lot.
12 A. **That's fine.**
13 Q. If I'm referring to TechShield, you
14 understand that to be Louisiana-Pacific's radiant
15 barrier sheathing?
16 A. **Yes.**
17 Q. You mentioned that TechShield is designed
18 for use in roofing?
19 A. **Primarily, yes.**
20 Q. All right. Are there any other applications
21 for the product?
22 A. **It can be used as a sheathing as well.**
23 **Primarily, it could be used on the gable ends in a**
24 **house. By "gable ends," I mean that area of the**
25 **attic which would be facing the interior of the**

1 A. **Yes.**
2 Q. Other than the product that is now known as
3 TechShield, do you know what else, if anything,
4 Louisiana-Pacific acquired from Kool Ply?
5 A. **I'm not aware of anything else.**
6 Q. So, for instance, no one came to you and
7 said, Brian, we're going to give you three new
8 manufacturing plants to oversee in the northern
9 division at that time?
10 A. **No.**
11 Q. Okay. Prior to acquiring Kool Ply and its
12 product, do you know whether Louisiana-Pacific had
13 been involved in the manufacture and development of
14 any radiant barrier sheathing products?
15 A. **No, I don't know.**
16 Q. You're not aware of any radiant --
17 A. **I'm not aware.**
18 Q. -- barrier products?
19 A. **I was not aware.**
20 Q. Okay. Let's talk about terminology. You
21 know quite a bit more about the radiant barrier
22 sheathing product than I do. Can you tell me what
23 you mean by the term "radiant barrier" first?
24 A. **Well, we manufacture radiant barrier**
25 **sheathing. And so radiant barrier helps reduce a**

1 **attic.**
2 Q. Yes, sir. And what are the components of
3 TechShield?
4 A. **The components?**
5 Q. Yes, sir.
6 A. **We start with a base of OSB sheathing, and**
7 **that would be a radiant sheathing product similar**
8 **to what we'd use if a radiant barrier wasn't used.**
9 **We then laminate the foil to that product with an**
10 **adhesive. After lamination, we incise the foil.**
11 **And by incising, I mean we perforate -- we push**
12 **through the foil through the glue line into the**
13 **wood fiber. And that's a patented process.**
14 Q. You push the foil into the product?
15 A. **Small, very small holes that we push into**
16 **the product.**
17 Q. And what's the purpose of the small holes?
18 A. **The purpose of the holes is to allow the**
19 **wood to dry if it were to become wet during**
20 **construction.**
21 Q. And does it have any other benefits?
22 A. **No.**
23 Q. So the components of TechShield are three,
24 as I understand it. A radiated OSB sheathing --
25 A. **Yes.**

1 Q. -- first, correct?
2 A. **Uh-huh.**
3 Q. A laminant, that's an adhesive?
4 A. **Well, there's a glue line.**
5 Q. Yes, sir.
6 A. **And so you have the OSB sheathing, the glue**
7 **line, and then the radiant barrier below it.**
8 Q. What sort of glue does the company use?
9 A. **What sort of glue?**
10 Q. Yes, sir.
11 A. **I'd have to get the exact chemical name. It**
12 **would be similar to like an Elmer's type glue.**
13 Q. So just a standard wood glue?
14 A. **For the most part, yeah. It cures under**
15 **standard conditions so heat is not required.**
16 Q. And as for the OSB sheathing portion of the
17 TechShield product, is that essentially identical
18 to standard Louisiana-Pacific OSB TechShield?
19 A. **Yes, of the same grade.**
20 Q. But it's not something that
21 Louisiana-Pacific or someone else developed
22 specifically for use in TechShield?
23 A. **No. No.**
24 Q. As for the aluminum foil laminant, is there
25 any paper portion of the foil laminant?

25

1 A. **International Converter.**
2 Q. And where is International Converter
3 located, or do you know where they manufacture it?
4 A. **It varies. I believe they have three**
5 **different manufacturing locations that we'll get**
6 **our product from. I believe the product that was**
7 **manufactured in Roxboro would be more likely coming**
8 **out of Ohio, but I'd have to double check.**
9 Q. And you just mentioned Roxboro, I take it
10 you're thinking of Roxboro, North Carolina?
11 A. **Yes.**
12 Q. Would it be fair to say that -- the Taylor
13 home is in Lewisburg. So in any event, that's
14 close enough.
15 A. **Uh-huh.**
16 Q. Would it be fair to say that it's likely
17 that if we have a home in North Carolina, the foil
18 laminant was manufactured in the Ohio plant?
19 A. **I would have to double check. But it's --**
20 **you know, logistically, you would want to source it**
21 **from the closest plant.**
22 Q. Sure.
23 A. **I would have to double check. I think**
24 **that's the closest, but I'm not sure.**
25 Q. Other than Ohio, do you know where

27

1 A. **Yes.**
2 Q. All right. Tell me about that.
3 A. **Well, the radiant barrier foil that I**
4 **described would be a craft paper. And then to the**
5 **craft paper laminated a very thin sheet of**
6 **aluminum.**
7 Q. And how is the thin sheet of aluminum
8 laminated to the craft paper?
9 A. **I don't know specifically how it's**
10 **laminated.**
11 Q. Would it be with glue or an adhesive or --
12 A. **Well, the craft paper would be a phenolic**
13 **saturated craft paper. And so the phenolic would**
14 **be basically the resins in the paper that would**
15 **laminates to the foil.**
16 Q. Okay. So the craft paper essentially
17 laminates itself when --
18 A. **I believe that that -- I haven't been to**
19 **their process, so I can't say specifically how it's**
20 **laminated.**
21 Q. Where -- well, first, by whom is the
22 aluminum foil manufactured, is that done within
23 Louisiana-Pacific?
24 A. **No, we purchase the foil.**
25 Q. By whom do you purchase it?

26

1 International Converter manufactures the foil
2 laminant itself?
3 A. **I don't.**
4 Q. You have mentioned business operations in
5 North America making up the U.S. and Canada as well
6 as South America. Does Louisiana-Pacific have
7 business operations on any other parts of the globe
8 that you're aware of?
9 A. **Not manufacturing, no.**
10 Q. How about sales?
11 A. **Yes, we do sell internationally.**
12 Q. And by "internationally," does that mean the
13 European market?
14 A. **Yes.**
15 Q. In what world markets is the TechShield
16 product sold?
17 A. **U.S.**
18 Q. U.S. only?
19 A. **U.S., Canada -- well, I take that back. We**
20 **don't sell in Canada. We manufacture in Canada.**
21 **We don't sell in Canada.**
22 Q. Is it sold in South America?
23 A. **Yes.**
24 Q. Is it sold in Europe?
25 A. **Not that I'm aware of.**

28

1 Q. Is it sold in any other geographical region
 2 other than the United States and South America,
 3 which I guess would -- would that take into account
 4 Central America as well?
 5 A. **I don't believe we sell to Central America.**
 6 Q. Okay. Then would it be sold in any other
 7 part of the globe?
 8 A. **We do manufacture in South America and it**
 9 **would be sold in South America.**
 10 Q. But nowhere else, not Europe?
 11 A. **I don't believe so.**
 12 Q. Not Africa?
 13 A. **I don't believe so.**
 14 Q. Not Asia?
 15 A. **I don't -- yeah, again, our South American**
 16 **is a different company. So I don't know exactly**
 17 **where all their sales are.**
 18 Q. Fair enough. Why isn't the product sold in
 19 Canada?
 20 A. **It had had limited benefits in that**
 21 **environment, in that climate primarily.**
 22 Q. People in Canada don't need to cool their
 23 attics, I take it?
 24 A. **No.**
 25 Q. Or at least not to the extent they do in

1 THE WITNESS: So, George, can I
 2 describe it in general terms?
 3 MR. MURPHY: In general terms.
 4 THE WITNESS: It's relatively simple, I
 5 guess.
 6 MR. MURPHY: Sure.
 7 THE WITNESS: So the foil comes to us
 8 on large rolls cut the same width as the width of
 9 our board, which is approximately 4 feet. It will
 10 go onto an unwinder. OSB panels are -- come in a
 11 unit. So you'll have say 70-some pieces of an OSB
 12 unit. It will get unloaded into a continuance
 13 line. It will go through a glue applicator, which
 14 is essentially a curtain coater. So you'll get a
 15 continuous glue line through the curtain coater.
 16 After the curtain coater, the foil is laid on to
 17 the product.
 18 After it is laid on to the product, it goes
 19 through some heavy incising rolls that puts the
 20 incising perforations in the board. After that,
 21 the foil is cut and the -- every 8 feet, basically,
 22 or whatever the length of the panel is and then it
 23 goes into the stack. And that's it.
 24 BY MR. ANDERS:
 25 Q. And then it goes on to distributors or

1 North Carolina or Tennessee?
 2 A. **It's primarily used when you're trying to --**
 3 **in a cooling climate, primarily a cooling climate.**
 4 Q. Has the TechShield product ever been sold in
 5 Canada?
 6 A. **I can't say that. I don't know. I mean,**
 7 **we'll -- LP sells to distributors and where our**
 8 **product gets distributed to from there we don't**
 9 **always have control over.**
 10 Q. Okay.
 11 A. **It would be unlikely though.**
 12 Q. We were speaking earlier about the aluminum
 13 foil laminant and that the company purchased it
 14 from International Converter. When you, meaning
 15 Louisiana-Pacific, buys this product does it come
 16 preapplied to the craft paper?
 17 A. **Yes.**
 18 Q. Can you tell me about the steps that are
 19 involved in taking these three components, the OSB
 20 sheathing, the glue and the laminant, the aluminum
 21 foil laminant, how do they come together to become
 22 the TechShield radiant barrier? Can you walk me
 23 through the manufacturing process at
 24 Louisiana-Pacific?
 25 A. **Yeah. It is a patented process.**

1 wherever it ends up going when you --
 2 A. **Yes.**
 3 Q. Is TechShield targeted at any specific
 4 market of the construction trades?
 5 A. **Markets? It's the roofing market.**
 6 Q. Does it have a residential or a commercial
 7 focus?
 8 A. **Primarily, it's residential.**
 9 Q. And does Louisiana-Pacific market it to any
 10 like specific distributor, or would it just be if
 11 I've got a building products company and I want to
 12 sell TechShield, I call the company up and I get
 13 it?
 14 A. **Yeah.**
 15 Q. Are there any restrictions on its marketing,
 16 I should say?
 17 A. **Restrictions on its marketing?**
 18 Q. Yes.
 19 A. **We don't intentionally sell it into northern**
 20 **markets.**
 21 Q. And why is that?
 22 A. **It has a limited use in those markets. We**
 23 **don't market it in those areas.**
 24 Q. Okay. So it would be fair to say that you
 25 concentrate your marketing in southern markets?

1 A. **Yes, southern U.S.**
2 Q. Can anyone purchase TechShield?
3 A. **Yes.**
4 Q. Does the company require any training or
5 certifications of TechShield applicators or
6 roofers?
7 A. **No.**
8 Q. Does Louisiana-Pacific make training
9 available to roofers in the application of
10 TechShield?
11 A. **Not training per se, but we have**
12 **installation instructions specific to TechShield.**
13 Q. Who drafted those or who drafts those
14 installation instructions?
15 A. **I mean, I wasn't there when the original**
16 **ones were drafted, but I have been part of some**
17 **updates to those documents. So that's under my**
18 **responsibility. I shouldn't say I don't draft them**
19 **though. It would be drafted by our marketing**
20 **department, I have to review them for accuracy.**
21 Q. But they're drafted by your marketing
22 department?
23 A. **Yes.**
24 Q. Does Louisiana-Pacific also make available
25 instructions for the application of ordinary OSB

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1 sheathing in the roofing context?
2 A. **Yes.**
3 Q. At this time, do the instructions for
4 TechShield vary in any significant fashion from
5 those for applying ordinary OSB sheathing?
6 A. **Yes.**
7 Q. Tell me what the differences are.
8 A. **So the primary difference, the product is**
9 **installed as any ordinary roof sheathing would be**
10 **installed.**
11 Q. Yes, sir.
12 A. **So the actual installation and some of the**
13 **key components of that are the same. By that, I**
14 **mean your spacing, your fastening schedule, all of**
15 **that has already been determined and they are the**
16 **identical products in that sense.**
17 **In regards to the radiant barrier, we need**
18 **to make it known that there needs to be at least an**
19 **inch and a half air space from the surface of the**
20 **foil. And that's really the primary difference**
21 **between our standard sheathing installation**
22 **instructions and radiant barrier sheathing.**
23 Q. Any other differences of which you're
24 aware of?
25 A. **No.**

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1 Q. Are there any differences in the method
2 of -- methods of attachment, in the standard method
3 of attachments of TechShield in the roofing context
4 from those of OSB sheathing?
5 A. **No, there's not.**
6 Q. How is the product typically attached?
7 A. **Nails.**
8 Q. You mentioned -- I believe you mentioned
9 that there's a requirement that the panels
10 themselves be separated by a certain space; is that
11 true?
12 A. **Yes. It's recommended that there be an**
13 **8-inch spacing between the panels.**
14 Q. And why is that recommended?
15 A. **OSB is a wood-based product and, therefore,**
16 **the dimensions of it change with changes in**
17 **moisture, just regular atmospheric moisture**
18 **conditions.**
19 Q. Yes, sir.
20 A. **Similar to if you have your house sometimes**
21 **in the winter, your doors, they shut just fine but**
22 **come summer, they get squeaky and they start**
23 **touching because your house is changing**
24 **dimensionally. So you need to provide a space for**
25 **that panel's expansion and contraction.**

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1 Q. And how is that space typically provided?
2 A. **Typically, it's provided with -- about an**
3 **18 nail is an eighth-of-an-inch space. So if**
4 **you're an installer and you're gapping the panels**
5 **on the 4-foot ends, you're going to put an 18 nail**
6 **to gap that.**
7 **If you're using it in a roofing application,**
8 **if you're gapping on the -- between the panels,**
9 **they're on the 8-foot length, it's recommended that**
10 **roofing clips be used, and those clips will provide**
11 **that recommended spacing.**
12 Q. Have you ever applied TechShield on a roof?
13 A. **Not TechShield, no.**
14 Q. But have you applied standard OSB sheathing
15 on a roof?
16 A. **Yes.**
17 Q. And I believe you already mentioned the
18 guideline that there be a one-and-a-half inch air
19 space between the sheathing and the roof; is that
20 correct?
21 MR. MURPHY: Objection to the form.
22 BY MR. ANDERS:
23 Q. Sorry. Tell me about that again, the
24 one-and-a-half inch air space.
25 A. **The one-and-a-half inch air space would be**

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1 **between the foil and any other materials with the**
2 **exception of, obviously, it's got to lay on the**
3 **rafters.**

4 Q. Yes, sir.

5 A. **But that doesn't apply to the rafters, it**
6 **has to be attached to the rafters. So between the**
7 **rafters, it has to have an inch-and-a-half air**
8 **space.**

9 Q. And apart from the one-and-a-half inch air
10 space between the foil layer of TechShield product
11 and -- strike that.

12 Louisiana-Pacific does not recommend a
13 one-and-a-half inch air space between its OSB
14 sheathing in a roofing context and other materials;
15 is that true?

16 A. **That's true.**

17 Q. So apart from the recommendation that there
18 be a one-and-a-half inch air space between
19 TechShield and similar materials, are there any
20 other differences in Louisiana-Pacific's guidelines
21 or recommendations for installation of TechShield
22 as opposed to OSB sheathing in a roofing context?

23 A. **No.**

24 Q. You mentioned that in a roofing context,
25 panels of TechShield are typically separated by

1 marked as Exhibit 1 to your deposition. Could you
2 take a minute and read through that document?

3 A. **(Complies.)**

4 Q. Are you familiar with it?

5 A. **I'm familiar with it.**

6 Q. What is it?

7 A. **It appears to be our TechShield radiant**
8 **barrier installation instructions. It's not**
9 **complete, the first page.**

10 Q. How is it incomplete?

11 A. **I believe we would have some other parts of**
12 **it prior to this. So I don't know if this is an**
13 **excerpt from it or where exactly this came from.**

14 Q. Well, I'll represent to you that it came
15 from Louisiana-Pacific's attorneys. If you could
16 look at the second page of it, it has a copyright
17 date of 2005, does it not, towards the bottom?

18 A. **Yes.**

19 Q. Would these have been the TechShield radiant
20 barrier installation instructions in effect in
21 2005?

22 A. **Yes. If it's copyrighted in 2005, it should**
23 **have been.**

24 Q. All right. Have the installation
25 instructions for TechShield been revised since

1 roofing clips?

2 A. **Yes.**

3 Q. And in the North American market, what are
4 the roofing clips typically made out of?

5 A. **They can be made out of either -- primarily**
6 **what you see is spring steel. Simpson Strong-Tie**
7 **is probably the largest manufacturer of those. And**
8 **there are some aluminum clips on the market as**
9 **well.**

10 Q. Does Louisiana-Pacific recommend any
11 specific material of roofing clips for use with
12 TechShield?

13 A. **No.**

14 Q. Does Louisiana-Pacific recommend against any
15 specific material --

16 A. **No.**

17 Q. -- of roofing clips for use of TechShield?

18 A. **No.**

19 MR. ANDERS: Off the record for a
20 second.

21 (Off-the-record discussion.)

22 (WHEREUPON, the above-mentioned
23 document was marked as Exhibit Number 1.)

24 BY MR. ANDERS:

25 Q. Mr. St. Germain, I'll show you what's been

1 2005?

2 A. **I believe so, I don't know. Normally, that**
3 **would have occurred -- we update these from time to**
4 **time.**

5 Q. Do you know when it was last revised?

6 A. **I don't off the -- I don't recall at this**
7 **time.**

8 Q. Did you have any hand in drafting of or
9 oversight of the drafting of these installation
10 instructions?

11 A. **Yes.**

12 Q. Okay.

13 A. **I don't know these specific ones if it's**
14 **'05. It would have been -- that would have been**
15 **before I started this position, my current**
16 **position.**

17 Q. Who had your position before you had it?

18 A. **Bob Palarady -- I guess Robert would be his**
19 **first name.**

20 Q. Robert Palarady. How do I spell his last
21 name?

22 A. **P-A-L-A-R-A-D-Y.**

23 Q. Is Mr. Palarady still with the company?

24 A. **Yes.**

25 Q. And what is his position now?

1 A. **I don't know his active -- his title.**
 2 **He's --**
 3 Q. In general.
 4 A. **Yeah, he's kind of our technical manager for**
 5 **the corporation.**
 6 Q. And understanding that he's not here to
 7 speak for himself about what his position entails,
 8 can you tell me generally what the technical
 9 manager does or what do you mean by the technical
 10 manager?
 11 A. **Well, previously, we had a lab in Franklin**
 12 **and he was the manager of that lab. And we've**
 13 **since had to close that lab, but we've retained Bob**
 14 **and a few of his people and he still manages over**
 15 **them.**
 16 Q. Would that be in Franklin, Tennessee?
 17 A. **Yes.**
 18 Q. And where does Mr. Palarady work?
 19 A. **Nashville.**
 20 Q. Do you have any role in supervising
 21 Mr. Palarady?
 22 A. **No.**
 23 Q. The reason I asked is you mentioned that you
 24 had some role in oversight of the company's
 25 research and development of new products within the

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1 that Mr. Palarady would have been responsible for
 2 overseeing the drafting of these instructions in
 3 2005?
 4 MR. MURPHY: Objection to form.
 5 BY MR. ANDERS:
 6 Q. You can answer.
 7 A. **That would be my assumption. I don't know**
 8 **that he oversaw them or not.**
 9 Q. If the company were to -- if someone came to
 10 you tomorrow and said, We need to draft new
 11 instructions for the installation of TechShield,
 12 and that were done, would you be responsible for
 13 overseeing their drafting?
 14 A. **I'd be responsible for the finished outcome.**
 15 Q. Had you participated in the drafting of new
 16 installation instructions for TechShield or revised
 17 installation instructions for TechShield?
 18 A. **I don't recall specifically in the last six**
 19 **years. I believe we've updated these once, minor**
 20 **changes.**
 21 Q. I'll represent to you that we received a set
 22 from your attorneys, which I'm not going to go into
 23 today, but it was drafted in 2009.
 24 A. **Yeah, that's about right.**
 25 Q. Does that sound right?

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1 OSB line.
 2 A. **Yes.**
 3 Q. If I were to do an organizational chart of
 4 the company -- which I'm not going to, and I'm not
 5 going to ask you to do it. Mr. Palarady, though,
 6 would not be under you in any way?
 7 A. **No.**
 8 Q. Would he be above you in any way?
 9 A. **Not on an org chart, no.**
 10 Q. Does he supervise your work or have any
 11 oversight of your work in any way?
 12 A. **No. Well, let me change -- let me rephrase**
 13 **that. He would serve as a support to my work, as a**
 14 **resource.**
 15 Q. And how does he support your work?
 16 A. **He would function any expertise that we need**
 17 **with either himself or his people.**
 18 Q. And what is his field of expertise?
 19 A. **What is Bob's field of expertise?**
 20 Q. Yes, sir, understanding he's not here to
 21 speak for himself, also.
 22 A. **Yeah. My understanding is he would be very**
 23 **similar to mine. Similar background, similar**
 24 **educations.**
 25 Q. So as we sit here today is it your belief

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1 A. **Yeah.**
 2 Q. Correct?
 3 And were you involved in any way in the
 4 drafting or oversight of those revisions?
 5 A. **Only in the oversight. So, again, on the**
 6 **finished product. I don't write them specifically,**
 7 **but...**
 8 Q. I want to ask you about this document, which
 9 I received from your attorneys. You mentioned when
 10 I showed it to you that you believe there are other
 11 portions of the document or that some of it is
 12 missing?
 13 A. **I don't know that for certain that is a 2005**
 14 **document. I don't recall back in 2005 how the**
 15 **document looked exactly. It just looks different**
 16 **than what we currently have right now, which would**
 17 **be the 2009.**
 18 Q. Okay. Well, this is a black and white
 19 photocopy of a colored document, and the colors in
 20 the original from which it was copied were orange.
 21 Are there any other significant differences?
 22 A. **What are you --**
 23 Q. Is it --
 24 A. **Different than what?**
 25 Q. This is a two-page document.

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1 A. **Okay.**
2 Q. Are the current installation instructions of
3 significant difference in terms of length?
4 A. **I don't know how long our current ones are,**
5 **maybe two or three pages.**
6 Q. Okay. And how are installation instructions
7 such as the 2005 instructions disseminated by
8 Louisiana-Pacific to customers, if at all?
9 A. **They're available on our website and that's**
10 **typically we'll refer customers to our website.**
11 Q. And how are customers referred to your
12 website?
13 A. **Through any number of product literature.**
14 **So this would be in a company sell sheet which**
15 **would then list our website for additional**
16 **information.**
17 Q. But these instructions are not, for
18 instance, distributed with lots or pallets of --
19 A. **No.**
20 Q. -- TechShield?
21 A. **No.**
22 Q. We're here today to talk about a fire that
23 occurred at Christopher and Rosario Taylor's house
24 in North Carolina on August 29th of 2011. I'm
25 going to change gears a bit. Did you participate

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1 **house. There was a hole in the roof in the back of**
2 **the house. I recall it being about a 5-foot**
3 **diameter hole approximately.**
4 Q. Did you have any discussions with Mr. or
5 Mrs. Taylor when you visited the home?
6 A. **No, I didn't.**
7 Q. Did you attend that inspection with anyone
8 else from Louisiana-Pacific?
9 A. **Yes I did.**
10 Q. And who would that be?
11 A. **David Dellwo, Laura Proctor.**
12 Q. And were there any other parties that you
13 recall at the inspection?
14 A. **Yes, we had Dennis Scardino.**
15 Q. Who is Dennis Scardino?
16 A. **I don't know which company, I forget the**
17 **name of his company. He's a cause and origin fire**
18 **expert.**
19 Q. Was he there on behalf of Louisiana-Pacific?
20 A. **Yes.**
21 Q. Was anyone else at the inspection?
22 A. **Yes.**
23 Q. Who else if you recall?
24 A. **I don't recall. I want to say his name is**
25 **Mike. I don't recall his last name.**

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1 in an inspection of the Taylor home?
2 A. **Yes, I did.**
3 Q. When was that?
4 A. **I don't remember the specific date.**
5 Q. Around October of 2011, does that sound
6 correct?
7 A. **That sounds about right.**
8 Q. Do you have any personal recollection of
9 your visit to that home?
10 A. **Yes.**
11 Q. In what state was the home when you saw it?
12 A. **North Carolina. What state?**
13 Q. I apologize.
14 A. **The condition?**
15 Q. I phrased that very poorly.
16 Did the home appear to have been damaged --
17 A. **Yes.**
18 Q. -- when you visited it?
19 Can you describe the damage that you
20 observed?
21 A. **From the outside of the home, the only**
22 **visible damage we could see was a tarp over the**
23 **roof. So we were under the impression that when**
24 **you first arrived, there was damage. The house had**
25 **obviously been burned in the center portion of the**

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1 Q. And was he there on behalf of
2 Louisiana-Pacific, or someone else?
3 A. **Louisiana-Pacific.**
4 Q. And was the inspection also attended by a
5 party there on behalf of either the Taylors or
6 State Farm?
7 A. **Yes.**
8 Q. Do you recall any of those people?
9 A. **I don't recall all their names. I just**
10 **recall roughly who was there or how many people**
11 **were there.**
12 Q. In what capacity were you attending that
13 inspection?
14 A. **To -- we went to take a look at our product.**
15 **We were informed prior to that it was TechShield so**
16 **we wanted to validate that it was indeed TechShield**
17 **and also that it was installed correctly.**
18 Q. And were you able to form an opinion as to
19 whether the product on the Taylor home was
20 TechShield?
21 A. **Yes.**
22 Q. And what did you determine?
23 A. **It was TechShield.**
24 Q. And how did you make that determination?
25 A. **The product is stamped on the foil face with**

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1 **LP TechShield.**
2 Q. Were you able to form any opinions as to
3 whether the product in the Taylor home had been
4 installed correctly or incorrectly?
5 A. **It was installed correctly.**
6 Q. Did you make any observations as to whether
7 any of other portions of the roof assemblage within
8 the Taylor home had been installed correctly or
9 incorrectly?
10 A. **The construction practices in general**
11 **appeared to be fine and met building codes from**
12 **what I could see.**
13 Q. You mentioned that the roof had
14 approximately a 5-foot diameter hole that was
15 covered by tarp; is that correct?
16 A. **Yes.**
17 Q. And would that hole have been a hole --
18 strike that.
19 Did you make any observations about the area
20 surrounding that hole?
21 A. **It appeared that the hole was damaged by**
22 **fire. It was obvious the house was caught on fire**
23 **at some point.**
24 Q. Were you able to make any observations
25 concerning the cause of that fire in your

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1 A. **There was apparently some marks on the drip**
2 **cap of the chimney that were evidence of apparently**
3 **a lightning strike according to them.**
4 Q. Did you observe those marks?
5 A. **Yes.**
6 Q. To your mind, did those marks have any
7 significance?
8 A. **In my mind?**
9 Q. Yes, sir.
10 A. **Well, it didn't look like they should be**
11 **there. So I'm not the expert in lightning or what**
12 **impact it has when it hits a structure or a pipe.**
13 Q. Within the OSB business portion of
14 Louisiana-Pacific, would you agree that the OSB
15 business side of Louisiana-Pacific includes
16 TechShield?
17 A. **Yes, it does.**
18 Q. Does the company have any electrical
19 engineers on staff?
20 A. **Yes.**
21 Q. Within the OSB business?
22 A. **They -- let me think how that's structured.**
23 **I'm not certain if their reporting structure goes**
24 **up through the OSB business or up through the**
25 **engineering function.**

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1 inspection?
2 A. **I wasn't able to, no.**
3 Q. Did you have any discussions with Mr. --
4 have you had any discussions at any time with
5 Mr. Scardino regarding the cause of that fire?
6 A. **Yes.**
7 Q. Tell me about those discussions.
8 A. **Just in general, the belief was when we**
9 **arrived that the house was struck by lightning. So**
10 **we knew that going in. So they tried to find a**
11 **point of entry of the lightning, which I believe**
12 **they had determined was at the chimney stack or**
13 **chimney pipe.**
14 Q. And when you say "they," who makes up
15 "they"?
16 A. **They would be Dennis and their cause and**
17 **origin person.**
18 Q. State Farm's and the Taylors'?
19 A. **State Farm, yeah.**
20 Q. So it's your understanding that Mr. Scardino
21 and State Farm's cause and origin expert had
22 determined that the chimney was the point of entry
23 for the lightning in the home?
24 A. **That was my understanding.**
25 Q. And how did you come by that understanding?

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1 Q. So does Louisiana-Pacific have a separate
2 engineering department?
3 A. **Yes.**
4 Q. And who is in charge of the company's
5 engineering department?
6 A. **David Crowe.**
7 Q. I'm sorry. David?
8 A. **David Crowe, C-R-O-W-E.**
9 Q. Is that a separate department from the OSB
10 business?
11 A. **Yes.**
12 Q. If we were to talk about the company's
13 hypothetical org chart, would the OSB -- would this
14 fall within the OSB business at all?
15 A. **Engineering?**
16 Q. Yes.
17 A. **It would be considered a supporting function**
18 **to the business so they would also support our**
19 **other businesses. So they're not specific to ours.**
20 Q. You mentioned that in your role as quality
21 and technical manager, OSB business that you have
22 responsibility for overseeing the development of
23 new products?
24 A. **Yes.**
25 Q. Is the engineering -- well, first, what is

52

1 the name of the engineering department within the
2 OSB -- with Louisiana-Pacific?
3 A. **Engineering.**
4 Q. Just engineering department?
5 A. **Yes.**
6 Q. Okay. Does the engineering department have
7 any role in the development of new products within
8 the OSB business?
9 A. **They could support the development of new
10 products if needed.**
11 Q. What sort of supports do they provide?
12 A. **It depends on the nature of the product.**
13 Q. Can you give me -- without violating any
14 trade secrets, can you give me examples of past
15 supports that they've provided to your company
16 during your tenure as quality and technical
17 manager, OSB business?
18 A. **So their function is primarily going to be
19 in developing the manufacturing footprint, say, to
20 be used to manufacture these new products.**
21 Q. And tell me what you mean by manufacturing
22 footprint.
23 A. **The actual manufacturing. So you may
24 have some-- there's certain things you can do in
25 the lab, but once you move it into production, you**

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1 better term, lightning experts on staff?
2 A. **No.**
3 Q. And have the company's -- you mentioned that
4 there may be electrical engineers within the
5 company and that they work through the engineering
6 department of the company, correct?
7 A. **Yes.**
8 Q. Have -- has the engineering department ever
9 had any role in the drafting of installation
10 instructions for the TechShield product?
11 A. **Not that I recall.**
12 Q. Has the TechShield product undergone any
13 changes in design since you became quality and
14 technical manager, OSB business?
15 A. **Nothing of any significance. There may have
16 been a change somewhere along the line in terms of
17 the weight of the paper being used. But other than
18 that, I don't recall anything specific.**
19 Q. The weight of the paper being used?
20 A. **Yes.**
21 Q. Would it have been increased or decreased,
22 or do you know?
23 A. **I don't recall specifically at this time.**
24 Q. But the fundamental design of the product
25 hadn't changed?

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1 **need somebody to develop that equipment, install it
2 and manage that project.**
3 Q. In other words, setting up the assembly
4 line, what sorts of machines are going to be needed
5 to make the product, that kind of thing?
6 A. **Exactly.**
7 Q. But do they have any role in the design of
8 the product themselves?
9 A. **No.**
10 Q. And to your knowledge, the only electrical
11 engineers within the company are within the
12 engineering department?
13 A. **I didn't say that specifically. I said that
14 it's my knowledge that they're all underneath
15 engineering. I believe they report up through
16 engineering and not through the OSB business.**
17 Q. I take it there are no electrical engineers
18 that you know of working within the OSB business?
19 A. **They work for the OSB business. I don't
20 know if they report up through the business in
21 terms of an org chart as you asked.**
22 Q. Okay. How about metallurgists, does the
23 company have any metallurgists?
24 A. **Not that I'm aware of.**
25 Q. Does the company have any -- for lack of a

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1 A. **Yeah, it's still the same craft paper. It's
2 the same purpose.**
3 Q. There are several other products on the
4 market that are also referred to as radiant barrier
5 products but they're not radiant barrier sheathing;
6 is that correct?
7 A. **Yes.**
8 Q. Does Louisiana-Pacific manufacture or market
9 any radiant barrier products other than TechShield?
10 A. **No. Well, we have underneath another name,
11 it's called SilverTech. But it's sold into the
12 shed business.**
13 Q. I'm sorry. It's sold into the?
14 A. **Shed business.**
15 Q. The shed business?
16 A. **Yeah.**
17 Q. What is SilverTech?
18 A. **It's a similar product, similar in nature.
19 It's -- but it's sold into the shed business so
20 it's a little different design. And primarily the
21 biggest difference is that there's no markings on
22 the board. So it doesn't say LP TechShield on it,
23 it doesn't say anything. So that's really the main
24 differentiator. But it's marketed under a
25 different name, SilverTech.**

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1 Q. How do you spell the name SilverTech?
2 A. **Silver as in silver, S-I-L-V-E-R, Tech,**
3 **T-E-C-H.**
4 Q. Okay. So I just wanted to be sure it wasn't
5 Tech with a K or --
6 A. **Actually, it's SilverTech or SilverLine.**
7 **Silver something. I don't know. It's not in my**
8 **business.**
9 Q. Okay. So it's not a part of the OSB
10 business?
11 A. **No, it's not part of the OSB business.**
12 Q. But the silver product, SilverTech or
13 SilverLine or whatever it's called is fundamentally
14 the same as TechShield?
15 A. **Yes.**
16 Q. It consists of OSB and an adhesive and
17 aluminum foil craft paper laminant?
18 A. **It's a little different in the sense that**
19 **it's got the same foil and a paper. The paper is**
20 **going to be a little different and it's actually**
21 **applied pre-press. So it's not a secondary process**
22 **like the TechShield foil is.**
23 Q. And you said it's sold in the shed business?
24 A. **Primarily, yes.**
25 Q. And would that explain the lack of the LP

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1 A. **No.**
2 Q. -- within Louisiana-Pacific?
3 A. **They're manufactured at Louisiana-Pacific,**
4 **but not at the same --**
5 Q. But at different plants?
6 A. **Different plants.**
7 MR. MURPHY: Are you at kind of a
8 breaking point?
9 (Short break.)
10 BY MR. ANDERS:
11 Q. Mr. St. Germain, before we got off on to the
12 tangent that it's SilverTech or SilverLine, I
13 believe we were talking about your visit to the
14 Taylor home. The allegation, or one of the
15 allegations in this case, is that TechShield is a
16 defective product because it has a tendency to,
17 when energized by lightning, catch fire at a
18 greater rate than other roofing products, such as
19 OSB. Have you heard that allegation before?
20 A. **I've heard that allegation back when this**
21 **thing first came at us.**
22 Q. By "this thing" meaning the State Farm,
23 Taylor complaint?
24 A. **We've had others as well.**
25 Q. You've had other cases or other claims in

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1 marking on it?
2 A. **Yeah. It came to us specifically because**
3 **the shed users were using TechShield and they said,**
4 **Can you get rid of this, and this was the best**
5 **option at the time to get rid of the markings on**
6 **the board.**
7 Q. Meaning shed manufacturers?
8 A. **Shed manufacturers, yes.**
9 Q. They didn't want Louisiana-Pacific's marking
10 on their product?
11 A. **Yeah, it was more visual. Most TechShield**
12 **is hidden up in the attic and nobody ever sees it.**
13 **But sheds, it's you walk into a shed and that's**
14 **what you see. So they wanted it very clean, no**
15 **markings.**
16 Q. And you're in the OSB business side of the
17 company. Which side of the company oversees the
18 SilverTech or SilverLine product?
19 A. **Our siding business.**
20 Q. Does your siding business department have
21 any role in the manufacture or sell or distribution
22 of TechShield?
23 A. **No.**
24 Q. Are TechShield and SilverTech or SilverLine
25 manufactured at the same plant --

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1 which --
2 A. **Other claims.**
3 Q. And were those claims coming from insurance
4 companies, from homeowners, from whom?
5 A. **I believe insurance companies.**
6 Q. Other than -- well, let me ask you if you
7 know, other than the State Farm, Christopher Taylor
8 versus Louisiana-Pacific case, is Louisiana-Pacific
9 involved in any other lawsuits concerning the
10 alleged defective nature of TechShield when
11 energized by lightning?
12 A. **Not that I'm aware.**
13 Q. But other claims have been made?
14 A. **Other claims have been made.**
15 Q. Through insurance companies?
16 A. **Yes.**
17 Q. How many that you're aware of?
18 A. **It's probably half a dozen.**
19 Q. Do you know what insurance companies have
20 made such claims?
21 A. **No, I don't. Not specifically.**
22 Q. State Farm obviously is one of them?
23 A. **State Farm is one, yeah. I don't recall the**
24 **others.**
25 Q. And have you participated in inspections of

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1 homes other than the Taylor home in which it had
 2 been alleged that a fire had been caused by the
 3 previously identified alleged defect in TechShield?
 4 A. **Yes.**
 5 Q. Where had you participated in those
 6 inspections?
 7 A. **I know I was in one in San Antonio, Texas.**
 8 **I believe I've been to one or two in the**
 9 **Dallas-Fort Worth area. And I believe that was it.**
 10 Q. And have you attended all such inspections
 11 on behalf of Louisiana-Pacific of homes in which it
 12 was alleged that fire had occurred because of a
 13 defect in TechShield?
 14 A. **No, I haven't.**
 15 Q. So others have also attended such
 16 inspections?
 17 A. **Yes.**
 18 Q. Mr. Dellwo was one of them, correct?
 19 A. **Yes.**
 20 Q. Has he attended other inspections than the
 21 inspection of the Taylor home?
 22 A. **Yes.**
 23 Q. Has he attended all such inspections on
 24 behalf of Louisiana-Pacific to your knowledge?
 25 MR. MURPHY: Objection, form.

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1 **became aware of this was probably in the fall of**
 2 **2010.**
 3 Q. And can you tell me briefly about the claim
 4 in the fall of 2010?
 5 A. **I didn't witness them firsthand. The**
 6 **allegations were made and that was the first time**
 7 **that Laura came to me with this report from**
 8 **McDowell Owens making these allegations.**
 9 Q. Have you reviewed any reported by
 10 McDowell Owens?
 11 A. **Yes.**
 12 Q. What documents from McDowell Owens have you
 13 reviewed?
 14 A. **They have one document that's published**
 15 **on -- I don't know if it's their website or which**
 16 **website it's on, but it's looking at this, you**
 17 **know, running an electrical current through radiant**
 18 **barrier sheathing.**
 19 Q. So you have reviewed one report from
 20 McDowell Owens about running electrical current
 21 through radiant barrier sheathing. Have you read
 22 any other reports from anyone purporting to be an
 23 expert speaking of defects or flaws in radiant
 24 barrier sheathing when it gets exposed to
 25 lightning?

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1 BY MR. ANDERS:
 2 Q. You can answer.
 3 A. **I don't know if he has or hasn't.**
 4 Q. Is there anyone else who has attended such
 5 inspections on behalf of Louisiana-Pacific?
 6 A. **On behalf of Louisiana-Pacific?**
 7 Q. Yeah, within the company.
 8 A. **Within the company?**
 9 Q. Yeah.
 10 A. **No.**
 11 Q. No one other than you or Mr. Dellwo?
 12 A. **Correct. And I mentioned Laura, but I'm**
 13 **not --**
 14 Q. Laura Proctor?
 15 A. **Yes.**
 16 Q. Has Laura attended other inspections?
 17 MR. MURPHY: Object to the form.
 18 THE WITNESS: I don't -- I don't
 19 believe so.
 20 BY MR. ANDERS:
 21 Q. Was the Taylor fire the first you heard of
 22 that had been caused by alleged defective
 23 properties of TechShield when energized by
 24 lightning?
 25 A. **No. There was -- the first time that I**

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1 A. **No.**
 2 MR. MURPHY: Object to form.
 3 BY MR. ANDERS:
 4 Q. Do you know the name Mark Goodson?
 5 A. **Yes.**
 6 Q. Who is Mark Goodson?
 7 A. **He -- he was at one or two of the**
 8 **inspections that I was at in Texas.**
 9 Q. And was he working for Louisiana-Pacific at
 10 those inspections?
 11 A. **Yes.**
 12 Q. Did you make the decision to retain or hire
 13 Mr. Scardino or Mr. Goodson?
 14 A. **No.**
 15 Q. In this or any other case?
 16 A. **No.**
 17 Q. Who if you know did make that decision?
 18 MR. MURPHY: Objection to the extent --
 19 I think you're kind of getting into attorney-client
 20 confidentiality.
 21 MR. ANDERS: If you want to tell him
 22 not to answer.
 23 MR. MURPHY: Yeah, don't answer. I
 24 don't know that you would know, but don't answer
 25 anything regarding information you would have

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1 obtained through consultation with legal on any
 2 claims that have been made against LP.
 3 BY MR. ANDERS:
 4 Q. If you can answer that question without
 5 discussing information you've gotten through LP's
 6 attorneys.
 7 A. **I can't answer that.**
 8 Q. How many times have you met Mr. Scardino?
 9 A. **Four times probably. Approximately.**
 10 Q. And would that -- would each of those
 11 occasions have been at outside inspections?
 12 A. **Yes.**
 13 Q. And how many times have you met Mr. Goodson?
 14 A. **I think -- I believe twice.**
 15 Q. And, again, would both of those occasions
 16 have been at outside inspections of damaged
 17 properties?
 18 A. **Yes.**
 19 Q. Are you aware of any claims during your time
 20 at Louisiana-Pacific in which anyone has alleged
 21 that standard OSB displays any vulnerability to fire
 22 when energized by lightning?
 23 A. **No.**
 24 Q. But you are aware of about a half dozen in
 25 which that claim has been made with respect to

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1 Q. Yes, sir.
 2 A. **I believe it would be the paper.**
 3 Q. Do you have any criticisms of Mr. Simmons or
 4 McDowell Owens' methodology in those experiments?
 5 MR. MURPHY: Objection to form.
 6 THE WITNESS: It doesn't seem to be
 7 indicative of a lightning strike.
 8 BY MR. ANDERS:
 9 Q. Any other criticisms?
 10 MR. MURPHY: Form, objection.
 11 THE WITNESS: No.
 12 BY MR. ANDERS:
 13 Q. So in other words, for the McDowell Owens
 14 experiments to be valid, we would have to actually
 15 run a lightning strike through TechShield, correct?
 16 MR. MURPHY: Objection, form.
 17 THE WITNESS: I don't know what you'd
 18 have to do. That's not my area of expertise.
 19 BY MR. ANDERS:
 20 Q. Has Louisiana-Pacific ever commissioned or
 21 performed or retained experts to examine the
 22 performance of TechShield when energized by a
 23 lightning strike?
 24 A. **When?**
 25 Q. At any time to your knowledge.

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1 TechShield, correct?
 2 A. **Correct.**
 3 Q. And the first of those would have been about
 4 fall of 2010?
 5 A. **Correct.**
 6 Q. You said that you have read the
 7 McDowell Owens report or a McDowell Owens report --
 8 A. **Yes.**
 9 Q. -- on radiant barrier sheathing?
 10 A. **Yes.**
 11 Q. What's your understanding of the
 12 McDowell Owens theory -- or the person who writes
 13 those reports is Ronald Simmons.
 14 A. **Uh-huh.**
 15 Q. What is your understanding of Mr. Simmons'
 16 theory as to why TechShield is allegedly defective?
 17 A. **What's my understanding --**
 18 Q. Yes, sir.
 19 A. **-- based on his reports?**
 20 **Based on his reports, he's running very low**
 21 **current voltage through the foil in a very specific**
 22 **way and that he's able to make the underlying paper**
 23 **catch on fire.**
 24 Q. And would that be the paper or the aluminum?
 25 A. **That catches on fire?**

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1 MR. MURPHY: And to the extent that
 2 question is asking -- or you have knowledge related
 3 to anything subsequent to these claims and
 4 litigation, I instruct you not to answer it. Prior
 5 to that time, you can answer.
 6 THE WITNESS: So prior to 2010, when
 7 these first allegations came --
 8 BY MR. ANDERS:
 9 Q. Prior to the fall of 2010.
 10 A. **Prior to fall of 2010, I'm not aware of any**
 11 **testing that LP's performed in regard to lightning**
 12 **on TechShield.**
 13 Q. How about prior to fall of 2010, are you
 14 aware of any studies or experiments by or on behalf
 15 of Louisiana-Pacific with respect to the
 16 performance of TechShield when energized by
 17 electricity, whether in the form of lightning or
 18 otherwise?
 19 A. **No. Prior to 2010, I'm not.**
 20 Q. For instance, no one at the company ever
 21 said, We need a study of how TechShield performs if
 22 there's, for instance, an electrical short of wires
 23 in the vicinity of TechShield prior to the fall of
 24 2010?
 25 A. **No, that's never been brought to our**

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1 **attention.**
 2 Q. Are you aware of -- other than
 3 McDowell Owens, are you aware of any studies
 4 conducted prior to fall of 2010 by anyone?
 5 A. **No, I'm not aware of any studies.**
 6 Q. Within or outside the radiant barrier
 7 industry?
 8 A. **Correct.**
 9 Q. Is Louisiana-Pacific a member of any trade
 10 groups with respect to the radiant barrier
 11 industry?
 12 A. **Yes.**
 13 Q. And what trade groups is that company a
 14 member of?
 15 A. **Specific to radiant barrier?**
 16 Q. Yes, sir.
 17 A. **We're a member of RIMA.**
 18 Q. And that would be the Reflective Insulation
 19 Manufacturers Association International?
 20 A. **Yes.**
 21 (WHEREUPON, the above-mentioned
 22 document was marked as Exhibit Number 2.)
 23 BY MR. ANDERS:
 24 Q. Mr. St. Germain, could you take as much time
 25 as you need to review that document before I ask

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1 or anything like that on behalf of
 2 Louisiana-Pacific with RIMA?
 3 A. **No, I haven't.**
 4 Q. Have you drafted any documents for RIMA?
 5 A. **No, I haven't.**
 6 Q. Have you ever been to RIMA's headquarters, I
 7 believe, in Oklahoma?
 8 A. **No, I haven't.**
 9 Q. I'm sorry, Kansas?
 10 A. **No, I haven't.**
 11 Q. Do you receive documents, technical
 12 bulletins, anything of that nature from RIMA?
 13 A. **No, I don't think I've actually ever**
 14 **received anything from them.**
 15 Q. And in your capacity as quality and
 16 technical manager, OSB business for
 17 Louisiana-Pacific, do you send documents or
 18 information to RIMA?
 19 A. **No.**
 20 Q. Do you participate -- do you personally
 21 participate in any way with RIMA?
 22 A. **No.**
 23 Q. Do you know when RIMA was formed?
 24 A. **No, I don't.**
 25 Q. Who within Louisiana-Pacific handles

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1 you some questions concerning it.
 2 A. **(Reviews documents.)**
 3 Q. Before I come to that, let me ask you about
 4 your background with RIMA, unless you need more
 5 time to review it?
 6 A. **Yeah, I need more time.**
 7 Q. Okay.
 8 A. **Okay.**
 9 Q. All right. First, if I could just ask you a
 10 few questions about RIMA. What is RIMA? I mean,
 11 we know it's name is the Reflective Insulation
 12 Manufacturers Association International, but what
 13 is the organization?
 14 A. **What is RIMA?**
 15 Q. Yes. Is it a trade group? Is it a
 16 lobbying --
 17 A. **Yes, both. It's a trade group that promotes**
 18 **the use of radiant insulation.**
 19 Q. And is Louisiana-Pacific a member of RIMA?
 20 A. **Yes.**
 21 Q. And do they promote radiant barrier
 22 sheathing only, or other forms of radiant barrier
 23 products?
 24 A. **They promote other forms as well.**
 25 Q. Have you attended any functions or training

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1 relations with RIMA, is that a marketing function
 2 or --
 3 A. **No. Our current point of contact for RIMA**
 4 **would be Tony Pugel.**
 5 Q. And who is Tony Pugel?
 6 A. **He reports to Bob Gwarty (phonetic). So**
 7 **he's a -- his title is research scientist.**
 8 Q. And if we were again to go to that
 9 hypothetical org chart, Mr. Pugel doesn't work
 10 under you in any way?
 11 A. **No.**
 12 Q. And how do you spell Pugel?
 13 A. **P-U-G-E-L.**
 14 Q. Does anyone within the OSB business side of
 15 Louisiana-Pacific have the contact with RIMA to
 16 your knowledge, or is that all handled through the
 17 technical department?
 18 A. **Do we have contact with them?**
 19 Q. Yes, sir.
 20 A. **We'll have occasional contact.**
 21 Q. Tell me about that.
 22 A. **It's primarily more from a marketing**
 23 **perspective.**
 24 Q. Do you consider RIMA primarily a marketing
 25 trade group?

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1 A. **Well, they provide both marketing and**
2 **technical assistance.**
3 Q. What technical assistance do they provide?
4 A. **Similar to these type of documents.**
5 Q. And are these focused on manufacturers or
6 distributors or customers? Who were these types of
7 documents focused on?
8 A. **I don't --**
9 MR. MURPHY: Objection.
10 THE WITNESS: I don't know enough of
11 the document to know where they're really -- or
12 what all exists or where it's marketed to.
13 BY MR. ANDERS:
14 Q. Before today have you ever read RIMA
15 technical bulletin Number 108, to your knowledge?
16 A. **I don't believe I have, no.**
17 Q. If you could have a look at numbered
18 paragraph 1 within RIMA technical bulletin
19 Number 108. And first I'll ask, that seems to be a
20 warning regarding the use of radiant barrier
21 materials in the vicinity of electrical wires; is
22 that correct?
23 MR. MURPHY: Objection, form.
24 BY MR. ANDERS:
25 Q. Safe use of it; is that correct?

1 have electrical conductivity?
2 A. **Do I believe that?**
3 Q. Yes, sir.
4 A. **Yes.**
5 Q. Does Louisiana-Pacific provide that warning
6 to anyone?
7 A. **Do we provide the warning --**
8 Q. Yes, to customers.
9 A. **-- around electrical wiring?**
10 Q. Yes.
11 A. **I do not believe so.**
12 Q. But you believe that the company should --
13 MR. MURPHY: Object to form.
14 BY MR. ANDERS:
15 Q. Or that they should be warned?
16 MR. MURPHY: Object to form.
17 THE WITNESS: I can't answer that.
18 BY MR. ANDERS:
19 Q. Well, earlier when I asked you do you
20 believe that purchasers of TechShield should be
21 warned that radiant barrier reflective insulation
22 in IRCC products all contain a certain amount of
23 aluminum which can potentially have electrical
24 conductivity, and you said yes --
25 MR. MURPHY: Objection to form.

1 A. **I don't believe that's correct, no.**
2 Q. Okay. What do you believe? That's fair.
3 A. **I believe it's during the installation of**
4 **the radiant barrier material, not in its use.**
5 Q. And this is more or less a safety tip,
6 correct?
7 A. **It appears to be, yes.**
8 Q. All right. Does Louisiana-Pacific in its
9 installation instructions provide any similar
10 warnings regarding electrical wiring in the
11 vicinity of TechShield?
12 A. **I don't believe so.**
13 Q. Is it not thought to be necessary?
14 MR. MURPHY: Objection, form.
15 BY MR. ANDERS:
16 Q. A warning regarding the use of TechShield in
17 the vicinity of electrical wiring or insulation?
18 MR. MURPHY: Object to form.
19 BY MR. ANDERS:
20 Q. Let me strike that and rephrase the
21 question.
22 Do you believe that customers purchasing
23 TechShield should be warned that radiant barrier
24 reflective insulation and IRCC products all contain
25 a certain amount of aluminum which can potentially

1 THE WITNESS: Can you repeat your
2 question?
3 BY MR. ANDERS:
4 Q. Sure. I'll phrase it again. Do you believe
5 that customers of TechShield should be warned that
6 radiant barrier reflective insulation and IRCC
7 products all contain a certain amount of aluminum
8 which can potentially have electrical conductivity?
9 MR. MURPHY: Objection to form.
10 THE WITNESS: I can't answer that.
11 BY MR. ANDERS:
12 Q. Yes or no, do you believe that?
13 MR. MURPHY: Objection to form.
14 THE WITNESS: I can't answer that.
15 BY MR. ANDERS:
16 Q. What part of my question did you not
17 understand?
18 A. **This document that you're referring to is**
19 **dissimilar to our product. It covers more than**
20 **just our product.**
21 Q. Okay. Then let's leave out reflective
22 insulation and IRCC products. Would you
23 characterize TechShield as a radiant barrier?
24 A. **Yes.**
25 Q. Do you believe that purchasers of TechShield

1 should be warned that radiant barrier products all
 2 contain a certain amount of aluminum which can
 3 potentially have electrical conductivity?
 4 MR. MURPHY: Objection to form.
 5 THE WITNESS: There are differences in
 6 the way these products are installed and when they
 7 are installed compared to when TechShield is
 8 installed and how it's installed.
 9 BY MR. ANDERS:
 10 Q. What are those differences?
 11 A. **The difference is when TechShield is**
 12 **installed, it's installed during new construction**
 13 **and then it's one of the first things after you get**
 14 **the framing up that goes on. You are not going**
 15 **to -- you don't have any electrical wiring, which**
 16 **this paragraph is specific to electrical wiring.**
 17 **There's no electrical wiring in your attics at that**
 18 **time. Nobody -- you can't install it at that time.**
 19 **So our products would already be installed prior to**
 20 **these components going into your attic.**
 21 Q. Are there any other differences?
 22 A. **Well, in regard to this paragraph, there's**
 23 **not. I mean, it's a bit of an unfair question,**
 24 **so...**
 25 Q. What's unfair about the question?

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1 A. **Yes.**
 2 Q. Would you recommend TechShield as a -- well,
 3 would you recommend reinstalling TechShield over
 4 the portions of that roof that had been burned
 5 away?
 6 A. **You could install it, yeah.**
 7 Q. There wouldn't be any reason not to do that,
 8 correct?
 9 A. **No.**
 10 Q. Other than electrical wiring are you aware
 11 of any additional safety concerns regarding the
 12 exposure of TechShield to electrical current?
 13 A. **No.**
 14 Q. For instance, does Louisiana-Pacific provide
 15 any warnings to building trades such as
 16 electricians who might be working in the vicinity
 17 of TechShield?
 18 A. **No.**
 19 Q. Do you feel that any such warnings are
 20 necessary?
 21 MR. MURPHY: Objection to form.
 22 THE WITNESS: I can't say that.
 23 BY MR. ANDERS:
 24 Q. Do you feel that any such warnings are
 25 desirable?

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1 A. **You're asking if we should have some kind of**
 2 **a warning around electrical wiring in our products.**
 3 **There's no electrical wiring present when our**
 4 **products are installed.**
 5 Q. So is TechShield always installed before
 6 electrical wiring in the residential roofing
 7 context?
 8 A. **Yes.**
 9 Q. Can TechShield be used for retrofitting?
 10 A. **No, it's not practical.**
 11 Q. Why is that impractical?
 12 A. **It's a radiant barrier sheathing product.**
 13 Q. Yes, sir.
 14 A. **So it's attached to a piece of OSB. So you**
 15 **wouldn't install that after the fact. You wouldn't**
 16 **even be able to get it up into your attic. I mean,**
 17 **it's not...**
 18 Q. Well, for instance, you've been to the
 19 Taylor home, correct?
 20 A. **Yes.**
 21 Q. The Taylor home suffered a fire, did it not?
 22 A. **Yes.**
 23 Q. And presumably at some point, someone would
 24 get around to repairing the damage that had been
 25 caused by that fire, correct?

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1 MR. MURPHY: Objection to form.
 2 THE WITNESS: I can't say that.
 3 BY MR. ANDERS:
 4 Q. Do you have an opinion personally as to
 5 whether TechShield when energized by lightning is
 6 more or less likely than oriented strand board
 7 sheathing to catch fire?
 8 MR. MURPHY: Objection to form.
 9 THE WITNESS: I don't have any way to
 10 answer that question. I have no knowledge.
 11 BY MR. ANDERS:
 12 Q. You have no opinion?
 13 A. **I have no opinion.**
 14 Q. Who is David Dellwo?
 15 A. **He is our field claims inspector.**
 16 Q. Tell me what you mean by claims inspector.
 17 A. **So if we have a customer concern around any**
 18 **of our OSB products that require some sort of field**
 19 **inspection, David would attend those inspections.**
 20 Q. And is that nationwide or is he limited to a
 21 geographical area?
 22 A. **He's not limited per se, but we do have**
 23 **three such individuals. So whoever is closest**
 24 **logistically will attend.**
 25 Q. And who are the other two?

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1 A. **The other two, Dane Allaiss.**
 2 Q. And how do I spell that name?
 3 A. **I think Dane is D-A-N-E and then Allaiss**
 4 **would be A-L-L-A-I-S-S, Dane Allaiss.**
 5 Q. And who is the other one?
 6 A. **Vance Thomas.**
 7 Q. Mr. Dellwo is based out of Texas, is he not?
 8 A. **Yes.**
 9 Q. And where is Mr. Allaiss based?
 10 A. **He's up near Pittsburg.**
 11 Q. And where is Mr. Thomas based?
 12 A. **Macon, Georgia.**
 13 Q. We talked earlier about Mr. Dellwo and I
 14 believe you stated that you believed that he had
 15 attended about three or four inspections of
 16 properties in which it was alleged that structures
 17 had been damaged by TechShield after its
 18 energization by lightning, correct?
 19 A. **Correct.**
 20 Q. Has Mr. Allaiss attended any such
 21 inspections?
 22 A. **No, not that I'm aware of.**
 23 Q. How about Mr. Thomas?
 24 A. **No, not that I'm aware of.**
 25 Q. So within Louisiana-Pacific, all such

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1 certain things and so to make -- to follow it up,
 2 it would be consistency, I guess, in understanding.
 3 BY MR. ANDERS:
 4 Q. Who assigns -- or, I'm sorry, strike that.
 5 When a claim comes in to Louisiana-Pacific
 6 regarding damage to a structure after TechShield is
 7 energized by lightning, does the company always
 8 inspect such a structure if it's called to the
 9 company's attention?
 10 MR. MURPHY: That would be a claim to
 11 legal. That's --
 12 MR. ANDERS: If that's who's making the
 13 decision, that's what I want to know.
 14 MR. MURPHY: Yeah.
 15 BY MR. ANDERS:
 16 Q. Legal makes those decisions?
 17 A. **Legal would make that decision, yes.**
 18 Q. Okay. You don't have any role in making a
 19 decision on who goes out --
 20 A. **No.**
 21 Q. -- or whether an inspection is made?
 22 A. **No.**
 23 Q. That's what I wanted to know.
 24 Turning to Exhibit 2, if you would have a
 25 look at numbered paragraph seven.

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1 inspections would be attended by you or Mr. Dellwo?
 2 A. **That is correct.**
 3 Q. And no one else, leaving your counsel aside?
 4 A. **No.**
 5 Q. Did Mr. Allaiss or Mr. Thomas work with
 6 different products or --
 7 A. **Other than TechShield?**
 8 Q. Yes, sir.
 9 A. **Yes.**
 10 Q. Does Mr. Dellwo have any special expertise
 11 regarding TechShield as opposed to Mr. Allaiss or
 12 Mr. Thomas?
 13 A. **No.**
 14 Q. Just luck of the draw that he's attended
 15 these inspections and Mr. Allaiss and Mr. Thomas
 16 haven't?
 17 MR. MURPHY: Objection to the extent
 18 any of that relates to claims as to a decision why
 19 one or the other would go if you know that you've
 20 learned as a result of your involvement with legal,
 21 that's off limits. If it's something else prior to
 22 that time, you can talk about it.
 23 THE WITNESS: It's luck of the draw, I
 24 guess. I mean, when the first one came up and
 25 David inspected that one so he would witness

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1 A. **All right.**
 2 Q. Okay. How would you characterize -- well,
 3 first, paragraph seven is providing a warning
 4 regarding working around TechShield during severe
 5 weather with thunder, correct?
 6 MR. MURPHY: Objection to form.
 7 THE WITNESS: That's what seven is
 8 referring to, yes.
 9 BY MR. ANDERS:
 10 Q. Does Louisiana-Pacific provide any similar
 11 warnings in its product literature with TechShield?
 12 A. **No, we do not.**
 13 Q. Do you provide any such warnings with --
 14 well, do you have any other products other than
 15 TechShield that are specifically designed as roof
 16 sheathing?
 17 A. **Yes.**
 18 Q. Tell me what those products are.
 19 A. **Just standard OSB sheathing.**
 20 Q. Okay. So the standard OSB sheathing. It's
 21 not a specialty product is it, meaning you could
 22 also use it for wall sheathing, that sort of thing?
 23 A. **Correct.**
 24 Q. Well, let me back up. Do you consider
 25 TechShield a specialty product for the roofing

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1 trade?
 2 A. **Yes.**
 3 Q. That's the primary focus of your marketing,
 4 correct --
 5 A. **Correct.**
 6 Q. -- of TechShield?
 7 A. **Of TechShield, but it's our primary focus in**
 8 **regular sheathing as well.**
 9 Q. So with standard OSB sheathing, does
 10 Louisiana-Pacific primarily market it to roofers,
 11 or does it also market it to other trades such as
 12 framers, contractors?
 13 A. **In most context, framers and roofers are**
 14 **going to be the same people.**
 15 Q. Okay.
 16 A. **I mean, roofers are typically the people**
 17 **installing shingles.**
 18 Q. Do you agree with the warnings provided
 19 under paragraph seven, weather conditions?
 20 A. **I believe anybody that's working outdoors,**
 21 **particularly on a roof, should be observant of what**
 22 **the weather conditions are. That's fairly common**
 23 **sense.**
 24 Q. Sure. Do you believe that such warnings
 25 should be given to installers of TechShield?

85

1 for a second.
 2 (Short break.)
 3 BY MR. ANDERS:
 4 Q. Mr. St. Germain, you're aware of what
 5 material safety data sheets are, correct?
 6 A. **Yes, I am.**
 7 Q. Do you have any role or does your department
 8 have any role in the drafting of material safety
 9 data sheets for TechShield?
 10 A. **No.**
 11 Q. Who drafts those?
 12 A. **We typically would consult with an**
 13 **on-site --**
 14 Q. An outside lab or --
 15 A. **Yes.**
 16 Q. Do you know which outside lab or expert
 17 Louisiana-Pacific consults with for the preparation
 18 of the material safety data sheet for TechShield?
 19 A. **I don't recall.**
 20 Q. Does your department have any -- or I'll
 21 strike that.
 22 Which department of Louisiana-Pacific deals
 23 with warranty claims on TechShield?
 24 A. **That would be my department, customer**
 25 **service.**

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1 MR. MURPHY: Objection to form.
 2 THE WITNESS: I have no reason to
 3 believe there's any difference between that and our
 4 other products.
 5 BY MR. ANDERS:
 6 Q. Well, do you provide such warnings to
 7 purchasers of your other products?
 8 A. **No, we do not.**
 9 Q. If it's lightning, you assume they'll have
 10 the common sense to come in out of the rain,
 11 correct?
 12 A. **Yeah.**
 13 Q. Do you consider TechShield -- well,
 14 TechShield has a higher metal content than standard
 15 OSB, does it not?
 16 A. **Yes.**
 17 Q. Do you consider that in a thunderstorm, it
 18 would be more dangerous to be around TechShield
 19 than to be around standard OSB, if one is outdoors?
 20 MR. MURPHY: Objection to form.
 21 THE WITNESS: I don't have the
 22 expertise to answer that question.
 23 BY MR. ANDERS:
 24 Q. I have a couple more documents to show you.
 25 MR. ANDERS: We can go off the record

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1 (WHEREUPON, the above-mentioned
 2 document was marked as Exhibit Number 3.)
 3 BY MR. ANDERS:
 4 Q. I'll show you what's marked as Exhibit 3.
 5 Are you familiar with Exhibit 3?
 6 A. **Yes, I am.**
 7 Q. And what is Exhibit 3?
 8 A. **It's LP's TechShield warranty.**
 9 Q. And it appears to be dated 2007; is that
 10 correct?
 11 A. **That is correct.**
 12 Q. Has the warranty undergone any revisions to
 13 your knowledge since 2007?
 14 A. **Not to my knowledge.**
 15 Q. Do you have any role in the drafting of this
 16 warranty?
 17 A. **I would assist.**
 18 Q. And what assistance -- well, have you
 19 provided any assistance in the drafting of a
 20 warranty for TechShield at any time in your career
 21 at Louisiana-Pacific?
 22 A. **I honestly don't recall.**
 23 Q. Have you provided assistance in the drafting
 24 of warranties for other products?
 25 A. **Yes.**

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1 Q. But you can't say whether it was for
2 TechShield?
3 A. **I can't say whether it was for TechShield.**
4 Q. I'll ask you this: In the 2007, 2008
5 timeframe would this have been the warranty that
6 was applicable to TechShield?
7 A. **Yes.**
8 Q. I'll represent to you that there's a second
9 page of this warranty but it's in Spanish.
10 A. **Correct.**
11 Q. Do you agree that apart from the second page
12 in Spanish, this is the entire warranty that would
13 have applied to the TechShield radiant barrier
14 product in the 2007, 2008 timeframe?
15 A. **Yes.**
16 Q. No omissions from it?
17 A. **It doesn't appear.**
18 Q. In the 2007, 2008 timeframe, how would
19 Louisiana-Pacific have conveyed this warranty to
20 its customers?
21 A. **It's conveyed the -- in our marketing
22 literature, we'll reference what our warranty is in
23 terms of as in this one, 20-year transferable
24 limited warranty. For specific details on that
25 warranty, you would have to go to our website and**

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1 Q. So it would say www.Louisiana-Pacific.com?
2 A. **LP Corp.com.**
3 Q. LP Corp.com.
4 A. **Uh-huh.**
5 Q. Is that all it would say?
6 A. **I don't recall the exact -- all the
7 literature that's printed on the foil itself or on
8 the product.**
9 Q. It's printed on the foil?
10 A. **There's printing on the foil and there's
11 also on the back on our information stamp or grade
12 stamp.**
13 Q. Would there be --
14 A. **Actually, I take that back. Everything
15 should be on the face of the product.**
16 Q. What should be on the face of the product?
17 A. **There is a information and grade stamp in
18 the form of a sticker that's placed on the product.**
19 Q. And what does the sticker say?
20 A. **It rates that the base panel is a PS2 rated
21 product.**
22 Q. What does PS2 refer to?
23 A. **PS2 is a performance standard. It's a U.S.
24 voluntary product standard.**
25 Q. And which association publishes that

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1 **retrieve the most correct copy.**
2 Q. Can you buy TechShield at Lowe's or
3 Home Depot?
4 A. **In certain regions, yes.**
5 Q. Can you buy it at Lowe's or Home Depot in
6 North Carolina, if you know?
7 A. **I don't know.**
8 Q. If I were to -- well, let's assume you
9 could. If I were to go -- let's assume I was in
10 North Carolina and I decided I was going to buy
11 some TechShield and I was going to buy it at
12 Lowe's, would this warranty accompany TechShield?
13 A. **No, it would not it.**
14 Q. How would I find out about the existence of
15 this warranty if I were buying it from Lowe's?
16 A. **You would need to visit our website.**
17 Q. Would there be any mark on the product or
18 any document distributed with the product that
19 would make me aware of the existence of this
20 warranty?
21 A. **Yes.**
22 Q. And what would that be?
23 A. **It would list our website on the face of the
24 board, as well as the customer service number to
25 call.**

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1 standard?
2 A. **The APA actually is the publisher of the
3 document.**
4 Q. American Plywood Association?
5 A. **Technically, it's not American Plywood
6 Association. It's APA, Engineered Wood
7 Association.**
8 Q. So if I buy a sheet of TechShield from
9 Lowe's, there will be a stamp on it that says
10 PS2 rated, correct?
11 A. **Correct.**
12 Q. What other information will be on that
13 stamp?
14 A. **On the stamp?**
15 Q. Yeah.
16 A. **It will give the span rating for that, so
17 how the product can be used in a building code.
18 There's also some basic information on the
19 TechShield foil itself printed on the foil.**
20 Q. What is that information?
21 A. **I don't have the specific detail.**
22 Q. In general terms.
23 A. **In general, it's going to say -- there's a
24 few bullets on there. One, it needs to face down
25 during installation. And it says it needs to face**

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1 **in on gable ends. I think it says to space panels**
2 **8 inches on ends and edges.**

3 Q. So we've got span ratings for various
4 applications in building, we have that it needs to
5 face down during installation and we have got that
6 it needs to face inward on gable ends and we have
7 got that the panels need to be spaced.

8 A. **Right.**

9 Q. Is there anything else stamped on the
10 product?

11 A. **Not that I recall. There's probably more on**
12 **there, I just don't recall the details. If we had**
13 **a copy of the stamp, I could point out what's all**
14 **on there.**

15 Q. Is there anything that tells me that if I
16 wish to know what warranty I am purchasing with the
17 product, I must go to LP Corp.com?

18 A. **I'd have to double check the way it's**
19 **worded. But yes, it says for further details,**
20 **visit LP Corp.com.**

21 Q. It says for further details?

22 A. **I don't -- I should say I don't know for**
23 **sure --**

24 Q. You don't know?

25 A. **-- exactly how it's worded.**

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1 A. **I don't recall our specific language on our**
2 **stamps. It may say 20-year limited warranty on**
3 **our -- what we print on the foil. Like I said, I**
4 **don't recall. That's easy information for us to**
5 **find or for me to find exactly what it says.**

6 Q. If I ask you to convey that information to
7 Mr. Murphy and Mr. Murphy in turn conveyed it to me
8 through a standard request, I take it you can get
9 that information to him quickly?

10 A. **Oh, yes.**

11 Q. Okay. And to the extent practical, you'll
12 have that information as it applies to the 2007,
13 2008 timeframe as well --

14 A. **Yes.**

15 Q. -- in case it's changed?

16 A. **Correct.**

17 Q. But in any event, there's nothing on the
18 product that you're aware of that advises customers
19 of all these limitations, is there?

20 A. **No, we couldn't possibly put all that**
21 **information on our products.**

22 Q. Well, could you -- let me ask you,
23 typically, is TechShield sold by the sheet or is it
24 sold by the pallet load? How is it sold?

25 A. **We would typically -- we sell to**

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1 Q. Is there anything stamped on the product
2 that refers to a disclaimer of warranties?

3 A. **A disclaimer of warranties?**

4 Q. Yes.

5 A. **Not that I recall.**

6 Q. For instance, does the product -- is there
7 anything stamped on the product or accompanying the
8 product if I buy it at Lowe's that states that
9 Louisiana-Pacific excludes all implied warranties
10 including any implied warranty of merchantability
11 or fitness for a particular purpose?

12 A. **Not that I recall.**

13 Q. Okay. Is there anything stamped on the
14 product that states that Louisiana-Pacific excludes
15 any warranties otherwise arising from the course of
16 dealing or usage of trade or advertising?

17 A. **That we would stamp that on our product?**

18 Q. Yes.

19 A. **No.**

20 Q. And, again, if I were to purchase a panel of
21 LP TechShield at Lowe's, other than the statement,
22 For further information visit LP Corp.com, or words
23 to that effect, is there anything that would alert
24 me to the existence of limitations in this
25 warranty?

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1 **distributors. So we typically will sell by the**
2 **truck.**

3 Q. And how do distributors typically sell it,
4 if you know?

5 MR. MURPHY: Objection to form.

6 THE WITNESS: They would typically sell
7 it in whatever quantity is required.

8 BY MR. ANDERS:

9 Q. Whatever the customer wanted?

10 A. **Yeah.**

11 Q. Would it be possible to stamp this on the
12 board itself, on the back of the board, the
13 information in Exhibit 3?

14 A. **The entire text of the warranty?**

15 Q. Yeah.

16 A. **To stamp it where?**

17 Q. On the back of the board.

18 A. **On the wood?**

19 Q. Yeah.

20 A. **No.**

21 Q. Does Louisiana-Pacific -- what step -- or
22 strike that.

23 What steps does Louisiana-Pacific take to
24 make the existence of this warranty and its
25 limitations known to any purchasers of a TechShield

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1 product?
 2 MR. MURPHY: Objection to form.
 3 THE WITNESS: I don't know all the
 4 different ways. I mean, it's --
 5 BY MR. ANDERS:
 6 Q. Tell me all the steps of which you're aware.
 7 A. **All steps that I'm aware?**
 8 Q. Yes, sir.
 9 A. **It would have been through our marketing**
 10 **group, which I'm not necessary a part of.**
 11 Q. And who in your marketing group would be
 12 most aware of steps that Louisiana-Pacific takes to
 13 make the existence and limitations of the 20-year
 14 transferable limited warranty known to end
 15 purchasers of the TechShield product?
 16 MR. MURPHY: Objection to form.
 17 THE WITNESS: I don't know who would
 18 make that decision.
 19 BY MR. ANDERS:
 20 Q. So if I wanted to know about that, I'd need
 21 to speak to someone in the marketing department?
 22 A. **Yes.**
 23 Q. Is the marketing department separate from
 24 the OSB business?
 25 A. **There's different -- yes. Well, yes and no.**

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1 **There's different layers. So there is a corporate**
 2 **marketing department and then there's business**
 3 **marketing as well.**
 4 Q. Tell me -- well, what's the difference
 5 between corporate marketing and business marketing?
 6 Define those terms for me if you could.
 7 A. **There are some aspects of what they do that**
 8 **are common to all businesses and all products and**
 9 **that would be handled by corporate marketing.**
 10 **There are some aspects of marketing that may be**
 11 **specific to a product type or a specific region**
 12 **which that could be handled within business.**
 13 Q. Does the OSB business department of
 14 Louisiana-Pacific of which you are a quality
 15 technical manager have a regional department that
 16 covers North Carolina?
 17 A. **From a quality and technical basis?**
 18 Q. No, I'm sorry, you are the quality and
 19 technical manager of OSB business?
 20 A. **Right.**
 21 Q. My understanding is that OSB business is a
 22 separate department within Louisiana-Pacific, is it
 23 not?
 24 A. **It's considered a separate business.**
 25 Q. Okay. Does the OSB business arm of

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1 Louisiana-Pacific have its own marketing
 2 department?
 3 A. **Yes.**
 4 Q. Describe that department for me, what
 5 activities does it undertake? Does it cover only
 6 certain product types, does it cover certain
 7 regions? Tell me about that.
 8 A. **It's not my area of expertise.**
 9 Q. You have no expertise in marketing?
 10 A. **I have no expertise in marketing.**
 11 Q. Who is the director of marketing for the OSB
 12 business of Louisiana-Pacific?
 13 A. **Judy Musgrove.**
 14 Q. And where is Judy Musgrove's office?
 15 A. **Nashville.**
 16 Q. Is Judy Musgrove's marketing department the
 17 arm of Louisiana-Pacific that would be responsible
 18 for dissemination of this warranty to end
 19 purchasers, the warranty in Exhibit 3?
 20 A. **I don't know.**
 21 Q. The warranty makes reference to the sales
 22 office in Conroe, Texas.
 23 A. **Yes.**
 24 Q. Does Louisiana-Pacific have a sales office
 25 in Conroe, Texas?

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1 A. **They did in 2007. It's since been moved to**
 2 **Nashville.**
 3 Q. So it's been brought back here?
 4 A. **Well, not back here. It's never been here.**
 5 **It's moved here.**
 6 Q. Okay. Is the sales office a branch of the
 7 OSB business, or is that a separate department as
 8 well?
 9 A. **In 2007?**
 10 Q. Sure.
 11 A. **In 2007, yes, it would have been part of the**
 12 **OSB business.**
 13 Q. How about now?
 14 A. **No.**
 15 Q. Does the sales office exist any longer?
 16 A. **Yes.**
 17 Q. So it was taken out of the OSB business, the
 18 sales office?
 19 A. **I don't recall the exact structure of how**
 20 **things were changed recently.**
 21 Q. Was it a recent change?
 22 A. **Yes.**
 23 Q. When did the sales office move from Conroe,
 24 Texas, to Nashville, approximately?
 25 A. **Well, that's -- that doesn't say when it was**

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1 **organizationally or structurally changed.**
2 Q. When organizationally did it change?
3 A. **Physically when it moved, it was probably**
4 **two years ago. And then I would say within the**
5 **last year, there was some organizational changes in**
6 **terms of how that reports up through the**
7 **corporation.**
8 Q. Would it be fair to say that you are not
9 aware of how the existence and the terms of this
10 warranty are published to end purchasers of the
11 TechShield radiant barrier product other than
12 making it available at the LP Corp website?
13 MR. MURPHY: Object to form.
14 THE WITNESS: I don't know. I'm not
15 aware. It's not my area of expertise. It's not
16 within my function.
17 BY MR. ANDERS:
18 Q. Have you ever had training in electrical
19 engineering?
20 A. **No, I have not.**
21 Q. Have you ever had training as an
22 electrician?
23 A. **No, I have not.**
24 Q. Have you ever had training as a
25 metallurgist?

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1 Q. Ablation is as I would define it, the rapid
2 expansion -- well, I'll leave that for someone
3 else.
4 A. **Okay. So I can't answer that question.**
5 Q. All right. You did see areas where the foil
6 itself, though, had bubbled or was missing?
7 A. **I actually did not see areas where it was**
8 **bubbled.**
9 Q. But you saw areas where it was missing?
10 A. **Yes. But, specifically, the aluminum**
11 **portion of the foil.**
12 Q. Was the paper portion still there?
13 A. **Yes.**
14 Q. Do you have an opinion as to why the
15 aluminum was missing from those areas?
16 MR. MURPHY: Objection to form.
17 THE WITNESS: I don't have an opinion.
18 BY MR. ANDERS:
19 Q. Do you agree that TechShield is more
20 vulnerable to fire when energized by lightning than
21 is standard oriented strand board sheathing?
22 MR. MURPHY: Objection to form.
23 THE WITNESS: I don't have an opinion.
24 BY MR. ANDERS:
25 Q. Who is David Drew?

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1 A. **No, I have not.**
2 Q. When you visited the Taylor home, did you
3 make any observations regarding bonding or
4 grounding of the home?
5 A. **Bonding or grounding?**
6 Q. Yes, specifically as from the chimney.
7 A. **That's not my area. No, I did not.**
8 Q. So you didn't make such observations?
9 A. **No, I did not make those observations.**
10 Q. When you visited the Taylor home, did you
11 observe any areas in which it appeared that the
12 aluminum laminant of TechShield within the home had
13 burned from the areas that you were able to see?
14 A. **Where the laminant had burned?**
15 Q. Yes, sir.
16 A. **No, not burned.**
17 Q. Did you see any areas where it had melted or
18 become deformed?
19 A. **I did not see any areas where it had melted.**
20 **We did see small areas where it was missing,**
21 **evaporated, the foil.**
22 Q. So assuming that the term for that is
23 ablation, did you see areas where the aluminum foil
24 had ablated?
25 A. **Define "ablated."**

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1 A. **David Drew previously worked at LP as a**
2 **technical sales manager.**
3 Q. What is a technical sales manager?
4 A. **A technical sales manager's primary purpose**
5 **is to promote product placement in the market.**
6 Q. Well, tell me what you mean by promote
7 product placement in the market.
8 A. **Promote product placement. I mean,**
9 **there's -- we are making structural building**
10 **components.**
11 Q. Yes, sir.
12 A. **They need to meet certain requirements and**
13 **they also need to be the product of choice. And so**
14 **the technical sales helps facility that.**
15 Q. I guess what I'm asking is what does the
16 term "technical" mean in that job title? Is it
17 different than a sales manager?
18 A. **Yes. They would have a greater**
19 **understanding of -- mostly on building codes,**
20 **building sites, those types of things.**
21 Q. Okay. That's where I was going with that.
22 So he's not just a salesman?
23 A. **No. I mean, the purpose of why he's there**
24 **is to help promote sales.**
25 Q. Yes. And so Mr. Drew has some expertise in

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1 codes or in promotion of this use for specific
 2 trades beyond what an ordinary salesman might have?
 3 A. **Yeah, sure.**
 4 (WHEREUPON, the above-mentioned
 5 document was marked as Exhibit Number 4.)
 6 BY MR. ANDERS:
 7 Q. Could you have a look at Exhibit 4 and tell
 8 me whether you've ever seen that document before?
 9 A. **(Reviews documents.) Yeah, there's**
 10 **technically two documents here or more.**
 11 Q. Sorry. I apologize. Let's separate that
 12 into -- let's separate that into four and five. If
 13 you'll hand it back to me.
 14 MR. ANDERS: We'll make what's already
 15 Exhibit 4, Exhibit 4. And we'll make this
 16 Exhibit 5. I apologize for that.
 17 (WHEREUPON, the above-mentioned
 18 document was marked as Exhibit Number 5.)
 19 BY MR. ANDERS:
 20 Q. Have you ever seen Exhibit 4?
 21 A. **Yes, I have.**
 22 Q. Who are R&D Services, Inc.?
 23 A. **They're a testing facility in Cookeville,**
 24 **Tennessee.**
 25 Q. And do they have an ongoing relationship

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1 with Louisiana-Pacific?
 2 A. **Not ongoing, no.**
 3 Q. Were you involved in the decision to
 4 commission or have this report prepared in
 5 Exhibit 4?
 6 A. **No, I wasn't.**
 7 Q. That was Mr. Drew's decision?
 8 A. **Yes.**
 9 Q. What was the purpose, if you know, of
 10 requesting that R&D Services prepare the reports
 11 referenced in Exhibits 4 and 5?
 12 A. **It's a validation that our admittance below**
 13 **us are at threshold.**
 14 Q. And had the company ever ordered such -- is
 15 this ongoing testing, is this something that
 16 Louisiana-Pacific does on an ongoing basis or was
 17 2010, the report in Exhibit 5, was that to your
 18 knowledge the first time that Louisiana-Pacific had
 19 ever ordered a admittance testing on the TechShield
 20 product?
 21 A. **There would most likely have been previous**
 22 **reports to that. I believe it's every two years**
 23 **that we would test.**
 24 Q. And why do you order such testing?
 25 A. **There are certain jurisdictions that require**

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1 **radiant barrier materials meet performance**
 2 **requirements, and we failed to substantiate that.**
 3 Q. What performance requirements are those?
 4 A. **(Inaudible) vents.**
 5 Q. Which jurisdictions are those to your
 6 knowledge?
 7 A. **Well, there's specific ASTM standards that**
 8 **require it to be at a certain level to be**
 9 **classified as a radiant barrier, that's one.**
 10 Q. Uh-huh.
 11 A. **Two is the RIMA certification, which they**
 12 **just recently put into place requires a similar**
 13 **type of verification. And the state of California**
 14 **to sell product that meets radiant barrier**
 15 **sheathing requires that that document exists. So**
 16 **you need to submit it to the state to get a**
 17 **certificate from the state of California to be a --**
 18 **I don't know if they call it a licensed distributor**
 19 **of insulation product.**
 20 Q. So this is aimed at determining the
 21 product's insulative capacities?
 22 A. **When you use the term "insulative**
 23 **capacities," that could have different meanings**
 24 **depending on who you're talking to and which**
 25 **products. So I can't really answer that.**

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1 Q. Well, is the goal of this -- and I'll speak
 2 as a lay person, TechShield seems to be sold as a
 3 green building product.
 4 A. **Yes.**
 5 Q. And is that what this testing is geared
 6 toward demonstrating, this product has certain
 7 capacities to radiate away heat?
 8 A. **It -- the way you're speaking about**
 9 **"radiating away heat" is inaccurate.**
 10 Q. Okay. Tell me what would be accurate.
 11 A. **The function behind TechShield is to not**
 12 **radiate heat. And that is determined by emittance,**
 13 **which this test is performing. It's a material**
 14 **property.**
 15 Q. Are there any other reasons that this
 16 testing was performed other than -- to your
 17 knowledge, other than to require -- to comply with
 18 items such as RIMA certification or code compliance
 19 in jurisdictions such as California?
 20 A. **No, only in areas it's required.**
 21 Q. Do you know who designed the Kool Ply
 22 product that is now known as TechShield?
 23 A. **I do not.**
 24 Q. Do you know whether any of the individuals
 25 involved in that design are still with

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1 Louisiana-Pacific?
 2 A. **I do not.**
 3 Q. Are there any geographical areas in which
 4 Louisiana-Pacific recommends against the use of
 5 TechShield due to prevalence of lightning?
 6 A. **Repeat your question.**
 7 Q. Sure. Are there any areas in which
 8 Louisiana-Pacific recommends against the use of
 9 TechShield as a residential or roofing product due
 10 to prevalence of lightning?
 11 A. **No.**
 12 MR. ANDERS: I don't have any other
 13 questions. Mr. Murphy may or may not.
 14 MR. MURPHY: We will reserve our
 15 questions.
 16 **FURTHER DEPONENT SAITH NOT**
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1 **REPORTER'S CERTIFICATE**
 2
 3 **STATE OF TENNESSEE**
 4 **COUNTY OF SMITH**
 5
 6 I, STEPHANIE LAKE JONES, Licensed Court
 7 Reporter, with offices in Nashville, Tennessee,
 8 hereby certify that I reported the foregoing
 9 deposition of **BRIAN MICHAEL ST. GERMAIN** by machine
 10 shorthand to the best of my skills and abilities,
 11 and thereafter the same was reduced to typewritten
 12 form by me. I am not related to any of the parties
 13 named herein, nor their counsel, and have no
 14 interest, financial or otherwise, in the outcome of
 15 the proceedings.
 16 *I further certify that in order for this*
 17 *document to be considered a true and correct copy,*
 18 *it must bear my original signature, and that any*
 19 *unauthorized reproduction in whole or in part and/or*
 20 *transfer of this document is not authorized, will*
 21 *not be considered authentic, and will be in*
 22 *violation of Tennessee Code Annotated 39-14-149,*
 23 *Theft of Service.*
 24
 25 **STEPHANIE LAKE JONES**
 Licensed Court Reporter, and
 Notary Public
 State of Tennessee
 My Commission Expires: **May 18th, 2016**
 LCR #172 - Expires June 30, 2014

1 **ERRATA PAGE**
 2
 3 I, BRIAN MICHAEL ST. GERMAIN, having
 4 read the foregoing deposition, Pages 1 through 110,
 5 do hereby certify said testimony is a true and
 6 accurate transcript, with the following changes (if
 7 any):
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 18
 19
 20
 21 **BRIAN MICHAEL ST. GERMAIN**
 22
 23 Notary Public
 24 My Commission Expires: _____
 25

1 IN THE UNITED STATES DISTRICT COURT
2 FOR THE EASTERN DISTRICT OF NORTH CAROLINA
3 WESTERN DIVISION

4 STATE FARM FIRE and CASUALTY
5 COMPANY as a subrogee of
6 CHRISTOPHER TAYLOR,

7 Plaintiffs,

8 vs. Case No. 5:12-CV-289-BO

9 LOUISIANA-PACIFIC CORPORATION,
10 Defendant.

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14
15 Deposition of:
16 DAVID WILLIAM DELLWO
17 Taken on behalf of the Plaintiffs
18 December 11, 2012

19
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22
23 *Elite Reporting Services*
24 www.elitereportingservices.com
25 STEPHANIE LAKE JONES, LCR
P.O. Box 292382
Nashville, Tennessee 37229
(615)595-0073

1 I N D E X

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5 Examination by Mr. Anders 5
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14 E X H I B I T S

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16 Exhibit No. 1
17 E-mail dated 8/7/12 44
18
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21
22

1
2 A P P E A R A N C E S

3
4
5 For the Plaintiffs:

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7 Attorney at Law
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12
13 For the Defendant:

14 **MR. GEORGE MURPHY**
15 Attorney at Law
16 Vinson & Elkins
17 First City Tower
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19 Suite 2500
20 Houston, TX 77002
21 (713)758-2693
22 grmurphy@velaw.com

1
2 S T I P U L A T I O N S

3
4
5 The deposition of **DAVID WILLIAM DELLWO** was
6 taken by counsel for the Plaintiffs, at the offices
7 of Bradley, Arant, Boult, Cummings, 1600 Division
8 Street, Suite 700, Nashville, Tennessee, on December
9 11, 2012 for all purposes under the Civil Rules of
10 Federal Procedure.

11 The formalities as to notice, caption,
12 certificate, et cetera are waived. All objections,
13 except as to the form of the questions, are reserved
14 to the hearing.

15 It is agreed that STEPHANIE LAKE JONES, Notary
16 Public and Licensed Court Reporter for the State of
17 Tennessee, may swear the witness, and that the
18 reading and signing of the completed deposition by
19 the witness are not waived.
20
21
22
23
24
25

1 * * *
2 **DAVID WILLIAM DELLWO,**
3 **was called as a witness, and after having been duly**
4 **sworn, testified as follows:**

5
6 **EXAMINATION**

7 **QUESTIONS BY MR. ANDERS:**

8 Q. Mr. Dellwo, am I pronouncing that correctly?

9 A. **Yes, that's correct.**

10 Q. Mr. Dellwo, my name is Patrick Anders, and
11 I'll be taking your deposition today in a case
12 entitled State Farm as subrogee of
13 Christopher Taylor versus Louisiana-Pacific.

14 MR. ANDERS: And let's go off the
15 record for a second.

16 (Short break.)

17 BY MR. ANDERS:

18 Q. I apologize for that. The sun got in my
19 eyes in this conference room.

20 A. **No problem. I understand.**

21 Q. Can you state your full name for the record,
22 please.

23 A. **David William Dellwo.**

24 Q. And where do you reside, Mr. Dellwo?

25 A. **Tomball, Texas.**

1 A. **Yes.**

2 Q. If I ask you a question that you feel calls
3 for a "yes" or a "no" answer could you verbalize
4 your response saying "yes" or "no" rather than
5 nodding or shaking your head?

6 A. **Yes.**

7 Q. If you need to take a break at any point
8 could you let me know that?

9 A. **Yes.**

10 Q. I'll be happy to accommodate you. I would
11 ask that if you want to take a break at any point
12 and I have a question pending, if you could answer
13 the question fully before we begin our break.

14 A. **Yes.**

15 Q. Thank you. What was the nature of the case
16 in which you were previously deposed?

17 A. **It involved a customer who stepped through a**
18 **structural panel in a home.**

19 Q. What sort of relief was the customer
20 seeking?

21 A. **I'm not sure.**

22 Q. Money damages?

23 A. **I'm not sure.**

24 Q. Was he claiming a personal injury?

25 A. **Yes.**

1 Q. And how are you employed, sir?

2 A. **I work for Louisiana-Pacific Corporation.**

3 Q. And how long have you worked for
4 Louisiana-Pacific?

5 A. **Since 1997.**

6 Q. What is your present job title with the
7 corporation?

8 A. **Technical field representative.**

9 Q. Have you ever had your deposition taken
10 before today?

11 A. **Yes.**

12 Q. On how many occasions?

13 A. **One.**

14 Q. Well, since you've only done it one time,
15 I'll go over a few ground rules for today's
16 deposition.

17 First, if I ask you a question that you
18 don't understand or that you don't hear properly or
19 a question that in any way you don't comprehend,
20 could you please let me know that?

21 A. **Yes.**

22 Q. Otherwise, I will assume that you understood
23 my questions and that your answers are based on
24 that understanding. Would that be a fair
25 assumption for me to make?

1 Q. And where was that case filed, if you know?

2 A. **It was in New York state.**

3 Q. Did you know what -- Louisiana-Pacific
4 manufactures a variety of different panels, does it
5 not?

6 A. **Yes.**

7 Q. Do you know what product was at issue in
8 that case?

9 A. **It was an OSB sheathing product.**

10 Q. Apart from the one deposition, have you
11 testified on any other occasions in court or before
12 an administrative panel?

13 A. **No.**

14 Q. Have you ever been convicted of a felony?

15 A. **No.**

16 Q. You said that you are a technical field
17 representative for Louisiana-Pacific?

18 A. **Yes.**

19 Q. Has that been your job title for your entire
20 tenure with the company?

21 A. **Yes.**

22 Q. Can you tell me what the duties of the
23 technical field representative are?

24 A. **I perform field inspections for customer**
25 **inquiries regarding our OSB panel products.**

1 Q. And by OSB panel products, can you name the
2 sorts of products that you work with?
3 A. **Rated sheathing, topnotch subfloor panels,**
4 **TechShield radiant barrier panels.**
5 Q. Do any others come to mind?
6 A. **Those would be the primary ones, at least at**
7 **this point. There have been other products in the**
8 **past.**
9 Q. Prior to joining Louisiana-Pacific as a
10 technical field representative, how were you
11 employed?
12 A. **I worked for a company called United Steel**
13 **Products.**
14 Q. And what did you do for United Steel
15 Products?
16 A. **Sales.**
17 Q. And how long were you employed with United
18 Steel Products?
19 A. **Approximately five year.**
20 Q. Were you employed prior to United Steel
21 Products?
22 A. **Yes.**
23 Q. And can you run through your employment
24 background for me briefly --
25 A. **Sure.**

1 Q. And when did you attend Morehead State?
2 A. **1986 through 1989.**
3 Q. Since completing your BS in marketing, have
4 you taken on any graduate studies?
5 A. **No.**
6 Q. Have you had any technical or professional
7 training, whether through your employers or else --
8 or otherwise?
9 A. **Yes.**
10 Q. Tell me about that.
11 A. **Primarily building-related technical courses**
12 **involving either building design or architecture,**
13 **things of that nature.**
14 Q. Have you obtained any certification in
15 connection with that training?
16 A. **Yes.**
17 Q. What certifications do you hold?
18 A. **We received a certification from the**
19 **American Plywood Association as being a field**
20 **inspector for structural panel products.**
21 Q. Any other certifications?
22 A. **No.**
23 Q. Do you hold any professional licenses?
24 A. **No.**
25 Q. In your time with Louisiana-Pacific as a

1 Q. -- prior to United Steel?
2 A. **Prior to United Steel, it was a company**
3 **called NA Trading for approximately two years.**
4 **Prior to that it was a company called Data Serve**
5 **for approximately two years. And prior to that it**
6 **was a company called American Paging, and that**
7 **again was approximately two years.**
8 Q. And what did you do for NA trading?
9 A. **NA Trading, I worked in sales.**
10 Q. How about Data Serve?
11 A. **Sales.**
12 Q. And how about American Paging?
13 A. **Sales.**
14 Q. Sales. What sorts of products did you sell
15 at NA trading?
16 A. **Replacement repair parts for copiers.**
17 Q. And how about at Data Serve?
18 A. **Telephone systems.**
19 Q. I can probably guess about American Paging,
20 but --
21 A. **Pagers, yes.**
22 Q. Can you tell me about your educational
23 background?
24 A. **Yes. I've got a BS in marketing from**
25 **Morehead State.**

1 technical field inspector have you always been a
2 technical field inspector of OSB-related products?
3 A. **Yes.**
4 Q. You mentioned that your job involves
5 handling customer inquiries in the field regarding
6 product.
7 A. **Yes.**
8 Q. Is that fair?
9 A. **Yes.**
10 Q. Are you limited to a specific geographic
11 region?
12 A. **I have a geographic region. On occasion, I**
13 **will travel outside of that geographic region to**
14 **perform field inspections.**
15 Q. What is your geographic region?
16 A. **Right now, it's everything west of**
17 **Mississippi in the U.S.**
18 Q. You mentioned that you occasionally go
19 outside that geographic region?
20 A. **Yes.**
21 Q. For what reason would you be called upon to
22 do that?
23 A. **We have two other inspectors that share or**
24 **have their own specific geographic regions. An**
25 **example of when I would go outside that would be if**

1 **they're busy with their schedule on another**
2 **inspection and the timeliness of the customer**
3 **request is filled by sending me in place of them**
4 **into their territory.**

5 Q. Do you work at a Louisiana-Pacific office?

6 A. **No.**

7 Q. Where do you work?

8 A. **I work out of a home office.**

9 Q. In a typical week, if there is a typical
10 week, how many days are you in a home office versus
11 traveling?

12 A. **A typical week, I'll be on the road maybe**
13 **two days a week, two nights a week.**

14 Q. We're here today primarily to discuss
15 TechShield.

16 A. **Okay.**

17 Q. What is TechShield?

18 A. **TechShield is an OSB structural panel that**
19 **has received an application of a radiant barrier**
20 **foil assembly.**

21 Q. Have you ever been involved in the
22 manufacture of TechShield?

23 A. **No.**

24 Q. Have you had any training in the manufacture
25 of TechShield?

13

1 Q. And if you know, how did Louisiana-Pacific
2 acquire the TechShield product?

3 A. **We purchased KoolPly.**

4 Q. Now, that was in the early 2000s?

5 A. **Yes.**

6 Q. When Louisiana-Pacific purchased KoolPly,
7 did customer service for that product immediately
8 become a part of your responsibility?

9 A. **Define "immediately."**

10 Q. Well, essentially at or around the same
11 time.

12 A. **Yeah. There was a, you know, short**
13 **transition time. I'm going to guess, you know,**
14 **maybe anywhere from zero to six months. And then**
15 **after that point in time, customer inquiries**
16 **regarding that product would have reverted**
17 **internally to LP.**

18 Q. Do you know if the TechShield product had a
19 different name prior to the acquisition of KoolPly
20 by Louisiana-Pacific?

21 A. **Are you asking was it named anything**
22 **other --**

23 Q. Yes, sir.

24 A. **-- than KoolPly?**

25 Q. So the product was named KoolPly?

15

1 A. **I've been in manufacturing facilities, but I**
2 **don't know about, you know, specific training, per**
3 **se.**

4 Q. Apart from the radiant barrier foil
5 assembly, are there any significant differences
6 between TechShield and what I'll call standard
7 oriented strand board, or OSB?

8 A. **No.**

9 Q. Forgive me, you said you began work at
10 Louisiana-Pacific in 1997?

11 A. **That is correct.**

12 Q. When you began work at Louisiana-Pacific,
13 was the company manufacturing or involved with
14 TechShield?

15 A. **No.**

16 Q. When did TechShield become a
17 Louisiana-Pacific product?

18 A. **Early 2000s.**

19 Q. Was the product developed by
20 Louisiana-Pacific?

21 A. **No.**

22 Q. Do you know who did develop it?

23 A. **It was a company called KoolPly.**

24 Q. Is that "KoolPly" with a K?

25 A. **Yes.**

14

1 A. **It was named KoolPly and it was also**
2 **referred to KoolPly for a short period of time**
3 **after Louisiana-Pacific purchased the company. And**
4 **then there was a transition to TechShield.**

5 Q. Okay. Thank you. What are the components
6 of TechShield?

7 A. **An OSB panel, a foil overlay assembly**
8 **consisting of a layer of aluminum and a craft paper**
9 **backing. And then a glue line that would bind the**
10 **foil assembly to the OSB panel.**

11 Q. Are all of those components manufactured
12 internally by Louisiana-Pacific or, if you know,
13 are any of them manufactured for Louisiana-Pacific
14 by outside companies?

15 A. **The OSB panel is manufactured by LP; the**
16 **foil overlay assembly is manufactured by somebody**
17 **other; and the adhesives would be manufactured by**
18 **somebody other than LP.**

19 Q. Do you know who makes the foil overlay?

20 A. **I do not.**

21 Q. Do you know who makes the adhesives?

22 A. **I don't.**

23 Q. In your work as a technical field
24 representative for Louisiana-Pacific, do you have
25 any contacts with or dealings with these outside

16

1 providers of --
 2 A. **No.**
 3 Q. -- TechShield components?
 4 A. **No.**
 5 Q. Hypothetically, if I had a problem with
 6 a Louisiana -- or a customer of Louisiana-Pacific
 7 in the western part of the United States, and I had
 8 a problem with the product, how would I come to
 9 your attention?
 10 A. **Ask that again.**
 11 Q. Who assigns investigations to you? Who, if
 12 anyone?
 13 A. **With an LP, it would come from one of two**
 14 **locations, either a call in to our warranty**
 15 **department within Nashville here. So it would be**
 16 **like a toll free number or an internet contact.**
 17 **And if they decided that a field inspection was**
 18 **required, they would communicate that information**
 19 **to me. And then beyond that in some rare**
 20 **instances, I might get an inquiry from some other**
 21 **source within LP. Say, for example, a sales rep or**
 22 **someone from the corporate office or something of**
 23 **that nature informing me of a need for a field**
 24 **inspection.**
 25 Q. You mentioned that Louisiana-Pacific has two

17

1 me a general idea of the sorts of complaints or
 2 customer inquiries you address out on the field?
 3 A. **Yes.**
 4 Q. What are the most common?
 5 A. **Most common? Probably the two most common**
 6 **would be an allegation either from a builder or a**
 7 **homeowner that the product has been improperly**
 8 **installed in the field, or the other big group of**
 9 **complaints would involve some sort of aesthetic**
 10 **concern about the material typically related to**
 11 **moisture exposure during construction process.**
 12 Q. Have you addressed inquiries or conducted --
 13 well, strike that.
 14 Have you conducted inspections for the
 15 TechShield product in which someone was alleging
 16 that the product had damaged a home after being
 17 energized by a lightning strike?
 18 A. **Yes.**
 19 Q. On how many occasions have you been involved
 20 in such inspections?
 21 A. **Approximately, I would imagine half a dozen.**
 22 Q. Do you recall when the first such inspection
 23 took place?
 24 A. **Yeah. Approximately the fall of 2010.**
 25 Q. And where was that?

19

1 other people in your position with different
 2 geographical focuses.
 3 A. **Okay. Yes.**
 4 Q. Is that correct?
 5 A. **Yes.**
 6 Q. Do those two people -- first, what are their
 7 names?
 8 A. **One is Dane Allias, and the other is**
 9 **Vance Thomas.**
 10 Q. And if you know, how long has Dane Allias
 11 been a technical field representative for
 12 Louisiana-Pacific?
 13 A. **He's had two tenures. So I'm going to say,**
 14 **originally, approximately ten years and then two**
 15 **years ago, he came back on board with LP.**
 16 Q. And how about Vance Thomas?
 17 A. **I believe Vance was hired three or four**
 18 **years prior to me.**
 19 Q. Does Mr. Allias as part of his duties, does
 20 he handle customer inquiries or complaints
 21 regarding the TechShield product?
 22 A. **He could.**
 23 Q. And how about Mr. Thomas?
 24 A. **Yes.**
 25 Q. And for the TechShield product, can you give

18

1 A. **In the Dallas, Texas, area.**
 2 Q. Do you know whether prior to the fall of
 3 2010, Louisiana-Pacific company had received
 4 complaints regarding allegations that the product
 5 damaged the structure after being energized by a
 6 lightning strike?
 7 A. **Not that I'm aware of.**
 8 Q. You said that you've handled one in Dallas,
 9 Texas, sometime in the fall of 2010, correct?
 10 A. **Yes.**
 11 Q. And you mentioned that you've done about
 12 half a dozen of these inspections where someone was
 13 making allegations regarding TechShield and the
 14 alleged vulnerability to lightning, correct?
 15 A. **Yes.**
 16 Q. Can you tell me the other inspections that
 17 you've done where that scenario has been alleged?
 18 A. **One in North Carolina, which I believe is**
 19 **this complaint. And then the rest of them would be**
 20 **in Texas.**
 21 Q. And do you know whether Mr. Vance -- I'm
 22 sorry, Mr. Thomas or Mr. Allias have conducted any
 23 such inspections of structures where it was alleged
 24 that the structure had been damaged by TechShield
 25 after being energized by a lightning strike?

20

1 A. **Not that I'm aware of.**
2 Q. Let's talk about the Dallas, Texas, incident
3 in the fall of 2010. How did that come to your
4 attention?
5 A. **It was brought to my attention by LP's legal**
6 **department.**
7 Q. And did you inspect that structure in
8 Dallas?
9 A. **There was an inspection. I was not the**
10 **inspector, I was simply an LP observer at that job.**
11 Q. Do you recall the name of the owner of the
12 structure?
13 A. **I do not.**
14 Q. Do you recall the approximate address of the
15 structure?
16 A. **No.**
17 Q. Do you recall what sort of structure it was?
18 A. **Residential home.**
19 Q. You mentioned that you attended an
20 inspection on behalf of Louisiana-Pacific. Did
21 anyone else attend on behalf of Louisiana-Pacific,
22 whether inside the company or outside? I'm
23 speaking of the Dallas inspection.
24 A. **Yes.**
25 Q. Who was that?

21

1 A. **There was a fire in the home.**
2 Q. And where did the fire take place?
3 A. **In the attic.**
4 Q. Did that home have a roof sheathing with
5 TechShield?
6 A. **Yes.**
7 Q. And did you come to any conclusions
8 regarding the cause of the fire in the attic in the
9 home in Dallas?
10 A. **No.**
11 MR. MURPHY: Objection to form.
12 BY MR. ANDERS:
13 Q. The origin of the fire was in the attic
14 though?
15 A. **I'm not sure.**
16 Q. That's where the fire damage was located
17 though, correct?
18 A. **Well, there was damage throughout the home**
19 **but there was damage in the attic, yes.**
20 Q. If you know, was there TechShield located in
21 the home, in any part of the home, other than the
22 attic and the roof?
23 A. **Not that I saw.**
24 Q. Were there any insurance companies involved
25 in that claim?

23

1 A. **George Murphy.**
2 Q. Okay. And I take it Mr. Murphy was there as
3 counsel?
4 A. **Yes.**
5 Q. Was anyone else there on behalf of
6 Louisiana-Pacific?
7 A. **Yes.**
8 Q. Who?
9 A. **Dennis Scardino.**
10 Q. And in what capacity did Mr. Scardino
11 attend?
12 A. **I'm not -- I'm not certain about that.**
13 Q. What does Mr. Scardino do for a living?
14 A. **I believe he performs field inspections of**
15 **fire-related claims.**
16 Q. Do you know his profession?
17 A. **I do not.**
18 Q. When did you first meet Mr. Scardino?
19 A. **At that inspection.**
20 Q. Prior to that inspection had you ever
21 interacted with Mr. Scardino in any way: Talking
22 to him on the phone, communicating, e-mailing?
23 A. **No.**
24 Q. What was the damage to that structure in
25 Dallas, Texas?

22

1 A. **I'm not sure.**
2 Q. Do you know who else attended -- or did
3 anyone else attend that inspection other than
4 representatives of Louisiana-Pacific such as
5 yourself, Mr. Murphy, and Mr. Scardino?
6 A. **Yes.**
7 Q. Who if you know?
8 A. **I'm not sure. I don't recall his name.**
9 Q. Do you know who the person worked for -- was
10 it one person or multiple people?
11 A. **There were multiple people.**
12 **Actually, thinking back about that, one of**
13 **the individuals was a fellow named Ron Simmons.**
14 Q. And who is Mr. Simmons?
15 A. **I believe an inspector of fire-related**
16 **complaints.**
17 Q. Do you recall anyone else who attended that
18 Dallas inspection?
19 A. **Not by name.**
20 Q. So if I understand your testimony correctly,
21 to the best of your recollection, apart from the
22 Taylor home in North Carolina, all of the
23 inspections that you have conducted for
24 Louisiana-Pacific of structures where it was
25 alleged that the structured had been damaged by

24

1 fire after TechShield had been energized by
 2 lightning were in Texas?
 3 A. **Yes.**
 4 Q. Have you had cause to investigate or inspect
 5 structures which had been damaged by fire and a
 6 complaint was made concerning TechShield where
 7 lightning was not involved?
 8 A. **No.**
 9 Q. Have you had cause to investigate or inspect
 10 damage to structures in which the damage was caused
 11 by fire and there was a complaint concerning the
 12 company's standard OSB products of a non-TechShield
 13 variety?
 14 A. **No.**
 15 Q. So would it be fair to say that all of the
 16 structure -- all of the investigations or
 17 inspections you have attended involving fire damage
 18 to structures involved a TechShield product?
 19 A. **Yes.**
 20 Q. Do you have an understanding of the
 21 mechanism by which it is claimed that TechShield
 22 being energized by a lightning strike can lead to a
 23 structure catching fire?
 24 A. **Ask that again.**
 25 Q. Sure. If I understand you correctly, since

25

1 A. **That's the aluminum.**
 2 Q. I can pull out a calculator, but if you
 3 know, what is the thickness in millimeters?
 4 A. **I couldn't tell you.**
 5 Q. Let's turn to the Taylor home. You had
 6 cause to attend an inspection at a home in
 7 Lewisburg, North Carolina, owned by Christopher and
 8 Rosario Taylor, correct?
 9 A. **Correct.**
 10 Q. Do you recall when that inspection took
 11 place?
 12 A. **2011.**
 13 Q. Around -- sometime in the fall of 2011?
 14 A. **Yeah, I believe it was in the fall.**
 15 Q. And who called upon you to attend that
 16 inspection?
 17 A. **LP's legal department.**
 18 Q. Did anyone else attend that inspection on
 19 behalf of Louisiana-Pacific?
 20 A. **Yes.**
 21 Q. Who else?
 22 A. **George Murphy, Laura Proctor, Brian**
 23 **St. Germain, Dennis Scardino. And I believe it was**
 24 **David Loose -- Mr. Loose, but I don't recall his**
 25 **first name.**

27

1 the fall of 2010, you've been to about six
 2 different structures to inspect them or observe
 3 inspections after lightning had struck the
 4 residence or the structure and energized the
 5 TechShield product, correct?
 6 A. **Yes.**
 7 Q. You've never done that for standard OSB; is
 8 that correct?
 9 A. **That is correct.**
 10 Q. All right. Do you believe that TechShield
 11 is vulnerable to catching fire after being
 12 energized by a lightning strike?
 13 MR. MURPHY: Object to form.
 14 THE WITNESS: I'm not a fire expert so
 15 I don't know that I would have an informed opinion
 16 about that.
 17 BY MR. ANDERS:
 18 Q. That's fine. What's the thickness of the
 19 aluminum laminate on TechShield?
 20 A. **.0002 inches approximately.**
 21 Q. .00 --
 22 A. **-- 02 inches.**
 23 Q. Would that be including the craft paper?
 24 A. **No.**
 25 Q. That's solely the aluminum?

26

1 Q. Okay. Laura Proctor is in LP's legal
 2 department, correct?
 3 A. **That is correct.**
 4 Q. And what position does Brian St. Germain
 5 have with the company?
 6 A. **I'm not sure of his official title but it**
 7 **oversees OSB manufacturing and quality.**
 8 Q. And Mr. Scardino is an outside expert
 9 retained by the company?
 10 A. **Yes.**
 11 Q. And who is Mr. Loose?
 12 A. **I believe he was an outside expert as well.**
 13 Q. Do you know his field of expertise?
 14 A. **No.**
 15 Q. And what was your role at the Taylor
 16 inspection?
 17 A. **Simply to be an LP observer of the**
 18 **inspection.**
 19 Q. Can you describe the inspection that took
 20 place for me at the Taylor home?
 21 A. **You know, the steps that were --**
 22 Q. Yes.
 23 A. **-- taken?**
 24 **A general observation of the damage that was**
 25 **done to the home and attempt to verify or determine**

28

1 **if the home had, in fact, been struck by lightning.**

2 **And if it had been, determine a potential path to**
3 **ground for the strike.**

4 Q. Were there any other steps in the
5 inspection?

6 MR. MURPHY: Object to form.

7 THE WITNESS: Not that I recall.

8 BY MR. ANDERS:

9 Q. Did you make any observations about the
10 damage to the Taylor home?

11 A. **I mean, there had been apparently a fire in**
12 **the home. And beyond that, you know, I don't know**
13 **of anything in specific that I necessarily observed**
14 **during the inspection.**

15 Q. In which part of the home did the fire take
16 place?

17 A. **In the attic cavity of the structure.**

18 Q. And would that have been on the upper
19 portion of the attic cavity, the roof portion, or
20 would it have been on the lower portion on the
21 sides?

22 MR. MURPHY: Objection to form.

23 THE WITNESS: My recollection is that
24 it was near the peak of the structure.

25 / / /

29

1 Q. You said that the inspection also involved
2 determining if lightning had struck the home?

3 A. **Yes.**

4 Q. Did you play any role in that?

5 A. **No.**

6 Q. Who did make that determination, if anyone?

7 A. **I'm not sure.**

8 Q. Do you know if it was determined that
9 lightning had struck the home at the inspection?

10 A. **At the time of the inspection?**

11 Q. Yes, sir.

12 A. **I think the consensus was that it sounded as**
13 **if it had been struck by lightning, but I don't**
14 **know if it had been verified at the time of the**
15 **inspection.**

16 Q. Do you have any reason to doubt that the
17 Taylor home was struck by lightning at the time of
18 the fire?

19 A. **No.**

20 Q. And you said that the efforts were made to
21 determine a path to ground --

22 A. **Yes.**

23 Q. -- for the lightning?

24 A. **Yes.**

25 Q. Can you describe those efforts for me?

31

1 BY MR. ANDERS:

2 Q. Did that structure incorporate any
3 Louisiana-Pacific products?

4 A. **Yes.**

5 Q. What product?

6 A. **TechShield.**

7 Q. And where was the TechShield located within
8 the structure?

9 A. **It was installed as roof sheathing.**

10 Q. Did you personally verify that it was
11 TechShield within the structure?

12 A. **Yes.**

13 Q. And how did you make that verification?

14 A. **The TechShield logo is stamped on the**
15 **downward facing side of the product.**

16 Q. So you have no reason to doubt that the roof
17 of the Taylor home was sheathed in TechShield?

18 A. **At least in the areas that I was able to**
19 **observe, yes.**

20 Q. Can you describe the damage that the fire
21 had done to the roof?

22 A. **I know there was a fire there, but I don't**
23 **recall specifically the degree of damage or what**
24 **components of the home were directly affected by**
25 **the fire.**

30

1 A. **You know, since I am not a fire investigator**
2 **or an electrical investigator, I don't know exactly**
3 **what the process is in terms of determining that.**

4 Q. Was it described to you by anyone?

5 A. **No.**

6 Q. Who, if anyone, was involved in making a
7 determination as to the path to ground on behalf of
8 Louisiana-Pacific?

9 A. **Mr. Scardino.**

10 Q. And have you had any discussions with
11 Mr. Scardino at any time regarding the path to
12 ground of the lightning bolt that struck the Taylor
13 home?

14 A. **No.**

15 Q. If you know, did Mr. Taylor or Mrs. Taylor
16 present a warranty claim to Louisiana-Pacific in
17 connection with that fire?

18 A. **Not that I'm aware of.**

19 Q. Do you have any involvement on behalf of
20 Louisiana-Pacific when a warranty claim is brought
21 to your attention in determining whether or not the
22 warranty claim will be honored?

23 A. **Yes.**

24 Q. Tell me how that process works.

25 A. **My involvement would come about if there is**

32

1 a -- if it's determined that an actual field
 2 inspection of a product is required.
 3 Q. Yes, sir.
 4 A. **And I would perform an examination of the**
 5 **job site conditions. And based on my assessment of**
 6 **those conditions, I would make a recommendation**
 7 **back to LP as to whether a warranty claim was**
 8 **legitimate in a given situation.**
 9 Q. Do you have an understanding of what is
 10 covered under the TechShield warranty -- or, first,
 11 is there a warranty on the TechShield product from
 12 Louisiana-Pacific?
 13 A. **Yes.**
 14 Q. Are you familiar with that warranty?
 15 A. **Generally familiar.**
 16 Q. Okay. Has the warranty been revised within
 17 the past five years?
 18 A. **I'm not sure in that time frame.**
 19 Q. If I were to show you a copy -- well, if I
 20 were to show you a copy of a 2007 TechShield
 21 20-year transferable limited warranty, would that
 22 assist you in testifying concerning the warranty
 23 claims?
 24 A. **In what context?**
 25 Q. Well, I'll ask you to review what was marked

33

1 A. **I'm not sure.**
 2 Q. When you conduct an inspection of a
 3 structure where the TechShield product is at issue
 4 for warranty purposes, what sorts of
 5 nonconformities are you generally looking for to
 6 make a determination as to whether the warranty
 7 might be implicated?
 8 A. **Are you asking what do I typically see when**
 9 **I go out and look at a TechShield, a complaint?**
 10 Q. You can answer that, sure.
 11 A. **Okay. I mean, my assessment of the material**
 12 **would typically fall into one of two areas: Has**
 13 **the structural integrity or performance of the**
 14 **material been affected in any way, or has the**
 15 **panel's ability to perform as a radiant barrier**
 16 **assembly been impacted in any way. Those would be**
 17 **two big areas of assessment I would determine in**
 18 **looking at a TechShield job.**
 19 Q. Does the warranty cover workmanship
 20 issues -- or strike that.
 21 Does the warranty cover issues related to
 22 inadequate or deficient assemblage?
 23 A. **No.**
 24 Q. Does it cover manufacturing defects?
 25 A. **Yes.**

35

1 yesterday as Exhibit 3 at Mr. St. Germain's
 2 deposition.
 3 A. **Okay.**
 4 Q. First, if you would just review it.
 5 A. **The entire document?**
 6 Q. Just generally.
 7 A. **Okay.**
 8 Q. You don't have to read it line by line
 9 unless you want to.
 10 A. **(Reviews documents.) Okay.**
 11 Q. What is that document?
 12 A. **It is a copy of a TechShield warranty.**
 13 Q. And does that appear to be the warranty as
 14 it existed in 2007?
 15 A. **It's dated 2007.**
 16 Q. Do you know if the warranty has undergone
 17 any revisions since 2007?
 18 A. **I don't.**
 19 Q. Does that appear, though, to be the standard
 20 warranty for the TechShield product?
 21 A. **Yes.**
 22 Q. Do you have any reason to doubt that
 23 warranty would or would not apply to the Taylor
 24 home assuming that the house was built in 2008 or
 25 2009?

34

1 Q. So would it be -- other than a manufacturing
 2 defect within the product itself, what does the
 3 warranty cover? What issues are you typically
 4 looking for?
 5 MR. MURPHY: Object to form.
 6 THE WITNESS: Are you saying what is
 7 the customer complaint about the material?
 8 BY MR. ANDERS:
 9 Q. No. I mean if you're inspecting --
 10 A. **Yes.**
 11 Q. -- a structure sheathed in TechShield.
 12 Let's say there's been a complaint regarding the
 13 performance of TechShield.
 14 A. **Okay.**
 15 Q. What are you typically looking for to make a
 16 determination as to whether the warranty will
 17 provide coverage to the customer?
 18 A. **It depends on the nature of the complaint.**
 19 Q. If you know, has Louisiana-Pacific ever
 20 honored a warranty claim -- first, has
 21 Louisiana-Pacific ever been presented with a
 22 warranty claim, if you know, where it was alleged
 23 that a structure was damaged due to TechShield
 24 within the structure being energized by a lightning
 25 strike?

36

1 MR. MURPHY: Objection to form.
 2 THE WITNESS: Yes.
 3 BY MR. ANDERS:
 4 Q. And has Louisiana-Pacific ever honored such
 5 a claim?
 6 MR. MURPHY: Objection to form.
 7 THE WITNESS: No.
 8 BY MR. ANDERS:
 9 Q. And why not?
 10 A. **Because it was determined that the radiant**
 11 **barrier performance of the panel had not been**
 12 **impacted and the structural integrity of the**
 13 **OSB substrate had not been impacted.**
 14 Q. Could you elaborate on that for me. If a
 15 panel of TechShield catches fire, does that -- are
 16 you saying that that has no impact on the panel's
 17 ability to perform as a radiant barrier?
 18 MR. MURPHY: Objection to form.
 19 THE WITNESS: So a panel starts on
 20 fire?
 21 BY MR. ANDERS:
 22 Q. Yes, sir.
 23 A. **Well, it could or it could not. I mean, I**
 24 **could envision a scenario where -- I'm not -- I**
 25 **just -- I'm not -- yeah, I'm not sure.**

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1 existence of the warranty for TechShield to
 2 customers who end up owning structures in the field
 3 that are clad with the material?
 4 MR. MURPHY: Objection to form.
 5 THE WITNESS: Well, every -- or the
 6 foil side of the product is clearly labeled with
 7 the product name and manufacturer. And every panel
 8 has got our toll free number imprinted on it so
 9 they have direct access or the ability to contact
 10 the company simply by looking at the material. And
 11 then the LP website makes available, you know, all
 12 of our product warranties and product literature
 13 for anyone, you know, who would have an interest in
 14 the product or a concern about the product.
 15 BY MR. ANDERS:
 16 Q. Is there anything on the product itself that
 17 indicates the existence of the 20-year transferable
 18 limited warranty for TechShield?
 19 A. **I'm not sure.**
 20 Q. You see TechShield pretty often, though,
 21 don't you?
 22 A. **Yes.**
 23 Q. Are you aware of anything written on the
 24 product that states for warranty information, visit
 25 www.lpcorp.com or anything of that nature?

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1 Q. And if a panel of TechShield catches fire
 2 would that impact the panel's ability to serve as
 3 structural sheathing?
 4 A. **I suspect it might.**
 5 Q. But Louisiana-Pacific's never honored such a
 6 claim after a fire to your knowledge?
 7 MR. MURPHY: Objection to form.
 8 THE WITNESS: No, not that I'm aware
 9 of.
 10 BY MR. ANDERS:
 11 Q. Would you say that a majority of the
 12 inspections that you attend on behalf or conduct on
 13 behalf of Louisiana-Pacific involve warranty
 14 claims?
 15 A. **Ask that again.**
 16 Q. Sure. Would it be fair to say that the
 17 majority of inspections that you perform or conduct
 18 on behalf of Louisiana-Pacific involve warranty
 19 claims by customers who are dissatisfied with the
 20 product for one reason or another?
 21 A. **Yes.**
 22 Q. And would that be true for TechShield
 23 inspections as well?
 24 A. **Yes.**
 25 Q. How does Louisiana-Pacific communicate the

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1 A. **I know there is a toll free number on there.**
 2 **I don't know if they specifically direct customers**
 3 **to that number, you know, for a warranty complaint.**
 4 **I'm not sure if that's the actual terminology that**
 5 **they would use.**
 6 Q. Is the word "warranty" printed anywhere on
 7 the product?
 8 A. **I don't know.**
 9 Q. You don't recall it being printed on the
 10 product.
 11 A. **Yeah. Yeah.**
 12 Q. How does Louisiana-Pacific sell TechShield,
 13 how do they get it out in the field?
 14 MR. MURPHY: Objection to form.
 15 BY MR. ANDERS:
 16 Q. Is it through distributors or does the
 17 company sell it itself? I'm talking about how end
 18 users end up with the product.
 19 MR. MURPHY: Objection to form.
 20 THE WITNESS: Define an "end user."
 21 BY MR. ANDERS:
 22 Q. Builders or owners of structures.
 23 A. **Okay.**
 24 MR. MURPHY: Same objection.
 25 THE WITNESS: The -- it would depend on

40

1 the market in which the product is sold, but the
2 most common path to market would be LP selling the
3 product to a distributor, who in turn sells the
4 product to a retail yard, who then in turn sells
5 the product to a builder. That would probably be
6 the most common path to market.
7 BY MR. ANDERS:
8 Q. Sir, you mentioned a retail yard?
9 A. **Yes.**
10 Q. Can you tell me what you mean by that?
11 A. **So it would be either a local lumber yard or**
12 **a Home Depot, Lowe's, that type of a location.**
13 Q. Is the product sold at Home Depot and
14 Lowe's?
15 A. **Yes.**
16 Q. And the TechShield product is also sold at
17 retail lumber yards?
18 A. **Yes.**
19 Q. Do you know whether customers at Lowe's are
20 informed by Lowe's of the existence of the 20-year
21 transferable limited warranty?
22 MR. MURPHY: Objection to form.
23 THE WITNESS: I wouldn't know. I'm
24 not -- don't know.
25 / / /

41

1 MR. MURPHY: Objection to form.
2 THE WITNESS: I don't know.
3 BY MR. ANDERS:
4 Q. Sorry, to their customers.
5 A. **Yeah, I don't know.**
6 Q. Do you have an idea from your time at the
7 company as a technical field representative of how
8 customers typically come to be aware of the
9 existence of the warranty on the TechShield
10 product?
11 A. **I don't.**
12 Q. The customers don't inform you?
13 A. **No.**
14 Q. Mr. Dellwo, did you come to any conclusions
15 personally as to the cause of the fire in the
16 Taylor home?
17 MR. MURPHY: Objection to form.
18 THE WITNESS: No.
19 BY MR. ANDERS:
20 Q. Do you believe that you would have the
21 expertise to make such conclusions?
22 A. **No.**
23 MR. ANDERS: Just a moment. Do you
24 want to take a break for a moment?
25 MR. MURPHY: Sure.

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1 BY MR. ANDERS:
2 Q. You've been around lumberyards, I take it,
3 where the product is being sold, correct?
4 A. **Yes.**
5 Q. Typically does -- is the product accompanied
6 by any paper documents, such as that 20-year
7 transferable limited warranty?
8 A. **In some cases, yes.**
9 Q. You've seen that?
10 A. **Yes.**
11 Q. Is the product accompanied by the 20-year
12 transferable limited warranty in all cases?
13 MR. MURPHY: Object to form.
14 THE WITNESS: I'm not sure what you're
15 asking there.
16 BY MR. ANDERS:
17 Q. Sure. Let's say I go to a lumberyard and I
18 want to buy some TechShield.
19 A. **Yes.**
20 Q. I want to use it to sheathe the roof of a
21 home.
22 A. **Okay.**
23 Q. Does Louisiana-Pacific require distributors
24 of its product to make the 20-year transferable
25 limited warranty available to its customers?

42

1 (Short break.)
2 BY MR. ANDERS:
3 Q. Mr. Dellwo, I'll show you what's been marked
4 as Exhibit 1 to your deposition.
5 (WHEREUPON, the above-mentioned
6 document was marked as Exhibit Number 1.)
7 THE WITNESS: Okay.
8 BY MR. ANDERS:
9 Q. Have you reviewed that document?
10 A. **Give me just a moment.**
11 Q. Absolutely.
12 A. **(Reviews documents.) Okay.**
13 Q. What is this document?
14 A. **This is an e-mail that was sent to**
15 **Mark Goodson.**
16 Q. By you?
17 A. **Yes.**
18 Q. And who is Mark Goodson?
19 A. **Mark Goodson is -- I'm not sure of his**
20 **official title, but he is an individual that has**
21 **been retained by LP in regards to the inspection of**
22 **TechShield in the field.**
23 Q. And when -- for what issues has Mr. Goodson
24 been retained?
25 MR. MURPHY: Objection to form.

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1 BY MR. ANDERS:
2 Q. Is he retained for inspections of TechShield
3 structural -- is he a structural expert?
4 A. **I'm not sure.**
5 MR. MURPHY: Objection to form.
6 BY MR. ANDERS:
7 Q. Is he involved in lightning related claims?
8 MR. MURPHY: Objection to form.
9 THE WITNESS: He has -- I have met him
10 on inspections involving lightning complaints, yes.
11 BY MR. ANDERS:
12 Q. Have you met him on inspections for any
13 non-lightning related complaints with respect to
14 TechShield?
15 A. **No.**
16 Q. How many times have you met him?
17 A. **Three or four.**
18 Q. And this e-mail refers to a conversation
19 that you had with Mr. Goodson at the Erica Jones
20 inspection in Tomball, Texas?
21 A. **Yes.**
22 Q. Is Erica Jones a homeowner?
23 A. **Yes.**
24 Q. Why were you and Mr. Goodson at Erica Jones'
25 house?

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1 Q. And you have in this e-mail referred him to
2 criteria established by the state of California?
3 A. **Yes.**
4 Q. Are you aware of any other criteria apart
5 from those in the state of California for
6 performance of TechShield?
7 A. **Some local jurisdictions might have a, you
8 know, series of guidelines established for what
9 they're looking for in a radiant barrier, but the
10 state of California is generally the one where that
11 becomes a question.**
12 Q. Why is that?
13 A. **I'm not sure.**
14 Q. Are you aware of any external requirements
15 for radiant barrier sheathing related to its
16 performance when energized by lightning?
17 A. **No.**
18 Q. Have you ever served on any code authorities
19 or bodies or advisory bodies?
20 A. **No.**
21 Q. Have you ever served on any technical panels
22 outside of Louisiana-Pacific, such as ASTM or
23 anything of that nature?
24 A. **No.**
25 Q. Did Mr. Goodson explain to you why he wanted

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1 A. **Per the request of LP's legal department.**
2 Q. And what was your purpose in visiting
3 Erica Jones' house?
4 A. **To act as an LP observer for the inspection.**
5 Q. What about the home required inspection?
6 A. **The home had been damaged by fire.**
7 Q. And was it alleged that the fire had been
8 caused by any products manufactured by LP?
9 MR. MURPHY: Objection to form.
10 THE WITNESS: I'm not quite sure
11 what -- I think the allegation was that the home
12 was struck by lightning.
13 BY MR. ANDERS:
14 Q. Was the home sheathed with TechShield in
15 any --
16 A. **Yes.**
17 Q. -- portions of it?
18 What portion of the home was sheathed by
19 TechShield?
20 A. **The roof deck.**
21 Q. So did Mr. Goodson ask you about specific
22 performance criteria for TechShield panels?
23 A. **My recollection is that he asked if there
24 were any established or written performance
25 criteria for a radiant barrier panel.**

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1 to know about performance criteria for TechShield
2 panels?
3 A. **No.**
4 Q. When did you first meet Mr. Goodson?
5 A. **As far as the actual date, I'm not sure, but
6 it would have been at an LP inspection.**
7 Q. It would have been prior to August 7th,
8 2012, in any event?
9 A. **Yes.**
10 MR. ANDERS: If we can go off the
11 record for a moment.
12 (Off-the-record discussion.)
13 BY MR. ANDERS:
14 Q. What is RIMA?
15 A. **RIMA is a trade group of radiant barrier and
16 insulation manufacturers.**
17 Q. In fact, it's the Reflective Insulation
18 Manufacturers Association International, is it not?
19 A. **I'm not sure what it stands for.**
20 Q. Is Louisiana-Pacific a member of RIMA?
21 A. **I believe so, yes.**
22 Q. Do you know whether RIMA has established any
23 standards for performance of radiant barrier
24 sheathing?
25 A. **I'm not sure.**

48

1 Q. Have you ever reviewed any RIMA standards
 2 for the TechShield product or similar products?
 3 A. **Not that I can recall.**
 4 Q. And by "similar products," I mean radiant
 5 barrier sheathing.
 6 A. **Again, I can't recall.**
 7 Q. How do you define a radiant barrier
 8 sheathing?
 9 A. **A structural panel that would limit the**
 10 **radiant energy that's allowed to enter a building**
 11 **cavity.**
 12 Q. And how is that limitation typically
 13 accomplished?
 14 A. **How does it perform, is that what you're**
 15 **asking?**
 16 Q. No. I'm asking what component of a
 17 structural panel makes it a radiant barrier
 18 sheathing as opposed to ordinary sheathing?
 19 A. **It would be the aluminum surface that's**
 20 **applied to one side of the panel.**
 21 Q. Are you aware of whether any forms of
 22 radiant barrier sheathing are made that do not
 23 incorporate aluminum?
 24 A. **No.**
 25 Q. Does Louisiana-Pacific manufacture any forms

1 A. **Have I ever inspected a shed with --**
 2 Q. Have you ever had to inspect a shed?
 3 A. **Yes.**
 4 Q. Have you ever had to inspect a shed that
 5 included radiant barrier sheathing?
 6 A. **I'm not sure.**
 7 Q. Have you ever had to inspect a shed that --
 8 where the issue was the shed had caught fire --
 9 A. **No.**
 10 Q. -- following a lightning strike?
 11 A. **No.**
 12 Q. Okay. Have you ever been involved in the
 13 preparation of technical literature for
 14 Louisiana-Pacific?
 15 A. **No.**
 16 Q. Have you ever been involved in research or
 17 development of a new product for Louisiana-Pacific?
 18 A. **No.**
 19 Q. No?
 20 A. **No.**
 21 MR. ANDERS: I don't have any other
 22 questions.
 23 MR. MURPHY: We will reserve our
 24 questions until trial.
 25 **FURTHER DEPONENT SAITH NOT**

1 of radiant barrier sheathing other than TechShield?
 2 A. **Not that I'm aware of.**
 3 Q. I had some discussion with Mr. St. Germain
 4 yesterday regarding a product that is -- it sounded
 5 similar to TechShield, but is manufactured for the
 6 shed industry as he put it.
 7 A. **Uh-huh.**
 8 Q. Are you familiar with that product?
 9 A. **No.**
 10 Q. He referred to it as SilverLine or something
 11 like that, he wasn't sure of the name. You're not
 12 familiar with that product?
 13 A. **No. No.**
 14 Q. Have you ever been called upon to inspect a
 15 shed which had been damaged by fire following a
 16 lightning strike?
 17 A. **No.**
 18 Q. Whether or not the shed incorporated a
 19 radiant barrier sheathing manufactured by
 20 Louisiana-Pacific?
 21 A. **(No response.)**
 22 Q. Would the same answer be no?
 23 A. **Are you asking -- I'm not sure what you're**
 24 **asking.**
 25 Q. Have you ever --

1 **ERRATA PAGE**
 2
 3 I, DAVID WILLIAM DELLWO, having read the
 4 foregoing deposition, Pages 1 through 53, do hereby
 5 certify said testimony is a true and accurate
 6 transcript, with the following changes (if any):
 7
 8 PAGE LINE SHOULD HAVE BEEN
 9 _____
 10 _____
 11 _____
 12 _____
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 17 _____
 18 _____
 19 _____
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 21 _____
 22 _____
 23 _____
 24 _____
 25 _____

 Notary Public
 My Commission Expires: _____

1 **REPORTER'S CERTIFICATE**

2
3 **STATE OF TENNESSEE**
4 **COUNTY OF SMITH**

5
6 I, STEPHANIE LAKE JONES, Licensed Court
7 Reporter, with offices in Nashville, Tennessee,
8 hereby certify that I reported the foregoing
9 deposition of **DAVID WILLIAM DELLWO** by machine
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11 and thereafter the same was reduced to typewritten
12 form by me. I am not related to any of the parties
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25 _____
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27 **Notary Public**
28 **State of Tennessee**
29 **My Commission Expires: May 18th, 2016**
30 **LCR #172 - Expires June 30, 2014**

In The Matter Of:
State Farm, et al v.
Louisiana Pacific Corporation

Mark Goodson
December 7, 2012

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D I R E C T E X A M I N A T I O N

1 BY MS. MacCLEOD:

2 Q Good morning, Mr. Goodson. We are here today to

3 take your deposition because Plaintiffs have filed a

4 lawsuit against Louisiana Pacific. And you've been named

5 as an expert witness in this case, correct?

6 A Yes, ma'am.

7 Q And I have seen evidence of a number of

8 depositions that you have provided throughout your career,

9 so I won't spend a lot of time on ground rules because I

10 feel like you probably know what those are. But if at any

11 point you need to take a break, please let me know and I'd

12 be glad to accommodate you. However, if I've asked a

13 question that's pending, I'll just ask that you provide

14 that answer and then we can take a break. And if we can

15 not talk over each other, that would be perfect.

16 Do you have any questions at this point

17 about the process?

18 A No, ma'am.

19 Q Will you state your full name and address for the

20 record.

21 A Yes, ma'am. Mark Eugene Goodson, business

22 address, 1500 Spencer, Denton, D-E-N-T-O-N, Texas 76205.

23 Q And do you still reside at 3370 Forest Glen in

24 Corinth, Texas?

25

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P R O C E E D I N G S

1 THE VIDEOGRAPHER: This is the videotaped

2 deposition of Mark Goodson, taken on behalf of the

3 Plaintiff -- Defendant -- in the matter of State Farm, et

4 al. versus Louisiana Pacific Corporation, Cause Number

5 5:12-cv-289-B0 for the Dis- -- for the United States

6 District Court for the Eastern Division of North Carolina,

7 Western Division, held in the offices of Cozen O'Connor at

8 1717 Main, Suite 3400, Dallas, Texas.

9 The videographer's name is Tamytha Smith.

10 The court reporter's name is Kelly Hassell. This is the

11 beginning of Tape 1. Today's date is December 7th, 2012.

12 We are on the record at 9:09.

13 Will counsel introduce themselves for the

14 record.

15 MS. MacCLEOD: My name is Skye MacClead, and I

16 am the attorney representing the Plaintiff, State Farm Fire

17 and Casualty Company as subrogee of Christopher Taylor.

18 MR. ELLIS: I'm Neal Ellis here for LP.

19 MR. MURPHY: George Murphy here on behalf of

20 LP.

21 MARK GOODSON, PE,

22 having been first duly cautioned and sworn to testify the

23 truth, the whole truth and nothing but the truth, testified

24 on his oath as follows:

25

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1 A Yes, ma'am.

2 Q Do you have any plans to retire or leave Goodson

3 Engineering in the next five or so months?

4 A Not that I'm aware of.

5 (Exhibit Number 63 was marked.)

6 Q (BY MS. MacCLEOD) Okay. All right. You were

7 served with a notice of deposition and subpoena duces tecum

8 in this case, and you were asked to produce your file. I

9 have gone ahead and taken the lib- -- taken the liberty to

10 pre-mark the file materials that you provided to me as

11 Exhibit 63, and they are here in front of you. This -- if

12 you will, just briefly look through that and see if it

13 matches what you think you've provided to me.

14 A Substantially, that's -- I think there are two

15 documents missing.

16 Q Okay. What would those be?

17 A The -- you should have received them yesterday

18 via e-mail, I think, and it's just some notes and just a

19 tally of time I spent on this case.

20 Q Okay. And I did get that via e-mail yesterday

21 afternoon, so I do have both of those things. And then I

22 understand from our discussions this morning that you have

23 provided some additional information that -- today, this

24 morning -- that was not included in the file materials

25 provided ahead of time, correct?

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1 A Yes, ma'am.
2 Q Okay. And that's the stack that's there in front
3 of you?
4 A Yes, ma'am (indicating).
5 Q Are those copies of what are in your file? The
6 stack that's there in front of you, are those your
7 originals?
8 A The -- well, these are -- well, like photos, I
9 mean, obviously, they're stored digitally, but, you know,
10 all this stuff could be copied and taken with.
11 Q Okay. Is it okay if I go ahead and mark that as
12 Deposition Exhibit 3 -- 64 -- excuse me -- and then --
13 A Yes, ma'am.
14 Q Okay.
15 (Exhibit Number 64 was marked.)
16 Q (BY MS. MaCLEOD) Okay. And then let's go ahead
17 and mark as Deposition Exhibit 65 the two documents that
18 were provided to me via e-mail yesterday afternoon.
19 (Exhibit Number 65 was marked.)
20 Q (BY MS. MaCLEOD) Other than the SEM, EDX and
21 microscopic photographs that were taken on September 27th
22 at your facility, did you review any other photographs in
23 this matter?
24 A Well, those that came with the reports, like
25 those kind of photos, yes, ma'am.

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1 Q Did you receive all of the photographs that
2 Dennis Scardino took in this matter or just the ones that
3 were attached to his report?
4 A The -- gosh. Ma'am, I don't remember.
5 Q Okay. All right. I saw mention in time spent of
6 review of patents?
7 A Yes.
8 Q Okay. Was this a patent for TechShield?
9 A Yes, ma'am
10 Q How many patents did you review?
11 A One.
12 Q One. Okay. Is that patent in the -- included in
13 the materials that were provided today in Exhibit 64?
14 A I thought it was provided last -- last week when
15 I produced the documents.
16 Q Okay. Okay. Why is it that you reviewed the
17 patents in this case -- or the patent that you reviewed in
18 this case?
19 A Sure. I wanted to know -- have more knowledge
20 about the product.
21 Q And what did the patent reveal to you when you
22 reviewed it?
23 A Basically, the patent -- what it pertains to is
24 how the product is constructed, more in particular with how
25 you face one side of the product with a radiant aluminum

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1 layer while still allowing essentially the woodwork -- the
2 wood to breathe and expel itself with moisture.
3 Q Do you recall how long that patent was? Is it a
4 single page?
5 A Oh, gosh. It -- it's probably 10 or 12 pages.
6 Q Did you locate it in the materials that you
7 brought today?
8 A I have it. And I -- I thought it was in last
9 week's documents, but it's right here (indicating).
10 Q And it may be.
11 A Okay.
12 Q I'll have to go back through and look again. Did
13 you make -- in any of your review of expert reports or in
14 telephone conversations with folks, whether it be Mr. Ellis
15 or Mr. Murphy or someone from Louisiana Pacific, did you
16 ever make any notes in this case?
17 A No, ma'am.
18 Q Is that your typical practice, is to not --
19 A It just depends on the case. If -- if I'm doing
20 work on-site as in a fire -- a fire site, I, you know,
21 would have made voluminous notes.
22 Q Okay. Did you make notes during the testing that
23 took place on September 27th, 2012?
24 A Other than the photos, no.
25 Q Do you have any other file that you maintain in

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1 regard to radiant barrier cases that you're undertaking on
2 behalf of Louisiana Pacific?
3 MR. ELLIS: Objection.
4 Go ahead.
5 A Okay. I'll -- I'll answer what I can --
6 Q (BY MS. MaCLEOD) Okay.
7 A -- and see if that's what you're asking. There
8 are, as example, fires that I have investigated and been
9 on-site for Louisiana Pacific, one in Leon Valley, as an
10 example, just a few weeks ago where, yes, there is such a
11 file and it does have notes in it. And that -- that would
12 typically be the case for when I'm on-site.
13 Q But that file is not going to have anything in
14 regard to the Taylor case in it, correct? It'll be a
15 separate file?
16 A Yes, ma'am, it would be separate.
17 Q How much time did you spend in preparing for
18 today's deposition?
19 A About four hours.
20 Q And what did you do in preparing for today's
21 deposition?
22 A Substantially, I organized my file and then
23 reviewed what was in my file, and I met with Mr. Murphy.
24 Q How long did you meet with Mr. Murphy?
25 A Oh, an hour and-a-half.

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1 Q Was that this morning?
2 A That was yesterday.
3 Q Yesterday.
4 Have you reviewed the complaint in this
5 matter?
6 A Not that I'm aware of.
7 Q Have you reviewed any of the answers to
8 interrogatories provided by either party?
9 A I don't -- no, ma'am.
10 Q Have you reviewed any deposition transcripts or
11 videos that have been taken in this case prior to your
12 deposition today?
13 A No, ma'am.
14 Q Have you had an opportunity to review the
15 Deposition Exhibits 1 through 62 prior to today's
16 deposition?
17 A No.
18 Ms. MacLeod, let me -- let me clear that up.
19 I -- the better answer is, I don't know what has been
20 marked as exhibits, but as an example, I -- I have reviewed
21 Mr. Simmons's report. I feel certain that was marked last
22 week, some things like that. But did I set out to review
23 any specifically marked exhibits? The answer is no.
24 Q Okay. Thank you.
25 Have you reviewed in this case the Rule

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1 26(a)2 disclosure of expert testimony provided by
2 Louisiana Pacific?
3 A No.
4 Q Have you been identified and asked to opine to
5 the fact that the presence of TechShield did not present an
6 increased risk of lightning-related fires when the
7 lightning struck the Taylor home?
8 A Well, that's -- that's what we've talked about,
9 my testimony in that regard, yes, ma'am.
10 Q Okay. Have you been asked to opine about the
11 nature or characteristics of lightning and lightning
12 striking the home?
13 A In -- to some extent, yes.
14 Q And why do you limit that to some extent?
15 A You know, I'm -- I am not, per se, a lightning
16 expert, lightning physicist; however, I'm an electrical
17 engineer. I know how it can manifest itself when it deals
18 with electrical conductors.
19 Q Have you been asked to provide opinions regarding
20 the composition and characteristics of metal building
21 products, radiant barrier sheathing and TechShield?
22 A Yes.
23 Q Have you been asked to offer opinions regarding
24 McDowell Owens testing and analysis failures in that it
25 failed to replicate the effects of lightning strike on

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1 TechShield?
2 A I don't know if I was specifically asked that,
3 but that's what I told them.
4 Q Okay. Will you be providing opinions in regards
5 to McDowell Owens testing and analysis failure in the fact
6 that they failed to demonstrate that LP TechShield product
7 increases likelihood of fires in a home when struck by
8 lightning?
9 A Yes, ma'am.
10 Q Am I correct in understanding that you will not
11 offer any testimony or opinions concerning the area of
12 origin of the fire at the Taylor home?
13 A That's fair.
14 Q Do you know where Louisiana Pacific's origin and
15 cause expert, Dennis Scardino, places the area of origin of
16 fire?
17 A Yes, I do.
18 Q Do you have any reason to disagree with the
19 location where Mr. Scardino places the area of origin of
20 fire in the Taylor home?
21 A Not particularly. I mean, that's not my area,
22 but --
23 Q Okay. So you won't -- you won't be disagreeing
24 with any testimony he has to offer at trial regarding the
25 area of origin?

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1 A Correct.
2 Q Do you know whether Louisiana Pacific contends
3 that the TechShield installed in the Taylor home was, in
4 fact, energized by lightning that struck the Taylor home?
5 MR. ELLIS: Objection.
6 Go ahead.
7 A No. I -- I believe that they do.
8 Q (BY MS. MACLEOD) Okay. Do you intend to offer
9 any opinion at the trial of this matter as to whether the
10 lightning directly struck the Taylor home?
11 A Okay. So that I understand your question, are
12 you asking if there was lightning damage or if there was a
13 direct strike?
14 Q Well, I was trying to do it in one question, so I
15 can do it in two: Do you intend to offer an opinion at the
16 trial of this matter that a direct -- that the Taylor home
17 was directly struck by lightning?
18 A And so that I understand your question, you're
19 asking me if this was a direct strike as opposed to an
20 indirect strike?
21 Q Correct.
22 A Okay. I don't know which it was.
23 Q Okay. Have you seen -- had the opportunity to
24 look at Dennis Scardino's photographs in Exhibit 60 of the
25 chimney cap?

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1 A Okay. I have seen photos of the chimney cap. I
2 don't -- I -- I can't remember whose report they were in.
3 Q Okay. Did you see -- and I am going to show you
4 what was marked as Exhibit 60 during Dennis Scardino's
5 deposition.
6 A Okay.
7 Q And I'm going to direct you to Photograph E28 and
8 Photograph E29.
9 A Yes.
10 Q Okay. Do you see any evidence of damage of a
11 lightning strike to the chimney cap?
12 A Absolutely.
13 Q Okay. Will you offer any testimony in this
14 matter that the chimney cap was not struck directly by
15 lightning in this matter?
16 A No.
17 Q Okay. In any of the opinions that you will be
18 offering at the trial of this matter, does it matter, in
19 forming those opinions, whether the house was directly or
20 indirectly struck by lightning?
21 A Not really.
22 Q Okay. Why is that?
23 A Because I'm going to be talking, as an example,
24 the -- the difficulties of -- of the McDowell Owens
25 testing, number one. Number two, I mean, certainly there

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1 is evidence of -- of energization, and whether that is a
2 direct or indirect strike, I'm not really certain that it
3 matters.
4 Q Okay. And when you say energization, you're
5 talking about energization of the TechShield product?
6 A Well, and -- and of the house by lightning, yes.
7 Q And am I correct in my understanding that you do
8 not intend to offer any opinions at the trial of this
9 matter in regard to whether the TechShield was installed
10 properly or not?
11 A Correct.
12 Q Will you offer any opinion at the trial of this
13 matter as to what the first fuel ignited was in the Taylor
14 home?
15 A No.
16 Q Will you offer any opinion at the trial of this
17 matter as to what the ignition source was in the Taylor
18 fire?
19 A Yes.
20 Q Okay. And what was the ignition source?
21 A I think it's very reasonable that it was
22 lightning.
23 Q Did you find in any of your investigation or
24 search any other probable cause or -- or probable ignition
25 source for the fire in the Taylor home?

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1 A Once all the work has been done, no.
2 Q Will you be offering any opinion at the trial of
3 this matter as to what the opposing electrode for the arc
4 that formed the electrical damage to the 14-3 ground wire
5 of the alarm circuitry was?
6 A I'm uncertain as to what it arced to.
7 Q Based on your review of photographs, review of
8 reports, review of other documents or conversations that
9 you've had regarding the Taylor fire, did you find any
10 evidence of electrical arcing other than that that was
11 located on the 14-3 ground wire serving as the alarm
12 circuitry?
13 A As I --
14 Q That was a long question.
15 A And -- and -- and as I understand your question,
16 what you're asking is in regards to the electrical in terms
17 of house-current-type arcing?
18 Q Correct.
19 A Yeah. And the answer is no. Let me get the
20 answer in. I found evidence of arcing on one conductor,
21 the 14, dash, 3 with ground cable and no other instances,
22 if that's what you're asking.
23 Q Did you see -- in any review of any of the
24 materials that have been provided to you or any
25 investigation that you undertook in regard to this

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1 particular fire, did you see any evidence of any other
2 arcing in any location in the Taylor home outside of --
3 you've already addressed the electrical system -- outside
4 the electrical system?
5 A Well, based on the pictures, there's some damage
6 to the chimney cap. There is damage to the -- the dryer
7 system exhaust ducting.
8 Q Anything else that you can think of that has
9 evidence of arcing?
10 A No.
11 Q Do you hold the opinion that if the Taylor house
12 had not had TechShield installed in it, that it necessarily
13 would have caught fire anyway?
14 A I'll just give you my opinion, if that's okay.
15 Q You'll give me your opinion?
16 A Yeah.
17 Q Yes, that -- that would definitely be okay.
18 A Excuse me. My opinion is that that is possible,
19 but I think more importantly, I really don't think one can
20 say either way that this -- this fire would or would not
21 have happened had there been TechShield present or not
22 present. I -- I -- I just don't think the data is there to
23 support one saying, had the TechShield not been there, we
24 wouldn't have had a fire.
25 Q Say that last part again.

Page 21

1 A I don't believe there is data available to say,
2 had the TechShield been absent, this fire wouldn't have
3 happened.
4 Q Is there data available that would say, if the
5 TechShield wasn't present, that it would have happened?
6 A What we do know is that we -- we had a lightning
7 strike and that lightning strikes do cause fires, and
8 that's what we know.
9 Q Okay. Will you be offering an opinion in the
10 trial of this matter that if the Taylor house had not had
11 TechShield installed in it, that this house necessarily
12 would have caught on fire anyway?
13 A Yeah. As I understand your question, more likely
14 than not the answer is, I won't offer that opinion.
15 Q Is it your opinion that the traditional OSB is as
16 conductive as TechShield radiant barrier with its aluminum
17 laminate?
18 A Oh, no. Okay. Let me -- let me back up. When
19 you say conductive, I -- I assume you're talking
20 electrically conductive?
21 Q Yes, sir.
22 A Okay. Yeah. All things being equal, aluminum is
23 a better conductor than -- than OSB.
24 Q So OSB with aluminum sheathing attached to it is
25 going to be a better conductor than OSB without the

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1 aluminum sheathing, correct?
2 A All -- all other things being equal and -- yes,
3 ma'am.
4 Q Will you be offering any opinions at trial that
5 the TechShield radiant barrier product is less electrically
6 conductive than other radiant barrier products that are on
7 the market today?
8 A No opinion on that.
9 Q Either way?
10 A Correct.
11 Q Okay. How many engineers are currently employed
12 by Goodson Engineering including yourself?
13 A Okay. Four.
14 Q And does Goodson Engineering do
15 litigation-related work?
16 A Yes, ma'am.
17 Q Has it always done so since its inception in
18 1984?
19 A That's always been a part of the workload, yes,
20 ma'am.
21 Q Okay. And how much of Goodson Engineering's
22 business involve litigation -- involves litigation-based
23 products?
24 MR. ELLIS: Objection.
25 Go ahead.

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1 A I'm not understanding the question.
2 Q (BY MS. MacLEOD) Okay. How much -- I asked you
3 if Goodson Engineering does litigation-related work. How
4 much of the work that -- in total -- that Goodson
5 Engineering does on an annual basis is -- involves
6 litigation?
7 A Okay. When you ask that question, do you include
8 in that number those instances where perhaps lit- -- where
9 litigation could reasonably be anticipated?
10 Q Yes.
11 A Okay. Probably 80 percent.
12 Q Does Goodson Engineering do design work?
13 A Yes.
14 Q Does Goodson Engineering do product testing?
15 A Yes.
16 Q What would you say -- if you can, give me an
17 estimate of how much of the work that Goodson Engineering
18 does is design work.
19 A Probably 10 percent.
20 Q What about in regard to product testing?
21 A The other 10 percent.
22 Q Has Goodson Engineering done any product testing
23 for Louisiana Pacific?
24 A No.
25 Q And when you say "product testing," how do you

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1 define that?
2 A Okay. It could be several ways. I just -- I'll
3 just give you examples.
4 Q Okay.
5 A A manufacturer of a -- a fan that is used in,
6 let's just say, the restoration business after a fire or
7 flood or something like that, they were having some issues
8 with overheating of the fan, particularly some components
9 within it. A large number of those fans were shipped to us
10 for evaluation to see, you know, if indeed they were
11 failing and could cause a problem. Right now, there is a
12 substantial amount of work going on in regards to the
13 design associated with a patent I just received in the last
14 several months, and so doing design work and then the --
15 the product testing to prove up that product to get it
16 ready for market.
17 Q Does that have anything to do with CSST?
18 A It does.
19 Q I figured it might.
20 Have you done any design work for Louisiana
21 Pacific?
22 A No, ma'am.
23 Q And is the design work you do, is that your --
24 Goodson Engineering's own internal designs that it's
25 creating?

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1 A Well, at times.
2 Q What else could it be?
3 A Well, as examples, I'm -- I'm on a short list
4 within Denton County with the governmental agencies when
5 they need electrical design for buildings to add generators
6 or, say, a new fire system, we did a new fire system for
7 the jail a few years ago, I'll do that design work.
8 Q Have you done any design work with lightning
9 protection systems?
10 A Yes.
11 Q How many times?
12 A Gosh, that would have been in the late --
13 mid-'80s, probably 10 to 15 times.
14 Q If you can, what percentage of Goodson
15 Engineering's work is for Louisiana Pacific?
16 MR. ELLIS: Objection.
17 Go ahead.
18 A Rough numbers, two percent, maybe one percent, if
19 that.
20 Q (BY MS. MacLEOD) Okay. Can you tell me or give
21 me your best approximation of how many projects or cases
22 you've been retained to work on by Louisiana Pacific.
23 A I don't believe more than six. I believe
24 certainly four and probably five.
25 Q One of those would be the Leon file that you

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1 mentioned earlier?
2 A Yes, ma'am.
3 Q And one of them is the -- there's a case out in
4 Humble, Texas?
5 A Yes.
6 Q Okay. And one them would be the Taylor case?
7 A Yes.
8 Q Can you think of where the others are located?
9 A Yes.
10 Q Can you tell me?
11 A Sure.
12 Q Okay.
13 A I believe another one is in San Antonio and one
14 is in Austin.
15 Q Is the only project that you're aware of in which
16 you're doing work for Louisiana Pacific that's out of the
17 state of Texas the Taylor case?
18 A Yes, ma'am.
19 Q Are all of the cases that you're doing work for
20 Louisiana Pacific, do they involve TechShield?
21 A Yes.
22 Q In addition to Louisiana Pacific, have you ever
23 been retained to work on cases for Georgia Pacific
24 involving a radiant barrier product?
25 A No.

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1 Q Have you ever been retained by Norbord to work on
2 a radiant barrier product?
3 A No, ma'am.
4 Q What about any other manufacturer of radiant
5 barrier products, have you been retained to work on radiant
6 barrier issues for them?
7 A No, ma'am.
8 Q Do you know how many manufacturers are producing
9 a product similar to TechShield where the radiant barrier
10 is adhered directly to the OSB sheathing?
11 A I have no idea.
12 Q In trying to determine opinions about the
13 materials and the composition of TechShield, you did no
14 other research in regard to other like products that are
15 out there on the market?
16 A Correct.
17 Q Do you know, in fact, whether there are even like
18 products out there on the market?
19 A Are you talking about an oriented -- an OSB-type
20 product with a radiant barrier?
21 Q Adhered to the -- that OSB sheathing, yes, sir.
22 A Sure. I've seen them.
23 Q Okay. Do you know how many folks are out there
24 manufacturing that kind of product?
25 A No idea.

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1 Q Okay. Do you know whether Louisiana Pacific
2 makes any other radiant barrier product other than
3 TechShield?
4 A Not that I'm aware of.
5 Q I am going to hand you what we are going to mark
6 as Exhibit 66.
7 (Exhibit Number 66 was marked.)
8 MR. MURPHY: Thank you.
9 MS. MacLEOD: It probably won't happen
10 again.
11 Q (BY MS. MacLEOD) Okay. What is this document?
12 A A copy of my report.
13 Q I'm also going to hand you a copy of what I'm
14 marking as Exhibit 67.
15 (Exhibit Number 67 was marked.)
16 MS. MacLEOD: That didn't last long.
17 Q (BY MS. MacLEOD) All right. And this is a copy
18 of your CV, correct?
19 A It's -- it's a portion of it.
20 Q What part is missing?
21 A About two more pages.
22 Q Which include?
23 A Publications.
24 Q Okay.
25 A Presentations.

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1 Q Okay. And I have marked those differently, so we
2 will get to them. If you will look under -- or first let
3 me ask you, is this the -- in regard to licensure,
4 education, affiliations, experience and appointments, your
5 most updated version of those items?
6 A No, ma'am.
7 Q Okay. Do you have a more updated version of
8 licensure, education, affiliations, experience and
9 appointments?
10 A Yes, ma'am.
11 Q Okay. And I'm guessing that might be in some of
12 the things that you brought this morning.
13 A Yes, ma'am.
14 Q I think -- I was going to say I think it might be
15 Deposition Exhibit 64. I think it's -- the new stuff is
16 the 64, yes.
17 A Okay. I'm sorry.
18 Q No, that's okay.
19 A Yes, ma'am.
20 Q Okay. So that is the most updated version.
21 Perhaps I should ask you this before I spend a lot of time
22 looking through it: Have there been any additions to the
23 licensure -- the licensure, education, affiliations,
24 experience or appointments?
25 A Short way of asking what's the difference?

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1 Q Yeah.
2 A Okay. It's under appointments.
3 Q Okay. And as I can see it, it looks like the new
4 addition is member of the State Fire Marshal's office
5 science advisory route -- work group, appointed 2012?
6 A That's right.
7 Q Okay. Tell me about that.
8 A Okay. Back in about 1992 or '4, a house fire
9 occurred in Texas. Three children were -- died. In about
10 2004, a man by the name of Mr. Willingham was executed for
11 murdering his children. The -- the long and short of it is
12 it was not a righteous conviction. There was no arson. It
13 was all based on old wife's tales and very poor fire
14 investigation techniques.
15 The state has vowed that this cannot happen
16 again, and so they received funding and appointed myself
17 and Mr. -- or Dr. -- excuse me -- Dr. Icove and Dr. DeHaan
18 and Dr. Peerwani in Fort Worth to essentially review all of
19 the cases of persons serving time for arson or an
20 arson-related crime such as murder to make sure that those
21 people that -- on -- that are incarcerated are there
22 legitimately; it was not based upon a conviction which was
23 very poor science.
24 And so we've been asked and appointed to
25 review all these old cases, and in addition, to start

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1 teaching modern fire science investigation techniques to
2 the investigators in the state.
3 Q Okay. And will the files that you review include
4 all of Texas, any arson case -- any arson conviction in the
5 state of Texas?
6 A That's my understanding. Well, let me -- let me
7 back up. The cases are pre-screened. Where there's
8 confessions or something like that, there will be no
9 review. But where there is a hint of questionable science
10 investigation, supposedly those are the cases that will be
11 forwarded to us.
12 Q Okay. Have you started this undertaking?
13 A We start January 8th.
14 Q January. Okay. Have they given you any idea how
15 many cases you're going to be reviewing?
16 A No. I mean -- I mean, I know there's roughly a
17 thousand people in the pen for that kind of problem or
18 for -- for an arson -- or arson murder conviction.
19 Q Okay. If we can go up to licensure.
20 A Yes, ma'am.
21 Q As I understand it, once you get licensed and sit
22 for the exam and pass it in one state, you can then make an
23 application and become licensed in other states without
24 having to sit for another exam; is that correct?
25 A That's substantially correct.

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1 Q Okay. Where were you first licensed?
2 A Texas.
3 Q And when were you licensed in North Carolina?
4 A Probably two years ago, maybe three. I think
5 it's more likely two.
6 Q And I should have asked you, when did you first
7 become licensed in Texas?
8 A Okay.
9 Q If you can remember.
10 A 1984.
11 Q And why did you seek application for licensure in
12 North Carolina?
13 A I received a call from a potential client out
14 there who wanted me to do some work in North Carolina
15 regarding CSST, and they said, by the way, it would really
16 be a good thing if you were licensed out -- out there.
17 Q Did they explain to you why it was a good thing
18 to be licensed out there?
19 A No.
20 Q What kind of work were you going to be doing?
21 A Investigative work.
22 Q Were you doing the cause and origin for a fire
23 or --
24 A As that term is classically defined, no.
25 Q Okay. What kind of investigatory work were you

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1 going to be doing?
2 A Well, doing the engineering work on a fire
3 investigation.
4 Q Do you recall what that CSST case was?
5 A No.
6 Q Do you recall if you had to do anything other
7 than seek reciprocity in North Carolina to obtain the
8 license?
9 A There may have been a 20-point question on the
10 rules -- or a 20-question exam on the -- or a 50-question
11 exam on the engineering rules of North Carolina, but
12 nothing more than that, just a lot of paperwork and paying
13 fees.
14 Q And obviously, you passed whatever it is they --
15 A If there -- if there even was such a thing.
16 Q Right. Okay. Okay. Let's look at the
17 education. It looks like you took some coursework at the
18 Southwestern Medical School. Did you ever obtain a degree
19 in any of the medical training that -- or coursework that
20 you took?
21 A No.
22 Q How close did you get?
23 A Not that close. They discontinued the degree
24 program.
25 Q Okay. In any of -- other than the -- Texas A&M,

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1 where you got a Bachelors of Science in electrical
2 engineering in 1979, in any of the other education
3 coursework that is listed here, did you obtain a degree for
4 any of that coursework?
5 A No, ma'am.
6 Q Okay. If we can turn to affiliations --
7 A Sure.
8 Q -- there are four listed under here. Are you
9 still a member or a fellow of the American Academy of
10 Forensic Sciences?
11 A Yes.
12 Q When did you first become a member?
13 A 1985.
14 Q And what were the requirements to become a
15 member?
16 A I don't recall.
17 Q Have you had any leadership roles at the AAFS?
18 A You know, I've -- there were a couple of years,
19 probably in the late '90s -- I'm sorry -- late '80s, early
20 '90s I was on a program committee, but other than that, no.
21 Q Are you still a member of the Institute of
22 Electrical and Electronic Engineers?
23 A Yes.
24 Q When did you first become a member?
25 A Probably a sophomore in college.

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1 Q 1976 time frame?
2 A Yes, ma'am.
3 Q And do you recall what the requirements were to
4 become a member?
5 A Well, I would have joined as a student member. I
6 think you had to be enrolled in an electrical engineering
7 curriculum and pay the money.
8 Q Okay. Have you held any leadership roles with
9 this organization?
10 A No.
11 Q Are you still a member of the International
12 Association of Arson Investigators?
13 A Yes.
14 Q When did you first become a member?
15 A My best guess is 15 years ago.
16 Q And if you recall, what were the -- what were the
17 requirements to becoming a member?
18 A I think you had to be recommended by one or two
19 other members and pay some fees and perhaps a background
20 check.
21 Q Okay. And have you held any leadership roles
22 with the IAAI?
23 A Yes.
24 Q Okay. And what -- will you tell me about those.
25 A Sure. I was on the engineering committee early

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1 on, and then probably for the last six years, I've been a
2 peer reviewer.
3 Q Tell me about that. What does that mean?
4 A They publish a quarterly magazine or journal and
5 it has technical articles in it. It's a referee journal,
6 meaning that persons who sit on the peer review committee
7 review the articles for technical soundness and then decide
8 whether or not the article can be published or whether or
9 not it's -- would be wrong to publish it.
10 Q Okay. How many folks are on this peer review
11 committee with you?
12 A Eight, maybe nine.
13 Q Okay. And do the variety of issues -- well, let
14 me ask you this: Are you specifically dedicated to
15 reviewing a specific type of article on this peer review
16 committee or do you review everything?
17 A Everything.
18 Q Okay.
19 A So that I've answered the question correctly, as
20 I understand what you're asking me, I think, is --
21 Q Sure.
22 A -- do I limit myself to electrical or mechanical
23 disciplines or do I review, as an example, origin and cause
24 or chemistry? And the answer is, I review all the
25 disciplines.

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1 Q Okay. Were you appointed because of your
2 expertise in the electrical engineering field?
3 A That -- I would presume so.
4 Q Any other expertise for which you were appointed
5 that you -- if you know?
6 A I know a whole lot about carbon monoxide
7 intoxication from working with the medical examiner's
8 office, so that would be -- that -- if there were another
9 area, that would be it.
10 Q All right. It also states here that you are a
11 member of the National Fire Protection Association. Are
12 you still currently a member of that group?
13 A Yes.
14 Q When did you first become a member of that group?
15 A Perhaps 20 years ago.
16 Q And do you recall what the requirements were to
17 become a member of that group with the NFPA?
18 A I don't recall.
19 Q Have you held any leadership roles with the NFPA?
20 A No.
21 Q All right. Let's move down to experience.
22 A Yes, ma'am.
23 Q It appears that while you were in college and for
24 two years after, you worked with Rockwell International; is
25 that correct?

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1 A Yes.
2 Q And why did you leave Rockwell International?
3 A A gentleman that I worked for took a position
4 with TRW in Carrollton, and four engineers that worked for
5 him in an engineering group all moved at the same time.
6 Q Okay. And then it appears that you worked for
7 TRW Optic Electronics. Is that where everybody moved to?
8 A Yes.
9 Q Okay. And why did you leave TRW Optic
10 Electronics?
11 A Several reasons: I was already doing consulting
12 on the side, number one. Number two, I do not function
13 well in a big organization.
14 Q Okay. I think you stated this, but I just want
15 to make sure: You do not hold yourself out in the
16 traditional sense of an origin and cause expert, correct?
17 A That's right.
18 Q Okay. And you don't hold yourself out as a
19 metallurgical expert, correct?
20 A Correct.
21 Q And you don't hold yourself out as a lightning
22 expert, correct?
23 A Not as a lightning physicist, no.
24 Q Okay. Why do you qualify that?
25 A Well, you know, I'm an electrical engineer. I

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1 know what coulombs and volts and amps are. They're very
2 related to lightning, but I -- I do not get in -- and I can
3 do lightning protection, design for lightning protection --
4 protection systems, but I'm not one that would go out and
5 measure, you know, velocity of liters and return strokes,
6 the types of things that, you know, some people do.
7 Q Okay. So in regard to lightning in the sense
8 that it is electrical energy, that's what you're telling me
9 that you have an expertise in?
10 A Yes.
11 Q Okay. Do you hold yourself out as a materials
12 expert?
13 A If it relates to electricity, yes. But no, in
14 terms of material scientist, no.
15 Q And do you hold yourself out as a mechanical
16 engin- -- an expert in mechanical engineering?
17 A Well, I'm licensed in it. I -- I practice very
18 little of it.
19 Q And in regard to the Taylor case, you've been
20 asked to render opinions in this matter. In what field are
21 you holding yourself as an expert?
22 A Substantially, it's going to be electrical
23 engineering, and there will be some small portion of
24 mechanical engineering.
25 Q What small portion is mechanical engineering?

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1 A Basically, it's -- we're going to talk about
2 energy and heat.
3 Q And that's not something that you would do as an
4 electrical engineer?
5 A I'm -- certainly, I would as an electrical
6 engineer. I do it quite often. I -- I just didn't want to
7 be seen as limiting myself.
8 Q Okay. Okay. But other than in regard to holding
9 yourself out or -- or the expertise that you've been asked
10 to provide in this case, other than discussions of energy
11 and heat, anything else that would fall under the umbrella
12 of mechanical engineering?
13 A No.
14 MS. MacLEOD: Now is a pretty good time to
15 take a break. And we've got two minutes of tape left, so
16 why don't we go ahead and go off the record and...
17 THE WITNESS: We shall.
18 THE VIDEOGRAPHER: Going off the record at
19 10:06.
20 (Break taken from 10:06 a.m. to 10:18 a.m.)
21 THE VIDEOGRAPHER: We're going back on the
22 record at 10:18 with Tape 2.
23 (Exhibit Number 68 was marked.)
24 Q (BY MS. MacLEOD) I'm going to hand you what
25 we've marked as Exhibit 68, which you told me earlier

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1 was -- that there are two pages of publications and
2 presentations, that this was actually a part of your CV?
3 A Okay.
4 Q Do any of the publications that are listed here
5 concern radiant barrier sheathing, including, but not
6 limited to, TechShield?
7 A No.
8 Q Are there any that include the discussion of
9 lightning?
10 A A discussion of deaths by lightning in the JFS,
11 February -- I'm sorry -- November 1993. "Handbook of
12 Electrical Hazards," that was a book review, probably.
13 "MOVs and Fire Causation," possibly. Two articles on
14 CSST -- CSST and lightning and the link between lightning
15 and CSST and fires, definitely. "CSST Lab Protocol,"
16 minimal.
17 Q What about electrically-induced fire gas -- fuel
18 gas fires? Excuse me.
19 A I'm sorry. Over -- where is that?
20 Q That is closer, about --
21 A Yes.
22 Q -- midstream, closer --
23 A July 1999. The answer is yes.
24 Q That that would have some mention of lightning?
25 A You know, I don't remember that it mentions

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1 lightning, but there was a lot of lightning going on when I
2 wrote that paper, and certainly that is a lightning-related
3 phenomena, is one of the ways that that material can fail.
4 Q Does -- the electrically-induced fuel gas fires
5 from July 1999, does that involve CSST or appliance
6 connectors?
7 A Appliance connectors.
8 Q Okay. Other than -- I see three articles that
9 appear to apply to CSST. Would that be the CSST and
10 lightning January 2005, the link between lightning CSST and
11 fires from October 2005 and then this -- this newer one,
12 CSST lab protocol from January 2012?
13 A That's right.
14 Q Okay. Any other that involves CSST?
15 A No.
16 Q All right. If you will turn to Page 2 of Exhibit
17 68 and under presentations, are there any presentations
18 that you've given -- or -- and these are all presentations
19 that you've actually been the primary presenter?
20 A Yes, ma'am.
21 Q And do any of these presentations involve radiant
22 barrier systems?
23 A No, ma'am.
24 Q And in which of these presentations would there
25 have been a discussion about lightning?

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1 A Any presentation dealing with the CSST or
2 energized gas lines starting at the bottom of presentation,
3 CSST fires in Missouri, go up, energized gas on fires in
4 Ohio, energized gas on fires at the 2010 AGM for the IWI.
5 Then I gave a talk in San Francisco in 2005 -- January
6 2005, lightning -- lightning-induced CSST fires. Right
7 prior to that is CSST failures for the Propane Defense
8 Association.
9 And with all due respect, did you ask me
10 about lightning or CSST? I forgot the question.
11 Q No. No. No. I mean, because those are so
12 integrally linked, but I was asking about lightning.
13 A Okay. Mechanical and electrical fire causation,
14 October '98. Those are the ones that -- that I remember.
15 And then probably investigating electrocutions, the -- the
16 second presentation down.
17 Q That -- that would have to do with lightning?
18 A Absolutely.
19 Q Okay. Okay. So the last presentation that you
20 did called CSST fires, that was presented to the Missouri
21 branch of the IAAI?
22 A Yes.
23 Q Okay. And what kind of information did you
24 present there?
25 A Basically how to go on-site and analyze a fire

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1 involving CSST, what to look for. I went through, you
2 know, how CSST fails, the difficulty of bonding and
3 grounding in trying to rectify the problem. And then, you
4 know, some very simple stuff like how -- how you find the
5 hole, how do you leak test, what -- what kind of work you
6 do in the lab to make sure that it's a hole from, say,
7 lightning as opposed to electrically hot wires arcing to
8 it.
9 Q Okay. Let's look at the patents.
10 A Sure.
11 Q There are three listed here. Does your updated
12 CV that you brought list more patents than these three?
13 A No.
14 Q There are some that have been submitted and are
15 pending, correct?
16 A Yes.
17 Q Okay. Are they not listed under here because of
18 a confidentiality order?
19 A Oh, no. No.
20 Q No. Okay. Why aren't they listed as patents?
21 Because they -- they're still pending?
22 A Yeah. They haven't been granted.
23 Q Okay. Are there a total of six? Is that --
24 A I think there's eight.
25 Q Eight. Okay. And do they all involve CSST?

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1 A No.
2 Q Okay. How many of them involve CSST?
3 A Five or six.
4 Q Okay. And what do the other ones involve?
5 A One involves a -- I'm trying to phrase this the
6 best to protect what I'm doing. Sure. Basically, it is a
7 way of -- it's a new design for a beverage mixing machine.
8 Q Okay.
9 A And then the other one is a new design for wiring
10 or electric wiring or cabling that could be used in homes,
11 industry, commercial applications that make -- make the
12 insulation a lot safer in terms of electrical surge damage
13 and lightning damage.
14 Q Okay. With that last one, are you working with
15 the metal component or the insulator -- insulating
16 component of that product?
17 A The metal component.
18 Q None of the patents that you have have anything
19 to do with radiant barrier sheathing, correct?
20 A Correct.
21 Q How many of the patents that exist that involve
22 CSST have some feature that serves as an increased safety
23 to the CSST?
24 A It would be all of them.
25 Q And I don't want to spend too much time on this,

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1 but as I understand it, there is one patent that involves
2 changing the charge times, is that --
3 A Well, there -- there are three, but yes.
4 Q Three involving changing the charge times?
5 A Two that have been granted. One that has been
6 applied for.
7 Q Okay. And if you just briefly tell me what
8 changing the charge times mean.
9 A Sure. Basically, if you go into a structure with
10 CSST -- and we will pretend by way of example that the CSST
11 is a fireplace. The fireplace -- and we have lightning in
12 the area, we have -- we have step leaders coming down
13 towards the house, we have a return stroke that goes up.
14 The -- say, a steel insert fireplace is pretty good at not
15 the impeding flow of current. Next to it you have CSST,
16 which because it has some properties that's called skin
17 effect, for one, and it has inductance also, that make it
18 very slow to charge.
19 So in our theoretical example, you have a
20 chimney here (indicating) at a million volts, if you will,
21 and CSST being slow to charge is over 100,000 volts. You
22 have almost a million volts difference between one and the
23 other. And then the air breaks down and you have a
24 flashover, and that -- the energy from the chimney has
25 struck the CSST, punctures a hole, and then the gas is set

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1 on fire. The -- by changing the charge time, the CSST, the
2 voltage on it can more carefully mimic what's happening
3 over here next door at the (indicating) chimney, makes it
4 less likely for one to arc to the other.
5 Q Do you know whether that's been utilized by
6 anyone at this point?
7 A Okay. I rarely do this. Could we talk off the
8 record and then you'll see why?
9 Q Is -- okay. Yes. Okay.
10 MS. MacCLEOD: Going --
11 MR. ELLIS: We're just going to hold that.
12 MS. MacCLEOD: Yeah. We'll do that at
13 another time. We --
14 THE WITNESS: Okay. Okay. Okay.
15 MR. ELLIS: We're not discussing that right
16 now.
17 THE WITNESS: Okay.
18 A Let me just say, there might be some issues.
19 Q (BY MS. MacCLEOD) Okay. And one of the patents
20 in one of the designs is just something that cuts the gas
21 flow off; is that correct?
22 A Yes. It senses whether lightning has hit a house
23 and if it has, then the gas flow ceases.
24 Q Okay. And then there's another one that deals
25 with a shunt for gas appliances?

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1 A Yes.
2 Q Okay. Tell me about that.
3 A That -- that will change -- that's essentially
4 one of the ways of changing the charge time.
5 (Exhibit Number 69 was marked.)
6 Q (BY MS. MacCLEOD) Okay. I'm going to hand you
7 what we've marked as Deposition Exhibit 69, and this is a
8 four-page document that lists your appearances since 1995,
9 correct?
10 A Yes.
11 Q And there weren't any dates, at least that I
12 could discern from looking at this. Do you start with the
13 earliest appearance and go to the most recent appearance?
14 A That's -- that's the order when I start recording
15 them, yes, ma'am.
16 Q And I noticed from looking at the new CV that you
17 provided that there were some additional -- and I can't
18 remember how many. Was there -- how many additions since
19 providing me with this CV are there on the new CV?
20 A Are we talking about CV or appearance list?
21 Q Appearance list. Is this -- okay. I'm sorry.
22 Your appearance list. Okay?
23 A Okay.
24 Q Have you provided a new appearance list? Why
25 don't you grab from --

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1 A We will -- we can check.
2 Q Last one I see on Exhibit 69 is Dobson v State
3 Farm?
4 A Okay. There's one more --
5 Q Okay.
6 A -- that's been added.
7 Q In all of the appearances since 1995, have you
8 ever given a deposition regarding radiant barrier
9 sheathing?
10 A No.
11 Q And I assume that's going to be the same, but no
12 trial testimony in regard to radiant barrier sheathing?
13 A Correct.
14 Q And as I looked through this, it appeared to me
15 that the first time that you served as an expert in a
16 CSST-related matter was the Hardy v Gastite?
17 A Yes, ma'am.
18 Q Do you know when that case occurred? What year?
19 A Probably 2005.
20 Q And how much sooner than your involvement with
21 the Hardy v Gastite case were you aware of issues with
22 CSST?
23 A Four years, maybe five.
24 Q Okay. So sometime in the 2000 time range is when
25 you first became aware of issues with CSST?

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1 A Yes.
2 Q Did you participate in a class action lawsuit
3 involving CSST?
4 A Yes.
5 Q And what was your role in that case?
6 A I advised the attorneys on what was -- what to
7 ask for in discovery. I gave some technical advice, and I
8 reviewed a lot of documents.
9 Q Did you provide a deposition in that?
10 A No.
11 Q Okay. When did you first learn about the Taylor
12 fire?
13 A Probably June or July of 2012.
14 Q And how did you learn about the Taylor fire?
15 A I believe we got a call at the office.
16 Q From whom?
17 A I believe the -- the Ellis & Anthony Law Firm.
18 Q Do you recall what conversations you had with
19 that person?
20 A No.
21 Q Do you recall what you were told about the fire?
22 A Just that there was litigation involving
23 lightning and a radiant barrier.
24 Q At the time that you received notice of the
25 Taylor fire, were you already familiar with the TechShield

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1 product?
2 A Generally, yes.
3 Q Had you been asked by Louisiana Pacific to look
4 at the TechShield product prior to learning about the
5 Taylor fire?
6 A I'm not going to say that I had, but I'm not
7 going to say that I hadn't. They were relatively close
8 together, as I recall.
9 Q Was Goodson Engineering ever retained directly by
10 Louisiana Pacific to work on the Taylor case?
11 MR. ELLIS: Objection.
12 Go ahead.
13 A You know, I signed -- the best I can do is that I
14 signed an agreement with Mr. Ellis's law firm, and legally,
15 I don't know how that pans out.
16 Q (BY MS. MACLEOD) Okay. Okay. So you had not
17 been put on a retainer by Louisiana Pacific to work on --
18 on Louisiana Pacific cases?
19 MR. ELLIS: Objection.
20 Go ahead.
21 A No.
22 Q (BY MS. MACLEOD) Was the Taylor fire the first
23 time that you were asked to consult as an expert in a
24 matter where it had been alleged that a radiant -- that a
25 radiant barrier product installed in a home was the cause

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1 of the fire?
2 A Okay. Once again, I'm -- I'm unsure, like the
3 answer a minute or two ago.
4 Q What do you mean?
5 A In other words, there was perhaps another case
6 that hit about the same time from Louisiana Pacific. I
7 don't know which came first.
8 Q Okay. Okay. But all in this time frame of -- of
9 when you learned in -- in the July -- June, July 2012 time
10 frame is when that -- that is the general time frame for
11 when you first became aware of Louisiana Pacific product
12 TechShield and allegations that the TechShield was the
13 cause of a fire?
14 A Yes.
15 Q I know you did not go out to the scene of the
16 fire in the Taylor house, correct?
17 A Correct.
18 Q In the other matter that you're talking about
19 that was in the same general time frame of when you learned
20 about the Taylor fire, did you go out to the scene of that
21 fire?
22 A Okay. I don't know which case it was; however,
23 to my knowledge, the -- there are several other cases, and
24 yes, I have been to those scenes.
25 Q Is the Taylor fire the only scene you haven't

Page 53

1 been to?

2 A Of the cases that I mentioned earlier, yes.

3 Q Throughout your career, have you been involved in

4 an investigation in which a home involved or had installed

5 a radiant barrier product and it caught fire?

6 A Wait. Let -- let's hear the question again,

7 please.

8 Q I think I understand what -- that -- what you've

9 told me is the first time you investigated a matter that

10 involved a radiant barrier product where it was alleged

11 that the radiant barrier product installed in the home

12 caused the fire was one of these two cases that you've just

13 talked about, either the Taylor fire or the other one that

14 was in the near proximity; is that correct?

15 A Correct.

16 Q Okay. And of the four or five cases where you

17 are doing investigation on homes with TechShield installed

18 where it's been alleged that a fire resulted because of the

19 TechShield, how many of those cases involve McDowell Owens?

20 A All of them.

21 Q In the four or five cases that you've

22 investigated that have TechShield and it's been alleged

23 that the TechShield caused the fire, how many of them were

24 you -- was it -- someone in the case able to determine that

25 the home was directly struck by lightning?

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1 A As opposed to indirectly struck?

2 Q Yes, sir.

3 A That -- okay. Okay. I just don't remember.

4 Q Is that because it's not relevant to the

5 information and opinions and expertise that you're

6 providing in those cases?

7 A Well, that -- now, that's -- that's a very good

8 answer (sic). And that is indeed part of it, but I -- I

9 have just a number of, you know, investigations going on.

10 I just don't remember them.

11 Q Okay. Fair enough.

12 Do you recall -- in any of these four or

13 five investigations where TechShield is involved and it's

14 alleged that the TechShield caused the fire, do you recall

15 any instance where the mechanism in which the lightning

16 from the energy entered the home was through an object

17 other than a metal object?

18 A I just don't know.

19 Q Okay. I just wasn't sure if there was something

20 that maybe stuck out in your memory about that.

21 A No, ma'am.

22 Q Okay. How many fires have you investigated

23 involving CSST?

24 A I want to -- so that I understand your question,

25 are you specifically asking where I went to the site or

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1 just where I'm doing some work on it as part of, you know,

2 part of an investigation?

3 Q I'm really -- I'm really interested in the big

4 number where you're just a part of the investigation.

5 A Close to 200.

6 Q And then I guess I will go ahead and ask you, of

7 that 200, how many where you've been to the site?

8 A Probably 120.

9 Q And of the 200 -- approximately 200 CSST fire

10 cases that you've been involved in, in how many of those

11 was a hole located that was caused by electrical energy

12 from a lightning strike?

13 A Okay. I want to answer you correctly and -- let

14 me hear the question again.

15 Q Okay. Yes. Because -- because I understand that

16 there's going to be a difference between electrical damage

17 and mechanical damage, and what I want to focus on is the

18 electrical damage. So of these 200 or so cases that you've

19 been involved in where there's been a fire from

20 lightning -- CSST lightning-induced fire, how many -- in

21 how many of those cases did you find a hole that was caused

22 by electrical energy from a lightning strike?

23 A Okay. As we sit here, probably -- easily 90 or

24 95 percent of them.

25 Q Okay. So that means that in about five

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1 percent -- 10 to five -- five to 10 percent of them you've

2 found a hole that was caused mechanical damage?

3 A Or we didn't find a hole.

4 Q Okay. Well, then let me ask you that next

5 question. Actually, strike that.

6 Prior to the Taylor case, have you

7 investigated lightning fires in your career that did not

8 involve CSST?

9 A Sure.

10 Q Approximately how many?

11 A Oh, probably several hundred. That -- that

12 sounds a little high. Between 100 and 200, that's probably

13 closer.

14 Q And that's not including any of the CSST fires?

15 A Right.

16 Q Can you tell me what the materials in a piece of

17 TechShield are.

18 A Well, OSB with some type of adhesive and then a

19 layer of essentially aluminum.

20 Q Anything else other than the OSB -- and I can't

21 remember what -- glue and --

22 A Well, the piece of paper there.

23 Q A piece of paper as well? Okay.

24 A Yeah.

25 Q Okay. So four components to it, the OSB

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1 sheathing, a layer of paper, an adhesive and an aluminum
2 laminate, is that --
3 A Yes, ma'am.
4 Q Okay. Do you intend to offer any opinions or
5 testimony at trial in regard to the composition or
6 characteristics of OSB sheathing used in the TechShield
7 product?
8 A Yes, ma'am.
9 Q Okay. Will you tell me what testimony you'll
10 offer in that regard.
11 A Okay. Basically, that -- I think there will be
12 no disagreement here. The material is aluminum and as
13 such, with lightning it is subject to skin effect, and
14 that, you know, skin -- skin effect is -- is a factor when
15 dealing with high frequency.
16 Q Okay. Tell me, so that we just have it, what
17 skin is.
18 A Basically, it is a electric property of a
19 material that causes the electricity being carried through
20 that material to migrate. Let's say if we had a round
21 wire, it was solid, the majority of the electrical charge
22 would be carried out near the edge of the wire, if you
23 will, say, it was copper or aluminum. The bottom line is
24 you could use a -- a wire that's hollow, like a pipe, and
25 it would perform just as well because none of the electric

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1 current is being carried internally inside the -- in the
2 inner portions of the material; very little current carried
3 internally. It's all -- most all out at the edge
4 (indicating). That's skin effect.
5 Q Okay. And why is that a factor when dealing with
6 high frequency?
7 A Oh, that's just a property of the material.
8 There are something called eddy currents generated that --
9 that bring about skin effect and you have to, you know,
10 deal -- deal with it appropriately.
11 Q And so help me understand how you would deal with
12 it appropriately.
13 A You're asking where I'm going with that?
14 Q Yeah. Because I -- I need to -- I want to hear
15 the -- and just so that I understand --
16 A Yes, ma'am.
17 Q -- and I can be educated --
18 A Sure.
19 Q -- as to what you're -- what it is you're telling
20 me here.
21 A Okay. Very specifically, Mr. Simmons did a bunch
22 of testing, and he used DC current. He gave a deposition
23 that says skin effect does not apply to lightning, and I
24 brought references with me. They -- skin effect does apply
25 to lightning, and it exactly performs how -- it exactly

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1 affects how you perform your test. That's one of the
2 reasons the tests he performed are of no merit.
3 Q Why is the test he performed of no merit because
4 of the failure to include the skin effect in his testing?
5 A Well, basically, he said we put in this amount of
6 current, and it brought about this amount of heating. With
7 lightning, you can try to put in a certain amount of
8 current, but it won't happen. The current is carried near
9 the surface of the skin and it's going to limit the amount
10 of current and the amount of heating that takes place.
11 It's a completely different animal.
12 Q So in regard to this skin effect, what should he
13 have done differently in carrying out his testing?
14 A Okay. He should have not tried to mix apples and
15 oranges; more specifically, he needed to do pulse testing
16 with a lightning-type waveform.
17 Q And what's a lightning-type waveform?
18 A Well, one of them is quoted in 9F- -- NFPA 780,
19 the lightning standard, and it's known as 8 by -- 8-by-20
20 waveform. It has a certain -- certain shape, and it's what
21 is commonly used to test components to see how they react
22 to lightning.
23 Q Have you done that kind of testing on CSST?
24 A No.
25 Q Why not?

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1 A Okay. That would come from, as an example, a
2 lightning lab. I just do not have the capabilities to do
3 that test.
4 Q Okay. So you haven't done this test on
5 TechShield either?
6 A Correct.
7 Q And do you feel that it was not necessary for you
8 to undertake this testing?
9 A That's right.
10 Q Why?
11 A Okay. We know at some point in time, because of
12 the tremendous amount of forces involved with lightning,
13 that building materials are going to fail, be it OSB, be it
14 TechShield. It's a fact of life, with enough energy
15 they're going to fail and be destroyed or catch fire.
16 Q And that that would include CSST?
17 A Help me.
18 Q In your list that you just made, that would
19 include CSST as a building material that's going to fail?
20 A CSST is going to fail from lightning. It does
21 fail from lightning.
22 Q Okay. So you know that building materials are
23 going to fail when energized by lightning and therefore,
24 you didn't need to do this test because? That's where you
25 were headed with all this.

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1 A Well, we know it's going to fail. What more --
2 what more can be shown, number one. Number two, building
3 materials making use of aluminum have been used for years.
4 I -- I don't see what change in design, knowing that if you
5 hit a piece of OSB or TechShield with lightning that it's
6 going to eventually fail, I'm not sure where that -- where
7 that gets us. We know that.
8 Q So is it your testimony that a piece of OSB --
9 traditional piece of OSB is just as likely to fail as a
10 piece of TechShield with the aluminum sheathing on it?
11 A No.
12 Q Which one is more likely to fail more quickly?
13 A I think it would depend on the circumstances.
14 Q What circumstances?
15 A Well, let me -- let me give you an example.
16 There are some cases where energy, electrical energy or
17 heat energy may strike the radiant surface barrier, and the
18 aluminum spreads out the heat (indicating) making it less
19 likely to catch fire. There are other instances where it
20 may hit and, you know, immediately cause it to catch fire.
21 Q Have you done any testing to determine how the
22 aluminum on the TechShield is going to react in the
23 situation -- those scenarios that you just described?
24 A No.
25 Q Why not?

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1 A You know, because I know in my heart -- I mean, I
2 just feel this product eventually is going to fail. And
3 knowing that it fails, what -- I'm not sure what -- where
4 that takes us. It is going to fail given enough current.
5 Q I guess I -- I guess as I sit here my question
6 is -- is why wouldn't you want to know how much more
7 quickly it's going to fail than a traditional piece of OSB
8 sheathing?
9 A Okay. We don't know that it would fail quicker.
10 It might. It might not. It depends on the circumstances.
11 We don't know the level of insult that's available on a --
12 on a given fire from lightning. You know, we talked to Mr.
13 Simmons last week. He didn't know how much energy was
14 available. He didn't even know how the energy spread. I'm
15 not being critical of that. It's just we don't know.
16 Q We do know, though, from sources, from folks that
17 are lightning experts like Dr. Uman that there's a range of
18 electrical energy that is produced with a lightning strike,
19 correct?
20 A In -- yes.
21 Q Okay. And I guess -- I guess that's -- I still
22 don't understand why there was no testing performed to
23 determine how quickly the TechShield product would fail
24 when subjected to levels of energy from a lightning strike
25 or from just levels of electrical energy.

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1 A How can I help you? I mean --
2 Q I mean, why -- why did you not feel that any of
3 that was necessary to do that kind of testing?
4 MR. ELLIS: Asked and answered.
5 Go ahead.
6 A Because at some point in time given enough energy
7 it will fail. You could -- as an example, you make the
8 product thicker. Well, then it all of a sudden becomes
9 very expensive. You know, Dr. Eagar quoted NFPA 7- -- 780.
10 It gives the thicknesses in there. We're talking, you
11 know -- you know, 60 to 100 times the metal that -- that's
12 going to be added. How do you improve the design? It --
13 you've got a very good design now. Having said that, it is
14 going to fail given enough energy.
15 Q (BY MS. MACLEOD) If it were 163 times thicker,
16 the aluminum sheathing laminate that is on the OSB, is it
17 going to fail as quickly as the .0one millimeter sheathing
18 that is on the OSB protection?
19 A Well -- well, it depends on your -- your meaning
20 of failure. Because it can be damaged and then all of a
21 sudden you have large globules of the aluminum that can --
22 that can come off of there, because you have a lot of
23 aluminum available. So while it may be thicker it may
24 become more dangerous from that.
25 Then you had the structural problem of all

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1 of a sudden we have roofing that -- it's very difficult, we
2 have to redesign houses so they can hold this. It -- it --
3 it -- it's not just a simple solution of, well, we make it
4 thicker and it's safer. That's not the case.
5 Q Have you done any testing in regard to what
6 happens to TechShield when energized by lightning if you
7 put thicker aluminum on it? Have you done any of that
8 testing to see what the effects of putting a thicker layer
9 of aluminum on the OSB would do?
10 A No, ma'am.
11 Q And why not?
12 A Well, I read Dr. -- Dr. Eagar's report. I know
13 what NFPA 780 says. I know what thicknesses you have to
14 get to. And if -- if you -- you know, Dr. Eagar wants it
15 to be -- if he follows 780 -- very thick and that's just
16 not practical. Besides which could make it, in some
17 instances, not as safe.
18 Q And when you say it's not practical, you're
19 talking about expense-wise?
20 A Well, that's number one. Number two, you now
21 have to re- -- redesign your structure to carry more
22 weight.
23 Q So other than the economies of adding more metal
24 and the -- determining what it does to the structure, your
25 other testimony is that if you added that much aluminum you

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1 could create globules of melting aluminum that could be
2 more hazardous?
3 A Yes.
4 Q Anything else that increasing the thickness of
5 aluminum might do to this particular product?
6 A You know, aluminum is pretty good at storing
7 heat, and so it's going to change the time -- the time
8 constant in your house. Meaning, that if the hot -- if the
9 attic gets very hot and you've got this big thickness of
10 aluminum, all of that sudden that aluminum stores that
11 energy. And then at night, you know, when the sun goes
12 down you still have all this aluminum up there dissipating
13 heat into the attic. And so it would -- it could -- you
14 could very well damage severely the energy savings you were
15 trying achieve.
16 Q Have you done any testing at all in regard to
17 improving the safety of TechShield?
18 A No.
19 Q I mean, as I understand it, in regard to testing
20 you have -- other than looking at the quantification for
21 aluminum and looking at the particular wires, electrical
22 wires from the Taylor house, you've conducted no other
23 testing; is -- is that correct?
24 A You know, there are -- there are other cases
25 where we have looked at evidence. To be fair to you that

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1 would be included. But other than that, I think your --
2 your question is correct.
3 Q And when you say looked at evidence you're
4 talking about electrical wires and that --
5 A (Nods head affirmatively.)
6 Q Okay.
7 A Yes, ma'am.
8 Q What is the -- we -- I think I initially started
9 asking you about OSB, but we turned to aluminum. If you
10 will tell me what the composition and characteristics of
11 the aluminum on the radiant barrier sheathing for
12 TechShield are.
13 A Well, essentially, it's pure aluminum. And it --
14 within the limits of our machine we measured essentially
15 what the in the industry would be called four nines, 99.99
16 percent pure. It's all we found was aluminum.
17 (Exhibit Number 70 was marked.)
18 Q (BY MS. MACLEOD) Let me hand you what we've
19 marked as Exhibit 70. Is this the testing that you're
20 referring to?
21 A Yes.
22 Q And this testing was done on May 29th, 2012?
23 A Okay.
24 Q Does that give you any better sense of -- did
25 you -- well, strike that. Did you do this testing on the

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1 aluminum of the TechShield specifically for the Taylor
2 case?
3 A No.
4 Q Okay. Why did you end up doing testing in which
5 you looked at the quantification for the aluminum that is
6 applied in the TechShield product?
7 A Okay. A couple of reasons: I had been reading
8 McDowell Owens's papers, that's number one. And number
9 two, that is the -- the brand of radiant barrier that the
10 local hardware store sold -- or building supply.
11 Q So does that mean, though, before you had any
12 conversations with Louisiana Pacific you were interested in
13 this product called TechShield?
14 A Absolutely.
15 Q What got you interested?
16 A Because I -- frankly, Jean McDowell came by the
17 office one day and -- unrelated matter -- and he said, you
18 know, he said, we're very concerned about the radiant
19 barrier. He said, we've done -- you should read our papers
20 on it, so I did.
21 Q After you read those papers on the radiant
22 barrier, did you make any attempt to contact Louisiana
23 Pacific about this?
24 A No.
25 Q And after you read those papers but before you

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1 were contacted by Louisiana Pacific, you did a
2 quantification test on the aluminum involved in the
3 TechShield product?
4 A Yes.
5 Q And you did that because you were curious about
6 what was going on with this product?
7 A Well, in part.
8 Q What was the other part?
9 A Well, I read something put out by Mr. Simmons
10 that said, you know, they did some calculations to make
11 sure they were on base as a sanity check, and that they
12 felt sure it wasn't pure aluminum. Part of my company used
13 to do what's known as infrared thermography where we go in
14 and measure temperatures using emissivities. And it struck
15 me as odd that this paper would say that they were using
16 pure aluminum, because the best way to make a radiant
17 barrier work is to have emittance very low. And normally,
18 that means very pure aluminum. It just -- it just struck
19 me as odd.
20 Q Hypothetically speaking, if McDowell Owens agreed
21 that the aluminum in the TechShield product was 100 percent
22 aluminum, based on your review of the papers that you've
23 read that McDowell Owens has published and based upon
24 sitting through Mr. Simmons's deposition, how would that
25 affect any of the test results or conclusions that McDowell

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1 Owens came to, if you know?
2 A Okay. The -- the sole factor of aluminum purity
3 would have no bearing except that was his basis for saying,
4 hey, we know what we're doing, we did a sanity check, the
5 numbers come out right. And -- and one, they don't come
6 out right; and, two, it made me wonder does he understand
7 or realize what's important about a radiant barrier, and
8 that's bringing the -- the emissivity way down. That would
9 be the start of it.
10 Q Anything else?
11 A Well, just the whole nature of his testing.
12 Q Okay. But I mean -- I'm sorry.
13 A Okay.
14 Q I thought that would be the start of it in regard
15 to his testing, but I'm talking about the aluminum, the --
16 the -- whether it's 100 percent aluminum or not does not
17 affect the conclusions or results that he reached in his
18 paper, correct?
19 A Substantially, that's right.
20 Q Have you ever asked the question of Louisiana
21 Pacific whether they've made any changes in the aluminum
22 that they have used over the years on their TechShield
23 product?
24 A No.
25 Q So as you sit here today you don't know whether

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1 the aluminum that was used during the manufacturing process
2 in the 2008 time frame is the same quantification of
3 aluminum used in the product that was made during your test
4 on May 29th, 2012?
5 A Well, I think I do know.
6 Q What do you know?
7 A That it -- that it would be as close to pure as
8 can be.
9 Q And what do you base that on?
10 A Sure. Basically, when you start making aluminum
11 alloys, they're not going to have the same emissivity. And
12 then the emissivity numbers are going to go way off. You
13 won't be able to meet the test requirements.
14 Q Do you know whether Louisiana Pacific was doing
15 emissivity testing back in the 2008 time frame?
16 A I -- I have test documentation. I don't know
17 what date it shows. That would be my best answer.
18 (Exhibit Numbers 71 and 72 were marked.)
19 Q (BY MS. MaCLEOD) I am going to hand you what
20 I've marked as Exhibit 71 and Exhibit 72.
21 A Okay.
22 Q And I'm sorry. I didn't mark it on my paper, but
23 the one that's dated April 6th, 2010, is that 71?
24 A That's 71.
25 Q Okay. And Exhibit 72 is dated November 10th,

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1 2011?
2 A Correct.
3 Q And are these reports the reports that you were
4 just referring to that you had seen some testing?
5 A Yes, ma'am.
6 Q Okay. Who provided these reports to you?
7 A These were e-mailed to me by Mr. Murphy.
8 Q Have you asked or not if there was any testing of
9 the TechShield product that predates the April 6th, 2010
10 test report that we've marked as Exhibit 71?
11 A No.
12 Q So as you sit here today now knowing what these
13 dates are, do you have any evidence that they were doing
14 any testing of their product back in 2008?
15 A No. In terms of emissivity, no.
16 Q Okay. What about in terms of any other testing
17 that they were doing?
18 A I -- I wouldn't know.
19 Q Okay. I mean, it -- it's -- you know, other than
20 these two tests that we've marked as 71 and 72, have you
21 seen any other test reports done by -- that were either
22 done by or on behalf of Louisiana Pacific?
23 A No, ma'am.
24 Q Would the age or how the TechShield was stored
25 have any effect on the quantification test results?

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1 A You might -- the answer is yes.
2 Q How would it affect the quantification test
3 rules?
4 A Okay. You -- you might detect some oxygen.
5 Aluminum forms -- readily -- aluminum oxide on a very -- on
6 the very surface of it. Just the nature of aluminum. You
7 put it in air and it turns to aluminum oxide. If there had
8 been some oxygen show up it wouldn't have surprised me.
9 Q But in this result you didn't see any oxygen show
10 up that was a large enough quantification that it made it
11 on to this table?
12 A Right.
13 Q Because this table only considers the K value,
14 correct?
15 A Correct.
16 Q Okay. That doesn't mean that there aren't other
17 trace elements that are measured that just aren't reported
18 when you print these out?
19 A You are -- you are right.
20 Q Okay. Have you done any research into the
21 effects of oxidation on radiant barrier product --
22 products?
23 A No.
24 Q Would oxidation of a radiant barrier product,
25 based on your knowledge, have any effect when the aluminum

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1 was energized by lightning?
2 A Okay. Aluminum oxide is an insulator; however,
3 it's -- it forms at the very, you know, smallest level.
4 You know, I think we're talking just several layers of
5 atoms, certainly not a great deal of thickness. So you --
6 I don't think you would see a substantial effect, no.
7 Q Okay. When it was energized by --
8 A Correct.
9 Q -- electrical current from a lightning strike?
10 A Yeah. Aluminum wiring does fine except at the
11 connections where you have the oxide. But along its layer
12 where you have the oxide it -- it still continues to
13 perform quite well.
14 Q Well, when you get to those ends where it
15 oxidizes and acts as an insulator, how is that affecting
16 the flow of the electrical current through that aluminum?
17 Does it create a -- a choke, an impedance? Does it --
18 A It -- it can create high-resistance connection,
19 yes.
20 Q And what -- if you've got a place where there's a
21 high-resistance connection, what is the import of that?
22 What happens when it becomes energized by electrical
23 energy?
24 A Basically, it -- it -- it heats up.
25 Q More so than if that oxidation wasn't there?

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1 A That's right.
2 Q And heat is part of the fire tetrahedron,
3 correct?
4 A Yes.
5 Q Did you do any testing in the Taylor case to
6 determine the level of oxidation on the TechShield in the
7 Taylor home?
8 A No.
9 THE VIDEOGRAPHER: I'm sorry, Ms. MacLeod,
10 it's about to stop.
11 MS. MacLEOD: Let's go off the record.
12 THE VIDEOGRAPHER: Going off the record at
13 11:18.
14 (Break taken from 11:18 a.m. to 11:24 a.m.)
15 THE VIDEOGRAPHER: We're back on the record
16 at 11:24 with Tape 3.
17 Q (BY MS. MacLEOD) All right. I want to get back
18 to talking about the particulars of the components that
19 make up the TechShield, if we can.
20 A Okay.
21 Q I asked you earlier if you were going to provide
22 testimony and opinions in regard to the composition and
23 characteristics of the OSB sheathing that's used -- that
24 makes up a part of the TechShield. If you will, tell me
25 what the composition characteristics to which you'll

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1 testify at trial are.
2 A I'm just going to testify about -- about the
3 aluminum.
4 Q Okay. So you're going to provide no testimony
5 about the composition or characteristics of the OSB
6 sheathing?
7 A Well, to the extent that it's wood and wood can
8 catch fire, if -- I -- when struck by lightning, if that
9 forms the basis of expert testimony, I -- yes. But no, I
10 mean, nothing -- predominantly, I'm testifying about the --
11 the aluminum. But that, you know, wafer board, OSB board,
12 plywood, lots of wood building materials are -- you know,
13 they will catch fire when struck by lightning.
14 Q Do you know what the ignition temperature is for
15 the OSB sheathing that's used in the TechShield product?
16 A Well, it's cellulistic -- cellularistic. It's a
17 Class A combustible. It should be around 450 or 500
18 degrees, but no, I've not measured it.
19 Q Have you done any research to determine what the
20 temperature is?
21 A No.
22 Q Is it your opinion that the OSB sheathing
23 manufactured and used in the TechShield product is a good
24 conductor of electricity?
25 A The wood itself?

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1 Q Uh-huh. The OSB sheathing.
2 A So that I understand, you're just talking about
3 the wood?
4 Q Right. Right.
5 A Okay. It's not -- it's not a particularly good
6 conductor.
7 Q It's -- isn't it a fact that wood is actually
8 considered an insulator?
9 A It -- it often is an insulator, yes, electrical
10 insulator. Let me -- let me change that. No one -- well,
11 except when the electric chairs were built, no one really
12 used wood, per se, as an -- as an insulator, but it does
13 have that characteristic.
14 Q What testimony, if any, will you provide in
15 regard to the composition and characteristics of the paper
16 product used in the TechShield product?
17 A Nothing, per se, with regards to the paper
18 except -- you know, I -- I've been to several houses where
19 you can see kind of a scorching effect, but the paper is
20 not burned. It looked like the aluminum had ablated from
21 lightning, but there was no combustion to the paper. But
22 the -- that would be it.
23 Q Do you know what the ignition temperature is for
24 the paper utilized in the TechShield?
25 A No.

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1 Q Do you consider paper to be a good conductor of
2 electricity?
3 A Not dry.
4 Q Do you consider it to be a good conductor of
5 electricity when it's wet?
6 A It's not great, but it'll -- the -- the water --
7 the moisture there can carry electricity, yes.
8 Q And you would consider it a good conductor when
9 it's wet?
10 A Not a good conductor, but it -- it will conduct.
11 Q In regard to the glue or adhesive that's used in
12 the TechShield product, what testimony, if any, will you
13 provide in regard to the composition or characteristics of
14 that adhesive?
15 A None.
16 Q Do you know what the ignition temperature of the
17 adhesive used in the TechShield is?
18 A No.
19 Q Do you know whether the glue or adhesive used in
20 the TechShield is a good conductor of electricity?
21 A I would seriously doubt that it is.
22 Q Okay. And then we've talked about aluminum
23 already and we will talk about it more later, but can you
24 tell me what the ignition temperature of aluminum is.
25 A Ignition temperature? It's got to be I believe

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1 above its vapor point. I've got -- I brought that -- it's
2 in the CRC handbook. I brought that. It's here someplace.
3 Q Does 1,200 degrees Fahrenheit sound like -- or is
4 the ignition temperature different than the melting
5 temperature?
6 A It's a lot different.
7 Q Okay. What is the melting temperature of
8 aluminum?
9 A It depends on the alloy, but roughly, you know,
10 1,200 degrees Fahrenheit.
11 Q And is aluminum considered a good conductor of
12 electricity?
13 A Yes. Let me back up. That -- I guess that would
14 depend who you ask. Relative to copper, it's all right.
15 Relative to some metals, it's very good. It's a relative
16 term, but in terms of the common metals used for building
17 wires, for constructing wires it's number two behind copper
18 in -- you know, in terms of conductivity.
19 Q Is there any doubt in your mind that the radiant
20 barrier product that's at -- that was installed in the
21 Taylor house was, in fact, Tech- -- TechShield manufactured
22 by Louisiana Pacific?
23 A You know, I have -- I have no opinion. I was
24 never at the site.
25 Q Okay. Once you were alerted to the fact that the

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1 Taylor fire existed in June or July of 2012, what under --
2 what investigation did you undertake to determine what
3 happened in this fire?
4 A Basically, I just -- I read reports.
5 Q What reports did you read?
6 A McGraw and Mr. Simmons.
7 Q Did you read Dennis Scardino's report?
8 A You know, at some point in time, I believe I've
9 seen it, but I -- I don't have it in my file.
10 Q Did you read Tom Eagar's report?
11 A Yes.
12 Q Have you ever had any conversations about the
13 Taylor case or TechShield with an individual named David
14 Dellwo?
15 A Yes.
16 Q What conversations have you had with Mr. Dellwo?
17 A I may have just mis-answered the question. I
18 have spoken with David Dellwo. Did you ask me is it in
19 regards to the Taylor case?
20 Q Have you had -- yes. Have you had any
21 communication with Mr. Dellwo in regard to the Taylor case?
22 A No.
23 Q Have you had any communications with Mr. Dellwo
24 in regard to TechShield?
25 A Yes.

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1 Q And how many times have you talked to Mr. Dellwo
2 in regard to the product TechShield?
3 A Okay. I have seen him several times on -- he has
4 come to several fire investigations, so -- so perhaps two
5 or three times I have met him and we have talked.
6 Q And are those discussions involving the site
7 scene where you are or are they discussions involving the
8 product TechShield?
9 A There have been both.
10 Q Okay. What I really want to talk to you about is
11 the discussions that you've had with Mr. Dellwo about the
12 TechShield product.
13 A Okay.
14 Q If you would -- you said two or three times?
15 A Well --
16 Q Help -- I know it's hard to remember if you've
17 talked to someone two or three times what specific
18 conversation was had during which. Just give me an idea of
19 the conversation and the content that you've had
20 discussions with Mr. Dellwo about as they relate to
21 TechShield.
22 A Sure. I met Mr. Dellwo and we started talking.
23 And I asked him, I said, I've read a report that says
24 y'all's aluminum is impure. And I says, I don't see how it
25 will work if it's impure. And he says, it won't work if

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1 it's impure. It's got to be essentially pure aluminum.
2 And he -- he told me -- he said, matter of
3 fact, some -- some states or mun- -- municipalities have
4 requirements that certain emissivities be met, and I said,
5 you know, I would like to know what those are. And so he
6 prepared and sent me an e-mail in addition to him stating
7 that California was such a place. And then he stated in --
8 I believe in Austin he said, you know, while they don't
9 come out and say, you know, these requirements have to be
10 met, they have a -- a type of energy code that without a
11 product like TechShield you won't meet the energy
12 requirements required in Austin.
13 So essentially, it's -- it's a mandated
14 building product. And I said, here's my card, can you send
15 me some information, and he sent me an e-mail outlining --
16 Q Which I've marked as Exhibit 73.
17 (Exhibit Number 73 was marked.)
18 A Yes.
19 Q (BY MS. MACLEOD) That's the e-mail you're
20 talking about?
21 A That's it.
22 Q Okay. Other than this e-mail from Mr. Dellwo to
23 you, did you do any other corresponding with Mr. Dellwo via
24 e-mail?
25 A No.

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1 Q And this e-mail was in response to a conversation
2 y'all had had at the Erica Jones inspection in Humble,
3 Texas in late July, correct?
4 A Correct.
5 Q Who else was there on-site from Louisiana Pacific
6 at the Humble, Texas site inspection?
7 A When you say from Louisiana Pacific, are you
8 speaking as an employee -- are you asking what employees
9 were there?
10 Q On behalf of Louisiana Pacific.
11 A On behalf.
12 Q Or let's do it -- let's do it in two because I
13 see where you're going with that. Employees of Louisiana
14 Pacific.
15 A I believe that's it.
16 Q Just Mr. Dellwo?
17 A Yes.
18 Q Okay. And then who else was on-site on behalf of
19 Louisiana Pacific besides yourself?
20 A Mr. Scardino and a gentleman from Vinson &
21 Elkins.
22 Q Not Mr. Murphy?
23 A No.
24 Q And I think you already covered this, but this
25 Humble, Texas involved TechShield --

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1 A Yes.
2 Q -- correct?
3 A Yes.
4 Q And did you see evidence in the Humble, Texas
5 case of damage to the TechShield as a result of electrical
6 activity from a lightning strike?
7 A I think there was a lightning strike there.
8 Evidence that I might term as being electrical activity, if
9 there was any, would have been -- as I recall it was
10 destroyed.
11 Q Did that house burn down?
12 A Yes.
13 Q To -- I mean, there wasn't --
14 A It didn't burn to the ground.
15 Q Okay. Did the roof burn off of it?
16 A Some of it.
17 Q Did the portion that was part of the pathway to
18 ground burn? I mean, was there any of that left for you to
19 observe?
20 A I -- I don't recall.
21 Q Okay. In this e-mail from Mr. Dellwo he mentions
22 the American Plywood Association PS2, dash, 10 performance
23 standard; do you see that?
24 A Yes.
25 Q And he provided that to you, correct? This is --

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1 this is an attachment?
2 A That's what it says, yes, ma'am.
3 Q Did you -- have you seen how thick that document
4 is?
5 A No.
6 Q Okay. Did you -- did you actually review that
7 document?
8 A As we sit here today, I can't tell you that I
9 did.
10 Q Okay. And it doesn't appear from this e-mail
11 that he provided the ASTM testing that had been performed
12 on behalf of Louisiana Pacific, correct?
13 A Correct.
14 Q After you read this e-mail from Mr. Dellwo, did
15 you make any inquiries about any other test results?
16 A Well, there had to have been a conversation had
17 with -- with someone, perhaps Mr. Murphy, but regardless of
18 how it happened I was forwarded the -- the test data.
19 Q Did you have any discussions with Mr. Dellwo
20 about why the radiant barrier foil must be attached
21 directly to the underside of the roof decking?
22 A No. Well, if we did I don't remember it.
23 Q Okay. Let's go ahead and look at the exhibits
24 that we've marked as 71 and 72. Let's focus on 71 right
25 now. And I understand from your testimony and your role,

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1 you didn't play any role in asking Louisiana Pacific to
2 undertake any of these two tests?
3 A That's right.
4 Q Have you had any discussions with anyone at
5 Louisiana Pacific about why they undertook this testing?
6 A No.
7 Q And other than this ASTM E408 test report, you've
8 never seen any other ASTM E408 test report, correct?
9 A Correct.
10 Q And you don't know as you sit here today whether
11 any others exist?
12 A Correct.
13 Q Do you know if such testing like the ASTM E408 is
14 mandatory testing for a manufacturer to perform?
15 A The extent of my knowledge would be what I told
16 you that Mr. Dellwo told me, and then the e-mail that he
17 sent me. That would be it.
18 Q So you don't -- as you sit here today you don't
19 know whether such testing is mandatory?
20 A Correct.
21 Q Can you tell me what the ASTM E408 standard is.
22 A Not without the standard in front of me. I mean,
23 we know it's a test for emittance, but...
24 Q Okay. Do you know what an emit -- emittance test
25 is?

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1 A Yes.
2 Q What is it?
3 A Well, it -- basically, you're comparing energy
4 reflected with energy absorbed and everything. When you go
5 back to the very beginning of how this -- these
6 measurements are made you start with what's known as a
7 black-body radiator, and everything is compared to the
8 black-body radiator.
9 Q What is -- I don't understand. I'm sorry. What
10 is a -- what is a black-body radiator?
11 A It's no -- no part of a car. Basically, when you
12 deal with black-bodies, you're dealing with things that
13 are, in essence, the color of black and which absorb energy
14 at all wavelengths equally. It has to do with -- when I
15 say all wavelengths -- colors.
16 Q Okay. I'm really sorry. Tell me why you told me
17 that, because I don't understand what you're trying to tell
18 me.
19 A The bottom line is you're asking about
20 emissivity.
21 Q Right.
22 A In its simplest terms, it's -- what you're
23 determining is how much energy is absorbed and how much is
24 reflected. That -- that's...
25 Q Okay.

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1 A That's it.
2 Q Does anything with the emittance testing
3 conducted in -- that we see test results here for tell you
4 anything about what happens to the aluminum laminate when
5 it's subjected to electrical voltage?
6 A No.
7 Q Does it tell you anything about the aluminum
8 lam- -- aluminum laminate when it's subjected to electrical
9 energy from a lightning strike?
10 A No.
11 Q Has this -- the -- the information that's
12 provided in these test results played any role in forming
13 the basis of any opinion you intend to offer at trial?
14 A I -- I'll just tell you that if -- if someone
15 were to suggest that an alternate material be used, as Mr.
16 Simmons did -- he mentioned one particular product -- based
17 upon my reading of the characteristics of that product,
18 they would not meet what Mr. Dellwo is saying; as an
19 example, has to be done in California, the .05 emittance.
20 The -- the stuff that Mr. Simmons spoke about last week has
21 a lot higher emittance values.
22 Q Do you know what the emittance requirements are
23 for North Carolina?
24 A No idea, ma'am.
25 Q And it is a state-by-state determination?

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1 A Well, it is a jurisdiction-by-jurisdiction
2 determination.
3 Q Okay. And how do you know that?
4 A Well, because I know that certain progressive
5 cities in Texas like Austin has an energy code. I know
6 basically if Mr. Dellwo is correct, and I believe he is,
7 that California has one. I know there are other states
8 that don't.
9 Q Let's look at Exhibit 72. And this is a report
10 that's dated November 10th, 2011, correct?
11 A Okay.
12 Q And it has to do with testing for -- to the ASTM
13 C1371 standard, correct?
14 A Yes.
15 Q And do you know if an emittance test is different
16 from an emittance measurement?
17 A These -- these are essentially two different
18 tests.
19 Q Well, I know they're two different tests because
20 they're coming to two different -- applying to two
21 different standards.
22 A Yes.
23 Q But do you know why one would use test and one
24 would use measurement?
25 A No.

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1 Q Do you know what the purpose of undertaking such
2 testing in accord to ASTM C1371 would be?
3 A You'er asking me why we test in a certain way?
4 Is that what I'm --
5 Q Well, tell me what -- tell me what the standard
6 is. ASTM C1371, what is that standard?
7 A I've got it here. I'd have to go through it.
8 Without -- without going through it, you know, I can't tell
9 you what exactly it is except it is a measure- -- a
10 measurement of emittance.
11 Q And as with the other ASTM testing undertaken on
12 behalf of Louisiana Pacific, you didn't play any role in
13 getting Louisiana Pacific to undertake this ASTM C1371
14 testing, correct?
15 A No.
16 Q This testing was undertaken after the Taylor fire
17 that occurred on October -- excuse me -- August 29th, 2011,
18 correct?
19 A Yes.
20 Q Okay. Do you know why L.P. undertook this
21 testing?
22 A Other than what's in Mr. Dellwo's, you know,
23 e-mail, no.
24 Q Okay. Do you know if this was the first time
25 that Louisiana Pacific had undertaken such testing in

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1 accord to ASTM C1371?
2 A No.
3 Q Have you made any inquiries to find out whether
4 there were other testing to ASTM Standard C1371?
5 A No.
6 Q And as with the other testing we just discussed,
7 do you know if this testing is mandatory?
8 A I -- I can -- I can repeat what's in the e-mail.
9 That's it.
10 Q Okay. So you don't know if it's mandatory?
11 A Correct.
12 Q Okay. Do you know as you sit here today whether
13 there's any testing of a radiant barrier product that is
14 mandatory?
15 A Not other than what I've already told you.
16 Q Which is? Because --
17 A What came from Mr. Dellwo's -- you know, he told
18 me, he said, you know, this stuff has to be tested to meet
19 certain energy codes, and then he sent me an e-mail.
20 Q Okay. Does the -- do the test results in Exhibit
21 72 tell you anything about what happens to TechShield or to
22 the -- excuse me -- to the aluminum in the TechShield when
23 it's subjected to electrical voltage?
24 A No.
25 Q Does it tell you anything in regard to what

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1 happens to the aluminum in the TechShield product when it's
2 subjected to energy from a lightning strike?
3 A No.
4 Q Okay. Did any of the information in this report
5 for ASTM C1371 form or assist in forming any basis of any
6 opinion identified in your report?
7 A No.
8 Q Okay. Other than the testing that was the
9 quantification of the aluminum, the two tests that we just
10 looked at for ASTM E408 and ASTM C1371, is there any other
11 testing -- and I guess I should add to that testing done by
12 McDowell Owens -- are you aware of any other testing
13 other -- outside those that I just named?
14 A In regard --
15 Q Of the TechShield product?
16 A Thank you. And -- and the answer -- the answer
17 is no.
18 Q Okay. We did all get together and meet and
19 undertake some testing of the electrical wires from the
20 Taylor home.
21 MS. MacLEOD: Actually, why don't we go off
22 the record for a quick minute, if that's okay with everyone
23 so that --
24 MR. ELLIS: Sure.
25 MS. MacLEOD: -- y'all can take a break, and

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1 I'll -- I will get all this stuff marked and it will go
2 faster.
3 MR. ELLIS: Okay.
4 THE VIDEOGRAPHER: Going off the record at
5 11:53.
6 (Break taken from 11:53 a.m. to 12:08 p.m.)
7 THE VIDEOGRAPHER: We're back on the record
8 at 12:08.
9 A Okay.
10 Q (BY MS. MacLEOD) All right. We have been
11 talking about testing that's taken place in -- in this
12 case. I now want to turn your attention to the testing
13 that we undertook on September 27th, 2012 in which the
14 electrical wiring was examined, the electrical wiring from
15 the Taylor house was examined or a portion of it was,
16 correct?
17 A Correct.
18 Q We did -- while we were there, we did a CT scan
19 of the 18-39 wire, correct?
20 A A CT scan?
21 Q Uh-huh.
22 A I didn't remember that.
23 Q You don't remember a CT scan?
24 A Well, I saw that. The answer is no, I don't.
25 (Exhibit Numbers 74 through 78 were marked.)

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1 Q (BY MS. MacLEOD) Okay. Let's look at -- I have
2 divided into four packets several pictures. If you will,
3 look at the first of those, which are Exhibits 74, 75, 76,
4 77 and 78.
5 A Okay.
6 Q These are the various pictures that were taken of
7 wire that we labeled Number 25.
8 A Sure.
9 Q And I guess if you will help me understand, we
10 looked at -- we had two wires. We had a 14-2 electrical
11 wire and we had a 14-3 electrical wire, correct?
12 A Yes. Yes, ma'am.
13 Q We looked at three sections of the 14-2
14 electrical wire there at the end where it had separated
15 from its other half?
16 A Yes.
17 Q And those were wires 25 -- we labeled them 25, 26
18 and 27, correct?
19 A Correct.
20 Q Okay. And the exhibits that I just handed to you
21 that were 74 through 78 are what we ended up with after we
22 looked at, took pictures, ran tests on that particular
23 wire, the 25 wire.
24 A Correct.
25 Q Did you find any evidence on the wire that we

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1 labeled 25, any evidence of electrical activity on that
2 wire?
3 A Not in my opinion.
4 Q Okay. What we were looking at was to determine
5 whether the end piece was electrical or mechanical damage,
6 correct?
7 A Yes.
8 Q And did you determine that it was mechanical
9 damage?
10 A Yes, ma'am.
11 Q Let's pick up the next packet.
12 A Okay.
13 (Exhibit Numbers 79 through 83 were marked.)
14 Q (BY MS. MacLEOD) And it is Exhibits 79, 80, 81,
15 82 and 83. And these are what we ended up with at the
16 conclusion of the testing in regard to the wire that we
17 labeled 26, correct?
18 A Correct.
19 Q Okay. And again, that came from the 14-2 wire
20 that we examined?
21 A Yes.
22 Q And is -- was your conclusion the same, that the
23 damage to this wire that we reviewed was mechanical and not
24 electrical?
25 A Yes. I mean, there -- there was characteristics

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1 I couldn't figure out, but I do not believe this -- this is
2 electrically arced.
3 (Exhibit Numbers 84 through 88 were marked.)
4 Q (BY MS. MacLEOD) Let us, if we can, pick up the
5 next packet --
6 A Okay.
7 Q -- which is Exhibit 84 --
8 A Okay.
9 Q -- 85, 86, 87 and 88.
10 A Yes.
11 Q This is the information that we ended up with
12 after we undertook the testing on September 27th, 2012,
13 correct?
14 A Correct.
15 Q And it was looking at the third and final piece
16 of that 14-2 wire and we labeled it Wire 27, correct?
17 A Yes, ma'am.
18 Q Okay. And did you find any evidence of
19 electrical activity on Wire 27?
20 A No.
21 Q Again, the damage that we looked at was
22 mechanical damage in your opinion?
23 A In my opinion, yes.
24 (Exhibit Numbers 89 through 91 were marked.)
25 Q (BY MS. MacLEOD) Okay. Let's look at the final

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1 packet which are Exhibits 89 --
2 A Okay.
3 Q -- 90 and 91.
4 A Correct.
5 Q This is the test results from an examination that
6 we did of the ground wire which was a part of the 14-3 wire
7 that was collected from the scene of the Taylor fire,
8 correct?
9 A Correct.
10 Q Okay. Did this 18-39 wire show any evidence of
11 electrical activity?
12 A Yes.
13 Q Did you also look at the -- this 14-3 wire would
14 have had four wires running inside the insulative jacket,
15 correct?
16 A Correct.
17 Q Did you have an opportunity to look at the other
18 three wires in this 14-3 wire sample that was brought from
19 the Taylor home?
20 A Yes.
21 Q Okay. Did you find any evidence of electrical
22 activity on any of the other three -- would they be hot
23 wires, the other three hot conductors within that
24 insulative jacket?
25 A Well, no, they wouldn't.

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1 Q Okay. So did you find any evidence of electrical
2 activity on any of the other three wires that were inside
3 that electrical -- or insulative jacket?
4 A No.
5 Q Okay. So the only electric activity that you
6 located was on that ground wire of the 14-3 --
7 A Yes.
8 Q -- bundle? Okay. You had the opportunity -- and
9 I know you're not a metallurgist, but you've had the
10 opportunity in your practice to look through -- at -- at
11 various pieces of metal that you stick into the SEM
12 machine, correct?
13 A Correct.
14 Q As well as the EDX machine?
15 A Correct.
16 Q And we did that on September 27th, correct?
17 A Yes.
18 Q When we looked at -- how many areas of electrical
19 activity on that ground wire did you locate during the
20 examination?
21 A I guess it would depend how you -- you could say
22 that there was just one or you could say that there were
23 two that -- there were very close together. But in a --
24 you know, a very short section of that wire, there were --
25 it depends whether you want to call it one or two, but

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1 certainly there was something going on there.
2 Q Okay. And when you say very close together, what
3 are you talking about? Inches? Feet?
4 A Oh, oh, oh, we're talking -- we're talking less
5 than an inch.
6 Q Okay. And other than that area that you're
7 talking about, you saw no other evidence of electrical
8 activity on the 14-3 ground wire?
9 A Right.
10 Q And where we -- where you saw the evidence, we
11 actually sectioned that piece of the ground wire out,
12 correct?
13 A Correct.
14 Q Okay. And the photographs that we have in
15 Exhibit 89 are photographs taken where we have rotated that
16 area of evident -- electrical -- evidence -- the evidence
17 of electrical activity, you know, basically 360 taken
18 photographs of it, correct?
19 A Correct.
20 Q Okay. Did the copper wire, ground wire that we
21 looked at from the 14-3 fire alarm circuitry, did you see
22 any evidence of aluminum spatter or aluminum sparking on
23 that wire?
24 A No.
25 Q Can you tell me what spatter is.

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1 A Well, some people call it splatter or spatter.
2 It's a metallurgical term, but basically it's -- it is a
3 result of arcing. It's when you have molten metal that fly
4 off and then hit and essentially re-solidify.
5 Q Okay. Do you know if there's a difference in the
6 definitions between spatter and splatter?
7 A According to Dr. Eagar, it depends where you're
8 educated.
9 Q Okay. But the import of all of that we just
10 talked about is you saw no evidence of aluminum spatter or
11 splatter on the 14-3 ground wire?
12 A That's right.
13 Q Do you have an opinion that you will offer at
14 trial about whether the electrical energy from a lightning
15 strike that arced from the aluminum laminate of the
16 TechShield to the ground wire -- do you have an opinion as
17 to whether you would expect to have seen aluminum in the
18 SEM or EDX test results?
19 A I do have an opinion.
20 Q Will you tell me what it is.
21 A Sure. And the answer is it can go both ways.
22 Q Okay. And help me understand that, why it can go
23 both ways.
24 A I've tested quite a few lengths of CSST with --
25 or we've purposely created a fault with energized wires

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1 that we knew were copper, and then create a hole in the
2 stainless steel, in the CSST. Sometimes we have copper
3 depositions, sometimes we don't. And we have seen that on
4 other instances where we have analyzed -- where we had
5 arcing, like on steel arced essentially to copper. And
6 sometimes when we look at the steel cabinet or something
7 like that, we'd find copper, sometimes we wouldn't. So the
8 fact that we did or does -- did not, I've seen both -- both
9 circumstances.
10 Q Okay. Does it seem a reasonable explanation to
11 you that if there was aluminum spatter that came from the
12 aluminum laminate of the TechShield, that it embedded into
13 the insulation of that conductor and then was burned away
14 by the fire?
15 MR. ELLIS: Objection.
16 Go ahead.
17 A I think that you're saying is the -- there
18 were -- insulation in the way is such that the aluminum
19 never really impinged on the copper, that -- that would
20 seem reasonable.
21 Q (BY MS. MacLEOD) Based on what you saw in any of
22 the test results in regard to this 18-39 ground wire that
23 was part of the alarm circuitry or in any investigation
24 that you undertook in this case, is there any way for you
25 to determine whether the arcing originated from the

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1 TechShield or whether it originated from the ground wire?
2 MR. ELLIS: Objection.
3 Go ahead.
4 A Not that I'm aware of.
5 Q (BY MS. MaCLEOD) Okay. Do you have a -- an
6 opinion about the probable direction of the arcing of the
7 electrical energy?
8 A In terms of polarity? The answer is no.
9 Q Okay. When you say polarity, I was really
10 talking -- I mean, I think when you're saying as I
11 understand it -- I was talking about the directional flow
12 from it being from the aluminum laminate to the --
13 A (Nods head affirmatively.)
14 Q Okay. That's what you were talking about?
15 A Yes, ma'am.
16 Q Okay. Are you aware of any tests that have been
17 undertaken where it was demonstrated that the electrical
18 energy that was applied to the radiant barrier sheathing
19 arced and resulted in a flame?
20 A Say that again.
21 Q Have you seen any test results where it's been
22 demonstrated that applic- -- application of electrical
23 energy to a radiant barrier sheathing aluminum laminate
24 resulted in an arc in a flame?
25 A An arc in a flame. Not that I'm aware of.

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1 Q Okay. Let's take arc out of there. Have you --
2 are you aware of any tests where it's been demonstrated
3 that electrical energy was applied to the radiant barrier
4 sheathing and a flame resulted?
5 A Yes.
6 Q Okay. And have you seen -- were all those tests
7 where you've seen that conducted by McDowell Owens?
8 A Yes.
9 Q Have you seen anybody else conduct such a test?
10 A No.
11 Q And you haven't conducted such a test?
12 A Correct.
13 Q Have you ever -- like just so -- at no point in
14 any of this have you run electrical current through a piece
15 of TechShield?
16 A That's right.
17 Q Okay. By covering the SEM testing and the
18 quantification testing, we've covered all the testing that
19 Mark Goodson or Goodson Engineering has done in regard to
20 TechShield?
21 A That's right.
22 Q And I know you may not have seen it, but have you
23 ever heard that anyone from Louisiana Pacific has done any
24 such testing where an electrical current has been applied
25 to the TechShield and a flame has resulted?

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1 A I'm not aware of that, ma'am.
2 Q Have you seen any testing or -- yeah. Have you
3 seen any testing where electrical current was applied to
4 radiant barrier sheathing and it resulted in an arc?
5 A Can you re-ask that again.
6 Q Yeah. Sure. Have you seen any evidence -- or
7 that's a different question. Have you seen any test
8 results where electrical energy was applied to a radiant
9 barrier product and an arc resulted?
10 A No. Other than what McDowell Owens has done in
11 their testing, no.
12 Q Okay. Have you seen evidence in the field where
13 TechShield has become electrically energized and an arc has
14 resulted?
15 A Okay. Let me -- let me tell you just so we're
16 very clear, I have seen instances where in my opinion
17 ablation has occurred, like there might be a nail and then
18 a rounded -- like a halo effect where the aluminum was
19 missing. I've seen that several times. And then the same
20 around the -- the so-called hurricane clips where there
21 would be an absence of metal. And I wasn't there at the
22 time that it happened, but presumably that's from arcing.
23 Certainly, that could be that type of manifestation.
24 Q Because ablation is a form of arcing, right?
25 A Arcing -- well --

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1 Q Or arcing leads to ablation?
2 A It can, yes.
3 Q And if I were to run or conduct a live test
4 whereby I ran electrical energy through TechShield to
5 illustrate that it catches flame?
6 A Yes, ma'am.
7 Q What would you expect to happen?
8 MR. ELLIS: Objection.
9 A Okay. It would depend on the level of current
10 and the duration of time. Those are, you know, the two big
11 variables.
12 Q (BY MS. MaCLEOD) So the higher the energy placed
13 into it, the quicker it will get a flame; is that correct?
14 A If you get a flame, yes. It -- the -- the higher
15 the energy is, the quicker you would get a flame, all
16 things being equal.
17 Q Okay. All things being equal leaving the
18 voltage, the energy -- or the energy applied to the radiant
19 barrier, the longer it's applied, the more likely you are
20 to have heating and have a resulting flame?
21 A Yes, ma'am.
22 Q Have you seen any test results where -- I'm
23 sorry. I'm thinking about how -- how to ask you this
24 question. Have you seen any tests undertaken in regard to
25 TechShield in which an impulse electrical current has been

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1 applied to the material?
2 A Okay. I know only what Mr. Simmons testified to
3 last week regarding a 20-millisecond test. That's the
4 extent of my knowledge there.
5 Q In regard to an impulse test of 20 milliseconds,
6 does -- what's your opinion on that in regard to criticisms
7 of his testing?
8 A 20 milliseconds is, in rough numbers, 1,000 times
9 too long.
10 Q Is it your opinion that if -- strike that.
11 I think I understood this from your earlier
12 testimony, but I just want to make sure that -- that I have
13 done my job and gotten the question asked. Are you in a
14 position to say that there's no set of circumstances where
15 the aluminum laminate of TechShield will be energized and
16 cause a flame even if briefly? Again?
17 A Please.
18 Q Okay.
19 A Thank you.
20 Q Is it your position that there is no set of
21 circumstances in which the aluminum laminate of TechShield
22 will be energized and cause a flame?
23 A No.
24 Q That's not your position?
25 A No.

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1 Q So it is possible that the aluminum laminate of
2 TechShield can be energized -- if energized, can cause a
3 flame?
4 A Given enough energy and it -- it can, yeah.
5 Q So an energy from a lightning strike could cause
6 a flame?
7 A That's a different question. There are -- there
8 are certainly strokes and amounts of energy that can bring
9 it about. At some point in time it will fail, but I -- I
10 can't quantify that number for you.
11 Q Okay. But I guess -- I mean, will it cause --
12 when you say fail, are you talking about causing a flame?
13 A Yes. I think eventually you will light it, get
14 enough current, and it is a function of time, you will --
15 you will ignite it.
16 MS. MacCLEOD: Well, I'm in a good position
17 to stop because I'm finished with my testing questions for
18 now.
19 MR. MURPHY: We noticed the "for now."
20 MS. MacCLEOD: For now. Well, I hate to make
21 any promises.
22 Should we break for lunch?
23 MR. ELLIS: We can go off record, yeah.
24 THE VIDEOGRAPHER: Going off record at
25 12:33.

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1 (Lunch break taken from 12:33 p.m. to 1:36
2 p.m.)
3 THE VIDEOGRAPHER: We're back on the record
4 at 1:36 with Tape 4.
5 Q (BY MS. MacCLEOD) Okay. I have a few more sort
6 of housekeeping things because we kept getting off on
7 tangents on more important stuff. But I just want to make
8 sure that I've covered it all. So we were talking about
9 who you had talked to in regard to your investigation at
10 the Taylor house. Did you ever have an opportunity to talk
11 to an individual named Brian St. Germain?
12 A No.
13 Q Have you had an opportunity to speak to Laura
14 Proctor?
15 A No.
16 Q Have you ever had an opportunity to speak to
17 Dennis Scardino about the Taylor fire?
18 A Sure.
19 Q And how many times have you spoken to Mr.
20 Scardino about the Taylor fire?
21 A Probably twice.
22 Q And what kinds of things did y'all talk about?
23 A Excuse me. He told me that -- essentially, what
24 I remember is he saw evidence of what he thought was
25 ablation with no real fire around it. He said, you know, I

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1 think that the house probably got hit by -- by lightning.
2 We talked at length about arc through char as to whether
3 that can be distinguished or not. And then he -- he said
4 the difficulty -- and we talked back and forth on this
5 point. The difficulty in trying to evaluate a fire such as
6 this is that where you believe you have an area of origin,
7 you have nothing left to examine.
8 Q Did y'all have any further discussions about
9 that, about the difficulties when you have no materials
10 left in the area of origin?
11 A Oh, I think that's -- that's been an ongoing
12 discussion, yes.
13 Q And tell me why it is that that makes it hard to
14 evaluate the fire.
15 A Well, what you have is an area of origin with no
16 materials present. If one presumed the lightning hit
17 there, you don't know if it energized the TechShield
18 sufficient to bring about ignition there. What you do know
19 is that you do have a fire there. Is it possible the fire
20 just occurred because there was enough energy in the
21 lightning to bring about discombustion of the wood, that
22 would be number one. Number two, in terms of the ablation
23 that he spoke of, you know, I think he confirms that there
24 was lightning present. But in the areas he described to
25 me, he said -- he said essentially that it looked more, you

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1 know, like it was scorched there, but he didn't see any
2 combustion and certainly no evidence that a fire started
3 there or a fire spread from there.
4 Q Do you know what it means to be scorched?
5 A I know how -- I know how I took it. Basically,
6 that you had ablation. You had evaporation of metal from,
7 you know, essentially very fast and high heat, but no real
8 ignition of materials where the fire would take off.
9 Q And what we're talking about now, is this really
10 sort of outside the purview of your expertise?
11 A Yes, ma'am.
12 Q Okay. Other than talking about ablation, the
13 lightning hit the Taylor house and arc through char and the
14 difficulty evaluating fire with an area of origin that has
15 no materials left to examine, anything else that -- that
16 you remember talking to?
17 A No. And I want to make sure that what I just
18 answered, when you said it's outside of your area of
19 expertise, we're talking about the area of origin. The
20 fire certainly -- I know quite a bit, as an example, on arc
21 through char.
22 Q And I actually was just limiting it to the
23 current discussion that we were having to scorching.
24 A Okay. That's fine.
25 Q What kind of conversations did y'all have about

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1 arcing through char?
2 A Well, basically there is no definitive test on
3 arc through char. It -- the -- the underlying question is
4 did this arc start a fire, is it the result of a fire. And
5 there is -- you know, I said there is no chemical or
6 metallurgical test regarding whether you can look at arc
7 through char and determine whether or not it's arc through
8 char. You -- it can't be done.
9 Q Does arc through char typically occur when you
10 have arcing between two conductors within an insulated
11 jacket? Is that typically where you find arc through char?
12 A That, and then you have -- you have heat
13 sufficient to paralyze the insulation so it becomes a
14 char -- yes.
15 Q Okay. Is it your opinion that the 14-3 wire that
16 experienced electrical activity was not the result of
17 arcing through char?
18 A I will tell you this: I think it's
19 lightning-related, that it arced to something. I can't
20 tell what it arced to. I don't think anybody can, but I --
21 I -- that is not classically what I would call arc through
22 char. Arc through char implies time and the bringing about
23 of carbon because of the heat of an existing fire. I don't
24 believe what we saw was classically known as arc through
25 char.

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1 Q Did you have any conversations with an individual
2 named Mark Loose of Exponent?
3 A I have not.
4 Q In reaching the opinions that you provided in
5 your report, was it necessary that you know that Mr.
6 Scardino determined that lightning directly struck the
7 Taylor home at the chimney cap?
8 A It -- so that I'm clear, is the emphasis on the
9 word "directly" or is that -- is that important to your
10 question? I'm trying to --
11 Q Yeah. No. I see it, because you've already
12 explained that before. Let me ask you this: In forming
13 the opinions that you've formed in your report, was it
14 necessary for you to know that lightning struck the Taylor
15 home and entered the premises through the chimney cap?
16 A No.
17 Q In forming any of the opinions set forth in your
18 report, was it necessary for you to know that Mr. Scardino
19 determined that the dryer along the conductive path was not
20 the cause of the fire in this case?
21 A No. You know, you could -- I -- I'm thinking
22 back three -- three minutes ago.
23 Q Okay.
24 A Something about ablation. I mean, my report
25 certainly talks about ablation. You weren't -- I don't

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1 think you were trying to limit me there, but I just want to
2 make sure you were or were not.
3 Q No. Honestly, the -- my question was limited to
4 scorching.
5 A Well, that -- that would go hand in hand I think
6 with ablation. In the sense that, you know, I've seen
7 instances where we had ablation but no scorching. I --
8 and I don't even remember the question. I just want to
9 make sure that I've not confused any issues.
10 Q So did -- is what you were just telling me,
11 though, is that you think that scorching and ablation are
12 the same -- occurred at the same time?
13 A Well, what I'm saying is in -- in -- in my mind,
14 the scorching is evidence of heat damage which ablation
15 brings about. But it may bring about some discoloration,
16 but no evidence of -- no evidence of combustion. Paper
17 didn't start on fire.
18 Q Typically, when you see ablation, do you see
19 scorching?
20 A Well, I guess that's why I'm bringing it up, to
21 make sure we're talking about the same thing. I have seen
22 ablation where we had a darkening of areas. It's very
23 common. As an example, a lot of energy comes down
24 (indicating) and carbonizes stuff. I've seen on
25 air-conditioning ducts as an example. But not -- but it

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1 was all metal parts, nothing there to burn. Certainly it
2 was scorched, but nothing really burned. There was no
3 paper or anything like that present, but it's got black --
4 black shadows, black -- what sometimes is called flash, and
5 to me that's evidence of scorching.
6 Q Okay. In reaching any of the opinions in your
7 report that you provided, was it necessary that you know
8 that Mr. Scardino determined that the mechanical systems in
9 the house were not the cause of the fire?
10 A Oh, no.
11 Q In reaching any of the opinions in your report,
12 was it necessary for you to know that Mr. Scardino
13 determined that given the location of the fire in the
14 attic, slash, ceiling that the electrical plans --
15 electrical appliances in the house were not a direct cause
16 of the fire?
17 A I don't think it was necessary for me to know
18 that.
19 Q In reaching any of the opinions that you provide
20 in your report, was it necessary for you to know that Mr.
21 Scardino determined what the building materials in the
22 location of the origin of the fire were, and that they
23 included asphalt-impregnated fiberglass shingles
24 mechanically to TechShield with nails, TechShield wood
25 rafters, fiberglass batten insulation with paper backing,

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1 plastic baffles for ventilation and gypsum board pane
2 secured to the wood rafters?
3 A I don't think that helps me in terms of my
4 opinions, no.
5 Q In preparing -- in providing any of the opinions
6 in your report, was it necessary for you to know that Mr.
7 Scardino determined that the TechShield was, in fact,
8 energized during the lightning event?
9 A Well, I think that that is important.
10 Q In rendering any opinions that you provided in
11 your report, was it necessary for you to know that Mr.
12 Scardino determined that the primary path to ground ran
13 from the chimney cap through the chimney ductwork across
14 the TechShield to the dryer vent and dryer ductwork to the
15 dryer and out to the ground?
16 A No.
17 Q In preparing your report and providing any of the
18 opinions in your report, was it necessary for you to know
19 that Mr. Scardino determined that the TechShield was
20 electrically connected to both the chimney ductwork and to
21 the dryer ductwork?
22 A Oh, I think so.
23 Q Okay. Why was it necessary for you to know that
24 Mr. Scardino determined that the TechShield was
25 electrically connected to both the chimney ductwork and to

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1 the dryer ductwork in the Taylor home?
2 A Okay. Basically, what I'm assuming is that we --
3 this -- this fire is from lightning, and I -- I would
4 suspect that -- that there would be a path. It is not a
5 surprise. The fact that the TechShield carried some of the
6 electrical current, no -- no surprise there.
7 Q And what opinions that you provide in your report
8 does knowing this information support?
9 A Let's pull a report.
10 Q I was going to say we did mark it. Will you just
11 read the exhibit number. Is it Exhibit 66?
12 A Yes, ma'am.
13 Q Okay.
14 A Well, in Opinion 2(a), I point to the power and
15 nature of lightning and, you know, point out that it's
16 going to make a conduction path. And from what I
17 understand, Mr. Scardino was saying that some of that path
18 may well have been on the TechShield?
19 Q Anything else that you see?
20 A No, ma'am.
21 Q We talked earlier about spatter. Is spatter
22 something that happens during the ablation process?
23 A That -- that's where I would -- that's the only
24 time I would expect it in that -- is when that ablation is
25 occurring, yes.

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1 Q Okay. And when spatter occurs, the directional
2 force of the spatter occurs in numerous directions,
3 correct?
4 A Yes, ma'am.
5 Q It's not just metal pieces falling in accord with
6 gravitational principles, correct?
7 A So what you're saying is they're energy expended
8 that shoots the spatter out in all directions, the answer
9 is yes.
10 Q Okay. It doesn't just fall straight down?
11 A No.
12 Q Then let me get gravitational principles in
13 there. All right. Can you tell me what impedance is.
14 A How technical do you want it?
15 Q Start on a light end and we'll see if we need to
16 go further.
17 A Okay. Impedance is a characteristic of a
18 material that weighs against the eas- -- eas- -- well, the
19 easy flow of electrons through that material.
20 Q Okay. Are certain metals rated for their
21 impedance value?
22 A Well, they -- I'm not going to say they're
23 rated -- well, it depends on the form of the metal. Like
24 certainly wires are and, you know, copper wire is rated
25 different -- a little bit different than, say, aluminum

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1 wire, but yes.
2 Q So in -- in that scale of determining imped- --
3 impedance of a metal, where would aluminum fall? Is it
4 going to have a high impedance or a low impedance?
5 A Okay. Well, I'll confuse you a little.
6 Impedance, technically, is an AC term. It can mean DC
7 resistance also, but generally when we think of impedance,
8 we think of what's known as real power and reactive power,
9 real numbers and imaginary numbers. Skin effect weighs in
10 there, so does something called phase shift. Having said
11 that, aluminum is a good conductor of common 60 Hertz
12 electricity. Of all the metals that we know about, it is
13 the least inexpensive. It is not -- could we stop for --
14 for a minute?
15 MS. MacLEOD: Yeah. Let's go off the record
16 for a minute.
17 THE VIDEOGRAPHER: Going off the record at
18 1:55.
19 (Break taken from 1:55 p.m. to 1:56 p.m.)
20 THE VIDEOGRAPHER: Going back on the record
21 at 1:56.
22 A I believe the question was in regards to the
23 impedance of aluminum?
24 Q (BY MS. MacLEOD) Correct.
25 A Okay. Of the metals that are easily affordable,

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1 aluminum is the best for carrying power line frequency with
2 the exception of copper. Having said that, copper is much
3 more expensive. It doesn't compare at all to the metals of
4 silver and gold which are excellent conductors, but, you
5 know, practicality says that we can't afford those metals.
6 Q Okay. Well, we talked earlier about oxidation on
7 aluminum serving as an impedance, correct?
8 A Yes.
9 Q Okay. What happens to voltage at an impedance in
10 a metal? And if you want to use aluminum that would be
11 great.
12 A Well, any time you have a voltage -- well, a
13 current -- I'm sorry. Any time you have a current making a
14 pathway through a metal that has some impedance,
15 theoretically heat is created.
16 Q Would you have an impedance as electrical energy
17 from a lightning strike that moves from one piece of
18 TechShield to another where there are no metal clips?
19 A Well, assuming you have enough energy to meet the
20 Paschen's criterion, you're going to arc across there. And
21 I'm sorry. What was the question?
22 Q Would it be considered an impedance at that
23 location?
24 A Well, I mean, any time you have current flow you
25 have an impedance, but that is -- that is a change in

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1 impedance and it does rise, and you're going to have arcing
2 there.
3 Q Would that be the same if there were metal clips
4 that were holding two pieces of TechShield together?
5 A Okay. The metal clips, I've seen steel and I've
6 seen aluminum. Depending on the cross-section areas,
7 you're going to get perhaps an impedance there, certainly
8 from the steel because it's not a good -- a conductor.
9 Iron is not as good a conductor as aluminum, that's number
10 one. And then number two, that's going to relate to the
11 size of the impedance is, does the shield -- I'm sorry --
12 does the clip actually touch the shield or is there enough
13 gap with the metal clip where there's -- where there's a
14 little space in there. That -- that's going to determine
15 whether or not you've got continuity for a direct path or
16 you're going to have arcing occur. Then we have to throw
17 in the frequency involved. Skin effect can be a big deal
18 depending on the metal.
19 Q What is the skin effect going to be in a piece of
20 aluminum laminate that is .0one millimeters in thickness?
21 A Well, there's -- that would have to be calculated
22 as some -- you look at skin -- what's known as skin depth.
23 You look at the frequencies involved, are there going to be
24 numerous -- you -- you do a Fourier decomposition and you
25 can figure it out. It's a -- it could be a several-hour

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1 mathematical problem, but it can be done.
2 Q Okay. And you haven't done that in this
3 particular case?
4 A No.
5 Q So as you sit here today, you don't know what the
6 skin effect of aluminum with a thickness of .0one
7 millimeters is?
8 A Well, I know what it is. I can't -- no, I can't
9 give you a -- I can't quantify it.
10 Q Okay. Do nails that are typical for
11 construction, and in particular ones that would secure
12 asphalt shingles to a piece of TechShield, have iron --
13 typically have iron in them?
14 A Yes.
15 Q And have you done any research or any
16 investigation into what kind of nails were used in the
17 construction of the Taylor roofing system?
18 A No.
19 Q Do you know what kind of nails were used to
20 connect the metal flashing around the chimney ductwork to
21 the TechShield?
22 A No.
23 Q And if a metal has object -- sorry. If a metal
24 object has iron in it, is it considered a ferromagnetic
25 object?

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1 A Well, it -- it depends.
2 Q On what?
3 A Well, it depends on the -- the exact composition.
4 And the reason I say that, stainless steel, as an example,
5 is full of iron and yet depending on whether it's in
6 austenitic form, A-U-S-T-E-N-I-T-I-C, or martensitic,
7 M-A-R-T-E-N-S-I-C, or ferritic, F-E-R-R-I-T-I-C, depending
8 on which phase it is, that's going to determine whether or
9 not it's ferromagnetic.
10 On the other hand, if it's, you know, just
11 plain steel, for lack of a better word, it's probably going
12 to be ferromagnetic.
13 Q Okay. Is it your opinion based on what you know
14 about the typical nail used in construction as to whether
15 that nail is considered a ferromagnetic object?
16 A We'll make it real easy. You can take a magnet
17 and you look for spare nails, that way you make sure nobody
18 gets a flat tire. It's magnetic, yes.
19 Q Okay. If an item or object is ferromagnetic in
20 nature, is that going to have any effect on the behavior of
21 energy from a lightning strike?
22 A Absolutely.
23 Q Tell me what that -- how is it going to affect
24 that behavior?
25 A Iron generally serves as what's known as an RF

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1 choke, spelled as it sounds. It can serve as an impedance
2 and it can -- some conditions, I suppose theoretically
3 could limit the current.
4 Q But if it acts as a choke or an impedance, you're
5 going to have a greater amount of heat generated at those
6 locations, correct?
7 A Well, that's a different issue.
8 Q Help me understand why that's a different issue.
9 A Okay. You're -- for a -- for DC power and DC
10 current, you generate heat any time you have an impedance
11 because it's a resistance. With AC however, one of the
12 properties of AC power is it goes through an inductor,
13 which I believe is what you're speaking of. The voltage
14 and the current at that inductor would tend to be 90
15 degrees out of phase. The amount of work done is -- energy
16 dissipation of watts is known as voltage times current
17 times basically the power factor. At 90 degrees the power
18 factor is zero, no work is done, no heat created.
19 Q And so that's with an AC current, no heat
20 created? Or with a DC current, no heat --
21 A No. That's with -- that's with AC just going
22 through a perfect inductor. There is --
23 Q And you said inductor, right?
24 A An inductor --
25 Q Okay.

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1 A -- which is an im- -- it's a type of impedance
2 which is what a choke is. A perfect one brings about no
3 heat.
4 Q And if it is a DC current, it's going to bring
5 about heat?
6 A Well, and there is a DC component to lightning,
7 so that -- the DC current will generate heat just due to
8 the resistance of the material has nothing to do with the
9 inductance.
10 Q Only with the resistance?
11 A That's right.
12 Q Tell me if you will, because I don't believe
13 we've talked about resistance and how it's different from
14 inductance.
15 A Okay. Resistance, when a current flows through
16 it, AC or DC generates heat. It is just a -- an -- it is a
17 form of impedance. It opposes electron flow. Inductance
18 not only opposes electron flow, but it's an energy storage
19 device and it causes a phase shift. It causes voltage and
20 current to be 90 degrees out of phase. And when they're
21 out of phase, they do no work. Inductance is very much
22 frequency-related. All things being equal, you increase
23 the frequency, you increase the voltage drop across an
24 inductor.
25 Q Simple as that?

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1 A That's just the start.
2 Q All right. Let me ask you, and I think you've
3 touched on this, but is an electrical -- is the electrical
4 energy from a lightning strike considered AC or DC or both?
5 A Well, it's considered impulse. It's got -- would
6 have a DC component, and then it would have -- if you did a
7 decomposition, it would have multiple AC components.
8 Q Is it electrical resistance measured by Ohm's
9 Law?
10 A Well, the unit of measure of electrical
11 resistance is Ohms, and then there is such a thing as Ohm's
12 Law, yes.
13 Q Do you intend to offer any opinion at the trial
14 of this matter in regard to Ohm's Law?
15 A I don't think so.
16 Q Is conductance the inverse of resistance?
17 A Yes.
18 Q And is it the true -- is it also true to say that
19 resistance is the inverse of conductance?
20 A Exactly.
21 Q And conductance is measured in siemens?
22 A That's exactly it.
23 Q And if you will, tell me what siemens represent.
24 A It is the inverse of resistance. I mean, I --
25 I'm not trying to appear as a smart-aleck. I mean, that's

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1 literally what it is.
2 Q Okay. Do you intend to offer any opinions at the
3 trial of this matter in regard to siemens?
4 A No. And having said that in prior answer also
5 regarding Ohm's Law, I mean, those -- those weighed heavily
6 in Mr. Simmons's calculations in my estimation. I -- in
7 some testing he did. I would comment on his testing, so I
8 would say that.
9 Q Do you know the siemens value for aluminum?
10 A No.
11 Q Do you know the siemens value for stainless steel
12 Type 304?
13 A No.
14 Q If I had a piece of stainless steel and I had a
15 piece of aluminum, and both of them are the same size, the
16 same length and they're electrically parallel, which one
17 would carry more current, the stainless steel or the
18 aluminum piece?
19 A They're wired and parallel?
20 Q Yes.
21 A Okay. DC?
22 Q Well, let's do it first with DC and then with AC
23 if -- if there's a distinction to be made.
24 A DC aluminum is going to be a much better
25 conductor than stainless steel. And at low frequencies

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1 that is also true, that aluminum is a better conductor than
2 stainless steel. At high frequencies you'd have to throw
3 in the skin effect, and I haven't done that calculation.
4 Q And that last part you were talking about AC,
5 right, with -- or?
6 A Yes. High frequency AC, yes.
7 Q Okay. In your opinion, is there anything
8 predictable about lightning?
9 A Very little.
10 Q Is frequency predictable?
11 A Okay. You've used the term frequency. Does that
12 refer to harmonic content or how often it hits someplace or
13 how often it occurs? I'm just not sure.
14 Q Yeah. No. I can see -- let's answer both of
15 those questions.
16 A Okay. Frequency, in terms of how often something
17 hits, there is such a thing as an isokeraunic,
18 K-E-R-A-U-N-I-C drawing. They're essentially compilations
19 of thunderstorms. They show lightning density. I mean,
20 lightning, how often it hits, is somewhat predictable in a
21 large area given our history knowledge of that particular
22 area.
23 In terms of harmonic content, I -- what you
24 can say is there's rapid transitions that manifest
25 themselves in what we call DI, slash, DT. They're all

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1 usually pretty rapid, but the data by Dr. Uman and --
2 suggests that harmonic content is -- you know, varies
3 widely from event to event.
4 Q And what about is there any predictability in how
5 lightning will travel from cloud to ground?
6 A I -- I think it demand -- or the question is best
7 answered -- relatively speaking, I don't think it is
8 predictable. I mean, certainly it happens.
9 Q Okay. Do you know what the state of North
10 Carolina building code says in regard to the installation
11 of radiant barrier products?
12 A No opinion, ma'am.
13 Q Do you know what the state of North Carolina
14 building code says in regard to protecting systems from
15 being energized by lightning?
16 A No opinion.
17 Q Have you ever been before the state of North
18 Carolina building code council or building code board
19 before?
20 A No, ma'am.
21 Q Do you know if anyone from Louisiana Pacific ever
22 sought approval from any government agencies in the state
23 of North Carolina to distribute TechShield in North
24 Carolina for use in residential homes?
25 A No knowledge.

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1 Q Do you know what standards apply to Louisiana
2 Pacific's TechShield product?
3 A Other than the ones outlined to me by Mr. Dellwo,
4 no.
5 Q Okay. And those are the APA PS 210 Standard and
6 the two ASTM standards, the E408 and C1371 that we talked
7 about today?
8 A Yes. And I need to amend an answer. You asked
9 me 10 minutes ago which -- at high frequency which was the
10 better conductor of electricity at high frequency, AC
11 stainless or aluminum. It's -- the answer is aluminum.
12 Q That's what I took away from it, so -- but thank
13 you for clarifying.
14 Do you know whether there are any applicable
15 ANSI standards to radiant barrier products?
16 A I do not.
17 Q Do you know how ANSI standards are developed?
18 A Generally.
19 Q Can you tell me.
20 A Well, there has to be a need and there has to be
21 a sponsoring organization, and then a code committee is put
22 together. I say a code committee, a standards committee.
23 And they try and write out a standard that -- presumably,
24 it does not favor one manufacturer over another. And it's
25 normally a consensus process that everybody comes to

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1 agreement on, what's in the code. The code is voted on.
2 It may have -- code committee might consist of
3 representatives from industry, manufacturers, distributors,
4 perhaps end-users. Certainly, with building materials,
5 building code officials also play a role in that.
6 Q Okay. Will you be offering any opinions at the
7 trial of this matter that ANSI standards are not needed for
8 the radiant barrier product?
9 A No.
10 Q And I should probably just ask you. Are you
11 going to be offering any opinions at the trial of this
12 matter that ANSI standards are needed for the radiant
13 barrier products?
14 A No. No.
15 Q In regard to the ASTM standards, is there an ASTM
16 standard that regulates the electrical properties of
17 radiant barrier products?
18 A Not that I'm aware of.
19 Q Is there an ASTM standard that regulates the
20 ignitability of a radiant barrier product?
21 A Well, in general a lot of building materials are
22 subject to a test called the Steiner Tunnel, S-T-E-I-N-E-R,
23 and in general that's also known as ASTM -- I believe it's
24 called EASTM -- I think it's E but then followed by 84.
25 Q Tell me a little bit about that standard if -- if

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1 you know.
2 A Sure. It's -- it's a -- it's a tunnel that you
3 put a piece of building material in. And what I remember
4 is you apply like a flame for a certain amount of time or
5 certain amount of heat, and then you measure how far the --
6 the charring progresses. It's a relative standard. The
7 scoring is from zero to 100. I don't remember what zero is
8 except it used to be asbestos. Obviously, that's gone the
9 wayside. But 84 is -- I'm sorry -- 100 is the fire spread
10 associated, I believe, with Red Oak, and flame spread is
11 measured as to that relative scale zero to 100.
12 Q And so that's testing the ignitability of a
13 product?
14 A Flame spread.
15 Q Flame spread?
16 A Yes.
17 Q How -- how is flame spread different from
18 ignitability?
19 A I'm sorry. The answer is I don't know if there
20 is a test for ignitability, and ignitability is just how
21 easier or hard something -- how difficult it is to ignite.
22 Q And codes that are applicable to a particular
23 product are minimum standards, correct?
24 A Yes.
25 Q And a manufacturer, if they want, can decide to

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1 impose standards that are higher than what the codes
2 provide, correct?
3 A Yes.
4 Q They can't, however, impose standards -- decide
5 to impose standards that are less than what the codes
6 provide, correct?
7 MR. ELLIS: Objection.
8 Go ahead.
9 A Well, they can. They just won't get their
10 listing.
11 Q (BY MS. MacLEOD) Is it your opinion that
12 compliance with the current applicable codes for radiant
13 barrier products are sufficient?
14 A Oh, I have no opinion.
15 Q Any other codes, standard or instruction that
16 would apply to radiant barrier that we haven't already
17 talked about?
18 A No, ma'am.
19 Q Okay. Let's turn to your report --
20 A Sure.
21 Q -- Exhibit 66.
22 A Okay.
23 Q And if you'll look at the very front it talks
24 about the things that were provided. It says that there
25 was a fee schedule provided. I didn't see one, but I did

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1 see in here where you talk about your hourly rate, and that
2 actually may be your entire fee schedule which --
3 A For me, that's it.
4 Q Okay. And today, when you brought materials --
5 I'm looking at Page 2, I should tell you --
6 A Okay.
7 Q -- at the materials reviewed.
8 A Okay.
9 Q Today you brought me several different
10 references, things like NFPA 921 sections and things like
11 that that you used, correct?
12 A Sure.
13 Q Okay. The -- if you'll look down the list fourth
14 from the bottom, it says, "USFA 2002 report on lightning
15 fires"?
16 A Yes.
17 Q Is that a part of -- did you produce that?
18 A Yes.
19 Q It's in that file?
20 A It's here today. I --
21 Q Okay.
22 A Yeah.
23 Q All right. Let's turn to Number 1 under opinions
24 held.
25 A Sure.

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1 Q And actually, if -- if -- it appears that
2 Opinions 1, 2, 3 and 4 concern your opinions that involve
3 lightning --
4 A Yes.
5 Q -- is that fair?
6 A Yes.
7 Q In Opinion Number 1, you state that lightning can
8 produce currents of 200,000 amperes of current?
9 A Yes.
10 Q How many volts is that, 200 (sic) amperes, if you
11 know?
12 A It's -- one can't -- you can't -- can't deduce
13 one from the other.
14 Q Okay. You can't make that calculation?
15 A No.
16 Q Okay. Is it true that while lightning can
17 produce amperes of that level, that not every strike
18 actually produces 200,000 amperes of current?
19 A Absolutely.
20 Q And, in fact, Umans says that amperes can be as
21 little as 1,000 amperes, correct?
22 A You know, I remembered -- I thought it was 2000
23 on the low end, but maybe it's 1,000. It's -- it's
24 certainly not -- it's much less than 200,000.
25 Q If you had it in a report or a paper that you had

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1 written, you wouldn't disagree with whatever was written in
2 that --
3 A Oh -- oh, no. Oh, no.
4 Q Okay. And does Uman also say that the average
5 amperes for a lightning strike are in the range between
6 10,000 and 20,000?
7 A Probably. That -- that's -- that's -- those are
8 certainly good numbers.
9 Q Okay. When you talk about in the second sentence
10 of Paragraph 1, that you're trying to put that number in
11 perspective, it says, "Many houses that are built have
12 incoming service rated at 200 amperes."
13 A Yes.
14 Q "About 1/1000th of the current of 200,000 ampere
15 lighting" -- "lightning strike." Do you know -- when
16 you're talking about incoming service, you're just talking
17 about the power that's being provided to the house?
18 A Yes, ma'am.
19 Q Okay. And do you know what the typical volt or
20 voltage is for the incoming service to a home?
21 A Well, in the United States it's 120, slash, 240
22 three wire.
23 Q And then in the last sentence of Opinion 1 you
24 say, "The level of electrical current produced in a
25 lightning strike is capable of causing substantial damage

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1 to many items and not just a radiant barrier product." Did
2 I read that correctly?
3 A That's right.
4 Q Okay. By making that statement, you're not
5 saying -- or by making that statement you are saying that a
6 radiant barrier product can sustain substantial damage due
7 to a lightning strike, correct?
8 A Well, I didn't say substantial, but yes, it can
9 be damaged. It absolutely can.
10 Q Okay. What is the point you're trying to make by
11 asserting that statement?
12 A The fact that we have damage on a radiant barrier
13 is -- one, it's not surprising, and it's not surprising
14 that other items can also be damaged by lightning. Radiant
15 barrier is just one of many materials that could be damaged
16 by lightning.
17 Q Okay. Is it your opinion that lightning is
18 attracted to metal?
19 A It depends on the circumstances.
20 Q What circumstances does it depend on?
21 A Well, lightning likes to seek a, you know, a
22 return path, if you will. Take an area of flat ground and
23 you ground a flagpole and run it up 100 feet, there's a
24 good chance that lightning that's nearby, it's going to
25 strike that flagpole. And certainly that's been the

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1 experience with all the testing at the Empire State
2 Building which has a, you know, real high antenna on it.
3 Q And is that part of the sort of electrical
4 principle that energy is going to seek the path of least
5 resistance?
6 A Yes.
7 Q If a particular piece of metal is grounded, is it
8 going to be more attractive to a lightning strike than a
9 piece of metal that is not grounded?
10 A All other things being equal, yes.
11 Q All right. If you will turn to Paragraph 2 --
12 A Okay.
13 Q -- you state that lightning melts metals and
14 carbonizes insulating surfaces. What does it mean
15 carbonizes insulating surfaces?
16 A Basically, that the -- the lightning can generate
17 heat at the site of an insulator and make that insulator
18 fail to be an insulator anymore since it becomes a
19 conductor.
20 Q Did you put that in this opinion because you
21 think there is an example of that happening at the Taylor
22 home?
23 A No.
24 Q Did you see any evidence of a carbonized
25 insulating surface at the -- in the evidence that was

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1 provided in regard to the Taylor home?
2 A Well, we certainly have damage to insulation on
3 wiring, particularly the -- the 14-3. That might be an
4 explanation for that -- how lightning damaged that wire,
5 that conductor.
6 Q That there was a carbonized insulating surface?
7 How -- explain that to me.
8 A Yeah.
9 Q Because I'm not sure I followed you, and I
10 apologize.
11 A Okay. Most insulators, absent something like
12 glass, aluminum oxide, but common wiring insulation -- and
13 absent asbestos which used to be used or mineral
14 insulation -- the rubbers and the plastics all can be
15 damaged by heat. They have carbon in them, and that carbon
16 is bound through a process called pyrolysis. That heat can
17 cause that insulation to fail and it can become conductive.
18 It turns to carbon.
19 Q And it -- if it -- are you telling me anything --
20 is that another reasonable explanation of how the damage to
21 the 14-3 ground wire could have occurred?
22 A Sure. Whatever it arced to, and we don't know
23 that, but we just -- we know that there was electrical
24 charge through there. And charge normally doesn't go
25 through insulation unless you got a high voltage on it.

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1 You cause the insulation to break down.
2 Q Do you know what the voltage rating for the
3 insulation on that 14-3 wire was?
4 A I didn't test it, but there is a standard for
5 that.
6 Q Okay. Do you know if -- if -- do you know what
7 the standard is?
8 A Well, it's 600 volts.
9 Q Okay. Do you know if -- if in reality most of
10 those insulating properties are actually -- can withstand a
11 much greater level of voltage?
12 A Yes.
13 Q Do you have an idea of what that level of voltage
14 is?
15 A Sure.
16 Q What is it?
17 A It's 3 to 4,000 volts.
18 Q Do you know the level of voltage that is
19 attributed to your typical lightning strike?
20 A It just depends on the distance. It can be
21 billions of volts; that -- that is not uncommon.
22 Q Okay. And have you defined Paschen's Law for me?
23 A No.
24 Q Will you?
25 A Yeah. It's spelled P-A-S-C-H-E-N, apostrophe, S.

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1 Paschen's Law essentially defines at what point air will
2 break down so that it becomes a conductor. If you have
3 two metal plates and they have a voltage between them, no
4 current flows until the -- what's known as the Paschen
5 criterion is met. You have to exceed the voltage breakdown
6 strength of that air, so that all of a sudden we have
7 enough energy for the voltage to jump the gap. That's an
8 arc. That produces aluminum discharge with -- you know,
9 which is what you see.
10 The distance, if you were to bring two
11 plates closer and closer together (indicating), you'll
12 essentially reach a point called a Paschen distance which
13 no matter how close you get the voltage will not jump. And
14 then the distance that it will jump and the distance, that
15 Paschen distance, is a function of whether it's a vacuum,
16 whether it's air or nitrogen, whatever the air is in
17 between them, whatever the molecules are. That in a
18 nutshell is Paschen's Law, Paschen's criterion.
19 Q Okay.
20 MS. MacLEOD: Why don't -- I think we're --
21 we're pushing our time limit. Why don't we take a break,
22 go off the record for a minute.
23 THE WITNESS: Okay.
24 THE VIDEOGRAPHER: Going off the record at
25 2:37.

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1 (Break taken from 2:37 p.m. to 2:50 p.m.)
2 THE VIDEOGRAPHER: We're going back on the
3 record at 2:50 with Tape 5.
4 Q (BY MS. MacLEOD) Mr. Goodson, we were looking at
5 Exhibit 66 which is your report, and we were looking at
6 Paragraph or Opinion 2 which is Bullet 2 in your report.
7 A Yes.
8 Q And in the last sentence of that report, you
9 state that the conductive path can be created with or
10 without the presence of a radiant barrier?
11 A Sure.
12 Q In the Taylor home, the TechShield was, in fact,
13 the primary conductive path through that home, correct?
14 A It -- it -- it could have been, yes.
15 Q Okay. If Dennis Scardino opined that it was the
16 primary path of the electrical energy from the lightning
17 strike, do you have any reason to disagree with that
18 opinion?
19 A No.
20 MR. ELLIS: Objection.
21 Go ahead.
22 Q (BY MS. MacLEOD) Is it your understanding of
23 lightning that it typically chooses more than one path to
24 ground?
25 A Yes.

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1 Q And do you have any evidence of the energy from
2 the lightning strike choosing other paths to ground in
3 addition to the TechShield?
4 A No.
5 Q Whether or not it chose other paths to ground
6 doesn't affect any opinion you have to offer in this case,
7 does it?
8 A Correct.
9 Q Is that because even if it chose another path to
10 ground, there was only one origin -- area of origin for the
11 fire, correct?
12 A Well, to my knowledge, there was only one area of
13 origin, but you -- you know, you very well could have had,
14 as an example, current flowing through the TechShield, say,
15 at one point and then dividing and going multiple ways,
16 including the dryer and including another path.
17 Q Do you know if the dryer was along the pathway to
18 ground that was electrically connected to the TechShield?
19 A My -- from what -- from what I understand it is,
20 yes.
21 Q Okay. We talked a few minutes ago about the
22 well-known principle that energy -- electrical energy seeks
23 the least -- least resistant path to ground?
24 A Yes.
25 Q As a product designer working with metals, is

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1 this a point that is commonly known among product designers
2 that work with metal?
3 MR. ELLIS: Objection.
4 A That -- that it --
5 Q (BY MS. MaCLEOD) Just the basic principle that
6 electrical energy is going to go follow the least resistant
7 path to ground.
8 MR. ELLIS: Same objection.
9 A Well, that's a -- that's a -- that is a different
10 question. It will follow multiple paths or it can follow
11 multiple paths; however, the bulk of it and sometimes all
12 of it will be the least resistant path.
13 Q (BY MS. MaCLEOD) Well, let me ask this then, and
14 you may not have an answer for it, but is it fair to say
15 that someone who is designing a product in which metal is
16 involved ought to be aware of that principle that
17 electrical energy is typically going to follow the least
18 resistant path to ground?
19 MR. ELLIS: Objection.
20 A No.
21 Q (BY MS. MaCLEOD) No. Why not?
22 A I think it would depend upon what they're
23 designing. If they're designing a drill bit, there is no
24 reason at all to -- for electricity to be involved. It
25 would just be the nature of the product.

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1 Q If they're designing an OSB board with an
2 aluminum sheathing on it that they're going to cover the
3 entire roof of a structure with, is that something that
4 they ought to have considered in the design of their
5 product?
6 MR. ELLIS: Objection.
7 A I don't -- I don't think so.
8 Q (BY MS. MaCLEOD) Okay. Why not?
9 A You know, because there are numerous other
10 building materials out there which, as an example,
11 guttering, aluminum-backed insulation which is put in
12 attics. You know, those of us who are up in years can
13 remember, you know, lots of houses being built with tin
14 roofs, and I seriously doubt that -- and when I call them
15 tin roofs, they're steel roofs with tin plate on them,
16 galvanize it. I seriously doubt that was ever considered.
17 It was -- it was just functional.
18 Q Do you agree with me that a tin roof is
19 potentially thousands of times thicker than the aluminum
20 laminate that's used in a piece of TechShield?
21 A No.
22 MR. ELLIS: Objection.
23 Go ahead.
24 Q (BY MS. MaCLEOD) Do you know how thick the
25 aluminum laminate used in the TechShield product is?

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1 A Yes.
2 Q How thick?
3 A One mil.
4 Q Is that the same thing as saying .0one
5 millimeters?
6 A Oh, I wouldn't -- I wouldn't say that.
7 Q Okay. Have you done that measurement yourself?
8 A No.
9 Q What leads you to believe that the aluminum
10 laminate on the TechShield is one millimeter thick?
11 A A conversation with -- first off, it's not one
12 millimeter thick. I believe I said one mil.
13 Q Okay. So what's the difference?
14 A That's a thousandth of an inch.
15 Q A thousandth of an inch. Okay. I'm sorry.
16 That's just me not understanding that --
17 A No. And --
18 Q -- the various measurements.
19 A Yes.
20 Q Okay.
21 A No, I have not made that measurement.
22 Q Okay. And you said you learned that from, you
23 thought --
24 A I believe that came from Mr. Dellwo
25 Q So let me ask you this: Is the one mil -- you

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1 may have answered this, I just don't remember -- is that a
2 different measurement from saying .01 millimeters?
3 A That's different.
4 Q Okay. How different is it?
5 A Quite a bit different.
6 Q Okay. Which one is thicker?
7 A As we sit here I couldn't tell you.
8 Q Okay. You mean between those two measurements
9 you can't tell me which one is a thicker measurement?
10 A Oh, I can sit here and calculate it, yes, but --
11 Q But don't know off the top of your head --
12 A Right.
13 Q -- which one is thicker? Okay.
14 All right. Let's look at Paragraph 3.
15 A Yes.
16 Q Essentially, in Paragraph 3 you have admitted
17 that you did, in fact, observe damage to the radiant
18 barrier from electrical energy, correct?
19 A Yes.
20 Q Okay. But then you say immediately after that in
21 the second sentence, "But with no evidence of sustained
22 combustion"?
23 A Yes.
24 Q What is combustion?
25 A Combustion's where you burn something.

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1 Q And what do you mean by using the term "sustained
2 combustion"?
3 A In other words, didn't -- didn't catch on fire
4 and burn.
5 Q Okay. But is saying combustion different than
6 saying sustained combustion?
7 A You know, probably not. The instances that I'm
8 thinking of, we had certainly no evidence of fire. We had
9 nails, and then all around there was paper backing, but,
10 no, you know, no -- no soot.
11 Q Are you talking specifically about the Taylor
12 home?
13 A No.
14 Q Okay. Let's talk about the Taylor home because I
15 think it can be confusing if we start talking about the
16 others, because what I really want to know is whether you
17 saw any evidence of combustion regardless of how long it
18 was sustained at the Taylor home --
19 A I -- I -- I --
20 Q -- on the TechShield.
21 A I'm sorry. I didn't mean to interrupt.
22 Q That's okay.
23 A I'd have to see the pictures.
24 Q Okay. Have you not seen those pictures already?
25 A Well, I -- I have seen numerous pictures. I just

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1 don't remember them all.
2 Q Okay. If you saw pictures would you have
3 provided them along with your file, any pictures that you
4 had?
5 A No.
6 Q Why not?
7 A Because the -- the pictures I'm talking about are
8 in a cloud.
9 Q Do you know where those pictures came from
10 besides the clouds?
11 A Ma'am, I don't recall.
12 Q Okay. I guess what I want to ask you to do,
13 because I really want to understand what evidence you've
14 looked at in assessing that there was no sustained
15 combustion. I want to know what you're basing that
16 statement on, because I know you haven't been to the scene,
17 so you're going to have to rely on photographs? --
18 A Okay.
19 Q -- correct?
20 A You need to re- -- read carefully -- and I'm not
21 trying to lecture you.
22 Q No. No. Please --
23 A Read --
24 Q If you can explain it to me, please do.
25 A Read Paragraph 3. I never talk about this

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1 residence.
2 Q At all?
3 A At all.
4 Q So that paragraph doesn't have anything do with
5 the specifics of the Taylor fire?
6 A I think that's -- you know, that's -- that's
7 perhaps a matter of debate. All I'm saying is that I have
8 seen this on houses, this phenomenon where there is no
9 combustion and there is ablation, and it -- the fire
10 certainly didn't start there and it didn't take off. Yet
11 we -- we know that there was electrical energy there from
12 lightning.
13 Q But in regard to the specifics of the Taylor
14 home, there's nothing that, in regard to Paragraph 3, that
15 you'll be offering at the trial of this matter?
16 A Right.
17 Q Okay. Is ablation considered a form of
18 combustion?
19 A No.
20 Q And why do you say that?
21 A Ablation is really a form of evaporation, just
22 reach essentially a boiling point.
23 Q Do I understand correctly that when you're
24 talking in Paragraph 3 about general terms, that you draw
25 no distinction between combustion and then sustained

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1 combustion?
2 A Yes, ma'am, that's fair.
3 Q Okay. There's no time frame associated with
4 sustained combustion?
5 A No.
6 Q And I apologize if you've answered this too, but
7 just tell me that -- what's the significance when you have
8 ablation and you find with the TechShield product that the
9 paper still remains?
10 A Okay. The significance is it demonstrates that
11 there are times that lightning hits and does not cause a
12 fire; therefore, it begs the question, where we have
13 nothing really to look at because it's burned away, was the
14 fire caused by the TechShield being damaged by the
15 lightning or is this just a fire where there was enough
16 energy that the OSB without the TechShield would have
17 started a fire on its own. We don't know.
18 Q What about the idea of the fact that when there's
19 ablation and there's spatter, that that spatter could --
20 which goes out in multi-directional patterns -- could catch
21 another combustible item in the vicinity on fire?
22 MR. ELLIS: Objection.
23 Go ahead.
24 A I won't say that can't happen; however, we're
25 talking about an extremely thin material, you know, one mil

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1 thick. And it -- it's taken into evaporative state. I
2 can't imagine that much material -- any droplets of any
3 size being developed and generated so as to go out and
4 cause something to catch on fire.
5 Q (BY MS. MacLEOD) Would you disagree with Mr.
6 Scardino's opinion that the polystyrafoam venting channels
7 that were attached to the TechShield were anywhere from
8 zero to one inch away from the TechShield?
9 MR. ELLIS: Objection.
10 Go ahead.
11 A No.
12 Q (BY MS. MacLEOD) You have no reason to disagree
13 with that?
14 A No.
15 Q Do you know what the combustion rate is for the
16 polystyrafoam channeling that was located in the Taylor
17 home?
18 A I'm not sure what you're asking me.
19 Q Do you know how easily it ignites?
20 A The answer is no.
21 Q Okay. Let's move on to Paragraph 4.
22 A Okay.
23 Q When you say in Paragraph 4 lightning does cause
24 fires --
25 A Yes, ma'am.

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1 Q -- is that your way of saying that lightning
2 supplies the energy that can result in a fire?
3 A Yes, ma'am.
4 Q And if you -- you told me that -- earlier that
5 you know what the fire tetrahedron is. Can you tell me
6 what that is.
7 A Sure. Oxygen, fuel and heat, when they come
8 together; but to create a fire you need the fourth element,
9 and that's sustained chemical reaction.
10 Q Okay. And so the heat portion of that would
11 actually be the energy from the lightning?
12 A That's the initial heat, yes.
13 Q Okay. And then you'll -- you have to have some
14 type of fuel source, correct?
15 A Yes.
16 Q And in this particular fire that's going to be a
17 material that was found inside the Taylor home?
18 A Sure.
19 Q And if you remove any one piece of this fire
20 tetrahedron puzzle?
21 A It collapses.
22 Q It collapses.
23 So if you -- if you had a flame and you
24 removed a piece of it, the fire is going to go out?
25 A When you say remove the piece, remove a piece of

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1 the tetrahedron? Yes.
2 Q Yes. Yes, sir. I'm sorry.
3 And if you don't have all four pieces of the
4 fire tetrahedron, you're just never going to have the fire
5 in the first place?
6 A Correct.
7 Q And as I understand sort of the totality of
8 Paragraphs 1 through 4, is that you're offering the opinion
9 that lightning can cause fires and fires can occur in
10 houses without the presence of radiant barrier, correct?
11 A Yes, ma'am.
12 Q Would you agree with me that lightning-induced
13 fires occur in houses that don't have CSST installed in
14 them?
15 A Yes, ma'am.
16 Q And in a home with CSST where CSST is energized
17 by lightning and perforated, that -- it is your opinion
18 that that CSST is the cause of the fire?
19 A Well --
20 Q As long as it's located in the area of origin?
21 A It -- it's -- it's got to be in the area of other
22 origin, that's -- that's number one. Two, there's been
23 a -- someone has asked the question, is it possible for the
24 CSST to be perforated and have gas but no -- no ignition,
25 but then the same lightning, say, caused a fire a few

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1 inches away, and that -- that's -- that is an unsettled
2 question right now.
3 Q It is. Okay. But let me ask you, go back to
4 what your opinion is. If a house has CSST in it, the house
5 sustains a lightning strike or energy from a lightning
6 strike enters that house, it energizes the CSST, it
7 perforates the CSST, it ignites the gas, and all of this
8 happens in the area of origin, is it your opinion that the
9 CSST was the cause of the fire?
10 A That's -- that -- that is what my opinion was as
11 of seven years ago when I wrote the first paper. Lately, I
12 have been issuing no opinions as to the -- the cause of the
13 fire. I haven't in the last probably three or four years I
14 bet.
15 Q Okay.
16 A Because -- because the possibility -- and I don't
17 know the answer, so I'm going to say, well, what if there
18 were sawdust right there and you ignited the sawdust.
19 Well, the truth is the bulk of the fire damage is going to
20 come from that gas, but I can't eliminate the possibility
21 that the sawdust a few inches away was ignited. I just
22 can't do it.
23 Q How would that sawdust have been ignited, though?
24 A By the -- by the lightning.
25 Q Okay. Does the fact that the Taylor loss

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1 occurred in the southern United States have any
2 significance to you in regard to lightning events?
3 A I'm -- I don't understand where you're going.
4 Q Yeah. I mean, I'm not trying to be tricky. Have
5 you heard the phrase "high lightning exposure environment"?
6 A Sure.
7 Q And what does that mean to you?
8 A It means you have -- it's a relative term, but it
9 means you have more lightning striking the -- higher
10 lightning density in events per square kilometer for a
11 given period of time relative to another area of land
12 someplace else in the -- in the United States which is what
13 we're talking about.
14 Q Are some areas considered high lightning
15 exposure -- exposure areas while some are not?
16 A Sure.
17 Q Okay. Do you know whether North Carolina is
18 considered a high lightning exposure environment?
19 A Well, to me, that's a relative term, but on -- on
20 the map it's -- it's got the color yellow which I believe
21 is -- two to four is the nomenclature. I don't think -- I
22 believe you can go up to high -- up to as high as 10. But
23 it also would depend what part of North Carolina you're in.
24 Q And I really wasn't asking you to guess. I mean,
25 if you don't -- if you don't know you --

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1 A Oh, it's -- it's on the chart I brought.
2 Q Okay. If lightning were to strike two pieces of
3 aluminum metal, one being very thin, let's say one mil, one
4 being 163 times thicker, all other things considered being
5 even, is energy from a lightning strike going to do more
6 damage to the thinner piece of the aluminum -- aluminum or
7 to the thicker piece of the aluminum?
8 A You're going to have different kinds of damage.
9 Having said that, the thicker piece of aluminum will be
10 able to absorb some of the heat and carry that heat away
11 from the penetration site, so you'd expect less damage.
12 Q And in regard to heat, the thin metal is going to
13 heat faster than a thicker piece of metal, correct?
14 A All other things being equal, yes.
15 Q And in regard to duration -- well, strike that.
16 Do you have any opinion as to whether
17 TechShield, when installed in the roof structure of a home,
18 attracts lightning?
19 A No opinion.
20 Q And that would be the same, no opinion, if you
21 were to learn that the TechShield installed in the roof
22 structure was grounded?
23 A Correct. I would also add that that -- you know,
24 it's -- it's somewhat a relative term. As an example, one
25 of the houses we've seen, you know, that had TechShield in

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1 it that I believe was struck by lightning, there's the
2 house -- I'm sorry -- a thousand houses or so in this
3 subdivision. How do you say it was attracted to one house
4 relative to another? I don't know how you do that. All
5 that we can say is that it struck that house.
6 Q Okay. And in that example that you just gave me,
7 if the rest of the houses in that area the TechShield was
8 not grounded, but in the one house that was struck by
9 lightning it was grounded, would that change your opinion
10 in regard to attraction of lightning?
11 A Oh, I think you'd have to know a lot more, like
12 the elevation, the elevations of the house. Part of it
13 is -- is the vagaries of Mother Nature. When this -- you
14 know, when this cloud got enough energy where it wanted to
15 discharge, where did that cloud -- where was it situated?
16 Q And despite all those, what did happen in that
17 instance was the lightning had a cloud-to-ground path and
18 did strike the house that you were referencing?
19 A Yes.
20 Q And it did energize the TechShield in that house?
21 A Yes.
22 Q And there was a fire in that house?
23 A Yes.
24 Q Was the area of origin located anywhere near the
25 TechShield in that house? If you know. It may not be the

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1 one that burned. I'm not --
2 A No. No. The -- the -- the house I'm thinking
3 of, certainly there was TechShield there, but it's also
4 evidence that it was on the air -- on the -- on the furnace
5 right there, and then ran down the copper lines to the
6 outdoor unit. So it -- you know, there's energy all over
7 that house.
8 Q But the area of other origin was near where the
9 TechShield was located?
10 A Yeah. And -- and -- and the furnace and -- and
11 the ducting, yes.
12 Q Okay. Let's turn to Paragraph 5.
13 A Yes, ma'am.
14 Q What's the general point you're trying to impart
15 with Paragraph 5?
16 A Basically, that the use of aluminum in a building
17 material is -- is not new nor is it novel. People have
18 used roll-in insulation with aluminum backing, as an
19 example, to line their roofs with, and no one has ever, to
20 my knowledge, suggested that that creates any undue hazard.
21 Q In those situations, the radiant barrier
22 sheathing is actually attached to the wood rafters,
23 correct?
24 A Yes.
25 Q It's not attached to the OSB as in the instance

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1 with TechShield, correct?
2 A That's right.
3 Q Okay. So the roofing nails that are attaching
4 the shingles to the TechShield are not actually -- the roof
5 shingles -- nails that are attaching the roof shingles to
6 the OSB are not actually coming into contact with the
7 radiant barrier sheathing that is attached to the wood
8 rafters, correct?
9 A Correct.
10 Q Are you aware -- I mean, let me ask you this:
11 Just because a metal is used in a certain application, it
12 doesn't mean that that application is always the
13 appropriate application, correct?
14 A Can you give me an example.
15 Q Yeah. Well, let's -- let's -- I mean, I actually
16 got this from you, but there was a time when some wiring
17 was made out of aluminum?
18 A Sure.
19 Q And not all the testing was done, but at some
20 point folks started figuring out this application, this use
21 of aluminum in this application is not appropriate, it's
22 not working?
23 A That's right.
24 Q So there are instances where a metal is used in a
25 certain application, and it's not always the appropriate

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1 application for that metal?
2 A Yes, ma'am.
3 Q And do you have any opinion in regard to -- well,
4 strike that.
5 Okay. Paragraph 6, this is also sort of
6 joined with Paragraph --
7 A Yeah.
8 Q -- 5 --
9 A Yes, it is.
10 Q -- and its content, and it's talking about other
11 types of aluminum foil backed products. We talked about
12 the roll insulation, and you mentioned earlier the foam
13 insulating board?
14 A Yes.
15 Q Can you tell me where that's installed in a home?
16 A That's installed around the perimeter walls.
17 Q On the inside or the outside of the house?
18 A Normally, the outside.
19 Q And when that's installed, is the aluminum foil
20 backing facing the interior of the home or the exterior of
21 the home?
22 A Exterior.
23 Q Do you know how foam insulating board is attached
24 to a structure?
25 A Normally, it's just been nailed on.

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1 Q And is it -- is it your understanding that it's
2 nailed to the framing of the house, to the wood rafters of
3 the house?
4 A Well, it would be to the studs, but yes.
5 Q The studs. Okay.
6 And in Paragraph 6, when you say the use of
7 aluminum in residential construction is not novel, but a
8 time-honored practice?
9 A Yes.
10 Q Are you referring to all products that use
11 aluminum or just to the aluminum foil backed products?
12 A Aluminum foil backed products, ma'am.
13 Q Do you know when roll insulation was first
14 introduced -- what -- what is roll insulation? I mean --
15 A Essentially, it's fiberglass that's been made to
16 adhere to like a layer of paper, then backed with a layer
17 of aluminum.
18 Q And is that -- do you know where -- where that is
19 typically installed in a home?
20 A You can install it -- install it in the walls or
21 you can install it in the attic or you can install it at
22 the top of the rafters.
23 Q Is that a typical practice, to install the
24 insulation on the roof line rafters?
25 A In -- in parts -- I've seen it used many times in

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1 Texas.
2 Q Okay. Do you know what the practice is in North
3 Carolina?
4 A I do not.
5 Q Okay. Okay. If you will turn to Paragraph 7.
6 A Yes, ma'am.
7 Q You state in the last sentence, "There's nothing
8 unexpected in the use of aluminum in the TechShield to
9 serve its intended use in residential construction"?
10 A Right.
11 Q Will you tell me what you mean by this, why you
12 include it in your report?
13 A Let me read the whole paragraph. Okay. What --
14 what -- what I'm trying to say there is we need a product
15 that is radiant. Copper is impractical because it
16 tarnishes. We can't afford gold or silver. Silver
17 tarnishes and is expensive. We know the problem with gold.
18 It would be excellent, but we can't afford it; therefore,
19 we find a material that will work well and that, relative
20 to the others, is both functional and inexpensive. That's
21 copper -- I'm sorry -- that's aluminum. No surprise.
22 Q Okay. I mean, is -- does go back to what you
23 were telling me earlier that there really is no alternative
24 design to the use or to TechShield in its use of aluminum
25 laminate?

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1 A There really isn't.
2 Q I mean, is -- is there any way to make this
3 product less likely to conduct energy when it's struck by
4 lightning?
5 A Well, you then run into the test of -- well,
6 we -- we might try and come up with some other material,
7 but then we -- we lose our, you know, very low emissivity
8 which is what's desired. It's -- it's -- it's kind of a
9 tradeoff. But the utility of the product would be, you
10 know, severely hampered to go to, you know, another
11 compound.
12 Q Are you aware of any instance or any products --
13 or strike that.
14 Are you aware of any product that is a
15 spray-on radiant barrier sheathing?
16 A Well, I did review -- the answer is yes.
17 Q Okay. And tell me what you reviewed in regard to
18 that product.
19 A Well, Mr. Simmons suggested a company and I went
20 and looked it up. And they -- they gave numbers as to
21 their emissivity, and it was much higher than -- than
22 what -- per Mr. Dellwo says is allowed per, as an example,
23 the California standards.
24 Q Was it higher than the standards required in
25 Austin?

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1 A If I -- I'll explain about Austin. I don't think
2 Austin, per se, has a -- a -- a numeric figure for
3 emissivity. It's just that what was explained to me was,
4 in order to meet the Austin efficiency requirements for a
5 house, this is the -- the practical solution is to use a
6 radiant barrier product, not a spray-on.
7 Q Do you -- do you know that the spray-on would not
8 meet the standards that are required by Austin?
9 A No, I do not.
10 Q Do you know whether North Carolina has any of the
11 standard requirements or that -- the requirements that
12 you've been discussing that Austin has?
13 A I do not.
14 Q Let's turn to Paragraph 8.
15 A Yes.
16 Q And this paragraph has to do with your criticisms
17 or this -- I guess it's not a sole paragraph, because it's
18 got four points under it, but it has to do with your
19 criticisms of McDowell Owens's testing as of November 5th,
20 2010?
21 A Yes.
22 Q And as I understood from earlier, you have not
23 seen any testing done by McDowell Owens after November 5th,
24 2010?
25 A Well, I've not seen a video. I was present at

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1 Mr. Simmons's deposition to understand what he -- what he
2 told us about it.
3 Q Okay. In regard to what he told you during
4 the -- his deposition that you sat in on, does that change
5 anything that you've included in your report in regard to
6 criticisms of McDowell Owens's testing?
7 A No.
8 Q Okay. I'm just to trying to figure out -- I
9 think you've covered the 60 Hertz and the DC electrical
10 energy. Why is it you say that the testing cannot be used
11 to interpolate as to how TechShield would perform when
12 exposed to fast wave, short duration energy?
13 A Why? A number of reasons: One is skin effect.
14 Number two is the amount of energy that you're using to
15 develop a fire. Number three would be just the transient
16 nature of heating from a fast pulse relative to a -- what's
17 not a pulse or impulse, but, you know, roughly five to five
18 and-a-half minutes of continued energy.
19 Q Where are you getting the five to five and-a-half
20 minutes of continued energy?
21 A Well, that's in one of his reports where he
22 tested for like 310 seconds.
23 Q Is it your opinion that you don't believe that if
24 a material can catch fire or combust at a lower voltage or
25 amperage that it will also catch fire at higher values,

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1 those items?
2 A Okay. I'll explain it real carefully. You have
3 left out the critical element of time.
4 Q Okay.
5 A Current -- current -- particularly, the factor of
6 current squared times time is engineering shorthand for
7 essentially energy. The units are amperes squared seconds.
8 You need an impedance involved, but all other things being
9 equal, electrical engineers are taught this quantity, I
10 squared T, and that that's proportional to the energy input
11 into a system. Those numbers need to be similar, and
12 they're not.
13 Q Okay. If the time or the duration is the same
14 and the metal is the same, the only thing that changes is
15 the amount of voltage that's put into this equation. If
16 it's going to combust at the lower voltage, is it going to
17 combust at the higher voltage?
18 A I think you need to be asking about current --
19 Q Okay.
20 A -- but the answer is yes.
21 Q Okay. All right. Let's go to the second
22 paragraph.
23 A Okay.
24 Q And it says, "The McDowell Owens article talks
25 about the impassity, the lack of theoretical basis for

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1 calculating same, and the need for determining the
2 impassity in the actual application." What does that mean?
3 A It -- in the paper, they were trying to determine
4 the impassity, how much current could this aluminum carry.
5 That's what -- that's what they're trying to do.
6 Q Before it combusts?
7 A Well, essentially, before it brings on combustion
8 in the paper, but yes. And then they went on to test with
9 50 -- 50 amperes rather than the more appropriate value
10 which would be something on the order of lightning current.
11 Q And again, your criticism is is that -- is that
12 they can't -- if they -- if they prove something at a lower
13 impassity that it will combust or heat to a point where it
14 will combust, that you can't take that and then prove that
15 at a higher impassity, it will get to that point and
16 combust?
17 A That -- that's right. Really, the energy levels
18 need to be pretty similar.
19 Q Tell me about the ANSI/IEE c62 Standard. What is
20 this standard?
21 A Well, there's a number of standards there,
22 probably 20 or 30. They are a series of standards that
23 describe a standard waveform for testing electrical
24 components that are to be used in a lightning environment.
25 Q And why do you think that that's the appropriate

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1 standard to use and to conduct testing pursuant to -- in
2 this particular --
3 A Sure.
4 Q -- case?
5 A Sure. Because what Mr. Simmons is stating is
6 that, hey, this product is failing due to lightning. And
7 all I'm saying is, you know, there's a lot of objects or a
8 lot of pieces of equipment or components that are tested to
9 see if they fail or how they react when lightning is --
10 lightning waveforms are imposed upon them. That work's
11 already done. This is what -- this is how the testing
12 ought to be, you know. This -- this is a very easy way to
13 test, is to go to a lightning lab and say, let's put this
14 in and see what happens, if that -- if that's his premise.
15 Q And it -- it is -- so it's an easy test to have
16 accomplished? I mean --
17 A That's -- it's -- it's going to be expensive, but
18 there are lightning labs that can do that, yes.
19 Q But you haven't done it, correct?
20 A Right.
21 Q Okay. And have you told Louisiana Pacific that
22 they ought to do it?
23 A No.
24 Q And as far as you know, Louisiana Pacific hasn't
25 done it?

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1 A Correct.
2 Q Is it your understanding that the McDowell
3 Owens's position is that they are attempting to show that
4 lightning can damage the TechShield?
5 A Yes.
6 Q It's not your understanding that they're
7 attempting to show that ener- -- electrical energy can
8 damage the TechShield?
9 A I read it as lightning.
10 Q And I think we've covered Number 2, the second
11 opinion about the purity?
12 A Yes.
13 Q When you're talking about Number 3, you say in
14 that last sentence, you're talking about ablation and
15 things that you've observed in the houses that you've
16 actually visited, correct?
17 A Yes.
18 Q Okay. And you state that there was no fire
19 present in many of these instances?
20 A Yes.
21 Q That doesn't mean there was no fire present in
22 any instance, correct?
23 A Correct.
24 Q So there are times when you've seen ablation and
25 you've seen the presence of combustion?

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1 A Yes.
2 Q Okay. In the fourth paragraph, you're talking
3 about the melting point of aluminum and the temperatures
4 of -- that fires reach?
5 A Yes.
6 Q What is it you say -- as I understand it, you're
7 saying that because the temperatures of a fire can reach a
8 temperature that is beyond the melting point of aluminum,
9 that there are times that all you can tell is that the
10 aluminum has melted?
11 A Yes.
12 Q Okay. Why does that make the McDowell Owens's
13 conclusions concerning the cause of melted aluminum in a
14 residence speculative?
15 A Well, as I understand their paper, what they're
16 saying, if you get this melted aluminum and it catches the
17 paper on fire, certainly at some point the level of
18 current -- that can happen. But if you have nothing to
19 look at when it's all gone, it's just as easy to say
20 something else caused the fire, number one. And number
21 two, it melted the aluminum, and once the aluminum is
22 melted there's really nothing to -- to evaluate.
23 Q Are you saying in those areas where there is
24 ablation and you have a nail and paper, but you can clearly
25 see that the aluminum metal is missing, that there's

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1 nothing in that regard to evaluate?
2 A No. No. What I'm saying is once you reach these
3 excess -- they're not even access. Once you -- once you
4 reach these hot fire temperatures, you've -- it destroys
5 the -- any evidentiary patterns you might be looking for in
6 the area where the fire started.
7 Q I think we have discussed at least all the
8 questions I wanted to ask you in regard to Paragraph 9 or
9 Opinion 9.
10 A Okay.
11 Q And in regard to Opinion 10, can you tell me the
12 basis for making the assertion that the presence of
13 TechShield does not present an increased risk of
14 lightning-related fire when lightning strikes a home which
15 it is -- in which it is installed?
16 A Yes, ma'am. That is a -- a poor choice of words
17 on my part.
18 Q Why is that?
19 A The -- the better way of explaining this would
20 have been to state that I have seen nothing that leads me
21 to believe that TechShield increases that -- that lightning
22 risk. One would need to do a -- a very in-depth
23 statistical analysis, and I haven't seen anything like that
24 to -- to say that given the presence of TechShield in a
25 house, all other things being equal, this house is more

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1 likely to catch on fire than one that does not have
2 TechShield.
3 Q Anything else you want to tell me in regard to
4 how you just revised your Number 10 paragraph in your
5 opinions?
6 A No.
7 Q Okay. Do you know whether there's any code in
8 North Carolina that requires the grounding of a roof?
9 A I do not.
10 Q Was there any reason anyone would consider
11 grounding a roof from a electrical standpoint?
12 A Well, one, if they're putting a lightning
13 protection system on it, number one. Number two, let me
14 back up. Let's re-ask that question again.
15 Q Okay. I'm not really sure what it was, but I'll
16 try. I'll do my best. Do you know why anyone would
17 consider grounding a roof?
18 A Okay. I -- I made an assumption on that -- in
19 that answer. It -- it makes no sense unless it's a -- a
20 metal roof. But if it is a metal roof, it would not be
21 uncommon to have it grounded in the sense that if you put
22 exhaust fans in, as an example, or mount some type of
23 antenna, you know, solar cell collectors, that would result
24 in a grounding of the roof. In addition, if you've got,
25 say, a steel exhaust ducts with aluminum inside, they're

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1 attached, say, to an electric -- a gas furnace with an
2 electric motor, that would ground the roof.
3 Q Okay. And are you talking about metal roofs in
4 those instances --
5 A Well --
6 Q -- grounding those or just any roof in general?
7 A Well, you -- we -- there really is --
8 THE VIDEOGRAPHER: I'm so sorry. The tape
9 is about to run completely out.
10 MS. MACLEOD: Sorry. Let's go off record.
11 THE VIDEOGRAPHER: Going off the record at
12 3:50.
13 (Break taken from 3:50 p.m. to 4:05 p.m.)
14 THE VIDEOGRAPHER: We're going back on the
15 record at 4:05 with Tape 6.
16 (Exhibit Number 92 was marked.)
17 Q (BY MS. MACLEOD) Mr. Goodson, I am going to hand
18 you what I've marked as Exhibit 92.
19 A Sure.
20 Q And this is a document called "Investigating the
21 causal link between lightning strikes, comma, CSST and
22 fire," and it was authored by you and Mark Hergenrether --
23 A Yes.
24 Q -- correct?
25 A Yeah.

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1 Q Is Mark an employee -- or I should say, Mark
2 Hergenrether an employee of Goodson Engineering?
3 A Yes. I'm sorry. He was. He was at the time
4 this was written, yes.
5 Q Okay. And what role did you play in the creation
6 of this article?
7 A Just one of the authors, two of us.
8 Q Okay. And was this article peer reviewed?
9 A Yes.
10 Q What does it mean to be peer reviewed?
11 A That means that the publishing committee or
12 publishing agency has a system whereby other fire
13 investigators, engineers, fire scientists review the
14 article and determine whether or not it's worthy to be
15 published.
16 Q And when was this article written?
17 A Roughly 2004.
18 Q Okay. And was it published anywhere?
19 A Yes.
20 Q Where was it published?
21 A Fire and Arson Investigator.
22 Q And where is Mark Hergenrether employed now?
23 A He started his own company up in Sanger, Texas.
24 Q When did he do that?
25 A Almost three years ago.

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1 Q And this is an article you wrote about failures
2 you had seen in CSST when the CSST was insulted by
3 lightning, correct?
4 A Yes.
5 Q Do you still hold the opinions and information
6 that you provided in this article as true?
7 A That's -- with all due respect, I don't believe
8 this is the article that was published.
9 Q I am not sure -- this is certainly one that is
10 available if you type in various key words it can be --
11 A The reason I say this, this looks like -- it
12 looks like what it went through before peer review.
13 Q Okay.
14 A Because I believe we took out the references
15 to -- to -- as an example, on Page 4, Gause's Law.
16 Q Okay. Well, let me hand you what I've marked as
17 Exhibit Number 93.
18 (Exhibit Number 93 was marked.)
19 A Sure.
20 Q (BY MS. MacLEOD) What is this article?
21 A This is from the Fire Materials conference of
22 2005, very similar to what we just talked about in the
23 prior article.
24 Q Okay. Is this the result of the first article
25 being peer reviewed, and this is what ended up and was

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1 published in the Fire Materials 2005?
2 A Not quite.
3 Q Okay. So there's another article out there that
4 was actually the one that was published?
5 A Yes.
6 Q Okay. I don't have that one with me today.
7 Okay. Let's look back at Exhibit 92. Do
8 you know when CSST was first introduced to the U.S.
9 markets?
10 A Roughly 1988.
11 Q And before it was introduced into the market,
12 ANSI standards were developed for it; is that correct?
13 A Yes.
14 Q And in under -- on Page 1 under CSST development
15 in that first paragraph, you state in the second to last
16 paragraph -- sentence of Paragraph 1 under CSST
17 development, "In analyzing CSST, it is important to note
18 that we can find no evidence of testing for lightning
19 resistance during product development." Why is that
20 important?
21 A Where are we at? I'm sorry. Page?
22 Q Page 1 of --
23 A Well --
24 Q -- Exhibit 92.
25 A That's what's wrong. Okay. Oh, okay. Okay.

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1 Because at that point in time I had seen a number of fires
2 from gas appliance connectors, some failing from lightning.
3 It was a known hazard. I wrote about it back in 1999 that
4 these could fail, and one of the manifestations -- the
5 reasons for failure was -- was lightning. And it was a
6 real surprise that lightning testing wasn't done given that
7 CSST is essentially a gas appliance connector just hundreds
8 of feet long.
9 Q Okay. In Paragraph 2 -- well, first let me ask
10 you. Have you found any evidence that TechShield was
11 tested for lightning resistance during the product
12 development?
13 A No.
14 Q In Paragraph 2, it talks about an installer
15 program where installers are trained how to install CSST.
16 Do you -- are you aware of any -- whether TechShield or
17 Louisiana Pacific requires installers of TechShield to take
18 a training certif- -- certification course before
19 installing TechShield?
20 A No.
21 Q And do you believe there should be a training
22 course before installing TechShield?
23 A No.
24 Q As you sit here today, do you have any idea how
25 many pieces of OSB sheathing TechShield that have been

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1 installed in the United States from the date the product
2 was first introduced to the market?
3 A No, ma'am.
4 Q Do you know the date that the product was first
5 introduced to the market?
6 A As I understand it, roughly '90, '91, something
7 like that.
8 Q TechShield with the aluminum sheathing laminated
9 to it?
10 A I believe that's right.
11 Q If I can, will you hand me Exhibit 63, the big
12 stack of your stuff.
13 A Sure. (Witness complied.)
14 Q If you will, I'm going to have you look at the
15 U.S. patent that you have provided to me in Exhibit 63.
16 A Okay. Yes.
17 Q Does that give you any indication of perhaps when
18 the -- that the product wasn't introduced in the market as
19 early as 1991?
20 A Are you asking me based on this patent is it more
21 likely that it came on in '99 than '91? Is that what
22 you're asking?
23 Q Yeah. What's the date on that patent?
24 A Well, it was issued in 2001. It was filed for in
25 '99.

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1 Q So it doesn't give you any greater insight. I
2 just thought I'd have you look at it.
3 A No, ma'am.
4 Q But as to when the product --
5 A No, ma'am.
6 Q So the best of your recollection is 1991?
7 A Yes.
8 Q Okay. Have you done a -- or let me strike that.
9 How much testing have you done in regard to
10 CSST?
11 A Conservatively, hundreds of hours.
12 Q Have you ever undertaken any testing to CSST
13 where you've subjected it to electrical current?
14 A Yes.
15 Q And why did you subject it to electrical current?
16 Why did you do that testing?
17 A Okay. There have been specific questions raised
18 as to whether or not -- there's several questions. One, to
19 compare the ability to pierce CSST with electrical energy
20 off of wall current comparative to black pipe. Secondly,
21 there have been questions raised if electrical wire arcs to
22 CSST, then creates a hole, will it leave a copper residue,
23 can that be detected on the CSST.
24 Q And in the testing where you undertook to apply
25 electrical current equal to that that runs through a

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1 residential home to the CSST, were you able to create a
2 hole in the CSST?
3 A Absolutely.
4 Q And that was testing you thought was necessary to
5 support the opinions that you were offering in CSST cases?
6 A Well, some of the opinions.
7 Q Yes. Okay. And on Page 3 of this article,
8 that's entitled "Failure Aspects," correct?
9 A Which -- which exhibit, please?
10 Q The same one, 92.
11 A Okay. Yes.
12 Q Okay. And the first failure aspect of CSST is
13 that the metal utilized in the CSST is extremely thin,
14 correct?
15 A Yes.
16 Q Do you know whether the metal utilized in CSST is
17 thicker than the aluminum used on the TechShield?
18 A I know.
19 Q You don't?
20 A No, I do know.
21 Q Oh, you do know. Can you tell me.
22 A It's much thicker.
23 Q Much thicker than the aluminum on the TechShield?
24 A Yes.
25 Q Okay. Do you know how much thicker? Is that

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1 something that you can --
2 A Roughly, 10 to 12 times thicker.
3 Q So when CSST is energized by electrical current
4 from a lightning strike --
5 A Yes.
6 Q -- and the CSST is perforated, the fuel ignited
7 is typically the gas that's traveling inside the CSST?
8 A Yes.
9 Q Do you know how the NFPA defines a fuel?
10 A No.
11 Q Is your argument in regard to CSST versus plat --
12 black pipe that the thinner the metal, the more easily it
13 is perforated by electrical current?
14 A That's one of the arguments.
15 Q And in the testing that you did in regard to
16 determining if CSST could be damaged by electrical current
17 was the use of a 120-volt system?
18 A Yes, ma'am.
19 Q When you did testing of CSST, were you able to
20 emulate the electrical current that you would find in
21 lightning?
22 A No.
23 Q But that didn't stop you from doing the testing
24 on the CSST?
25 A That's right.

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1 Q And you've mentioned some equation that -- more
2 than one, though I can't -- could not repeat them back to
3 you. Were those the -- were any of the equations a
4 mathematical formula that you found on Page 3?
5 A No.
6 Q Tell me what the measurement or mathematical
7 formula that's on Page 3 is calculating.
8 A Basically, how much heat is necessary on a first
9 order of approximation to bring out to -- bring about a
10 hole in different types of metal, be it stainless steel,
11 black pipe, aluminum or copper.
12 Q So in this formula, it's basically calculating
13 how much energy you need to melt metal?
14 A Essentially.
15 Q And in this formula, the mass of the metal
16 matters in regard to the amount of heat that's needed to
17 cause that melting, correct?
18 A That's right.
19 Q Have you used this mathematical formula to
20 determine whether TechShield will fail when electrical
21 energy is placed or run through the TechShield?
22 A No.
23 Q And again, why not?
24 A Well, one, we know -- one, we know it'll fail.
25 Given enough energy it is going to fail. Secondly, we also

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1 know that if we have a lightning that just catches the wood
2 on fire, that wood has combustion temperatures that will
3 bring about failure of the material.
4 And I need to add -- something else you had
5 asked early on with -- looking at this paper, you -- you
6 said why -- why not the testing -- or why did it surprise
7 you there was no test for lightning. If you read the
8 lightning code, 780, there is in the appendix one of the
9 provisions for when a lightning system might be installed
10 is the presence of, as I recall, piping systems carrying
11 fuel gas. And so that would be another reason that you
12 would want to test a piping system for lightning
13 resistance, is because it meets that criteria in the
14 appendix of NFPA's 780.
15 Q You just mentioned the temperature for combustion
16 or you were talking about the combustion of wood --
17 A Yeah.
18 Q -- as a result of electrical insult from
19 lightning. Do you know whether the wood rafters in the
20 Taylor home were treated in any way?
21 A I do not.
22 Q What about the OSB?
23 A I don't know.
24 Q Do you know what the age of the wood rafters in
25 the Taylor home were?

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1 A No, ma'am.
2 Q And do you know the age of the OSB installed in
3 the Taylor home?
4 A No.
5 Q Do you know which ignites more readily, paper or
6 wood rafters?
7 A Well, if you're talking about a strip of paper or
8 a sheet of paper versus a wood rafter, it's going to be the
9 paper.
10 Q Do you know what ignites more readily, a piece of
11 paper or OSB sheathing like that used in the TechShield?
12 A Wait a minute. I'm -- could you ask that again,
13 please.
14 Q Sure. Do you know what ignites more readily, a
15 piece of paper or the OSB that's used in the TechShield
16 product?
17 A All other things being equal, it would be a piece
18 of paper.
19 Q Which ignites more readily, styrofoam vents or
20 wood rafters?
21 A Probably the styrofoam vents.
22 Q What ignites more readily, the styrofoam vents or
23 a piece of OSB similar to that installed in the TechShield
24 product?
25 A Probably the styrofoam vent.

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1 Q Which ignites more readily, aluminum sheathing
2 with a thickness of one mil or a wood rafter?
3 A Wait. What -- what was that again?
4 Q Which ignites more readily, aluminum sheathing
5 with a thickness of one mil or a wood rafter?
6 A If you're using the same size torch on both, it's
7 going to be your OSB.
8 Q And that -- would that be true in regard to
9 aluminum sheathing and a wood rafter? That the wood rafter
10 is going to ignite more quickly than the aluminum?
11 A Let's start over. I want to make sure I answered
12 the right question.
13 Q Okay. Which ignites more readily, the aluminum
14 laminate of a thickness of one mil or a wood rafter?
15 A Oh, okay. It's going to be the wood.
16 Q Okay. Why is that?
17 A Well, aluminum is pretty hard to get to ignite.
18 It's a -- it's a metal. It's not readily combustible.
19 Q Okay. And its melting temperature -- so you --
20 but you don't know what its combustion temperature is,
21 correct?
22 A Right. It -- I know it's going to be something
23 above, you know, roughly probably 3,000 degrees. It
24 melts -- I'm sorry -- it boils at roughly 2,500 degrees, so
25 I believe combustion would be above that.

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1 Q And it melts at?

2 A Roughly 1,200 degrees.

3 Q Do you know whether aluminum sheathing with a

4 thickness of one mil is going to melt before a wood rafter

5 ignites?

6 A Say that again.

7 Q Do you know whether a piece of aluminum laminate

8 with a thickness of one mil is going to melt before a wood

9 rafter ignites?

10 A You know, it really -- really can't -- can't be

11 answered.

12 Q Okay. I believe, as I understand, that your

13 testimony is that wood can burn if it's struck by

14 lightning?

15 A Yes.

16 Q Does it catch fire every time it's struck by

17 lightning?

18 A No.

19 Q What are some of the factors that you would

20 consider in regard to whether it catch -- caught fire or

21 not?

22 A Well, the orientation of the wood, the age of the

23 wood, whether -- whether or not it's in a position to trap

24 heat, that's number one. But number two, one of the -- the

25 biggest factors is going to be the nature of the lightning,

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1 whether it's, as an example, hot or cold lightning.

2 Q Okay. Would the wood, in order for it to catch

3 fire, have to be struck directly?

4 A No.

5 Q Why do you say that?

6 A Well, if -- you can have electrical energy come

7 down from the lightning strike and essentially energize

8 part of a house, and then you get a -- that breaks down the

9 fields within the house and creates ionization, and you can

10 get continuing currents to flow, and the continuing

11 current -- continuing current could light off the wood.

12 Q Okay. You -- I wanted to finish that train of

13 thought before I went on and asked you what you meant by

14 hot and cold lightning?

15 A Okay. Per Uman's book and the National Weather

16 Service and generally accepted, that hot lightning is what

17 causes fires. And what that means is you have a

18 lightning -- lightning event, but instead of stopping very

19 rapidly it continues on for a few tenths of a second, maybe

20 up to a second with what's known as continuing current

21 that's around 100 amperes. And that's -- that's when a lot

22 of heat is -- is created by this resist -- resistive

23 heating by the 100 amperes or current flow.

24 And in cold -- cold lightning does not -- is

25 not believed to cause fires by ignition of, say, wood or

Page 187

1 something like that. The energy just isn't there.

2 Q In rendering any of the opinions that you offer

3 in your report, does it matter whether the lightning that

4 struck the Taylor home was hot or cold lightning?

5 A Not -- not in rendering my opinions, no.

6 Q Okay. Do you know whether the lightning that

7 struck the Taylor home was hot or cold lightning?

8 A Okay. What's generally accepted is that it would

9 have -- it's hot lightning that causes fires, not cold

10 lightning. The exception to that would be, as an example,

11 let's suppose you had a gas leak already in existence or a

12 flammable gas or gasoline or some vapor space that's easily

13 ignited by -- by an arc. Cold lightning could ignite --

14 could light those off, but generally, it's hot lightning

15 that -- that ignites trees, forest fires, pieces of

16 structural lumber, things like that.

17 Q And how are people measuring that to come up with

18 the determination that that's generally hot lightning

19 that's causing those events?

20 A Well, one of the ways -- and I -- I -- you know,

21 I read a paper on it recently, was forest fires were

22 occurring. I forget what state, but they were using planes

23 to circle these forests overhead. And they were using

24 instrumentation to measure lightning events and the length

25 of those lightning events, and they were able to

Page 188

1 essentially triangulate and determine where the fires

2 started and associate those with particular lightning

3 events. And what they determined was the lightning events

4 starting the fire were essentially caused by hot lightning.

5 Q How did they come to that conclusion?

6 A Oh, because when you have a lightning event, it

7 creates a radio frequency signal, and they measure just the

8 length of those signals as to whether it was very short

9 lived, very long lived. That's the impression I get

10 reading the paper.

11 Q Do you know the name of that paper or --

12 A I've got it here.

13 Q In all of this stuff?

14 A Yes, ma'am.

15 Q Is it -- is it in the exhibit in the stuff you

16 produced?

17 A Yes.

18 Q Great.

19 If you'll turn to Page 4 of Exhibit 92.

20 A Okay.

21 Q In the top paragraph, it states, "Thus the

22 thickness of black pipe is critical to prevent fires post

23 lightning strike." Do you still agree with that statement?

24 A Yes.

25 Q If you will look down at the chart energy versus

Page 189

1 material?
2 A Yes.
3 Q There is a column there that represents the
4 material being aluminum?
5 A Yes.
6 Q And that is aluminum that has a thickness of .035
7 inches, correct?
8 A I'll check the prior page. Yes, ma'am.
9 Q And how much thicker is the wall thickness for
10 that aluminum tubing that you were using than the thickness
11 for the TechShield at one mil?
12 A The factor of 35.
13 Q So 35 times thicker?
14 A Yes, ma'am.
15 Q Based on the calculations that you've done, how
16 much more energy is required to melt black pipe than it is
17 to melt the aluminum that you've used in this example?
18 A Oh, roughly a factor of eight.
19 Q Okay. So if you were trying to figure out the
20 difference between black pipe and the one mil aluminum
21 laminate on TechShield, would you multiply that number you
22 just gave me by 35 to figure out what the difference is?
23 A Yes.
24 Q And you could do that same kind of calculation
25 that you and I just did to determine the difference between

Page 190

1 CSST and aluminum?
2 A Yes, ma'am.
3 Q As well as copper, the difference between copper
4 and aluminum?
5 A Yes.
6 Q Okay. Under the failure aspects of this article,
7 would you agree that the focus is on the thinness of the
8 metal?
9 A Yes.
10 Q And do you still agree that the failure aspects
11 of CSST are the thinness of the metal?
12 A Yes.
13 Q And this article in 2004 is talking about the
14 fact that fires attributable to CSST are increasing. Do
15 you see that at the bottom of Page 4?
16 A Yes.
17 Q And when you're talking about fires attributable
18 to CSST, you're talking about the damage effects that
19 lightning energizing a CSST pipe is having on that CSST
20 pipe?
21 A Yes.
22 Q Okay. Would you agree with me that there was at
23 some point a time when folks were not aware of the failure
24 aspects of CSST?
25 A Yes, ma'am.

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1 Q And that there was a -- a learning curve and a
2 time period in which the problems with CSST came to be
3 known?
4 A Yes, ma'am.
5 Q On Page 5, when you were writing this article and
6 doing research and trying to figure out what was going on
7 with CSST, as part of your research you interviewed fire
8 department officials in Arlington, Texas, correct?
9 A Correct.
10 Q Have you interviewed any fire department
11 officials anywhere in regards to TechShield?
12 A No, ma'am.
13 Q Do you know when the CSST industry first became
14 aware that there may be an issue with lightning-induced
15 fires resulting from CSST?
16 A Yes.
17 Q What year was that?
18 A Roughly '97 or '98.
19 Q Okay. And then as of 2005, at that time you'd
20 encountered five fires that you thought were attributable
21 to lightning and CSST, correct?
22 A I had personally investigated roughly that many,
23 yes, ma'am.
24 Q Okay. Do you know as of the 2005 time frame how
25 many existed at that time beyond the five that you had

Page 192

1 personally been involved with?
2 A Well, I know Frisco had -- had four or five
3 fires. Carmel, Indiana had had six. Donan Engineering did
4 investigations in Ohio and Indiana and had come up with, I
5 believe, 10 or 15.
6 Q Okay. And in this article, you are not just
7 saying that lightning causes fires, correct?
8 A Correct.
9 Q I mean, you're saying that the electrical energy
10 from a lightning strike interacting with CSST and
11 energizing that CSST is what's causing the fires?
12 A That's right.
13 Q In the Edmond, Oklahoma case that's listed on
14 Page 5?
15 A Yes.
16 Q It talks about two runs of CSST, each serving a
17 metal chimney comprised of CSST piping in the house. Do
18 you know whether that CSST was electrically connected to
19 those chimney portions of the home?
20 A It was not connected over the chimney, no.
21 Q Okay. Do you know if it was otherwise
22 electrically connected?
23 A You asked me if it was ground and mounted?
24 Q No, no, no, no. I was just asking if it was
25 electrically connected to the chimney -- the metal chimneys

Page 193

1 in the home.
2 A No.
3 Q Was it -- so it wasn't -- the CSST did not go to
4 the fireplace in that home?
5 A No. It went to the fireplace, but the -- the
6 base of the fireplace was masonry.
7 Q Okay. What about the metal piping that came down
8 into the box?
9 A No connection.
10 Q And the -- despite the manufacturers having some
11 knowledge of lightning-induced CSST fires, in the 1997,
12 1998 time frame, the class action lawsuit wasn't filed
13 until November of 2004, correct?
14 A I think that's right.
15 Q Okay. Do you know when the first CSST lawsuit
16 was filed?
17 A I do not.
18 Q All right. On Page 8 of that report?
19 A Sure.
20 Q Under investigating CSST fires after a lightning
21 strike?
22 A Yes.
23 Q In the second paragraph there, it talks about
24 a -- locating a hole in the area of tubing where the
25 polymer coating had no fire damage; do you see that?

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1 A Yes.
2 Q Do you know what causes that?
3 A It was lightning.
4 Q Do you know why the tubing would be damaged but
5 the polymer coating would have no fire damage?
6 A Sure.
7 Q Will you tell me?
8 A Just what you have there. There were no nearby
9 combustibles and when it punched the hole in the CSST and
10 the polymer jacket, the gas just shot out (indicating).
11 And anytime gas leaves a jet, there's a gap (indicating)
12 which is actually cooler than -- much cooler than the
13 flame; in fact, it's cooler than the air around you.
14 Normally, you got this cool zone and this flame shooting
15 out. There's nothing combustible for it to hit and catch
16 fire on, and so it just sits there and -- and you have a
17 flame just running unabated.
18 Q Sort of like a blow torch?
19 A A small one, yes.
20 Q Okay. The same paragraph talks about during a
21 fire investigation the leaks and subsequent fire
22 development must support the area of origin or the leaks
23 would appear to be of little consequence.
24 A Yes.
25 Q In investigating the effects of energization from

Page 195

1 lightning on CSST, have you ever had the opportunity to see
2 a piece of CSST that has more than one hole in it?
3 A Absolutely.
4 Q And in those times when you have seen more than
5 one hole, have you found times where some of those holes
6 are outside the area of origin?
7 A I believe that's correct, yes.
8 Q Okay. So the -- you find evidence of damage from
9 electrical energy from a lightning strike that was not the
10 cause of the fire -- you find that damage on the CSST and
11 it was not the cause of the fire, correct?
12 A That's a different question.
13 Q Yes, it is. Okay. Let me ask it again, because
14 it's a different question from the last one, but it's all
15 part of the core question that I meant to ask. Okay. So
16 you see a piece of CSST that has several holes, and some of
17 those holes are outside the area of origin?
18 A Sure.
19 Q But they have been caused by electrical
20 energization from a lightning strike?
21 A No.
22 Q Okay. What have they been caused by?
23 A Electrical wires that are laying adjacent to it.
24 Then the fire comes. The heat from the fire destroys the
25 polymer jacketing, destroys the insulation on the wiring,

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1 the wiring shorts to the CSST, blows a hole in it.
2 Q Okay. Have you ever seen an instance where a
3 lightning strike -- the lightning strike -- the electrical
4 energy from the lightning strike itself causes more than
5 one hole?
6 A Yes.
7 Q Okay. And some of those holes are outside the
8 area of origin?
9 A No.
10 Q Okay. You've never seen that?
11 A No.
12 Q More than one hole outside the area of origin
13 caused by the electrical energy?
14 A No.
15 Q Okay. Did -- is it your opinion that that is not
16 a possibility that that scenario cannot happen?
17 A I'm going to say I don't understand how it can
18 happen because you have a -- you have a blow torch right
19 there. And with the hole in the gas leaking out, there
20 should be a flame there.
21 Q Well, didn't you tell me that there -- you knew
22 of an instance where there was no combustible and no other
23 combustibles in the area and the house didn't ignite there?
24 A Right. Then -- then we don't have an area of
25 origin.

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1 Q I'm wondering if we're communicating here
2 because --
3 A Well --
4 Q Yeah. So let me try again, because I'm sure it's
5 my question. A piece of CSST tubing has more than one
6 hole?
7 A Yes.
8 Q Some of the holes are outside the area of origin?
9 A Okay.
10 Q Have you seen that scenario?
11 A I have.
12 Q Okay. Have you seen the scenario where there is
13 a hole outside the area of origin which also has a hole
14 that was caused by electrical energy? Have you ever seen
15 that scenario?
16 A Sure.
17 Q Okay. But not from lightning, is what you're
18 telling me?
19 A That's right.
20 Q Okay. You haven't seen that scenario where there
21 are two holes caused by electrical energy from lightning,
22 one of them in the area of origin and one of them in the --
23 outside the area of origin?
24 A Well, let me -- let me -- I remember -- let me
25 just answer as best I can.

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1 Q Okay.
2 A The fire you're talking about with this little
3 hole, the area of origin was probably 6 inches above there
4 (indicating). Relative to a 5,000-square-foot house, six
5 inches -- to me that's the area of origin. The -- the
6 holes that were above it, there were three more, I believe,
7 created. We had a total of four holes. They were
8 impinging upon combustibles, but within a one-foot space
9 (indicating), I mean, to me that's reasonable that that's
10 in the area of origin even though there were no
11 combustibles around this fourth hole.
12 Q Right. And I'm not limiting it to this one case
13 in here. I mean, you've investigated over 200 CSST fires?
14 A Yes, ma'am.
15 Q And I really was talking about your collective
16 experience, whether you have ever seen a situation where
17 there's a piece of CSST where there are two holes, both
18 caused by the electrical energy from a lightning strike in
19 which one is in the area of origin and one is outside the
20 area of origin?
21 A Not that I can recall. The -- the way I could
22 see that happening is if you had CSST that got punctured
23 inside a house, but then you had a hole outside the house
24 and nothing for that flame to impinge upon. So that's
25 really not an area of origin. You really don't have a big

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1 bonfire over there. It doesn't catch the house on fire.
2 That's how I can envision it happening, but the -- in terms
3 of the question you asked, I don't remember that happening.
4 Q Okay. Would it be reasonable if you had two
5 holes and one that was the area of origin and then
6 downstream there was a second small hole in which the -- as
7 you described here, the polymer coating was still intact,
8 that you could find electrical damage in two places and
9 only one cause of origin?
10 A Sure.
11 Q All right. If you'll look at Page 11.
12 A Yes, ma'am.
13 Q This article provides remediation measures,
14 correct?
15 A Sure.
16 Q Okay. Do you agree -- still agree that these are
17 recommendations to homeowners with CSST to remedy issues
18 involving CSST?
19 A Yes.
20 Q If you get rid of the CSST -- strike that.
21 All right. So in the world of CSST, we have
22 energy from a lightning strike that energizes the CSST and
23 then perforates the CSST resulting in a fire?
24 A Right.
25 Q And in the Taylor house, didn't we have energy

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1 from a lightning strike that energized the TechShield,
2 correct?
3 A Yes.
4 Q Okay. And we see evidence of such energization
5 on the TechShield that remained after the fire, correct?
6 A Correct.
7 Q And we see ablated areas on the TechShield,
8 correct?
9 A Yes, ma'am.
10 Q Okay. In the evidence that you've looked at, you
11 can see scorched areas on the TechShield, correct?
12 A Yes.
13 Q And if you looked at the evidence, you could see
14 melted, discolored areas on that TechShield, correct?
15 A Correct.
16 Q And you can see, in some of those photos, burned
17 areas on the TechShield, correct?
18 A I don't remember seeing that.
19 Q Okay. And while all of these areas on the
20 TechShield, this evidence of electrical damage from the
21 lightning strike are outside the area of origin, there's no
22 doubt that they are evidence that the energy from the
23 lightning strike did, in fact, energize the TechShield,
24 correct?
25 A Correct.

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1 Q With the experience that you have in the CSST
2 world and the -- what you've been doing with TechShield, do
3 you see any similarities in how these products are -- have
4 arrived to where we are today?
5 A No, I don't.
6 Q In your experience, when you're investigating
7 holes in CSST that are allegedly due to the electrical
8 arcing from -- as a result of a lightning strike, are you
9 typically able to identify the opposing electrode that was
10 involved in the arc?
11 A Sometimes. And it's not -- it's not uncommon,
12 but there has been times when we couldn't.
13 Q Okay. And even in those scenarios where you
14 cannot determine the opposing electrode, it was still your
15 opinion and you were still willing to say that the
16 electrical arcing between the CSST and the unknown
17 electrical -- electrode, excuse me -- occurred causing the
18 perforation in the CSST?
19 A Yes, ma'am.
20 Q Okay. Is it your opinion that the effect of
21 energy from a lightning strike to TechShield is different
22 than the effect of energy from a lightning strike to CSST?
23 A Absolutely.
24 Q Tell me about that.
25 A Well, TechShield is so thin, one, it -- we would

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1 expect it to ablate. Secondly, earlier today you asked me
2 about spatter. TechShield is pretty thin. I can't -- I'm
3 not going to say it can't happen, but it's inconceivable to
4 me that you would have molten particles because it's so
5 thin and it's -- we've got temperatures associated with
6 arcing of five and 10,000 degrees, that they would -- you'd
7 have a vapor coming off. And it's extremely small
8 particles, if you can even see the particles. I'm not
9 going to say it won't spatter. I'd be very surprised if
10 you get any spatter at all. And I forgot the question.
11 I'm sorry.
12 Q It was the effect of energy on -- from a
13 lightning strike on TechShield, is it different than the
14 effect of energy of -- from a lightning strike on CSST?
15 A Oh, yes. And -- yeah, continuing on, just
16 because lightning hits TechShield doesn't mean that you're
17 going to have a fire.
18 Q Well, does lightning -- does it necessarily mean
19 when lightning hits a piece of CSST and perforates it that
20 you're going to have a fire?
21 A If -- if there's gas on the line, and if you
22 don't get gas, it's even worse because you're going to get
23 an explosion.
24 Q What about the scenario that you just told me
25 about where there were no combustible materials in the

Page 203

1 area?
2 A You had a fire. It just didn't spread. I --
3 Q You had a flame?
4 A You -- you had a flame, that's right. And --
5 Q Okay.
6 A And then to make matters worse, if that flame
7 gets put out, something blows it out, then you've got a gas
8 leak, and that's just not acceptable. You know --
9 Q Creates a scenario where you could have an
10 explosion?
11 A It absolutely does. And, you know, you don't
12 have those attributes with TechShield.
13 Q Okay.
14 A Negative attributes.
15 Q Because there's no gas involved with TechShield?
16 A That -- that's right. And TechShield is much
17 more difficult to ignite than -- than leaking natural gas
18 or propane.
19 Q Okay. Have you done any testing to determine the
20 amount of spatter that comes off the aluminum laminate of
21 TechShield?
22 A No, ma'am.
23 Q In the discussion section of Exhibit 93?
24 A Yes, ma'am.
25 Q On Page 7?

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1 A Okay.
2 Q You state in that first sentence, "It would be
3 easy to list our findings. It's just peculiarities and
4 vagaries of Mother Nature."
5 A Yes.
6 Q But in regard to CSST, you weren't willing to let
7 that be the end of the question, were you?
8 A No.
9 Q But with TechShield, as I understand your
10 opinion, you are?
11 MR. ELLIS: Objection.
12 A I'm not -- not -- not saying it's the end of the
13 question. I'm saying that testing hasn't been done to
14 establish that -- that there is -- there is a problem at
15 all, number one. And number two, at some point in time,
16 you know, TechShield -- and I say some point in time. At
17 some level of energy, TechShield will fail.
18 Q (BY MS. MACLEOD) So are you satisfied with an
19 explanation that in -- in ruling out that TechShield could
20 have been the cause of the fire at the Taylor home, that
21 lightning is lightning and lightning causes fires?
22 A Lightning is lightning. Lightning causes fires.
23 It has caused no fuel gas to leak. It is capable, hot
24 lightning, of igniting combustibles, particularly Class A
25 combustibles. It's -- it's really no surprise.

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1 Q Are there things that you're aware of that could
2 be done to the TechShield product to protect it from being
3 energized by lightning?
4 A In my opinion, such things would, you know,
5 essentially make it unuseful for its intended purpose.
6 Q Okay.
7 MS. MacCLEOD: All right. It looks like we
8 have about two minutes on this tape --
9 THE VIDEOGRAPHER: Actually, one now.
10 MS. MacCLEOD: And now would be a good time
11 for a break so...
12 THE WITNESS: Okay.
13 MS. MacCLEOD: Why don't we go off the
14 record.
15 THE VIDEOGRAPHER: Going off the record at
16 5:05.
17 (Break taken from 5:05 p.m. to 5:21 p.m.)
18 THE VIDEOGRAPHER: We're back on the record
19 at 5:21 with Tape 7.
20 Q (BY MS. MacCLEOD) Mr. Goodson, I wanted to talk
21 to you about your review of expert reports in this case. I
22 understand from your earlier testimony that you did, in
23 fact, review Rob McGraw's report?
24 A Yes.
25 Q And he's Plaintiff's cause and origin expert?

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1 A (Nods head affirmatively.)
2 Q As you sit here today, do you recall anything in
3 that report that you disagreed with?
4 A Well, I think we -- there were initially
5 questions regarding what wiring was in the area of origin.
6 I think given what we know now, you know, the comments
7 regarding arc through char and whether that area was in the
8 area -- or that wire was in the area of origin or not, they
9 were kind of -- kind of by the wayside.
10 Q Okay. Did you have an opportunity to review his
11 supplemental report?
12 A Yes.
13 Q Did you review Gary Richetto's report?
14 A Well, if there was a report I was unaware of it.
15 I thought it was more of just a disclosure.
16 Q So if there is a report you haven't seen it?
17 A To my knowledge, that's right.
18 Q Okay. Have you reviewed Tom Eagar's report?
19 A Yes.
20 Q And were there any findings or opinions in Dr.
21 Eagar's report that you disagree with?
22 A Yes.
23 Q Will you tell me what those are?
24 A Yeah. Dr. Eagar tries to analogize that the
25 TechShield should somehow be compliant with NFPA 780 in

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1 regards to the dimensions of, you know, thicknesses and
2 things like that, and I -- I just totally disagree with Dr.
3 Eagar on that.
4 Q Have you talked to Dr. Eagar about that?
5 A No.
6 Q Have you had an opportunity to talk to Dr. Eagar
7 about TechShield?
8 A Dr. Eagar and I have probably spoken 30 to 60
9 words on TechShield, and that was at my lab last week.
10 Q Anything substantive?
11 A Yeah.
12 Q What did y'all talk about?
13 A Oh, he said -- he said, Mark, he said, I've got
14 to take issue with you on part of your report. And I said,
15 Tom, I said it was a poor choice of wording on my part
16 with -- with the last paragraph where I stated -- you know,
17 improperly stated what I wanted to express. And he said,
18 well, I just didn't want there to be any hard feelings. I
19 said, we're professionals, there is -- there's no hard
20 feelings.
21 Q And that was pretty much --
22 A That was -- that was --
23 Q -- the sum total of what y'all talked about?
24 A Of the conversation. Is Dr. Eagar's report
25 available? I mean, I -- what I do remember substantively

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1 is he and I disagree about 780. In addition, he -- oh, he
2 also described a lot -- a lot of incidents of welding
3 spatter described in NFPA 51B. My experience with welding
4 slag, you know, is it's quite large particles. You can --
5 you can see them hit the ground. You can see them
6 solidify. And no doubt, welding spatter is a problem.
7 You -- you want good housekeeping because of it. I don't
8 at all think that relates to TechShield.
9 Q Because you think the spatter or -- I think you
10 just called it splatter, but the -- whichever you call it
11 is not going to be large enough to see?
12 A I think it's going to be very minuscule, number
13 one. Number two, I don't think there's a whole lot of mass
14 involved compared to what you have when doing welding
15 operations.
16 Q What about sparking, do you know what sparking
17 is?
18 A Well, sparking is a luminous particle that comes
19 about during an arcing process. And on that one, I -- I
20 just don't know whether there would be sparks emitted from
21 such a thin -- thin substrate or not.
22 Q Assuming for just purposes of this hypothetical
23 that I'm about to give you, if there were sparks, are
24 sparks capable of igniting a combustible material?
25 A If the combustible material is small enough,

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1 if -- say, granular size, if you will, I -- I can't imagine
 2 these sparks igniting anything of a -- of a large -- large
 3 piece of timber or anything like that at all. Maybe if
 4 there was some fine sawdust there, perhaps.
 5 Q Okay. Other than the size of the spatter, other
 6 than the opinion that he offered, that it -- that it should
 7 be compliant with NFPA 780, or however he states that --
 8 A Yes.
 9 Q -- in his report, is there anything else that you
 10 recall taking issue with in regard to Dr. Eagar's report?
 11 A No.
 12 Q In regard to Ron Simmons's report, beyond the --
 13 all the issues that we've already discussed with his
 14 testing and beyond the issue with the arc to char, is there
 15 anything else that you took issue with in his report that
 16 we haven't already talked about today?
 17 A You know, he is -- he -- he -- I -- I don't want
 18 this to be a surprise, because he did testify he felt it
 19 was more likely than not that this house burned because of
 20 the presence of TechShield. And I -- I do not see that the
 21 statistical data as to where he can reach that conclusion,
 22 that's number one.
 23 Number two, this is perhaps reiteration of
 24 what I've already said, but this formula that we learned in
 25 engineering school called -- the paper was called "The

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1 magic of I squared T," Mr. Simmons's testing is roughly
 2 putting about a thousand times more energy into the
 3 substrate than is -- than one would reasonably expect in a
 4 normal lightning strike. And so it's another reason. Just
 5 the actual quantity of energy that's being imparted that I
 6 don't believe his testing is -- is up to snuff.
 7 Q Okay. And I think we did talk about that.
 8 Anything else that we haven't talked about and that you
 9 haven't mentioned just now that you can think of?
 10 A He says, as I recall, in one of his papers that
 11 it can attract lightning. I -- I don't know where that's
 12 coming from, the presence of TechShield. I just don't
 13 understand it.
 14 Q Is that in his report where he says that?
 15 A In all fairness, I think that's actually in
 16 one -- in the paper he just published
 17 Q Okay. Anything else?
 18 A No, ma'am.
 19 MS. MaCLEOD: Then that is all the questions
 20 that I have for now.
 21 CROSS-EXAMINATION
 22 BY MR. ELLIS:
 23 Q Mr. Goodson, just a few follow-up questions.
 24 We just talked about Mr. Simmons's testing
 25 again, and do any of those tests that were conducted by Mr.

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1 Simmons demonstrate that TechShield will catch fire in the
 2 event of a lightning strike?
 3 A No.
 4 Q Did any of them approximate what a lightning
 5 strike does to a home?
 6 A No.
 7 Q With respect to the one test that you referred to
 8 earlier which was the so-called impulse test?
 9 A Yes.
 10 Q How long did that one last?
 11 A 20 milliseconds.
 12 Q And did that test by Mr. Simmons in any way help
 13 to demonstrate that the Taylor house would catch fire
 14 because RBS was in it?
 15 A No.
 16 Q Why do you say that?
 17 A The duration of that pulse was about a thousand
 18 times longer than, you know, say, a 20-microsecond pulse,
 19 which you might expect.
 20 Q There was a lot of discussion earlier in the day
 21 about the arcing artifact that appeared on the ground wire
 22 of 14, dash, 3 conductor; do you remember that?
 23 A Yes.
 24 Q Okay. Do you have any opinion with respect to
 25 Mr. Simmons's opinion that the arcing artifact was as a

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1 result of an arc from RBS to the ground wire conductor?
 2 A I have an opinion.
 3 Q What's that?
 4 A I think that's a possibility, but it's -- it's
 5 also a possibility. It's arcing to something else. I --
 6 I -- I don't see how one could make that determination.
 7 Q Now, you said you had an opportunity to see
 8 Mr. McGraw's original report; is that correct?
 9 A Yes.
 10 Q You saw his photographs?
 11 A Yes.
 12 Q You saw Mr. McGraw's supplemental report?
 13 A Yes.
 14 Q You saw his photographs?
 15 A Yes.
 16 Q You saw Mr. Simmons's original and amended
 17 reports; is that correct?
 18 A Yes.
 19 Q And the photographs that he was relying upon?
 20 A Yes.
 21 Q In any of those photographs, did you see any
 22 evidence that the RBS had caught fire?
 23 A Well, other than the fact that the RBS is missing
 24 where there's fire, but where the areas where it's still
 25 there -- as an example, I remember a nail sticking out

1 and -- and there's ablation around there, but no fire.
2 That's -- that's my recollection, sir.

3 Q All right, sir. So you didn't see any evidence
4 of flame on the RBS or fire?

5 A No, not --

6 MS. MacLEOD: Objection.

7 A -- not where it wasn't burned away from a fire
8 already going.

9 Q (BY MR. ELLIS) In other words, you mean by that,
10 for instance, where the fire caught in the area of origin,
11 for instance, and burned away everything?

12 A That's exactly right.

13 Q All right.

14 MR. ELLIS: All right. That's all I have.

15 MS. MacLEOD: I don't have anything further.

16 THE VIDEOGRAPHER: Going off the record at
17 5:33.

18 (End of proceedings at 5:33 p.m.)
19
20
21
22
23
24
25

1 attorney or counsel employed by the parties hereto, or
2 financially interested in the action.

3 "I further certify that before the completion of the
4 deposition, the deponent and/or a party ____ did X did
5 not request to review the transcript."

6 In witness whereof, I have hereunto set my hand and
7 affixed my seal this ____ day of _____, A.D.,
8 2012.

KELLY HASSELL, CSR No. 5729
Cert. Expires 12/31/13
CARLISLE REPORTING
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1 STATE OF TEXAS)

2 I, Kelly Hassell, a Certified Shorthand Reporter in
3 and for the State of Texas, do hereby certify that,
4 pursuant to the agreement hereinbefore set forth, there
5 came before me on the 7th day of December, A.D., 2012, at
6 9:09 a.m., at the offices of Cozen O'Connor, located at
7 1717 Main Street, Suite 3400, in the City of Dallas, State
8 of Texas, the following named person, to wit: MARK
9 GOODSON, PE, who was by me duly cautioned and sworn to
10 testify the truth, the whole truth and nothing but the
11 truth, of his knowledge touching and concerning the matters
12 in controversy in this cause; and that he was thereupon
13 carefully examined upon his oath, and his examination was
14 reduced to writing under my supervision; that the
15 deposition is a true record of the testimony given by the
16 witness, same to be sworn to and subscribed by said witness
17 before any Notary Public, pursuant to the agreement of the
18 parties; and that the amount of time used by each party at
19 the deposition is as follows:

20 Ms. MacLeod - 5 hours, 58 minutes,

21 Mr. Ellis - 5 minutes;

22 I further certify that I am neither attorney or
23 counsel for, nor related to or employed by, any of the
24 parties to the action in which this deposition is taken,
25 and further that I am not a relative or employee of any

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In The Matter Of:
State Farm, et al v.
Louisiana Pacific Corporation

Gary Marshall Richetto
December 28, 2012

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1 IN THE UNITED STATES DISTRICT COURT
 2 FOR THE EASTERN DISTRICT OF NORTH CAROLINA
 3 WESTERN DIVISION
 4 Civil Action No. 5:12-cv-289-BO

4 STATE FARM FIRE AND CASUALTY
 5 COMPANY as subrogee of
 6 CHRISTOPHER TAYLOR,
 7
 8 Plaintiffs,
 9
 10 vs.
 11
 12 LOUISIANA PACIFIC CORPORATION,
 13
 14 Defendant.

11 VIDEOTAPED DEPOSITION OF GARY MARSHALL RICHETTO
 12 TAKEN ON BEHALF OF THE DEFENDANT
 13 ON DECEMBER 28, 2012, BEGINNING AT 8:31 A.M.
 14 IN TULSA, OKLAHOMA

15 APPEARANCES

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24 ALSO PRESENT: Jim Langlois, Videographer
 25 REPORTED BY: Joanna Smith, CSR, RPR

1 STIPULATIONS

2 It is hereby stipulated and agreed by and
 3 between the parties hereto, through their respective
 4 attorneys, that the deposition of GARY MARSHALL
 5 RICHETTO may be taken pursuant to notice and in
 6 accordance with the Federal Rules of Civil Procedure
 7 on December 28, 2012, at the offices of 401 South
 8 Boston Avenue, Tulsa, Oklahoma, before Joanna Smith,
 9 CSR, RPR.

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1 THE VIDEOGRAPHER: We are now on the record.

2 This is a videotape deposition taken of Dr. Gary
 3 Richetto. It is Friday. It's December 28th. The
 4 year is 2012. And the time is approximately -- or I'm
 5 sorry. The time is approximately 8:31 a.m. And you
 6 may swear in the witness?

7 GARY MARSHALL RICHETTO,
 8 being first duly sworn to testify the truth, the whole
 9 truth, and nothing but the truth, testified as
 10 follows:

11 DIRECT EXAMINATION

12 BY MR. ELLIS:

13 Q All right. Dr. Richetto, would you state
 14 your full name for us, please?

15 A Yes. Gary Marshall Richetto.

16 Q What is your residence address?

17 A 9711 South Sandusky Avenue here in Tulsa,
 18 Oklahoma.

19 Q All right. You've been designated by the
 20 plaintiff to testify as an expert in this case.

21 A Yes, sir.

22 Q Do you understand that?

23 A I do.

24 Q Can you tell us what your opinions are that
 25 you expect to deliver?

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1 A I believe they're reflected in the report
2 that I sent to Ms. MacLeod, Mr. Ellis. I'm of the
3 opinion that based upon the only testing that I am
4 aware has been done, there appears, indeed, to be a
5 potential hazard and risk associated with TechShield
6 Radiant Barrier. And in my opinion, based upon that,
7 I believe the company had an obligation to warn users
8 in some fashion that -- and recommend, in fact, that
9 in high-density lightning-strike areas, the product
10 should be -- at least one should consider a lightning
11 protection system.
12 Q Any others?
13 A There may some additional comments in my
14 report, but none that come to mind at the moment.
15 Q All right, sir. You provided Ms. MacLeod
16 and provided us with your resume?
17 A I did, sir.
18 Q And I'd like to start with that.
19 MR. ELLIS: And I ask the reporter to mark
20 this as -- do you know what the next exhibit is?
21 MS. MACLEOD: 111.
22 MR. ELLIS: 111.
23 (Exhibit 111 marked for identification.)
24 Q (By Mr. Ellis) Is Exhibit 111 a copy of
25 your resume, sir?

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1 A Yes, sir, it is.
2 Q Is it up to date?
3 A Yes, sir, essentially.
4 Q All right. I see here that as far as your
5 college education goes, you obtained degrees from Ohio
6 University, 1964. That was a BFA. What does that
7 stand for?
8 A It was Bureau of Fine Arts. The
9 communication department was, at that time, located
10 within the College of Fine Arts. It's now a separate
11 college unto itself.
12 Q And you had a major there in communications;
13 correct?
14 A Correct, sir.
15 Q You obtained your master's at Ohio
16 University, again with a major in communications?
17 A That's correct, yes. Organizational
18 communication.
19 Q All right. And you obtained your Ph.D. from
20 Ohio -- I'm sorry -- Purdue University in 1969, again
21 with a major in communications?
22 A Correct.
23 Q And so none of your college education or
24 degrees relate to engineering?
25 A That's correct.

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1 Q All right. And you are not now licensed as
2 a professional engineer anywhere?
3 A No.
4 Q If you turn to the second page under the
5 category "Professional Appointments," I see that as --
6 you've been employed as president of Triad Associates
7 from 1982 to the present; is that correct?
8 A Yes, sir.
9 Q What does Triad Associates do?
10 A Just to clarify, Mr. Ellis, Triad Associates
11 is now essentially Gary Richetto. It is a Subchapter
12 S corporation formed in 1982 with colleagues, and
13 hence the term "Triad Associates" at that time. I --
14 the partners either retired, or I bought them out over
15 the years, so I am the sole owner of Triad Associates.
16 In answer to your question in terms of what Triad
17 does, therefore what I do, my work, Counsel, is
18 essentially done in thirds, you might say.
19 About a third of the time, I do training and
20 development work, which would include some executive
21 coaching. A second third is what I call facilitation
22 services; that is to say, conflict resolution between
23 departments, for example, or between -- most recently
24 between union and management. And I facilitate also
25 strategic planning sessions. And then the remaining

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1 third is involved with some combination of litigation
2 support and/or assisting manufacturers in the
3 development of warnings and instructions.
4 Q All right. Thank you. How many employees
5 are there?
6 A Just myself now.
7 Q All right. You said that about one-third of
8 your time is involved with litigation support and
9 assisting manufacturers in connection with warnings?
10 A Yes, sir.
11 Q Is that right?
12 A Yes.
13 Q All right. Can you tell me whether or not
14 there are any particular industries that you're
15 involved with in terms of providing assistance to
16 manufacturers?
17 A There have been several, Counsel. In fact,
18 something that I could provide at some point would be
19 a list of clients for whom I've developed warnings.
20 But there's been really quite a range. I developed
21 the warnings, for example, in the Glock 19 firearm
22 handbook, designed probably a dozen or more warnings
23 for a local company headquartered in Tulsa called the
24 Crosby Group. And they make, oh, block and tackle
25 equipment, load binders that you may have seen on

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1 flatbed trucks, you know, that type of thing. Another
2 local client for whom I've developed a warning system
3 is called Roto Hammer. They make an overhead valve
4 device that can be turned on and off in gas piping
5 systems and so forth. I've also designed warnings for
6 a company called CERTEX in Houston, Texas; and they
7 make polyethylene and nylon slings.
8 Q Is that slings?
9 A Slings.
10 Q What -- what kind of product is that?
11 A It's a sling simply that -- for tying down a
12 load, for example, on a transport. There have been
13 others, Counsel. Those are the ones that come to
14 mind.
15 Q Okay.
16 A I beg your pardon. Another I can think of
17 would be, I developed the warnings that are now --
18 that now appear on large spools of wire rope, what
19 some folks may call cable. That was done for the Wire
20 Rope Technical Board.
21 Q Have you been involved with developing or
22 assisting manufacturers in the wood products industry?
23 A I don't believe so, Counsel, no.
24 Q Okay. What about the building products
25 industry?

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1 A No, sir.
2 Q All right. I notice from looking at the
3 articles that you have written over the years that a
4 lot of the work has been done with respect to warnings
5 in connection with alcoholic beverages; is that right?
6 A Yes, sir. We did a series -- there were a
7 couple of others that may be listed. But a couple of
8 colleagues and I, Dr. Goldhaber, G-O-L-D-H-A-B-E-R,
9 and Dr. deTurck, D-E capital T-U-R-C-K, did a series
10 of articles about alcoholic beverages, yes.
11 Q All right. Were you hired by any particular
12 company in the alcoholic beverage industry?
13 A No, sir, we were not.
14 Q How did you come upon alcoholic beverages as
15 a study subject?
16 A At the -- at the time of those publications,
17 Counsel, I think that industry was considering types
18 of warnings regarding pregnancy, for example, and
19 other things that were in the news. And we were
20 interested at that time -- there were a series of
21 studies, and we simply manipulated different variables
22 as part of those studies, color, size of font, signal
23 word, and so forth. And we really had a captive
24 audience, if you will, of students in the
25 communication or psychology class at the State

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1 University of New York at Buffalo.
2 Q So you were doing this primarily as an
3 academic --
4 A Yes, sir. Exactly.
5 Q -- publication?
6 A I think one or more were probably presented
7 at the Human Factors and Ergonomics Society. And I'm
8 sure I've referred to them in lectures and so forth.
9 Q All right. But you had not been hired by a
10 company, for instance, within the alcoholic beverage
11 industry to provide those reports?
12 A No, sir. No.
13 Q All right. Have you ever testified in
14 connection with warnings in the alcoholic beverage
15 industry?
16 A I don't believe so, Mr. Ellis, no.
17 Q Prior to 1982, you were the co-owner of MBC
18 Associates. And what was the nature of that
19 employment?
20 A That's a company, Counsel, that,
21 unfortunately, the primary owner, J. Robert Costello,
22 here in town passed away recently. But MBC Associates
23 was -- we're no longer in business now -- an
24 outplacement firm, meaning we would work with
25 employers who, unfortunately, were having to let one

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1 or more persons go. And we helped that person through
2 the transition, teaching them interviewing skills,
3 networking skills, helping develop a resume, and, in
4 fact, providing a physical presence for them while
5 they were in the midst of their job transition.
6 Q All right. And are you still doing that?
7 A No, sir, no longer.
8 Q Okay.
9 A I became less and less involved over the
10 years. And then since the founder recently passed
11 away, we've simply closed.
12 Q Okay. And when did you stop doing that? I
13 know your resume says to the present.
14 A Yes, sir, the present, indeed, was -- I
15 probably need to change that, the next printing --
16 was, indeed, until October of this year.
17 Q Okay. From 1985 to 1995 here on your
18 resume, you indicate you were vice-president of Safety
19 Synergistics International. What kind of work did you
20 do with them?
21 A For that ten-year period, Mr. Ellis, we
22 developed a series of safety simulations that were, at
23 the time, a relatively new kind of teaching
24 technology, if you will. Very briefly, they consisted
25 of paper and pencil materials, but the problem -- the

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1 person would be given a problem and then go through,
2 identifying steps to be taken. For example, one,
3 coincidentally, was called fire. And it was to depict a
4 home fire. And we developed a scenario that it's
5 2 a.m.; you're at home with a spouse and two small
6 children; a fire breaks out. What do you do? You
7 open the document up, and you're given a series of
8 steps to be taken. And the challenge is to do the
9 right steps in the right sequence.
10 And then typically they were used in small
11 groups, so you would -- I don't mean to be
12 long-winded, but to just give you an idea, you would
13 have your individual opinion, and then you would get
14 with a group, who may differ from your opinion, and
15 you would hash it out to reach a group consensus. You
16 then open the paper. And I think it was based upon
17 the expert opinion of fire marshal. You were given
18 the correct answers, so you got feedback in terms of
19 how you did versus how the group did. So it was kind
20 of double-loop learning. You learn about how to
21 escape a home fire, but you also learn about group
22 dynamics and the give and take.
23 Q So the study really was related to how
24 somebody who's involved with a fire in their home
25 would escape from a fire?

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1 A In that particular scenario, Counsel, yes,
2 that was the -- that was the premise.
3 Q Can you give me some examples of some others
4 that you dealt with?
5 A Let's see. We developed -- again, it was
6 paper and pencil. One of the things that was of
7 interest in that time frame was AIDS in the workplace.
8 And we developed a document which really educated
9 people about HIV, of the fact that you couldn't, you
10 know, get it from shaking hands and so on and so
11 forth, was one that we developed. Boy, it's been a
12 while now, 1995. Those are the two that come most to
13 mind. But those are the ones that we had developed.
14 Safety Synergistics was already an existing entity at
15 that time, and they had a series of similar types of
16 exercises.
17 Q And your resume indicates that from 1980 to
18 '82, you were director of human resources and
19 administration with Agrico Chemical Company?
20 A Yes, sir.
21 Q And that was here in Tulsa, Oklahoma?
22 A That's correct, yes.
23 Q And could you describe briefly for us what
24 your duties were there?
25 A I was essentially chief administrative

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1 officer, Mr. Ellis. In fact, The Williams Companies
2 are still right here across the street. Agrico
3 Chemical was the largest of the Williams subsidiaries
4 at the time, about 2 billion in sales out of, I think,
5 about 4 billion overall, if I recall the numbers. And
6 my responsibility included oversight of human
7 resources, risk management, office services, corporate
8 purchasing.
9 Q All right. The next item down shows that
10 you were corporate director, organization development,
11 for The Williams Companies in Tulsa from '75 to 1980;
12 is that right?
13 A Yes, sir. That's when I took the move into
14 the subsidiary.
15 Q All right. And could you briefly describe
16 what you did as a corporate director?
17 A Yes, sir. Organization development. We
18 essentially provided the behavioral-science-based
19 consulting services, if you will, to Williams
20 corporate staff and our operating companies in energy,
21 pipeline, metals distribution. So we did such things
22 as helping with executive search, putting people
23 through one or more tests to determine the fit for a
24 job, developed performance appraisal systems,
25 conducted employee work satisfaction surveys, and the

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1 like.
2 Q All right. And from 1972 to 1975, you were
3 an associate professor with the department of
4 communication and organizational behavior at General
5 Motors Institute in Flint, Michigan; is that correct?
6 A Yes, sir.
7 Q And briefly describe for us what you did
8 then.
9 A Essentially taught the courses in
10 introductory psychology, as well as communication and
11 also in organizational behavior.
12 Q From '71 to '72, you were an assistant
13 professor, department of communication and
14 organizational behavior, again at the General Motors
15 Institute in Flint, Michigan; correct?
16 A Yes, sir.
17 Q And how did that differ from the assignment
18 we just talked about?
19 A It really did not. Simply, I was promoted
20 from assistant to associate professor. And the only
21 other difference, Mr. Ellis, would have been, back
22 then, as the name would indicate, GMI was a wholly
23 owned, fully accredited undergraduate college, three
24 phases of engineering and industrial administration.
25 It's now Kettering University. So the only

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1 difference, really -- my teaching load remained the
2 same, but I became much more involved in conducting
3 surveys and doing things elsewhere in the corporation,
4 which is to say, the other operating divisions.
5 Q All right. And then prior to 1971, you
6 served in the Army; is that right?
7 A I did, sir.
8 Q Your assignments are indicated here under
9 "Military Appointments"?
10 A Yes.
11 Q Okay. Have you had any other employment
12 that's not listed here?
13 A No, sir, I mean, with -- obviously with the
14 exception of helping to work my way through college
15 with those kinds of jobs.
16 Q Sure. Would it be fair to say that in
17 connection with all of your employment, you have not
18 been involved with the study of lightning?
19 A That's correct.
20 Q And you've not been involved with electrical
21 engineering studies as it relates to lightning?
22 A Correct.
23 Q All right. Under "Current Research
24 Activity," which is on page 4 of your resume, you
25 indicate there that you're "presently conducting

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1 research, designing, developing, and testing product
2 warnings and instructions for various manufacturers."
3 You told us about the Glock, the Crosby Group, Roto
4 Hammer, CERTEX. Are there others that you've worked
5 with in connection --
6 A Yes, sir.
7 Q -- with developing product warnings?
8 A Yes, sir, a company in -- just outside of
9 Dallas called Gearench, G-E-A-R-E-N-C-H. Developed a
10 series of warnings for some of their products,
11 essentially hand tools. Another that comes to mind is
12 -- I've been asked periodically to review the warnings
13 for U-Haul that appear in their users' guides. I've
14 not been asked to do that for probably the last two
15 years, I would guess. I'll certainly volunteer other
16 examples if they occur to me, but those are the ones I
17 can think of.
18 Q Thank you. You've indicated here some
19 "Professional Society Memberships"?
20 A Yes.
21 Q With respect to those, are there any in
22 which you hold leadership positions?
23 A No longer, Counsel, no. I held leadership
24 positions in the International Communication
25 Association at one time, but not in those that are

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1 listed here.
2 Q Okay. With respect to the International
3 Communication Association, during what period of time
4 were you a member of that?
5 A Probably, as I recall, Counsel, until the
6 late 1980s, early 1990s. I was vice-president of the
7 organizational communication division. And also in
8 about that time frame, I was vice-president of the
9 organization development division of the American
10 Society for Training & Development.
11 Q You've mentioned a couple of times
12 organization communication. What -- is that a
13 particular term of art?
14 A Yes, sir. I mean, it is a major that can be
15 taken at a variety of universities now. And, really,
16 the concentration in organizational communication
17 essentially is the study of the flow of information,
18 if you will, within and/or between organizations.
19 Q And would you say that that is a matter in
20 which you have particular expertise, the organization
21 communication field?
22 A I believe so, yes, Counsel.
23 Q How often have you given testimony with
24 respect to warnings in connection with litigation?
25 A I brought a list of my previous testimony,

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1 Mr. Ellis. I probably have averaged six or seven
2 depositions a year. I probably -- closer to five or
3 six, I guess, since about 1985.
4 Q I've got a list of those.
5 A Okay.
6 Q And we'll get to those in just a minute or
7 so.
8 A Sure.
9 Q Are all of the cases in which you've
10 testified cases in which warnings have been in
11 dispute?
12 A Yes, sir, in some form. There may be an --
13 one or two exceptions to that, where the issue was
14 that of communication and what message is being
15 communicated that was not of a warning nature. But
16 those have been very rare, and I can only think of one
17 that's actually on my list in the last of couple of
18 years that we may chat about if you desire. But I
19 have specialized, if that would be the term,
20 specifically in testimony regarding the adequacy of
21 warnings and instructions, be they oral, face to face,
22 written, or what have you.
23 Q All right. Approximately how many times
24 have you testified as an expert with respect to
25 warnings in litigation?

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1 A I'm sorry. I may have missed a question.
2 Q Approximately how many times have you
3 testified in litigation with respect to warnings?
4 A Well, as I say, Counsel, since 1985, I've
5 probably averaged five or six either depositions or
6 trial testimonies in that course of time.
7 Q Since 1985?
8 A Since 1985.
9 Q Five or six per year?
10 A Per year on average.
11 Q Okay.
12 A Yes.
13 Q If you multiplied that out, what would that
14 be, approximately?
15 A Oh, let's see.
16 Q I'm not going to hold you to an exact
17 number --
18 A No, no. I understand.
19 Q -- here. I don't have a calculator with me.
20 A Yeah. Nor do I. I would guess it would be
21 someplace in the 120 range, then, probably, something
22 of that type.
23 Q All right. On the next page of your resume,
24 on page 5, you'll see there's some "Editorial
25 Appointments"?

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1 A Yes, sir.
2 Q And you've served as a member of an
3 editorial board for the Journal of Group and
4 Organization Studies; is that correct?
5 A That's correct, yes.
6 Q What type of journal is that?
7 A Essentially an academic journal involved,
8 really, essentially with organizational communication.
9 It may -- there were studies done, again, on job
10 satisfaction. There were studies done on intra- or
11 inter-organizational conflict. It would have been a
12 number of different subjects that would be published
13 in that journal.
14 Q Okay. So that journal primarily deals,
15 again, with the organizational communications field --
16 A Yes, sir.
17 Q -- as distinguished from product warnings?
18 A Yes.
19 Q The next journal is Organizational
20 Communication Abstracts?
21 A Yes, sir.
22 Q Is that right?
23 A Yes.
24 Q Is that also an academic journal?
25 A It is, sir.

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1 Q And does that also address the field of
2 organizational communication as distinguished from
3 product warnings?
4 A Yes, sir, it does. There may, indeed, be
5 some warning articles that may have appeared in that
6 journal from time to time, but that certainly was not
7 its primary focus.
8 Q All right. And the last one here is
9 Organization Development Journal?
10 A Yes.
11 Q And is that also an academic journal?
12 A It is, but there is also -- at least there
13 was in that time frame, Mr. Ellis, a large
14 practitioner readership as well, people who were in
15 roles of organization development within organizations
16 as opposed to in a university or college study.
17 Q All right. And is the focus of the journal
18 primarily on organizational communications as
19 distinguished from product warnings?
20 A Yes. And organization development, yes.
21 Q Do each of the journals use a peer-review
22 process?
23 A Yes, sir, we do.
24 Q Did the peer-review process differ from
25 journal to journal in any significant way?

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1 A Only in the sense that in the -- both the
2 Organization Development Journal particularly, we may
3 have had a number of non-academics review from time to
4 time as well. An executive at IBM, for example, comes
5 to mind, who was a peer reviewer on occasion for some
6 of the articles we received.
7 Q And with respect to the articles that are
8 listed here in your resume, were each of those
9 peer-review articles?
10 A To the best of my knowledge, Counsel, yes.
11 There may have been a couple -- I mean, for example --
12 well, even it would have been peer-reviewed. I was
13 thinking of -- there's an article I called "Feedback
14 in the Executive Suite" that really came out of some
15 of the work that we had begun with The Williams
16 Companies. But it was also peer-reviewed in the sense
17 that it was sent to other members of the American
18 Society for Training & Development for review or
19 commentary before publication. But I wouldn't
20 describe it as going through perhaps as stringent, if
21 you will, a peer-review process as some of the others.
22 That would be particularly true also of -- I have a
23 number of them listed that goes, golly, all the way
24 back to my dissertation research, "Who Has The
25 Influence?" It was in a journal called Personnel,

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1 which is really aimed at human resource -- or was then
2 -- human resource professionals. And I do not recall
3 that being peer-reviewed.
4 Q With respect to the articles that you have
5 written that were peer-reviewed and your experience on
6 the editorial boards, the various journals that we've
7 talked about, can you describe for us the peer-review
8 process?
9 A Well, the peer-review process, as the name
10 might imply, you get other experts in the given area
11 of the author who is publishing. And typically in
12 blind fashion, without the author's name or any kind
13 of identification, it is sent to a board of reviewers
14 that may number as -- the board's peer review, I
15 remember, would probably be, oh, anywhere from a half
16 dozen to maybe ten on the outside, whose job it was,
17 not knowing -- again, you know, blindly, they would
18 judge the caliber of the article, if you will, based
19 upon whatever the subject matter was and the treatment
20 of that subject matter.
21 Q And when you say judge the caliber of the
22 article, would they then return comments or
23 criticisms --
24 A Yes, sir.
25 Q -- to the editorial board?

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1 A Yes.
2 Q And what would then happen to the comments
3 or criticisms of the piece?
4 A They would be shared with the author, again,
5 on a blind basis -- the author would have no knowledge
6 of who had reviewed his or her work product -- and
7 either with the good news that it's been accepted for
8 publication, or kind of the yellow light, if you will
9 -- we can accept it for publication if you will
10 address the following -- or, in fact, turning it down
11 in terms of not seen as fit for publication for
12 whatever reason.
13 Q And in terms of the people who would conduct
14 the peer review, the reviewers themselves --
15 A Yes, sir.
16 Q -- would they be people -- as you've already
17 indicated, would be blind to the author of the
18 article; right?
19 A Yes.
20 Q In other words, the reviewers would not know
21 who the author was?
22 A Correct.
23 Q And in most cases, the author probably
24 wouldn't know who the reviewers were?
25 A Correct.

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1 Q And why do you want that in a peer-review
2 process?
3 A I think to attempt to screen out or filter
4 any kind of bias that might operate if they were rival
5 universities, you know, lack of a better term, or if
6 -- I'm trying to think of a case or two in which you
7 had two authors who may totally disagree about some
8 theory or whatever. But in answer to your question
9 more directly, it really is to try to make it as free
10 of bias as possible.
11 Q You want reviewers who are impartial in
12 terms of their critique of the paper?
13 A Yes. Yes.
14 Q You wouldn't, for instance, find a reviewer
15 within the same organization as the author of the
16 paper?
17 A Probably not. Probably not. I mean, there
18 may be exceptions to that. But I expect, yes, that
19 would be the case. Certainly not on the same faculty,
20 if you will, or whatever.
21 Q Right. Turn to page 8 of your resume under
22 "Professional Papers, Panels and Symposia." Do you
23 see that?
24 A Yes, sir, I do.
25 Q I note at the top of the list, there is a

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1 1998 national annual meeting of the Defense Research
2 Institute in San Francisco; correct?
3 A Yes, sir.
4 Q And the description here is that you
5 delivered a presentation on the application of
6 communication theory to products warnings litigation;
7 right?
8 A Yes.
9 Q What exactly did you present?
10 A I doubt it was on PowerPoint at that point
11 in time. It may have been. But essentially -- and,
12 in fact, Mr. Ellis, the way I both do my warnings
13 design work, as well as analyzing materials that are
14 provided in terms of litigation support, I almost
15 always employ as an analytical framework the basic
16 communication -- basic model communication theory,
17 which is to say, a source, a message, a channel, a
18 receiver, and from time to time, if it's available,
19 feedback from the receiver to indicate the extent to
20 which the message has been received and acted upon.
21 What I presented at the DRI was an accident scenario.
22 And I apologize; I can't even remember the specifics,
23 but showing the folks who were in attendance how
24 either from -- I guess in this case, particularly from
25 the defense perspective, one could analyze the fact

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1 pattern and determine the adequacy of information
2 which was provided.
3 Q Okay. And in terms of the information
4 provided, do you mean warnings?
5 A Yes, sir, warning messages specifically.
6 Most often in litigation support, the message
7 component is that of some kind of a warning or
8 instruction, yes.
9 Q So in presenting the hypothetical, do you
10 remember now what type of accident it was you were
11 using --
12 A I honestly don't, since I -- I simply had
13 taken -- and it may have been -- I don't know --
14 something as basic as slip and fall or an automotive
15 accident. I honestly don't recall what the premise
16 was or what the scenario was. But the important point
17 was to help the folks in attendance, many of whom were
18 attorneys -- some who were not -- how one could take
19 this analytical model and look at the source in terms,
20 for example, of credibility. Would this source be one
21 that's perceived as credible? And what we know after
22 eons of research is that credibility is based upon the
23 extent to which the source is perceived as having
24 expertise, as being trustworthy, and as having good
25 intent in terms of messages being imparted. And then

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1 we would --
2 Q Can I stop you there --
3 A Surely.
4 Q -- with a question?
5 A Oh, absolutely. Yeah.
6 Q And I'm sorry to interrupt, but --
7 A I don't mean to run on.
8 Q No. You mentioned the word "source."
9 A Yes.
10 Q And by source, what do you mean?
11 A Source, I mean, is the instigator, if you
12 will, the supplier of information.
13 Q All right.
14 A Okay.
15 Q I'm sorry. Go ahead.
16 A And then showed them how a source could be
17 judged or presented in terms of credibility. And then
18 you could also take a look at the message, the extent
19 to which the message was provided, at what readability
20 level, for example, under what conditions, and so
21 forth. So essentially walking them through how this
22 model might assist in understanding what transpired
23 from the time the source created and put a message
24 through a channel and reached the receiver, how each
25 of those components could be analyzed independently in

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1 an effort to assist a jury, for example, in
2 determining an outcome.
3 Q Had you developed a hypothetical set of
4 information, a warning, in connection with this
5 presentation?
6 A Yes. Yes, exactly. And, again, I
7 apologize. I cannot recall. It's been some time ago
8 now, obviously. But the most important part of that
9 presentation, Mr. Ellis, was, again, to show the
10 application of the model that would assist both
11 counsel, as well as the triers of fact, ultimately.
12 Q Uh-huh. And when you say the applications
13 of the model, what do you mean?
14 A What I mean is that how either an attorney
15 or through an expert could help a jury appreciate why
16 this source would be credible based upon the criteria
17 I mentioned earlier, for example, why this message,
18 you know, was designed the way it was in an effort to
19 reach this receiver, which is to say the readability
20 level, the use of a pictogram or pictograph, if it
21 would be helpful, and the criteria for judging, you
22 know, what is an effective pictograph or icon. And
23 then moving, again, to the channel. Was the
24 appropriate channel being employed? And then finally,
25 what do we know about this receiver in terms of the

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1 way he or she has interpreted information in the past?
2 So essentially it was to show them how we could take
3 those individual elements and drill down, if you will.
4 Q Okay. When did you first start getting
5 involved with expert testimony in connection with
6 product warnings?
7 A 1985.
8 Q And what was the occasion for getting
9 involved for the first time?
10 A I had given a presentation, again, on
11 communication theory and that model I just described,
12 Mr. Ellis, to the Oklahoma Association of Defense
13 Counsel at a resort called Shangri-La here in
14 northeastern Oklahoma. And I'd given the presentation
15 and had shown counsel in attendance how one could look
16 at the fact pattern using the model, both from a
17 defense standpoint and then doing the same thing from
18 a plaintiff's standpoint. And I'll never forget it.
19 An attorney came down the aisle after it was over and
20 gave me his card and said, you know, I think maybe you
21 can give me a hand. And that was my first experience.
22 Q Okay. I'm going to hand you now and ask the
23 reporter to mark Exhibit No. 112.
24 (Exhibit 112 marked for identification.)
25 Q (By Mr. Ellis) This is captioned at the top

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1 "Previous Expert Testimony"; is that right?
2 A That is, sir. Yes.
3 Q Is this a list of the cases in which you've
4 been involved during the period of time from 2006 to
5 2012?
6 A I believe -- at least my copy, Counsel, says
7 2008 as the last year.
8 Q Okay. I was just looking at the title, 2006
9 to 2012.
10 A Oh. That is -- that is, indeed, a typo. I
11 think this probably goes -- it's my understanding
12 Counsel, under the rules is -- and I have maintained
13 it for the previous four years. And actually, I have
14 all of 2008. So it goes back a bit before four years.
15 But, yes, that is a typo. That should be 2008. I
16 appreciate that.
17 Q Okay.
18 A I'll change it.
19 Q Under 2012, what I'd like to do here is to
20 go through the cases and find out what the subject
21 matter was --
22 A Sure.
23 Q -- that you were involved with, so --
24 A I understand.
25 Q The first case here is Wayne Watson, a case

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1 in the Federal District Court for the District of
2 Colorado. Can you tell me what that was about?
3 A Yes, sir. It was a case involving what's
4 called popcorn lung. There is a theory that has been
5 developed, primarily from a woman at the National
6 Jewish Hospital in Denver by the name of Dr. Rose, as
7 I recall, who is of the opinion that diacetyl or
8 diacetyl, however it's pronounced, which is a butter
9 flavoring in popcorn, is capable of doing long-term
10 and irreparable lung damage, and called popcorn lung.
11 Q And what was the name of the product and the
12 manufacturer?
13 A The manufacturer -- well, in this case,
14 Gilster-Mary Lee. I can't remember the name brand of
15 the popcorn as I sit here. But they were a
16 manufacturer for popcorn.
17 Q What kind of a warning was involved?
18 A There was none. Dr. Rose was of the opinion
19 that there needed to be a warning.
20 Q And your opinion was what?
21 A My opinion was that from everything I could
22 appreciate that was done, obviously not by myself but
23 by the chemists involved, that the amount of diacetyl
24 or diacetyl that would be present under microwaving
25 conditions in someone's home is simply -- it was a

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1 trace amount, which unlike workers, who would be
2 involved with diacetyl who were actually popping the
3 popcorn and mixing the ingredients, had far greater
4 exposures.
5 And I was of the opinion that while a
6 warning was appropriate for them and, indeed, was in
7 place at the workplace, based upon the scientific
8 evidence that others had produced, not myself, that it
9 appeared as though there was so little that would
10 actually reach the consumer level that it would be
11 over-warning, if you would.
12 Q Not much of a risk to consumers of the
13 product?
14 A That was my understanding, yes.
15 Q Uh-huh. So you testified on behalf of the
16 defendant in that case?
17 A That's correct. Yes.
18 Q The next one is Jennifer Logan. Can you
19 tell me what that case was about?
20 A Yes, sir. This involved a -- what's called
21 a hookah, not the kind that you smoke, but rather was
22 used for underwater work. And the fact pattern was a
23 gentleman who suffocated while retrieving golf balls
24 at a golf course in Dallas.
25 Q What was the nature of the warning that was

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1 involved in that case?
2 A The warning was the need to make sure that
3 one -- when one was using the motor to provide air
4 through the hookah device, that it be turned away from
5 the intake valve. The fact pattern, very briefly,
6 Mr. Ellis, is that he essentially suffocated from
7 carbon monoxide poisoning. And I was of the opinion
8 that the warning on the hookah device itself, the
9 warning on a float plate that the motor was housed on,
10 and the warning on the engine itself were sufficient
11 to have alerted the individual to the potential for
12 harm.
13 Q And Heater Specialists?
14 A Yes.
15 Q What kind of case was that?
16 A Yes, sir. It involves a company,
17 coincidentally, Mr. Ellis, here in Tulsa who was
18 fireproofing a large vessel, and they had used a tarp
19 because of the wind. And the tarp had caught fire,
20 being close to a heater of some sort, and went up in
21 flames and severely burned an individual. The case is
22 still -- I listed this as having given deposition.
23 Apparently, it is supposed to go to trial here in
24 Tulsa sometime in the spring.
25 Q So you gave a deposition, but you haven't

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1 testified at trial yet in that case?
2 A Correct. I have not.
3 Q What's the nature of your opinion in that
4 case?
5 A That there, indeed, should have been a
6 warning that accompanied this tarp that was
7 manufactured in India and that when set to flame,
8 burns faster than a stack of papers. So from a source
9 of ignition, this otherwise benign-looking tarp
10 literally goes up in flames. One expert -- perhaps a
11 little bit dramatically, but one of the chemists
12 described it as cloth napalm in terms of its kindling
13 point, again, far below that for paper at 451 degrees.
14 Q Glen and Tracy Coats, a case in the Tulsa
15 County District Court?
16 A Yes, sir. And that was both -- actually, I
17 guess that was just trial testimony. They did not
18 take my deposition in advance. I was of the opinion
19 that a warning that was prominently placed on a
20 scissor-ladder device was adequate. And rather, what
21 had happened, in my opinion, was, in human factors
22 literature, what's called negative transfer, which is
23 to say -- this is a gentleman who was quite
24 comfortable in using a 20-foot scissored lift. But in
25 this case, it was more like 35 feet, and I think he

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1 simply underestimated the poundage. And in an effort
2 to move it to his truck, it fell on him because the
3 proper wheel apparatus was not put down as it should
4 have been.
5 Q And what was your opinion?
6 A That the warning was adequate. There was a
7 very explicit pictogram at about eye level, which
8 clearly identified the hazard and the need to follow
9 the instructions.
10 Q All right. Frank Varone?
11 A Yes, sir. This involved a case with a very
12 unique handgun, a Derringer, that was purchased. And
13 it did not have a safety device or one would recognize
14 it as a safety device, which is to say, upon the
15 cylinder, if you can picture this, Mr. Ellis -- on the
16 cylinder, there were notches between the cartridge
17 holes. And in a safe position, one had to put it
18 inside the notch, which was barely visible. And I was
19 of the opinion that there needed to be, in the owner's
20 manual, a clearer depiction of that being the only
21 safe firing position. It fell out of the gentleman's
22 pocket, and he was injured.
23 Q All right. Let's go to 2011, Wayne Watson.
24 A Yes, sir. That was deposition testimony
25 that was reflected in the trial testimony of 2012.

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1 Q Okay. I see. Alicia Reyes?
2 A I'm trying to -- oh, yes. I'm sorry. This
3 was the surviving spouse. The product, Mr. Ellis, is
4 a -- an anti-icing material that's put down. And I'm
5 trying to remember the fact pattern in terms of the
6 warning element. Yeah, it's coming to mind now. If
7 it's put down during snowfall, it's fine. It begins
8 to melt the product. If it's put down in advance and
9 one doesn't get the requisite snowfall, it becomes
10 slippery unto itself. It was put down on several
11 overpasses in the San Antonio, Texas, area, and the
12 storm that was expected never developed. And I was of
13 the opinion that those people who were applying it
14 were not adequately warned by the manufacturer of the
15 potential hazard created if, indeed, you know, the
16 anticipated storm did not develop.
17 Q All right. So the warning you're talking
18 about was one that would have been directed to the
19 people who applied the substance to streets or roads?
20 A Yes, sir. And ultimately through -- and
21 one, I think that -- obviously, the San Antonio
22 Department of Transportation and so forth was
23 identified. They had oversight responsibility,
24 obviously, for doing that, but I believed used
25 independent contractors as opposed to city trucks.

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1 I'm not sure. But in essence, yes, I was of the
2 opinion that there was a communication channel, if you
3 will, and certainly a stream of information that could
4 have been devised that would have reached either those
5 laying the material down or with oversight
6 responsibility for laying it down.
7 Q Would there have been a need for a warning
8 to people who traveled on the roads that the substance
9 had been placed there?
10 A There were, in fact, warning barrels and so
11 forth put up, obviously, to warn folks of impending
12 storm. But I did not feel, nor do I at the time, that
13 there was a way, really, to inform drivers, if you
14 will, who simply placed confidence in this case in the
15 transportation department to put down, you know,
16 proper materials. I didn't see that it would be
17 reasonable to try to reach an individual driver. But
18 certainly for those people who were applying the
19 product, yes.
20 Q All right. James and Deborah Karlin?
21 A Yes, sir. This involved, actually, a
22 manufacturer of corrugated stainless steel tubing,
23 commonly referred to as CSST.
24 Q All right. And who were you testifying on
25 behalf of in connection with that case?

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1 A On behalf of the plaintiff at the request of
2 plaintiff counsel.
3 Q And what was the nature of your testimony in
4 that case?
5 A I have testified in I don't know how many,
6 Counsel, as I sit here, but in a few CSST cases. And
7 my opinion has remained constant that as early as the
8 2000-2001 time frame, that industry had clearly been
9 put on notice that its product could experience what's
10 called meltdown or melt-through, rather, in which in
11 the event of a direct or indirect lightning strike,
12 small pinholes or perforations appear in the skin,
13 from which LP or natural gas can escape, which, of
14 course, if it comes in contact with the source of
15 ignition, can result in a fire or explosion.
16 So I have testified consistently that the
17 manufacturer of that product needed to -- again, much
18 like the driver that you indicated in San Antonio, I
19 don't believe it's reasonable to assume that they can
20 get to the individual homeowner who is considering
21 CSST, but certainly there is a stream of
22 intermediaries that could be educated in terms of the
23 propensity of this product to be damaged by lightning.
24 Q Approximately how many times have you
25 testified in CSST litigation?

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1 A They would probably be -- let me see if I
2 can -- it appears, Counsel, that I have testified,
3 including the case we just discussed, on two other
4 occasions since the beginning of 2008.
5 Q Which cases were those?
6 A Well, maybe -- it may be a total too. I'm
7 looking at 2008, Mr. Ellis. You'll see probably, oh,
8 a little over halfway down, Honeywell/Anderson v.
9 Gastite. That was a CSST case. Oh, and I'm sorry,
10 the one immediately below Karlin, Becnel, the last
11 listing there in 2009. So that gives us, what, a
12 total of three, I guess?
13 Q During the period from 2008 to 2012?
14 A A total of four, I guess, Counsel. Also in
15 2010, Grimm and Grady v. OmegaFlex.
16 Q And prior to 2008, had you testified in any
17 CSST litigation?
18 A Yes, sir, I had. I don't recall the years.
19 But with the firm of Cathcart & Dooley, I testified.
20 I believe the case was styled Hardy v. Gastite, a
21 division of Titeflex.
22 Q On how many occasions did you testify on
23 behalf of that firm?
24 A That -- oh, Cathcart & Dooley?
25 Q Yes.

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1 A That was the only -- to the best of my
2 recollection, Counsel, I think that's the only CSST
3 case. I have -- I worked at their request on, I
4 think, one other case, but not related to CSST.
5 Q All right. So we're talking, then, about a
6 total over the entire period of time that you've been
7 giving expert testimony of five CSST litigations?
8 A Probably a bit more than that, Counsel, if
9 we're talking about the whole time from 2008. I know
10 I have testified in the offices, I want to say at
11 least twice, of Carpenter & Schumacher in Plano,
12 Texas, also in CSST cases, I believe, on at least two
13 occasions, perhaps three.
14 Q Okay. Were any of these subrogation
15 matters?
16 A Help me -- were the insurance companies --
17 Q Yeah.
18 A They may well all have been, to the best of
19 my recollection.
20 Q Do you know which -- which insurance company
21 was involved?
22 A I don't, sir. Farmers comes to mind on one
23 case. I think perhaps State Farm. Those are the two
24 that come to mind.
25 Q All right. And in each one of those cases,

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1 you testified on behalf of the plaintiff against the
2 defendant manufacturer?
3 A That's correct. Yes.
4 Q If you go on farther down the list, after
5 Karlin, you've got Becnel there. But I think you may
6 have already told us that was another CSST case?
7 A That's correct. Yes, sir.
8 Q All right. And 2010, Steven Peterson?
9 A Yes, sir. It's listed as asbestos
10 defendants. Excuse me. As I recall, Mr. Ellis, it
11 would have involved a respirator manufactured by North
12 Products or Norton.
13 Q And what was the nature of the opinion that
14 you gave there?
15 A My opinion was that the collateral that went
16 with the respirator, as well as the labeling inside
17 the respirator, was adequate to alert folks to its
18 proper use.
19 Q Amador Garza?
20 A Yes, sir. If it's the one I have in mind, a
21 sad case. A young Hispanic boy decided to start up an
22 ATV, as I recall, and he was electrocuted. He was
23 working on the battery, as I recall, of an ATV and was
24 electrocuted.
25 Q What was the nature of your opinion in that

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1 case?
2 A I believe I -- well, I know I worked at the
3 request of defense counsel and that there were
4 certainly adequate warnings on the battery itself, as
5 well as in the ATV manual about the appropriate way to
6 go about working on the battery. Unfortunately, this
7 man was on wet grass, barefoot. And I don't know that
8 -- I can't remember the fact pattern in terms of
9 whether he had been taught to work on the battery or
10 not. I believe he was going to surprise his father,
11 as I recall, and took it upon himself to attempt to go
12 out and work on it.
13 Q All right. Millie Jean Turley?
14 A Yes, sir. This was a case in which -- and I
15 have testified in a couple of McNeilus cases that may
16 show up later. McNeilus is a manufacturer of refuse
17 trucks. And this was a case where -- yes, her
18 husband, was pinned. He had not properly done the
19 locking device on one of the refuse trucks. And the
20 sweep arm had caught him and pinned him against the
21 frame of the truck. And he, I think, ultimately was
22 asphyxiated.
23 Q What was the nature of your opinion in that
24 case?
25 A I think -- well, the opinion was that the

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1 warnings -- and there were a plethora of warnings. I
2 don't think they were over-warned, but there were
3 clear warnings, very visible, you know, to him at the
4 time of the accident to not do precisely what he did
5 in terms of failing to set the locking mechanism.
6 Q Ellen Grimm?
7 A Yes, sir. That, as you can see, was, again,
8 a CSST case. And I believe the fact pattern would
9 have been the same as the other cases that I've had
10 familiarity with, which is to say, a lightning strike,
11 either direct or indirect, compromised the CSST as to
12 say holes were present, which allegedly led to a fire.
13 And, again, I had the same opinion, that that industry
14 needs to give the homeowner or the structure owner,
15 albeit through intermediary sources, information
16 allowing them to make an informed choice of whether
17 they want to go to the extra expense of installing a
18 lightning protection system.
19 Q Uh-huh. And why were there holes in the
20 CSST in this case?
21 A You know, obviously, I'm not a metallurgist
22 and certainly not an engineer. My understanding is
23 that the electrical charge is sufficient that
24 pinholes, perforations appear in the skin of CSST.
25 And from that, if, indeed, natural gas is present,

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1 that fuel can escape, and if it comes in contact with
2 a source of ignition, can result in an explosion or
3 fire. And at least from my experience, the alleged
4 fact pattern has been the same in all the CSST cases
5 with which I've had experience.
6 Q Was it the same source of ignition in every
7 case?
8 A It was alleged, I think, in virtually all
9 the cases to have been the result of a direct or an
10 indirect lightning strike.
11 Q Uh-huh. Okay. But what was the first
12 ignited material?
13 MS. MACLEOD: Objection to form.
14 A Boy, you know, I don't recall. And it may
15 have been the CSST or material nearby, and it arced to
16 the CSST, Counsel. I don't remember all the fact
17 patterns.
18 Q (By Mr. Ellis) Tonya Cox?
19 A Oh, yes. Sad case, Counsel. This was a
20 woman who had a horse trailer, and they were going to
21 a horse show, her boyfriend and the pet and, I think,
22 two small children. And they had brought a generator
23 and -- that should have been used only outdoors to
24 power the trailer. And they had moved it into the
25 back of the trailer. And a wall which was not sealed

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1 allowed carbon monoxide poison, which settled in, and
2 obviously heavier than air, to the level at which her
3 boyfriend and his children were in sleeping bags. The
4 woman was fortunate enough to have been sleeping on a
5 higher berth, if you will, some sort of storage
6 cabinet. So she was sick, but survived. And the
7 others, unfortunately, died.
8 Q And what was the nature of your opinion in
9 that case?
10 A That the warnings, both on the trailer as
11 well as the device itself, were adequate to have
12 alerted someone to the hazard of the potential risk of
13 carbon monoxide poisoning.
14 Q Tonia Roberts?
15 A Yes, sir. This is a case that -- it's been
16 turned over to a different law firm, I believe,
17 Mr. Ellis. It still may be out there somewhere. But
18 it involved a product called Flexible Foam. I believe
19 that's the nature of the product. Long story short,
20 an individual had misused the foam and built himself a
21 kind of a recording studio and had moved on. It was
22 now being used as kind of a bonus room or something of
23 the like. And two children were in there, having
24 smoked marijuana. And the son, who had a history of
25 playing with matches and fire, was lighting the foam

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1 and -- to watch it, you know, kind of evaporate, if
2 you will. And there was a fire that ensued, and the
3 children, with the exception of the daughter -- one of
4 them was trapped inside -- I think it was a friend,
5 not a member of the family -- and perished.
6 Q What was the nature of your opinion in that
7 case?
8 A That the -- I'm trying to recall if there
9 was a -- I believe my opinion, Counsel, was that the
10 information that was -- you know, can I get back to
11 you on that? I honestly don't recall whether it was a
12 package insert or it was something on the foam itself,
13 but it certainly dealt with -- you know, specifically
14 with the area of warnings.
15 Q Uh-huh. And you testified on behalf of
16 whom?
17 A I believe on behalf of defendant.
18 Q All right. Larry L. Newkirk?
19 A Yes, sir. This was a case -- ConAgra Foods.
20 I believe this was a case of spontaneous combustion,
21 if I'm not mistaken. ConAgra made a
22 vegetable-oil-based product and that if you wiped up
23 spillage with towels, for example, and then put them
24 in the dryer, unless all the residue was gone, indeed,
25 if you stacked them up, there was enough heat

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1 generated where literally the towel could
2 spontaneously combust. And I testified on behalf of
3 -- at the request of plaintiff's counsel and was of
4 the opinion that there was not adequate warnings on
5 the product regarding spontaneous combustion.
6 Q All right. Let's go to 2009. China Star
7 Oil Company?
8 A Yes, sir. This was a well blowout in Texas,
9 as I recall. And I don't fully remember the fact
10 pattern, Mr. Ellis. I apologize. I believe it was a
11 down-hole tool that was being used and some sort of a
12 hook. And I believe, Counsel, that I testified at the
13 request of plaintiff's counsel that the tool should
14 have been accompanied by more prominent or better
15 warnings and instructions regarding its use. And,
16 again, I don't recall the specifics beyond that.
17 Q All right. Oklahoma Cardiovascular
18 Associates?
19 A Yes, sir. This involved a fire in the
20 maintenance area of a large cardiovascular --
21 cardiovascular practice in Oklahoma City. And it
22 involved plugging in a battery-powered tool to
23 recharge the battery. And I testified on behalf of
24 defense counsel that the battery warnings, in terms of
25 its proper use and not to leave it plugged in for long

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1 periods of time, were adequate.
2 Q Katherine Craig?
3 A Yes, sir. This involved the case of a piece
4 of Crown equipment, a form of industrial truck, if you
5 will, that a woman was injured by in a tip-over
6 accident. And I was of the opinion that, again, the
7 warnings that were on the device were adequate to
8 alert her to its proper use.
9 Q What was the equipment, again?
10 A The equipment was -- there's a specific
11 term, Mr. Ellis, that isn't coming to mind,
12 unfortunately. But it's essentially a -- an interior
13 industrial truck-like -- that one can raise -- I mean,
14 you would see it in warehouses, for example, which was
15 the case here. It's got a specific term of art. But
16 where you can obviously -- a crane-type product where
17 you can lift packages and put them up on higher
18 shelves. A crane would be the generic name, but they
19 have a specific term of art for this particular piece
20 of equipment.
21 Q And this was a tip-over accident --
22 A Yes.
23 Q -- you said?
24 A Yes.
25 Q Celeste Neaves?

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1 A Yes, sir. Or Neaves, I guess, was the
2 proper pronunciation, as I recall. And this was a
3 gentleman who was killed by a piece of equipment in
4 which one of the transport arms came down and struck
5 him as he was standing near the carrier bed that it
6 was placed upon. And in that case, I worked at the
7 request of plaintiff's counsel and was of the opinion
8 that there should have been an on-product warning
9 regarding a locking device that was otherwise, you
10 know, not prominent.
11 Q All right. Ramon Canaan?
12 A Yes, sir. Again, working with defense
13 counsel representing Crown Equipment Corporation. And
14 if I recall correctly, this was an incident in which
15 an individual backed into a bay in a warehouse, and it
16 struck the back of his head, as I recall.
17 Q And your opinion in that case was what?
18 A Again, that the warnings on the equipment
19 were adequate about backing up and the like.
20 Q All right. Charlette Lachney?
21 A Yes, sir. And this was one that I had in
22 mind earlier when I indicated that, at least in this
23 case and one more that I can recall, I really talked
24 about communication and the adequacy of a message that
25 was not necessarily -- in this case, indeed, not at

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1 all -- a warning. Actually, this was an age
2 discrimination case against Target in Oklahoma City.
3 Q And what was the nature of your opinion?
4 A The nature of my opinion was that the
5 meta-message, M-E-T-A, the message within a message,
6 if you will, that was being communicated by Target
7 was, indeed, reflective of the fact that there was age
8 discrimination, which is to say, specifically, all
9 their training films were with young folks. Their
10 motto was, "fast, fun, and friendly" or something of
11 the like. There was anecdotal history of supervisors
12 communicating their desire for younger workers and
13 employees and that all of the data that I had looked
14 at, when analyzed from a communication-theory vantage
15 point, I was certainly satisfied that, indeed, there
16 was discrimination against older members of their work
17 force.
18 Q All right. Before going to 2008, why don't
19 we take a short break?
20 A Sure.
21 THE VIDEOGRAPHER: Off the record. The time
22 is 9:39.
23 (Recess taken from 9:39 to 9:46.)
24 THE VIDEOGRAPHER: Back on the record. The
25 time is 9:46.

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1 Q (By Mr. Ellis) All right, sir. Let's go to
2 2008. The first one there is AMCO Insurance Company?
3 A Yes, sir. That was very similar to the --
4 in fact, almost identical, Counsel, to the fact
5 pattern I mentioned in that earlier case with ConAgra,
6 which is to say, spontaneous combustion.
7 Q Of the same product?
8 A Vegetable oil. Yes, sir.
9 Q The vegetable oil?
10 A Yes.
11 Q All right. Millie Jean Turley?
12 A Yes, sir. If I recall this one, again, it
13 was a McNeilus case. And this gentleman was driving
14 not one of their refuse trucks, but another
15 cross-country van of some type. And he --
16 Q Oh, okay. This is the deposition in the
17 earlier case --
18 A Exactly. Exactly.
19 Q -- in 2010. All right. The next one is
20 AMCO Insurance Company again?
21 A Yes, sir. That was simply deposition
22 testimony versus the --
23 Q In the same case we talked about --
24 A Exactly.
25 Q -- just a few seconds ago? Okay.

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1 Honeywell/Anderson is a CSST case; is that correct?
2 A That's correct. Yes, sir.
3 Q Same opinions as --
4 A Yes.
5 Q Same fact patterns as before?
6 A Exactly. Yes.
7 Q Steven J. Headley?
8 A Boy, I apologize, Mr. Ellis. I'm drawing a
9 complete blank on that one. I -- I apologize.
10 Nothing is registering.
11 Q All right. Pablo Cabrales-Lozaro?
12 A Yes, sir. It was a case I worked at the
13 request of defense counsel. And I was of the opinion
14 that the collateral that went with the tires
15 manufactured by Bridgestone/Firestone were adequate to
16 talk about the importance of proper inflation,
17 checking for tread, and the like. These were tires
18 that were simply worn down to the point where there
19 was a tire explosion and a vehicle wreck as a result.
20 Q Uh-huh. Jennifer Choi?
21 A Yes, sir. Working at the request of defense
22 counsel representing Budget Rent A Car System. Don't
23 remember the full fact pattern except that she had
24 overloaded, as I recall, a vehicle in such fashion
25 that it became unstable. And I was of the opinion

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1 that there were clear admonitions regarding how to
2 store items.
3 Q All right. Anthony Aponte?
4 A Yes, sir. Working at the request of defense
5 counsel representing Illinois Tool Works. This was a
6 case where a -- coincidentally, they're here in Tulsa
7 as a distribution center. A Hilti gun, H-I-L-T-I,
8 which is a nail gun, was in a loaded fashion inside a
9 bag that a construction guy was carrying. He dropped
10 it. The gun went off, and he was injured by the nail.
11 And I was of the opinion that, again, training
12 collateral that went with the -- and instructional
13 collateral that went with the device clearly talks
14 about the importance of never carrying it in a loaded
15 position and never to transport unless the nails,
16 obviously, are separate from the gun.
17 Q So your opinion was that the warning was
18 adequate in that case?
19 A Yes.
20 THE WITNESS: I've been known to walk out
21 with those, so --
22 THE REPORTER: You know the drill.
23 THE WITNESS: Keep me honest.
24 Q (By Mr. Ellis) And I only have one copy of
25 this, so --

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1 MR. ELLIS: Let me ask you to mark that as
2 Exhibit 113.
3 (Exhibit 113 marked for identification.)
4 Q (By Mr. Ellis) I'm showing you what's been
5 marked as Exhibit 113. Can you identify that for us,
6 please?
7 A Yes, sir. This is a correspondence from
8 myself to Ms. MacLeod dated December 23rd of this
9 year. And subsequent to my report, Mr. Ellis, of
10 October 13, I was sent other materials, which I
11 reviewed. And this simply documents the fact that I
12 had received and reviewed them. I might mention also,
13 Counsel, that in addition to this, which lists
14 everything I have reviewed after my report, I also
15 received by e-mail the file of Dr. Timothy Rhoads,
16 R-H-O-A-D-S, which I also have looked through.
17 Q Did you provide comments to Counsel about
18 the file of Mr. Rhoads -- or Dr. Rhoads?
19 A No, I did not.
20 Q All right. Was there anything that you
21 found of interest in Dr. Rhoads' file?
22 A I believe I'd already seen his report. His
23 file, to the best of my recollection, Counsel,
24 involved some deposition summaries done by someone on
25 his staff, as I recall. And having reviewed the

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1 depositions, I simply glanced at that. I think there
2 was maybe also a copy of an article that he had
3 presented with colleagues at the Human Factors and
4 Ergonomics Society meeting. Beyond that, there was
5 nothing else that stood out. It was simply his file
6 contents.
7 Q All right. In Exhibit No. 113, which is a
8 letter that you sent to Ms. MacLeod dated December 23,
9 2012, you indicated then that you had received and
10 reviewed the expert report of Thomas W. Eager; is that
11 correct?
12 A Yes.
13 Q The supplemental report of J. Robert McGraw?
14 A Yes, sir.
15 Q The supplemental expert report of Ronald D.
16 Simmons?
17 A Yes.
18 Q And the deposition transcripts of Goodson,
19 McGraw, Scardino, Simmons, Christopher Taylor, and
20 Rosaria Taylor?
21 A Correct. Yes, sir.
22 Q All right. Were you aware from reading the
23 reports of Mr. McGraw and Mr. Simmons that they had
24 changed their opinions from the earlier reports that
25 they had furnished in the case?

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1 MS. MACLEOD: Objection to form.
2 A I know that they had supplemental reports,
3 Counsel, and I can't -- I can't really recall the
4 substance of those, whether they had altered or
5 modified or simply amplified opinions.
6 (Exhibit 114 marked for identification.)
7 Q (By Mr. Ellis) I'm showing you now what's
8 been marked as Exhibit No. 114.
9 A Yes, sir.
10 Q And is that a letter dated October 13, 2012,
11 with your expert report attached?
12 A It is, sir.
13 Q All right. And here on the first page of
14 the exhibit, you've indicated what materials you've
15 reviewed in connection with the preparation of your
16 report; would that be right?
17 A Yes, sir, it would.
18 Q On the second page of the report, you
19 indicate that you have reviewed the materials and the
20 "... fact pattern of this litigation within the
21 analytical framework of communication theory,
22 incorporating the elements of source, message,
23 channel, receiver, and feedback." Can you tell me
24 what you mean by that, please?
25 A Yes, sir. The framework that I'm referring

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1 to there, Counsel, is the one that I described, I
2 hope, somewhat visually, but orally to you a bit
3 earlier. It's the basic model of human communication.
4 And the references that I provided, David Berlo,
5 Schwartz and Driver, and so forth, are materials in
6 which you would find that model presented and
7 discussed.
8 Q Over at the top of the next page of your
9 report, you indicate that you've "... critiqued,
10 designed, developed, and field-tested dozens of
11 product warnings/instructions for various
12 manufacturers of consumer and industrial
13 products" Do you see that?
14 A Yes, I do, sir.
15 Q And have you identified all of the ones that
16 you can presently recall for us today?
17 A One more comes to mind, Counsel, and let me
18 think. A machine called Artograph used by muralists.
19 And very briefly, Mr. Ellis, what it consists of is a
20 kind of a light housing in which a muralist -- or it
21 doesn't have to be a mural, but typically so -- places
22 a three-dimensional object, and it can be then
23 amplified on whatever they are drawing or painting on.
24 And long story short, in fact, that was one of the
25 articles that we talked about earlier or perhaps made

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1 reference to. In the event that the light housing is
2 not locked in place, but it's spring -- it's on a
3 spring pedestal. And in the event that it isn't
4 locked in place, if one bumps it, it can come up at a
5 pretty high rate of speed.
6 A muralist in California was using it and
7 bumped against it. And anyway, it hit her in the
8 face, broke her glasses, black and blue. And she
9 didn't file any kind of a legal complaint, but simply
10 alerted the manufacturer. And the manufacturer had
11 gotten my name from counsel, I think, in Minneapolis
12 and asked me to develop a warning that I thought would
13 adequately alert someone to the importance of ensuring
14 that it's locked in the position. So we did an
15 experimental study in which I designed two different
16 versions of the warning, in which we used what we term
17 valence, positive or negative.
18 And we tested it on, I think, about -- I
19 think, all told, a sample of about a hundred muralists
20 and/or art students in and around Buffalo, New York,
21 and, indeed, identified the one that best communicated
22 to them. And what made it worthy of publication at
23 that time was that most of the warnings literature
24 talks about stating things in a positive vein. But
25 sure enough, we found in this case, at a statistically

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1 significant level with that sample, that the negative
2 valence had greater impact, never do, never do, never
3 do, as opposed to always. So that was, I think, in
4 fact, one of the first warnings that I had designed.
5 Q All right.
6 A And, again, as I indicated before,
7 Mr. Ellis, I mean, I'll certainly volunteer other
8 examples of warnings that I've developed --
9 Q Sure. Yeah.
10 A -- as they come to mind.
11 Q Yeah, I'd appreciate that.
12 A Okay.
13 Q All right. Again, on that page, under the
14 "Opinions and Rationale," do we find some text that
15 goes with the opinions that you're expected to deliver
16 at trial in this case?
17 A I believe so, Counsel, yes.
18 Q All right. In the first paragraph, you
19 acknowledge that having reviewed the expert
20 engineering reports on both sides of this, that there
21 is a "... disagreement regarding the propensity of the
22 subject LP TechShield Radiant Barrier to increase the
23 likelihood of a dwelling fire in the event of a direct
24 or indirect lightning strike"; is that right?
25 A Yes, sir.

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1 Q So you've read Mr. Goodson's report, for
2 instance, and you know that his opinion is that this
3 material is not hazardous and doesn't create any
4 greater propensity for a fire in the event of a
5 lightning strike?
6 MS. MACLEOD: Objection to form.
7 A I think so, Counsel. And I'm not quibbling
8 with your characterization. I'm not sure -- I think
9 Mr. Goodson was of the opinion that he had not yet
10 seen enough evidence that he could state one way or
11 the other. I think he, for lack of a better -- I
12 don't mean this in a pejorative sense -- kind of took
13 the Fifth on that. I think it was more of a wait and
14 see, but I may have misunderstood or misremember what
15 he testified to. But he certainly was, as you say, of
16 the opinion that there is no proven sufficient risk
17 thus far.
18 Q (By Mr. Ellis) All right. And you read
19 Mr. McGraw's report?
20 A I did.
21 Q Correct?
22 A Yes.
23 Q Did you read his deposition transcript?
24 A I did.
25 Q So you know that he was not able to come to

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1 the opinion that the radiant barrier is a hazardous
2 product?
3 A I believe that was --
4 MS. MACLEOD: Objection to form.
5 A I believe that was his position, yes, again,
6 that there just simply wasn't enough evidence for him.
7 Q (By Mr. Ellis) And Mr. Scardino, you read
8 his report and his expert deposition testimony?
9 A I did.
10 Q And you know that he didn't come to the
11 conclusion either that the material was hazardous?
12 A I -- that's correct, yes.
13 Q All right. You did read Mr. Simmons'
14 report; correct?
15 A Yes.
16 Q And Mr. Simmons' deposition testimony; is
17 that right?
18 A Yes, sir.
19 Q And you know that he's one that has
20 determined that the material is hazardous; is that
21 correct?
22 A Yes, Counsel. I don't know that he's the
23 only one, but he's the only person whom I've seen
24 quoted or whose testimony I've reviewed that is of
25 that opinion.

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1 Q Okay. What other ones do you know of that
2 have come to the conclusion that the RBS, radiant
3 barrier material, is hazardous?
4 A I don't except, as I recall, Mr. Ellis, he
5 may have made reference to -- I don't know by name,
6 but other engineers within the McDowell Owens firm who
7 apparently either shared his opinion or had that
8 opinion independently. So I guess what I was
9 referring to is, I don't know that he is the only one
10 who has taken that position.
11 Q What about outside the McDowell Owens?
12 A I don't believe there -- at least nothing
13 I've seen has offered opinion from anyone outside of
14 that research engineering firm.
15 Q All right. What do you understand
16 Mr. Simmons' opinions to be?
17 A I can't speak, obviously, as an engineer
18 would. If I were to summarize them from my
19 perspective, I think Mr. Simmons is of the opinion
20 that this particular material can, indeed, be
21 hazardous, can, indeed, be impacted by lightning to
22 the point where it is capable of being energized,
23 being a path to ground of the lightning strike, and
24 can, in fact, ignite combustibles near it. I'm sure
25 he would put it in different terminology, but that's

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1 my understanding of his position.
2 Q Okay.
3 A And that he has, to his satisfaction,
4 evidence, having tested this material with an
5 automotive battery or perhaps an additional form of
6 energy, that the product can burst into flames. And I
7 think, as he indicated, whether one uses a match or a
8 blow torch, the material can be ignited.
9 Q What do you understand the opinions of the
10 LP experts with respect to the properties of RBS to
11 be?
12 A By LP experts, you mean --
13 Q Right. Mr. Goodson --
14 A -- third parties?
15 Q Mr. Goodson, yeah. Third parties like
16 Mr. Goodson and Mr. Scardino.
17 A Yes, sir. I believe Mr. Goodson's position
18 is that under certain circumstances, that, indeed,
19 TechShield will fail. It can, indeed, be ignited. I
20 think his opinion is, so can a number of materials
21 that one might find in a dwelling. Mr. Scardino, I
22 believe, also ascribes to the notion that lightning
23 can result in the transfer of energy and fire on a
24 number of materials, one of which is TechShield. And
25 I think you asked about Mr. McGraw?

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1 Q Uh-huh.
2 A I think Mr. McGraw was of the opinion that
3 this material can be a conductor, can provide a path
4 to ground, if you will, and can, in fact, come into
5 contact and influence other combustibles in its
6 vicinity.
7 Q Do you know how long the LP TechShield
8 product has been on the market and used in homes?
9 A I don't, Mr. Ellis, no. I've learned
10 somewhere that oriented strand board or OSB has been
11 prevalent for quite a long time in the construction
12 industry. And I -- for some reason, I'm thinking it
13 may be within the last decade that this material has
14 arrived on the market. I believe, in large part --
15 and the reason I would put that time frame on it,
16 within the last decade, if not more recently, it is --
17 somewhere I gleaned the notion that it was really, in
18 part, a response to energy conservation and in making
19 the homes more energy efficient, if you will, which I
20 think has been relatively new, I'd say, within the
21 last decade.
22 Q Would it be important for you, in connection
23 with reaching your opinions, to know how long the
24 product has actually been on the market and been in
25 use in homes?

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1 A Yeah, probably of interest, Mr. Ellis. I --
2 again, I -- I don't think it would influence my
3 opinion as I've stated it. I mean, I think it's been
4 out there for some period of time. But, again -- and
5 I may be wrong -- I want to say within the last
6 several years, if you will, to perhaps a decade on the
7 outside.
8 Q Let's speak about it on two different
9 levels, the first level being the level of your
10 drawing some sort of conclusions with respect to
11 warnings in this case.
12 A All right, sir.
13 Q Would it be important for you to know if the
14 product had actually been in use in homes for over two
15 decades without anyone calling it or determining that
16 the product was hazardous?
17 A It might, Counsel, if, indeed, there had
18 been, I think, some hazard analysis conducted, some
19 testing of the material in that interim period that
20 would have, indeed, you know, rendered it safe, if you
21 will, for lack of a better term. My experience has
22 been, with some products, there is a requisite time in
23 the marketplace in which they exist before, in fact, a
24 hazard is potentially identified.
25 Q What's that requisite period of time?

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1 A It really varies, Counsel, from product to
2 product. I don't think there is a specific time
3 frame. I just know from experience that in other
4 cases I've been involved in and were looking at the
5 history of warnings and warnings development, that
6 there are certainly products that have been in the
7 marketplace for some time in which their hazardous
8 nature has not been clearly identified.
9 Q What about a situation like this, where
10 you've got a product that's been used in homes for
11 over 20 years, and there have been hundreds of
12 thousands and millions of lightning strikes during
13 that period of time. Does that bear on this issue of
14 whether or not the products have been on the market a
15 requisite period of time?
16 MS. MACLEOD: Objection to form.
17 A I don't think entirely, Mr. Ellis, and the
18 reason for that -- and I am familiar with some fire
19 incident reports and -- that have been conducted and
20 reported. Very often, the specific cause, you know,
21 has not been identified. So I guess what I'm saying
22 is, it might influence my opinion to a degree to know
23 that, gee, it's been out here for some period of time.
24 On the other hand, just as, I think, Mr. Goodson
25 testified, I think Mr. McGraw testified, it could well

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1 have been involved in fires which they, in fact,
2 investigated, and it really never dawned on them to,
3 you know, investigate that particular product.
4 Q (By Mr. Ellis) What about on the level of
5 Mr. Simmons' opinions? Does the fact that for 20
6 years this product has been on the market, been used
7 in homes, and the fact that one group of engineers
8 determines that there's a risk to this material after
9 20 years of being on the market, does that -- is that
10 of any interest to you in reaching your opinions?
11 MS. MACLEOD: Objection to form.
12 A Well, I'd be the first to say, Mr. Ellis,
13 whether it's this case or my opinion or anyone else's,
14 there certainly is value, I think, in the multiple
15 investigators investigating a particular product,
16 certainly, yes, and perhaps others outside of McDowell
17 Owens will begin to do so. On the other hand, I think
18 the identification of a hazard has to begin somewhere.
19 And it occurs to me that if, indeed, there is validity
20 to the tests that Mr. Simmons and his colleagues have
21 run, the only folks, to the best of my knowledge, who
22 have tested this material seem to be of the
23 engineering opinion that, indeed, the hazard or the
24 risk is there.
25 Q (By Mr. Ellis) Well, let's talk about the

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1 testing, then, both as to the quality, the
2 significance, and validity of Mr. Simmons' testing.
3 You've already indicated that you're not an engineer.
4 A That's correct. Exactly, Counsel.
5 Q You're not an expert in lightning.
6 A True.
7 Q You're not an electrical engineer. You've
8 never testified as to whether or not a
9 lightning-induced fire in a home is caused by any
10 particular kind of material, whether it's CSST or RBS;
11 right?
12 MS. MACLEOD: Objection to form.
13 A From an engineering vantage point, yes, sir.
14 That is correct.
15 Q (By Mr. Ellis) You've -- with respect to
16 CSST, your experience has really been with respect to
17 adequacy of warnings?
18 A Yes, sir.
19 Q Right?
20 A Yes.
21 Q So you're not really in a position, are you,
22 to give an opinion as to the validity of Mr. Simmons'
23 test?
24 A I am not, Counsel, no. As we both
25 indicated, I know quite clearly, you know, I am not an

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1 engineer. What I will say is, whether it's past
2 testimony or developing my own warnings instructions,
3 facilitating hazard analysis sessions with clients, I
4 leave it to the engineers, you know, to run their
5 tests and leave it to other engineers to judge the
6 adequacy of those tests. In this particular case, I
7 was struck by the fact that McDowell Owens, while you
8 say -- while you indicate may be the only firm that
9 has done so, they also are the only firm that have
10 done any kind of that type of testing on the product,
11 as I best understand it as I sit here now.
12 Again, the validity of their testing is
13 really outside of my area of expertise. But what I am
14 here to say is, if, indeed, their testing is validated
15 in the sense that this risk is there, this hazard is
16 present, then I believe it behooves the manufacturer
17 to develop a technical bulletin or a safety bulletin
18 to alert folks to the fact that there can be this
19 increased risk, if you will.
20 Q So if their tests are valid --
21 A Yes, sir.
22 Q -- in connection with making a determination
23 that this material is hazardous, then the manufacturer
24 would have a duty to determine whether or not a
25 warning was appropriate?

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1 A Yes, sir, although I think also that, like
2 any manufacturer, I think that before one places a
3 product in the stream of commerce, one does, in fact,
4 a hazard analysis to identify, are there particular
5 hazards that are likely to be confronted during
6 intended use or -- I know it's a legal term of art as
7 well -- foreseeable misuse? I think every
8 manufacturer is obligated to that task. But, again, I
9 am not and cannot speak as an engineer in terms of the
10 validity of that test. But it strikes me in this case
11 that McDowell Owens are the only folks who've made any
12 effort to determine whether, in fact, this particular
13 product has a propensity to be compromised by direct
14 or indirect lightning strikes.

15 Q Uh-huh. Had you ever worked with the
16 McDowell Owens firm before?

17 A I have not. I recognize the name,
18 Mr. Ellis. In fact, I think I shared with Ms. MacLeod
19 this morning -- we grabbed a quick breakfast -- that
20 they were not a new name to me. So I've seen them --
21 and actually, it would be as part of litigation
22 support. Their national or international reputation
23 or the quality of staff, I know nothing about.

24 Q Okay. So you can't draw or give us any
25 opinion as to the quality of the work of McDowell

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1 Owens as an engineering firm?

2 A No, sir. It would be well beyond my area of
3 expertise.

4 Q That's -- that's outside your expertise?

5 A Yes, sir.

6 Q What about as to Mr. Simmons individually?
7 Had you ever worked with Mr. Simmons before?

8 A No. It was a new name to me.

9 Q Okay. And so you're not able to give an
10 opinion as to the quality or validity of his work
11 based upon your knowledge and experience with him?

12 MS. MACLEOD: Objection to form.

13 A No, sir. I noticed that in one or more
14 states, he carries a certification as a professional
15 engineer, as I recall. Beyond that, I have no
16 knowledge of his personal background or competency.

17 Q (By Mr. Ellis) Were you aware of the fact
18 that Mr. Simmons had never obtained an engineering
19 degree from any university?

20 A I recall that from his deposition, yes.

21 Q All right. Does that impact your view of
22 the validity of the testing of McDowell Owens?

23 MS. MACLEOD: Objection to form.

24 A No, sir, it doesn't. I mean, I -- I don't
25 know. I know they are a firm -- the only thing I know

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1 about McDowell Owens is that they are a firm that
2 does, as I understand it, quite a bit of testing on a
3 multiplicity of products for various clients and
4 obviously provide litigation support from time to
5 time. Beyond that, I don't know anything about them.
6 But back to your point about being degreed or not, as
7 -- again, I'm not here to judge, but he does have the
8 professional engineer certification, which I --
9 certainly, obviously, requires some level of proven
10 competence, I assume. But there have been, I think,
11 also a number of other folks who don't have degrees
12 who are quite capable of performing.

13 Q (By Mr. Ellis) Had you done any
14 investigation yourself into Mr. Simmons' competence in
15 this area?

16 A No, sir. I could not judge it, I expect.

17 Q All right. And had you done any work to
18 investigate independently of what you saw in
19 Mr. Simmons' report and in his deposition testimony --

20 A No.

21 Q -- whether or not the testing which he did
22 was valid?

23 A Again, Counsel, I would not be in a position
24 to judge that.

25 Q Okay. But did you do any independent work?

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1 For instance, did you go to any engineering firm and
2 ask them, look at Mr. Simmons' reports here and his
3 expert testimony and tell me whether or not you
4 believe what Mr. Simmons has done is valid?

5 A No. I have not.

6 Q All right. Would it have been important in
7 connection with Mr. Simmons' test to try to get as
8 close to the impact of an actual lightning strike?

9 MS. MACLEOD: Objection to form.

10 A My understanding, Counsel, and certainly,
11 again, with no engineering expertise -- but it -- my
12 take in the vernacular of the testimony of all of the
13 engineering experts was that lightning cannot be
14 replicated under experimental conditions. Now, having
15 said that as -- I recall Mr. Goodson offering in his
16 deposition that there are firms which, in fact, can
17 conduct, albeit quite expensively, as he put it, the
18 -- essentially that can replicate lightning, was my
19 interpretation of what Mr. Goodson offered. So I
20 guess I'm left, as a non-engineer, with the
21 observation that if it can't be replicated, can you,
22 nonetheless, conduct investigation in terms of the
23 effect of electrical current on the material in some
24 fashion? And I believe that's, to the best of my
25 understanding, what Mr. Goodson and folks at McDowell

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1 Owens have done.
2 Q (By Mr. Ellis) You mean not Mr. Goodson,
3 but Mr. --
4 A I'm sorry. I beg your pardon. Mr. Simmons.
5 Thank you.
6 Q All right. Do you know that Mr. Simmons has
7 taken the position that he wasn't actually even trying
8 to replicate the impact of a lightning strike in his
9 test?
10 MS. MACLEOD: Objection to form.
11 A I think, again, based upon what at least I
12 understand to be engineering consensus, that that is
13 not possible, but I believe his position was also, but
14 it is not important. What he believes his tests have
15 shown is that electrical energy brought to bear on the
16 TechShield Radiant Barrier can, in fact, cause it to
17 be ignited.
18 Q (By Mr. Ellis) And with respect to that,
19 the ignitability of the material in Mr. Simmons' test,
20 are you aware of the factors that go into the amount
21 of current that's actually put into the material?
22 A No, sir, I am not.
23 Q Okay. So you're not familiar with the
24 formulae that relate to it, the amount of the current,
25 duration, and that sort of thing?

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1 A I am not.
2 Q Okay. Do you know whether Mr. Simmons' test
3 even remotely approximated the duration of a lightning
4 strike?
5 MS. MACLEOD: Objection to form.
6 A I do not. I recall that it was the opinion
7 of Mr. -- at least Mr. Goodson that it did not.
8 Beyond that, I don't recall.
9 Q (By Mr. Ellis) Well, did that have any
10 impact on you, in terms of reliance upon Mr. Simmons'
11 test, that what he was doing in no way approximated
12 the duration of a lightning strike?
13 MS. MACLEOD: Objection to form.
14 A No, Counsel. And, again, certainly from an
15 engineering standpoint or vantage point, I really
16 couldn't comment on that. It's totally outside of my
17 area. I will say, though, that having said that --
18 and you mentioned Mr. Goodson's position -- as I
19 recall, and I remember Mr. Goodson's name from earlier
20 CSST cases -- but, indeed, had tested that material
21 without replicating lightning or finding it necessary
22 to do so. So to the extent to which that's common
23 practice in the electrical engineering profession, I
24 don't know.
25 Q (By Mr. Ellis) I'm talking specifically now

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1 about the duration.
2 A Yes, sir.
3 Q The time in which the current or heat is
4 supplied to the material; okay?
5 A Yes.
6 Q Now, with respect to that, do you know
7 whether or not what Mr. Simmons did was several orders
8 of magnitude greater, in terms of duration, than what
9 a lightning strike would be?
10 MS. MACLEOD: Objection to form.
11 A I know that's the opinion of Mr. Goodson.
12 But I don't have any independent opinion.
13 Q (By Mr. Ellis) You know that from reading
14 Mr. Simmons' deposition transcript too, that he
15 admitted that the duration of time that he applied a
16 current, a heating source, to the material was several
17 orders of magnitude longer than a lightning strike
18 would be?
19 MS. MACLEOD: Objection to form.
20 A Yes, sir. I -- and I also recall -- and
21 I'll do my best to come up with a source or how -- and
22 I may be wrong, Mr. Ellis, but it seems to me that he
23 -- Mr. Simmons then conducted an additional test with
24 a shorter duration. And I may be wrong. And the
25 outcome of that and the result of that, I don't know.

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1 But my impression is, somehow, that he ran additional
2 tests that were videotaped and for something closer to
3 the duration of a hypothetical lightning strike and
4 found essentially the same factor; that is to say,
5 ignition and flammability.
6 Q (By Mr. Ellis) That's actually the test I
7 was referring to --
8 A Oh, I see.
9 Q -- where he applied a car battery and, you
10 know, attempted to give it a much shorter duration in
11 terms of time application to the material. And do you
12 know whether or not, with respect to that test, that
13 the duration of it was nevertheless several orders of
14 magnitude longer than a lightning strike would be?
15 MS. MACLEOD: Objection to form.
16 A I do not know that firsthand, Counsel.
17 Again, going back to Mr. Goodson's deposition, I think
18 he makes some reference to it being a significant
19 magnitude.
20 Q (By Mr. Ellis) Okay. Would that bother you
21 any in terms of your reliance upon Mr. Simmons' test
22 as being a valid indicator as to whether the --
23 whether or not this material is hazardous?
24 A Not being an engineer, Counsel, no. I mean,
25 it doesn't. I mean, I can't judge the veracity, if

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1 you will, of the tests that were conducted. All I do
2 recall, again, from Mr. Goodson's deposition
3 testimony, is that while it's thicker; that is to say,
4 the skin on CSST, but essentially he had tested that
5 material in conditions other than those of attempting
6 to replicate lightning and was satisfied with his
7 results. So I guess, as a lay person in terms of
8 engineering, I simply don't know. And I'm really not
9 in a position to judge. All I can do from a warning
10 standpoint is say that the only test that was done,
11 assuming that it was reliable and valid, was done by
12 McDowell Owens, and, indeed, it showed that the
13 material could be compromised.
14 Q Okay. So to get to the point where you're
15 in a position to give an opinion in this case, you
16 have to rely on or make an assumption that the
17 McDowell Owens testing was valid?
18 A Yes, sir. Yes. Again, I cannot judge its
19 validity. But, yes, I am assuming that it is valid
20 and, indeed, demonstrates what Mr. Simmons and his
21 colleagues found.
22 Q Right. And if their testing is not valid,
23 it's wrong, then your ability to make that assumption
24 goes away; right?
25 A It does, sir. I mean, there's no question

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1 in my mind that if the triers of fact or whomever find
2 that this test is somehow invalid, that this material
3 is not hazardous or does not present an unreasonable
4 risk, I would be the last person to suggest we ought
5 to warn about it. I think Dr. Rhoads and I are
6 probably on the same page in that respect. I think
7 Dr. Rhoads, if I may, is making the assumption that
8 folks like Mr. Scardino and Mr. Goodson are correct,
9 and yet they have done no testing of this material.
10 So he is assuming that no warning is necessary. And
11 if, indeed, he is correct and, indeed, the test is
12 invalid, then, no, I would not suggest a warning be
13 placed on it.
14 Q Uh-huh. All right. So just to clarify this
15 and to wrap it up, if Mr. Simmons is wrong on the
16 propensity of RBS in homes to attract lightning or
17 contribute to home fires, then you'd be the last
18 person to suggest a warning ought to be placed on the
19 RBS material?
20 MS. MACLEOD: Objection to form.
21 A That's correct. I don't know if I'd be the
22 dead last, but I certainly would not recommend it,
23 yes.
24 Q (By Mr. Ellis) All right. Your report
25 refers to something that you call the safety

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1 engineering hierarchy?
2 A Yes, sir.
3 Q What do you mean by that?
4 A Well, from my experience -- and, again,
5 having facilitated on more than occasion hazard
6 analyses for companies who've asked me to help them
7 design their warnings, my understanding of the safety
8 hierarchy or safety engineering hierarchy is that once
9 the hazard analyses have been conducted, and if,
10 indeed, a hazard has been identified that is likely to
11 accrue from intended use or foreseeable misuse, then
12 if it can be designed out, that is the first step;
13 that is to say, take the ingredient out of the recipe
14 in the case of a -- you know, a food product or remove
15 the potential for electrocution or whatever it might
16 be, if it can be designed out. That's the first step.
17 If designing it out is not possible because
18 it destroys the utility of the product or is simply
19 cost or otherwise prohibitive, then the next step
20 becomes to guard, to keep a user away from confronting
21 the hazard. If one can't guard it, then the third
22 element of the hierarchy is the development of a
23 warning that clearly depicts the hazard, the harmful
24 consequence, and provides an instruction on avoiding
25 the hazard.

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1 Q All right.
2 A You'll find in that hierarchy on occasion,
3 Mr. Ellis, another element that will deal with
4 administrative controls and/or personal protective
5 equipment, for example, in an industrial setting. But
6 those three elements are usually referred to as the
7 safety hierarchy.
8 Q Okay. With respect to the hazard analysis
9 itself that you referred to --
10 A Yes, sir.
11 Q -- does a hazard analysis have to be
12 performed on every product?
13 A I don't think that there is a legal duty, if
14 you will. But my experience, particularly over the
15 last several decades, is that prudent manufacturers,
16 who obviously want to sell their product, who
17 certainly don't want to engender harm to the users of
18 their product, take it upon themselves to convene a
19 group of internal and sometimes external help to
20 literally brainstorm, how is this going to be used?
21 Who is it going to be used by? What is the context
22 within which it -- the use is going to take place?
23 And let's brainstorm.
24 And from my experience, Mr. Ellis -- and if
25 I get long-winded, cut me off -- when I've convened a

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1 hazard analysis and facilitated the groups, typically
2 it's a combination of engineers who design the
3 product, people on the floor who manufacture the
4 product, salesman and marketing folks who are out in
5 the marketplace and getting feedback on its use. And
6 you literally brainstorm. What's this -- what's the
7 intended use? What's the profile of the user that we
8 anticipate, consumer and/or commercial? And once
9 those hazards have been identified, then move down the
10 hierarchy. Can we design it out? Can we guard
11 against it? If not, how do we go about alerting
12 folks?
13 Q When this group is convened --
14 A Yes, sir.
15 Q -- to do its brainstorming and determine
16 whether or not a hazard is present in the product, are
17 they required, in your view, to look at every
18 conceivable hazard that may be involved with a
19 product?
20 A Obviously it would be product-specific,
21 Mr. Ellis, but it's probably beyond the purview of
22 most groups to look at every single, you know,
23 potential hazard of the product or every, if you will,
24 hairbrain misuse of the product, you know, perhaps.
25 But I think they're obligated to do their level best

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1 at that. What are the conditions under which this is
2 going to be used? And, again, I'm certainly not
3 speaking of an engineer, but I would be surprised if a
4 hazard analysis regarding this product would not
5 attempt to identify any potential compromises the
6 product, given the fact that it's going to be in a
7 roof at the top of whatever the structure might be,
8 and that the topic of lightning would not come up as
9 part of that discussion.
10 Q Uh-huh. Let's take what's in a roof, then,
11 as a hypothetical situation -- or on a roof. Take a
12 steel chimney that sticks out of a roof.
13 A Yes, sir.
14 Q And because of code requirements, it has to
15 stick above the roof to a certain extent. Are you
16 aware that because a metal chimney is sticking up
17 above a roof, that it -- it presents a particular
18 hazard with respect to a lightning strike?
19 A I think, Counsel, if one were to do hazard
20 analysis of chimney construction, I think probably one
21 of the things that would be discussed is the fact
22 that, given its physical position, it may, in fact, be
23 an inadvertent target of a lightning strike. I expect
24 that would be part of the dialogue, yes.
25 Q So let's just assume that the steel chimney,

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1 then, metal chimney, is discussed by its manufacturing
2 group, and they regard the fact that it may get struck
3 by lightning as a possibility. In that sort of
4 situation, would you then go down this list of the
5 other requirements of the hazard analysis, first to
6 alter the product's design so that the hazard is not
7 present or design it out? Would you first do that?
8 MS. MACLEOD: Objection to form.
9 A Again, given, I think, the common use or
10 knowledge about chimneys, I think it would probably be
11 pretty clear to that group that it is going to be in
12 an elevated position, that -- and my guess is that
13 there would be no way to guard against it, albeit the
14 installation of a lightning protection system, for
15 example.
16 Q (By Mr. Ellis) Okay. So the first step,
17 then, we can't design that out; correct?
18 A Right.
19 Q Okay. So we go to the second element, which
20 is to provide a guarding system to preclude a user's
21 engaging the hazard. Is that where this lightning
22 protection system comes in?
23 A In -- well, depending upon -- when I go back
24 to lightning protection -- and, again, I can't help
25 but go back to some of my experience thus far with

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1 CSST -- I'm not suggesting and nor do I think it's
2 practical that everybody who manufactures a chimney or
3 installs CSST or whatever is obligated to, you know,
4 inform the entire world. I believe, though, as I've
5 said in other cases regarding CSST, particularly in
6 those areas of lightning density based upon reports
7 from Vaisala or whomever, that I think it would
8 behoove the manufacturer, yes, to alert the owner of
9 the structure to consider the installation of
10 lightning protection.
11 Q Okay. So it would be your opinion, then,
12 that with respect to the manufacturer of a metal
13 chimney that sets above a roof, there ought to be a
14 warning or an instruction to them that they ought to
15 consider installation of a lightning protection system
16 that would run lightning to ground?
17 A I believe, Counsel, that that may be
18 appropriate, yes. In fact, I've not looked at any
19 chimney collateral in the way of installation
20 instructions. But there may well be references to
21 lightning and precautions or at least making people
22 aware of the need for care regarding lightning. I've
23 not seen any of those instructions, but that may be
24 the case.
25 Q Do you know whether the manufacturers of

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1 metal chimneys warn homeowners or contractors to
2 install lightning protection systems?
3 A I do not.
4 Q As to the third step, then, let's just
5 assume they're not installing lightning protection
6 systems with their metal chimneys. Do you know
7 whether, in fact, the manufacturers of metal chimneys
8 warn with respect to the hazard of a lightning strike?
9 A I do not.
10 Q Other -- apart from chimneys, I mean, we're
11 talking about roofs now, and there's plenty of other
12 building materials on roofs that can be conductive of
13 lightning; right?
14 A I assume so, Counsel, yes.
15 Q In fact, you know from looking at the
16 depositions that roofing nails can be conductive of
17 lightning; correct?
18 A I recall seeing that, yes.
19 Q Okay. Do you know whether or not the
20 manufacturers of roofing nails warn consumers about
21 the possibility of a lightning strike and what impact
22 it may have?
23 A I do not.
24 Q Would it be required, in your view, for
25 lightning -- for --

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1 A I would need --
2 Q I'm sorry. Would it be required, in your
3 view, for manufacturers of roofing nails to include
4 warnings in their literature about the impact of
5 lightning strikes?
6 A I do not, Counsel, no. I don't know. I
7 mean, to the extent to which -- again, even with
8 roofing nails, there may be admonitions about ensuring
9 what nails are pounded into and so forth. I mean,
10 they may have some information. I don't know. I've
11 really not considered nails.
12 Q Okay. But my question to you is, in your
13 view, is it required that manufacturers of roofing
14 nails include a warning about what can happen in the
15 event of a lightning strike?
16 A I don't believe so, Counsel, no. Again, I
17 think that would be --
18 Q Why not?
19 A Well, I think it would be dependent upon,
20 you know, what the nail was pounded into and so forth.
21 Again, and, you know -- again, I'm not one that has a
22 position of let's slap warnings on everything that's
23 out there. I expect, mentioning the life of the
24 product, I expect roofing nails have been used -- we
25 talked about two decades with radiant barriers. I

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1 suspect nails have been used for centuries, if you
2 will. So I would not be one that, let's suddenly now
3 start, you know, putting warnings on nails.
4 Q Okay.
5 A My position in this, Mr. Ellis, just to be
6 clear, is that while I realize that you said this
7 product has been there for two decades, my position
8 is, if, in fact, the testing of the folks at McDowell
9 Owens has identified this product as having unique
10 properties in terms of its ability to conduct
11 combustant to flame and so forth, that, to my mind,
12 requires a warning be devised.
13 Q Uh-huh. If, in fact, the tests are valid
14 and --
15 A Yes.
16 Q -- Mr. Simmons' opinion is correct?
17 A Yes.
18 Q All right.
19 MS. MACLEOD: Can we take a quick break?
20 We've been going almost two hours.
21 MR. ELLIS: Oh, I'm sorry. Sometimes I lose
22 track of time.
23 THE VIDEOGRAPHER: Off the record. The time
24 is 10:38.
25 (Recess taken from 10:38 to 10:47.)

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1 THE VIDEOGRAPHER: Back on the record. The
2 time is 10:47.
3 Q (By Mr. Ellis) Dr. Richetto, before we took
4 the break, we were talking about warnings and building
5 product materials, particularly in connection with
6 roofs. And we talked about metal chimneys, roofing
7 nails. What about wood rafters? You know, the wood
8 rafters can catch fire; right, from a lightning
9 strike?
10 A I think, ultimately, Counsel, yes. I think
11 they were described as more of a resistor than a
12 conductor. My understanding is that, yes, wood
13 rafters can, depending upon the circumstances, catch
14 fire.
15 Q With or without the presence of RBS material
16 in the home, a wood rafter, if it's struck by
17 lightning, can catch fire; right?
18 A That's my understanding, yes.
19 Q All right. Would you suggest that the
20 manufacturer of wood rafting has to put a warning on
21 it?
22 A No, sir. And, again, Mr. Ellis, I don't
23 want you to do a disservice of misunderstanding or
24 fail to make myself clear. I am not a believer in
25 slapping warnings, you know, willy-nilly, on products.

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1 I mean, for example, we talked about chimneys and
2 nails. As I sit here, I would not recommend a warning
3 on those. Now, the extent to which manufacturers of
4 those products, indeed, thought through the product
5 and realized that, yes, even in the event of
6 lightning, it's not going to explode; it's not going
7 to, you know, become flammable, so there is nothing
8 hazardous beyond what would be expected, and that is
9 to be energized, at least, you know, momentarily by a
10 lightning strike.

11 The thing that I find different here is that
12 we have, as I understand, this radiant barrier
13 sheathing, a product that combines a conductive
14 material with paper. And at least, again, based upon
15 the veracity of Mr. Simmons' testing, is shown to
16 erupt into flame and/or, you know, be energized and
17 affect nearby combustibles. On that basis -- and,
18 again, accepting that at face value, which is all I
19 can do, I think it would behoove the folks at
20 TechShield to provide a warning similar to those that
21 I've described that I think would be appropriate for
22 CSST, and that is a technical bulletin, safety
23 bulletin, Web site, whatever, indicating that in areas
24 of high lightning density, homeowners and/or building
25 occupants consider a lightning protection system in

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1 conjunction with this product.

2 Q And, again, just to be clear, that depends
3 upon the validity of --

4 A Absolutely.

5 Q -- what Mr. Simmons has tested?

6 A Absolutely.

7 Q All right. And in terms of the combination
8 of conductive material with a material that can catch
9 fire, like oriented strand board, is that what you
10 meant? The combination of OSB plus a layer of
11 conductive aluminum material?

12 A My understanding is that then also the layer
13 of paper is a factor taken into account, at least in
14 the opinion of Mr. Simmons, if not others.

15 Q Okay. Just to be clear, if it is determined
16 that Mr. Simmons' testing really is not valid and
17 doesn't show that there's a risk of harm from the RBS
18 material, you would not require a warning?

19 MS. MACLEOD: Objection to the form.

20 A That's correct, sir.

21 Q (By Mr. Ellis) If you look at the bottom of
22 the page that we're on, which begins at the top of the
23 safety engineering hierarchy --

24 A Yes, sir.

25 Q -- you say in that last paragraph, "... it

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1 appears that, indeed, the hazard cited earlier exists
2 when the subject radiant barrier has been installed in
3 a dwelling impacted by lightning." Do you see that?

4 A I do, sir.

5 Q You don't mean to say that it's your opinion
6 in this case that the hazard actually exists, do you?

7 A What I'm saying, Counsel, to make that
8 paragraph clear, again, goes back to the veracity of
9 Mr. Simmons' testing. If, indeed, while it doesn't
10 replicate a lightning strike, it evidences the fact
11 that even under less of an energy condition, a flame
12 can erupt and can ignite other combustibles, that if
13 that is a -- any kind of a corollary to a lightning
14 strike, then on the surface, I accept that.

15 Q Okay. But, again, what you're doing is,
16 you're looking at one part of the equation that
17 relates to ignitability of the material. You're
18 looking at whether or not a particular amount of
19 current creates a flame over a very extended period of
20 time; right?

21 MS. MACLEOD: Objection to form.

22 Q (By Mr. Ellis) Because that's what
23 Mr. Simmons' tests show? And the conclusion that you
24 just hypothesized for me is, if somebody uses a flame
25 on RBS or a blow torch on it, then certainly a

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1 lightning strike would cause the material to erupt
2 into flame; is that right?

3 MS. MACLEOD: Objection to form.

4 A Essentially, as a lay person, that is my
5 understanding, yes.

6 Q (By Mr. Ellis) Okay.

7 A I think Mr. Simmons, in using that analogy
8 or metaphor of a match to a blow torch, he seemed to
9 have the engineering opinion that what he has
10 demonstrated, while it may be more match-like,
11 nonetheless has a negative impact on this material.
12 So if you can imagine something of far greater
13 magnitude, to me, that makes sense. Now, I can't,
14 again, speak to the veracity of his testing. But if I
15 understand his position, it's, look, we've used far
16 less energy and had this result. So he is confident
17 that greater energy would, indeed, have at least as
18 harmful an impact.

19 Q But he used far less energy at a much
20 extended period of time; right?

21 MS. MACLEOD: Objection to form.

22 A Again, in Mr. Goodson's opinion, far longer
23 than a lightning-strike duration.

24 Q (By Mr. Ellis) Right. And, again, you
25 don't know, because you don't have the engineering

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1 expertise, what the duration of a lightning strike is
2 in comparison to the amount of time that Mr. Simmons
3 applied in this test?
4 A That's correct. I do not.
5 Q And if it turned out that, you know, the
6 propensity of the material to ignite in flames is
7 directly related to the duration that a current is
8 applied to it --
9 A As opposed to the amount of energy?
10 Q -- as opposed to the amount of energy --
11 A Yes, sir.
12 Q -- then you couldn't have an opinion, could
13 you, as to whether or not Mr. Simmons' test was valid?
14 A I could not.
15 Q So when it says here in your opinion that it
16 appears that, indeed, a hazard cited earlier exists,
17 again, that's not an opinion by Dr. Richetto that the
18 hazard, in fact, exists. It is simply that I have to
19 make the assumption, based upon what Mr. Simmons tells
20 me, that a hazard exists?
21 MS. MACLEOD: Objection to form.
22 A That's correct. The results of his testing,
23 yes.
24 Q (By Mr. Ellis) In fact, at the top of the
25 next page, you preface the opinion there about the

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1 obligation of Louisiana Pacific to provide warnings
2 based upon that assumption; right?
3 A That's correct. Yes, sir.
4 Q You use the words "given this assumption" --
5 A Yes.
6 Q -- I opine that?
7 A Exactly.
8 Q And, again, you haven't done any independent
9 testing of your own on this material to determine
10 whether or not it's, in fact, hazardous?
11 A That's correct. I have not.
12 Q Having opined that LP should have provided
13 proper warnings, tell me what that warning
14 specifically looks like.
15 A I can give you the elements, Counsel, and I
16 think I reflect them there on the bottom of the page
17 we're on now, page 5. Based upon the national
18 standard that I am most conversant with, Z-535.4, ANSI
19 Z-535.4, I would employ a signal word, very likely
20 "warning." I would identify the hazard that in areas
21 with high lightning density, this material may be
22 impacted by direct or indirect lightning strikes. The
23 harmful consequence probably speaks for itself. I
24 nonetheless would probably make some reference to
25 fire.

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1 And then the instruction for avoiding the
2 hazard would be, much as I've opined in CSST cases,
3 something along the lines of alerting intermediaries
4 that strong consideration should be given to a
5 Franklin system, a lightning protection system. I
6 obviously would test that warning. I would probably
7 do some things, you know, depending upon whether it
8 was going to be on a Web site or in collateral that
9 went with the product or a technical bulletin, what
10 have you, but -- so I can't sit here, as they say, and
11 design it on the back of an envelope. But those would
12 be the elements that I would incorporate in some
13 fashion.
14 Q Okay. Let's go through those elements now.
15 A Sure.
16 Q So with respect to 1 through 4 at the bottom
17 of this page of your report, as to Item 1, in
18 selecting the appropriate signal word, you would use
19 the word "warning"?
20 A Probably, Counsel, yes. I -- when I've
21 designed warnings in the past, I am of the opinion
22 that -- and I think if you look at the standard -- I
23 can't quote it to you verbatim, but danger is somewhat
24 rarely used, if you will, in contrast to the others.
25 It means that a danger is immediately imminent.

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1 You'll see danger, for example, on poisons or
2 something of that type. I've seen danger on occasion,
3 and you've probably seen it, with the icon of a
4 lightning strike. I would probably test one or two of
5 those on an audience, a target audience of some sort,
6 before I determined which was the best signal word to
7 use. But as I sit here, I would probably opt for
8 warning.
9 Q And as to No. 2, "clearly identifying the
10 hazards," what would you say in the context of the
11 warning?
12 A Again, Counsel, and this is preliminary, you
13 know, if you will. But I certainly would identify the
14 fact that this material, you know, can be ignited, can
15 be -- I'm not sure the language I would use yet. But
16 I would identify the fact that this material, if
17 impacted by a direct or indirect lightning strike,
18 can, in fact, become combustible.
19 Q And as to No. 3, "depicting the harmful
20 consequence of not avoiding the hazard" --
21 A And again --
22 Q -- specifically what would you do?
23 A Yeah. That's one of the three. I would
24 certainly reference, you know, resulting in fire.
25 Probably, you know, language that would incorporate

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1 the word "fire." Again, these are -- you find in an
 2 addendum to ANSI Z-535.4 as elements of an adequate
 3 warning. I think, in some instances -- in fact,
 4 there's been experiments conducted where you can leave
 5 out one or more of the elements and still not
 6 negatively impact the ultimate message that's
 7 received. But I would -- nonetheless, I would
 8 probably reference fire, although I think, to most
 9 folks, that would be apparent, that a result may be,
 10 in fact, a fire or injury or death.
 11 Q Can you tell me what specifically you would
 12 say with respect to fire?
 13 A Not specifically, Counsel. I'd probably
 14 make two or three different versions, which is my
 15 style, and have those tested to determine which seemed
 16 to have the greatest impact, which would likely alter
 17 behavior, which would more likely communicate, you
 18 know, to the target audience.
 19 Q Would you -- would one of the examples that
 20 you would use be something like radiant barrier
 21 sheathing causes fires?
 22 A No.
 23 Q Why not?
 24 A Because I -- in and of itself, it's an inert
 25 product. My understanding of this product is that

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1 when affected by lightning, that -- but it's not --
 2 it's inert. It's something that has to be energized
 3 from an external source. So, no, I don't believe I
 4 would say it necessarily causes the fire. The cause
 5 originates with the lightning. It's the effect that
 6 it has on this product, which, indeed, then, can
 7 affect other combustibles in the area, is my
 8 understanding of the hazard.
 9 Q But that effect is no different than
 10 anything else that could be struck by lightning in a
 11 house; right? Anything can catch fire?
 12 MS. MACLEOD: Objection to form.
 13 A Well, we talked about chimneys, for example,
 14 or nails or other, you know, metallic objects,
 15 appliances, which from my understanding typically do
 16 not, you know, combust, if you will, or result in
 17 fire. So this is different than, I think, certainly
 18 appliances and other parts that one would find in a
 19 home.
 20 Q (By Mr. Ellis) But an appliance can catch
 21 fire; right?
 22 A I guess, under certain circumstances,
 23 Counsel, yes. I mean, ultimately --
 24 Q It's struck by lightning, it can fail and
 25 cause fire in a home; right?

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1 MS. MACLEOD: Objection to form.
 2 A Again, I don't think it's the cause,
 3 Counsel. I think that in this case, and I know at
 4 least about the fact pattern, that apparently the
 5 alleged path to ground came, allegedly, through the
 6 RBS into the dryer vent system and ultimately into the
 7 dryer. So I think the fact that -- again, I may have
 8 missed the premise of your question, but the fact that
 9 the dryer could catch fire as being --
 10 Q (By Mr. Ellis) Well, I think you were just
 11 using the dryer as an example. But we could use just
 12 about any appliance, couldn't we, inside a house that
 13 may be on a path to ground? The appliance can fail
 14 when it's hit by lightning and catch fire, which then
 15 could cause the home to burn down; right?
 16 MS. MACLEOD: Objection to form.
 17 A Well, I don't think precisely, Counsel, at
 18 least from my experience unless under some unusual
 19 circumstances; we have an appliance sitting out in the
 20 yard, and it gets hit by lightning. My understanding
 21 of the typical way in which appliances become --
 22 result in fire to themselves, if you will, is through
 23 a path to ground, you know; so in other words, other
 24 material that has been energized or impacted, leading
 25 to the dryer. It isn't as though the dryer were hit

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1 by lightning, but rather were on the receiving end, if
 2 you will, of the path to ground.
 3 Q (By Mr. Ellis) And that's fine. Let's take
 4 that as a given. It's on the path to ground, and it
 5 catches fire. It fails. Whether it's a dryer, a
 6 lamp, any other kind of appliance that you can think
 7 of through which the current passes, that appliance
 8 can catch fire; correct?
 9 A Ultimately, yes --
 10 MS. MACLEOD: Objection to the form.
 11 A -- albeit something behaving as a conduit
 12 that reaches it, yes.
 13 Q (By Mr. Ellis) All right. And in those
 14 kinds of situations where we're talking about an
 15 appliance that can catch fire because it's on a path
 16 to ground and through which current passes, would you
 17 require that the manufacturer of whatever the
 18 appliance is put a warning out -- warning on it that
 19 this appliance can catch fire when lightning strikes a
 20 house?
 21 MS. MACLEOD: Objection to the form.
 22 A No, sir. I would not. And, again, I see
 23 those as really two different, you know, kind of
 24 elements. I mean, here we have a product that, if not
 25 exclusively, to my understanding, predominantly is

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1 placed at the very top of whatever building it's
2 placed in, serving, really, as a conduit for the
3 energy that it's impacted by. I mean, I see that as
4 very different than an appliance, as I say, on the
5 receiving end of a path to ground.
6 Q (By Mr. Ellis) Well, they're both on a path
7 to ground; right?
8 A I understand that, yes.
9 Q And they both can catch fire?
10 MS. MACLEOD: Objection to form.
11 A That's true as well. Yes.
12 Q (By Mr. Ellis) No. 4, "providing
13 instructions for avoiding the hazards and harmful
14 consequences." So what would you do --
15 A I would --
16 Q -- with respect to that?
17 A Much as I've testified in CSST cases, I
18 think it would behoove the manufacturer to strongly
19 recommend, or language to that effect, the
20 installation of lightning protection.
21 Q So your remedy, then, for this would be, if
22 you're going to install RBS in your home, you should
23 also have a lightning protection system?
24 MS. MACLEOD: Objection to form.
25 A I -- again, given my assumption on the

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1 applicability of Mr. Simmons' testing, my answer,
2 Counsel, would be yes. But as I indicated before,
3 much as I've said in CSST cases, in areas of high
4 lightning density.
5 Q (By Mr. Ellis) Okay. And I'm a little
6 confused about the high lightning-density piece of
7 this, sir. Are you saying that the warning that goes
8 on the material should be made just to consumers of
9 the product in high lightning-density areas, wherever
10 they are?
11 A Counsel, that would be my recommendation. I
12 think where Dr. Rhoads and I are very much in accord
13 -- and familiar with, I'm sure, some of the same
14 literature he is -- we don't want to create a cry wolf
15 syndrome. We don't want to over-warn. So I don't see
16 a lot of value in trying to tell someone they need a
17 lightning protection system in areas of the country or
18 the world, for that matter, who are not prone to much
19 in the way of lightning strikes. I think that,
20 mentioning CSST, I believe that one of the
21 manufacturers, fairly recently, in fact, lists a
22 number of states -- I can't recall how many now --
23 where they talk about consideration of lightning
24 protection. And, indeed, they relegated it to those
25 states with a high lightning density.

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1 Q Okay. When you say they relegated it to
2 those states of high lightning density --
3 A Yes.
4 Q -- does that mean that they just deliver the
5 warnings to consumers in those states or what?
6 A No. I believe what they've done, and I
7 believe it appropriate, is that they have listed the
8 states and indicated that -- essentially the message
9 is, if you live in one of these areas that has been
10 identified as having the propensity for high lightning
11 density, we recommend the consideration of a lightning
12 protection system. So in answer to your question, I
13 would describe it, I guess, as a generic warning
14 message, if you will, but focused specifically to a
15 target audience which is most susceptible to the
16 potential hazard.
17 Q Who exactly is the target audience? Are
18 these homeowners? Are they home builders? Are they
19 someone else?
20 A Well, ultimately, I think we want to provide
21 folks like Christopher Taylor an opportunity to make
22 an informed choice that if he or she or anyone is
23 going to have this product or another product in their
24 home that can be impacted by lightning, that they
25 consider lightning protection. So that's the ultimate

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1 target, if you will. But the fact that it's difficult
2 to reach individual homeowners, I expect, with this
3 product, as well as CSST, my recommendation would be a
4 kind of, lack of a better term, warning campaign
5 wherein intermediaries are informed. In the case of
6 CSST, local building authorities, contractors,
7 ultimately subcontractors, distributors, sales
8 representatives, the channels that are used to market
9 and sell the product, if you will, I think, lend
10 themselves to imparting a warning.
11 Q All right. Do you know whether there are
12 any problems or concerns or risks associated with the
13 recommendation that homeowners or building -- or home
14 builders install lightning protection systems in
15 homes?
16 A I'm sorry. I missed the first part of that.
17 Q Yeah. Well, it was -- may have been
18 confusing. Do you know whether or not there are any
19 concerns or risks associated with the installation of
20 lightning protection systems in homes?
21 A Oh. I do not.
22 Q Now, for a requirement that a warning apply
23 to this product, radiant barrier sheathing, would you
24 need to have a determination that putting RBS in a
25 home creates a greater risk of lightning-induced

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1 fires?

2 A Well, to my mind, that question is, would

3 there have to be a legitimate hazard and risk, if

4 that's the tenor of your question, and my answer would

5 be yes.

6 Q All right. For instance, a greater risk to

7 a home fire than, let's say, the risk of an appliance

8 that's along the path to ground catching fire?

9 A I believe so, Counsel, yes.

10 Q Do you know whether or not there has been

11 any study performed on whether or not the existence of

12 radiant barrier sheathing in homes creates a greater

13 risk of lightning-induced fires in homes?

14 A I don't know if any such studies have been

15 done or reported upon, Counsel. Again, I go back to

16 Mr. Goodson's deposition that there, indeed, are, for

17 lack of a better term, lightning laboratories around

18 the country, in which a product of this type can be

19 tested. The extent to which TechShield has done that

20 or not, I don't know. So I guess that's just as

21 responsive as I can be. I have not seen any other

22 statistical evidence or otherwise that such

23 investigations have taken place.

24 Q In fact, before you come to a conclusion

25 that there is an increased risk of harm from a

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1 material like RBS, wouldn't there have to be some sort

2 of statistically significant study performed?

3 MS. MACLEOD: Objection to form.

4 A That would certainly be ideal, Counsel, yes.

5 On the other hand, particularly when one considers all

6 of the harmful effects of a home fire, you know, for

7 example, I believe that in some cases, early evidence,

8 early testing is sufficient to put a manufacturer, if

9 not on notice, to at least have them take a second

10 look at or consider the product and its performance in

11 the marketplace.

12 If I can give you an example. And it's

13 probably not the best of analogies. But I had some

14 experience several years ago with -- and the only case

15 I've had -- with deep vein thrombosis, DVT, and

16 working with counsel representing one of the airlines.

17 And a gentleman had a blood clot in his legs, which

18 had dislodged and -- at any rate, a fatality. Now,

19 when one considers the millions of miles, the millions

20 of passengers, there are but a handful of these kinds

21 of cases. And yet the airline industry has taken upon

22 themselves in the last few years to, in fact, in the

23 back of their magazine, to provide some exercises that

24 one can do while seated to prevent -- hopefully

25 mitigate such an event taking place.

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1 So my point is, depending on the potential

2 for harm, such as a home fire, such as, you know,

3 perish the thought, there had been small children, you

4 know, in the house or whomever, that I think there are

5 some instances in which one doesn't wait for, you

6 know, a sample of X thousand of cases to be put on

7 alert that maybe we ought to take a look at informing

8 the public of a potential hazard. I think that's what

9 we have in this case. Certainly, I may be proven

10 wrong, and it's not up to me to prove things, one way

11 or the other. As they say, I don't have a dog in this

12 fight. But I can't help but reflect on the early

13 anecdotal evidence that appeared regarding CSST, which

14 led ultimately to a class action suit and new

15 warnings, instructions, and the like. I don't know

16 that to be the fact, but I think what we may have here

17 is the early stages of a CSST-like history.

18 Q (By Mr. Ellis) Uh-huh.

19 A If I were at TechShield, I would begin to

20 alert some folks, and that's my point.

21 Q But we're talking about a lawsuit and the

22 legal requirement to have a warning. And in that kind

23 of situation, wouldn't you want to have some evidence

24 before you put a warning on something that there is an

25 increased risk of harm from this product --

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1 A Well, at least my --

2 Q -- and --

3 A I'm sorry. Go ahead.

4 Q Yeah. Go ahead.

5 A I was going to say, my interpretation of the

6 work that was done by Mr. Simmons and McDowell Owens,

7 I mean, is precisely that, that under at least their

8 testing conditions, this was a product that, in fact,

9 could erupt into flames and, in fact, have an impact

10 on other materials around it. That's my understanding

11 of what he has demonstrated.

12 Q But Mr. Simmons hasn't said, does he -- or

13 has he, that there's any data to suggest that there is

14 an increased risk of lightning-induced fires in homes

15 with radiant barrier sheathing?

16 MS. MACLEOD: Objection to form.

17 A I honestly, Mr. Ellis, don't recall his

18 testimony in that regard. I don't know that he was

19 asked specifically if the increased risk was there. I

20 don't recall that part of his testimony. My distinct

21 impression is that he's of the belief that it does

22 create an additional risk.

23 Q (By Mr. Ellis) Hasn't Mr. Simmons said

24 himself publicly, in black and white, in writing, that

25 he doesn't have any data to support the proposition

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1 that there's an increased risk of harm of
2 lightning-induced fires in homes that have RBS in
3 them?
4 MS. MACLEOD: Objection to form.
5 A I think what he said, Counsel, is that we
6 don't have a large amount of data yet. I think what
7 he also said, though, is that he invariably finds the
8 same results as he tests the product. I guess I can't
9 go beyond that. I think he was -- he certainly said,
10 no, I do not have overwhelming data at this stage of
11 the game.
12 Q (By Mr. Ellis) In fact, not just that he
13 didn't have overwhelming data. He didn't have any
14 valid data to support the proposition; right?
15 MS. MACLEOD: Objection to form.
16 A I'm not sure what he relied on for that
17 statement that he made, Counsel, but all I do recall
18 -- and I think you and I are in accord -- that he
19 didn't have a long list of such incidents.
20 Q (By Mr. Ellis) You read Mr. Simmons'
21 deposition transcript where I asked him questions
22 about whether or not he had any data to support the
23 proposition that there was an increased risk of
24 lightning-induced fires in homes with RBS? You did
25 read that; right?

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1 A I read his deposition, yes, certainly.
2 Q Okay. And when I asked him the question
3 about whether or not he had any data to support that
4 proposition at all -- because he himself, McDowell
5 Owens, had only been called to investigate fires by
6 insurance companies where RBS existed in homes;
7 right? You know that?
8 A As -- yes. As I recall, yes.
9 Q Okay. Now, when I asked him that question
10 as to whether or not there was any data to support the
11 proposition that there was an increased risk of
12 lightning-induced fires in homes with RBS, he said,
13 well, we know from talking with fire chiefs that there
14 is a particular profile of homes where there are
15 lightning-induced fires. Do you remember that
16 testimony?
17 A I do.
18 MS. MACLEOD: Objection to form.
19 A In fact, he named, I believe, one of the
20 fire marshal at some point in the deposition in Texas,
21 as I recall.
22 Q (By Mr. Ellis) He did.
23 A Yes.
24 Q In a town in Texas.
25 A Right.

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1 Q And then when I asked him the question about
2 what specifically the fire chief told him about data
3 supporting the proposition that in RBS homes there was
4 a greater chance of fire, he admitted, didn't he, that
5 the fire chief never even mentioned radiant barrier
6 sheathing?
7 MS. MACLEOD: Objection to form.
8 A I think I recall his saying that, yes.
9 Q (By Mr. Ellis) Yeah. And in the conclusion
10 to the article which he wrote, do you remember in the
11 context of his deposition that he said, he had no data
12 to support the proposition that there was an increased
13 risk of fires in homes with RBS?
14 MS. MACLEOD: Objection to form.
15 A As I recall, yes. And I think -- and,
16 again, I'm not -- a question better asked to
17 Mr. Simmons. My interpretation of that or my
18 impression of that, Counsel, was, by data he meant
19 large volumes of cited incidents and investigations in
20 which RBS had been there. I think he talked more
21 about -- again, I think the term "anecdotal" was used
22 early on in the CSST history. That was my impression,
23 that he'd had experience with fires that they had
24 investigated where, in fact, RBS had been involved.
25 Q (By Mr. Ellis) But he doesn't have

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1 comparative data, does he? You haven't learned from
2 Mr. Simmons that he has any data set which shows
3 lightning-induced fires in homes with or without RBS;
4 right?
5 A That is true, yes.
6 MS. MACLEOD: Objection to form.
7 A I didn't see anything of that type.
8 Q (By Mr. Ellis) And wouldn't you want that
9 kind of data before you imposed on a manufacturer a
10 requirement to warn?
11 A Counsel, not necessarily. Again, what I try
12 to take into account -- I'm trying to think of
13 examples from my own experience where I have
14 recommended a warning to err on the side of caution,
15 if you will. I think when one takes into account the
16 potential effects of a home fire and the damage to
17 life and limb, as well as property, you know, we're
18 talking about a specific area here. And, again, there
19 are not, I understand it, large amounts of data. And
20 nonetheless, I can only go back to Mr. Simmons'
21 testing. Why McDowell Owens, apparently, is the only
22 group that's investigated this or not, I don't know.
23 Whether other companies are looking at it, I don't
24 know.
25 What I am suggesting or what strikes me as

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1 important -- and I believe, again, I think it's a fair
2 corollary, as I sit here, to CSST -- is that sometimes
3 a product is brought into a marketplace for energy
4 savings or convenience or ease of labor or whatever
5 and find out, after a period of time in that
6 marketplace, that it has hazardous potential. That
7 may, indeed, be the case here. And I believe, based
8 upon, again, Mr. Simmons' testing, it had to be shown
9 to be valid. But I believe it would behoove
10 TechShield or any other manufacturer of this product,
11 so similarly structured, to give people an informed
12 choice to put in a lightning protection system.
13 Q You said, and your words were, it may be the
14 case here. You don't know that it is, do you?
15 A I do not know. I think it potentially --
16 again, I just -- I can't help but just go back and
17 compare it to CSST; that early on, it was occasional
18 word from the marketplace and then more words from the
19 marketplace, and then finally culminating to the point
20 where there were sufficient numbers, that
21 manufacturers began to take some steps.
22 Q There are probably any number of products
23 where anecdotally you can say that type of thing
24 about; right? But you could also come to the opposite
25 conclusion that down the road, you find that there is

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1 no increased risk of harm from the product; right?
2 A I think that's --
3 MS. MACLEOD: Objection to form.
4 A I think that certainly can be the case, yes.
5 Q (By Mr. Ellis) When you looked at
6 Mr. Simmons' testimony, do you recall him saying that
7 a fire could have resulted in the Taylor house even
8 without the existence of radiant barrier sheathing in
9 the home?
10 A Yes.
11 Q And in your view, is Mr. Simmons saying that
12 there's an increased risk of lightning-induced fires
13 in every home in which RBS exists or just a particular
14 home?
15 A Boy, I can't think for him, Mr. Ellis.
16 MS. MACLEOD: Objection to form.
17 A My impression of the tenor of his testimony
18 is that there is an increased risk based upon the way
19 the product behaved under his testing.
20 Q (By Mr. Ellis) And if there's, again -- I
21 hate to keep coming back to it, but I think I need to
22 wrap that up when you say things like that. If
23 Mr. Simmons' conclusion that there's an increased risk
24 of harm in homes that have RBS in them is wrong, you
25 certainly wouldn't say that a warning is required?

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1 A That is true.
2 MS. MACLEOD: Objection to form.
3 Q (By Mr. Ellis) With respect to data that
4 might or might not show if there's an increased risk
5 of harm from having radiant barrier sheathing in a
6 home and lightning strikes, did you ask of any
7 insurance company, including the plaintiff in this
8 case, State Farm, whether they had such data?
9 A No, sir, I did not.
10 Q Do you know whether or not they, in fact,
11 have it?
12 A I do not.
13 Q Do you know whether companies like State
14 Farm that insure homes against fires are charging
15 higher premiums to homeowners that have RBS in their
16 homes?
17 A No, sir.
18 Q Did you ask State Farm whether or not they
19 were doing that?
20 A No. I've had -- I've had no contact with
21 State Farm in any regard.
22 Q Would that be some indication to you as to
23 whether or not State Farm itself believed, based upon
24 its data, that there's a greater risk of harm in homes
25 with RBS?

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1 MS. MACLEOD: Objection to form.
2 A I don't know, Counsel. I don't know how
3 insurance companies make their decisions.
4 Q (By Mr. Ellis) So at this point, we really
5 don't have any data, do we, to show there is an
6 increased risk of harm of lightning-induced fires in
7 homes that have RBS in them?
8 MS. MACLEOD: Objection to form.
9 A To the best of my knowledge, Counsel, no.
10 Now, there may be other complaints that have been
11 filed that I've not seen. There may, indeed, be other
12 litigation efforts that I certainly would know nothing
13 about. But in terms of large amounts of statistical
14 data, as you discussed earlier, I have not seen the
15 existence of that.
16 Q (By Mr. Ellis) All right.
17 THE WITNESS: Our first of the year.
18 Wouldn't you know it.
19 MR. ELLIS: Wouldn't you know it.
20 MS. MACLEOD: I think I brought it
21 everywhere I've gone.
22 MR. ELLIS: This deposition may be shorter
23 than we thought it was -- for the record, we're only
24 saying that because we're seeing the snow fall
25 outside.

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1 Q (By Mr. Ellis) All right. If you were to
2 have the benefit of a set of data that would evaluate
3 the relative risk of harm from RBS in a home, you
4 would want that data set to be random, would you not?
5 A I want to make sure we're using the term
6 "random" in the same fashion.
7 Q Sure. You wouldn't want to just go to homes
8 that had RBS in them?
9 A Correct. Correct.
10 Q You wouldn't want to just go to homes that
11 had RBS in them that had fires; right --
12 A Correct.
13 Q -- and use those as your data set?
14 A Right.
15 Q You would want a much more complete set of
16 random data as to whether or not there's an increased
17 risk of harm from lightning-induced fires in homes
18 that have RBS?
19 A Well, in terms of data sets, Counsel, yes.
20 I mean, that would be, obviously, ideal if one could
21 get those kinds of data. On the other hand, if there
22 is a fact pattern that develops such that there are
23 fire investigations that indicate that this product
24 has had a causal role, if you will, in the outcome, to
25 me, that would be a sufficient track record. I mean,

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1 for example, again, I go back to CSST, where a
2 significant number of cases have indicated, through
3 fire investigation, that, indeed, perforations in CSST
4 that had the meltdown had a causal role in terms of
5 releasing fuel. That's not a huge data set, but I
6 think it's a very important data set in terms of
7 warranting a warning to folks who have CSST in their
8 homes.
9 Q With respect to this particular home, namely
10 the Taylor home --
11 A Yes, sir.
12 Q -- are you aware that fire investigations
13 were conducted?
14 A That's my understanding, yes.
15 Q All right. And there was a fire
16 investigation that was conducted by the fire marshal;
17 correct?
18 A As I recall, Counsel, yes. Bunn Fire
19 Department, I want to say, but --
20 Q You saw the Bunn Fire Department report?
21 A Yes.
22 Q And there wasn't anything in it about this
23 fire in the Taylor home having been contributed to by
24 radiant barrier sheathing; right?
25 A As I recall, yes.

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1 Q And, in fact, the report that was done later
2 by Mr. McGraw doesn't say that radiant barrier
3 sheathing caused this fire, does it?
4 A No.
5 MS. MACLEOD: Objection to form.
6 A No, I believe he described his role in the
7 process.
8 Q (By Mr. Ellis) He described his role in the
9 process as not being involved with that, in any event.
10 But he, in his report, does not say that RBS caused
11 this fire; correct?
12 MS. MACLEOD: Objection to form.
13 A I -- I believe he could not take a position,
14 one way or the other, on that, yes.
15 Q (By Mr. Ellis) Are you aware of any fire
16 investigation that has determined that radiant barrier
17 sheathing caused the fire?
18 A I don't believe I've seen anything in the
19 record to suggest that.
20 Q Yeah. Okay. You told us you weren't an
21 expert in lightning; right?
22 A Correct.
23 Q You're not an electrical engineer?
24 A No.
25 Q But you do know that lightning causes fires?

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1 A Yes.
2 Q That's a pretty common-sense opinion?
3 A I believe so, Counsel, yes.
4 Q All right. And you do know that lightning
5 causes fires in homes where RBS is not present?
6 A I'm sure that's the case, yes.
7 Q And you know that lightning causes fires out
8 in the woods where no RBS is present?
9 A On occasion. Yes, I understand that.
10 Q And you do know that lightning can ignite
11 just about any kind of material, whether or not RBS is
12 present?
13 MS. MACLEOD: Objection to form.
14 A I expect that's the case, yes.
15 Q (By Mr. Ellis) It can ignite wood; right?
16 A Yes.
17 Q Okay. Can you tell me whether or not a
18 warning in this case would have changed the outcome in
19 any respect?
20 A Not unequivocally, Counsel, no. Obviously,
21 that's a question better asked to Mr. Taylor. I
22 recall only two things on that basis. One, I believe
23 that was Cary Reconstruction -- I can't recall -- I
24 believe was the company. But I think he indicated
25 after this incident that he did not want RBS in the

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1 rebuild, if you will, of his home. And the only other
2 thing that I can recall is that I believe he testified
3 that while the home was being built originally, he did
4 some Internet research around radiant barriers. And
5 you asked if it changed the outcome. Had there been
6 some sort of a safety alert on -- assuming that he
7 looked at the TechShield, for example, Web site in
8 that research, it may have influenced his behavior.
9 But I cannot state unequivocally what the outcome
10 would have been. I think that's obviously better
11 posed to Mr. Taylor.
12 Q You don't know?
13 A I do not know.
14 Q Right. I failed to ask you this back when
15 we were talking about roofing materials. But you are
16 aware of the fact that plenty of roofs are made out of
17 metal; correct?
18 A I associate them mostly with commercial
19 buildings, but yes.
20 Q Uh-huh. But there are metal roofs on homes
21 as well; right?
22 A There are. I've seen some that look almost
23 like wood shake shingles that are, I believe, made of
24 metal, yes.
25 Q They're in contact, obviously, with

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1 combustible materials as well; right?
2 A Combustibles of some form, Counsel, I would
3 think, yes.
4 Q Okay. Should there be a requirement, in
5 your view, that metal roof manufacturers warn
6 consumers or home builders that there is an increased
7 risk of lightning-induced fires from their product?
8 MS. MACLEOD: Objection to form.
9 A I don't know what kind of research they've
10 done, Counsel, or testing or analysis. Obviously,
11 we're talking about, at least from my experience,
12 particularly those that are made to look like shake
13 shingle roofs, the metal is quite thick. What role
14 that has in terms of dissipating or whatever, you
15 know, the effects of lightning, I mean, I don't know.
16 It strikes me that we may be comparing kind of apples
17 and oranges here, in terms of the behavior of a metal
18 roof under conditions of lightning versus a product
19 that, at least based upon Mr. Simmons' studies, can
20 result in flames.
21 Q (By Mr. Ellis) A metal roof can conduct
22 electricity; correct?
23 A I expect so, yes.
24 Q Okay. You don't know whether it conducts
25 electricity any better or worse than a shingle roof,

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1 or do you?
2 A I do not, no. All I do recall, and
3 certainly I'm not a metallurgist or chemist, but I
4 think pretty much all of the experts, engineering
5 experts, have described aluminum as the
6 second-greatest conductor after copper, only behind
7 silver and gold, which are obviously cost-prohibitive.
8 Q Would you impose a duty to warn on a
9 manufacturer of a metal roof if there's no data that
10 shows there's an increased risk of harm of
11 lightning-induced fires?
12 A No, sir.
13 MS. MACLEOD: Objection to form.
14 Q (By Mr. Ellis) You would or would not?
15 A Would not.
16 Q Is there expert testimony that you're
17 expected to give in this case regarding human factors?
18 A My specialty within the human factors arena,
19 Counsel, is strictly in the adequacy of
20 warnings/instructions, yes.
21 Q Okay. Are you expecting to give any sort of
22 opinion with respect to the way in which LP should
23 communicate warnings, the medium through which it
24 communicates warnings?
25 A I'd certainly feel comfortable in opining in

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1 terms of what I think might be at least some of the
2 appropriate intermediaries and channels of
3 communication, yes.
4 Q What about with respect to the channels,
5 then? What would your opinion be?
6 A My opinion would be, I believe, Counsel, the
7 same one I have proffered in the CSST cases. And that
8 is exploit some of the varied channels and modes that
9 are used to market and sell the product, which is to
10 say, information to distributors and suppliers,
11 information to local building authorities and
12 jurisdictions, certainly commentary on the Web site.
13 Those would be some of the channels that come to mind.
14 Q Is there anything inappropriate about using
15 Web pages as a means of communicating either warnings
16 or instructions?
17 A In this day and age, Counsel, there's
18 certainly nothing wrong with it. Having said that, I
19 don't think I would rely on one's Web site solely. I
20 believe I would exploit the other modes and channels
21 as well.
22 Q Are you expecting to give any sort of
23 opinion with respect to awareness within the industry
24 about the propensity of this material to contribute to
25 lightning-induced fires?

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1 A I guess, Counsel, not beyond what I've
2 testified to earlier today, which is to say, based
3 upon anecdotal data and, again, the veracity of the
4 kind of testing that Mr. Simmons has done, I believe
5 that a level of awareness exists that, again, would
6 behoove their considering recommending a lightning
7 protection system in some sort of a warning message.
8 Q And we've talked about Mr. Simmons' testing.
9 What's the anecdotal data --
10 A Again --
11 Q I'm sorry. What's the anecdotal data that
12 you believe has created some awareness within the
13 industry?
14 A I believe that at least Mr. Simmons makes
15 reference to other cases or investigations, and I
16 think he comments on having done it on behalf of
17 insurance companies. He describes it as anecdotal
18 data that is beginning to emerge. And the extent to
19 which, again, there are other cases pending or
20 complaints from the field or investigations or what
21 have you beginning to show, I don't know. But thus
22 far, at least based upon publications in fire-related
23 magazines and articles and so forth that apparently
24 McDowell & Owens is published in, I believe it has
25 sufficiently shown up on the radar screen that if I

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1 were a manufacturer of RBS, I would take a look.
2 Q With respect to the McDowell Owens articles
3 that you're referring to that are popping up, are any
4 of those peer-reviewed?
5 A I don't -- I know Mr. Simmons was asked that
6 question, Counsel, and, again, I can't think for
7 Mr. Simmons. I expect they were not peer-reviewed in
8 the fashion -- I don't know this, but my hunch is,
9 they're probably not peer-reviewed in the fashion that
10 you and I discussed earlier in an academic journal.
11 Having said that, I can't imagine that someone would
12 publish in a fire-related or investigative-related
13 national publication articles that they didn't deem
14 had some degree of credibility or worthiness, if you
15 will.
16 I think Mr. Simmons interpreted your
17 question of peer review meaning literally his peers
18 within the company rather than saying, yeah, a number
19 of other engineers have looked at and seen our testing
20 and believed that to be the case. So I guess I can't
21 get any closer to an answer for you without getting
22 more long-winded. I don't know the review process
23 that would go into one of the fire journals, for
24 example, that at least one of the articles appeared
25 in. But I -- I didn't sense, at the same time, there

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1 was the kind of rigor, if you will, that might go into
2 an academic publication.
3 Q Certainly not in the sense that we talked
4 about earlier that one of your articles would have
5 been published?
6 A I expect not, Counsel. But having said
7 that, in fairness to those publications, I don't know
8 what their review process is like.
9 Q Do you know whether or not Mr. Taylor did
10 anything with respect to the construction of his home
11 that went beyond code requirements in terms of safety?
12 A I don't know.
13 Q For instance, you don't know whether or not
14 he had a lightning protection system?
15 A I don't recall him making reference to that,
16 no.
17 Q Okay. And you don't know whether or not he
18 had an arc fault protection system in his home?
19 A I do not.
20 Q Or a surge protection system?
21 A No, sir.
22 Q Or a carbon monoxide detector?
23 A No.
24 MR. ELLIS: Okay. Let's take a break and
25 let me see if -- whether or not we can wrap this up.

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1 THE WITNESS: All right, sir.
2 THE VIDEOGRAPHER: Off the record. The time
3 is 11:46.
4 (Recess taken from 11:46 to 11:58.)
5 THE VIDEOGRAPHER: Back on the record. The
6 time is 11:58.
7 Q (By Mr. Ellis) All right. Mr. --
8 Dr. Richetto, Ms. MacLeod provided us with some
9 materials that were indicated to be your file. So
10 what I'm going to ask to do is to ask the reporter to
11 mark this as Exhibit -- 115? Okay.
12 (Exhibit 115 marked for identification.)
13 Q (By Mr. Ellis) Ask you just to take a look
14 at that. With the exception of the materials that are
15 listed on the letters, which are already exhibits to
16 this case that you reviewed in preparation for your
17 deposition and report, is Exhibit No. 115 the
18 remainder of your file?
19 A Yes, sir, it is. I'm just looking -- the
20 latest e-mail that I got from Ms. MacLeod I mentioned
21 earlier was the file from Dr. Rhoads. And I made sure
22 -- I can look for it. I don't know whether it's
23 listed here or not. But beyond that, Counsel, no, I
24 don't see anything that I have reviewed that is not --
25 not listed here.

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1 Q All right.
 2 MR. ELLIS: That's all the questions I have
 3 for you.
 4 MS. MACLEOD: I'll reserve my questions for
 5 trial.
 6 THE VIDEOGRAPHER: Off the record. The time
 7 is 11:59.
 8 (DEPOSITION CONCLUDED AT 11:59 A.M.)
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1 JURAT
 2 State Farm vs. Louisiana Pacific Corporation
 3 I, GARY MARSHALL RICHETTO, do hereby state
 4 under oath that I have read the above and foregoing
 5 deposition in its entirety and that the same is a
 6 full, true and correct transcription of my testimony
 7 so given at said time and place.
 8
 9
 10 _____
 11 Signature of Witness
 12
 13
 14 Subscribed and sworn to before me, the
 15 undersigned Notary Public in and for the State of
 16 Oklahoma by said GARY MARSHALL RICHETTO, on this
 17 ____ day of _____, 2013.
 18
 19
 20
 21 _____
 22 NOTARY PUBLIC
 23 MY COMMISSION EXPIRES: _____
 24
 25

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1 C E R T I F I C A T E
 2
 3 STATE OF OKLAHOMA)
 4 COUNTY OF TULSA) ss
 5
 6 I, Joanna Smith, Certified Shorthand
 7 Reporter within and for the State of Oklahoma, do
 8 hereby certify that the above-named GARY MARSHALL
 9 RICHETTO was by me first duly sworn to testify the
 10 truth, the whole truth, and nothing but the truth, in
 11 the case aforesaid; that the above and foregoing
 12 deposition was by me taken in shorthand and thereafter
 13 transcribed; that the same was taken, pursuant to
 14 stipulations hereinbefore set out; and that I am not
 15 an attorney for nor otherwise interested in the said
 16 action.
 17
 18 IN WITNESS WHEREOF, I have hereunto set my
 19 hand and official seal this 8th day January, 2013.
 20
 21 _____
 22 Joanna Smith, CSR, RPR
 23
 24
 25

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1 ERRATA SHEET
 2 State Farm vs. Louisiana Pacific Corporation
 3 DEPOSITION OF GARY MARSHALL RICHETTO
 4 REPORTED BY: Joanna Smith, CSR, RPR
 5 DATE DEPOSITION TAKEN: December 28, 2012
 6 PAGE LINE IS CHANGED TO
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A				
	adequacy (6) 20:20;29:1;52:24; 71:17;72:6;127:19	36:3;48:2	analyses (2) 83:6,9	105:4;109:7
	adequate (12) 37:20;38:6;44:17; 45:4;48:11;50:4;51:1, 7:52:19;55:15;56:18; 101:2	airline (1) 110:21	analysis (10) 68:18;72:3;73:4; 84:8,11;85:1;86:4,20; 87:5;126:10	appliances (3) 102:15,18;103:21
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In The Matter Of:
State Farm, et al v.
Louisiana Pacific Corporation

Dennis J. Scardino
December 3, 2012

Carlisle Reporting
832 Tulane St. Houston, TX 77007
713-864-4443 (phone)
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Page 1

1 IN THE UNITED STATES DISTRICT COURT
2 FOR THE EASTERN DISTRICT OF NORTH CAROLINA
3 WESTERN DIVISION

3 STATE FARM AND CASUALTY)
4 COMPANY as subrogee of)
4 CHRISTOPHER TAYLOR,)
5 Plaintiffs,)
5 vs.) CASE NO. 5:12-cv-289-BO
6)
7 LOUISIANA PACIFIC)
7 CORPORATION,)
8 Defendant.)

9

10 ORAL VIDEOTAPED DEPOSITION OF
11 DENNIS J. SCARDINO
12 December 3, 2012

13

14 ORAL VIDEOTAPED DEPOSITION OF DENNIS J.
15 SCARDINO, produced as a witness at the instance of
16 the Defendant and duly sworn, was taken in the
17 above-styled and numbered cause on the 3rd day of
18 December, 2012, from 9:04 a.m. to 5:23 p.m., before
19 Laurie Carlisle, Certified Shorthand Reporter in and
20 for the State of Texas, reported by computerized
21 machine shorthand at the offices of Vinson & Elkins,
22 LLP, 1001 Fannin Street, Suite 2500, Houston, Texas,
23 pursuant to the Federal Rules of Civil Procedure and
24 the provisions stated on the record or attached
25 hereto.

Page 2

1 APPEARANCES

2

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4

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26

27 ALSO PRESENT:

28

29 Mr. Nick D'Angelo, Videographer

30

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1 THE VIDEOGRAPHER: Today is
2 December 3rd, 2012. Going on the record at
3 9:04 a.m., beginning tape 1 in the deposition of
4 Dennis Scardino.

5 DENNIS J. SCARDINO,
6 having been first duly sworn, testified as follows:
7 EXAMINATION

8 BY MS. MACLEOD:

9 Q. Good morning, Mr. Scardino. My name is
10 Skye MacLeod, and I'm the attorney that's been
11 retained to represent State Farm Fire and Casualty
12 Insurance Company as subrogee of Christopher Taylor
13 in this matter. And we're here to take your
14 deposition today because you've been designated as an
15 expert witness on behalf of Louisiana Pacific,
16 correct?

17 A. That's my understanding, yes.

18 Q. I know you've done this several times
19 before, but I want to go over a couple of ground
20 rules with you. If you will allow me to finish my
21 questions before you start answering and I'll extend
22 you the same courtesy to do my best to try to let you
23 finish your answer before I ask my next question. It
24 just makes the record clear, and it's easier for the
25 court reporter if we do that. Okay?

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1 A. Understood.
2 Q. If for any reason you don't understand the
3 question that I've asked, please ask me to repeat it
4 or rephrase it. I will gladly do so. If, however,
5 you provide an answer, I'm going to assume that you
6 understood the question that was asked. Okay?
7 A. Okay.
8 Q. And answer verbally like you're doing right
9 now. Uh-huhs, huh-uhs, shakes of the head, even
10 though we have a videographer here with us today, it
11 makes it hard for the court reporter to get those
12 things down. So whether it's yes, no or whatever
13 your answer might be, if you can make it a verbal
14 answer, please.
15 A. I will.
16 Q. If you need to take a break at any time,
17 let me know and I will be glad to accommodate you.
18 However, if there's a question pending, I'm going to
19 ask that you provide an answer before we take a
20 break. Okay?
21 A. Understood.
22 Q. Do you have any questions about the process
23 here today?
24 A. I do not.
25 Q. Not too long ago you were provided with a

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1 notice of deposition and a subpoena duces tecum. Do
2 you recall that?
3 A. I do. Received it in the mail.
4 Q. And you were asked to produce your entire
5 file in this matter, correct?
6 A. Correct.
7 Q. And did you, in fact, produce your entire
8 file?
9 A. Correct.
10 MR. ELLIS: We've got the file. May
11 not be down here. It's upstairs. I think you were
12 provided with a copy of it from Nathaniel.
13 Q. (By Ms. MacLeod) I did get some records.
14 There were a couple of things that I didn't see in
15 there that I wanted to ask you about.
16 A. Okay.
17 Q. I didn't see any invoices to either
18 Louisiana Pacific or to the law firm of Ellis &
19 Anthony. Have you done an invoice in this matter?
20 A. We have. The invoice is not part of the
21 project file. They're in a separate invoice file
22 which is not part of my file.
23 Q. Okay. If you would, please make copies of
24 those invoices that you've submitted in this matter
25 and provide those to Mr. Ellis so he can get those to

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1 me.
2 A. You want the invoices copied?
3 Q. Yes, please.
4 A. Okay.
5 Q. And I didn't see any kind of record of time
6 spent or kept for activities undertaken in this
7 particular case. Do you keep track of your time?
8 A. Invoices reflect the hours, so yes, it is
9 reflected on the invoices.
10 Q. And do they reflect what activity you were
11 undertaking at the time?
12 A. They would be -- typically what we do is we
13 bill on a monthly cycle. So let's say, for example,
14 we're now in December but November has just ended, so
15 the November time has not been invoiced yet, so that
16 would be considered work in progress. But at the end
17 of November, when the WIPs come to me for review,
18 I'll review them and an invoice will be generated for
19 the November time.
20 Q. How do you keep track of your time so that
21 you know what to submit and put on the invoice?
22 A. I write it down on a sheet of paper daily
23 and then once it's entered into the time sheet,
24 I throw away my pieces of paper.
25 Q. You don't keep those logs?

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1 A. No, ma'am. It's a time sheet program where
2 we enter the data and it records the time and we put
3 a description of the activity that we did and then
4 that's what becomes the invoice.
5 Q. So whatever activity you've undertaken has
6 been transcribed and put onto the invoice?
7 A. Correct.
8 Q. So if I look at the invoice, I'll be able
9 to tell what you've done?
10 A. Right. It's a summary of what we did.
11 Q. And are you on retainer with Louisiana
12 Pacific, or are you being paid hourly for your time
13 spent?
14 A. First, I'm not being paid. I get a salary
15 from my company. Now, my company charges for my
16 time, so they do submit invoices. To my knowledge,
17 there is no retainer arrangement with Louisiana
18 Pacific. It's basically a per-hour billed basis.
19 Q. Also looking through your file, both in
20 regard to documents attached to your report as well
21 as documents provided with a copy of your file,
22 I only saw 28 photographs. And you attended the
23 joint site inspection on October 21, 2011, correct?
24 A. Yes, ma'am.
25 Q. Did you only take 28 pictures while you

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1 were there?
2 A. No, ma'am.
3 Q. Do you know where the remainder of your
4 photographs are?
5 A. Yes, ma'am. They're in a digital format on
6 the -- in the digital file, if you will, for this
7 project. I assumed that they would have been copied
8 and submitted.
9 Q. Will you go back and check? Because I only
10 got 28.
11 A. I can get those sent over on a disk.
12 Q. Yeah. That would be perfect. And send
13 them to Mr. Ellis so that he can get those to me.
14 A. Okay.
15 Q. You mentioned a digital file. Was there
16 anything -- did you make a copy of that digital file,
17 or did someone help you do that?
18 A. I did not personally make the digital file.
19 Basically I took my hard copy in to the office
20 manager -- her name is Sabrina Lewis -- and said,
21 Here, I need this copied and sent to legal counsel,
22 and then they're going to submit it to you.
23 Q. Will you make sure that the digital file,
24 that ESI and -- or that you keep on the Taylor, that
25 all of that makes it as well onto the disk so that

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1 I know that I have everything that you're keeping in
2 regard to this case?
3 A. I will. I thought that was done, but okay.
4 I'll make sure.
5 Q. The only reason I have any question about
6 it is just because of the number of photographs, and
7 I was surprised, in this digital age, that you went
8 out to a site for as long as you were there and took
9 28 pictures. So okay.
10 Will you please state your full name
11 and home address for the record?
12 A. My full name is Dennis John Scardino.
13 I normally don't give out my home address. My work
14 address at Engineering Systems, Incorporated, or ESI,
15 is 16770 Imperial Valley Drive, Suite No. 150,
16 Houston, Texas 77060. Telephone number there is
17 (281)448-6060 and the fax number is (281)448-6062.
18 Q. I'm going to ask that you give me your home
19 address in the event that I need to serve a subpoena
20 on you and for some reason if you're no longer with
21 ESI and I need to get you, if you would please
22 provide that.
23 A. My home address is 27092 Crown Chase Drive,
24 Humble, Texas 77339.
25 Q. Thank you. Did you bring any documents

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1 with you to the deposition?
2 A. No, ma'am.
3 Q. And how much time did you spend in
4 preparing for today's deposition?
5 A. Since the beginning of this case, I guess.
6 Q. Did you do anything specific in regard to
7 preparing to come in and talk to me today?
8 A. Well, subsequent to submittal of the
9 report, then I would have reviewed additional
10 documents that came to me. I attended by phone
11 Mr. Simmons' deposition. And I reviewed the file
12 materials.
13 Q. Your file materials?
14 A. Yes, ma'am.
15 Q. If you will, Mr. Scardino, will you please
16 identify the opinions that you intend to offer in
17 this case?
18 A. Okay. The first opinion would be that the
19 precise origin of this fire could not be determined
20 within a reasonable degree of fire analysis certainty
21 due to the destruction, modification, alteration of
22 the fire scene subsequent to the fire, prior to the
23 investigative efforts being conducted. However, the
24 origin of the fire is in the attic ceiling space
25 above the northern portion of the living room/dining

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1 area and the southern portion of the master bedroom.
2 The second would be that the cause of
3 this fire was a natural event, a lightning strike.
4 Thirdly, that lightning can and does
5 hit residential structures and that fires can result
6 or they cannot result.
7 Q. Any other opinions that you intend to offer
8 at the trial of this matter?
9 A. Those are the primary opinions. I guess
10 the remainder of the opinions are subject to the
11 questions you ask me in relation to those major
12 opinions.
13 Q. Okay. Do you intend to offer any opinions
14 concerning the composition and characteristics of the
15 LP TechShield product?
16 A. I have an understanding of what it is made
17 from, but I'm not quite sure I understand your
18 question with regards to the remainder of that
19 question.
20 Q. I'm actually reading from defendant's
21 disclosure of expert testimony and under you it says,
22 "Mr. Scardino will also testify as an expert
23 concerning the composition and characteristics of the
24 LP TechShield product." Will you be offering any
25 opinions regarding the composition and

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1 characteristics of the LP TechShield product?
2 A. Again, it depends upon the question that
3 you ask me as to whether or not it elicits an
4 opinion. I can tell you what my understanding of
5 what that product is made of.
6 Q. Okay. Are you a materials expert?
7 A. I have a certain level of expertise with
8 materials which would assist the trier of fact in
9 making a determination. My materials expertise is
10 with regards to that material's behavior and its --
11 leading to its ignition. I'm not going to talk about
12 the strengths of the material and other properties
13 that are not germane to the fire origin and cause.
14 Q. If you will, in regard to the composition
15 and characteristics of the LP TechShield product,
16 describe for me the material's behavior as it's
17 germane to the cause and origin of the fire in this
18 particular case.
19 A. Repeat the question one more time, please.
20 Q. In regard to the composition and
21 characteristics of the LP TechShield product,
22 describe for me the material's behavior that consists
23 of properties that are germane to the cause and
24 origin of the fire?
25 A. Of this particular fire?

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1 Q. Yes, sir.
2 A. Basically it's primarily comprised of wood
3 particles that are laminated together in a glue
4 matrix. So basically its ignition temperature would
5 be similar to that of most wood products, somewhere
6 between the 400 to 600 degrees Fahrenheit range.
7 That in order to ignite wood, you have to have an
8 adequate ignition source, which means that it has to
9 be of ample temperature and adequate duration in
10 order to cause its ignition.
11 Q. Other than the wood, will you be -- are you
12 able to talk to the composition and characteristics
13 of any of the other portions of the LP TechShield
14 product?
15 A. The LP TechShield product has, on its lower
16 surface as installed, a radiant barrier which is
17 comprised of a paper layer and an aluminum layer
18 glued together and it's then adhered to the bottom of
19 the oriented strand board panel and it's perforated
20 to allow for moisture to move through the membrane.
21 Q. Do you know what the ignition temperature
22 of the paper utilized in the LP TechShield product
23 is?
24 A. One of the generally accepted ignition
25 temperatures of paper is 451 degrees Fahrenheit,

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1 thereabouts. Now, again, since this is glued to a
2 wood substrate, I don't know the exact ignition
3 temperature.
4 Q. Do you have any understanding of how gluing
5 it to a substrate would affect the ignition
6 temperature?
7 A. I do.
8 Q. Tell me, please.
9 A. Basically by creating a layered type of
10 panel, direct contact allows for the transfer of heat
11 through conduction. So basically as you put heat
12 into one of the elements, that heat is being
13 dissipated into the other elements of the assembly.
14 Q. Does that mean to you that it will require
15 a higher or a lower ignition temperature with that
16 configuration?
17 A. Typically it would indicate that since
18 you're conducting heat away, the ignition temperature
19 would be higher.
20 Q. Do you have any idea how much higher?
21 A. I do not.
22 Q. Have you done any research or investigation
23 to determine the -- or do you know what the ignition
24 temperature of aluminum that's used in the TechShield
25 product?

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1 A. The ignition temperature of aluminum?
2 Q. Yes, sir.
3 A. Aluminum has a melting temperature
4 generally considered around 1200 degrees Fahrenheit.
5 Its ignition temperature, I'd have to go to a
6 resource to find out what its ignition temperature
7 actually is. I don't remember that off the top of my
8 head.
9 Q. So you don't intend to provide any
10 testimony at the trial of this matter in regard to
11 the ignition temperature of aluminum?
12 A. I don't know. I will research that
13 particular information so that when you ask me that
14 at trial, I can give you that information. I don't
15 know it right now.
16 Q. Okay. Well, I'm not asking you to go out
17 and do any research. I'm just trying to figure out
18 what it is that you know now and what played a role
19 in the creation of the report that you made on
20 September 28, 2012.
21 In order to come up with the opinions
22 that you provided in your report from September 28,
23 2012, you did not need to know the ignition
24 temperature of aluminum. Is that correct?
25 A. Knowing the ignition temperature of

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1 aluminum would not have affected my opinions, no.
2 Q. In regard to the glue itself that is used
3 to adhere the aluminum and paper to the OSB, do you
4 know what the ignition temperature is for the glue
5 that's used?
6 A. I do not.
7 Q. And as with the aluminum, that wasn't
8 something that you needed to know in order to render
9 the opinions that you provided in your September 28,
10 2012 report, correct?
11 A. That is correct.
12 Q. Let's go ahead and mark as Deposition
13 Exhibit 50 a copy of your report dated September 28,
14 2012.
15 (Exhibit 50 marked)
16 Q. (By Ms. MacLeod) Does this appear to be
17 your report, without the appendices attached to it?
18 A. Yes. This is only the text portion of my
19 report.
20 Q. The opinions and conclusions that you've
21 come to in this case that you've identified -- you've
22 identified three for me here today. Are those the
23 same as those set out on page 9 and 10 of your report
24 under the heading "Conclusions"?
25 A. I believe they are. They encompass the

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1 information that's provided there.
2 (Exhibit 51 marked)
3 Q. (By Ms. MacLeod) I'm going to mark as
4 Deposition Exhibit 51 a copy of Appendix A. And this
5 is a list of materials reviewed by you during the
6 preposition -- preparation, rather, of your report?
7 A. Yes.
8 Q. Correct?
9 A. Yes.
10 Q. And how did you make a determination of
11 what materials you included in this reviewed
12 materials list?
13 A. How did I make a determination? Those are
14 the -- excuse me. Those are the materials
15 I consulted with regards to rendering my opinions.
16 Q. You list under No. 1 several different
17 versions and editions of NFPA 291. Did you actually
18 go through and look at each of those certifications?
19 A. Yes, ma'am, I did, and I've got copies of
20 each of those versions.
21 Q. Did you bring all of those with you today?
22 A. All of the NFPA documents? No, ma'am.
23 Those are all available online for purchase. So no,
24 I didn't bring them with me today.
25 Q. Did your counsel ask you to bring any of

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1 the treatises and reviewed materials that weren't
2 provided in the file today with you?
3 A. Did they ask me to bring it?
4 Q. Yes.
5 A. No. I mean, they didn't ask me to and
6 they're listed here. So you would be able to get
7 access to them.
8 Q. If I had access and could -- but I have to
9 buy them to do that, right?
10 A. I mean, they're copyrighted materials.
11 Q. Right.
12 A. So I'm not quite sure if I can just make a
13 copy of them arbitrarily.
14 Q. And I'm not asking you to. The reason
15 I asked -- just so that you're not confused, I'm not
16 trying to give you a hard time. It was part of our
17 agreement that any treatises and literature that was
18 not produced would be brought with the deponent to
19 the deposition. So I'm just asking: You don't have
20 them here, right?
21 A. I do not.
22 Q. How much time did you spend in preparing
23 this report and reviewing these five or six editions
24 of NFPA 921?
25 A. I don't know the exact amount of time

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1 I spent on preparation for the report.
2 Q. Do you think it was more than an hour that
3 you spent?
4 A. On the report or the review of those
5 materials?
6 Q. The review of the NFPA 921.
7 A. Good gracious. I'm very familiar with all
8 of those versions and have used them for years. Was
9 it more than an hour? I don't know. Could have
10 been.
11 Q. And I guess just so I understand, why would
12 it be necessary to go back through and look at each
13 of those editions?
14 A. Things change in the editions. The
15 verbiage changes. Also, with regards to lightning, I
16 went back through all of those editions all the way
17 back to 1992, and all of them indicate lightning as a
18 recognized cause for the fire.
19 Q. So that was the purpose of going through
20 those is to look at the sections on what it says
21 about lightning?
22 A. That was part of it, yes.
23 Q. Do you know what the NFPA 921 says in
24 regards to possibilities versus probabilities?
25 A. Yes, ma'am. There's a section that

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1 discusses the level of confidence that an
2 investigator has in his or her opinion. So basically
3 with regards to a possibility, a possibility is not
4 considered sufficient evidence by which to render an
5 opinion. You cannot say with any specificity (sic)
6 that that cause or that origin is more probable or
7 less probable. So you're left with basically an
8 undetermined conclusion.

9 But once you go into the realm of
10 probability, then you are looking at whether or not
11 that ignition source, compared to the other potential
12 ignition sources, is the more probable of ignition
13 sources associated with the cause of that fire.

14 Q. You have in your report a good deal of
15 information about lightning. Can you help me by
16 looking through your reviewed materials list and tell
17 me which of the reviewed materials you used to obtain
18 the information about lightning that's included in
19 your report?

20 A. Well, if you would go to the report, under
21 the section termed "Lightning" which appears on
22 page 5, those are the references. The numerical ones
23 refer to the appendices. The alphabetical refer to
24 the actual attachments associated with the report.
25 That's -- those appendices are shown on page 4 of the

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1 report.

2 Q. Prior to preparing a report on
3 September 28, 2012, other than, I guess, reviewed
4 materials No. 1, had you read these others, 5, 6, 15,
5 16, 17, 18, 19 and I believe Appendices N and O prior
6 to the time that you sat down to write the report, or
7 was the first time you reviewed those in preparation
8 for writing this report?

9 A. Is that -- okay.

10 Q. Does that make sense?

11 A. If I understood your question -- and there
12 was a lot of numbers thrown out, so I didn't catch
13 all of them.

14 Q. I just read the numbers that are listed on
15 page 5 of your report.

16 A. Okay.

17 Q. But I was taking No. 1 out because
18 I assumed you looked at No. 1, the NFPA 291, more
19 frequently than just in preparation of this report?

20 A. Correct. Also, I'll point out on the
21 reviewed materials, No. 18 and No. 11 are duplicates.
22 So with regards to No. 1, yes. If I'm answering your
23 question did I review them prior to prepping for this
24 report, 1, yes. 5, no, that was something that
25 I researched specifically for this particular report.

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1 I had seen information similar to it previously.

2 But No. 6, again, that would be a yes,
3 that was specifically for this report.

4 15, no, ma'am. I've reviewed that one
5 in the past. It's got a copyright date of 1981.

6 Explosions and Fires, No. 16,
7 Determining the Cause and Origin by Kennedy, yeah,
8 that's the green book. I've reviewed it on numerous
9 occasions prior to the preparation for this report.

10 17, Kirk's Fire Investigation, Second
11 Edition, yes, absolutely. I reviewed it well before
12 preparing this report. Kirk's Fire Investigation,
13 Fifth Edition, I have reviewed it in the past but
14 I did rereview it to prepare the property.

15 19, Fire Protection Handbook,
16 15th Edition, yes, ma'am, I reviewed it on numerous
17 occasions. It's a very large book. I have not read
18 the entirety of that book, but pertinent sections
19 have come up through the years of conducting fire
20 investigations for the last 30 some odd years.

21 Q. Would those pertinent sections include
22 sections on lightning?

23 A. Correct. It addresses lightning and
24 lightning protection systems because it's a fire
25 protection handbook as opposed to a fire

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1 investigation book. The fire protection is looking
2 at the prevention of fires.

3 No. N, N is the National Fire
4 Protection Administration, "Lightning Fires and
5 Lightning Strikes." That one is specific to the
6 preparation of this report. It's a more recent
7 edition. I have looked at those in the past, but
8 I got a more recent edition to look through.

9 The same with O. Excuse me.

10 Q. There is mention on here, No. 9, Fire
11 Findings Special Reports.

12 A. Yes, ma'am.

13 Q. And produced in the file materials from you
14 was a two-page article called Fire Findings, Summer
15 2009, Volume 17, No. 3. Are you familiar -- does
16 that ring a bell with you?

17 A. I remember seeing the "Reflective Radiant
18 Barrier" report in Fire Findings.

19 Q. I'm going to hand it to you so you can look
20 at it. I apologize, but it's the only copy I have.

21 And if you also will look through --
22 go ahead, while Mr. Ellis is looking at that, look
23 for Exhibit 44.

24 A. Oh, in here. Sorry.

25 Q. That's okay.

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1 A. Exhibit 44. It's 49 at the back. 48.
2 Yes.
3 Q. Exhibit No. 44, I didn't see this document
4 in your file. Have you seen this document before
5 today?
6 A. I have.
7 Q. Okay. Did you locate this document and
8 provide it to counsel, or was this document provided
9 to you by counsel?
10 A. I don't know. I mean, what -- the original
11 two pages that you handed to me appeared to be a
12 summary taken from the Fire Findings website. So
13 that basically identified the article I wanted to
14 track down. I don't recall whether or not I asked
15 for that article or whether or not it was provided.
16 It could have happened either way. I don't know.
17 Q. And then if you'll look at the date on the
18 two-page article, it looks like it was printed out by
19 you on October 24, 2011, and that was three days
20 after you went out and did the joint site inspection
21 at the Taylors', correct?
22 A. The 21st, three days, yes, that's correct
23 on the number.
24 Q. Do you have any recollection as to why you
25 were making searches regarding radiant barriers three

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1 days after the time that you were out at the joint
2 site inspection?
3 A. More than likely I was making inquiries
4 with regard to lightning in general as well as
5 whatever information was out there with regards to
6 radiant barriers.
7 Q. Okay. And when you --
8 A. Actually -- no, I think that's right.
9 Q. Had you ever conducted any type of search
10 like that before, or was this the first time you were
11 getting on the Internet and looking for -- a search
12 for lightning and radiant barrier products?
13 A. To be honest with you, I don't know. I've
14 looked -- through the course of my career, looking at
15 various types of fires, one of the typical things
16 that I would do to gather more data would be to
17 research various things. And whether this was the
18 first time I looked at radiant barriers or the third
19 time or -- I don't remember.
20 Q. Okay. Do you recall having any
21 conversation with anyone asking you to do some
22 research to look for articles that had been published
23 by McDowell Owens?
24 A. No, ma'am, I don't ever -- I don't recall
25 receiving a call requesting that particular subject,

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1 no.
2 Q. Do you remember having any conversations
3 with anyone at Louisiana Pacific about any research
4 or testing that was being undertaken by McDowell
5 Owens?
6 A. No, ma'am.
7 Q. Never?
8 A. Again, rephrase the question because the
9 way I understood it, my answer would stay the same.
10 But go ahead and ask it --
11 Q. You never had any conversation with anyone
12 at Louisiana Pacific about the testing and research
13 being done regarding radiant barriers at McDowell
14 Owens?
15 A. At -- any conversations. Yeah, that was --
16 at Louisiana Pacific is the next question. I don't
17 recall any off the top of my head. I have met with
18 representatives from Louisiana Pacific at the sites
19 of these things. Could that topic have come up?
20 Maybe. I don't have a specific recollection of that.
21 Q. Was your introduction to lightning-induced
22 fires as they relate to radiant barrier products
23 first introduced to you with the Taylor fire?
24 A. Okay. Say that one more time because we're
25 talking lightning-induced fires. I've been

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1 evaluating lightning causing fires throughout my
2 career.
3 Q. Right. And I -- I have no doubt that
4 there's a large list there. What I'm really focusing
5 on is when you first became aware of radiant barrier
6 products and claims that there were lightning-induced
7 fires as they relate to radiant barrier products.
8 A. Well, if I understand your question, the
9 allegation is that -- has been made with regards to
10 your question. That allegation has been made, but I
11 have not seen any evidence thereof that you have
12 lightning-induced fires caused by the radiant
13 barrier.
14 Q. And that's why I -- that's why I phrased it
15 with claims that that is happening. And if you want
16 to use the word "alleged," I just want to know from
17 you when is the first time you became aware that
18 there's someone out there that thought this was an
19 issue, that there was energy from a lightning strike
20 causing a fire at a radiant barrier product?
21 A. I don't know for a fact whether or not
22 I reviewed an article like this prior to my
23 involvement, but it could have occurred when I was
24 retained by LP.
25 Q. When were you first retained by LP?

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1 A. In relation to this particular project?
2 Q. Just in general -- I'm trying to find
3 out -- what I really want to know is how long you've
4 known about this, how long you've been working with
5 LP on these issues, when is the first time you got
6 brought in as an expert witness?
7 A. On this case --
8 Q. No, sir.
9 A. -- September the 30th.
10 Q. Not --
11 A. With regards to being involved prior to
12 that with LP, I don't know.
13 Q. Is the Taylor --
14 A. That information may be available. Is the
15 Taylor --
16 Q. Was the Taylor case the first time that
17 LP -- Louisiana Pacific contacted you and asked you
18 to be an expert witness to come in and do a cause and
19 origin investigation where there was a claim that its
20 product was the cause of the fire?
21 MR. ELLIS: Object to form. Go ahead.
22 A. I don't think so.
23 Q. (By Ms. MacLeod) You don't think the Taylor
24 claim was the first one?
25 A. If recollection serves, I don't think so.

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1 Q. What do you think the first one was?
2 A. Good gracious. I have no idea. I can
3 probably find out, but I have no idea.
4 Q. Do you know when -- do you have any
5 recollection of when Louisiana Pacific first
6 contacted you to go out and do a C&O investigation
7 regarding a claim or an alleged claim that their
8 radiant barrier product had caught fire?
9 A. Again, I don't know specifically when we
10 were first contacted, so I have --
11 Q. Was it five or six years before the Taylor
12 fire?
13 A. Five or six? That -- that seems -- no, it
14 doesn't seem that it was five or six years, no.
15 Q. I'm just trying to get a time frame here.
16 A. I don't know.
17 Q. I mean, was it five or six months before
18 the Taylor fire?
19 A. I don't know. This one was done in 2011.
20 I don't know. 2009, 2010. I don't know.
21 Q. Do you -- or does ESI keep track of the
22 work that it does with a particular client?
23 A. I believe that -- I don't know if they
24 track it, but I believe their system can identify
25 that, yes.

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1 Q. So if you wanted to go back and determine
2 how many times ESI has worked with Louisiana Pacific
3 in regard to claims of fire caused by the radiant
4 barrier -- energy to the radiant barrier product
5 TechShield, that's something that you could look for?
6 MR. ELLIS: Object to form. Go ahead.
7 A. I could have my office manager search the
8 database to see if we can develop a list of the
9 number of cases that were involving Louisiana
10 Pacific.
11 Q. Do you work for any other manufacturer of a
12 radiant barrier product?
13 A. No.
14 Q. So you don't do any work with Georgia
15 Pacific?
16 A. I have not been asked to, no.
17 Q. Have you been asked to do any work with --
18 by Norbord to do any work with its radiant barrier
19 product?
20 A. I have not.
21 Q. Do you have active cases right now in which
22 you've been retained by Louisiana Pacific to be the
23 cause and origin expert on behalf of Louisiana
24 Pacific in fires that are similar to the Taylors?
25 A. Define "active."

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1 Q. That you're currently working on --
2 A. Well --
3 Q. -- that you've been asked to be the expert
4 on.
5 A. Again, I wasn't specifically asked to be
6 the expert. The expert only occurs once you're into
7 litigation. They asked me to be a consultant. With
8 regards to active, the way I define "active" is I'm
9 actually physically working on them. There are ones
10 that have already been filed.
11 Again, your prior question with
12 regards to determining the number, I don't know that.
13 But that's information I could probably find for us.
14 Q. I guess I'm sitting here feeling like I
15 have no sense of how many different times you've been
16 asked to serve in a consulting role with LP. And
17 we're talking potentially 2009, 2010 to the present.
18 Do you think you've had -- been asked to consult by
19 Louisiana Pacific more than ten times on ten
20 different cases?
21 A. I don't know. I really don't.
22 Q. But that's something that you can find out?
23 A. I believe we can, yes.
24 Q. I'm going to ask you to make that effort.
25 And if you will, please provide that information to

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1 your counsel so he can provide it to me.
2 MR. ELLIS: Just so it's clear for the
3 record, we'll take it under advisement, but I don't
4 know how we'll react to the request.
5 (Exhibit 52 marked)
6 Q. (By Ms. MacLeod) I'm going to hand you what
7 we're marking as Exhibit 52. This is Appendix B and
8 is your CV. And it was attached to your report,
9 correct?
10 A. Yes.
11 Q. Is this the most recent copy of your CV?
12 A. I looked at it when I reviewed the report.
13 There are things that are absent from it.
14 Q. Did you bring an updated copy of your CV?
15 A. No, ma'am, I have not updated my CV.
16 Q. You haven't updated it?
17 A. No, ma'am. I have the information. There
18 were two classes and some additional training.
19 Q. If you will, you have several different
20 letters after your name at the top of this page?
21 A. Yes, ma'am.
22 Q. Will you walk me through what those are,
23 please?
24 A. PE designation is professional engineering.
25 I hold licensing in professional engineering in

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1 Texas, Louisiana and Mississippi. My background is
2 in mechanical engineering.
3 Q. Do you hold a professional engineer's
4 license in the State of North Carolina?
5 A. I do not.
6 Q. When did you first become licensed as a PE?
7 A. I don't remember. Graduated from
8 Mississippi State University in 1986. Approximately
9 16 years after graduating is when I did my PE.
10 Q. And where were you first licensed?
11 A. Louisiana.
12 Q. And about how many years later did you get
13 licensed in Mississippi and Texas?
14 A. Mississippi would have been 2011, and Texas
15 would have been 2012.
16 Q. And then the next, CFI?
17 A. CFI is a Certified Fire Investigator
18 through the International Association of Arson
19 Investigators.
20 Q. And when did you become certified with
21 IAAI?
22 A. Many years ago. I don't remember exactly
23 when.
24 Q. Before 2000?
25 A. Yes, ma'am. We're talking back in -- I

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1 want to say in the '90s.
2 The CFEI designation, Certified Fire
3 and Explosion Investigator, that is a designation
4 through the National Association of Fire
5 Investigators. I've had that one probably since --
6 for 30 years, 29 years, something along that line.
7 Q. And then the CFII?
8 A. The Certified Fire Investigator Instructor,
9 again, that's through the National Association of
10 Fire Investigators. I carried it for the same amount
11 of time as the CFEI.
12 And the CVFI is the Certified Vehicle
13 Fire Investigator. Again, that's through the
14 National Association of Fire Investigators. I don't
15 remember when I got that one. That was more recent
16 than the CFEI or the CFII.
17 Q. In the last five years?
18 A. I believe I got that designation since
19 I started with ESI and I started with ESI in 2002 --
20 no, excuse me, 2005. So within the last seven.
21 Q. I also see under certifications it says
22 Certified Fire Investigator with NPQS?
23 A. Correct. That's a national accreditation
24 board. I don't remember exactly what the acronym
25 stands for; but again, that certification is

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1 something you obtain only after getting the IAAI CFI.
2 Q. If you'll look under the first heading,
3 "Areas of Specialization"?
4 A. Yes, ma'am.
5 Q. Are these designated that way because these
6 are the areas that you feel you hold a specific
7 expertise in?
8 A. These are areas in which I have provided
9 consulting in the past, of which I've actually -- may
10 have given testimony in the past or provided
11 consulting with regards to.
12 Q. You do not list electrical systems analysis
13 as an area of specialization, correct?
14 A. Electrical system analysis is part of the
15 fire investigative process. It's also part of the
16 fire analysis process -- excuse me, failure analysis
17 process. So I do evaluate electrical systems
18 associated with structures involved in fires.
19 Q. And what does that analysis entail?
20 A. Basically evaluating the source of
21 electricity that comes into the home, the method by
22 which it's routed to the home and the circuitry and
23 aspects of it within the home from overcurrent
24 protection to the actual terminal device, which would
25 be a plug, a switch or a light fixture. We also look

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1 at appliances that would be associated with -- that
2 actually utilize electrical power. So again, all of
3 that would be part of a typical analysis.
4 Q. And as part of that analysis, are you
5 making determinations as to whether or not the
6 electrical system was the cause of the fire in your
7 investigations?
8 A. Correct.
9 Q. You are?
10 A. Yes.
11 Q. Did you make a determination in the Taylor
12 case as to whether the electrical systems -- the
13 home's electrical system was a cause of the fire at
14 the Taylor home?
15 A. It was involved in the cause of the fire.
16 But was it the cause of the fire? No.
17 Q. In your areas of specialization, you do not
18 list lightning as an area of specialization, correct?
19 A. Correct. It is not listed as an area of
20 specialization on this resume. My specialization
21 with regards to lightning is how it is related to the
22 cause of fires.
23 Q. In what regard? If you can just give me a
24 little more detail about what you're talking about
25 there.

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1 A. Basically determining whether or not a
2 lightning strike struck the structure or a nearby
3 object, which then the voltage and amperage from that
4 lightning strike then affected the house in some
5 manner or the structure or its electrical systems in
6 some manner. It could be on the -- anything that
7 would be germane to lightning be associated with the
8 cause of the fire.
9 Q. You're not an electrical engineer, correct?
10 A. No, ma'am. My background is in mechanical
11 engineering. As part of being a mechanical engineer,
12 we do have certain aspects of electrical engineering
13 incorporated into that program. I've also done
14 independent study with regards to electrical system.
15 I've had training in the National Electric Code
16 NFPA 70. So yes, I do have an understanding of
17 electrical systems.
18 Q. But really -- I'm sorry. My question was:
19 You're not an electrical engineer?
20 A. To simply answer that question, no, I am
21 not an electrical engineer.
22 Q. Let's go down to certifications. We've
23 gone through a lot of those. Is there any state in
24 which you hold a license to conduct origin and cause
25 investigations?

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1 A. Any state in which I hold a license, no.
2 I did previously in Louisiana, I was a licensed
3 private investigator in Louisiana. But I don't hold
4 a private investigator license.
5 Q. And that would be true for you don't hold a
6 private investigator's license in North Carolina,
7 correct?
8 A. I do not.
9 Q. And are you familiar with the laws of North
10 Carolina and whether they authorize someone to
11 conduct an origin and cause investigation in North
12 Carolina without holding a private investigator's
13 license?
14 A. And I'm not conducting just an
15 investigation. I'm conducting an analysis associated
16 with the origin and cause of a fire. And so I am not
17 aware of what North Carolina specific statutes are
18 with regards to investigations, but I'm conducting an
19 analysis, not an investigation.
20 Q. But the answer to my question is: So you
21 don't know what the law is in regard to whether North
22 Carolina requires someone who's conducting an origin
23 and cause investigation to hold a private
24 investigator's license?
25 A. With regards to investigations, I am not

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1 aware of what North Carolina's statutes are, no.
2 Q. But it's your testimony today that you
3 don't think that applies to you because you're not
4 conducting an investigation; you're conducting
5 analysis?
6 A. Correct. The --
7 MR. ELLIS: Objection to form.
8 A. Excuse me. The analysis is different from
9 the investigation.
10 Q. (By Ms. MacLeod) How so?
11 A. Basically because an origin and cause
12 investigation typically delves into areas outside of
13 the fire analysis. The fire analysis looks at the
14 origin, the cause, circumstances of events and does
15 the -- brings in the failure analysis, whereas a fire
16 investigation does not. And they get more into
17 background checks, financial checks and things of
18 that nature, which I don't get into.
19 Q. All right. If you will turn the page and
20 look under the heading "Professional Affiliations."
21 A. Yes.
22 Q. You have four affiliations listed there.
23 Are you currently a member of each of those four
24 affiliations?
25 A. I believe so. I recall the -- basically

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1 the renewal invoices came in the door and I submitted
2 them for payment. So yes, I do believe I am still a
3 member of those.
4 Q. For the ASME, other than payment of an
5 annual fee, is there anything else that you have to
6 do to be a member of that association?
7 A. To my knowledge, you submit an application
8 for membership. If they accept you, then you
9 continue your membership by paying a fee.
10 Q. Do you hold any leadership roles with that?
11 A. I do not.
12 THE VIDEOGRAPHER: Sorry, I have to go
13 off the record to change the tape.
14 MS. MacLEOD: Okay.
15 THE VIDEOGRAPHER: Going off the
16 record at 10:03, ending tape 1.
17 (Recess taken)
18 THE VIDEOGRAPHER: Back on the record
19 at 10:10 a.m., beginning tape 2.
20 Q. (By Ms. MacLeod) Mr. Scardino, we were
21 talking about professional affiliations. The second
22 one is IAAI. Other than paying an annual fee, are
23 there any membership requirements to be a part of
24 that association?
25 A. Yes, ma'am. You have to submit an

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1 application. You have to be accepted by the
2 membership. You also have to be a member of the
3 local chapter as well. What's not on here is I'm
4 also a member of the Texas Chapter of the
5 International Association of Arson Investigators.
6 Other than making application, being accepted and
7 paying your dues, then no.
8 Q. What about for the local Texas chapter?
9 Same kind of deal?
10 A. The same.
11 Q. Do you hold any leadership roles in either
12 the local chapter or the IAAI association?
13 A. I did previously in the Florida chapter of
14 the IAAI, but at present I do not.
15 Q. When were you a member of the Florida
16 chapter?
17 A. I started doing fire investigations in
18 Florida full time in 1988 while I was employed with
19 Interscience, Incorporated. I believe I became
20 involved with the Florida chapter in '88, '89. '89,
21 I was probably the treasurer, served in that capacity
22 for a few years, then became the regional director, I
23 think is what they called it. And I think at one
24 point I went from second vice to first vice, but due
25 to my relocation, I didn't accept the presidency.

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1 Q. All right. With NAFI, you're currently a
2 member with NAFI?
3 A. Yes, ma'am.
4 Q. And other than payment of an annual fee,
5 are there any membership requirements that you have
6 to meet such as submitting an application and paying
7 a fee?
8 A. Not with regards to the NAFI. There is
9 with regards to the CFEI designation that you have to
10 resubmit continuing education every -- I think it's
11 every five years. The same with the CFI designation
12 for the IAAI.
13 Q. So to retain those licenses, you have to do
14 continuing education or certifications?
15 A. They're not licenses, they are
16 certifications.
17 Q. I apologize.
18 A. Correct.
19 Q. In regard to NAFI, do you -- have you ever
20 held a leadership role?
21 A. No.
22 Q. With the National Fire Protection
23 Association, can you explain that one to me? Are you
24 currently a member of that?
25 A. NFPA, yes, I am.

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1 Q. And what requirements are needed to be a
2 member of NFPA?
3 A. Again, you submit an application and pay a
4 fee, and then you can become a member of the NFPA.
5 Q. Do you have any leadership roles?
6 A. I do not.
7 Q. Sorry?
8 A. I do not.
9 Q. In regard to court qualifications, it
10 appears that you have been qualified as a fire origin
11 and cause expert. How many times?
12 A. I don't know. That's -- when you're
13 talking about expert witness, in deposition or at
14 trial? Are you differentiating or is both
15 applicable?
16 Q. When you've put this under here under
17 "Court Qualifications," what is --
18 A. I've given courtroom testimony on fire
19 origin and cause previously. The number of times, I
20 don't know. It spans over my 30-year plus year
21 career. I did not qualify for court -- a case didn't
22 go to court for seven years. So 30 minus 7. 23. So
23 for approximately the past 23 years, I've been giving
24 expert testimony at deposition and at trial.
25 Q. How many times have you given expert

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1 testimony at trial as a fire origin and cause expert?
2 A. I don't remember.
3 Q. More than ten?
4 A. Again, I don't remember. I have a list of
5 my most recent testimonies, but you know, again,
6 you're asking me to look back over 23 plus years, and
7 I don't remember all of the times that I was court
8 qualified.
9 Q. I was just trying to get a sense of what
10 you've accomplished and the things that you've done.
11 A. The best I can answer is numerous
12 occasions.
13 Q. And I was just -- what do you mean by
14 "numerous," though? I mean, I don't know if
15 "numerous" is different.
16 A. I've been in -- I mean, I've been tendered
17 as an expert witness and accepted in Texas,
18 Louisiana, Mississippi, Alabama, Florida. So --
19 Q. Were those state court cases or Federal?
20 A. Both.
21 Q. Well, that gets you at least five there.
22 Okay. In regard to being designated
23 as a mechanical engineer, how many times have you
24 been qualified in either state or Federal court as a
25 mechanical engineer?

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1 A. The best answer I can give you is fewer
2 than I have been as a fire origin and cause.
3 Q. Is that both -- have you been qualified
4 both in state and Federal court?
5 A. Again, good question. I don't know.
6 Q. Have you ever been qualified as an
7 electrical expert at a trial?
8 A. As electricity and electrical matters come
9 up with regards to the origin and cause of fires, I
10 would say yes. Or is your question more specific?
11 Q. Yeah. I really -- I mean, have you been
12 designated and qualified as an electrical expert at a
13 trial?
14 MR. ELLIS: Objection to form. Go
15 ahead.
16 A. At a trial? Not to my knowledge.
17 Q. (By Ms. MacLeod) Other than what you've
18 told me today, do you consider yourself an expert --
19 an electrical expert? Sorry, that was -- let's
20 strike that.
21 Other than what you've already told me
22 today about understanding electrical systems and
23 analyzing electrical systems in regard to cause and
24 origin, do you consider yourself an electrical
25 expert?

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1 MR. ELLIS: Objection, form. Go
2 ahead.
3 A. I mean, your question is other than what
4 I've already told you, and then the "other" of what
5 I've already told you I believe does qualify me as
6 having expertise in electrical.
7 Q. Okay.
8 A. But to answer that question, because it's
9 so specific, no.
10 Q. Have you ever been qualified as an expert
11 in the field of lightning at a trial?
12 A. In the field of lightning. Again, the
13 matter of lightning has come up during examination at
14 trial, discussing whether or not the lightning was
15 capable of causing a fire. Was I designated as a
16 lightning expert at trial? No. But with regards to
17 lightning associated with the origin and cause of
18 fires, I believe I have the necessary expertise, yes.
19 Q. Have you ever been qualified as an expert
20 in the field of statistics?
21 A. Qualified as an expert in the field of
22 statistics? I understand statistics. Took classes
23 in them. To my knowledge I have never been tendered
24 as an expert in statistics, nor have I testified as a
25 statistician, I think is the right way to say that.

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1 Q. Do you consider yourself -- if someone came
2 to you and said, I'd like to retain you in the field
3 of statistics or as a statistician, would you accept
4 that and say, Yes, I have the expertise to be able to
5 help you?
6 A. Again, it depends upon what the dataset is.
7 It's perfectly within the purview of someone with an
8 engineering background to look at datasets and
9 analyze the dataset, determine a standard deviation
10 of the means and things associated with that data.
11 Q. So does that mean yes, you think that you
12 could testify as a statistical expert?
13 A. With regards to specific datasets, I might
14 have the capability to do that, yes.
15 Q. What kind of training have you -- and
16 education have you had in the field of statistics?
17 A. That is a specific course taught in the
18 mechanical engineering curriculum that I took with
19 regards to evaluating data associated with
20 engineering endeavors. So yes, I have taken courses
21 with regards to evaluating data, statistics.
22 Q. How many courses?
23 A. My recollection, it was one semester.
24 Q. And that was --
25 A. A while ago, yeah.

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1 Q. -- 16 plus years ago?
2 A. No, ma'am. It would have been 1986 minus
3 probably a couple of years.
4 Q. Okay. So this was while you were at
5 Mississippi State University?
6 A. Yes, ma'am.
7 Q. Have you done any continuing education
8 coursework in regard to statistical analysis of data?
9 A. Continuing education? No, ma'am.
10 Q. So is there anything else that helps
11 support your position that you have some expertise in
12 this field other than the one course you took at
13 Mississippi State?
14 A. And my continuing to use that knowledge
15 throughout the years. But you're looking for another
16 course or seminar? I don't have one.
17 Q. If you will look at the specialized
18 education.
19 A. Yes, ma'am.
20 Q. I've looked through this. I totally could
21 have missed something. But when I was, the only
22 course that jumped out at me as being specific to
23 lightning was a lightning course taken back in 2003
24 called Lightning 101, and it was, I assume, presented
25 by Vaisala, Inc. Do you see that?

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1 A. If that's how you say it, yes, I see it on
2 page 3.
3 Q. I don't know. How do you say it?
4 A. I say Vaisala, but I could be wrong as
5 well. It used to be easier. I think it was called
6 STRIKEfax.
7 Q. I think their report is called STRIKEnet
8 maybe.
9 A. Now. But it used to be STRIKEfax, so
10 that's how I always referred to them in years past.
11 Q. Do you recall why you took this course?
12 A. Took it back in 2003. No. Continuing
13 education is the answer that comes to mind.
14 Q. Were you asked by Louisiana Pacific to go
15 and attend that course back in 2003?
16 A. No, ma'am.
17 Q. Do you know how long that class -- or
18 courses lasted?
19 A. Oh, it would be just a guess. I don't
20 remember it going a whole day.
21 Q. Do you have any recollection of the
22 material covered that day?
23 A. I do.
24 Q. Can you tell me a little bit about what
25 kinds of things were covered during that course?

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1 A. Well, they covered basically how lightning
2 is formed, sort of giving you a run-down of what's
3 included in my report and then basically, "Use us."
4 Q. Basically what?
5 A. "Use us," use Vaisala.
6 Q. I'm sorry, I'm not --
7 A. Basically at the end of the program, they
8 did their marketing pitch.
9 Q. Oh, "use us." I got you. Sorry.
10 Other than this Lightning 101 course
11 that you took back in 2003, have you taken any other
12 coursework that's specific to lightning?
13 A. Yes, ma'am.
14 Q. Okay.
15 A. Again, it goes back -- going to page 4 or
16 5, the very first one with regards to fire and
17 extended coverage, that was in fire prevention, but
18 it did address lightning. All of the fires courses
19 with regards to fire origin and cause typically
20 address lightning at some point in time. Of all of
21 these, I don't have a specific recollection to say
22 exactly which ones they were, but we have -- I've
23 gone through the years and lightning has been
24 addressed on numerous occasions.
25 Q. Did you take any classes when you were at

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1 Mississippi State that involved the study of
2 lightning?
3 A. Not at Mississippi State but at the
4 University of Oklahoma, yes.
5 Q. I didn't see the University of Oklahoma on
6 here. Tell me about that.
7 A. I spent a year at the University of
8 Oklahoma in Norman studying meteorology.
9 Q. When did you do that?
10 A. '81 to '82.
11 Q. So that was before you went to Mississippi
12 State University?
13 A. Correct. I changed majors. And schools,
14 apparently.
15 Q. I see that. Okay. While you were at the
16 University of Oklahoma and you spent a year, how many
17 courses did you take during that year?
18 A. I don't remember. The first semester was,
19 I think, 15 hours. The second semester, about the
20 same.
21 Q. Okay. Did you -- was there a course that
22 was actually solely dedicated to the study of
23 lightning?
24 A. Not solely dedicated to the study of
25 lightning, but the courses were dedicated to the

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1 study of weather phenomenon, both macroscale and
2 mesoscale storms, of which lightning is a component.
3 Q. So you have specific recollection of
4 learning about the basics of lightning while you were
5 at the University of Oklahoma?
6 MR. ELLIS: Objection. Go ahead.
7 A. Yes, ma'am. I remember the introduction to
8 lightning at the University of Oklahoma.
9 Q. (By Ms. MacLeod) That's where I was going
10 because I said basics. And what I was really -- what
11 I wanted to know is: To what level of study did you
12 get into the study of lightning?
13 A. Again, I believe it's my first years or
14 first two semesters at the university, so I would
15 imagine they're 101 level courses. I would say that
16 it's not as in-depth of taking higher level courses
17 on a specific topic as most higher level courses at
18 the university become. So it gives you an
19 understanding of lightning.
20 Q. Is it your opinion that taking a course or
21 two gives you the level of knowledge that rises to
22 being an expert in a field?
23 MR. ELLIS: Objection. Go ahead.
24 A. In a specific field? It's a very ambiguous
25 question, I guess, because you say "in a field."

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1 With regards to my education and career path, which
2 involves the origin and cause of fires, I've
3 endeavored to study those aspects which would either
4 affect the origin or the cause of a fire from
5 ventilation to lightning to electrical systems. So
6 it's the full body of my cumulative years which makes
7 me -- gives me the expertise to talk about lightning
8 in its relationship to the cause of fires.
9 Q. What about the ability to talk to lightning
10 outside its relation to the cause and origin of
11 fires?
12 A. What about it? I'm not sure I understand
13 your question.
14 Q. Are you an expert other than -- are you an
15 expert in the field of lightning outside of your
16 expertise in determining the effect of lightning in
17 regards to a cause and origin of a fire?
18 A. My expertise is involving the --
19 determining the origin and cause of fires. If
20 lightning is involved in that origin and cause, then
21 my expertise encompasses it. If it's outside of that
22 arena, talking about what's happening in the cloud,
23 while I have an understanding of it, that is not
24 within my area of expertise.
25 Q. Let's turn to your positions held.

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1 A. Yes, ma'am.
2 Q. It looks like from your CV you were a staff
3 technician from 1981 to 1985 with Sigma Associates,
4 correct?
5 A. Yes, ma'am.
6 Q. And what were your job duties?
7 A. Basically as a staff technician, I built
8 illustrative models for court. I conducted research,
9 codes and standards. I assisted in field
10 investigations, of which included fire and
11 explosions. That's where I first got my exposure
12 with regards to fire origin and causation
13 investigation or analysis.
14 Q. And you worked there while you were
15 attending the university?
16 A. During the summers, yes.
17 Q. So this was a summer position?
18 A. Yes.
19 Q. Then it looks like you moved on to Factory
20 Mutual Engineering, and you were a loss prevention
21 consultant level 2 from 1986 to 1988, correct?
22 A. Correct. After I graduated from
23 Mississippi State, I went to work for Factory Mutual
24 Engineering, which is now known as FM Global. To
25 give you an idea of what FM Global is, I was in their

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1 fire and extended coverage division.
2 Basically I went throughout the
3 southeast United States evaluating industrial
4 facilities and commercial facilities with regards to
5 the perils associated with fire. So it was --
6 Factory Mutual is a subsidiary of three insurance
7 companies. So basically I would assess the risk for
8 the insurance companies before they bound coverage --
9 or after they bound coverage.
10 Q. What insurance companies?
11 A. Oh, goodness. I believe it was Protection
12 Mutual, Arkwright. I don't know whether it's
13 Arkwright of Boston or just Arkwright. I want to say
14 Liberty is the other one. I don't remember the exact
15 names.
16 Q. And why did you leave Factory Mutual
17 Engineering?
18 A. Job satisfaction, I guess, is the best way
19 to describe it. I chose a different career path. I
20 wanted to get out of prevention and get into the loss
21 analysis.
22 Q. And you moved to Interscience, Inc. and
23 became a senior failure analysis/branch manager,
24 correct?
25 A. Yes, ma'am. From '88 to '97, basically

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1 nine and a half years, I worked for them. They were
2 based out of Tampa, Florida. Interscience,
3 Incorporated, I basically got my training under
4 Scotty Grybek, Gene Bullington, worked in the Tampa
5 area for a short period of time and basically was
6 going to South Florida, Miami, Fort Lauderdale,
7 Palm Beach so often that I petitioned them to say,
8 Look, just move me down there.
9 So from then I basically was the
10 manager at the branch office in Fort Lauderdale,
11 Florida working the Tri-county area -- that would be
12 Dade County, Palm Beach County and Broward County --
13 for the next eight some odd years doing fire and
14 origin and cause investigations or analysis for
15 insurance companies primarily.
16 Q. And why did you leave Interscience, Inc.?
17 A. Simple. Better money.
18 Q. And then you went to Engineering and Fire
19 Investigations, Inc. or EFI, correct?
20 A. At the time they were known as
21 INS Investigations Bureau. That's when I originally
22 got on with them. Then there was a merger that took
23 place between CH&A Corporation and INS Investigations
24 Bureau, which then became Engineering and Fire
25 Investigations. Basically I was at -- in their

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1 Fort -- I mean New Orleans office as the manager for
2 several years, and then I transferred over to the
3 Houston office in 2002. But, again, primarily the
4 cases that I handled would have been for insurance
5 companies at that level.
6 Q. And you were doing cause and origin fire
7 investigation?
8 A. Fire origin and cause, explosion origin and
9 cause. That was the bulk or the -- I would say the
10 mainstay of the work that I did. But having gotten
11 my engineering license while being the manager over
12 there in New Orleans, my role started taking on
13 engineering matters as well.
14 Q. Did you ever do any testing of products?
15 A. In relation to a specific fire in relation
16 to how it related to the origin and cause of the
17 fire, yes. But are you saying testing products in
18 general? No. I don't think that I -- I was never
19 part of a test laboratory that basically said, Okay,
20 send us your product, we'll test it and tell you
21 whether or not it performs like UL or Factory Mutual
22 do. I don't do that.
23 Q. All right. And in December of 2005, you
24 left EFI. Why did you leave EFI?
25 A. Again, better money.

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1 Q. And you moved over to Engineering Systems,
2 Inc., and that's the current position that you hold
3 now?
4 A. Correct. I started with them on December
5 the 5th of 2005, so two days from now will be my
6 seventh anniversary with them.
7 Q. And what did you start out doing for them?
8 A. Basically what I've been doing since I
9 started with Interscience, Incorporated back in '88,
10 the same thing full time, I was evaluating fires and
11 explosions, forensic failure analysis with regards to
12 product failures, design related issues, process and
13 machinery related issues associated with the
14 petrochemical industry. So I've been doing the same
15 thing I've been doing since -- full time since '88.
16 Q. So with these design related issues, are
17 those products that are being submitted to you to
18 review for their design, or is it you're evaluating
19 their design through the course of your
20 investigation?
21 A. Correct.
22 Q. The latter?
23 A. The latter.
24 Q. Let's look at page 5 of this just briefly.
25 You've taught several courses. Have you ever taught

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1 a course where lightning was the specific topic of
2 discussion?
3 A. Well, lightning has come up in some of the
4 fire courses I've instructed. Have I instructed a
5 course specifically in lightning? No.
6 Q. Have you ever instructed a course regarding
7 electrical fundamentals or electrical materials?
8 A. While a fundamental understanding of
9 electrical topics would be a topic of discussion
10 during the fire origin and cause, I don't believe
11 I've presented a course specifically called
12 "Electrical Fundamentals."
13 Q. Or even if it wasn't called that, I mean
14 that's -- the entire course was devoted to electrical
15 issues?
16 A. The entire course being devoted
17 specifically to electrical issues, I have no
18 recollection of teaching that type of class.
19 (Exhibit 53 marked)
20 Q. (By Ms. MacLeod) I'll hand you what we're
21 marking as Exhibit 53. It is your Appendix C. It is
22 your testimony list. And based on this, from 2008
23 through the present, it appears to me that you have
24 testified in two trials. Is that correct?
25 A. That appears to be the case, yes.

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1 Q. Okay. Let's look at the first one on the
2 first page. The case is The Offshore Drilling
3 Company and its Interested Underwriters versus Gulf
4 Copper & Manufacturing. Who retained you in that
5 case?
6 A. Offshore Drilling Company.
7 Q. Did -- what was the -- just in very general
8 terms, what was the case about?
9 A. In general terms, the defendant in that
10 case was doing cutting and welding operations aboard
11 a jack-up platform and -- while it was at the repair
12 facility and set mattresses on fire with the slag.
13 Q. This case didn't have anything to do with
14 radiant barrier systems or products?
15 A. Not to my knowledge.
16 Q. And you were retained as an expert in what
17 field?
18 A. Fire origin and cause.
19 Q. Let's move on to the second, the David
20 Pawlik versus Atlas Energy. On whose behalf were you
21 retained?
22 A. David Pawlik.
23 Q. And you did not testify at trial in this
24 matter, but you did give a deposition, correct?
25 A. That is correct.

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1 Q. And in what field were you consulted for
2 your expertise?
3 A. Well, fire origin and cause on that
4 particular case.
5 Q. And did this case have to do with radiant
6 barrier system or radiant barrier product?
7 A. No, this had to do with fugitive natural
8 gas in the explosion of a house.
9 Q. The next one down is Republic Fire &
10 Casualty Insurance Company versus Sunbeam Products.
11 Who retained you in that case?
12 A. I believe it was Republic.
13 Q. And again, you gave a deposition but did
14 not testify at trial in this case, correct?
15 A. Correct. It was shortly after my
16 deposition that the case settled.
17 Q. And in what field of expertise were you
18 offered as an expert witness?
19 A. Fire origin and cause and appliance
20 evaluation.
21 Q. Did this case involve anything to do with
22 radiant barrier systems or a radiant barrier product?
23 A. I believe it involved a toaster or a
24 toaster oven, so no.
25 Q. Second page, 2 of 5, Willie Hargrove versus

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1 Boxer Property Management. On whose behalf were you
2 retained?
3 A. Willie Hargrove.
4 Q. And in this --
5 A. No, excuse me. That's wrong. It would not
6 have been for Willie Hargrove. It would have been
7 for one of the other plaintiffs, but I don't remember
8 who.
9 Q. And in this particular case you gave a
10 deposition but you did not testify at trial, correct?
11 A. Correct.
12 Q. And for what purposes or in what field were
13 you offered as an expert witness?
14 A. Fire origin and cause and code.
15 Q. Code?
16 A. Code.
17 Q. And in regard to code, tell me a little bit
18 about that.
19 A. Basically in this particular fire event, it
20 was a deliberately set fire and there was a question
21 as to whether or not there was an adequacy of fire
22 protections at the mid-rise office building and --
23 Q. This case --
24 A. Go ahead.
25 Q. This case had nothing to do with radiant

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1 barrier systems or a radiant barrier product?
2 A. No, ma'am, it did not.
3 Q. Let's move on to the next one, Sharron Faye
4 West versus Kirbyville. Do you recall on whose
5 behalf you were retained?
6 A. On Ms. West's behalf.
7 Q. And did you give a deposition in this
8 matter?
9 A. I don't think so.
10 Q. But you did have the opportunity to testify
11 at trial, correct?
12 A. Correct.
13 Q. And this was a state court matter?
14 A. Yes.
15 Q. And were you qualified as an expert and in
16 what field?
17 A. I was, and it would be with regards to the
18 building codes, and in particular this one involved a
19 ramp.
20 Q. Next one down, John Ensey versus Ozzie's
21 Pipeline. Who were you -- on whose behalf were you
22 retained?
23 A. Mr. Ensey.
24 Q. And in this particular case you gave a
25 deposition but did not testify at trial, correct?

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1 A. Correct.
2 Q. And in what field were you consulted as an
3 expert?
4 A. Personal injury accident involving the
5 pipeline padder.
6 Q. Do you know what field you would put that
7 in? It's not cause and origin, right?
8 A. Well, I mean, I am evaluating the origin of
9 where the event originated. I am evaluating the
10 cause of it. I am evaluating the mechanical systems
11 of the piece of equipment. I have to have an
12 understanding of their function, and I have to have
13 an understanding of how they related to the incident
14 itself. How to classify that one? More mechanical
15 than --
16 Q. Okay. This case didn't have anything to do
17 with radiant barrier systems or radiant barrier
18 products?
19 A. It did not.
20 Q. And I forgot to ask you that on the Sharron
21 West. Is that true as to that case, too, that that
22 had nothing to do with radiant barrier systems or a
23 radiant barrier product?
24 A. It did not.
25 Q. All right. On to the next page, 3 of 5,

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1 John Delcambre versus Apache Corporation. On whose
2 behalf were you retained?
3 A. Mr. Delcambre.
4 Q. And you provided a deposition but no
5 testimony, correct?
6 A. Correct.
7 Q. And in what capacity were you identified as
8 an expert witness?
9 A. Fire origin and cause and mechanical
10 engineering.
11 Q. Did this case involve radiant barrier
12 systems or a radiant barrier product?
13 A. It did not. It involved the explosion of
14 an engine.
15 Q. Next one, James Mouser versus Coastal
16 Chemical. On whose behalf were you retained?
17 A. Mr. Mouser's.
18 Q. And in this particular case you gave a
19 deposition but no testimony at trial, correct?
20 A. Correct.
21 Q. And in what capacities were you retained as
22 an expert witness?
23 A. Headlight, tail lamp evaluation. Basically
24 failure analysis.
25 Q. And no radiant barrier system or radiant

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1 barrier product involved in this particular case?
2 A. No.
3 Q. PIC Group versus LandCoast Insulation. On
4 whose behalf were you retained?
5 A. PIC's.
6 Q. And you gave a deposition but no trial
7 testimony, correct?
8 A. That is correct.
9 Q. And in what field were you designated as an
10 expert witness?
11 A. Evidence preservation and collection.
12 Q. Did this case involve any radiant barrier
13 system or radiant barrier product?
14 A. It did not. It involved a scaffold
15 collapse in a boiler.
16 Q. Muskogee Diagnostic Imaging Service versus
17 Siemens Medical Solutions. On whose behalf were you
18 retained?
19 A. Siemens.
20 Q. And in this case you gave a deposition but
21 no trial testimony, correct?
22 A. That is correct.
23 Q. And in what field were you consulted?
24 A. Fire origin and cause and basically
25 appliance failure analysis with regards to the cause.

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1 Q. Did this case involve any radiant barrier
2 system or radiant barrier product?
3 A. No, ma'am. It involved an MRI machine.
4 Q. Next one, Automotive Rentals versus Keith
5 Huber. On whose behalf were you retained?
6 A. Keith Huber.
7 Q. And in this one you did testify at trial,
8 correct?
9 A. That is correct.
10 Q. Did you give a deposition in this case?
11 A. No.
12 Q. Were you qualified as an expert witness and
13 in what field?
14 A. I was. Fire origin and cause and
15 mechanical engineering.
16 Q. Did this case involve any radiant barrier
17 system or radiant barrier product?
18 A. It did not. It involved a vacuum truck.
19 Q. Bertha Rivas versus Protherm Service Group?
20 A. Okay.
21 Q. On whose behalf were you retained?
22 A. The plaintiff's.
23 Q. No trial testimony, but you did give a
24 deposition, correct?
25 A. I did.

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1 Q. And in what field were you offered as an
2 expert witness?
3 A. Accident reconstruction, failure analysis.
4 Q. Did this case involve any radiant barrier
5 system or radiant barrier product?
6 A. It did not. It involved the failure of a
7 ladder.
8 Q. Last one. Louisiana Farm Bureau Mutual
9 Insurance Company versus Farouk Systems.
10 F-A-R-O-U-K. On whose behalf were you retained?
11 A. Farouk.
12 Q. And in this one you gave a deposition but
13 did not testify at trial, correct?
14 A. Correct.
15 Q. And in what field were you offered as an
16 expert witness?
17 A. Fire origin and cause and appliance failure
18 analysis.
19 Q. Did this case involve any radiant barrier
20 system or radiant barrier product?
21 A. It did not.
22 Q. What did it involve?
23 A. Whether or not a hair iron was capable of
24 causing a fire.
25 (Exhibit 54 marked)

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1 Q. (By Ms. MacLeod) I'm going to hand you what
2 we've marked as appendix -- or as Exhibit 54, which
3 is your Appendix D to your report. And this is the
4 2012 fee schedule, correct?
5 A. Correct.
6 Q. And your charge per hour is \$225?
7 A. That's what the company charges for my
8 services, yes.
9 Q. Correct. I'm sorry. And we've already
10 talked about your -- getting the invoices and time
11 billed, correct? And you're going to be providing
12 that information to Mr. Ellis?
13 A. I will.
14 Q. Do you know whether Louisiana Pacific
15 contends that the radiant barrier installed on the
16 Taylor home was not TechShield manufactured by
17 Louisiana Pacific?
18 MR. ELLIS: Objection. Go ahead.
19 A. I don't know what Louisiana Pacific
20 contends. What I can tell you by my observation is
21 that there was identifying information on the bottom
22 of the panel which is captured in the photographs
23 which you should be able to read.
24 Q. (By Ms. MacLeod) So it's your opinion that
25 the product -- the radiant barrier product that was

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1 installed in the Taylor home was, in fact, TechShield
2 manufactured by Louisiana Pacific?
3 A. My understanding of that would be what is
4 depicted on the label and the decals. Who
5 manufactures it, I don't know. Whether it was
6 manufactured for them, I don't know.
7 Q. Is it your opinion that the radiant barrier
8 product that was installed in the Taylor home was
9 TechShield?
10 A. That was the name that I read on the bottom
11 of other panels on the roof, yes.
12 Q. And as you sit here today, you don't know
13 whether TechShield was manufactured by Louisiana
14 Pacific or not?
15 A. I don't know that. That would be a better
16 question for Louisiana Pacific.
17 Q. In regard to your specific work with ESI,
18 do you know what percentage of your work by month is
19 done for Louisiana Pacific?
20 A. I have no way of knowing that. I don't
21 keep that kind of data.
22 Q. And really I'm just asking how
23 you generally spend your time and how much of it, you
24 know, in a given period is done for -- is spent on
25 work for Louisiana Pacific?

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1 A. Again, I don't keep that kind of data.
2 Q. And you have no way of estimating?
3 A. Basically what I try to do is I try to get
4 150 hours billable per month. I don't know for which
5 client I'm working on any given month I'm doing the
6 work for, but if you ask me today who I worked for
7 last month, I couldn't tell you all the various
8 things.
9 Q. Okay. Fair enough. And I think you told
10 me this before, but you don't work for any other
11 manufacturer of radiant barrier products? You
12 haven't done any work for them?
13 A. I have not done any work for any other
14 manufacturers of radiant barrier products. Is that
15 what your question was?
16 Q. Yes.
17 A. Then, yes, I have not.
18 Q. Do you know what percentage of your work is
19 litigation related work?
20 A. No, ma'am, I don't. I don't keep
21 statistics on that. When I get involved -- I call
22 them projects. I know you refer to them as cases, so
23 when you say cases, I think projects. A lot of times
24 I get involved when there is no litigation involved.
25 They may or may not develop into litigation at some

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1 future time. Sometimes I do get involved after
2 litigation has started.
3 Q. Are you aware as to how many of the
4 projects regarding TechShield that you've been
5 involved with are in litigation?
6 A. I don't know. I know this one is.
7 Q. Do you have any ability to recall any of
8 the other projects for Louisiana Pacific that you've
9 worked on?
10 A. Say that one more time.
11 Q. Do you have any ability to recall any of
12 the other projects that you've worked on for
13 Louisiana Pacific?
14 MR. ELLIS: Object to form. Go ahead.
15 A. I mean, I recall the various projects that
16 I've worked on. Now, to get a clearer understanding
17 of a particular one, then I would have to look back
18 at that file.
19 Q. (By Ms. MacLeod) If I told you that it was
20 my understanding that you'd worked on seven
21 investigations on behalf of Louisiana Pacific in
22 which McDowell Owens was also involved, would that
23 number seem reasonable to you?
24 MR. ELLIS: Object to form. Go ahead.
25 A. Again, I don't know the exact number. If

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1 McDowell Owens has been counting them, then I sign in
2 at each of those locations that I've been to. If the
3 number is seven, then the number is seven. I don't
4 know.
5 Q. When did you first learn about the Taylor
6 fire?
7 A. On September the 30th of 2011.
8 Q. And do you recall how you found out about
9 the Taylor fire?
10 A. I do.
11 Q. Tell me about that.
12 A. I was called by Mr. Murphy.
13 Q. What did Mr. Murphy tell you about the
14 fire?
15 A. "There's a fire in North Carolina. Can you
16 come over and help us figure out what happened?"
17 Q. Did he give you any details about the fire?
18 A. Suspected lightning, I think, is my
19 recollection.
20 Q. Any other conversation that you recall with
21 Mr. Murphy in regard to being retained to go out and
22 do an investigation at the Taylor home?
23 A. The date it happened, location it happened,
24 that kind of basic information, so, you know, I can
25 go ahead and set up the project and make sure I meet

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1 him on a certain date and time and that kind of
2 thing. Anything more specific than that, not that I
3 recall.
4 Q. Let's go ahead and mark Exhibit 55.
5 (Exhibit 55 marked)
6 Q. I'll represent to you that these were
7 documents that were produced to me on last Thursday
8 afternoon in a part of your file. Do you recognize
9 these?
10 A. Exhibit 55, page 1, yes, I recognize it.
11 It's a sketch I prepared.
12 Q. When did you make that drawing?
13 A. It's dated 10-21-2011.
14 Q. Did you do that while you were out at the
15 Taylor home doing the joint inspection?
16 A. I believe so, yes.
17 Q. If you'll turn to page 2 of Exhibit 55?
18 A. Correct.
19 Q. Is this your handwriting?
20 A. If you want to call it that, yes.
21 Q. What is this -- what have you done with --
22 it looks like on page 2 you've made a list of various
23 items. Tell me about that.
24 A. Yes. This is the manufacturing information
25 from various products that were further documented

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1 while I was at the site. So I've reviewed
2 photographs and retained this information.
3 Q. Once you obtained this information, did you
4 do any further research after you left the joint site
5 inspection?
6 A. I did, and that information is included in
7 the report.
8 Q. During your investigation into the cause
9 and origin of the Taylor fire, were you able to rule
10 out the Quadra-Fire by Hearth & Home as a probable
11 cause of the fire?
12 A. The hearth itself or the actual stove,
13 yeah. Although there was burned wood products within
14 the stove, the fire did not appear to have originated
15 in the vicinity of the stove or the stove's chimney.
16 However, the chimney associated with the wood stove
17 was contributory to the event.
18 Q. And how so?
19 A. It was the object that was first struck by
20 the lightning, and it provided the conductive path of
21 the lightning into the home.
22 Q. Were you able to rule the chimney out as a
23 probable cause of the fire?
24 A. It contributed to the overall cause. The
25 chimney itself -- and I'm looking at it from the

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1 standpoint of heat from within the chimney igniting
2 combustibles in the vicinity of the chimney. That
3 did not occur.
4 Q. So it was not -- the origin of the fire was
5 nowhere near the chimney?
6 A. The origin where the lightning struck was
7 in the vicinity of the chimney, but the origin of the
8 fire was not in direct proximity to the chimney.
9 Q. Okay. In regard to the smoke detector,
10 were you able to rule that out as a probable cause of
11 the fire?
12 A. While the smoke detector's electrical
13 circuit was affected, the smoke detector itself was
14 located within the living spaces and it was not
15 related to the cause of the fire.
16 Q. Then it looks like there's a KitchenAid
17 appliance. Were you able to rule out the KitchenAid
18 appliance that you've identified on page 2 of
19 Exhibit 55?
20 A. That would be the dryer. And your question
21 is was I able to --
22 Q. Rule out --
23 A. -- to rule it out?
24 Q. -- the dryer as a cause of the fire?
25 A. The dryer vent stack, the dryer transition

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1 hose, the dryer itself and its associated electrical
2 system were involved but not -- they did not cause
3 the fire.
4 Q. And you said they were involved. How were
5 they involved?
6 A. They were part of the conductive path.
7 Q. And when you say "the conductive path,"
8 what do you mean?
9 A. For the lightning strike through the home.
10 Q. Can you describe for me -- I guess you said
11 that the lightning directly struck the chimney cap on
12 the exterior of the Taylor home?
13 A. Correct. That's evidenced by the localized
14 melting that was exhibited. It was exhibited by
15 resolidified metal that was still present, but
16 there's actually evidence where the steel was melted
17 at a very localized point on the chimney. So yes,
18 the chimney was struck by lightning.
19 Q. And if you will, just take me through
20 the -- this conductive path that you're talking
21 about.
22 A. The conductive path -- now, the totality of
23 the conductive path is no longer available because of
24 the destruction and disturbance of the fire scene.
25 But portions of it are still available for analysis.

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1 The eastern portion of it would be -- the chimney is
2 on the eastern portion of the north slope of the
3 roof. It starts there and progresses generally west,
4 south -- I mean west-northwest towards the
5 terminating cap for the dryer exhaust vent that is up
6 on the roof.
7 Q. And so lightning struck the chimney,
8 traveled down the chimney vents and where did it go
9 from there?
10 A. It progressed through the roofing system to
11 the dryer vent stack, then down the vent stack into
12 the dryer and to the dryer exhaust -- I mean, excuse
13 me, the dryer's electrical system.
14 Q. Okay. And then from there --
15 A. Through the electrical system of the house
16 to ground.
17 Q. And you said roofing system?
18 A. Yes, ma'am.
19 Q. And what are you referring to when you talk
20 about "roofing system"?
21 A. The roofing system would be the decking,
22 the roofing membrane, the nails associated therewith,
23 the support structure, which would be the wooden
24 framing members and the nails associated therewith.
25 Q. And when you say decking, what is that

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1 referring to? Is that the TechShield?
2 A. Yeah, the oriented strand board with the
3 aluminum membrane underneath the TechShield.
4 THE VIDEOGRAPHER: Going off the
5 record at 11:07 a.m., ending tape 2.
6 (Recess taken)
7 THE VIDEOGRAPHER: Back on the record
8 at 11:13 a.m., beginning tape 3.
9 Q. (By Ms. MacLeod) Mr. Scardino, we were
10 looking at Exhibit 55, which are notes that were
11 produced to me with your file. If you will turn to
12 page 3.
13 A. Okay.
14 Q. And this appears to be handwritten notes.
15 Is that your handwriting?
16 A. It is. How bad it is? Yes, that's mine.
17 Q. It's not so bad. I can read it.
18 Okay. So it has mentioned an
19 information for Randy Likens, who is a -- has been
20 designated as a fire marshal, correct?
21 A. For the Franklin County Fire Department.
22 Q. And did you make any contact -- or did you
23 ever contact Randy Likens?
24 A. I did.
25 Q. Do you recall how you made contact?

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1 A. By phone.
2 Q. And when did you talk to Randy Likens?
3 A. I don't remember the specific date. After
4 I was at the scene is my recollection.
5 Q. Do you recall making any attempt to get a
6 copy of the fire report and the 911 call prior to
7 going out to the scene?
8 A. I don't remember. I know I got them, but I
9 don't remember when.
10 Q. Apparently -- I'm not going to show you
11 right now. I will just tell you that in -- attached
12 to your report...
13 (Exhibit 56 marked)
14 Q. (By Ms. MacLeod) Let's go ahead and mark
15 this as Exhibit 56. It is Appendix J to your
16 September 28, 2012 report.
17 A. Okay.
18 Q. So this includes a facsimile from Randy
19 Likens to you dated 10-20-2011, correct?
20 A. It does.
21 Q. And it also contains an e-mail. Does this
22 help refresh your recollection?
23 A. It looks like on October the 19th, I sent
24 an e-mail to him as a followup, which suggests that
25 I contacted him prior to that. So yes, so October

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1 the 19th, there's an e-mail looking for the report.
2 Q. Okay. And do you recall whether you -- you
3 recall talking to him on the telephone. Did you talk
4 to him more than once on the telephone?
5 A. I don't recall.
6 Q. But now that you've seen this facsimile,
7 does that make you believe you talked to him on the
8 telephone before you went out to the scene and before
9 you sent this e-mail?
10 A. Yes.
11 Q. Okay. And do you recall anything at all,
12 even of a general nature, about the discussions that
13 you had with Randy Likens about the Taylor incident?
14 A. No. I was having trouble identifying
15 exactly which run it was for them, which incident,
16 fire incident it was. So I was having to ask him
17 questions about -- you know, giving him what little
18 information I had to say, Okay, this is the location.
19 I'm looking for the information. That's the majority
20 of what I recall from my conversations with him.
21 Also, I spoke to him with regards to other fire
22 events that happened on the same date.
23 Q. So first you had a conversation helping him
24 so that he could help you provide the fire department
25 report by providing him with whatever information you

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1 had available, correct?
2 A. I don't know if I was helping him or
3 hindering him at that point. I gave --
4 Q. Y'all were working together to try to
5 determine --
6 A. We were trying to figure out which fire I
7 was talking about.
8 Q. Okay. And is it during that discussion
9 that you realized that he was having a hard time
10 determining which fire it was because there was more
11 than one fire that night?
12 A. That was one of the things I was also
13 endeavoring to try to figure out is whether or not
14 there were more fires. And if there were, could he
15 provide me the information on those as well.
16 Q. Okay. Did he provide you the information
17 on the other fires?
18 A. No.
19 Q. Why not?
20 A. I don't know. You'll have to ask him.
21 Q. Didn't know whether he told you "I can't do
22 that" or it just didn't happen.
23 A. I never received them, so I can't answer
24 that.
25 Q. Did you ever make any followup with Randy

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1 Likens or anyone at the Franklin County Fire
2 Department to obtain the information on the other
3 fires?
4 A. I don't recall.
5 Q. But as you sit here today, you haven't seen
6 the information on the other fires?
7 A. Correct.
8 Q. And if you had had any other e-mail
9 correspondence with Randy Likens, that would have
10 been something that was in your file?
11 A. More than likely, yes.
12 Q. Do you recall whether you had any other
13 e-mail correspondence with Randy Likens?
14 A. I don't.
15 Q. Is your normal practice and procedure when
16 you do have e-mail correspondence regarding a
17 project, that that goes into the project file?
18 A. Typically what I do is I print it out and
19 if I, like, need to contact somebody, I'll write
20 notes on it, it would go in the file. So yes, it
21 would typically go in the file.
22 Q. Would that be part -- you had mentioned
23 earlier electronic files in regard to the Taylor
24 case. Is that -- would you -- do you delete your
25 e-mails?

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1 A. I do delete e-mails.
2 Q. Why do you do that?
3 A. Because I hate looking at an inbox that has
4 a thousand e-mails in it. I just --
5 Q. So you don't take them over and store them
6 in another --
7 A. Typically I try to save them in the
8 electronic file.
9 Q. And this would be your normal practice?
10 A. Yes.
11 Q. So in the process of going back and getting
12 me the electronic file, you'll include any e-mails if
13 they exist? Honestly that includes any e-mails with
14 either George Murphy, with Neal Ellis, Nathaniel
15 Parker, anybody at LP about this case. Those are
16 things that have been requested.
17 A. Okay.
18 Q. Okay?
19 A. E-mails associated with this particular
20 project?
21 Q. Yes.
22 A. Okay.
23 Q. I probably already asked you this and
24 I apologize, but I just want to make sure I have.
25 Other than Randy Likens, did you talk to anybody else

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1 at the Franklin County Fire Department about the
2 Taylor fire?
3 A. I mean, I might have, like a secretary or
4 something. I don't remember specifically Randy
5 Likens was the name. Probably got his name -- first
6 I wrote it as Randy Watkins. That's how I heard it
7 on the phone and that's the difference between Texan
8 and North Carolina.
9 Q. But you can't remember anybody other than
10 Randy Likens?
11 A. No, ma'am.
12 Q. Did you ever talk to anyone at the Bunn
13 County Fire Department about the Taylor fire?
14 A. Not to my recollection.
15 Q. Did you ever talk to anyone in the
16 Louisburg Fire Department about the Taylor fire?
17 A. No, ma'am. What I'd asked Randy was if he
18 could get me those as well, if he had access to that.
19 And he said that he would. But --
20 Q. Doesn't appear that he did?
21 A. No, ma'am.
22 Q. Did you ever talk to anyone at the
23 Youngsville Fire Department?
24 A. No, ma'am.
25 Q. Did you ever talk to anyone at the Franklin

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1 County EMS?
2 A. Well, I mean, if Randy is associated with
3 the EMS, I don't know.
4 Q. Did you ever make a specific call to the
5 Franklin County EMS department?
6 A. Not to my knowledge.
7 Q. When you were having your telephone
8 conversation with Randy Likens about the other fires,
9 asking him to provide you with the information from
10 those fires, did he tell you how many other fires
11 there were on August 29, 2011?
12 A. I don't recall.
13 Q. Was it necessary for you to know how many
14 other fires in that area that happened on August 29,
15 2011 -- strike that.
16 Was it necessary for you to know the
17 number of other fires that occurred in the area for
18 you to be able to render your opinions that are set
19 forth in your September 28, 2012 report?
20 A. The information would have been germane to
21 my analysis because if there were multiple fires,
22 then knowing what the cause of those multiple fires,
23 that would have also opened up additional avenues of
24 inquiry that may have needed to have been resolved
25 prior to issuing the report. So is it germane? Yes.

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1 Was I able to prepare the report without it? Yes.
2 Q. If it was germane to your report, why did
3 you not follow up and obtain that information?
4 A. I attempted to. I was unsuccessful.
5 Q. But it didn't prevent you from being able
6 to render the opinions that you rendered in your
7 September 28, 2012 report?
8 A. That's what I just said, yes.
9 Q. Okay. Was your understanding from talking
10 to Randy Likens that those other fires were lightning
11 related fires?
12 A. I didn't have a feeling one way or the
13 other. There was a newspaper article that had
14 indicated multiples. Part of my inquiry of
15 Mr. Likens was to see is there any validity to that
16 newspaper article.
17 Q. Is that newspaper article a part of your
18 file?
19 A. Um --
20 Q. Will you put that on your list? I'll tell
21 you that I printed everything off and looked through
22 all of the file materials provided. It wasn't a part
23 of that. So if you will look for that, I'd
24 appreciate it.
25 A. Okay.

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1 Q. If you had been able to discover that there
2 were, in fact, other fires and that those fires were
3 lightning related fires, would that information alone
4 have changed any opinion that you made in your
5 September 28, 2012 report?
6 A. No, ma'am. Lightning causes fires.
7 Q. If you had discovered during your
8 investigation that there were other fires, that they
9 were lightning related fires and that there was no
10 radiant barrier in those homes, would that have
11 changed any opinion that you made in your
12 September 28, 2012 report?
13 A. No, ma'am. Lightning causes fires.
14 Q. If you had learned during your
15 investigation that there were other fires, that they
16 were lightning related and that they had radiant
17 barrier product in them, would that have changed any
18 opinion that you gave in your September 28, 2012
19 report?
20 A. No, ma'am. Lightning causes fires.
21 Q. Then help me understand -- because I'm sure
22 there's just something that I'm missing -- why it is
23 that you told me just a few minutes ago that knowing
24 that information would have been germane to the
25 opinions that you issued in your September 28, 2012

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1 report?
2 A. Depending on how many they were, it would
3 reaffirm my contention that lightning causes fires.
4 Not just this fire but any other fire that occurred
5 during that lightning storm on that particular date
6 in North Carolina, there would be additional evidence
7 that lightning causes fires in residential
8 structures.
9 Q. Would it be important to you to know that
10 for this same area where the Taylor fire and these
11 other potential fires were, that there were houses
12 struck by lightning where there was no fire?
13 A. That's correct, there are instances where
14 lightning strikes a house and there is no fire.
15 Q. How -- knowing that information, how would
16 that have affected any opinion that you have rendered
17 in your September 28, 2012 report?
18 A. It would not. Lightning causes fires, and
19 lightning can strike a structure and no fire results.
20 It would not change my opinions.
21 Q. Let's turn back to Exhibit 55. And that's
22 your handwritten notes, correct?
23 A. Correct.
24 Q. Let's turn to page 4.
25 A. Yes.

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1 Q. Do you recall when you made these
2 particular notes on page 4?
3 A. Yes.
4 Q. Can you tell me?
5 A. The date of the joint site exam.
6 Q. And do you know where you got this
7 information?
8 A. Mr. McGraw.
9 Q. Is this the information that he provided
10 during that initial meeting before everyone sort of
11 got started with their investigation?
12 A. Yes.
13 Q. If he had provided you a copy of the fire
14 department report, would you have made a note of it
15 here?
16 A. Probably not. I would just have the
17 report.
18 Q. Do you remember whether he provided you
19 with a copy of the fire department report?
20 A. I don't remember.
21 Q. Do you know -- looking back at Exhibit 56,
22 the facsimile to you is dated 10-20-2011. Do you
23 know whether you actually received that before you
24 went to the joint site inspection on October 21st,
25 the next day?

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1 A. I'll be honest with you. My recollection
2 is I traveled in on the 20th, did the examination on
3 the 21st and flew out on the 21st. There's a good
4 chance I didn't.
5 Q. Having that wouldn't -- would having that
6 have made any difference in how you investigated the
7 Taylor file?
8 A. No.
9 Q. If you'll look at page 5, can you tell me
10 about -- is this a conversation you had with George
11 Murphy?
12 A. It is.
13 Q. Can you tell what day you had that
14 conversation by looking at this?
15 A. No, ma'am. That's probably based upon his
16 initial contact and giving -- checking for
17 availability on certain dates.
18 Q. Looks like y'all were trying to decide
19 whether you might do the joint site inspection on
20 10-13 or 10-21?
21 A. Correct.
22 Q. If you'll look at page 6.
23 A. Yes.
24 Q. These look like handwritten notes dated
25 10-20-2011, the day before the joint site inspection,

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1 correct?
2 A. Yes.
3 Q. And do you -- this is your handwriting?
4 A. It is. And this is a review of the fire
5 incident report. So to answer your prior question,
6 yes, I did have the fire report before I went.
7 Q. Okay. I've looked through these and I
8 didn't make that connection, so -- all right. And
9 when you were going through that, you were
10 highlighting and writing down the information that
11 you considered important for your investigation?
12 A. No, ma'am. I was just writing down the
13 important information. I didn't know at that point
14 in time whether it was important to the investigation
15 or not. I was just writing down the information as
16 part of my process.
17 Q. Okay. You have a name down here of Matthew
18 Strawbridge.
19 A. Help me out with that. Where is that one?
20 Q. It's close to the bottom.
21 A. Okay, see it. Yes, I see Matthew
22 Strawbridge, officer in charge.
23 Q. Did at any point you have an opportunity to
24 speak with Matthew Strawbridge about the Taylor fire?
25 A. I don't recall speaking to Mr. Strawbridge.

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1 Q. Do you know what his rank at the time of
2 the fire was?
3 A. I do not.
4 Q. Do you know what role he played in the
5 Taylor fire?
6 A. It says officer in charge. What that
7 entails, I don't know.
8 Q. Do you know whether he actually went out to
9 the fire scene?
10 A. I don't.
11 Q. Do you know whether he's part of the fire
12 department investigator's task force?
13 A. I do not.
14 Q. Did you do under -- excuse me. Did you
15 undertake any investigation to determine what
16 training, if any, that Matthew Strawbridge had in
17 regard to determining a cause of fire?
18 A. I did not.
19 Q. Let's turn to page 7 of Exhibit 55.
20 A. Okay. Yes.
21 Q. These are handwritten notes dated
22 October 21, 2011, the date of the joint site
23 inspection, correct?
24 A. Yes.
25 Q. Tell me about this page of notes, if you

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1 know.
2 A. That is my understanding of Mr. Taylor's
3 observations when he arrived home.
4 Q. Did you actually have a conversation with
5 Christopher Taylor that day?
6 A. He was there. My recollection is he did
7 provide some information. If it was not through
8 them, then it would have been through Mr. McGraw that
9 this information was provided.
10 Q. Okay. And so as you sit here today, you
11 don't know whether you received and wrote down this
12 information from a conversation you had with
13 Christopher Taylor or whether it was a conversation
14 you had with Rob McGraw?
15 A. I think it was a combination where all of
16 us were present and we spoke with Mr. McGraw and
17 Mr. Taylor was present was my recollection.
18 Q. Page 8, is this just a continuation of
19 notes that were taken on page 7?
20 A. Page 6. Yes.
21 Q. Oh. So it's out of order?
22 A. Yes, ma'am. The cell phone number came off
23 of the 911 records. So that would have been
24 associated with the fire incident report review.
25 Q. Okay. So page 8 is actually the second

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1 page of notes to page 6?
2 A. Yes.
3 Q. If you will, please look at page 9.
4 A. Yes.
5 Q. Do you recall when you took these notes?
6 A. No, I don't. It was before my preparation
7 of the report is the earliest I can get you.
8 Q. And is this -- are these notes from a
9 conversation that you had with David Delwu?
10 A. Delwu is how I understand it. It could be
11 spelled wrong but --
12 Q. No, it's spelled correctly. I just
13 haven't -- I didn't know how to say it.
14 A. Correct. The characteristic test up at the
15 top, I listed and I asked him about those and he
16 basically said it's a Class A, Class 1 fire rating.
17 Q. Why were you asking him about -- does that
18 say burn tunnel test and burn characteristics test?
19 A. I asked him what testing had been done on
20 the product.
21 Q. Why did you want to know what testing had
22 been done?
23 A. To get a better understanding of the
24 product.
25 Q. Did Mr. Delwu provide you with test results

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1 for the product?
2 A. I believe -- I don't know whether he
3 provided it directly. I got a copy of a -- I think
4 it's called Selkirk is the name of a group that did
5 some testing on the radiant barrier, and I got a copy
6 of that report. I think I included it in --
7 Q. Intertek, is that --
8 A. Intertek, I'm sorry. Selkirk is the
9 chimney. My apologies.
10 Q. Okay. So the -- who provided you the
11 Intertek report?
12 A. My recollection, it came through Mr. Delwu.
13 Who provided it exactly, I don't remember.
14 Q. Did he provide you any testing to ASTM E84
15 standards?
16 A. I don't think so.
17 Q. Other than the Intertek results, do you
18 recall getting any other test results --
19 A. I did.
20 Q. -- in this case?
21 A. I did.
22 Q. You did?
23 A. Yes.
24 Q. Tell me about the other test results that
25 you received.

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1 A. Good Lord, I don't remember the name on
2 them. But there's another report with regards to
3 testing that was done on the panel.
4 Q. Was it in regard to the quality of the
5 aluminum?
6 A. No, I think it had to do with its fire
7 rating characteristics. That was provided to me
8 by -- I get his name wrong every time. Nathaniel.
9 Q. Nathaniel Parker?
10 A. Yes, ma'am.
11 Q. It was only one report, or do you know if
12 there were two reports, one for ASTM E84 and one for
13 ASTM E2599?
14 A. It came to me as one thing. I don't know
15 if both reports are in it or not. I don't remember
16 that.
17 Q. Did you review those reports?
18 A. I did review them.
19 Q. If there were two. You reviewed what
20 Nathaniel Parker sent?
21 A. What was sent to me. I don't know --
22 again, my recollection is I don't remember exactly
23 which standards they were tested to.
24 Q. Do you recall whether you reviewed that
25 information that was sent to you by Nathaniel Parker

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1 before or after you wrote your report?
2 A. After.
3 Q. Did the review of that material sent to you
4 by Nathaniel Parker cause you to change any opinion
5 that you rendered in your September 28, 2012 report?
6 A. No.
7 Q. Was there anything in that information that
8 was germane to any finding that you made in your
9 September 28, 2012 report?
10 A. I don't remember.
11 Q. Were they relevant at all to any of the
12 work that you were asked to do?
13 A. I don't remember.
14 Q. You don't remember the content of them?
15 A. Not specifically enough to answer that
16 question.
17 Q. So it wasn't something that you felt like
18 you needed to include in your September 28, 2012
19 report?
20 A. I didn't have it, so I couldn't have
21 included it in the report.
22 Q. Yeah. And I guess really my question was:
23 If you had had it, would you have included it in your
24 September 28, 2012 report?
25 A. More than likely I could have. I don't

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1 know.
2 Q. You don't know. Okay. So other than the
3 information that Nathaniel Parker sent to you and the
4 Intertek report that you believe was provided to you
5 by David Delwu, are you aware of any other test
6 results for TechShield that you were provided?
7 A. Those are the ones I recall.
8 Q. Tell me what it means here. You've
9 written, "Fireproof quality of a layer of pure
10 aluminum." What discussions did you have with
11 Mr. Delwu about that?
12 A. Basically he said fireproof quality of a
13 layer of pure aluminum was its ability to reflect the
14 heat.
15 Q. It didn't actually have anything to do with
16 the ability to not catch on fire, right?
17 A. I'm not quite sure I follow your question.
18 Are you saying its ability to not catch on fire from
19 what?
20 Q. Well, I mean, why were y'all talking about
21 the fireproof quality of the layer of pure aluminum?
22 A. Basically he was explaining to me when they
23 run this test, the aluminum acts to reflect the heat,
24 which prevents the panel from heating up to its
25 ignition temperature and producing the vapors that

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1 actually catch on fire and burn. So its reflective
2 property actually inhibits the exposure -- or the
3 ignition of it from exposure to a fire.
4 Q. And what the -- is that what it says in the
5 Intertek report?
6 A. I don't remember.
7 Q. Do you remember whether he told you that
8 they had actually done testing to determine the
9 fireproof quality of the layer of pure aluminum?
10 A. Not to my knowledge.
11 Q. Not to your knowledge that he told you, or
12 not to your knowledge that they haven't done that
13 testing?
14 A. Either way.
15 Q. Do you recall what you asked him that made
16 him tell you about the fireproof quality of the layer
17 of pure aluminum on TechShield?
18 MR. ELLIS: Objection, form. Go
19 ahead.
20 A. I do not.
21 Q. (By Ms. MacLeod) You've got notes here
22 about Class A/Class 1, and then I actually am having
23 a hard time reading those next words. Do you know
24 what they say?
25 A. Okay. "All radiant barrier type products

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1 will burn. The metalized product is not fireproof."
2 Q. What does it say -- actually, I was trying
3 to figure out what it says out to the right of
4 Class A/Class 1.
5 A. "Fire rating."
6 Q. "Fire rating." Is that something you wrote
7 down because Mr. David Delwu made that comment to you
8 on the phone?
9 A. I don't remember. It could be, yes.
10 Q. Do you recall what y'all were talking about
11 that led to you making that note?
12 A. Not directly. My understanding was these
13 testing appear at the top, but I don't recall the
14 specific aspects of the conversation.
15 Q. Okay. Knowing what you know now as you sit
16 here today, having reviewed the information from
17 Nathaniel Parker, having reviewed the Intertek,
18 having these conversations, doing the investigation
19 that you've done, what meaning does it have to you
20 that all radiant barrier type products will burn, the
21 metalized product is not fireproof?
22 A. Basically these tests discuss a rate of
23 burning. So in and of and by themselves, they say
24 that the product that's being tested burns. They're
25 just judging the rate at which it burns, how fast it

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1 propagates the fire.
2 Q. Okay. And is the -- the next note that the
3 fireproof quality of the layer of pure aluminum, is
4 that sort of a continuation of that thought, that the
5 aluminum that is adhered to the OSB actually inhibits
6 the fire temperature?
7 A. Because it has a reflective property, it
8 delays the heating of that surface. The preheating
9 of that surface is what requires the -- to off-gas
10 the vapors that will actually burn and propagate
11 fire.
12 Q. Do you understand anything about this
13 testing? I mean, how are they heating this product?
14 A. With a gas burner is my understanding.
15 It's a very specific test, and the parameters of that
16 test are explained in ASTM standards.
17 Q. Do you know when they test that product
18 whether they are using gas burners that -- is the
19 aluminum product facing the gas burners, or is the
20 OSB facing the gas burners?
21 A. My understanding is it's as installed.
22 Q. Which would be?
23 A. Radiant barrier down towards the heat
24 source.
25 Q. So that's aluminum towards the gas burners?

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1 A. That would be my understanding, yes.
2 Q. You haven't participated in any of those
3 tests?
4 A. The ASTM testing?
5 Q. Yes.
6 A. No, I have not.
7 Q. Where are you getting your understanding of
8 how those tests are conducted?
9 A. From the explanation of the ASTM standards.
10 Q. So just from a review of the standards?
11 A. Yes.
12 Q. Not from conversations that you had with
13 anyone at Louisiana Pacific about the testing that
14 took place?
15 A. Not to my knowledge.
16 Q. What's the difference between a burn tunnel
17 test and a burn characteristic test?
18 A. I would have to consult the specific
19 standard.
20 Q. That's not something you intend to offer
21 any opinion at the time of this trial on?
22 A. I was not planning to, no.
23 Q. If you'll look, the last little note says,
24 "Energy code, climates and" -- what does that mean?
25 A. There are energy codes in various states

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1 and various climate zones throughout the United
2 States, and the use of a radiant barrier style
3 material is sometimes dictated by those energy codes.
4 Q. Was Mr. Delwu asking you to go and look up
5 the energy code climate zone -- or energy codes for
6 climate zones in North Carolina?
7 A. No, ma'am.
8 Q. Did you actually do that?
9 A. I believe I included it with the report,
10 did I not?
11 Q. I believe you did.
12 Let's mark this as Exhibit 57.
13 (Exhibit 57 marked)
14 Q. (By Ms. MacLeod) What is this document?
15 A. It's called a Compliance Guide for Homes in
16 North Carolina, based upon the 2012 North Carolina
17 Energy Conservation Code.
18 Q. And did you locate this document?
19 A. My recollection is yes.
20 Q. Okay. And do you think it was prompted by
21 this conversation that you had with David Delwu?
22 A. No, ma'am.
23 Q. Had you already done that?
24 A. I'd come across the presence of compliance
25 guides when I was basically researching general

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1 information on radiant barriers.
2 Q. And you actually printed out this document
3 that is called Compliance Guide for Homes in North
4 Carolina, Code: 2012 North Carolina Energy
5 Conservation Code.
6 Help me understand what this document
7 tells you and what its relationship to this
8 particular case is.
9 A. My understanding of this document is you
10 would select the county in which you reside. In this
11 particular case it was Franklin. Franklin appears in
12 the column on the right-hand side in the green
13 climate Zone 4. Then you would go to the bottom of
14 the page in the table and you'd look at Zone 4 and it
15 basically tells you if you have these types of
16 windows, if you have this type of insulation and this
17 type of foundation, the required insulative
18 properties that you need to have on the ceilings, the
19 walls, the floors, skylights and so on.
20 Q. Does radiant barrier -- or do radiant
21 barrier products fall into one of the three
22 categories of windows, insulation, foundation?
23 A. Radiant barrier could be utilized to assist
24 with meeting that requirement, but you can meet this
25 requirement without it.

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1 Q. Do you know if this requirement was in
2 place back in 2008 or 2009?
3 A. I do not have the version of the North
4 Carolina Energy Conservation Code from that era, so I
5 don't know.
6 Q. Do you intend to offer any opinions in
7 regard to the NCECC at the trial of this matter?
8 A. There is a code that's applicable. This is
9 not the particular one that was applicable at the
10 time of construction, but specifically with regards
11 to this Energy Conservation Code, I don't know that I
12 have any particular opinions that are going to be
13 addressing it specifically.
14 Q. Do you know what code was applicable?
15 A. I do not.
16 Q. So I take it you don't have any knowledge
17 of whether that code that was applicable was
18 violated?
19 A. According to some pictures that I reviewed,
20 in those photographs it specifically indicates on the
21 plans which code was applicable, but I don't remember
22 which code that was. I want to say -- no, I don't
23 remember.
24 Q. Have you been asked to or do you intend to
25 provide any opinions at trial that the applicable

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1 code was in any way violated during the construction
2 of the Taylor home?
3 A. I'm not, to my knowledge, planning to
4 indicate any code deficiency is responsible for the
5 origin and cause of this fire.
6 Q. Of the radiant barrier fires that you've
7 been consulted with to perform a cause and -- an
8 origin and cause determination, how many of them were
9 you able to determine the point on the house that was
10 struck by lightning?
11 MR. ELLIS: Object to form.
12 A. I mean, I guess the premise of your
13 question is that radiant barrier fires. Are you
14 asking whether or not the fires which I've been asked
15 to evaluate from an origin and cause standpoint on
16 structures that had radiant barriers on them, if I
17 was able to determine the location where the fire --
18 the lightning first struck the building?
19 Q. (By Ms. MacLeod) That is my question.
20 A. Was -- did you ask for a specific number?
21 Q. No, I'm not really asking for a number.
22 I guess I'm asking for a percentage.
23 A. Again, I don't have that statistic. During
24 the evaluation process at the various sites, have we
25 been able to identify the point where the lightning

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1 hit? On some occasions, yes; on some occasions, no.
2 Depends upon the severity of destruction caused by
3 the fire.
4 Q. Like, for instance, with some of the cases
5 or projects that you're working on now, at least one
6 of those the house burned down, correct?
7 A. Again, house burns down, burns up. To what
8 extent are you talking about, the consumption of the
9 structure from the fire event? It's -- it's
10 difficult for me to answer that question. Does the
11 house burn down, does the house burn up? Help me out
12 a little bit.
13 Q. Okay.
14 A. It all depends upon --
15 Q. Obviously your fire dynamic principles were
16 not taken into account when I asked that question.
17 I just meant that the entire structure was consumed
18 by fire, making it difficult -- making it impossible
19 to locate the area where lightning struck the
20 structure?
21 A. To answer your question, rarely is the
22 entirety of a structure consumed during a fire event.
23 The location where the lightning struck the structure
24 could have been consumed during the fire and, hence,
25 is no longer available for identification, yes.

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1 Q. Well, and I guess -- I guess I'm a little
2 bit surprised that I'm having such a hard time
3 talking to you about projects where you're actually
4 investigating the origin and cause and there's been a
5 fire and there's been an allegation that TechShield
6 is involved. That's really -- I'm trying to get a
7 sense of those particular projects that you've been
8 working on. I mean, is it -- is it hard for you to
9 remember them specifically because you have so many?
10 A. No, ma'am.
11 MR. ELLIS: Object -- just a second.
12 Objection to form, particularly statements by
13 counsel. You can answer the question.
14 A. Could you repeat the question?
15 Q. Sure.
16 A. Or just have it read back?
17 Q. No, no, no. I don't mind.
18 I mean, you know, I probably -- that
19 was probably too informal a question because what I'm
20 trying to determine is some information about other
21 projects that you've been asked to work on that
22 involve fire and a claim that the TechShield was
23 involved in the fire. And what I was trying to ask
24 you is: In the projects that you can recall, do you
25 recall being able to determine the point where the

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1 lightning struck the home in those projects?
2 A. In some, yes. In some, no.
3 Q. Can you give me any idea of when you can't
4 determine where lightning struck the structure, what
5 the reasons you can't make that determination are, in
6 the particular projects that you are working on or
7 have worked on?
8 A. The severity of damage and/or alteration of
9 the scene.
10 Q. Can you recall a specific project where
11 there was fire and alleged that the TechShield
12 contributed to the fire of a time when you could not
13 determine where the lightning struck the structure
14 because there was an alteration of the scene?
15 MR. ELLIS: Objection. Go ahead.
16 A. Can I tell you a specific one?
17 Q. Uh-huh.
18 A. Not off the top of my head, no.
19 Q. Can you tell me a specific project that you
20 worked on, consulted on on behalf of Louisiana
21 Pacific in which there was fire and an allegation
22 that the radiant barrier or TechShield caused the
23 fire in which you were unable to determine where
24 lightning struck the structure because the -- because
25 of the level of destruction -- I don't know whether

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1 the word is "consummation" -- of the structure due to
2 fire?
3 A. Do I have specific recollection of one?
4 Yeah, I remember one off the top of my head, yeah.
5 It was in Texas. But which city? Austin, I think.
6 I don't remember exactly.
7 Q. Other than -- I know you said you couldn't
8 remember or couldn't recall any where alteration of
9 the scene prevented you from making a determination
10 of where lightning hit a structure and you can think
11 of one where the level of destruction due to fire
12 prevented you from being able to make a determination
13 where lightning hit the structure. Can you think of
14 any other time where you were unable to make a
15 determination as to where lightning hit the
16 structure?
17 MR. ELLIS: Objection. Go ahead.
18 A. Again, I don't have a recollection at this
19 point in time, no.
20 Q. So you've done your best to recall what you
21 can remember and to tell me what you can remember at
22 this point?
23 A. Yes, ma'am. I haven't -- nothing is coming
24 to mind, no.
25 Q. Okay.

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1 THE VIDEOGRAPHER: Going off the
2 record at 12:11 p.m., ending tape 3.
3 (Recess taken)
4 THE VIDEOGRAPHER: Back on the record
5 at 12:47 p.m., beginning tape 4.
6 Q. (By Ms. MacLeod) Mr. Scardino, let's turn
7 our attention to the investigation that you undertook
8 at the Taylor home on October 21, 2011.
9 A. The site visit?
10 Q. The site visit, yes. If you will, walk me
11 through that, how you did it, what you inspected.
12 A. In general terms, arrived at the site. We
13 spoke with -- I believe it was Mr. McGraw. There
14 were other people there. To name them all, I don't
15 know. Basically once I got the rudimentary
16 information about the chain of events or the
17 circumstance of events, I went about evaluating the
18 structure, looking for where its electrical service
19 entered, its gas service entered, how it was
20 configured.
21 The gas service was a buried LP tank.
22 Photo documented it. Photo documented the
23 pad-mounted transformer. Started with my exterior
24 views of the property as well as the house.
25 Basically documenting what I saw, where it was

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1 located at the time that I saw it.
2 Then moved into the structure. I
3 started on the lower level is my recollection,
4 documented all of the lower level, the two electrical
5 distribution panels. Also documented the exterior
6 distribution panel. We -- I then ascended to the
7 second level and again completed my documentation up
8 there.
9 I think after I finished that -- the
10 first stage of the scene visit, we went outside and
11 we did more further intrusive exam of the water
12 heater -- what else was out there -- receptacle and
13 there's something else, but I can't remember what it
14 is right now. Then we went up on the roof, looked at
15 the chimney, looked at the dryer vent. I think --
16 the sequence may be off a little bit, but eventually
17 I made it into the attic and documented the attic and
18 stuff above the -- I guess the bathroom and stuff on
19 the north side. Documented the crawlspaces and stuff
20 on the southern portion of the second level.
21 So I basically tried to see all the
22 various aspects of the structure, document the burn
23 damage patterns that I saw, document the dumpster out
24 front that was full of debris that had already been
25 removed from the structure, documented the fact that

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1 there were new oriented strand board panels laid over
2 the top of the fire damaged portion of the structure,
3 and so that immediately told me that they were put up
4 after the fire. There was a blue tarp on the roof.
5 Just noting my general observations, gathering data.
6 (Exhibit 58 marked)
7 Q. (By Ms. MacLeod) I'm going to hand you
8 what's been marked as Exhibit 58.
9 A. Yes, ma'am.
10 Q. If you will look through those. Have you
11 seen those photographs prior to today?
12 A. No, ma'am. Or at least this first one.
13 Second one, third one, fourth one and fifth one, I
14 have never seen those before.
15 Q. In looking at them now, do you recognize
16 that these are photographs of the Taylor home?
17 A. They appear to be, yes.
18 Q. I'll represent to you that these are
19 photographs taken by the Taylors after the fire at
20 their home and before any remediation took place.
21 A. Sometime after the fire, correct.
22 Q. Correct, after the fire, before the
23 remediation and before the OSB sheathing was
24 installed.
25 A. I understand your representation, yes.

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1 Q. You can look at these photographs and you
2 can see that there is significantly more of the
3 gypsum board appearing in these photographs, correct?
4 A. Yes, ma'am. The drywall is present.
5 Q. And the fan that was hanging down on the
6 ceiling?
7 A. The one that was in the Dempsey dumpster
8 when I got there, yes, ma'am.
9 Q. You see it is there and it does not appear
10 to be melted or burned, does it?
11 A. The fan itself? No, ma'am.
12 Q. I thought I had a question.
13 A. I don't recall one. I'm sorry. I didn't
14 think there was a question pending.
15 Q. I know we just had an opportunity to look
16 at these today, that you haven't seen these
17 photographs prior to today, but is there anything in
18 these photographs that attracts your attention and/or
19 gives you any insight into the fire at the Taylor
20 home?
21 A. No more than what I already have.
22 Q. So they don't tell you anything that you
23 didn't already know?
24 MR. ELLIS: Object to form.
25 A. Well, it definitely allows a depiction of

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1 the northern portion of the living room/dining area
2 and its associated ceiling and remains of the roof
3 subsequent to the fire, but it doesn't allow for any
4 further analysis in that regard.
5 Q. Okay. If at any time you go back and look
6 at these and it does change your analysis, if you
7 will please let your counsel know so that he can let
8 me know.
9 (Exhibit 59 marked)
10 Q. (By Ms. MacLeod) I'm handing you what we've
11 marked as Exhibit 59. And do you recognize these
12 photographs?
13 A. I do.
14 Q. And there are three photographs here, and
15 on each there appear to be lines and letters added to
16 the photograph?
17 A. Yes.
18 Q. Do you know who made those markings?
19 A. I did.
20 Q. Who did?
21 A. I did.
22 Q. You did? Okay. And on page 1 of
23 Exhibit 59 --
24 A. These are not numbered, so --
25 Q. Page 1 is the one that has the sticker on

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1 it?
2 A. Okay.
3 Q. And it is -- it has a black hashmark box on
4 the front of it?
5 A. Correct. There's dashed lines that create
6 a box, correct.
7 Q. Did you make that marking?
8 A. I did.
9 Q. Okay. And does that denote the area of
10 origin that you have identified in your report dated
11 September 28, 2012 in which you describe on page 3
12 under "Observations" the area where the fire
13 originated?
14 A. It does not.
15 Q. It does not. What does that box represent?
16 A. Basically that is looking at the photograph
17 from the McGraw report. That was the area that he
18 has hash-marked in his report. So what I was trying
19 to accomplish was seeing that same area on the
20 prefire photograph of that same location.
21 Q. Do you disagree with Rob McGraw's
22 determination as to the area of origin that he has
23 identified for this fire?
24 A. With the premise that this area, this
25 rectangular shaped area depicted here, terminates at

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1 the north wall of the living room/dining area, I
2 would because it actually would extend beyond that
3 north wall into the attic space beyond. But if
4 Mr. McGraw's area of fire origin extends beyond that,
5 say a foot or 18 inches, then my area would be in
6 agreement with his.
7 Q. If you look again at that first page which
8 has the sticker on it and the black box, there are
9 markings on the right that are identified as B?
10 A. Yes.
11 Q. Do you know why you put those marks on
12 there?
13 A. In order to -- you have to look at all
14 three pictures simultaneously in order to get a full
15 view of the entirety of the north slope of the roof
16 above the living room. The match lines that I put on
17 there are to help you with that composite image where
18 the B rafter is identified in each of the
19 photographs 1 and 2. And then A is identified
20 photographs 2 and 3.
21 Q. I mean, that was really -- I was confused
22 because if you look at the middle photograph that you
23 have on the table, the one that has an A and a B on
24 it, it has B being identified to the left on the
25 photograph of the black hashmark that would be on

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1 photograph 1, but on photograph 1 the B is on the
2 right. Do you see that?
3 A. In the center photograph the B is on the
4 left and on the left-most photograph the B is on the
5 right, that's correct, because there are different
6 points of vantage when photographs were taken. So
7 what I'm identifying is the same rafter in each of
8 those photographs. And it's easy to see because if
9 you look at the placement of the light fixture in --
10 there's two light fixtures in the left-most
11 photograph or the photograph you've identified as
12 Photo 1, and then there's three light fixtures in the
13 center photograph and then there's two light
14 fixtures. If you look at the relationship of where
15 the light fixtures are to the match lines, that's how
16 the rafters match up.
17 Q. Okay. Well --
18 A. It would have been nicer to have one
19 picture of the entire at one time -- but we -- I
20 don't have that advantage.
21 Q. I know. I guess I'm still thinking that on
22 that first one that has the black hashmark, that that
23 should be A because you see the -- next to the black
24 hashmarks you've got the double -- or maybe three
25 pieces of wood there and the fan light -- maybe

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1 you're right.
2 Okay. So if you would, take this blue
3 pen and place the area of origin -- because you say
4 that you thought it extended down below that northern
5 knee wall that separates the master bedroom and the
6 living/dining room area. If you would --
7 A. That's a little confusing because we're
8 looking at a two-dimensional image. Remember the
9 roof slopes downwards, so it's behind the wall and
10 you're saying down. So it's a little different
11 terminology.
12 Q. I guess I should have said north because
13 that --
14 A. Yes, ma'am.
15 Q. -- that would have been a more descriptive
16 word. I apologize. If you will, draw for me your
17 area of origin that you identify as the area where
18 the fire originated. If you will mark it with a blue
19 pen on the first photograph.
20 A. And again, it's difficult to represent it
21 on this two-dimensional image.
22 Q. I understand.
23 A. But it's behind the wall, so how do I show
24 this as hidden without confusing you that I'm drawing
25 over the top of the studs? And again, that's within

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1 18 to -- 12 to 18 inches north of the wall, and it
2 joins up to the other rectangle.
3 Q. So the rest of the rectangle is accurate.
4 You've just added that portion to the bottom or to
5 the -- the lower side of the slope that's facing
6 towards the north of the house?
7 A. The northern-most portion of that area is
8 north of that partition wall.
9 Q. Okay.
10 A. Okay.
11 Q. And while you cannot specifically identify
12 the specific point of origin for this fire, you are
13 able to identify an area of origin of fire for the
14 Taylor fire?
15 A. Correct, just like Mr. McGraw was able to.
16 Q. We talked a little bit earlier about
17 certain appliances and mechanical systems that were
18 in the home that you were able to rule out as the
19 cause of the fire. Were you able to rule out as the
20 cause of the fire all of the mechanical systems in
21 the house?
22 A. To my recollection, yes.
23 Q. Were you able to rule out all the
24 electrical appliances in the house as the cause of
25 the fire?

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1 A. All of the electrical appliances were not
2 present at the time of my evaluation. Because of
3 their locations within the living space and since the
4 fire originated in the attic or ceiling space, then I
5 was able to discount them. But with regards to the
6 dryer, while it was not causal, as I've previously
7 testified, it was part of the path of the lightning
8 strike.
9 Q. Once you determined that the chimney at the
10 Taylor home had been directly struck by lightning,
11 what process did you undertake in determining a path
12 to ground for the energy from the lightning strike?
13 A. What process?
14 Q. Uh-huh. Tell me what you did.
15 A. Visual observation. I looked for it.
16 Q. And in particular in the Taylor home, tell
17 me specifically what you did.
18 A. I looked for evidence of where the
19 lightning would have moved through building
20 materials, and what I was looking for was damage.
21 Q. Did you find any?
22 A. I did.
23 Q. What did you find?
24 A. For example, on the back of the dryer that
25 we discussed previously, at the connection from the

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1 appliance duct -- the flexible metal duct behind the
2 appliance that goes to its vent, this -- flexible
3 transition I think is what it's called -- there was
4 evidence of scorching. Black deposits around the --
5 a portion of the perimeter of where that flexible
6 hose would have connected to the back of the dryer.
7 Also, with regards to behind the
8 dryer, there is a metal insert inside of the wall
9 that the transition hose connects to, and on the
10 vertical surface of that insert, again there was
11 evidence of scorching. On the flex duct itself there
12 was evidence of scorching on the exterior of the flex
13 duct.
14 So then you follow that upward
15 vertically through the wall, terminates up in the
16 attic and then it goes from there out through the
17 roof. Well, as you come out through the attic at the
18 termination near the roof, you find damage to the
19 underlayment of the roof sheathing. And then from
20 there we were able to move back across the remaining
21 portions of the roof and look for other evidence of
22 damage to the underlayment of that roof sheathing.
23 Now, from the dryer, we looked inside
24 of the dryer, found evidence of a very localized
25 scorch mark on the cover over where the electrical

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1 power supply cord plugged in, which then led us to go
2 down and look at the receptacle behind the dryer,
3 which then led us to the distribution panel outside
4 and so on.
5 So basically we were looking for
6 evidence of some type of damage to suggest this was
7 the path that the lightning took through the home.
8 Q. Now, when you took the damage that you
9 saw -- the electrical damage that you saw at the
10 dryer and you moved up to the attic --
11 A. Yes, ma'am.
12 Q. -- I have actually marked --
13 A. You called it electrical damage? What I
14 was looking at was damage in general. It was scorch
15 marks.
16 Q. Scorch marks, okay. You wouldn't call that
17 from electrical activity from the energy from the
18 lightning strike?
19 A. Not at that point in time.
20 Q. At that point in your investigation, you
21 wouldn't --
22 A. That's correct.
23 Q. -- have jumped to that conclusion?
24 A. No, ma'am.
25 Q. If you will look at Appendix E --

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1 A. Yes, ma'am.
2 Q. -- which we've marked as Exhibit 60.
3 (Exhibit 60 marked)
4 Q. Knowing what you know now, having completed
5 the investigation, do you now know that the scorch
6 marks that you found on the dryer are a result of the
7 electrical activity from energy from a lightning
8 strike?
9 A. Yes, ma'am. The energy from the lightning
10 strike energized the electrical current flowing
11 through those objects created those scorch marks.
12 Q. If you will, identify for me the
13 photographs attached to Appendix E that represent the
14 damage that we've discussed to the dryer and its
15 accompanying parts.
16 A. It would be Exhibits E41, E42, E43, E44,
17 E45, E46 and E47.
18 Q. If you will for me, on photographs E41 and
19 E42 -- you can use that blue pen if you would like --
20 circle for me the localized heat affected portions of
21 the radiant barrier that are depicted in those
22 photographs, in 41 and 42.
23 A. (Witness complies.)
24 Q. And you're circling them all, right, every
25 one that you see?

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1 A. Isn't that what you asked me?
2 Q. It is. Thank you.
3 A. This pen is not --
4 Q. It's not showing up?
5 A. For the task, it's not really accomplishing
6 I guess what you're hoping for.
7 Q. Well, I'm hoping to be able to see what
8 you've done, so let's ensure that we have
9 accomplished that.
10 A. I don't know if that one's going to show up
11 on this one either.
12 THE VIDEOGRAPHER: We have a Sharpie
13 for that.
14 THE WITNESS: Sharpie would probably
15 work better. Thank you, sir.
16 THE VIDEOGRAPHER: You're welcome.
17 Q. (By Ms. MacLeod) There are other areas that
18 have not been circled that seem to be at locations
19 where nails are. Is it your testimony today that
20 those are not localized heat affected portions of the
21 radiant barrier?
22 A. Can you point to the -- what you're -- so
23 we're talking about the same thing, you're on
24 photo 41?
25 Q. Yes, sir. There are other areas that you

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1 haven't circled that appear to have a nail and some
2 damage to the radiant barrier sheathing at those
3 locations?
4 A. Okay. And your question is what?
5 Q. Do you know -- what is the -- if they don't
6 show localized affected portions of the radiant
7 barrier --
8 A. Heat affected?
9 Q. -- heat affected, what are they showing?
10 A. Mechanical damage caused by the nail that
11 penetrated through the oriented strand board and when
12 it punched through, it fractured the OSB, which --
13 Q. So at this point you've told me about -- do
14 you have any photographs of the path to ground from
15 the dryer to the outside of the house on its way out
16 of the house?
17 A. I shot the interior of the distribution
18 panel. The wiring from the receptacle for the dryer
19 was inside of the walls and inside of the ceilings,
20 and so I went from end to end. I didn't try to shoot
21 the entire length.
22 Q. Okay. So there aren't any photographs
23 attached that represent the path of the current as it
24 came down and through the dryer and out to ground?
25 And it's okay. I'm just -- if there are, I want to

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1 know which ones they are so that we can get them
2 identified for the record.
3 A. I did not endeavor to tear apart the house
4 to trace the routing of that electrical line, so I
5 don't have pictures showing from the receptacle to
6 the distribution panel.
7 Q. Okay. Do you have any pictures of the
8 distribution panel --
9 A. In the report? I don't know. I do have
10 pictures of the distribution panel.
11 Q. Is it fair to say that the photographs of
12 the distribution panel are not included in here
13 because while they were part of the path to ground,
14 they were not related in any way to the cause of the
15 fire at the Taylor home?
16 A. They are related because they are part of
17 that path to ground. I didn't include them, but I do
18 have pictures of those.
19 Q. So while they were a part of the path to
20 ground, they were not a cause of the fire?
21 A. They contributed, but they were not the
22 cause.
23 Q. Once you located the -- was the dryer vent
24 grounded?
25 A. Was it grounded?

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1 Q. Yes, sir.
2 A. The vent in and of itself? No.
3 Q. Does the NEC require it to be grounded?
4 A. I didn't research the NEC regarding that
5 particular aspect.
6 Q. Was the dryer itself grounded?
7 A. It had a four-prong cord. The receptacle
8 was grounded. So through its cord set, it would have
9 been grounded, yes.
10 Q. Do you know what the NEC says in regard to
11 grounding of dryers?
12 A. I don't know what the NEC says immediately,
13 no.
14 Q. So we can come from the electrical
15 receptacle, come back to the dryer, go up to the
16 dryer vent. Walk me back from there to the chimney
17 where it was struck by lightning and the lightning
18 entered the premises.
19 A. Well, let's start at the chimney and go in
20 from that direction.
21 Q. However you want to do it is fine by me.
22 And it would be helpful to me as we go
23 through this if you start with and identify the
24 photographs for the chimney that show that the
25 lightning directly struck that location of the Taylor

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1 home.
2 A. E26, E27, E28 and E29. E28 and E29 answer
3 the last part of that question showing the top edge
4 of the chimney where you see a solidified metal
5 globule where localized melting took place.
6 Q. If you will on -- did you say that was E28
7 that you were looking at?
8 A. Yes, ma'am.
9 Q. Okay.
10 A. E28 and 29.
11 Q. Okay. If you'll take the Sharpie and
12 identify the areas that you were just describing?
13 A. (Witness complies.)
14 Q. Do you know the temperature at which
15 stainless steel melts?
16 A. I don't know the temperature for stainless
17 steel, but most steels melt in the order of
18 2500 degrees Fahrenheit or higher.
19 Q. Okay. Now, we've discovered and talked
20 about where the lightning directly struck the Taylor
21 home at the chimney. Tell me where it went next.
22 A. It progressed from the chimney toward the
23 dryer vent.
24 Q. Okay. So do you know -- we know that the
25 chimney was -- began on the exterior of the home,

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1 correct?
2 A. Correct.
3 Q. And then the piping had to run through the
4 roofing system to the interior of the home, correct?
5 A. Okay. Just so you know, the chimney
6 terminates exterior to the building, probably
7 originates at the stove. But I understand for your
8 question we're starting outside the building towards
9 the inside of the building.
10 Q. Okay. And to get -- to make that
11 transition from the outside to the inside, the
12 chimney piping has to penetrate the roofing system,
13 correct?
14 A. It does.
15 Q. And that would include penetrating the
16 TechShield, correct?
17 A. That's correct.
18 Q. Did you have any opportunity to observe how
19 the chimney penetrated the TechShield?
20 A. Yes.
21 Q. At that location was -- or describe for me
22 what was at that location.
23 A. Basically there's a cutout around the
24 chimney so the wood does not come in direct contact
25 with the metal of the chimney. And in order to cover

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1 that larger cutout, they have like a boot at the
2 roof. And so basically the chimney is connected to
3 the boot, the boot is nailed down to the roof, so
4 that would be how it's connected to the -- or gets
5 into the house. The boot provides the rain barrier
6 with the -- for the hole.
7 Q. The boot, is that the same thing as saying
8 flashing, or is that different?
9 A. No, that's -- that's its purpose is a
10 flashing.
11 Q. And how would that flashing be connected to
12 the chimney vent piping?
13 A. It's in direct contact with it. Usually
14 there may be like a little rubber gasket around it to
15 seal that inner circumference, but normally it's in
16 direct contact with the chimney pipe.
17 Q. And that boot or flashing is a piece of
18 metal?
19 A. That's my recollection, yes.
20 Q. And then it is nailed to -- it was nailed
21 in to the TechShield?
22 A. Correct.
23 Q. Do you know whether the nails extended in
24 and through the aluminum sheathing on the interior?
25 A. They did.

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1 Q. Based on what you know as your electrical
2 experience, with the metal from the piping touching
3 the metal from the flashing and being connected with
4 metal nails to the metal aluminum, were those -- was
5 that considered an electrically connected area?
6 A. There would be -- there would be
7 conductivity between those materials that you named.
8 Q. When the lightning came in and down the
9 chimney pipe vent, because it was electrically
10 connected to that TechShield, is it your opinion that
11 the energy from the lightning then began a pathway
12 and energized that TechShield and began a pathway
13 across the room towards the dryer vent?
14 A. The aluminum associated with the TechShield
15 will conduct electricity.
16 Q. My question is -- I'm really trying to get
17 at trying to lay out the path to ground. So the
18 energy from the lightning strike that directly struck
19 the chimney, traveled down the chimney vent through
20 the flashing, through the nails and into the aluminum
21 on the TechShield, correct?
22 A. Correct.
23 Q. And then that energy that's transferred to
24 the TechShield took a path across the TechShield
25 sheets towards the dryer vent, correct?

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1 A. It took many paths across that sheet.
2 Q. In fact, it would have energized that whole
3 roof of sheathing, correct?
4 A. It would energize the portions of the roof
5 that were electrically connected.
6 Q. Did you have the opportunity to photograph
7 and make note of how that path towards the dryer
8 vent -- which direction it went?
9 A. There is damage to the underside of the
10 TechShield which exhibited localized heating that
11 followed a path basically diagonally. It would be
12 from north -- from the southeast towards the
13 northwest diagonally on the north slope of the roof
14 between the chimney and the dryer vent.
15 Q. Do you have photographs that document that
16 localized heat damage that you just described?
17 A. I do.
18 Q. Will you identify for me what photographs
19 that you've attached to Appendix E that show that?
20 A. I stand corrected. The photo index depicts
21 representative portions. It does not depict the
22 entirety of the path.
23 Q. That was going to be my next question.
24 A. The representative photographs would be
25 E37, E38, E39, E40. And of course, we've already

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1 talked about E41 and E42.
2 Q. Okay. Those were the areas near the piping
3 for the dryer vent?
4 A. Correct. Or ductwork for the dryer vent.
5 As opposed to piping, ductwork.
6 Q. Piping, ductwork. Okay. If you will, turn
7 to photograph 37.
8 A. Yes.
9 Q. And identify by circling with the Sharpie
10 the areas that you believe show localized heat
11 damage. Do you see anywhere in that photograph any
12 areas where there's discoloration on the aluminum?
13 A. I see several areas of discoloration, but
14 what are you referring to?
15 Q. Well, really I was just asking you if you
16 saw them. I see several areas but on -- both to the
17 right and to the left of the further-most wood rafter
18 on the left side of the picture. That's really where
19 the TechShield is exposed around the pink venting
20 that's there. Do you know what caused that
21 discoloration?
22 MR. ELLIS: Object to form.
23 A. The brown?
24 Q. Uh-huh.
25 A. Which discoloration are you referring to?

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1 Because I mean, I --
2 Q. Do you see more than one discoloration?
3 A. I would call it a discoloration, yes.
4 Q. Okay. Well, show me where you see
5 discoloration.
6 A. There's this brown stuff right here.
7 Q. Uh-huh.
8 A. And there is this long strip right here
9 that is -- looks linear.
10 Q. In regard to the first one that you
11 identified that is brown on the left side of the
12 photograph closest to the wood rafter, if you will
13 circle that with a blue pen?
14 A. (Witness complies.)
15 Q. Do you know what caused that discoloration?
16 A. No, ma'am, I don't.
17 Q. And then if you will, circle in purple the
18 other area of discoloration that you identified.
19 Actually, if you'll go over that in green because you
20 can't really see the purple very well.
21 A. (Witness complies.)
22 Q. Do you know what caused the discoloration
23 in the green circle that you've -- in the area of the
24 green circle?
25 A. I do not.

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1 Q. When you had an opportunity and were there
2 taking photographs and inspecting the TechShield like
3 that seen in photograph E37, did you see any areas
4 that appeared to be -- or to look like they had soot
5 in them?
6 A. I saw areas which evidenced scorching, but
7 I did not see evidence of sooting.
8 Q. What does that mean, "sooting"?
9 A. Well, sooting is associated with the
10 byproducts of combustion. Basically it's the
11 combustion gases that then deposit on cold surfaces
12 that has carbon and other materials that would be
13 present. The scorching would be different.
14 Q. How is it different?
15 A. Scorching would be what's akin to an iron
16 on a shirt in that you can put heat energy into the
17 material and cause its discoloration, but it doesn't
18 result in fire.
19 Q. Do you see any scorching on photograph E37?
20 A. Yes, ma'am.
21 Q. Have you already circled the areas where
22 you see the scorching?
23 A. Only in one of the areas do I see it.
24 Q. And what color did you mark the areas where
25 there's scorching?

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1 A. Black. One area.
2 Q. Will you identify all the areas of
3 scorching in black for me?
4 A. On that photograph?
5 Q. Yes.
6 A. It's already done.
7 Q. Oh, okay. So you were referring to there
8 are other photographs that exist that would show
9 areas of scorching?
10 A. I'm sorry, you've lost me.
11 Q. Well, I guess I was confused because
12 I thought we were talking about this photograph and
13 areas of scorching and I asked if you saw other areas
14 of scorching and you said yes. But you were talking
15 about at the Taylor home you saw other areas of
16 scorching?
17 MR. ELLIS: Objection, form.
18 A. Again you've lost me. I'm not following.
19 Let's start over.
20 Q. (By Ms. MacLeod) Okay. In regard to
21 photograph E37 --
22 A. Okay.
23 Q. -- you have circled all the areas that you
24 believe evidence scorching that can be seen in this
25 photograph?

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1 A. Yes.
2 Q. While you were at the Taylor home, did you
3 see other areas along the TechShield in between
4 the -- where the chimney gap came into the home and
5 where the dryer vent -- dryer ductwork came into the
6 home, did you see other areas that evidenced
7 scorching?
8 A. Yes.
9 Q. Do you recall how many other areas that you
10 saw that revealed scorching?
11 A. Total number, no.
12 Q. But you have photographs that would show --
13 did you take a picture every time you thought you saw
14 an area that was evidence of scorching?
15 A. I believe I did, yes.
16 Q. E37, do you know where that photograph
17 falls in relation to the area of origin?
18 A. It's outside of the area of origin.
19 Q. Is the area of origin to the east or to the
20 west of what is depicted in photograph E37?
21 A. E37 is looking towards the north. The
22 chimney would be to the right, which would be the
23 east. And the area of fire origin would be to the
24 left, which would be west.
25 Q. Is there anything that you see -- and if

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1 you will, actually, let's turn to photograph 38.
2 A. Okay.
3 Q. And you may have said this to me and
4 I apologize. But when you're -- do you see anything
5 in photograph E38 that is evidence that there would
6 have been a flame at any portion of the TechShield?
7 A. In E38?
8 Q. Yes, sir.
9 A. No, I do not.
10 Q. And scorching, you define that as -- you
11 didn't define "scorching" as having any flame with
12 it, correct?
13 A. Correct. It's a heat effect. You can get
14 scorching from electrical arc.
15 Q. Do you think there was an electrical arc at
16 the places that you circled on E37 in black?
17 A. There's a localized heat effect. I would
18 have to look at that area in more detail to see if
19 there's actual evidence to suggest that there was
20 arcing there.
21 Q. So as you sit here today, you don't know
22 whether there was arcing at those locations or not?
23 A. No, ma'am, I do not.
24 Q. The other photograph you identified was
25 E40.

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1 A. Yes.
2 Q. Can you tell me what happened at these two
3 locations?
4 A. In E40?
5 Q. Yes, sir.
6 A. The aluminum surrounding the nail
7 penetration depicted on the right side of E40 as well
8 as on the left side of E40, the aluminum was ablated
9 away from the vicinity of that nail.
10 Q. What is ablation?
11 A. Destruction or vaporization of the
12 aluminum.
13 Q. Do you understand what causes ablation?
14 A. Excessive heat.
15 Q. Were there other areas that you observed in
16 the Taylor home that showed evidence of the aluminum
17 ablating?
18 A. Were there other areas of -- yes, there
19 were.
20 Q. Do you recall how many areas showed the
21 evidence of ablation?
22 A. The total number? No, I don't.
23 Q. If you saw an area that looked like the
24 aluminum had been ablated, did you take a photograph
25 of it?

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1 A. I believe that I did, yes.
2 Q. And you haven't tossed any of your
3 photographs?
4 A. No, ma'am.
5 Q. If you know, what percentage of the
6 cases -- or your projects that you've been involved
7 with that involve fire in radiant barrier show some
8 evidence of ablation?
9 A. I don't keep that kind of statistic. I
10 don't know.
11 Q. Have you ever seen it before outside the
12 Taylor home?
13 A. Ablation of a radiant barrier?
14 Q. Yes, sir.
15 A. Yes, I have.
16 Q. And you have no idea how many times in
17 other houses you've seen that?
18 A. No, ma'am. It's on -- I've seen it before,
19 yes. The number of times, I don't know.
20 Q. Do you think you've seen it more than five
21 times?
22 A. Yes.
23 Q. Do you think you see it every time you go
24 into a home where the TechShield has been energized
25 by lightning?

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1 A. Where it's still observable, yes.
2 Q. That sounds to me like a hundred percent of
3 the time when you go in and you see a TechShield
4 that's been energized, you're seeing ablation?
5 A. When lightning strikes a home with
6 TechShield on it, you do get localized heat effect on
7 various portions of the TechShield.
8 Q. And you're seeing ablation?
9 A. Yes.
10 Q. Do you know or understand the principles
11 behind why it's at the area near a nail that the
12 aluminum ablated?
13 A. I hadn't endeavored to analyze that at this
14 point in time, no.
15 Q. If you'll look at E40, the area around the
16 nail that's inside the area where the metal's been
17 ablated, there appears to be a paper sheathing that
18 remains. Is that what you're seeing?
19 A. Yes, ma'am.
20 Q. Do you understand or have any opinions as
21 to why the metal is ablating and the paper still
22 remains?
23 A. The paper didn't get ignited.
24 Q. Do you understand or can you explain to me
25 why the paper wouldn't ignite yet the aluminum has

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1 gotten to such a temperature that it's ablated, if
2 you know?
3 A. The paper would not ignite because it
4 didn't reach its ignition temperature, or you didn't
5 reach a temperature on it sufficient to cause
6 discoloration. The aluminum would ablate because it
7 was heated locally in that area.
8 THE VIDEOGRAPHER: I'm sorry. We have
9 to switch out the tape. Going off the record at
10 1:46 p.m., ending tape 4.
11 (Recess taken)
12 THE VIDEOGRAPHER: Back on the record
13 at 1:52 p.m., beginning tape 5.
14 Q. (By Ms. MacLeod) Do you typically have soot
15 if you have scorching?
16 A. Scorching itself creates a darkened
17 discoloration which could be misinterpreted as soot.
18 It's sometimes difficult to tell the difference
19 between the two.
20 Q. Why is it difficult to tell the difference
21 between dark discoloration and soot?
22 A. They're both the same color.
23 Q. And are you able to, with a visual
24 inspection, be able to tell the difference between a
25 dark discoloration and soot?

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1 A. Normally not just by visual observation.
2 Q. So in order to be able to tell whether
3 something is soot or a discoloration, does that
4 require further testing?
5 A. Or at least further analysis, yes.
6 Q. What kind of further analysis would it
7 require?
8 A. Probably swabbing for laboratory analysis
9 of it. More detailed magnification of the surface.
10 Q. While you were out investigating the Taylor
11 home, were you able to determine whether any of the
12 localized heat damaged areas on the aluminum of the
13 TechShield evidenced sooting?
14 A. I did not see any evidence of sooting.
15 Q. But you haven't undertaken any laboratory
16 testing or further analysis to determine if there
17 was, in fact, any sooting?
18 A. I personally have not, and to my knowledge
19 no one has.
20 Q. And is it your testimony that no one can
21 say whether it's sooting or discoloration without
22 undertaking that testing, that further analysis and
23 testing?
24 A. Visual evaluation of a photograph as the
25 sole means of determination of whether there's soot

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1 present or not, it's impractical to do it that way.
2 I don't see how you can.
3 Q. Is it your testimony that the only way to
4 get soot is to have a flame?
5 A. In order for it to be soot, which is a
6 product of combustion, yes.
7 Q. Have you asked anyone at Louisiana Pacific
8 to -- or Mr. Ellis' firm to have the ability to
9 undertake that further analysis and testing to
10 determine if there is, in fact, any soot at these
11 locations where you've seen localized heat damage?
12 A. Did I ask for that?
13 Q. Correct.
14 A. No.
15 Q. Do you know if anybody's asked for that?
16 A. I don't know if anybody has asked for that.
17 Q. I'd like to take you back to the dryer vent
18 and ductwork for the dryer vent. And just like with
19 the chimney, in order to get from the exterior where
20 the vent is located into the interior of the home,
21 you have to penetrate the TechShield, correct?
22 A. Yes. The termination cap for the dryer
23 vent stack is above the roof, so there's a cover over
24 the top of it.
25 Q. Is that done the same process where you cut

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1 a hole out of the TechShield so that the wood is not
2 touching the ductwork?
3 A. On the dryer vent it would not be necessary
4 that it be so large as to not touch it, but there
5 would be a hole cut out for the dryer duct to go
6 through.
7 Q. Is that just because of the difference
8 because the chimney is going to heat and it's going
9 to have heat source blowing through it whereas -- I
10 mean, what's the difference -- why do you need a
11 larger hole with a chimney than you do with the dryer
12 vent?
13 A. Operating temperature.
14 Q. Would the -- there also be a boot or a
15 flashing at the location on the dryer ductwork where
16 it comes and penetrates the TechShield?
17 A. Yes.
18 Q. And is it -- how is it connected to the
19 ductwork?
20 A. I don't remember how it's connected to the
21 ductwork. Normally it's the piping -- there's a
22 transition that goes between the termination cap and
23 the ductwork.
24 Q. And that flashing is going to be nailed to
25 the TechShield to secure it in place?

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1 A. Correct.
2 Q. And if you'll look at photograph 41.
3 A. Yes.
4 Q. Is what we're seeing with those nails
5 coming through, is that where the flashing was
6 connected to the TechShield with nails?
7 A. Which nails are you referring to? There's
8 multiple nails shown in that photograph.
9 Q. Are we at least seeing some that would have
10 been responsible for securing the flashing to the
11 TechShield?
12 A. Yes.
13 Q. Is it your opinion that given that the
14 ductwork is metal, the nails are metal, the aluminum
15 in the TechShield is metal, that the TechShield was
16 electrically connected to the metal ductwork of the
17 dryer vent?
18 A. Yes.
19 Q. Do you know what bonding and grounding are?
20 A. I do.
21 Q. Can you define them for me?
22 A. Grounding is where you actually make a
23 physical connection to earth ground. The bonding is
24 where you connect various objects together so that
25 there's not a difference in potential between the

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1 objects. They're electrically at the same potential
2 because they're bonded together.
3 Q. Do you know if the roof structure in the
4 Taylor home as it existed immediately prior to the
5 fire on August 29, 2011 was bonded?
6 A. To what? What are you referring to to what
7 it was bonded? We've established that it's been
8 bonded to two different things.
9 Q. Okay. So are you telling me that it is
10 electrically -- the TechShield is electrically
11 bonding the chimney and the dryer ductwork?
12 A. The chimney is connected to the TechShield
13 by its installation. The dryer vent is connected to
14 the TechShield through its installation.
15 Q. Do you know if the roof structure of the
16 Taylor home as it existed immediately prior to the
17 fire on August 29, 2011 was grounded?
18 A. I do not.
19 Q. If the roof had been grounded, would the
20 energy from the lightning strike have sought to use
21 that as a path to ground?
22 A. It could have.
23 Q. Do you think that's what, in fact, happened
24 in this case?
25 A. What?

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1 Q. That the --
2 A. Okay. You've lost me. Are we talking
3 hypothetical?
4 Q. No. I'm asking if you think that's what
5 happened in this particular case, that the lightning
6 used the chimney, the TechShield and the dryer vent
7 as its path to ground?
8 A. As one of its paths, yes.
9 Q. What other paths do you think it used?
10 A. There are numerous paths it could have
11 used, but the primary path would have been the one
12 you just described.
13 Q. What other paths could it have used?
14 A. The chimney, TechShield, nails, electrical
15 conductors.
16 Q. Are you aware of any evidence that the --
17 there was a path to ground using any of the
18 electrical conductors?
19 A. There is damage on the grounding conductor
20 for a 14-3 circuit for the fire alarm panel.
21 Q. Have you looked at those wires -- did you
22 look at those wires the day that they were collected
23 at the Taylor home?
24 A. I did briefly, yes.
25 Q. Did you look at those wires while they were

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1 still up in the ceiling before they were collected?
2 A. I did.
3 Q. Have you looked at those wires since the
4 date that they were collected?
5 A. I have not.
6 Q. Have you looked at any of the SEM, EDX or
7 CT scan photographs that were taken at the Goodson
8 Engineering facility on September 27, 2012?
9 A. I've seen the EDX reports.
10 Q. And you reviewed those reports?
11 A. I have.
12 Q. Why did you review those reports?
13 A. With regards to the data that they had in
14 there.
15 Q. What did you learn from reviewing those
16 reports?
17 A. That from the EDX -- SEM/EDX analysis, that
18 you're talking about copper conductors. All of the
19 surfaces that they identified for inquiry were
20 copper.
21 Q. And that was on the EDX?
22 A. Yes, the -- yes, the reports show that.
23 Q. Does it have any significance to you that
24 the electrical activity that was located at the scene
25 and later identified during the testing at Goodson

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1 Engineering, that all the electrical activity was on
2 the ground wire?
3 A. Does it have any --
4 Q. Significance to you in your electrical
5 experience?
6 A. Yes.
7 Q. Tell me about that -- what significance it
8 has.
9 A. Basically that that grounding conductor
10 became energized and basically there was a gap at
11 which arcing jumped from that wire to another object.
12 Q. Why do you say that the arcing came from
13 the ground wire to another object?
14 A. Which would be at the higher potential.
15 The ground system is energized by the lightning
16 strike. The ground would be at a higher potential
17 than the object adjacent to it. So if there's a
18 large enough difference in potential, it will jump --
19 cross that gap and go to that lower potential object.
20 Q. Did you see any evidence that -- well,
21 you've already testified today that you know the
22 TechShield was energized by lightning?
23 A. Yes.
24 Q. Knowing that the TechShield was energized
25 and has a very high potential because it's

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1 immediately connected to the chimney that was
2 directly struck by the lightning, does it make sense
3 to you that that ground wire would have had -- and
4 I may not know how to say this. It would have a
5 higher resistance such that the energy would have
6 arced from the copper wire somewhere else, or does it
7 make sense that because that TechShield is energized,
8 that the energy would have arced from the TechShield
9 to the ground wire and attempt to find a path to
10 ground?
11 A. The established -- one of the primary paths
12 to ground has already been going through the dryer
13 vent, through the dryer to the electrical system.
14 Alternate paths would have also gone from the
15 energized TechShield through the nails down towards
16 other materials which are at a different potential.
17 That wire would be the next available potential as
18 that conductive path is made through the nails
19 towards that electrical conductor.
20 Q. So it makes sense to you electrically that
21 the energy traveling to the TechShield could have
22 arced from the TechShield to the copper grounding
23 wire in that 14-3 wire seeking a path to ground?
24 MR. ELLIS: Object to form.
25 A. No, it doesn't make sense to me in that

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1 regard.
2 Q. (By Ms. MacLeod) Why not?
3 A. The distances involved, the primary path
4 has already been established, there are no other
5 instances -- if that were occurring, then you would
6 expect that to happen on other areas of the
7 conductor, and it's not.
8 Q. Would that happen on other areas of the
9 conductor once it became energized with an arc from
10 the TechShield and basically creating a greater
11 consistency between what's running through the ground
12 wire and what's running through the TechShield?
13 MR. ELLIS: Objection.
14 A. I don't understand your question.
15 Q. (By Ms. MacLeod) Based on what you
16 understand and know about how electricity and
17 electrical currents run, are you telling me today
18 that it is not possible that there was an electrical
19 arc from the TechShield to that copper ground
20 conductor in the 14-3 wire?
21 A. I'm not telling you it's not possible.
22 Q. Are you telling me that it is not probable?
23 A. Based upon the information I have, it is
24 not probable.
25 Q. Help me understand that, why you think it's

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1 not probable.
2 A. Because of other evidentiary items that I'm
3 seeing that lead me to a different conclusion.
4 Q. What are those other evidentiary items that
5 lead you to a different conclusion?
6 A. The proximity in the area of origin of all
7 of the nails holding the building materials together
8 coming down from the roofing system to the top of
9 that partition wall immediately in the vicinity of
10 where that electrical conductors -- or those
11 electrical conductors pass by the corner of that
12 framing member. The spatial relationship is there.
13 Q. Do you know or recall from your visit to
14 the site where the areas of electrical activity were
15 in relation to the area of origin?
16 A. The two identified areas were up slope.
17 One was near the peak and the other, you would
18 actually come down slope more towards that north
19 partition wall but not there.
20 Q. Okay. And did that wire, the 14-3 wire,
21 continue to run north down the slope through that
22 area of origin and back towards the north end to the
23 master bedroom?
24 A. If it's the conductor I'm thinking of, it
25 ran down the slope along the rafter and turned

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1 immediately left over the top of that wall.
2 Q. Headed towards the --
3 A. East.
4 Q. -- electrical -- headed east back
5 towards --
6 A. No.
7 Q. No.
8 A. Yeah, east.
9 Q. Headed east?
10 A. Headed east.
11 Q. Do you have any photographs that depict the
12 direction that the fire alarm circuitry took on the
13 northern side of the wall that separates the master
14 bedroom and the living room area?
15 A. Yeah.
16 Q. Which photograph is that?
17 A. 15.
18 Q. And if you would circle with a black
19 Sharpie the wire that you are talking about that is
20 the 14-3 wire that was part of the alarm circuitry.
21 A. (Witness complies.)
22 Q. You mentioned that when you looked at the
23 EDX, that the -- it showed that the wire was copper.
24 Is there -- and I don't mean to misquote your
25 testimony. Whatever you said is what you said. But

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1 is there -- my question to you is: Is there any
2 significance such that you felt it necessary to tell
3 me that what was found was copper wire?
4 A. That's what the results were.
5 Q. Was there any significance to that finding?
6 A. Yes, it's copper.
7 Q. What does it mean to you that it's copper?
8 It may not have any meaning. I just want to
9 understand.
10 A. There's no other material. It's not
11 alloying that's creating this. And alloying is where
12 you would have a different metal coming into contact
13 with the copper and changing the physical properties
14 of the copper and forming an alloy, and that melts at
15 a lower temperature. It's copper.
16 Q. Do you know whether when there's ablation,
17 is that caused by an arc?
18 A. My understanding of ablation is it is a
19 result of the material's reaction to the intense
20 heating. One type of intense heating can be
21 electrical arcing.
22 Q. Do you know if the only way that you can
23 have ablation is if you have an electrical arc of
24 sufficient time and energy?
25 A. I don't know if that's the only way, but it

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1 is a reasonable way, yes.
2 Q. Is it really just that you don't know
3 whether there could be more than one way, or are you
4 telling me that there is potentially more than one
5 way that an arc could create -- and have the result
6 of ablation?
7 A. There may be alternate causes for ablation,
8 but my understanding of ablation is it is localized
9 intense heating.
10 Q. That 14-3 wire that prior to the fire would
11 have been encased in insulation, correct?
12 A. Correct. Or it should have been, yes.
13 Q. Does the fact that it was encased in
14 insulation have any significance to you in regard to
15 arcing?
16 A. That the electrical energy would have to be
17 sufficient -- either the insulation material would
18 have to be physically damaged or the electrical
19 phenomena would have to be much greater than the
20 insulating capacity of that insulation.
21 Q. Do you know what the typical insulating
22 capacity is for electrical wire these days?
23 A. Not off the top of my head, no.
24 Q. I understand that it's your opinion that
25 you were unable to determine the first material

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1 ignited, correct?
2 A. Correct. Based upon the totality of the
3 destruction caused by the fire and the demolition
4 during extinguishment efforts, salvage operations and
5 so on, I can't tell you the point of origin.
6 Therefore, I cannot specifically identify the first
7 material ignited.
8 Q. What happens in a scenario where you have a
9 fire and the first material ignited is lost due to
10 combustion? Are there any limits under NFPA 921 in
11 your being able to determine a cause of the fire?
12 A. You would try to, through the scientific
13 method, evaluate the materials that are there and the
14 potential ignition sources that are there and then
15 see if there is a property or whatever to determine
16 if you can decide if there was an ignition source or
17 the first material ignited and what that would be.
18 Q. Are those the steps that you undertook in
19 your investigation in the Taylor case?
20 A. In some respects, yes. Up to the point
21 where once you have a lightning strike, it is just a
22 matter of it is a phenomenon such that it is going to
23 give you the potential for fire.
24 Q. It gives you the potential for fire but not
25 necessarily fire, correct?

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1 A. Correct. A lightning can strike a house.
2 That house could catch on fire. That house may not
3 catch on fire. That house may have radiant barrier.
4 That house may not have radiant barrier. Lightning
5 striking the house does not -- gives you the good
6 probability for a fire because of its huge potential,
7 but it's not -- there are instances where you do not
8 get fire.
9 Q. Doesn't the probability of whether you have
10 a fire created from that potential from the lightning
11 strike depend upon the building materials that are
12 energized by the lightning?
13 A. No, ma'am. It more depends upon the type
14 of lightning that actually strikes your home.
15 Q. Tell me about that.
16 A. Okay. There's a hot lightning versus a
17 cold lightning. The hot lightning, which is
18 indicated to occur 25 to 50 percent of the time, is a
19 type of lightning where the flow of current in the
20 lightning strike is continuous. There's no pulsation
21 associated with it or flickering, and it occurs for a
22 longer duration. That hot lightning is the one that
23 is found more prone to cause a fire.
24 Q. And then the other type of lightning --
25 A. Cold lightning.

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1 Q. -- cold lightning, tell me about that.
2 A. Cold lightning is basically typical
3 lightning wherein once the lightning path is
4 established, you get a return stroke and then you
5 could get many return strokes thereafter, but it has
6 a flickering or it's not a continuous stream and it's
7 of a much shorter duration.
8 Q. Do you know whether the lightning that
9 struck the Taylor house was hot or cold lightning?
10 A. I do not know.
11 Q. Is that something that you need to be able
12 to determine in reaching a cause of the fire in this
13 instance?
14 A. The circumstantial evidence indicates that
15 the lightning strike was the cause of the fire.
16 Q. Yeah, but my question was: Is determining
17 between whether it's hot lightning or cold lightning
18 necessary for you to be able to determine the cause
19 of the fire at the Taylor home?
20 A. No, ma'am. Whichever lightning strike it
21 was, it was sufficient to cause the fire at the
22 Taylor home.
23 Q. Do you know the difference between positive
24 lightning strikes and negative lightning strikes?
25 A. Yes, ma'am.

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1 Q. How about walking me through what a
2 positive lightning strike is?
3 A. Positive lightning strike is much -- first
4 off, much more rare than negative lightning. A
5 positive lightning originates in the upper portion of
6 the thunderstorm, so, therefore, it has to travel a
7 much larger distance than your typical lightning
8 strikes, which originate in the negative portion of
9 the thundercloud. That -- because it originates
10 higher up and has a much higher potential, by the
11 time it reaches the ground, it can also reach further
12 distances away from the cloud. And so its intensity
13 is much greater at the time that it finally makes
14 contact with the earth.
15 Q. Did you check the -- you obtained the
16 Vaisala STRIKEnet report, correct?
17 A. I did.
18 Q. Did you look through there to determine
19 whether there were any positive strikes the day at or
20 near or around the time of the Taylor fire?
21 A. At or near or about the time, that's the
22 difficulty with this particular case. We have no
23 definitive time frame.
24 Q. For when the fire started?
25 A. For when the fire started. From when the

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1 impact actually occurred, we don't have a definitive
2 timeline. So it's exceptionally difficult to look at
3 the lightning data and say, Oh, this is the lightning
4 strike that was more probable to have caused this.
5 So I don't recall seeing a positive
6 stroke, but I would have to look in more detail at
7 the Vaisala report to specifically answer that
8 question.
9 Q. Does it matter to your determination of the
10 cause of the fire in the Taylor case whether it was a
11 positive or a negative strike?
12 A. No, ma'am.
13 Q. Why is that?
14 A. Because positive versus negative is not
15 synonymous with hot versus cold. A negative stroke
16 can be a hot strike and it's all associated with
17 duration of the lightning stroke itself.
18 Q. But my question was: Is determining cause
19 in the Taylor house -- in the Taylor fire, does it
20 matter whether it was a positive or a negative
21 strike?
22 A. It does not matter. Whichever strike it
23 was caused this fire.
24 Q. Right. So the same reason it doesn't
25 matter whether you need to -- why you don't need to

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1 know whether it was hot or cold because whatever it
2 was, it was sufficient enough to cause the fire in
3 the Taylor home?
4 A. Correct. The lightning strike was
5 sufficient to cause a fire in the Taylor home.
6 Q. Do you know how thick the aluminum
7 sheathing on the TechShield is?
8 A. Off the top of my head, I have not measured
9 it. My understanding, I think from the McDowell
10 Owens measurement of it, is .01 millimeters.
11 Q. Do you have any reason to dispute that
12 that's the thickness of the aluminum?
13 A. No, ma'am, I don't.
14 Q. Does that seem like a reasonable
15 measurement? You've seen it. Does it seem like a
16 reasonable measurement of the aluminum?
17 MR. ELLIS: Objection.
18 A. Again, I didn't measure it. I've got no
19 data to tell me what the actual measurement is. So
20 sitting here today, I can't refute that measurement.
21 Q. (By Ms. MacLeod) In determining how the
22 TechShield aluminum is going to react to being
23 energized by lightning, does it matter to you how
24 thick the aluminum is?
25 A. You mean a lightning strike strikes this

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1 material, does it matter to me how thick the aluminum
2 is?
3 Q. Correct.
4 A. No, ma'am. The lightning strike is going
5 to either cause a fire or it's not going to cause a
6 fire.
7 Q. It doesn't matter the characteristics of
8 the building material that it's interacting with?
9 A. The thickness of the aluminum or the
10 characteristics of the building material? No. The
11 lightning is a phenomenon such that the properties of
12 the building material are overwhelmed by the event.
13 Q. Have you ever done an origin and cause
14 investigation in which CSST was involved?
15 A. Yes.
16 Q. Do you know what CSST is?
17 A. Corrugated stainless steel tubing that's
18 used for natural gas piping.
19 Q. Have you investigated more than one project
20 involving CSST?
21 A. I believe so, yes.
22 Q. How long ago was that?
23 A. Five, six years ago. Excuse me. One of
24 them involving CSST happened last year.
25 Q. Last year?

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1 A. Uh-huh.
2 Q. And you were called in to do a cause -- an
3 origin and cause investigation?
4 A. I was consulting in that capacity, yes.
5 Q. Who retained you?
6 A. On the case about five years ago, an
7 attorney representing the homeowner on the case last
8 year, it was a case that LP and the corrugated
9 stainless steel tubing manufacturer were put on
10 notice.
11 Q. So you're there retained by LP?
12 A. In that particular case, yes.
13 Q. And that particular case was the CSST --
14 was there a fire at the home?
15 A. There was.
16 Q. Was the CSST perforated? Did you find a
17 hole in it?
18 A. No.
19 Q. Where was the CSST located in that house?
20 A. Majority in the attic. Of course, the
21 terminations went down to the various appliances.
22 Q. Was McDowell Owens involved in that case?
23 A. They were.
24 Q. Has that case resolved?
25 A. You're calling it a case. Is that project

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1 resolved?
2 Q. Project, yes, sorry.
3 A. Again, I don't know. My understanding was
4 when we were leaving the scene, we were told by
5 McDowell Owens representatives that we would not be
6 hearing from them again. But to tell you whether or
7 not the project's over, only time will tell with that
8 one.
9 Q. Do you recall who the representative from
10 McDowell Owens was?
11 A. Ron Simmons and Nestor Camara.
12 Q. We talked earlier about some testing that
13 LP has done, the ASTM testing and the Intertek
14 testing.
15 A. Okay.
16 Q. Have you personally undertaken any testing
17 of the radiant barrier product?
18 A. No, ma'am.
19 Q. Have you ever been asked to do any testing
20 of the radiant barrier product?
21 A. No, ma'am.
22 Q. Have you specifically been told not to
23 undertake any testing of the TechShield radiant
24 barrier product?
25 A. No, ma'am.

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1 Q. Have you seen any of the testing where
2 electrical energy was applied to TechShield that was
3 conducted by McDowell Owens?
4 A. Have I seen any of the testing? No, I
5 didn't see it firsthand. I've seen video
6 documentation and I've seen photographs.
7 Q. Do you know whether Mark Goodson has
8 undertaken any testing where electrical energy is
9 applied to the TechShield?
10 A. I don't know. Ask Mr. Goodson.
11 Q. Okay. I just wasn't sure if he'd shared it
12 with you. But he hadn't shared anything with you.
13 You're not aware of any testing?
14 A. No, ma'am, I'm not.
15 Q. In the testing that you saw that was
16 undertaken by McDowell Owens, did you have any
17 criticisms of that testing?
18 A. Yes.
19 Q. Will you tell me what they are?
20 A. That it doesn't represent a lightning
21 strike.
22 Q. In fact, it represents energy that's
23 greatly less than a lightning strike, correct?
24 A. Yes.
25 Q. And yet still what you're seeing is that

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1 product being damaged and creating flame, correct?
2 A. At very, very low voltages at long
3 durations, that is what his testing represents. But
4 that's not what occurs during a lightning strike.
5 Q. Have you seen any of his testing where the
6 energy is applied in .2 microseconds?
7 A. I have not seen that testing.
8 Q. If it was possible to ignite the TechShield
9 by putting a current through it at that quick impulse
10 rate, would that change your mind in regard to
11 whether energy from a lightning strike could ignite
12 TechShield?
13 MR. ELLIS: Objection, form.
14 A. Would it change my opinion? No.
15 Q. (By Ms. MacLeod) Is it your opinion that
16 lightning cannot ignite the TechShield radiant
17 barrier?
18 A. That is not my opinion.
19 Q. Is it your opinion that lightning would be
20 capable of igniting the TechShield radiant barrier
21 product?
22 A. Lightning can ignite TechShield.
23 Q. I understand from looking at your report on
24 page 2 -- just for the record, that's Exhibit 50 --
25 that you have stated that it's your opinion that the

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1 fire at the Taylor home was most probably the result
2 of the ignition of building materials within the
3 confines of the attic/ceiling space by an act of
4 nature, a lightning strike, correct?
5 A. That's on page 2?
6 Q. That's on page 1.
7 A. Yes, ma'am, it is.
8 Q. And that on page 2 that you have identified
9 the building materials as asphalt-impregnated
10 fiberglass shingles, i.e., composition, mechanically
11 fastened with nails to the LP TechShield OSB panels,
12 which were secured to wood rafters with nails.
13 You've also identified gypsum board and fiberglass
14 batten insulation in this area as well as plastic
15 baffles, which were Polyvent, to facilitate
16 ventilation of ceiling space, correct? Those are the
17 building materials that you believe were in the area
18 of origin at the time of fire?
19 A. And additionally wood header and wood
20 studs.
21 Is this a good point for a break?
22 Q. If you need one.
23 A. Yeah. The sun is killing me.
24 Q. Yeah, sure. Take a break.
25 THE VIDEOGRAPHER: Going off the

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1 record at 2:36 p.m., ending tape 5.
2 (Recess taken)
3 THE VIDEOGRAPHER: Back on the record
4 at 2:50 p.m., beginning tape 6.
5 Q. (By Ms. MacLeod) Mr. Scardino, do you know
6 what flashover is?
7 A. I do.
8 Q. What is it?
9 A. It's a stage of the fire development in
10 which the -- as the fire develops, it builds a gas
11 layer of combustion products at the top of the room.
12 When the radiant heat from that gas layer is
13 impinging upon every horizontal surface below it and
14 basically simultaneously, it reaches the ignition
15 temperature of all those components in the room, then
16 the room is said to flash over because that all
17 breaks into fire all at the same time.
18 Q. Are you aware of whether in the lightning
19 field there's a term called "flashover"?
20 A. I'm not familiar with a term of "flashover"
21 in the lightning field.
22 Q. Before we stopped we were talking about the
23 materials -- building materials in the area of origin
24 of the Taylor fire. Do you know whether the wood
25 rafters that you mentioned as being included in that

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1 area were treated in any way?
2 A. My understanding is no, they were not
3 treated. They appeared to be standard mill-cut
4 kiln-dried pine.
5 Q. Would it make any difference as to whether
6 they were treated or not in regard to sustaining when
7 attacked by energy from a lightning strike?
8 A. We're just now comparing treated versus
9 untreated lumber? Treated lumber has a higher
10 moisture content, so the treated lumber would be more
11 conductive.
12 Q. What about the OSB? Do you know if it is
13 considered a treated wood?
14 A. To my knowledge, no.
15 Q. Why do you say that?
16 A. Basically my understanding, it's an
17 oriented strand board. Now it uses an exterior grade
18 glue, but to my knowledge it's not treated to -- it's
19 not treated.
20 Q. Okay. Do you know whether a piece of OSB
21 board is more conductive than an untreated piece of
22 wood rafter?
23 And specifically really what I want to
24 know is whether the OSB board that was part of the
25 TechShield would have been more conductive than the

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1 wood rafters that were installed in the Taylor home?
2 A. I don't know.
3 Q. Do you know the age of the wood rafters
4 that were installed in the Taylor home at the time of
5 the fire?
6 A. I believe the plans indicated 2006. So
7 when was the fire, 2011? Four or five years old.
8 Q. Do you know the age of the TechShield that
9 was installed in the Taylor home?
10 A. My apologies. Hold on a second. The house
11 was constructed in 2009. So a couple of years old.
12 Q. And you're basing that on the fact that
13 that wood would be the same age as the age of the
14 house when it was constructed?
15 A. Yes.
16 Q. You didn't do anything to measure the age
17 of the wood rafters in the Taylor home?
18 A. No.
19 Q. Do you know the age of the TechShield that
20 was installed in the Taylor home?
21 A. I believe that information could be found,
22 but I don't know it off the top of my head.
23 Q. Do you think you've had that information at
24 one point?
25 A. I believe it can be gleaned from a

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1 photograph of one of the tags on the TechShield.
2 Q. The date that it was manufactured is
3 actually printed on the TechShield?
4 A. I don't know how to interpret the label,
5 but I've got pictures of the label, and someone with
6 knowledge to decipher what the various numbers mean
7 on it should be able to tell you.
8 Q. Okay. Do you know which ignites more
9 readily, paper or wood rafters, untreated wood
10 rafters?
11 A. Comparing paper to wood. And you want to
12 know which one ignites more readily? Paper.
13 Q. What about comparing paper to the OSB
14 strand board used in TechShield?
15 A. Comparing it to the wood in the TechShield?
16 Paper.
17 Q. Which ignites more readily, the styrofoam
18 vents that were installed in the Taylor home or
19 untreated wood members?
20 A. I don't know. I don't know the combustion
21 characteristics of the vent in the Taylor home.
22 Q. Was that an important piece of information
23 to know when making a determination as to the
24 building materials ignited at the Taylor home?
25 A. The Polyvent shield would not be adversely

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1 affected by the lightning strike because it is
2 nonconductive. So with regards to how it becomes
3 ignited, while it would contribute to the fuel load,
4 it would not be the first fuel that gets ignited.
5 Q. Do you know which ignites more readily, the
6 aluminum foil that's on the TechShield or untreated
7 wood rafters?
8 A. I don't know.
9 Q. If I light a match and hold it up against
10 an untreated piece of wood and at the same time light
11 a match and hold it up to a piece of paper, which is
12 going to ignite first?
13 A. Paper.
14 Q. If I light a match and put it up against a
15 piece of untreated wood rafter and at the same time
16 light a match and put it up against the styrofoam
17 vent that was installed in the Taylor home, which is
18 going to ignite first?
19 A. The vent.
20 Q. If I light a match and I put it up against
21 a piece of untreated rafter and at the same time
22 I light a match and put it up against the aluminum
23 sheathing that is applied to the tech -- that's part
24 of the TechShield product, which is going to ignite
25 first?

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1 A. We're doing a rafter versus the TechShield
2 with a match?
3 Q. Not the TechShield, just the aluminum
4 sheathing that's adhered to the OSB board that makes
5 up a portion of the TechShield.
6 A. I don't know. I haven't done that type of
7 testing before.
8 Q. Does wood conduct electricity?
9 A. It can.
10 Q. Is it your opinion that wood, like an
11 untreated wood rafter, can burn if it gets struck by
12 lightning?
13 A. Yes.
14 Q. Does it get -- does it catch fire in every
15 instance that something like that -- the untreated
16 wood rafter is energized by lightning?
17 A. As we've discussed earlier, the potential
18 is there for it to catch on fire depending upon the
19 circumstances. Whether or not it does, again, the
20 lightning provides the energy and whether or not it
21 ignites, it's dependent upon the conditions.
22 Q. Like what conditions would it be dependent
23 upon?
24 A. The method by which it's installed, the
25 spatial relationship surrounding that wood, whether

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1 or not you have a location where you can get the
2 ignition, glowing combustion, flaming combustion,
3 fire.
4 Q. Would the age of the wood matter?
5 A. It has a bearing on it.
6 Q. Why?
7 A. It has to do with moisture content. The
8 older the piece of wood, they use different processes
9 to treat it previously, meaning how it was kiln
10 dried. Contaminants on the surfaces, those types of
11 things.
12 Q. Does the type of wood matter?
13 A. Denser woods conduct better than softer
14 woods.
15 Q. Do you know whether treated wood is more or
16 less likely to catch fire from an electrical arc than
17 untreated wood?
18 A. While the treated wood has better
19 conductive characteristics, it's also got a higher
20 moisture content, and that moisture has to be driven
21 off before you can get it to ignite. So I would
22 think that the treated lumber may be more difficult
23 to actually ignite.
24 Q. Have you actually done any testing to make
25 that determination, or is that you're just deducing

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1 based on your experience and knowledge and what you
2 know from your years of experience?
3 A. Correct.
4 Q. The latter?
5 A. Correct, the latter.
6 Q. Is it your understanding that a basic
7 principle of electricity is that energy is going to
8 choose the path of least resistance?
9 A. In electricity, the current does flow along
10 the path of least resistance. It doesn't mean that
11 you don't have flow in more high resistive
12 directions. It just means the bulk of the current is
13 going to choose that least resistant path.
14 Q. So if energy is following this well-known
15 principle of first choosing the path of least
16 resistance, is it going to follow a metal before it
17 follows wood?
18 A. Metal being more conductive, yes.
19 Q. If you would turn back to Exhibit 50 --
20 I guess you're still there. And turn to page 1.
21 Under "Assignment."
22 A. Yes.
23 Q. It says that, "ESI personnel visited the
24 incident location." That was you, right?
25 A. That was me.

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1 Q. Did anybody else from ESI attend that
2 inspection?
3 A. No.
4 Q. Nobody else has visited the location
5 besides you --
6 A. That's correct.
7 Q. -- from ESI?
8 A. For ESI.
9 Q. At the time that Mr. Murphy called you and
10 asked you to come do an investigation out at the
11 Taylor home, were you told at that time that you
12 would be discussing the nature and characteristics of
13 lightning or composition and characteristic of the
14 materials in the Taylor home as part of your expert
15 opinion?
16 A. No, ma'am.
17 Q. Do you know when those two items became a
18 part of your assignment for this project?
19 A. What? Determining the origin and cause of
20 the fire?
21 Q. No, discussing the nature and
22 characteristics of lightning and the composition and
23 characteristics of the building materials.
24 A. Well, the aspect associated with the
25 lightning is once the cause determination indicated

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1 it was a lightning strike, then we would be looking
2 at the characteristics of lightning and how it would
3 cause building materials to catch on fire.
4 Q. Did you make that determination that you
5 needed to look at that, or did someone else ask you
6 to look into those issues?
7 A. With regards to the lightning?
8 Q. Uh-huh.
9 A. No, ma'am. I was the one that made the
10 determination about the lightning event.
11 Q. I'm talking about inclusion of all of the
12 lightning language that's located here in the
13 September 28, 2012 report.
14 A. Like which language are you referring to?
15 Q. There's a whole section on lightning, is
16 there not?
17 A. That's my input.
18 Q. And that was your decision to include that
19 information in this report?
20 A. Absolutely.
21 Q. Are you familiar with the fire tetrahedron?
22 A. I am.
23 Q. Can you tell me what that is?
24 A. Basically it starts with the premise of the
25 fire triangle, which is you have to have adequate

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1 heat, fuel source and oxidizer. The oxidizing agent
2 is atmospheric air. The fuel is the first material
3 ignited. The heat source has to be of adequate
4 intensity and duration. The fourth aspect which
5 creates the fire tetrahedron is a continuous chemical
6 reaction, which means it's sustaining and
7 propagating.
8 Q. If any one of these four pieces is taken
9 away, what happens to a fire?
10 A. It either doesn't -- it is not a fire or it
11 does not develop into a fire.
12 Q. Did you see any evidence in the Taylor home
13 of areas where some of the items in the fire
14 tetrahedron were present but not all four were
15 present?
16 A. In numerous locations.
17 Q. Numerous?
18 A. Yes.
19 Q. Are those the areas that we talked about
20 where the localized heat damage --
21 A. Correct. Those areas where the localized
22 heat damage was indicated there was heat, there was
23 fuel present, there was air present but we never had
24 a continuous chemical reaction, so the fire was not
25 self-sustained and there was no fire in those areas.

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1 Q. And in each case it's your opinion that the
2 piece that was missing was the continuous chemical
3 reaction?
4 A. The fuel's there. It's either going to be
5 adequate --
6 Q. What is the fuel in that scenario?
7 A. The construction products.
8 Q. Which were?
9 A. The woods, the TechShield, the Polyvent.
10 Those combustibles are there. Okay? So you have
11 air. So those two things are there. So now you
12 either have an absence of adequate heat -- again,
13 intensity and duration -- or you don't have the
14 continuous reaction.
15 Q. Help me understand a little bit because
16 I just really don't understand what the continuous
17 chemical reaction means. Very briefly, help me
18 understand that.
19 A. I mean, basically a lot of it has to do
20 with heat transfer. If you're conducting heat or
21 dissipating heat faster than you're generating heat,
22 you can't have a continuous reaction. So basically
23 the chemical reaction has to be continuous in order
24 for there to be fire. So if you do not maintain
25 that, it goes out, self extinguished, no fire.

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1 Q. If you were to take one of the legs away
2 like the oxygen -- or I think you called it air?
3 A. Okay. Oxidizer, air.
4 Q. Yeah. That fire would also go out,
5 correct?
6 A. Correct. You can smother a fire and you
7 can put it out.
8 Q. If the fuel source burned away, that too --
9 if that fuel source was gone, that too could be a
10 reason that the fire goes out?
11 A. If the fuel source burns away. So you've
12 totally consumed the fuel?
13 Q. Uh-huh.
14 A. I'm not sure I understand your question.
15 Q. I was just asking: If you remove the fuel
16 source from this fire tetrahedron equation, that,
17 too, is a way to either not have a fire or have the
18 fire go out?
19 A. It's -- the fuel is probably the last thing
20 that you have control over. And normally you don't
21 have a lot of control over ventilation. So the
22 things that you control are the ignition source. And
23 so if you prohibit the ignition source, which has to
24 be of adequate heat and adequate duration to -- from
25 the picture, then you basically don't get the fire.

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1 But the fuels are present. Now, if you burn them
2 completely away, now you're talking total destruction
3 and, of course, it's going to extinguish once you
4 exhaust the fuel.
5 Q. What if you take the heat portion of it
6 away?
7 A. Again, that's the ignition source, so yes,
8 you would not get a fire.
9 Q. Do you know how fast lightning was
10 moving -- the energy from the lightning strike was
11 moving across the TechShield when it energized it in
12 the Taylor home?
13 A. I don't know what that measurement would
14 be.
15 Q. If you'll look at page 3 for me.
16 A. Yes.
17 Q. Under "Observations," in that third
18 paragraph, the first sentence, "Lightning was
19 confirmed as the most probable cause for the fire
20 based upon available STRIKEnet data, see attached
21 Appendix I, and physical evidence at the site which
22 exhibited localized heat (i.e., the chimney, the roof
23 decking, the dryer transition vent, the dryer and the
24 building's electrical system)."
25 When you're talking about the roof

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1 decking, that is the TechShield?
2 A. Yes.
3 Q. All right. If you'll turn to page 4.
4 Under "Discussion" you have two paragraphs in there
5 about the LP OSB oriented strand board, correct?
6 A. Yes.
7 Q. Where did you get the information that
8 you've included in this report about the OSB?
9 A. I believe it was online in online
10 literature that you can download.
11 Q. From LP's website?
12 A. That's correct.
13 Q. Did you review their MSDS sheet prior to
14 reading this report?
15 A. I don't know if I reviewed it prior to
16 preparing the report, but I do have it listed. So
17 yes.
18 Q. I was going to say: If it's in your
19 appendices, is that --
20 A. I didn't see it right away --
21 Q. Yeah, yeah. I was going to say does that
22 give you any clue as to --
23 A. Yes.
24 Q. Does that change anything in regard to
25 where you got this information, or do you still think

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1 you got this information off the LP -- Louisiana
2 Pacific website?
3 A. I think I got it off of the website is my
4 recollection.
5 Q. If you'll turn to that last paragraph on
6 page 4, you're talking about the -- in that paragraph
7 the aluminum sheathing that is attached to the OSB
8 sheathing, correct?
9 A. Correct.
10 Q. And do you recall where you got the
11 information in regard to the aluminum laminate that
12 is on the TechShield product?
13 A. The durable sheet of aluminum is comprised
14 of a polyethylene laminated paper foil which is
15 adhered to the ethylene vinyl acetate copolymer, is
16 that what you're asking about?
17 Q. Yes. I'm just -- that information, I'm
18 asking you where you got that information.
19 A. I believe those materials are in part from
20 the Material Safety Data Sheet and then from
21 information about the product itself.
22 Q. You list the aluminum laminate as a durable
23 sheet. What do you base that statement on that it's
24 a durable sheet of aluminum?
25 A. That's based upon the manufacturer's

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1 information.
2 Q. You haven't done any testing to determine
3 how durable it is?
4 A. No, ma'am.
5 Q. Do you know in that context what "durable"
6 means?
7 A. I do not know.
8 Q. Have you had any discussions with Louisiana
9 Pacific about the vapor vents that they put onto this
10 aluminum laminate?
11 A. The perforations?
12 Q. Uh-huh. They call it -- I mean, I'm
13 looking at your language and it says, "After the foil
14 lamination process takes place, the panel is incised,
15 resulting in small holes called vapor vents"?
16 A. Correct. That's their terminology.
17 Q. Did you ever have any discussion with
18 Louisiana Pacific as to why they include the vapor
19 vents in their products?
20 A. Moisture.
21 Q. Is that something you actually had a
22 conversation with someone at Louisiana Pacific with?
23 A. That conversation has come up, yes.
24 Q. Why were you having that conversation?
25 A. We were talking about the product.

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1 Q. In what regard?
2 A. He was telling me about how the product was
3 made and why it's made in a certain way.
4 Q. Do you know if the other folks that are --
5 other manufacturers that are out there making a
6 product similar to TechShield are using things like
7 the vapor vents in their product, or is that unique
8 to Louisiana Pacific?
9 A. I can't answer that. I don't know.
10 I haven't looked at other people's products.
11 Q. You've included in here that -- in the last
12 sentence that the LP TechShield conforms to
13 ASTM E84-11A, test for surface burning
14 characteristics of building materials. This is the
15 testing that we talked about earlier. Do you know
16 when they did that testing?
17 A. I don't remember.
18 Q. Do you know whether it was before or after
19 the Taylor fire?
20 A. I don't know.
21 Q. If you'll look on the top of page 5 after
22 the word "materials" at the very top, there's UL 723,
23 UBC 8-1 and NFPA 255. Are those standards that apply
24 to the Louisiana Pacific TechShield?
25 A. Are those?

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1 Q. Standards.
2 A. Yes, ma'am. That's how I understand them.
3 UL, which is Underwriters Laboratory. UBC is usually
4 the Uniform Building Code, and the NFPA is the
5 National Fire Protection Association.
6 Q. Do you know what NFPA 755 -- excuse me, 255
7 says?
8 A. Off the top of my head, no.
9 Q. Do you know whether TechShield has
10 undergone any testing by Underwriters Laboratories?
11 A. Basically the way I understand this
12 sentence is that ASTM E48-11A is also UL 723, UBC 8-1
13 and NFPA 255. They're the same document.
14 Q. In the next paragraph you talk about the
15 scientifically supported benefits of radiant
16 barriers. Where did you get that information?
17 A. The -- I want to say it was one of the
18 references. I want to say it was No. 12.
19 Q. That's not something -- I mean, that's some
20 information that you pulled from another source and
21 put in your report?
22 A. Correct. That's the normal thing that
23 people in fire and explosion analysis do.
24 Q. I just want to make sure that it wasn't
25 something that -- tests and things that you've

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1 scientifically proved. It's -- it's included in your
2 report because you found it and thought it was
3 important to your report, correct?
4 A. Correct.
5 Q. In the Taylor fire we didn't just have
6 lightning, did we? We also had lightning -- energy
7 from a lightning strike that interacted with man-made
8 products in the Taylor home, the building materials,
9 correct?
10 A. The lightning struck the structure and it
11 interacted with the structure, yes.
12 Q. And the building materials in that
13 structure?
14 A. Correct.
15 Q. Do you know how frequently lightning occurs
16 in Louisburg, North Carolina?
17 A. In the city of Louisburg, North Carolina?
18 No, ma'am. Some of the references I have give me
19 down to North Carolina but not to Louisburg, North
20 Carolina.
21 Q. And not to a particular county in North
22 Carolina?
23 A. That data may be available, but I didn't
24 have access to it.
25 Q. And what do you mean, "didn't have access

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1 to it"?
2 A. I wasn't -- I didn't find it. So what
3 I found was with regards to the country and with
4 regards to the state but not with regard to specific
5 counties or to specific cities.
6 Q. Is it a fair statement to say that
7 lightning is prevalent throughout the United States?
8 A. Yes.
9 Q. Is it a fair statement to say that in --
10 it's even more prevalent in the southern states of
11 the United States?
12 A. Yes.
13 Q. In the sixth paragraph down under
14 "Lightning" on page 5, you've included information
15 about the electrical current that a negative
16 lightning strike carries?
17 A. Yes.
18 Q. Can you explain to me what it is this is
19 telling us?
20 A. Basically negative lightning carries
21 current, electrical current, between 30,000 to
22 100,000 amps at a million volts of electricity and
23 transfers 15 coulombs of electric charge at
24 500 megajoules. The coulombs is basically a measure
25 of the electrons transferred, and the megajoules is

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1 the total amount of energy. Mega is 10 to the 6, so
2 millions.
3 Q. And why did you include this in your
4 report?
5 A. Basically because the amount of current and
6 voltage associated with a lightning strike is so huge
7 compared to the normal electric systems that we
8 interface with on a daily basis.
9 Q. What are the normal electrical systems'
10 amperage?
11 A. Inside of your house -- now, when you say
12 "amperage," the inside of your house, the receptacle
13 in the wall is on a 120-volt circuit, which could be
14 anywhere from 15 to 20 amps. It depends upon the
15 circuit breaker rating that's protecting it. Light
16 fixtures can be 15 amps. So what you're seeing
17 inside of your home is much smaller. You're talking
18 120 volts versus a million volts. The amperage is
19 going to be much smaller.
20 Basically you determine the amount of
21 amperage if you take 120 volts and you have a
22 1200-watt heater, then you can see how many amps it's
23 actually drawing by dividing the power by the voltage
24 and you end up with the amperage.
25 Q. Would you agree with the statement that if

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1 you can ignite something with 12 volts, that you can
2 ignite something with a million volts?
3 A. No, ma'am. I don't agree with that.
4 Q. Why do you not agree with that?
5 A. Because what you've left out of that
6 equation is the duration. Okay. If you leave a
7 million volts on there forever and you leave 12 volts
8 on there forever, then yes, both of them will ignite.
9 Q. Let's assume that all things equal except
10 for the voltage that's applied. So duration is the
11 same, material is the same. If the material would be
12 subjected to ignition at 12 volts, is that material
13 going to be subject to ignition at a million volts?
14 A. Your parameters are not stagnant like that.
15 It still comes down to the duration. For 12 volts to
16 ignite it at a nanosecond or a microsecond versus
17 a -- that ignition may not happen. Whereas with a
18 lightning bolt, at a nanosecond or a microsecond you
19 get ignition.
20 Q. Well, let's assume for purposes of this
21 hypothetical that we've got the same material, we've
22 got the same duration, energy being applied for a
23 microsecond to both and in one we're applying
24 12 volts and in one we're applying a million volts.
25 If that material will ignite when you apply 12 volts,

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1 isn't it true that that material will ignite if you
2 apply a million volts?
3 A. I don't see the correlation. I don't see
4 how that happen -- how you get there on that.
5 Q. So what's confusing to you? Because
6 everything is the same except for the amount of
7 voltage that you're applying to the material.
8 MR. ELLIS: Objection, form.
9 A. I mean, the fact of the matter is I don't
10 see them as all being the same. How --
11 Q. Can you --
12 A. -- something --
13 Q. Can --
14 A. Go ahead.
15 Q. I'm sorry, I didn't mean to interrupt you.
16 You want to finish what your thought was?
17 A. No, ma'am.
18 Q. So can you picture a scenario where --
19 I mean, what are the factors that we need to be
20 considering? The amount of voltage and the duration
21 and the material. What else do we need to be
22 considering in this hypothetical that I'm trying to
23 establish?
24 A. The time.
25 Q. Isn't that duration?

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1 A. Yes.
2 Q. Okay. So we've got the same material being
3 subjected to two different amounts of voltage for the
4 same amount of time. Okay. So I'm applying a
5 million volts for one microsecond. I'm applying
6 12 volts for one microsecond to the same material.
7 If the material ignites when I apply 12 volts for one
8 microsecond, isn't it going to ignite when I apply a
9 million volts for one microsecond?
10 A. No. It's not necessary --
11 Q. Tell me why.
12 A. Because the magnitude of the voltage and
13 the amperage -- you're not taking into account the
14 amperage that's also associated therewith -- can
15 cause what we're seeing on -- the evidence at this
16 scene is the ablation basically destroying the
17 aluminum around that location. So no, it didn't
18 ignite. The material is gone and it's no longer
19 conducting through there, so you no longer have the
20 heat generation.
21 Q. Interesting. Okay. Do you know what
22 happens to the metal as it ablates?
23 A. Vaporizes.
24 Q. Is there any -- do you know what spatter
25 is?

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1 A. I do.
2 Q. Do you know whether -- in the process of
3 ablation whether there is any spatter?
4 A. There could be.
5 Q. And what is spatter?
6 A. Basically globules of the material that's
7 been ablated.
8 Q. And if it's aluminum, it's going to be
9 globules of molten aluminum, correct?
10 A. Probably on the microscopic level.
11 Q. But yes, that's why it's going to be --
12 spatter is -- aluminum spatter is going to be
13 globules of molten aluminum, correct?
14 A. Correct, which then immediately begin
15 cooling.
16 Q. Can you tell me what the cooling process is
17 and how quickly aluminum spatter cools?
18 A. It's a transient calculation, which I can
19 do, and I do have the thermal properties of aluminum
20 in various sources that I can get and it is fractions
21 of a second. But it is all dependent upon the
22 diameter of the sphere created.
23 Q. Of the spatter itself?
24 A. That's correct. The smaller the particle,
25 the faster that cooling takes place.

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1 Q. Do you know at what voltage ablation of
2 aluminum occurs?
3 A. I don't.
4 Q. Let's assume for my hypothetical that
5 ablation of aluminum must be larger than 1 million
6 volts. Okay?
7 A. And at what amps?
8 Q. Whatever the amperage is, it's going to be
9 the same in both scenarios. Okay? So we've got a
10 duration that's the same, an amperage that's the
11 same, a material that's the same and we know for this
12 hypothetical that ablation does not occur in an
13 aluminum product unless it's greater than a million
14 volts and we apply 12 volts and we apply
15 1 million volts. If the product -- if that aluminum
16 ignites at 12 volts, is it going to ignite at a
17 million volts?
18 A. I would have to do further analysis and
19 research to answer that question effectively.
20 Q. So as you sit here today, you don't know
21 the answer to that question?
22 A. No, ma'am, I can't answer that question.
23 Q. Okay.
24 A. How it's phrased and looking at all the
25 nuances, I can't answer that right now.

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1 Q. Do you know whether intra-cloud lightning
2 is more likely to be a positive or a negative flash?
3 A. With regards to inter-cloud?
4 Q. Intra-cloud.
5 A. Intra-cloud. I don't know whether or not
6 it's more prone to be positive or negative.
7 Q. In cloud-to-ground lightning flashes, once
8 a charged leader is coming from the cloud towards the
9 ground, do you know whether that leader actually hits
10 the ground?
11 A. The leader?
12 Q. Uh-huh, that's coming from the cloud
13 towards the ground.
14 A. No, ma'am, it does not.
15 Q. It does not. What happens?
16 A. An upward moving -- oh, I'm trying to think
17 of the word right now. My apologies. My mind's
18 blank. I don't remember what it's called.
19 Q. There's a word that describes a process
20 where --
21 A. Yes, ma'am. The downward leader and you
22 have an upward moving streamer -- thank you --
23 contacts the leader and makes the connection.
24 Q. Do you know at what height that happens?
25 A. Since the leader moves through the

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1 atmosphere at about 164-foot intervals, at about
2 164 feet from the location of attachment, that's
3 where the upward streamer connects.
4 Q. Well, you've mentioned 164 segments. Is it
5 your understanding based upon what you know about
6 lightning that the 164 segments is the way that
7 lightning usually behaves, traveling in those
8 segments?
9 A. Correct. As it moves down towards the
10 atmosphere, it is only -- it's going in these steps,
11 these leaders of that approximate distance.
12 Q. And is that a predictable behavior for the
13 way lightning travels from the cloud to the ground?
14 A. Based upon the literature I've reviewed,
15 yes.
16 Q. Are there any other predictable behaviors
17 that lightning has?
18 A. In regard to what? I mean --
19 Q. Just the way it behaves. Let's say, for
20 instance, is frequency a predictable behavior?
21 A. Frequency as in how often it strikes or
22 frequency -- what are you referring to?
23 Q. What else could it refer to other than how
24 often it strikes?
25 A. Okay. If it's how often it strikes, I

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1 don't think that they predict how often it strikes,
2 no.
3 Q. So strike frequency is not a predictable
4 behavior?
5 A. No. They -- they -- basically the strike
6 occurs and they record the number of times that that
7 strike took place. But, you know, your question was
8 predictable behaviors, and the predictable behaviors
9 of lightning are outlined in the report in that once
10 the streamer attaches to the leader, then you have
11 the return stroke. Then that channel is open and you
12 can have additional leaders coming down through that
13 established channel or you could have a situation
14 where you have continuous flow. So those aspects are
15 predictable. But I'm not quite sure -- you're
16 asking -- you can predict how many times the
17 lightning is going to strike. I don't think that's
18 predictable.
19 Q. Are there folks out there that are
20 gathering data on average flash densities?
21 A. Yes. Vaisala actually does that type of
22 analysis. They publish a map, if you will, showing
23 that -- and that's based upon their statistical
24 analysis.
25 Q. Is average flash density different than

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1 frequency?
2 A. Yes.
3 Q. How?
4 A. Okay. Density is you take the total
5 number, divide by the area -- so basically you're
6 taking that number and saying, okay, over this many
7 square miles, this is how -- how many lightning
8 strikes you get. It's not predicting how many
9 lightning strikes occur in that area. It's just a
10 way of averaging it so they can create
11 this drawing --
12 Q. Averaging how many times it's going to
13 happen in a particular area?
14 MR. ELLIS: Objection, form.
15 A. No, ma'am. They take the data that's
16 already happened --
17 Q. Right.
18 A. -- and then they basically look at that
19 data and they say -- which map is that?
20 Q. I'm sorry. It's E19, which is Exhibit 60.
21 A. Okay. I don't think we have it yet.
22 Q. Yeah, you do. It's the big one that had
23 all the photographs and everything. I think it's --
24 A. There it is.
25 Q. It was too close to you.

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1 A. Right. Basically what it's looking at is
2 flash per square mile per year. So not only are they
3 averaging over the square mile, they're averaging it
4 over the number of years that they've been conducting
5 this analysis. It doesn't have anything to do with
6 the frequency. That's just -- they're saying that's
7 the average flash density.
8 Q. And it's not any prediction for what they
9 expect to see in the future?
10 A. No. It's saying this is what we've seen
11 happen in this area. I don't see it as a prediction
12 per se. It's just a map showing -- this is over time
13 over this many square miles based upon the total
14 number of flashes that we get. Over the time we've
15 been studying it, this is what we're seeing.
16 Q. So it's your opinion that frequency of
17 lightning strikes across the United States is not a
18 predictable behavior?
19 A. Correct. You can't determine the number of
20 lightning strikes you're going to get at any specific
21 location, no.
22 Q. Is it your opinion that in areas where
23 there are more incidents of lightning, that there
24 should be more protective measures implemented in
25 those locations?

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1 A. With regards to protection measures from
2 what?
3 Q. From lightning strikes.
4 A. No, ma'am. I mean, basically a lightning
5 strikes the structure, you have the potential for a
6 fire.
7 Q. But if you're building a structure in a
8 known area -- or in an area that is known to have a
9 large number of lightning strikes, more than, say,
10 another area across the country, does it make sense
11 that the area that experiences more lightning strikes
12 ought to have more protective measures in place to
13 protect against lightning strikes?
14 A. Basic -- I'm not quite sure I follow your
15 question because there's buildings built of all
16 different types of materials in areas that are more
17 prone to lightning strikes than other areas of the
18 United States, like the south versus the north. I'm
19 not sure what you're asking with regards to
20 protection. The protection is determined by the
21 building owner and the building designer.
22 Q. So you're confused as to who ought to be
23 implementing the --
24 A. I mean, I'm not saying there should be or
25 shouldn't be any more protection, but what you're

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1 asking doesn't make any sense to me.
2 Q. Okay. Let me see if I can try it again.
3 So we've already determined through your testimony
4 and through other evidence that we've seen that there
5 are more lightning strikes in the south -- southern
6 United States than in the northern United States?
7 A. Okay.
8 Q. Should there be greater protection
9 implemented in southern states to protect against
10 lightning strikes?
11 MR. ELLIS: Objection.
12 A. I still don't understand your question.
13 I mean, who are you saying implements this?
14 Q. (By Ms. MacLeod) Okay. So -- okay. Should
15 there be codes that are implemented to provide for
16 greater protection against lightning strikes in areas
17 where it is known that there are more lightning
18 strikes?
19 MR. ELLIS: Objection.
20 A. I haven't analyzed the codes to determine
21 what protection requirements are necessitated now or
22 in the future. I'm not sure I'm the person to answer
23 your question. I can't understand why you're asking
24 me that question.
25 Q. (By Ms. MacLeod) Okay. I just wanted to

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1 know whether you thought if there is an area that has
2 more incidents of lightning, whether there should be
3 greater protection against lightning strikes in those
4 areas?
5 A. That's the choice of the building owner or
6 the homeowner. That's their prerogative whether they
7 want to or not want to do some additional protection.
8 That's their choice.
9 Q. Well, let me ask you this. We've been
10 talking about lightning for a while, and I think
11 we're in agreement -- or would you agree that
12 lightning is a highly destructive force?
13 A. Lightning is a highly destructive force,
14 yes.
15 Q. And that's not a secret. That's a
16 well-known fact, correct?
17 A. It's well known and well recognized, yes.
18 Q. And it has been well known and well
19 recognized for a long time, correct?
20 A. Correct.
21 Q. In fact, because it is well known and
22 recognized, things can actually be done to mitigate
23 the effects of lightning, correct?
24 A. I mean, your analogy that you're doing
25 is -- let me go back to this way. Tornadoes are

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1 known to occur in the United States. It's a
2 well-known fact, tornadoes hit houses. That's a well
3 known fact. So basically can a house withstand the
4 serious magnitude of the tornado? No.
5 Okay. While they've designed for a
6 hurricane, they don't design a house to withstand a
7 tornado. The tornado by magnitude -- let's compare
8 it to a 3-mile-an-hour wind and you take a tornado
9 and you say 300-mile-an-hour wind, that's only a
10 factor of a hundred.
11 Okay. Now, this is a factor of a
12 million volts. It's such a large, unique phenomenon
13 that, you know, designing to it is impractical.
14 Q. So is it your testimony that there are no
15 building requirements that have been implemented to
16 protect against significant winds of tornadoes?
17 MR. ELLIS: Objection.
18 A. The structure does not withstand -- they
19 have increased the strength of the structure, but if
20 a tornado hits that structure, chances are there is
21 going to be damage to that structure. You've seen it
22 in high-rise buildings in various cities throughout
23 the United States. You've seen total destruction of
24 neighborhoods caused by tornadoes.
25 Q. I guess my question to you was: Are there

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1 things we can do to mitigate the effects of
2 lightning?
3 A. I mean, again, that was not in any way
4 associated with what my task was for this particular
5 case. You're asking a question that basically would
6 require substantial amount more research, input,
7 consultation with other people throughout the -- I
8 can't answer that question.
9 Q. Okay. That's fine. Is there anything to
10 suggest that we had an upward discharge at the Taylor
11 house?
12 A. Not to my knowledge.
13 Q. You want to take a five-minute break?
14 THE VIDEOGRAPHER: Going off the
15 record at 3:49 p.m., ending tape 6.
16 (Recess taken)
17 THE VIDEOGRAPHER: Back on the record
18 at 4:08 p.m., beginning tape 7.
19 Q. (By Ms. MacLeod) Mr. Scardino, earlier
20 today we talked about the fire department report that
21 you reviewed in regard to the Taylor fire.
22 A. Yes.
23 Q. And in that report there is commentary and
24 other types of information regarding the report --
25 the fire and what happened, correct?

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1 A. Correct.

2 Q. Did you rely on any of the findings or

3 remarks in the Franklin County Fire Department

4 incident report in arriving at any of the opinions

5 that you offer in your report dated September 28,

6 2012?

7 A. I did not rely upon the information in that

8 report to form the basis of my opinions. However,

9 I found it interesting that it corroborated my

10 conclusion that lightning caused the fire.

11 Q. Why is that interesting?

12 A. I came to the same conclusion.

13 Q. Do you know what type of investigation the

14 Franklin County Fire Department undertook in arriving

15 at its conclusions and providing the remarks that it

16 did in the incident report?

17 A. I do not.

18 Q. Do you know whether the individual that

19 wrote this report was trained in investigating the

20 cause and origin of fires?

21 A. I do not.

22 Q. Have you had any discussion with the

23 individual that wrote this report in how that

24 individual arrived at the remarks that were made in

25 the Franklin County Fire Department incident report?

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1 A. I have not.

2 Q. Do you know how long OSB -- the traditional

3 OSB, not the TechShield -- has been used as a part of

4 the roofing structure in homes in the United States?

5 A. No, I do not.

6 Q. Do you know how long TechShield has been on

7 the market?

8 A. I don't. Those would be better questions

9 for the manufacturer.

10 Q. In the 30 years that you've been

11 investigating origin and cause of fires, has OSB been

12 used as a part of the roofing structure in homes?

13 A. Throughout the totality of the 30 years,

14 not to my recollection.

15 Q. Okay. So you think that when you initially

16 started investigating fires, that you don't know

17 whether OSB was used as part of the roofing

18 structure?

19 A. In the area where I was conducting, I was

20 not -- at the time I started, I was not familiar with

21 structures utilizing oriented strand board. They

22 were still utilizing wood boards or plywood.

23 Q. Do you have any information with regard to

24 how long after TechShield was introduced into the

25 market that manufacturers started receiving reports

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1 of fires in the course -- during the course of

2 lightning activity?

3 A. I don't have that kind of information.

4 Q. Do you have any opinion as to whether

5 TechShield, when installed in the roof structure of a

6 home, attracts lightning?

7 A. Say that again.

8 Q. Do you have an opinion as to whether

9 TechShield, when installed in the roof structure of a

10 home, attracts lightning?

11 A. Yes, I do have an opinion.

12 Q. Will you tell me what that opinion is?

13 A. It does not.

14 Q. What is the basis for that opinion?

15 A. The basis of that opinion is it's fairly

16 simple comparison. We have buildings on traditional

17 wood frame construction that have metal roofs on

18 them. So that roof may be made out of steel, but

19 it's still metal. And there is no evidence to

20 suggest that those buildings are more prone to

21 lightning strikes. I have seen no evidence to that

22 effect. Nor have I seen any evidence to suggest that

23 because a building has radiant -- or TechShield or a

24 radiant barrier that it's more prone to a lightning

25 strike.

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1 I've been to neighborhoods which are

2 full of homes with radiant barrier equipped homes and

3 a single house is affected, not all the houses are

4 affected. Again, that does not indicate that it's

5 attracting the lightning. I have seen numerous

6 instances where houses that don't have radiant

7 barrier sheathing get struck by lightning. So to

8 infer that the metal attracts lightning, then it

9 shouldn't be striking the homes that don't have it,

10 that makes no sense.

11 Q. Are there any homes out there that exist

12 that don't have metal in them?

13 A. All homes have metal in them unless you're

14 using plastic studs or plastic nails, I guess. I

15 don't know how you would build the homes. Normally

16 most homes have some type of metal in them, whether

17 it's from hurricane straps to nails to methods of

18 securing things with either screws -- most of that is

19 metal.

20 Q. If you're comparing a roof with the

21 traditional OSB with no aluminum laminate on it and a

22 roof with TechShield with aluminum laminate, do you

23 have an opinion as to which of those two products

24 would better conduct energy from lightning?

25 A. Which of those two products would -- well,

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1 because of the presence of metal, then the one with
2 metal has the ability to conduct lightning
3 electricity better.
4 Q. You're familiar with NFPA 921, correct?
5 A. I am.
6 Q. Are you familiar with the portion of
7 NFPA 921 that discusses the competence of an arcing
8 event to ignite combustible materials?
9 A. I believe that I'm familiar with that. I
10 don't know if it's termed exactly as you phrased it,
11 but yeah, I'm familiar with the electrical section of
12 NFPA 921, the artifacts that it creates and its
13 viability as a potential ignition source.
14 Q. All right. If you'll -- I'm going to
15 direct your attention to NFPA 921 8.9.4.1.
16 A. Okay. Do you have it?
17 Q. I do not have it. Honestly, I was
18 expecting --
19 A. You can direct my attention to it but I
20 cannot --
21 Q. Yeah. I'm going to read it to you and
22 if --
23 A. It's a rather large document, and
24 committing it all to memory is definitely something I
25 have not done.

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1 Q. Yeah, yeah, yeah. No, I'm not asking you
2 that. I'm going to read you the portion that I'm
3 talking about.
4 A. Okay.
5 Q. Okay.
6 A. And I'm assuming it's accurate, it's --
7 everything you're going to read is -- I can't verify
8 that.
9 Q. Yeah. And I apologize. I wish I had
10 brought a copy, but I thought you were bringing your
11 NFPA documents. Sorry about that.
12 Okay. So NFPA 291 8.9.4.1, it
13 discusses arcs in general. And the portion that I
14 want to direct your attention to says, "In spite of
15 the very high temperatures in an arc path, arcs may
16 not be competent ignition sources for many fuels. In
17 most cases, the arcing is so brief and localized that
18 solid fuels such as wood structural members cannot be
19 ignited. Fuels with high surface-area-to-mass-ratio,
20 such as cotton batting, tissue paper and combustible
21 gases and vapors, may be ignited when in contact with
22 the arc."
23 That's the end of the section that I
24 want to read you. Is that something that is familiar
25 to you that you feel like you've had the opportunity

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1 to read before?
2 A. Yes.
3 Q. Are you aware of any paper-backed
4 insulation or paper that would have been in the area
5 of origin?
6 A. There is paper-backed insulation, but the
7 paper backing is down against the gypsum board
8 ceiling and then covered by the fibrous glass batten
9 material. So it would -- and since it's stapled to
10 the bottom of the rafter, it would not be in a viable
11 location to become ignited.
12 Q. And "it," you're talking about the gypsum
13 board, or were you talking about the insulation is
14 actually stapled?
15 A. The insulation is stapled. The gypsum
16 board is nailed. The insulation is stapled via its
17 craft backing, the paper backing, to the underside of
18 the wood rafters. Then the gypsum board is installed
19 on top of the insulation.
20 Q. With the paper backing --
21 A. Excuse me. Reverse that. On the bottom,
22 since it's the ceiling.
23 Q. Okay. Any other paper in the area of
24 origin?
25 A. The other paper would be the -- again, it

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1 would be the craft backing on the back of the
2 insulation inside of the upper portion of that
3 partition wall, and then you would have the paper
4 associated with the TechShield.
5 Q. Would the styrofoam venting be considered a
6 highly combustible material?
7 A. I don't know if it would be considered a
8 highly combustible material. It would be a
9 combustible material. But "highly combustible" is
10 usually inferring finely divided particles, airborne
11 gases and vapors.
12 Q. I am going to read a different section.
13 It's NFPA 291 8.9.5 and --
14 A. Again, the same provisions we talked about
15 earlier, we don't have it in front of us. Go ahead.
16 Q. Right. And so I know you don't have it
17 memorized to be able to tell me. I didn't ask you if
18 it was -- did I read it right. But in general, it
19 has to do with sparks.
20 A. Sparks?
21 Q. Sparks.
22 A. Okay.
23 Q. "Sparks are luminous particles that can be
24 formed when an arc melts metal and spatters the
25 particles away from the point of arcing. The term

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1 'spark' has commonly been used for a high voltage
2 discharge as with the spark plug in an engine. For
3 purposes of electrical fire investigation, the term
4 'spark' is reserved for particles thrown out by arcs,
5 whereas an arc is a luminous electrical discharge
6 across a gap."
7 Is it your understanding -- well,
8 first let me ask you: Is this a provision of
9 NFPA 921 that you've ever come across before?
10 A. It sounds familiar, yes.
11 Q. Okay. Is it your understanding that a
12 spark is separate from an arc?
13 A. You could have mechanical sparks, and you
14 could have electrical sparks. The spark associated
15 with electricity is generated during electrical
16 arcing, which is the spark becomes the particle that
17 is actually thrown off.
18 With regards to mechanical sparks,
19 basically chopping of concrete floors with a metal
20 tool or hitting steel on steel can create a
21 mechanical ember or glowing particle that may be
22 incandescent.
23 Q. Is it your understanding that a spark
24 provides additional -- an additional energy source
25 that can potentially heat and ignite a combustible

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1 material or a fuel like paper or styrofoam?
2 A. And, again, it deals with the size of the
3 particle contained therein and the rate at which it
4 cools.
5 Q. So does that mean yes, that there is
6 potential that that could happen?
7 A. Maybe. I mean, the particle size may be
8 too small where it cools instantaneously. Again,
9 it's all dependent upon the particle size, the
10 distance to the combustible material and whether or
11 not -- and how that material reacts to a radiative
12 type heat source.
13 Q. Do you know how far the styrofoam venting
14 was from the radiant barrier?
15 A. Based upon my understanding of the
16 construction, you have a 2 by 10, which has nominal
17 dimensions of an inch and a half by 9 and a quarter.
18 You have 8 and a quarter inches of R30 fiberglass
19 insulation. So that leaves me about an inch left.
20 Q. But -- sorry, that was a lot of
21 information. Between the TechShield aluminum
22 laminate and the pink styrofoam venting is about an
23 inch?
24 A. It's from zero to an inch.
25 Q. But as I understand your answer, if the

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1 spark is large enough, then it is -- will serve as a
2 potential heat source that can ignite a combustible
3 material in the area?
4 A. Correct. And we would have to see how that
5 material reacts to that spark and what temperature
6 that spark might be at.
7 Q. Do you have any opinion as to which would
8 ignite more readily from a spark, paper or untreated
9 wood rafter?
10 A. Again, that's a subjective question, but
11 again, paper, being thinner, has the greater
12 likelihood of being ignited by various types of heat
13 sources.
14 Q. So something that's thinner is more easily
15 ignited?
16 A. In most cases that is directly related to
17 the mass of the object, so yes.
18 Q. We started talking earlier about criticisms
19 that you had of the various experts that have been
20 retained by plaintiffs in this case.
21 A. Did we start talking about that earlier?
22 Q. We did. We talked about the criticism --
23 well, and actually, maybe it wasn't the reports. It
24 was just criticism of the plaintiffs' experts and you
25 were criticizing McDowell Owens' testing because of

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1 the duration in which electrical energy was applied
2 to the TechShield, if I recall your testimony
3 correctly.
4 Do you have any other criticisms of
5 the testing that you have had the opportunity to see
6 that was done by McDowell Owens?
7 A. The other criticism I would have, again,
8 would be the fact that the testing does not reflect
9 the as-installed condition at this particular site.
10 Q. What do you mean by that?
11 A. It does not try to replicate the
12 configuration, the spacing of the studs, the
13 materials that were involved, how it's assembled, the
14 gypsum board enclosure. It does not try to replicate
15 that. It doesn't try to replicate lightning.
16 Q. Are you aware of any testing facility that
17 is able to replicate lightning?
18 A. I haven't conducted a search for that, no.
19 I understand that they do testing in Florida with
20 regards to lightning. The specifics of that testing,
21 I don't know, but that might be one location you
22 could look.
23 Q. So is part of the criticism of running the
24 test that is set up similar to the way the Taylor
25 home was set up, is part of the criticism the gravity

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1 of the test in the sense of the directional forces if
2 something were to happen, if there were to be spatter
3 or sparking the way the testing was set up, they
4 would be pulled back down towards the TechShield?
5 No?
6 A. You've lost me with regards to that.
7 Q. Okay.
8 A. I mean, it doesn't in any way try to
9 replicate what was in existence at this particular
10 residence to see how those materials interact.
11 Q. Okay. Other than what we just talked about
12 and the duration issue that we talked about earlier,
13 any other criticism of the testing that's been done
14 by McDowell Owens?
15 A. I'm sure I would have other criticisms if
16 you ask me a specific question, but you know, just to
17 arbitrarily say, Okay, I have this criticism about
18 it, none come to mind right now.
19 Q. Have you had an opportunity to read Ron
20 Simmons' supplemental report?
21 A. Yes.
22 Q. Did you have any criticisms of anything in
23 his supplemental report?
24 A. I don't agree with his findings.
25 Q. Anything more specific than that?

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1 A. I mean, again, we'd need to go through the
2 report line by line if we have to. I don't -- I
3 recall reviewing it. I recall reviewing his first
4 report. I looked at what he's trying to present as
5 evidence, and some of it appears to be idle
6 speculation and conjecture with regards to -- and
7 again, I don't remember if it's in his report or if
8 it's in an article of his, but where he makes
9 inference to an increasing amount of lightning taking
10 place. There's no data to support that.
11 The reliance upon a fire chief in some
12 arbitrary city or county of Texas as valid proof of
13 anything doesn't even come up to the level of
14 necessary reliability to utilize it in the formation
15 of an opinion or even a speculation.
16 Other criticisms? He sees sooting,
17 and I was there. I looked at the panels. I compared
18 it to the scorching that I saw on the dryer and
19 scorching that I saw on the dryer insert. And
20 comparing it at the scene, looking at it firsthand
21 while it was there, it appeared to be scorching to
22 me. Based upon my years of experience, I did not see
23 evidence of sooting there.
24 And then when I got Mr. McGraw's
25 report, I read Mr. McGraw's report and it indicated

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1 scorching. So I was confident that that was
2 scorching. So those are some of the things that
3 I disagree with Mr. Simmons on.
4 With regards to whether or not he is
5 replicating the testing necessary to assess
6 lightning, I will defer that to Mr. Goodson to answer
7 those questions more specifically.
8 Q. And if I understood your testimony from
9 before earlier, you haven't done any testing to
10 determine whether it was sooting?
11 A. And the way I was trying to answer you
12 before, I thought you were asking me definitively to
13 say, oh, is that sooting or scorching. And I was
14 like, well, definitively the only way to do it would
15 be to do further analysis, to do some type of
16 testing, whether it be swabbing, whether it be
17 metallurgical evaluation. I don't know. That's the
18 only definitive way I know of.
19 But relying upon the tools of the
20 trade and years of experience, that appeared to be
21 scorching, not sooting.
22 Q. Okay. So are you changing your testimony
23 that it's something that you can observe with the
24 naked eye?
25 MR. ELLIS: Objection.

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1 A. By comparison with other evidence, yes, I
2 believe you can observe it and assess it in the field
3 based -- with the eye with, you know, camera zoom
4 ability and so on.
5 Q. (By Ms. MacLeod) And you took photographs,
6 so I'll be able to see the photos in the --
7 A. Yes, ma'am. My photographs are -- by
8 comparing my photographs to Mr. McGraw's photographs,
9 I found it interesting as well that they're
10 substantially similar in what was covered and what
11 was documented.
12 Q. So did I also understand that you feel that
13 your position that this was scorching and not sooting
14 is supported by Rob McGraw's report that identifies
15 it as scorching?
16 A. Correct. He also identifies it on numerous
17 occasions in his report as scorching.
18 Q. Have you reviewed his deposition testimony?
19 A. No, ma'am, I have not.
20 Q. Obviously you've had a chance to read
21 Mr. McGraw's report?
22 A. And his supplemental, yes.
23 Q. Do you have any criticisms of either of
24 those reports that he's submitted?
25 A. Nothing comes to mind right now but if --

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1 again, if we went through it line by line --
2 Q. You might find something?
3 A. -- I might find something I would talk
4 about.
5 Q. And I'm just really asking you if, you
6 know, something stuck in your mind as a criticism.
7 I mean, obviously there were things with Mr. Simmons
8 that did, but nothing like that that sticks out to
9 you about --
10 A. No. I mean, like I said, I agree with him
11 with regards to the fact that there was scorching.
12 I agree with him that there was a lightning strike.
13 I agree with him, plus or minus probably a couple of
14 inches, where the area of origin is. So I don't
15 recall anything in Mr. McGraw's report that I would
16 have substantial criticisms with.
17 Q. Did you have an opportunity to read Tom
18 Eager's report?
19 A. Briefly. I looked it over. I wasn't quite
20 sure what all he was saying, and I didn't have enough
21 time to digest everything he said in his thing to
22 critique it properly. So I would probably have
23 criticisms about it later or, you know, agreements
24 with it if there's something agreeable in there. But
25 right now I don't know.

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1 Q. Well, if that happens, will you notify your
2 counsel so that he can provide me with that
3 information of criticisms that you have with
4 Dr. Eager's report?
5 A. Okay.
6 MR. ELLIS: Whether or not we'll
7 comply with a request like that, I have no idea at
8 this point.
9 MS. MacLEOD: Well, we can always
10 leave this deposition open if we want to.
11 MR. ELLIS: You got your shot today
12 and that's it.
13 Q. (By Ms. MacLeod) If you will turn to
14 Exhibit 60.
15 A. Okay.
16 Q. You have attached as E1 the Hurricane Irene
17 Forecast Map. Why did you attach those to your
18 report?
19 A. Basically it is reflecting weather
20 conditions surrounding the incident structure before
21 and during and after the event. And so basically
22 there is severe weather in the area in the form of
23 Hurricane Irene.
24 Q. And did you do this research so that you
25 could better determine whether, in fact, lightning

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1 was in the area?
2 A. Correct. I mean, again, this is a
3 situation wherein we do not have a person who
4 definitively said yes, lightning struck my home. So
5 I was looking to see whether or not lightning, first
6 of all, indeed, did have the potential to strike the
7 home from weather reports, and that's what the
8 purpose was.
9 Q. Would that be true for E2?
10 A. Yes, ma'am.
11 Q. And then for E3, E4, E5, can you help me
12 understand why you included --
13 A. Establishing the location of where the
14 incident took place and, you know, you do that with
15 maps and then if, for example, they were to send me
16 back a lightning strike report and it's got the wrong
17 location, then I would know where it is. So
18 basically I'm establishing where this thing is
19 located.
20 Q. You mean the Taylor structure?
21 A. Yes, ma'am, the house, the site.
22 Q. And then in regard to the photographs at E6
23 and E7 that are aerial photographs depicting location
24 of the subject residential structure, again, that's
25 just providing a reference as to the location for the

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1 structure?
2 A. Right. But E7 also -- while E6 gives you a
3 location with some coordinates, E7 is basically the
4 only view that shows me the roof is still intact.
5 While it may be a blurry picture, that's what I get.
6 Q. And this was a picture of the Taylor house
7 from September 28, 2009?
8 A. That's what the image from Google Earth
9 says, yes.
10 Q. Okay. The images E8, E9 and E10, why did
11 you include these images?
12 A. Again, it's referring to the weather data
13 that was there. One is -- E8 is 9:00 a.m. E9 is at
14 4:00 p.m., and E10 is at 9:00 p.m. So basically
15 before, just prior to and after the fire was
16 discovered.
17 Q. So it's showing the progression of the
18 storm on the day of -- on August 29th?
19 A. Yes.
20 Q. And, again, did you use this in formulating
21 your opinion that lightning struck the Taylor home?
22 A. Correct. There was severe weather in
23 Franklin County, which is where the home was located.
24 (Exhibit 62 marked)
25 Q. (By Ms. MacLeod) I just handed you what

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1 we've marked as Exhibit 62. It's the Vaisala, Inc.
2 STRIKENet Report for August 29, 2011 that you
3 obtained in this case, correct?
4 A. Correct.
5 Q. Is this, getting a STRIKENet report from
6 Vaisala, something that you typically do in a case?
7 A. Either I do it or I have an associate get
8 it for me. But yes, I typically do that on all fire
9 origin and cause analysis because natural causes for
10 fires have to be considered and eliminated or
11 confirmed with regards to determining the origin of
12 the fire. I could actually have a fire caused either
13 accidentally or deliberately and I need to know
14 whether or not lightning could apply.
15 Q. Have you ever worked for Vaisala?
16 A. No.
17 Q. And do you know whether this company has a
18 reputation for providing accurate weather
19 information?
20 A. My understanding is yes, it was a group
21 I typically utilize. I understand Mr. McGraw
22 utilized the same entity and another. So I would say
23 yes, this is something that fire analysis people
24 typically consider.
25 Q. And what was the search period time frame

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1 that you used?
2 A. I used from August the 29th, 12:00 a.m. to
3 August the 29th, 11:59. So all of August 29th.
4 Q. And is that typically what you do?
5 A. Yes, typically.
6 Q. Was there any reason for choosing that time
7 frame?
8 A. Again, if I had a more definitive time to
9 start with, then I might. But normally I do it for
10 the entire day. If you're close to midnight, then I
11 would go part of the day before. So, you know, it
12 just depends when the event occurred. But the full
13 day is fine.
14 Q. And you used the Taylors' address as the
15 location for the STRIKENet information?
16 A. Correct.
17 Q. And the information that is provided in
18 here includes a search radius of 5 miles around the
19 Taylor home?
20 A. Correct.
21 Q. And within that 5-mile radius, this is
22 telling us that there were 399 strikes?
23 A. Within the 5-mile radius, 399.
24 Q. And do you know how the data that is used
25 in the STRIKENet reports is collected?

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1 A. My understanding is rudimentary in that
2 they have detectors or sensors throughout the United
3 States, and when a lightning strike cloud to ground
4 occurs, they detect it. Can I tell you more about
5 the detectors? No.
6 Q. Do you know what criteria Vaisala uses in
7 determining strike distances?
8 A. What criteria? With the ellipses and
9 degree of accuracy? They use some ellipses which
10 gives them their idea of confirmation, but I'm not
11 quite sure I understand your question. I think they
12 call it a confidence ellipse.
13 Q. Really what my question was is: Do you
14 understand what criteria they use in creating that
15 confidence ellipse?
16 A. No. How they create the confidence
17 ellipse, I don't know.
18 Q. Did you look through the Vaisala report to
19 see if there were any confidence charges?
20 A. I scanned through it. I can't recall
21 seeing one off the top of my head. If there is one,
22 please point it out. I'll be happy to look at it.
23 Q. No, I didn't see one either.
24 If we can go back to Exhibit 60, which
25 is your Appendix E. E11 is a close-up of page 2 of

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1 the Vaisala report that we were just looking at,
2 correct?
3 A. Correct. It's the map that they have in
4 their report.
5 Q. Then E12?
6 A. Is a close-up of the prior picture.
7 Q. And these are close-ups -- you did this --
8 A. Yes, ma'am.
9 Q. -- made them close? Okay. And what was
10 the purpose for providing the close-up in E12?
11 A. Basically -- I'm sorry, but my eyesight is
12 getting bad, so it -- I wanted to get a closer view
13 of what was going on in the vicinity of where the red
14 star was, so I enlarged it. I mean, that's what I'm
15 doing -- that's the whole purpose of doing it. I'm
16 enlarging that specific area.
17 Q. Okay. And on that red star in E12, it
18 looks like there are at least five little yellow dots
19 that in some way hit on the red star?
20 A. I think there's six.
21 Q. Six. Okay.
22 A. The point to the left.
23 Q. Okay. And E13 is just a close-up of page 3
24 of the Vaisala report?
25 A. Right. That's the confidence ellipse.

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1 Basically they colored in the entire circle.
2 Q. Okay. And then on E14, it's just a
3 close-up of E13, sort of like what you did before?
4 A. Correct.
5 Q. And I just want to make sure I understand
6 why you blew it up and why you attached it to this
7 report.
8 A. Again, enlarging it, I mean, you know, if
9 you look at E13, the star is sort of getting lost.
10 In E14 you can at least sort of see the star now.
11 I mean, it's to give you a closer view is all.
12 Q. Okay. And again, this was all done in
13 confirming that there was lightning activity in the
14 area of the Taylor home on the day of the fire?
15 A. Correct, and before the fire was reported.
16 Q. Uh-huh. Let's turn to E16.
17 A. Yes, ma'am.
18 Q. Can you tell me what this document is?
19 A. Yes, ma'am. If you take E18 and E16 and
20 you put E18 above E16, basically what you have is
21 from -- this is, again, from Vaisala and they were --
22 this is done by a study from the -- one of the
23 lightning reports that's attached to the back of the
24 report. Basically they were talking about
25 lightning -- I think it's an NFPA document.

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1 You're looking at N and O and P.
2 Basically this data is going to be coming out of
3 those papers. Basically this is just the table
4 summarizing everything that was in that report.
5 Basically this is the lightning flashes by state and
6 basically it's per year on average. And so E16 shows
7 the total number of strikes throughout the entire
8 United States, of which E18 is part of, but E18 is
9 highlighting the number of strikes that occurred in
10 North Carolina.
11 Q. But it's two separate charts?
12 A. Well, they're the same chart. They're part
13 and parcel of the same thing. The total at the
14 bottom incorporates all of the other states on E18 as
15 well. My apologize -- I apologize for confusing you.
16 Q. I see. Okay. So E16 is actually a
17 continuation of E18?
18 A. I think it's reversed. E18 is -- I mean,
19 yeah, E16 is a continuation of E18.
20 Q. Did you participate in any way in
21 collecting any of the data that's in this chart?
22 A. I did not.
23 Q. Do you know how they collected the data in
24 this chart?
25 A. Again, basically this is from Vaisala's

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1 database is what the sources at the bottom are
2 reflecting. So that's where that data is coming
3 from.
4 Q. And why did you include E18 and E16 in
5 Appendix E?
6 A. Basically there's in excess of 23 million
7 lightning strikes that hit the ground here in the
8 United States on average every year since 1996 to
9 2008. So, I mean, 23 million flashes of lightning
10 that are striking the ground. In North Carolina, on
11 average, there are 546 -- let's say 546,603 of
12 ground -- cloud-to-ground lightning strikes per year
13 on average just in North Carolina.
14 Q. So explain to me what that means to you.
15 A. Lightning strikes in the United States
16 23 million times a year plus. You got a half a
17 million times lightning strikes on average in North
18 Carolina every year.
19 Q. So are you using these charts to make the
20 point that lightning is prevalent?
21 A. Lightning strikes are going to happen. And
22 this is how many of them actually occur according to
23 this data source.
24 Q. Okay. And does this number actually
25 include all lightning strikes? It's not parsing it

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1 out structure versus non-structure. That number is
2 for all lightning strikes -- like let's just -- let's
3 stick with North Carolina since that's really what
4 we're --
5 A. The information comes from Vaisala.
6 Vaisala here on E17 says National Lightning Detection
7 Network. So that is basically looking at the
8 lightnings on average per year. This is not
9 associated with fires or anything. This is
10 associated with lightning.
11 Q. So when you look at this chart, you can't
12 actually tell what the lightning is striking, if
13 anything?
14 A. Cloud to ground.
15 Q. Just cloud to ground?
16 A. And if it hits a house, it's cloud to
17 ground. It would be detected.
18 Q. But this chart's not telling you that data
19 as to whether -- how many of that 546,603 is striking
20 a house or some type of structure?
21 A. That's correct. On average it says. So
22 yeah, it does not tell you if it's striking a house.
23 It does not tell you if it is resulting in a fire.
24 It's telling you there's in excess of half a million
25 lightning strikes in North Carolina on average every

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1 year.
2 Q. It's telling us you got a lot of lightning
3 strikes in North Carolina. Can you look at this
4 chart and does it lend any support to the idea that
5 lightning is prevalent in the southeastern United
6 States?
7 A. Does this data reflect that?
8 Q. Yeah.
9 A. I believe if you went through it, you would
10 see that, yes. But I think it's more represented on
11 the E17, which shows you more graphically the flashes
12 per square mile per year. So that's the flash
13 density again. But you can see the higher flash
14 densities are in the coastal areas of Florida,
15 central Florida, the Panhandle of Florida, southern
16 Alabama, southern Mississippi, southern Louisiana,
17 southern Texas. That's the red zone. So again, that
18 graphically depicts areas more prone to lightning
19 strikes.
20 Q. And what does it say about the average
21 flash density for the area where Louisburg is
22 located?
23 A. Basically if you look at E19 and gauging
24 generally where Franklin County is and then
25 Lewisville is in it, you would be what appears to be

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1 in the -- again, I'm having trouble discerning these
2 colors -- the 6 to 9 range of flash -- flashes per
3 square mile per year.
4 Q. Okay. Will you -- on E19 will you mark the
5 location where you think -- just generally where you
6 think Louisburg is, where it falls on that map?
7 A. Okay. What I'll do is I'll go back to --
8 Q. I wondered if this is why you included some
9 of those other charts, so that you could put it all
10 together?
11 A. Again, basically if you look at this map on
12 E8, you see Riley. Then to the north and to the
13 east -- northeast, there's three counties right along
14 the state line. Well, the little county holding them
15 up, that's Franklin County.
16 Q. Okay.
17 A. So that would be right there. So, you
18 know, I mean, if you want me to --
19 Q. I do.
20 A. -- I can give you an approximation on E19.
21 Q. I guess I'm going to go back to the E16 and
22 E18. And if you will, help me understand what
23 opinions in your report these two documents help
24 support.
25 A. That lightning strikes in the United

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1 States. That lightning strikes in North Carolina.
2 Q. Okay. If we could turn to E20?
3 A. Yes.
4 Q. Can you tell me what this document is?
5 A. Yes, ma'am. Again, that comes out of the
6 NFPA references -- excuse me -- that I attached to
7 the report. Basically this is referring to the
8 number of lightning fires reported to local fire
9 departments between 1980 and 2008. Basically this is
10 based on the National Fire Incident Reporting System.
11 The report that we reviewed previously is the format
12 that would probably go into that system with regards
13 to documenting a lightning strike. That type of
14 information, that type of coding.
15 Q. You mean the information from Vaisala?
16 A. No, ma'am. The information from the fire
17 report, National Fire Incident Reporting System. It
18 was in the incident report. It was in that incident
19 report format. So that's where this data is coming
20 from.
21 Q. So that is if the Franklin County Fire
22 Department actually submits its information to NFIRS,
23 correct?
24 A. That's correct. Not everyone submits it to
25 that.

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1 Q. It's actually -- it's a voluntary --
2 submission of data is voluntary, correct?
3 A. That is my understanding. But again, this
4 is the data that I have available to me through the
5 National Fire Protection Administration with regards
6 to their 7,700 -- 779,500 lightning reported fires to
7 fire departments in 29 years.
8 Q. Is that little information on the left-hand
9 side, is that information you added to the chart or
10 was that part of the --
11 A. Correct. Basically what we did was we
12 added them up, and that was the number that we got.
13 Q. Did you participate in collecting any of
14 the data?
15 A. No.
16 Q. And this data only goes through 2008,
17 correct?
18 A. That is correct.
19 Q. And the Taylor fire was actually in August
20 of 2011?
21 A. Yes, I believe that's correct.
22 Q. If you will help me interpret this chart.
23 In that first -- I understand year. And then home
24 structure, what does that mean to you?
25 A. Residential structure.

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1 Q. Can you tell by looking at the information
2 in this chart whether the lightning that struck the
3 home structure was direct or indirect?
4 A. Looking at this data, no.
5 Q. Can you tell if the fire that resulted was
6 a large or a small fire?
7 A. No, ma'am. This is basically fires that
8 local fire departments responded to. If the
9 lightning struck a structure, there was no fire, the
10 fire department was not notified, it would not be
11 included in this data.
12 Q. I'm just trying to figure out what the data
13 shows. And, I mean, it's not showing first material
14 ignited, correct?
15 A. It does not, not in this chart.
16 Q. It's not telling you the heat source?
17 A. It is telling me the heat source is
18 lightning. Hence, the purpose of the report.
19 Q. It's not telling you whether a defective
20 product was involved?
21 A. No, ma'am. It's saying that lightning
22 basically caused this many fires.
23 Q. It's not telling you if an electronic
24 device was the cause of the fire?
25 A. No, ma'am. It's telling you lightning

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1 caused this many fires.
2 Q. And I guess it's just not giving you any
3 specifics about what happened with the particular
4 lightning fire that is reported in Table 4?
5 A. The specific is that lightning caused the
6 fire.
7 Q. Does it say that lightning caused the fire?
8 A. Lightning fires reported to local fire
9 departments.
10 Q. But does that mean that lightning caused
11 the fire?
12 A. Based upon the national incident -- I mean
13 National Fire Incident Reporting System, they're
14 going to be saying that lightning was the cause of
15 those particular fires.
16 Q. Yeah, but I guess what I'm asking you is:
17 Is that the same thing as Dennis Scardino coming in
18 and saying what the cause of a fire is?
19 A. No, ma'am, it's not. It depends upon the
20 individual making the call. It could be exactly what
21 I would say it is. It could not be. But the unique
22 aspect about lightning is typically when witnesses
23 are present to report it, the witnesses report
24 similar observations with regards to loud percussion,
25 loud noise, bright flash. There was lightning storms

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1 in the vicinity. So the circumstantial evidence
2 gives the responding firefighter or whoever is going
3 to be filling out the NFIRS document a good clue as
4 to what was the cause of that fire.
5 Q. Really? It's going to tell you what the
6 cause of the fire is?
7 A. Yes, ma'am, the lightning.
8 Q. As I read this chart -- and you can tell me
9 if you disagree with me -- this chart is talking
10 about lightning fires?
11 A. Yes, ma'am.
12 Q. That to me says that there was -- it was
13 reported there was a fire and that lightning was
14 involved. This doesn't tell me what the cause of the
15 fire was. Is it telling you what the cause of the
16 fire was?
17 MR. ELLIS: Objection.
18 A. Yes. I believe I've answered that already.
19 It's telling me that lightning caused these fires
20 because they're called lightning fires.
21 Q. (By Ms. MacLeod) Is it your opinion that
22 every time lightning strikes a structure and there is
23 a fire, that the cause of that fire is lightning?
24 A. Lightning is the cause of those fires, yes.
25 Q. Is there any scenario that you can think of

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1 in which lightning struck a structure but the cause
2 of the fire was something different than lightning?
3 MR. ELLIS: Objection.
4 A. Sure, I can think of something.
5 Q. (By Ms. MacLeod) Can you tell me what those
6 are?
7 A. Well, let's say on Saturday lightning
8 struck a structure, fire didn't originate and then
9 later somebody's starting a fire in the fireplace and
10 inadvertently sets the house on fire. I mean, that's
11 an example of --
12 Q. I'm sorry --
13 A. -- lightning struck it. It's not a -- it
14 would not be called a lightning fire if a fire did
15 not result. It would be a lightning strike, but the
16 fire department didn't respond to extinguish a fire.
17 It's not a lightning fire.
18 Q. Can you think of any time when there is a
19 lightning strike and in a reasonable proximity to
20 that lightning strike, fire erupts that the cause of
21 the fire would not be lightning?
22 A. Nothing is coming to mind right now.
23 Q. Do you know if the fire departments that
24 are submitting their information to NFIRS are making
25 any attempt to track any data regarding radiant

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1 barrier systems installed in homes that experience
2 lightning fires?
3 A. I have no information about what they're
4 tracking, no.
5 Q. What fire departments are tracking?
6 A. No, ma'am. I have no idea other than what
7 you would see in a incident report.
8 Q. If you will, will you tell me why you
9 determined that you would include the chart Table 4,
10 E20 into your report?
11 A. Basically lightning causes fires.
12 Q. Any other opinion that you intend to offer
13 at the trial of the matter that this chart supports?
14 A. Lightning causes fires. If you have any
15 more specific question, I'll try to answer it.
16 Q. Well, you know what your opinions are that
17 you've asserted. And I'm just trying to determine
18 from you which opinions that you'll assert at trial
19 does the information in Table 4 support. If it's
20 nothing more than what you've already told me, that's
21 fine. I just want to make sure I've covered the
22 bases and I've asked you to tell me all of the
23 opinions.
24 A. Lightning causes fires.
25 Q. That's it?

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1 A. Lightning causes fires.
2 Q. But my question is: That's it? There are
3 no other opinions?
4 A. Again --
5 MR. ELLIS: Objection. You've asked
6 the question four times now and gotten the same
7 answer.
8 A. It depends what you ask me, but lightning
9 causes fires.
10 Q. (By Ms. MacLeod) All right. If you'll look
11 at E21.
12 A. Yes, ma'am.
13 Q. What is this document?
14 A. Well, if you look back at E20, that first
15 column, "Home Structures," this is a subset of that
16 except this subset goes from 1980 until 2010 as
17 opposed to stopping at 2008. And it's only dealing
18 with that first column, which is "Home structure
19 fires caused by lightning."
20 Q. Actually, it says "Home structure fires
21 caused by lightning fires," right?
22 A. Correct.
23 Q. Does that have any significance or
24 difference to you, "home structure fires caused by
25 lightning" and "home structure fires caused by

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1 lightning fires"?)
2 A. One says basically lightning fires reported
3 to local fire departments. Home structure fires
4 caused by lightning fires reported to local fire
5 departments. If you start looking at the numbers,
6 1980, it's the same number. 1981, it's the same
7 number. The chart is basically showing you that same
8 first column that was in E20.
9 Q. I think I understand how the charts are
10 working. I'm just asking you if the terminology
11 "caused by lightning fires" has any significance to
12 you?
13 A. Basically lightning caused these fires
14 based upon the data presented here.
15 Q. The data in the charts?
16 A. Correct.
17 Q. In regard to your opinion that lightning --
18 that the fire at the Taylor home was most probably
19 the result of ignition of building materials struck
20 by lightning, tell me in regard to this table that
21 we're looking at, the -- E21, does that give you any
22 basis for determining whether or not the radiant
23 barrier in the Taylor home ignited and caused the
24 Taylor house to burn?
25 A. Ask your question again.

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1 Q. Based on your opinion as to the cause of
2 fire at the Taylor house, tell me how this chart
3 supports that opinion that you asserted in your
4 report.
5 A. And the opinion I asserted in the report,
6 you're talking about what we talked in the summary
7 section?
8 Q. Page 1 in the summary section, yes.
9 A. Okay. And you're looking at which line
10 again?
11 Q. Sorry. "The subject fire" which was
12 damaged -- "which damaged the property and contents
13 at 190 Cedar Valley Lane, Louisburg, North Carolina
14 was most probably the result of the ignition of
15 building material which was in the confines of the
16 attic ceiling space by an act of nature, a lightning
17 strike."
18 A. How does this chart -- basically in the
19 U.S., 164,400 -- assuming I added them correctly. If
20 I didn't, then whatever the addition would be -- home
21 structure fires caused by lightning reported to fire
22 departments in 31 years. So in 31 years,
23 164,400 home structure fires were caused by
24 lightning. Lightning causes fires. Basically this
25 is saying that -- this act of nature, a lightning

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1 strike, was the cause -- was the most probable cause
2 of this fire.
3 Q. And lightning does cause fires, but there
4 are times when lightning strikes a structure and does
5 not cause a fire, correct?
6 A. That is correct.
7 Q. Have you talked to anyone at NIFI -- NFIRS
8 or NFPA concerning any of the data that can be found
9 in the charts that you've attached?
10 A. Have I talked to anybody there? No. I've
11 read the reports from which it came.
12 Q. And on page E22 of -- it says -- the title
13 is "Non-home Structure Fires Caused by Lightning
14 Fires Reported to Local Fire Departments by Year,
15 1980 through 2010," correct?
16 A. Correct.
17 Q. Have you asked anyone why the terminology
18 "lightning fires" is used instead of just
19 "lightning"?
20 A. No, I have not asked anyone specifically
21 why that title reads the way that it does.
22 Q. Do you intend to offer any opinions at
23 trial in regard to any applicable codes that deal
24 with installation of radiant barrier products?
25 A. I have not researched the codes at this

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1 point in time to do that. I have not been asked to
2 do that.
3 Q. And that's for any applicable code?
4 A. With regards to the radiant barrier
5 systems, correct, I have not been asked to address
6 code related issues.
7 Q. In your analysis of the interplay between
8 TechShield and lightning, would you agree that there
9 is a certain amount of focus on things that are
10 relevant to your investigation, like the combustible
11 materials, the electrical system, the mechanical
12 systems? I mean, is that a fair statement, that
13 those things are --
14 A. Repeat that one more time because the first
15 part where you started off confused me a little bit.
16 Q. Okay. In your analysis of the interplay
17 between the TechShield and lightning --
18 A. In my analysis -- say that one more time.
19 MR. ELLIS: Objection.
20 Q. (By Ms. MacLeod) Have you done any analysis
21 of the effects of lightning on TechShield?
22 A. Lightning causes fires, but have I done any
23 analysis on lightning on TechShield?
24 Q. Yes.
25 MR. ELLIS: Objection.

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1 A. No, I haven't done that. And nobody to my
2 knowledge has done that.
3 Q. At this point in time, have you been asked
4 to undertake any further work on this case, on this
5 project?
6 A. No, ma'am. I'll probably be getting
7 depositions to review and things of that nature, but
8 I have no specific requests pending.
9 Q. At this time do you anticipate providing
10 any additional opinions in this matter other than
11 what we've -- what is in your report and what we've
12 talked about today?
13 A. Again, I don't know what questions will be
14 asked in the future, so as such, I can't tell you
15 until I hear the question. I think we've talked
16 about my opinions in my report.
17 Q. And that's all you anticipate at this time
18 providing in regard to opinions for this case?
19 A. That's my understanding.
20 MS. MacLEOD: Okay. I don't have any
21 other questions at this time.
22 MR. ELLIS: Let's take a break.
23 THE VIDEOGRAPHER: Going off the
24 record at 5:23 p.m., ending tape 7.
25 (Recess taken)

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1 MR. ELLIS: We're done.
2 (Proceedings concluded at 5:23 p.m.)
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1 CHANGES AND SIGNATURE OF DENNIS J. SCARDINO
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1 STATE OF TEXAS
 2 COUNTY OF HARRIS
 3
 4 REPORTER'S CERTIFICATE
 5 ORAL DEPOSITION OF DENNIS J. SCARDINO
 6 December 3, 2012
 7
 8 I, the undersigned Certified Shorthand Reporter
 9 in and for the State of Texas, certify that the facts
 10 stated in the foregoing pages are true and correct.
 11 I further certify that I am neither attorney or
 12 counsel for, related to, nor employed by any parties
 13 to the action in which this testimony is taken and,
 14 further, that I am not a relative or employee of any
 15 counsel employed by the parties hereto or financially
 16 interested in the action.
 17 SUBSCRIBED AND SWORN TO under my hand and seal
 18 of office on this the 8th day of December, 2012.
 19
 20
 21 Laurie Carlisle, CSR
 22 Texas CSR 2205
 23 Firm No. 395
 24 Expiration: 12/31/13
 25 CARLISLE REPORTING
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 Houston, Texas 77007

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 7
 8 I declare under penalty of perjury that the
 9 foregoing is true and correct.
 10
 11 _____
 12 DENNIS J. SCARDINO
 13
 14
 15 SUBSCRIBED AND SWORN TO BEFORE ME, the
 16 undersigned authority, by the witness, DENNIS J.
 17 SCARDINO, on this the _____ day of _____,
 18 2012.
 19
 20 _____
 21 NOTARY PUBLIC IN AND FOR
 22 THE STATE OF _____
 23
 24 My Commission Expires: _____
 25

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November 21, 2012

Skye MacLeod, Esq.
Law Offices of Stephen R. Paul, PLLC
P.O. Box 16099
Chapel Hill, NC 27516

Re: Insured: Christopher Taylor
Claim No: 33-D493-449
Date of Loss: August 29, 2011
Our File No: 121093

AMENDED AND SUPPLEMENTAL REPORT

Dear Ms. MacLeod:

Introduction

Pursuant to your request, McDowell Owens Engineering, Inc. has conducted an electrical investigation and analysis of a fire loss at 190 Cedar Valley Lane in Louisburg, North Carolina that occurred on August 29, 2011. A preliminary report based upon information available at that time was released in August of 2012. Since that time, new information has become available. The following is an amended form of that preliminary report along with a supplement. This amended and supplemental report is released in order to properly reflect the new information. Conclusions and opinions expressed in this report may be further supplemented or amended should additional information become available.

Material Reviewed for Preparation of Report

1. Incident description provided in phone conversation with Skye MacLeod, Esq.
2. Excerpts of a newspaper article in the Franklin Times
3. Expert report and scene photographs taken by Mr. Rob McGraw
4. Examination of branch circuit conductors collected by Mr. Rob McGraw
5. NFPA 921 - 2011 version
6. NFPA 780
7. NFPA 70
8. *Amended and supplemental report of Mr. Rob McGraw dated November 6, 2012*
9. *Results of a joint destructive evidence examination on September 12, 2012*
10. *Expert report by Mr. Dennis Scardino (not dated)*
11. *Expert report by Mr. Mark Goodson (not dated)*
12. *Expert report by Mr. Thomas Eager dated November 19, 2012*

Note: Items 8 – 12 are new sources of information since the release of the preliminary report.

Background of the Fire Incident

During the last week of August 2011, storms spawned by Hurricane Irene moved through the area around Louisburg, North Carolina. According to reports in the Franklin Times, lightning was involved in the cause of at least two structure fires in Franklin County during that period. The fire scene at 190 Cedar Valley Lane was investigated by Mr. Robert McGraw of Element Analytical. Clear evidence of a lightning strike to the structure was recorded in photographs. Analysis of the fire scene by McDowell Owens Engineering, Inc. is based primarily on information, photographs, and evidence provided by Mr. McGraw.

Electrical System Examination

Underground electrical service is provided to the residence via a 200-Amp Cutler-Hammer main breaker panel located on the east exterior wall of the house. Power is distributed from the main panel to two sub-panels inside the house. At the service entrance location, proper system grounding mechanisms were observed to be in place. Photos revealed no evidence of failure or problems with any of the electrical service equipment. Material used in the wiring of the house was standard and installation workmanship of the electrical wiring appeared to be superior. In summary, no issues were observed in or on the electrical system that were in any way related to the cause of the fire.

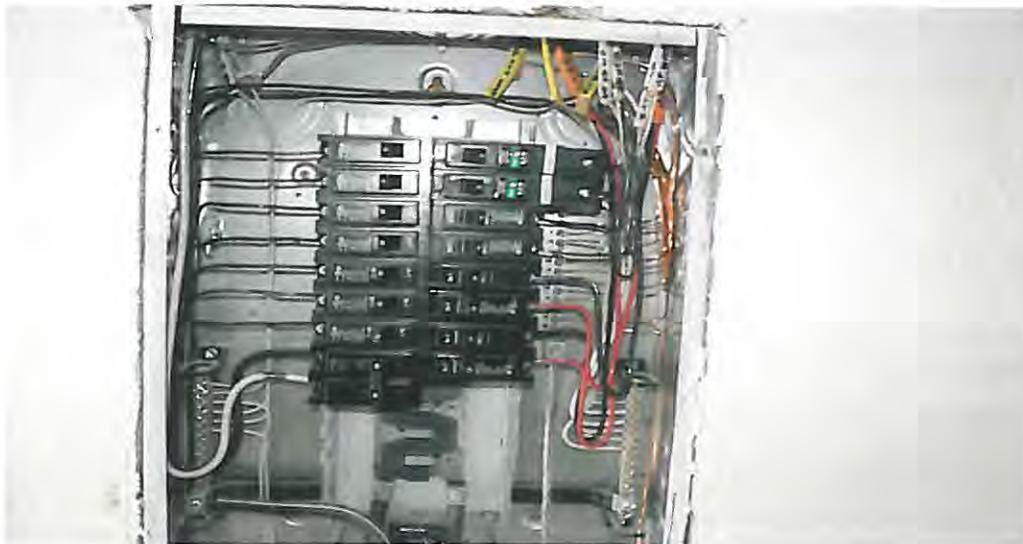


PHOTO 1 - Element Analytical Photo 416

**Electrical System Workmanship is of Professional Quality
No Evidence Found of any Condition Causally Related to the Fire**

Overview of the Fire Damage

On the exterior of the house, fire damage was observed on the center section of the *north*-facing roof surface and on a small portion *south* of the roof ridgeline. As this was an attic fire, the area that sustained actual burn damage (consumption of material) was primarily under the roof deck and on the rafter assemblies. The main burned area was near the east-to-west center of the roof deck and just *north* of the roof ridgeline (see PHOTO 3). The size of the heavily burned area appeared to be less than 8 feet by 12 feet.



PHOTO 2 - Element Analytical Photo 001
South Side of the House at 190 Cedar Valley Lane
(Shows only a Small Portion of the Tarp on the South Side of the Roof Ridgeline)



PHOTO 3 - Element Analytical Photo 221
Shows Tarp over the Main Burned Damage on the North-Facing Roof

Burn Damage Area Examination and Analysis

Fire damage in the residence at 190 Cedar Valley Lane was primarily confined to the attic space. The area that sustained actual burn damage (consumption of material) was on and under the roof deck and on the rafter assemblies. The main burned area was near the east-to-west center of the roof and just *north* of the roof ridgeline. The size of the heavily burned area appeared to be less than 8 feet by 12 feet.



PHOTO 4 - Element Analytical Photo 171

**Most Attic Burn Damage Localized at Upper-Center of North Roof Deck
(Note Temporary Sheathing where Burned Radiant Barrier Sheathing was Removed)**

Burn damage patterns on vertically oriented surfaces can be useful in identifying exact area of origin as flame tends to spread upward and outward (see NFPA 921, Chapter 6). Photos show the lowest burn damage is approximately 8 to 10 feet north of the roof ridgeline. The burn pattern spreads up and out from there and continues all the way up to the ridgeline of the roof. Information provided by Mr. McGraw supports a finding that the fire point of origin was in this lower portion of the burn area.

During a joint examination of the burn damaged area, conductors from two branch circuits were recovered and retained as evidence. One of the circuits recovered consisted of a section of 14-3 non-metal shield cable (commonly called Romex) and a section of 14-2 Romex. These were identified as Element Analytical Evidence Items #5 and #6 and were reported to have been the only conductors in or near the origin area that were considered as possible causes on the fire. McDowell Owens was able to examine these cables on two occasions. The first occasion was at the McDowell Owens facility in Kingwood, Texas. The second occasion was during a joint and destructive examination at the Goodson Engineering facility in Denton, Texas. During these examinations, McDowell Owens determined that neither of these cables had been causally involved in the ignition of this fire for the following reasons. The 14-2 cable contained no evidence of localized over-heating or electrical activity; therefore, this cable could not have been the cause of the fire. The 14-3 cable did show signs of electrical activity, but in an unusual pattern. The ground wire (and only the ground wire) had evidence of electrical arcing in two locations. The physical appearance of the arcing evidence was consistent with that observed as a result of "arcing through charred insulation"; however, there were no corresponding arc marks on any of the other three wires in the cable. This means that the arc marks on the ground wire could not have been a result of some pre-fire failure of this cable that resulted in arcing between wires of the cable. Since the only other electrical conductor and possible source of current was the aluminum on the radiant barrier material, it must be considered highly likely that the current causing the arcs on the ground wire came from that

aluminum sheet. The fact that there are two separate arc marks further supports this explanation. The current that was available on the aluminum sheet during the lightning strike would fully explain all conditions observed on these wires. Finally, the fact that the arc marks observed on the ground wire (regardless of the source of the current) were found outside of the origin area tells us that the arcing event was not the cause of the fire (see Photo 2 from Rob McGraw's supplemental report).



PHOTO 5

Shows Arcing on the Ground Wire of the 14-3 NM Electrical Cable

Examination and Analysis of Lightning Evidence and Damage

Photographs of the fireplace chimney cap clearly show evidence of a lightning strike. Careful examination of photos revealed that the current entered the cap over a span of several inches and created numerous small points of metal melting.



PHOTO 6 - Element Analytical Photo 372

Shows the Lightning Strike Points on the Chimney Cap

Photos of the radiant barrier foil directly below the chimney pipe flashing show evidence of a large amount of high-voltage electrical current flowing from the chimney flashing through roofing nails to the radiant barrier foil directly below. This evidence establishes that the radiant barrier foil was in fact energized by the lightning from the strike on the chimney cap.



PHOTO 7 - Element Analytical Photo 325

High Current Electrical Burning Around Nails Penetrating Through Chimney Flashing

Photos (such as PHOTO 8 below) show conclusive evidence of high current conduction between the radiant barrier foil and metal dryer vent pipe. Other photos show that lightning current continued through the dryer vent pipe into the dryer itself and ultimately out through the house wiring system to ground.



PHOTO 8 - Element Analytical Photo 361

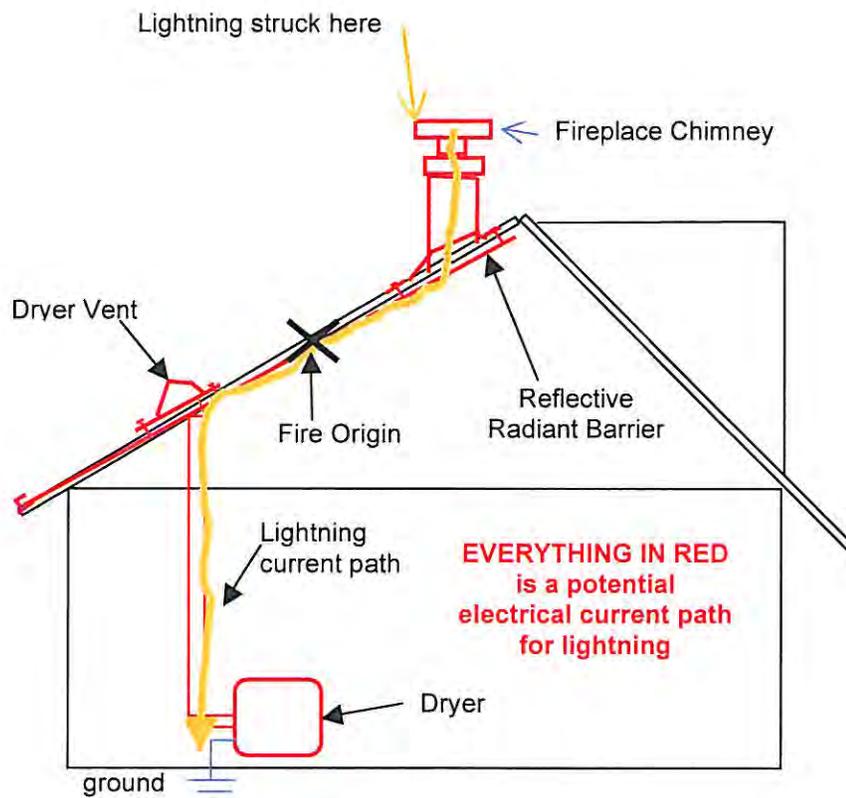
Clear Evidence of Large Amounts of Lightning Current from the Radiant Barrier Foil into the Dryer Vent Pipe



PHOTO 9 - Element Analytical Photo 316

Clear Evidence of Electrical Arcing and Burning at Locations Between Roof Deck Sheathing Sheets Adjacent to the Fire Origin Area

Photos (such as PHOTO 9) show conclusive evidence of arcing at the joints between radiant barrier sheets along the path between the fireplace chimney and the dryer vent. Only one photo is shown above; however, the same pattern existed in many different locations along the current path. The localized blackening and soot deposits show that flames existed at this location.



**DIAGRAM 1 - Side View of the House
Lightning Current Path on Radiant Barrier to Ground**

DIAGRAM 1 illustrates the roof's electrical environment present in the structure with the roof sheathing having radiant barrier glued to the underside. **Both the fireplace chimney and the dryer vent were electrically connected to the radiant barrier through nails.**

As the lightning current travelled from the strike point on the fireplace chimney to the ground connection through the dryer, it passed directly through the fire origin area. The path of the lightning is recorded by the arcing and burning at the joints between roof sheathing sheets along the path (see PHOTO 9 above). In the bottom paragraph on Page 3 of 10 of his report, Mr. Scardino acknowledges that on the attic side (bottom) of the RBS material, there were areas that exhibited "localized heat effects". The clearly visible "localized black soot" deposits seen in photos leave no doubt that combustion occurred in some of those locations and that the "heat effects" included combustion (burning). These patches of arcing and burning were observed in many locations along a general path between the chimney where the lightning strike occurred and the dryer vent pipe where the lightning current found a robust path to ground.

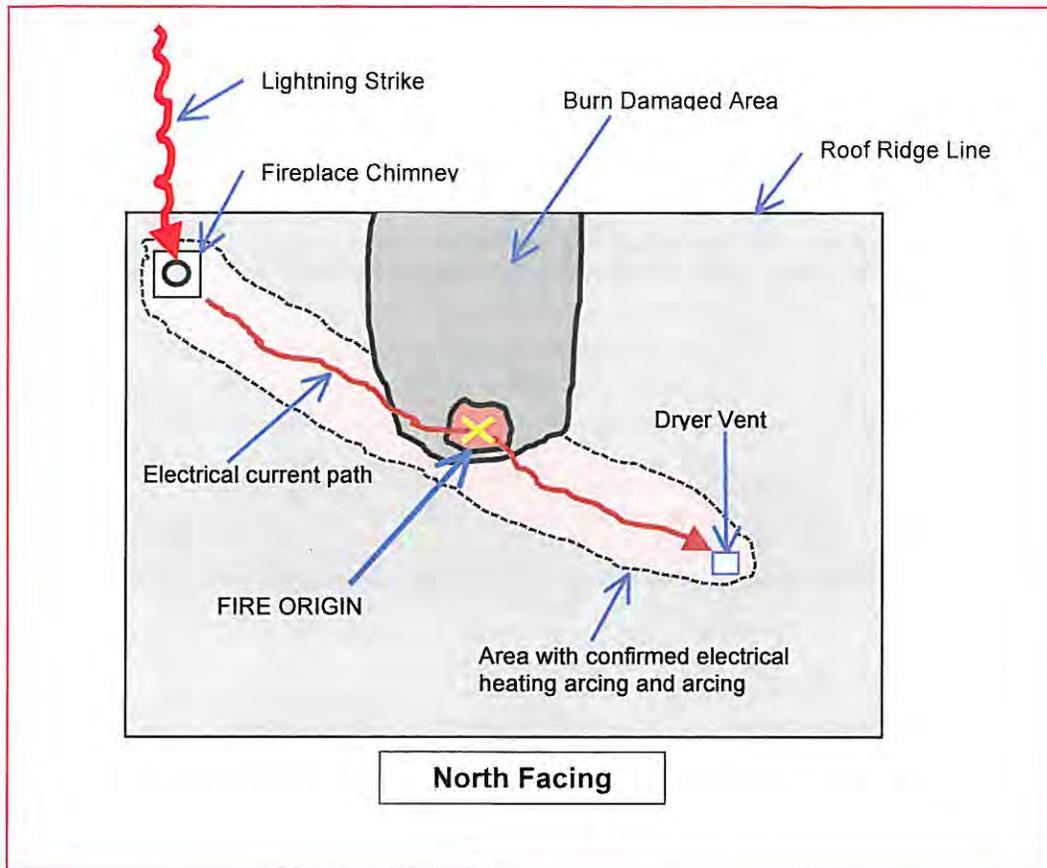


DIAGRAM 2 - Top View of North Roof
Lightning Current Path on Radiant Barrier Directly Through Fire Origin Area

Testing Performed

Many different tests of the physical, electrical, and thermal characteristics of reflective radiant barrier material (including Louisiana Pacific TechShield) have been performed in the McDowell Owens lab. Portions of this testing are documented on the McDowell Owens website and have been posted on the National Association of Fire Investigators website (a CD with photos and video of a small portion of this testing is included with this report). This testing has confirmed the sheet resistance of the radiant barrier sheathing material is such that when the current density in the material exceeds approximately 300 amps per square millimeter, resistive heating within the material generates temperatures higher than the ignition temperature of common materials such as paper, glue, and light plastics. As a result, when the current density exceeds this level, the paper and glue layers and other light combustibles in contact can easily ignite in flame. The testing has also demonstrated that when high voltage arcing occurs between roofing sheets with radiant barrier material, high current density levels are not required for ignition to occur because of the high temperatures generated by the arcing. If other light combustible materials (such as plastic vent channels) are nearby, the fire can quickly progress to a full attic fire.

Testing (such as that discussed above) demonstrates that radiant barrier product easily ignites when exposed to many different sources of electrical current. This testing also serves as proof that the

product will ignite when exposed to electrical sources of higher power levels. At a fundamental level, electricity from any source is the same as electricity from any other source once it is flowing through a conductor – just as heat flowing through a metal object is the same regardless of the source. There is very little difference in the fundamental heating effects of current from almost all different sources. The fundamental rules of electrical physics such as Ohm's Law and Kirchoff's Law apply the same to current from lightning as to current from any other source. Proof that a material can easily be ignited by a match is also proof that it can be ignited by a blow-torch. Higher levels of heat (or higher levels of current) simply cause the heating to occur more rapidly.

Summary of the Event

A lightning strike energized the fireplace chimney on the residence at 190 Cedar Valley Lane. Current from that strike travelled down through the chimney pipe, through metal flashing, through roofing nails, and onto the reflective radiant barrier material adhered to the underside of the roof sheathing. The current continued through the radiant barrier foil to the dryer vent pipe that penetrated the roof in the northwest quadrant. The current continued down the dryer vent pipe and eventually along a path to earth ground through the dryer electrical connections. The current moved along the path from one sheet of roofing material to the next by "arcing" or "jumping" across gaps where the foil was not in direct physical contact.

As the current moved along the path, the current density exceeded 300 amps per square millimeter at numerous locations. At some of the numerous high current locations, the radiant barrier material erupted in flame. At many of these locations, plastic vent channel material was in direct contact with the radiant barrier material. At the point of origin of the attic fire, the burning radiant barrier material ignited the vent channel and/or other light combustible material, which subsequently ignited the wood structures of the roof.

Of course, the easily consumed radiant barrier material that had been in the middle of the origin area and that initially burned and ignited other materials was no longer available after the fire since, by definition, "it burned". However, photos (such as PHOTO 9 above) clearly show that portions of the material immediately adjacent to the origin area had experienced burning with flame as a result of being electrically energized. We can be completely certain that the radiant barrier material in the origin area was also electrically energized. Therefore, we are certain that material in the origin area would have experienced burning with flame just as the locations immediately adjacent did. Finally, since no other possible source of ignition heat was identified in the origin area, we can be certain that the burning radiant barrier material provided the heat of ignition.

The Role of Lightning in the Taylor Fire

Lightning does cause structure fires and has done so throughout history. However, knowledge from recent field experience indicates that there have been more lightning involved structure fires in recent years because of new products being used in home construction. There are relatively new products that have been shown to present unique and unusually high levels of danger of fire when exposed to lightning. Corrugated Stainless Steel Tubing used for gas plumbing in building attics is such a product. The electrical and physical properties of the CSST are such that when energized by lightning, it can easily rupture and release flammable gas. In many CSST involved fires, it has been

determined that even though lightning was involved and provided the “energy” for ignition, the behavior of the CSST was the actual cause of the fire. The point is this: even though lightning is involved as a source of energy, it does not mean that the lightning (and only the lightning) is the cause of the fire.

When an electrical appliance has failed and caused a fire, the electricity from the utility company provided the ENERGY that ignited the fire, but we do not consider that the electricity or the utility company caused the fire. The electrical energy for ignition of the fire at the Taylor residence was supplied by lightning; however, that does not mean that lightning was the cause of the fire. The lightning energized the fireplace chimney, but the chimney did not cause the fire. The lightning energized roofing nails, but the nails did not cause the fire. The lightning energized the dryer vent and dryer, but neither the dryer vent nor the dryer caused the fire. The lightning energized the electrical ground system of the house, but the electrical ground system did not cause the fire. The only place along the path of the lightning that evidence of fire ignition was observed was on the radiant barrier material and the evidence was observed in SEVERAL places on that material. Clearly, it was the behavior of the radiant barrier material (when energized by electricity) that caused the fire. The lightning only provided the energy just as utility company electricity provides the energy in most electrical fires.

Metal components (including aluminum) as a part of building materials are common and it is not uncommon for these items to become energized when lightning strikes a building. However, most metal components are not as “thin” and as easily ignited as the aluminum on radiant barrier sheathing and no other metal components are installed to completely cover the underside of the roof deck where lightning is very likely to strike.

The Role of Radiant Barrier Material in the Fire

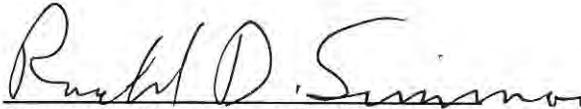
A review of the roles of the radiant barrier material in this case is as follows. First, because the material is highly conductive, the material conducted the electrical energy to the point of fire origin. Second, as a result of the “resistive” property, the material generated the heat of ignition through resistive heating at numerous locations. Third, because glue, paper, and very thin aluminum are easily ignited, the radiant barrier served as the first ignited material (once adequately heated). Photos from the Taylor house show locations of burning all along the path of the lightning current. Finally, the burning radiant barrier material in the origin area ignited other nearby light combustible materials. When all of these behaviors of the material are considered together (along with the fact that no other possible source of ignition was found in the origin area), it is clear that the radiant barrier material caused this fire. Without the presence and behavior of the radiant barrier material, this fire would not have occurred. Reports and articles previously published by McDowell Owens as well as photos and videos in a PowerPoint file attached to this report clearly show how easily this material is ignited by electrical current.

Conclusion

Based on our experience, training, and examination of available evidence, it is the opinion of McDowell Owens Engineering, Inc. that this fire was the direct result of electrical over-heating and ignition of the reflective radiant barrier material on the underside of the roof sheathing. Photos from

the fire scene clearly show burning on the radiant barrier material on both sides of the origin area that was on the path of lightning current between the strike point and the connection to ground. No other viable source of ignition heat was found in the origin area. Therefore, the only possible source of ignition heat was the burning radiant barrier material. We conclude (to a reasonable degree of engineering certainty) this fire was caused by the hazardous properties and hazardous behavior of the reflective radiant barrier material when it was energized by the electrical current from the lightning and subsequently, became the first ignited material.

Prepared by: McDOWELL OWENS ENGINEERING, INC.
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RDS:amb

This report was prepared in accordance with standards set forth by the American Society for Testing and Materials (ASTM), where applicable. This report was prepared for the exclusive use of Skye MacLeod, Esq. and Law Offices of Stephen R. Paul, PLLC. Any use of this report by other persons or entities must be authorized by this client. McDowell Owens Engineering, Inc. specifically and expressly disclaims any liability that might arise from a reliance upon information contained in this report by any person or entity other than the client for whom it was prepared.

In The Matter Of:
State Farm, et al v.
Louisiana Pacific Corporation

Ronald D. Simmons
November 30, 2012

Carlisle Reporting
832 Tulane St. Houston, TX 77007
713-864-4443 (phone)
713-864-4451 (fax)

Page 5

1 THE VIDEOGRAPHER: Today is
2 November 30, 2012. Going on the record at 9:00 a.m.
3 Beginning the deposition with tape 1 of Ronald
4 Simmons.
5 MR. ELLIS: Why don't we start by
6 making introductions? I'm Neal Ellis, and I'm here
7 for LP.
8 MR. MURPHY: George Murphy on behalf
9 of LP.
10 MR. GOODSON: Mark Goodson, LP.
11 MR. MURPHY: We have Dennis Scardino,
12 who's also on the line here.
13 MS. MACLEOD: I'm Skye MacLeod, on
14 behalf of the plaintiff State Farm Fire & Casualty
15 Company, a subrogee of Christopher Taylor.
16 THE WITNESS: I'm Ron Simmons, an
17 engineer with McDowell Owens.
18 RONALD D. SIMMONS,
19 EXAMINATION
20 BY MR. ELLIS:
21 Q. Mr. Simmons, would you state your full
22 name, please.
23 A. Ronald Dewayne Simmons.
24 Q. Where do you live, sir?
25 A. Where do I live?

Page 6

1 Q. Right.
2 A. I live in Kingwood, Texas.
3 Q. What's your residence address there?
4 A. You know, I just moved my residence, so I
5 can't tell you. My permanent address is in
6 Center Point, Texas, the mailing address is
7 Center Point, Texas.
8 Q. What's your mailing address?
9 A. Mailing address is 105 Elm Pass Road in
10 Center Point, Texas.
11 Q. But you don't have a residence that you
12 presently live in?
13 A. Yes, I have a home and properties in --
14 near Kerrville, but I -- most of the time I reside
15 here.
16 Q. If we had to serve a subpoena on you, where
17 would we do that?
18 A. At the office or at the 105 Elm Pass.
19 Q. I'm sorry, say that again.
20 A. At our office in Kingwood, Texas or at
21 105 Elm Pass Road.
22 Q. 105 Elm Pass Road?
23 A. Yes.
24 Q. You've been designated to testify as an
25 expert in this case on behalf of the plaintiff. Is

Page 7

1 that correct?
2 A. That's correct.
3 Q. And if you would, please, tell me what
4 opinions you're prepared to give in connection with
5 this lawsuit.
6 A. I'm prepared to give opinions concerning
7 the source of the heat that caused the ignition of
8 this fire, the first material ignited and a number of
9 electrical events that were involved in the ignition
10 of the fire.
11 Q. And that's it?
12 A. Undoubtedly we will talk about the
13 involvement of certain products and construction
14 materials.
15 Q. I know we'll talk about the involvement of
16 a number of things, but can you tell me if you have
17 any other opinions that you're prepared to give in
18 connection with this case?
19 A. I will give opinions about certain
20 construction materials and their involvement in the
21 case.
22 Q. First one you mentioned was the source of
23 heat that caused the fire. What is your opinion as
24 to that?
25 A. The source of the heat -- I'm going to try

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1 to not get too technical, but it was resistive
2 heating in a metal product that was -- resistive
3 heating that results when electrical current flows
4 through a conductor.
5 Q. All right. The source of the heat that
6 caused the fire, then, was resistive heating and a
7 metal product. Do you know what metal product it
8 was?
9 A. Yes.
10 Q. What metal product is it that you're going
11 to give an opinion about?
12 A. It's the metal on the radiant barrier
13 sheeting that formed the roof deck of this structure.
14 Q. That formed the roof deck of what?
15 A. Of the structure, the house.
16 Q. Structure. All right. The second opinion
17 that you said you were going to give is as to the
18 first material ignited. Is that correct?
19 A. Yes.
20 Q. What is the opinion that you're going to
21 give with respect to that?
22 A. The first material ignited was a
23 lamination, which included the metal, that was
24 attached to the underside of the radiant barrier
25 sheeting that formed the roof deck.

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1 Q. Anything else with respect to the second
2 opinion?
3 A. I will necessarily provide opinions about
4 how the current -- the electrical current arrived at
5 the point that it did.
6 Q. What's the lamination that you're referring
7 to?
8 A. It's -- I called it a sandwich of paper and
9 glue and aluminum foil.
10 Q. All right. You said you were going to
11 testify and give opinions about a number of different
12 electrical events in connection with this fire at the
13 Taylor home. Is that right?
14 A. Yes.
15 Q. Tell me what opinions you're going to give
16 with respect to that.
17 A. The original source of the electrical
18 current was lightning. The lightning impinged on or
19 struck a particular location on this structure and
20 then it then continued along a certain path, seeking
21 a path to ground, which it did find, and then
22 ultimately it continued on to ground, which lightning
23 strikes always do.
24 Q. You're not being very specific, though, as
25 you're giving us these opinions, so I need to ask you

Page 10

1 some followup questions about the scope of your
2 opinion here.
3 A. Okay.
4 Q. You indicated that with respect to the
5 third opinion that you're going to give, that the
6 lightning struck a location on the house. What
7 location did it strike?
8 A. It struck on the fireplace chimney.
9 Q. And you said it followed a certain path.
10 Is that right?
11 A. It actually followed many paths, but we're
12 concerned about one particular path.
13 Q. What is the one particular path that you're
14 referring to?
15 A. The path that took the current through the
16 origin area of this fire.
17 Q. On its way to ground?
18 A. Yes.
19 Q. All right.
20 A. On its way to a ground.
21 Q. You just said that the lightning took many
22 paths. Is that correct?
23 A. Yes.
24 Q. What were the other paths that it took?
25 A. It's not possible to identify all of them.

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1 We know that at least one of them went to a ground
2 wire on a piece of nonmetallic sheath of cable.
3 Q. Any others that you're prepared to identify
4 at this point?
5 A. Well, when a voltage such as lightning
6 energizes a conductive plane, it energizes every
7 square inch of it. So it -- at least some amount of
8 current went an uncountable number of directions in
9 all directions.
10 Q. You indicated that your fourth opinion
11 would be with respect to construction materials that
12 were involved with respect to this incident. Is that
13 right?
14 A. Yes.
15 Q. What are the opinions that you're planning
16 on giving with respect to the construction materials
17 involved?
18 A. These opinions will involve the
19 characteristics of this material that cause it to
20 generate heat when electrical current flows through
21 it.
22 Q. Again, you're not being very specific.
23 What is this material?
24 A. This material is the aluminum metal that
25 was laminated to the bottom of the radiant barrier

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1 sheathing.
2 Q. And you said you're going to give an
3 opinion with respect to the aluminum metal, then,
4 that was attached to this laminate that caused it to
5 generate the heat. What's the specific opinion that
6 you're planning on giving?
7 A. That the material as constructed includes
8 certain characteristics that cause it to readily
9 generate heat. No. 1, readily generate heat when
10 conduct -- when it is conducting electrical current.
11 And No. 2, to readily ignite when exposed to that
12 heat or when that heat is present.
13 Q. What are the characteristics that you're
14 referring to?
15 A. Conductivity, resistivity, an ignition
16 temperature lower than the melting temperature of the
17 metal. There are, of course, details -- engineering
18 details involved with each of those that would take
19 far too long to enumerate.
20 Q. Why would it take too long to enumerate?
21 A. Well, I'd be happy to do that, but it would
22 take several hours at least to -- at this point. I'm
23 sure we will get into it later.
24 Q. You prepared a report in this case dated
25 August 29, 2012. Is that correct?

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1 A. Yes.
2 Q. Let's mark this as No. 37.
3 (Exhibit 37 marked)
4 A. If I may, sir, your last name again?
5 Q. Ellis.
6 A. Mr. Ellis. I apologize.
7 Q. That's all right.
8 A. I was attempting to enumerate the opinions
9 that I'm going to offer. Of course, anything that's
10 in my report is part of my opinion.
11 Q. Well, what's in your report is not all
12 opinions, is it?
13 A. It's not, but any opinion in my report is
14 part of my opinion.
15 Q. Tell me about any other opinion that you're
16 prepared to give now.
17 A. Okay. I'm going to need to refer to my
18 report. The point is that in this discussion,
19 I definitely do not intend to exclude any opinion
20 that's in my report.
21 Q. I'll tell you what, Mr. Simmons, let's do
22 it this way. I'm going to be going through your
23 report, all right, with you in some detail. If there
24 is -- as we go through this, if there is something in
25 your report that is not just supporting material for

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1 an opinion but actually an opinion that you expect to
2 give, would you let us know as we go along?
3 A. I will. And if there's something that you
4 don't happen to cover that falls into that category,
5 I will also let you know.
6 Q. That's fair. Is this an expert report that
7 you prepared dated August 29, 2012?
8 A. It appears to be.
9 Q. And I know you've got a supplemental report
10 as well that we'll touch on in just a few minutes.
11 But this is the first report that you gave in
12 connection with this case. Is that right?
13 A. It appears to be.
14 Q. All right, sir. If you would, turn to the
15 last four or five pages where your resume appears.
16 A. Mr. Ellis, I need to let you know that what
17 you have here is not exactly the same as what was
18 printed off by my staff yesterday.
19 Q. Are you talking about the resume material?
20 A. Yeah, it may just be formatting, but it
21 caught my eye that it appears different.
22 Q. Does it appear substantively different in
23 any way?
24 A. I'll scan it to try to make sure. I think
25 it's just formatting. I think it's just the number

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1 of spaces that was allowed.
2 Q. Mr. Simmons, let me ask you: Are you
3 looking at a new version of your resume here?
4 A. Yes, sir -- well, it's one that was just
5 printed yesterday. Periodically the staff updates
6 these, and I think I know why --
7 MS. MACLEOD: Why don't we just agree
8 that we can make a copy of that -- of the --
9 MR. ELLIS: Yeah.
10 A. Well, I brought this copy to provide to
11 you, actually. I think what it is is since that
12 time, we were at ISFI and made presentation and I
13 think that's what they have --
14 Q. Did you say you brought the copy that's in
15 your right hand there for me?
16 A. Yes. This is a -- this is a copy of all
17 this same material that I brought for you.
18 Q. Thank you.
19 A. You're welcome to it. I apologize. It
20 never occurred to me that they would have updated
21 that. Now I know why they did. We were at ISFI and
22 made a presentation.
23 Q. All right. At a break what we'll do is
24 we'll make a copy of this, we'll make this a separate
25 exhibit.

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1 A. Fine.
2 Q. If it's all right with you.
3 A. I apologize. It didn't occur to me before
4 that that one would be different than this.
5 Q. All right. The resume, which is here in
6 your original report, is headed with the McDowell
7 Owens logo at the top. Is that correct?
8 A. Yes.
9 Q. Is that your present employer?
10 A. Yes.
11 Q. This indicates that you're a PE, which
12 stands for what?
13 A. Professional engineer.
14 Q. And where are you licensed as a
15 professional engineer?
16 A. Arkansas and California.
17 Q. And when did you obtain your licenses in
18 Arkansas and California?
19 A. Oh, California was in the late '80s. And
20 in Arkansas it was just last year.
21 Q. Sorry, you said late 1980s in California?
22 A. Yes, sir.
23 Q. And in Arkansas last year, which would be
24 2011?
25 A. It may have even been 2012. Actually, I

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1 think it was after the first of the year, so 2012.
2 Q. And this also indicates that you have a
3 CFEI certification. Is that correct?
4 A. Yes.
5 Q. What does that stand for, sir?
6 A. Certified fire and explosion investigator.
7 Q. And how long have you held that
8 certification?
9 A. Four years, I believe.
10 Q. Since 2008?
11 A. I believe it was 2008. Sorry, I'd have to
12 look.
13 Q. Could it be later than 2008?
14 A. Not much. But it could be 2009. Could be
15 early part of 2009.
16 Q. Just below your name there, you'll see a
17 list of items that says: Electrical and
18 electromechanical systems, vehicles and heavy
19 equipment, electronic control systems, high frequency
20 systems and semiconductor devices. Do you see that?
21 A. Yes.
22 Q. What are those items that are listed there
23 and why are they listed there?
24 A. Those are items that the company puts there
25 just as eye catchers. They're really a -- for

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1 prospective customers, when they -- a lot of times
2 people don't want to read beyond the first page of
3 something and it's to catch their -- this is unique
4 and specific things that I investigate or that
5 I cover.
6 Q. That you -- I'm sorry?
7 A. Areas that I can provide expertise.
8 Q. You're presently employed with McDowell
9 Owens Engineering. Is that correct?
10 A. Yes.
11 Q. What's the nature of the business of
12 McDowell Owens?
13 A. They're called an integrated forensic
14 engineering company.
15 Q. What does it mean to be a forensic
16 engineering company?
17 A. It means that we provide expertise in the
18 investigation of accidents, fires, explosions,
19 engineering expertise in those areas.
20 Q. And to be forensic, does that mean that
21 you're involved in lawsuits?
22 A. Often, yes. Not necessarily. I mean,
23 the -- I know that the term "forensic" has legal
24 connotation, but that's not all we do.
25 Q. All right. What size company is McDowell

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1 Owens? How many employees does it have?
2 A. I'm going to say 15 right now. It varies.
3 Q. How many professional engineers are
4 employed at McDowell Owens?
5 A. Less than 12, but I don't have an exact
6 number.
7 Q. How many like you are involved with fire
8 investigation?
9 A. Most. There are probably only two that do
10 not get involved with it at some point.
11 Q. Now let's take a look at the item which is
12 marked: 2008 to present, McDowell Owens Engineering,
13 Kingwood, Texas. Do you see that, sir?
14 A. Yes.
15 Q. This says: Consulting engineer. Areas of
16 expertise include residential electrical systems,
17 electromechanical systems, complex electronic
18 systems, vehicles and heavy equipment. Primary
19 responsibilities include site and evidence
20 investigations, evidence collection and preservation,
21 engineering analysis of system and component
22 failures. Is that correct?
23 A. Yes.
24 Q. In your area of expertise relating to
25 residential electrical systems, what do you do?

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1 A. I evaluate residential electrical systems.
2 I troubleshoot them. I investigate fires or
3 accidents involving them.
4 Q. By an electrical system, are you referring
5 to an electrical system in a residential structure?
6 A. Yes, in this case.
7 Q. All right. And what do you mean by
8 "electrical system" in a structure like a home?
9 A. Primarily the fixed wiring system. That
10 means all the wiring in the house.
11 Q. All right. "Electromechanical systems" is
12 listed here. What does that mean you do?
13 A. That's mostly machines.
14 Q. What kind of machines?
15 A. Any kind of machine that involves
16 electromechanical components.
17 Q. You also have "complex electronic systems."
18 What does that mean?
19 A. Means complex electronic systems. Again,
20 it's no subcategory. Any complex electronic system.
21 Q. What does that mean, sir? I'm just a
22 lawyer. I'm not an electrical engineer. Tell me
23 what you mean by that.
24 A. A laptop, a television, a transmission
25 station, anything that involves electronics.

Page 21

1 Q. You also have here "vehicles and heavy
2 equipment." What does that mean, sir?
3 A. Construction equipment, trucks, tractors.
4 Q. So you work with the electrical systems of
5 vehicles and heavy equipment, or do you deal with
6 them in some other way?
7 A. Primarily the electrical systems but also
8 other aspects. I may -- I have a commercial license.
9 I've owned trucking companies, and I've owned a lot
10 of equipment. So I'm an experienced operator of a
11 number of pieces of equipment, so I can address
12 proper operation and safety procedures.
13 Q. So being a commercial operator, you drive
14 heavy trucks?
15 A. I don't now, but I have, yes.
16 Q. You have in the past. All right. You say
17 here: Primary responsibilities include site and
18 evidence investigations. Is that correct?
19 A. What it -- that's what it says.
20 Q. Well, do you actually do something
21 different than what it says?
22 A. These days I do -- that's not what I spend
23 most of my time doing, so it depends how you
24 interpret "primary."
25 Q. How much time do you actually spend doing

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1 site and evidence investigations?
2 A. Less than 50 percent of my time.
3 Q. Less than 50?
4 A. Yes.
5 Q. And how would you say you spend most of
6 your time?
7 A. Analyzing electrical systems and electrical
8 anomalies or electromechanical. More engineering
9 analysis than site investigation.
10 Q. When you said less than 50 percent, what
11 percentage less than 50 percent would you say you
12 devote to site and evidence investigations?
13 A. I can't slice it any finer. It varies from
14 month to month, and so it's -- I couldn't be more
15 precise than that.
16 Q. This also says you do evidence collection
17 and preservation. Is that correct?
18 A. Yes.
19 Q. Again, would that be one of those things
20 that you're not spending all that much time on
21 anymore?
22 A. Yes.
23 Q. Do you know about how much time you spend
24 in the area of evidence collection and preservation?
25 A. Less than 10 percent.

Page 23

1 Q. The last item here is: Engineering
2 analysis of system and component failures. Do you
3 see that?
4 A. Yes.
5 Q. And how much time do you spend doing that?
6 A. Again, less than 50 percent but more than
7 20 percent.
8 Q. Can you tell us what that means? What's
9 "engineering analysis of system and component
10 failures" mean?
11 A. If we get a case involving a piece of
12 equipment that a failure has occurred and always when
13 a failure has occurred, we want to know what caused
14 the failure, and so I will review all the
15 documentation, all of the history of the event,
16 perform an analysis.
17 Q. Your resume says in 2007 you were employed
18 by Texas Instruments in Richardson, Texas. Is that
19 right?
20 A. Yes.
21 Q. And while there, you worked as a consulting
22 engineer where you developed required hardware and
23 software systems and executed testing to characterize
24 performance envelope of embedded semiconductor
25 devices. Does that accurately describe what you did

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1 at Texas Instruments?
2 A. In general terms, yes.
3 Q. Were you doing anything else?
4 A. No. In general terms, no.
5 Q. While you were with Texas Instruments, were
6 you involved in any way in conducting fire
7 investigations?
8 A. No.
9 Q. Were you involved in any way in determining
10 fire causation?
11 A. No.
12 Q. Were you involved in any way in determining
13 fire origin?
14 A. No.
15 Q. Did any of your work at Texas Instrument
16 include the study of lightning?
17 A. No.
18 Q. Did any of your work at Texas Instruments
19 include work or study of radiant barrier systems?
20 A. No.
21 Q. 2005 to 2007, you were employed by
22 Elm Point Properties, LLC in Center Point, Texas. Is
23 that right?
24 A. Yes.
25 Q. And this says here that during that period

Page 25

1 of time, those two to three years, you were a real
2 estate developer and builder. Is that right?
3 A. That's correct.
4 Q. And what you did was to purchase and
5 improve raw land, then design, construct and sell
6 homes and small commercial buildings. Is that right?
7 A. Yes.
8 Q. All right. Did any of that work involve
9 fire investigation, fire causation, determination of
10 fire origin, study of lightning or study of radiant
11 barrier systems?
12 A. Minor study of radiant barrier systems.
13 Any new construction material I attempted to be aware
14 of.
15 Q. So as to radiant barrier systems, did you
16 become familiar with them while you were a real
17 estate builder/developer?
18 A. To a first order.
19 Q. I'm sorry, what does "to a first order"
20 mean?
21 A. Only to the point that I was aware of what
22 was available and what the current usage -- uses were
23 for the newer products.
24 Q. While you were a builder, did you specify
25 radiant barrier sheathing for any of the builders --

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1 structures that you built?
2 A. In a room where a commercial freezer was
3 installed I did.
4 Q. So you have specified it?
5 A. Yes, at that time in the walls of this
6 room.
7 Q. Was it just one occasion or many occasions?
8 A. Oh, just one.
9 Q. But you selected a radiant barrier system
10 for installation?
11 A. The -- yeah, the aluminum was used in
12 addition to the normal wall structure, a rolled
13 aluminum product.
14 Q. Whose product was it?
15 A. You know, I don't -- I don't remember. It
16 was a -- you'd buy it in a roll and you'd roll it
17 out.
18 Q. Just to make clear, though, for this period
19 of time, 2005 to 2007, taking out of it your
20 knowledge of radiant barriers, you did not work on
21 fire investigation, fire causation, fire origin,
22 study of lightning or radiant barrier systems except
23 to the extent that you became knowledgeable of it and
24 specified it for one of the buildings that you built?
25 A. Yeah, one specific room in one of the

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1 buildings.
2 Q. Was my statement correct?
3 A. I believe it was correct, but it wasn't
4 complete.
5 Q. Complete in the sense that we were talking
6 about one building where you specified radiant
7 barrier?
8 A. One particular room in one.
9 Q. This also indicates during the period of
10 time 2005 to 2007, you were owner/operator of a
11 company called RA Simmons Transport in Center Point,
12 Texas. Is that right?
13 A. Yes.
14 Q. What was the nature of the business of
15 RA Simmons Transport?
16 A. It was a small trucking company. It really
17 was my son's company. I was just the financier
18 mostly.
19 Q. Did you drive trucks for the company?
20 A. I did some.
21 Q. What kind of trucks were you driving?
22 A. These are over-the-road long-haul -- the
23 specific one that I drove was a Volvo -- 2008 Volvo
24 VN780.
25 Q. Did you make long hauls for your son's

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1 company?
2 A. I did.
3 Q. How frequently did you do that during 2005
4 to 2007?
5 A. I did it over a period of several months,
6 and during that period I did it continually.
7 Q. And would it be fair to say that in
8 connection with your work with RA Simmons Transport,
9 you were not involved with fire investigation, fire
10 causation, fire origin, study of lightning or radiant
11 barrier systems?
12 A. Yes.
13 Q. From 1990 to 2005, you worked with Intel
14 Corporation in Folsom, California. Is that correct?
15 A. Yes.
16 Q. Served as a quality and reliability
17 manager. Would that be right?
18 A. Yes.
19 Q. During that period of time, you were
20 responsible for all aspects, validating, testing,
21 measuring, monitoring and guaranteeing the quality
22 and reliability of the Intel products. This included
23 operating and managing several state-of-the-art
24 testing and failure analysis laboratories. Is that
25 correct?

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1 A. Yes.
2 Q. And would it be fair to say that during the
3 period of time that you operated as a quality and
4 reliability manager, you were not involved with fire
5 investigation, fire causation, fire origin, the study
6 of lightning or radiant barrier systems?
7 A. Not completely.
8 Q. Okay. Tell me in what way that's not
9 correct.
10 A. As the Q&R manager, any product failures or
11 product-involved failures, we -- my department would
12 become involved in. And there were fires where our
13 product was -- was in the vicinity, we'll put it that
14 way. And so we did some -- we did a lot of failure
15 analysis and some involved fires.
16 Q. Did you investigate the fires yourself?
17 A. Some I did.
18 Q. I'm sorry?
19 A. Some I did. Not all by myself. I had a
20 staff of engineers. But I was directly involved in
21 some of those.
22 Q. Were you determining fire origin and fire
23 causation?
24 A. In some cases, yes.
25 Q. And did any of those fires involve

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1 lightning?
2 A. I don't recall that any did.
3 Q. You don't know of any that did involve
4 lightning?
5 A. I don't recall any that did.
6 Q. What does it mean to be a quality and
7 reliability manager?
8 A. Well, "manager" is pretty generic. It
9 means I had teams of engineers and people -- I had a
10 department. And "quality and reliability" is -- in
11 any -- within any corporation today that provides
12 products, they will have a quality and reliability
13 organization and that's the organization that is
14 charged with overseeing and ensuring that the
15 products meet standards, specifications that are
16 published, that are safe, that are reliable.
17 Q. All right. So that would be your primary
18 thrust, then, as a quality and reliability manager,
19 to try and ensure the quality of your product and
20 make sure that it met standards of reliability?
21 A. That it met standards of quality,
22 performance, reliability, safety, all of those
23 expected qualities of a product.
24 Q. And the types of products that you were
25 involved with at Intel were what?

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1 A. Primarily semiconductor devices but also
2 board level products.
3 Q. What do you mean by a "board level
4 product"?
5 A. All semiconductor devices wind up being
6 attached to some sort of a circuit board, whether
7 it's a mother board of a computer, a laptop or a
8 server system. Many, many, many board level
9 products.
10 Q. During the 15 years that you were at Intel,
11 you also served as a test engineer manager. Is that
12 correct?
13 A. Yes.
14 Q. And did any of that work involve fire
15 investigation, fire causation, fire origin, study of
16 lightning or study of radiant barrier systems?
17 A. Not that I recall.
18 Q. You also served as SEMATECH research
19 engineer while employed with Intel. Is that correct?
20 A. Yes.
21 Q. Is -- are your job functions listed there
22 on your resume?
23 A. I'm sorry?
24 Q. Are your job functions listed there on your
25 resume next to SEMATECH engineer?

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1 A. Some of them are, yes.
2 Q. Did any of that work while you were at
3 Intel Corporation involve fire investigation, fire
4 causation, fire origin, study of lightning or study
5 of radiant barrier systems?
6 A. Only somewhat. One of the projects that we
7 had that we were working with Sandia National Labs
8 involved static damage and this sort of thing, and
9 lightning was one of the contributors that was
10 considered and analyzed in all that. But not -- only
11 indirectly, I would say.
12 Q. Only indirectly?
13 A. Yes.
14 Q. And by "indirectly," what does that mean?
15 A. Lightning was one of many sources of damage
16 to our products that were being analyzed in a project
17 that we were working together with Sandia on.
18 Q. One of many?
19 A. Yes.
20 Q. This also indicates that you were senior
21 product development engineer while at Intel. Is that
22 correct?
23 A. Yes.
24 Q. And your job functions are listed there in
25 your resume next to the title "senior product

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1 development engineer." Is that right?
2 A. Yes.
3 Q. Did any of that work involve fire
4 investigation, fire causation, fire origin, study of
5 lightning or radiant barrier systems?
6 A. Not that I recall.
7 Q. Your resume also indicates that from 1990
8 to 2005, you were owner and operator of Canyon Rim
9 Ranch in El Dorado, California. Is that right?
10 A. Yes.
11 Q. What you were involved with as owner and
12 operator of Canyon Rim Ranch was beef cattle and wine
13 grape production operation. Is that right?
14 A. Yes.
15 Q. Were you actually producing wine for
16 consumption?
17 A. Yes.
18 Q. Do you still have any interest in the wine
19 operation?
20 A. I still own some equipment that hasn't been
21 paid for. No, not directly.
22 Q. Did any of your work as an owner operator
23 of Canyon Rim Ranch involve fire investigation, fire
24 causation, fire origin, study of lightning or study
25 of radiant barrier systems?

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1 A. I had one lightning-caused fire on my
2 ranch.
3 Q. What happened?
4 A. Lightning struck a bull pine tree, and it
5 was a small fire.
6 Q. So lightning struck a tree and a fire
7 resulted?
8 A. That's what it appeared, yes.
9 Q. Was the fire limited to the tree, or did it
10 spread?
11 A. Just the immediate vicinity. Some dried
12 grass and...
13 Q. Was that your first experience with a
14 lightning strike on your own property?
15 A. On my own property, yes.
16 Q. Have you had any other experiences with
17 lightning strikes on your own property?
18 A. Not on my own property.
19 Q. From 1980 to 1990, you worked as lead
20 equipment development engineer with Pacific Western
21 Systems of Redding, California. Is that right?
22 A. Yes.
23 Q. And during those ten years, you were team
24 leader for the definition, design and development of
25 large-scale electromechanical and electronic systems.

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1 Is that right?
2 A. Yes.
3 Q. And what the systems involved was
4 state-of-the-art material handling machinery and
5 high-speed digital and analog electronic systems. Is
6 that right?
7 A. Yes.
8 Q. Did any of that work involve fire
9 investigation, fire causation, fire origin, study of
10 lightning or study of radiant barrier systems?
11 A. Yes.
12 Q. In what way?
13 A. We had a couple of fires through the years
14 in pieces of our equipment.
15 Q. Were any of those lightning-induced fires?
16 A. I don't believe so.
17 Q. Do you know?
18 A. I had no indication that it was lightning
19 induced at that time.
20 Q. Your resume says that before 1980, while a
21 student, you worked as electromechanical technician
22 for Hughes Aircraft and National Semiconductor. Is
23 that right?
24 A. Yes.
25 Q. How long a period of time before 1980 are

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1 we talking about?
2 A. Six years.
3 Q. Your resume says that from 1968 to '74, you
4 served in the United States Navy. Would that be
5 correct?
6 A. Yes.
7 Q. So from '74, then, up until about 1980, you
8 were a student and while you were a student, you
9 worked as a technician for Hughes Aircraft and
10 National Semiconductor?
11 A. Yes.
12 Q. During that six-year period of time from
13 '74 to 1980, did any of your work involve fire
14 investigation, fire causation, fire origin, study of
15 lightning or study of radiant barrier systems?
16 A. I was part of a fire team at Hughes
17 Aircraft, fire department team. But I would say no.
18 Q. I'm sorry?
19 A. I will say no.
20 Q. When you say you were part of a fire team,
21 does that mean somebody that would respond to fires?
22 A. Yes.
23 Q. Did you have -- ever have to respond to a
24 lightning-induced fire while employed at Hughes or
25 National Semiconductor?

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1 A. I responded to a fire, but it was never
2 determined what the cause was. There was a lot of
3 lightning in that area.
4 Q. There was a lot of lightning in the area at
5 the time of the fire?
6 A. Yes. Hughes owned a large part of land at
7 this facility -- large plot of land that was out in a
8 desert, and the desert in southern Arizona, sometimes
9 they have a lot of lightning, like most of the
10 southern United States. And yeah, there was a lot of
11 lightning, but there was no way we could determine
12 what the fire was, or we didn't, what the cause of
13 the fire was.
14 Q. Are you saying you were not able to
15 determine whether or not it was a lightning-induced
16 fire?
17 A. We did not determine. It could well have
18 been, but we didn't determine it.
19 Q. Where did it strike if it -- where was the
20 fire?
21 A. We never identified a strike point. It was
22 just a fire and it was during a lightning storm and
23 so... that's it.
24 Q. 1968 to 1974, you served in the U.S. Navy.
25 Is that correct?

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1 A. Yes.
2 Q. And what was your grade or rank?
3 A. Well, it changes. I was discharged as an
4 E5.
5 Q. Honorably discharged, sir?
6 A. Yes.
7 Q. Did you serve in the Vietnam era?
8 A. Yes.
9 Q. In the theater?
10 A. Yes. We -- in naval air in this type of a
11 squadron, we weren't based in Vietnam, but we were
12 based at Subic Bay and we went by detachment up to
13 Cameron Bay.
14 Q. You'll see next listed on your resume
15 "Education." Do you see that, sir?
16 A. Yes.
17 Q. You attended the colleges that are listed
18 here during the time periods listed here. Is that
19 right?
20 A. I believe so.
21 Q. This says at the University of Phoenix, you
22 were pursuing an MBA from 1995 to 1996. Is that
23 correct?
24 A. Yes.
25 Q. Did you obtain your MBA?

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1 A. No.
2 Q. This says that you worked -- or you were at
3 the University of California Davis studying
4 viticulture and enology. Is that right?
5 A. That's growing grapes and making wine.
6 Q. Okay. That was 1991 to 1993, right?
7 A. Yes.
8 Q. You were at Cal State, Chico, California
9 studying electrical engineering during the years that
10 are indicated there. Is that right?
11 A. Yes.
12 Q. 1967 to '68, 1974 to '75. Is that right?
13 A. Yes.
14 Q. And you were at Pima College, Tucson,
15 Arizona, you studied electrical engineering there
16 from '72 to '73. Is that right?
17 A. Yes.
18 Q. Where did you obtain your degree?
19 A. I did not obtain a degree.
20 Q. So you have no Bachelor's degree?
21 A. Correct.
22 Q. You studied at Cal State Polytechnic
23 University at San Luis Obispo, California from 1965
24 to '66. Is that right?
25 A. Yes.

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1 Q. And you didn't obtain a degree there
2 either?
3 A. No, I did not.
4 Q. The next item on your resume is continuing
5 education. Is that right?
6 A. Yes.
7 Q. Are those all the courses you've attended
8 for continuing education? Is that what's listed
9 here?
10 A. These are courses that are pertinent to the
11 work that I do, yes.
12 Q. Is that right?
13 All right. First one there is
14 National Association of Fire Investigators, fire and
15 explosion training program, 2009. Is that right?
16 A. Yes.
17 Q. Is that what led to your certification as a
18 CFEI?
19 A. Yes.
20 Q. So does this refresh your recollection,
21 then, that you obtained your certification as a CFEI
22 in 2009 rather than 2008?
23 A. Yes, coming -- I don't recall the exact
24 date, but it says '9 here, so I'm sure that's
25 correct.

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1 Q. What was the length of training that you
2 received for the CFEI certification?
3 A. This was a one-week syllabus.
4 Q. One-week syllabus?
5 A. As I recall. It was over a one-week
6 period.
7 Q. Did you attend in person?
8 A. Yes.
9 Q. About how many hours was it?
10 A. I don't recall.
11 Q. But it was one week long?
12 A. Yes.
13 Q. Do you need to do anything to maintain your
14 certification as a CFEI?
15 A. You know, I have so many things that you
16 have to have continuing education for. Right now I
17 don't actually recall if I reported any of those to
18 the NAFI to maintain it.
19 Q. All right. On the next page, page 3 of
20 your resume, you indicate professional memberships
21 held. Do you see that, sir?
22 A. Yes.
23 Q. You're a member of the National Association
24 of Fire Investigators, NAFI. Is that right?
25 A. Yes.

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1 Q. Any there requirements that you have to
2 fulfill in order to become a member of NAFI?
3 A. There are requirements you have to fulfill
4 in order to become certified by NAFI, but just to be
5 a member, I honestly don't remember.
6 Q. You don't know of any requirements?
7 A. I don't recall any.
8 Q. All right. You're a member of the
9 California Society of Professional Engineers. Is
10 that right?
11 A. Yes.
12 Q. Did you have to fulfill any requirements to
13 become a member of that organization?
14 A. You have to be a California licensed
15 professional engineer.
16 Q. Are there any requirements that you need to
17 maintain membership in the society?
18 A. Pay money.
19 Q. Do you hold a leadership position in the
20 society?
21 A. No.
22 Q. Next one is the National Society of
23 Professional Engineers. Were there any requirements
24 necessary in order to become a member of that group?
25 A. Just be a licensed professional engineer in

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1 the United States.
2 Q. I take it there aren't any requirements
3 that you need to fulfill in order to maintain
4 membership in the society. Is that right?
5 A. No, not that I'm aware of.
6 Q. Are you a leadership -- do you hold a
7 leadership position in that society?
8 A. No.
9 Q. Then you've got IEEE here. Is that right?
10 A. Yes.
11 Q. You're a member of that organization?
12 A. Yes.
13 Q. Again, no particular requirements for
14 membership, right?
15 A. I believe there were some for IEEE, but I
16 don't -- I've been a member for so long, I don't
17 remember.
18 Q. Semiconductor Industry's Association,
19 you're a member of that organization?
20 A. I'm no longer a member of that
21 organization. These are organizations that I was a
22 member of for many, many years, the Semiconductor.
23 Q. Where it says "professional memberships
24 held," this also includes associations that you're no
25 longer a member of?

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1 A. Those last two are, yes.
2 Q. So the Semiconductor Industry's Association
3 and Semiconductor Equipment and Materials Institute,
4 you're no longer a member of?
5 A. Correct.
6 Q. The next item is registration, license and
7 certificate. Do you see that, sir?
8 A. Yes.
9 Q. The first one there is your California
10 professional engineer license. Is that right?
11 A. Yes.
12 Q. You still maintain that license?
13 A. Yes.
14 Q. The next one is your CFEI certification.
15 Is that right?
16 A. Yes.
17 Q. And you still maintain that certification?
18 A. Yes.
19 Q. You also have here FCC first-class radio
20 engineer's license. Is that right?
21 A. Yes.
22 Q. Is that one you still maintain?
23 A. That's one that once you earned it, you
24 didn't have to do anything to maintain it. I'm not
25 even sure if they still -- if they still provide

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1 this, the FCC. As far as I know, what I have is
2 still valid.
3 Q. The next one is certified calibration
4 technician at Hughes Aircraft in 1972. Would that be
5 a license or certification that you still hold?
6 A. It's not one that ever expires and so since
7 I no longer work at Hughes, I assume it's not valid.
8 Q. Here you have certified solder technician,
9 National Semiconductor in 1974. Is that right?
10 A. Yes.
11 Q. Is that one that's still valid?
12 A. It's something that never expired but
13 again, since I'm no longer employed there, I assume
14 it's no longer valid.
15 Q. The last one you have is Class A commercial
16 driver's license. Is that still valid?
17 A. Yes.
18 Q. Are you still driving commercial vehicles
19 like trucks from time to time?
20 A. Only when I have to.
21 Q. Publications, on this one you've got a
22 special report entitled "Reflective Radiant Barriers"
23 published in Fire Findings in 2009. Is that right?
24 A. Yes.
25 Q. Was that a peer reviewed report, sir?

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1 A. Yes.
2 Q. Who reviewed it?
3 A. Several engineers at our firm.
4 Q. So it was reviewed within your firm?
5 A. Reviewed within the firm and it was
6 reviewed by the staff at Fire Findings before they
7 accepted it for publication.
8 Q. Do you understand what I mean by "peer
9 reviewed"? Do you know what "peer reviewed" means?
10 A. I'm not sure that you don't have a more
11 specific definition than what I use.
12 Q. Well, what you're saying satisfies the
13 requirement of peer review is having it reviewed by
14 members of your own firm and by people on the
15 editorial staff at the publication itself, correct?
16 A. Well, it's also been reviewed by everyone
17 who's worked for the publication.
18 Q. What I mean is prior to publication. Other
19 professional engineers from outside your firm that
20 could review it, critique it, offer comments and
21 determine whether or not it was the kind of thing
22 worthy of publication in a professional journal.
23 A. To my knowledge -- I'm not aware of any
24 organization that provides that service. The -- so
25 the staff of engineers that we have within our firm

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1 and the staff at the publication who are fire
2 professionals, to me if -- that's the most peer
3 review that we had available.
4 Q. All right. You never sought peer review
5 outside of the channel of review within your firm or
6 by the editorial staff of the publication itself. Is
7 that correct?
8 A. I'm sorry. Ask that again, Mr. Ellis.
9 Q. You never sought review of this article
10 that was later published in Fire Findings by anyone
11 other than the members of the staff at McDowell Owens
12 or the members of the editorial board staff at Fire
13 Findings?
14 A. We received considerable feedback about the
15 article from other fire professionals.
16 Q. Understand I'm not talking about post
17 publication review. I'm talking about prepublication
18 peer review.
19 A. Okay. Ask your question again, then,
20 please.
21 Q. Was the peer review, as you describe it,
22 prior to publication in the Fire Findings publication
23 limited to members of the McDowell Owens staff and
24 the editorial board staff at Fire Findings?
25 A. I'm not sure how we're going to define "the

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1 editorial board staff" of Fire Findings. I know that
2 people who did review it were fire professionals,
3 fire investigation professionals. I'm not sure if
4 they were official members of the editorial staff.
5 THE VIDEOGRAPHER: I've got about two
6 minutes of tape remaining.
7 Q. (By Mr. Ellis) The next item down here
8 under "Publications" is "Reflective Radiant Barriers,
9 Good for Energy Savings - Bad for Fire Safety." Do
10 you see that?
11 A. Yes.
12 Q. All right. Was that a publication, or was
13 it something that appeared on the Internet?
14 A. This was a post on their website, the
15 National Association of Fire Investigators.
16 Q. Prior to posting on the NAFI website, do
17 you know whether your article entitled "Reflective
18 Radiant Barriers, Good for Energy Savings - Bad for
19 Fire Safety" was peer reviewed by anyone outside the
20 staff of McDowell Owens or outside the editorial
21 staff of NAFI?
22 A. Again, I'm not sure what the firm makeup of
23 the editorial staff of NAFI is. I know this was
24 reviewed by respected industry professionals at NAFI.
25 MR. ELLIS: Why don't you go ahead and

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1 switch the tapes.
2 THE VIDEOGRAPHER: Going off the
3 record at 9:59 a.m., ending tape 1.
4 (Recess taken)
5 THE VIDEOGRAPHER: Back on the record
6 at 10:10 a.m., beginning tape 2.
7 Q. (By Mr. Ellis) Mr. Simmons, during the
8 first hour of the deposition, you were testifying
9 about your various types of employment. One of those
10 was Texas Instruments, which you joined in 2007. Why
11 did you leave Texas Instruments?
12 A. The contract was completed.
13 Q. So it was a one-year contract?
14 A. It was a job-based contract. It was when
15 we finished the job, it was finished.
16 Q. You also indicated that you were involved
17 with building and developing with an LLC called
18 Elm Point Properties from 2005 to 2007. Is that
19 correct?
20 A. Yes.
21 Q. And in that connection you sold homes and
22 small commercial buildings. What specific
23 developments did you work on during that period of
24 time?
25 A. The one that we completed was a commercial

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1 building that for a period was a pizza restaurant.
2 Q. What's the name of it?
3 A. Well, it's no longer in business. At that
4 time it was called Fat Armadillo's Pizza.
5 Q. Is it still in business in some other form?
6 A. No.
7 Q. Is that the building that you were talking
8 about having specified radiant barrier in?
9 A. I don't know that I would use the term
10 "specified," but that's the building that it did wind
11 up on the walls.
12 Q. Have you made any effort to try and have
13 the radiant barrier removed from that location?
14 A. It has been removed.
15 Q. When was it removed?
16 A. 2011.
17 Q. Were you the one that asked for it to be
18 removed?
19 A. I'm the one that removed it.
20 Q. You're the one that removed it. You said
21 you were involved with developing homes as well. Is
22 that correct?
23 A. We did remodels on homes is all we did
24 during that period.
25 Q. Were those in any particular development?

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1 A. No. Those were actually on my own
2 property.
3 Q. I'm sorry?
4 A. Those were on my own property.
5 Q. You indicated where you're licensed as a
6 professional engineer, those places are California
7 and Arkansas. Is that correct?
8 A. Correct.
9 Q. You're not licensed here in Texas, are you?
10 A. Correct.
11 Q. Have you ever received a reprimand from the
12 board for practicing engineering in the State of
13 Texas?
14 A. Not that I'm aware of.
15 Q. Do you know whether or not you're properly
16 performing the practice of engineering in the State
17 of Texas?
18 A. According to the State Board of Texas, I
19 am.
20 Q. How do you know that? Did you receive some
21 sort of communication from them?
22 A. Actually, we had several phone calls with
23 them.
24 Q. When was it that you first became
25 interested in lightning strikes and radiant barrier

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1 products?
2 A. It would have been during a fire
3 investigation several years ago, and I'm going to say
4 it would have been in late 2005.
5 Q. Late 2005?
6 A. I'm sorry. Late 2008.
7 Q. What kind of structure are we talking
8 about?
9 A. A residential structure.
10 Q. Where was the structure located?
11 A. South Houston, as I recall.
12 Q. How did you become interested in radiant
13 barrier at the time?
14 (Phone ringing)
15 THE WITNESS: I apologize. Let me
16 turn this off. I thought it was off.
17 I'm sorry, Mr. Ellis. Would you ask
18 the question again?
19 Q. (By Mr. Ellis) Sure. How did you become
20 interested in radiant barrier at that time?
21 A. Just that the product was in this home and
22 was in the proximity of the fire origin and --
23 Q. Are we talking about an attic fire?
24 A. Yes.
25 Q. Did you perform the fire investigation on

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1 the home?
2 A. I assisted in the fire investigation.
3 Q. Did you write a report on it?
4 A. I don't recall.
5 Q. What was the name of the residence?
6 A. I don't recall.
7 Q. What did you determine to be the cause of
8 the fire?
9 A. In that case I believe we determined that
10 it was undetermined.
11 Q. And was the radiant barrier a sheathing
12 product or something else?
13 A. You're talking about like on the roof deck?
14 Q. Right.
15 A. In this case it was the rolled product that
16 had been stapled up.
17 Q. It was rolled but stapled onto the
18 sheathing?
19 A. Well, it was stapled onto the rafters.
20 Q. Stapled onto the rafters?
21 A. Yeah, the underside of the roof trusses. I
22 believe this was a trussed house.
23 Q. And although radiant barrier was in the
24 home, you could not determine that the fire origin or
25 fire cause was due to radiant barrier?

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1 A. Correct. We didn't know where to look.
2 Q. What happened next in terms of your study
3 of radiant barriers and their relationship to fires
4 and residential structures?
5 A. At that time I began to think about and do
6 initial research on the characteristics of the
7 product, and then over time as we were involved in
8 more fire investigations and observed more evidence,
9 then we began to fit things together.
10 Q. In terms of your involvement with those
11 additional fire investigations, were you the fire
12 investigator?
13 A. Generally I'm involved as an electrical
14 engineer. Generally we will have another cause and
15 origin or origin and cause investigator that does the
16 initial investigation. And if it looks like that
17 there is an electrical factor or contribution in the
18 fire, then I'm called in.
19 Many times we know ahead of time if
20 there's a potential electrical involvement, and so
21 I -- we would be involved basically from the
22 beginning. But it varies from case to case, so...
23 Q. How many actual fire investigations have
24 you been involved with while at McDowell Owens?
25 A. I'm going to have to give you a range.

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1 More than 150, less than 300.
2 Q. How many of those fire investigations
3 involved lightning?
4 A. At least a couple dozen.
5 Q. Can you be any more specific than that?
6 A. No, sir, I can't.
7 Q. So 24?
8 MS. MACLEOD: Objection, form.
9 A. I would say minimum of 24.
10 Q. (By Mr. Ellis) Of those 24 fire
11 investigations that involved lightning, how many
12 involved radiant barrier?
13 A. Again, I can't be precise. I would say
14 somewhere between 15 and 20.
15 Q. And the remainder, then, the difference
16 between the 15 to 20 and the couple of dozen
17 lightning-induced fires would have been fires that
18 did not involve in any way radiant barrier systems.
19 Is that correct?
20 A. Correct. And they didn't -- the cause
21 didn't necessarily even include lightning. Just
22 lightning was involved in the report. I believe
23 there were some of those that we didn't determine
24 there was a lightning contribution, that it was
25 something else. It was just that people thought that

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1 lightning was involved -- or lightning had
2 contributed. So I can't say that lightning
3 contributed to all of the difference.
4 Q. Just to be sure what you're saying, of the
5 couple of dozen that you referred to before, some of
6 those may not have involved lightning at all?
7 A. That's right. Lightning was involved in
8 the report and it was believed to be involved, but
9 there were -- there were some of those that we did
10 not -- could not determine that lightning contributed
11 in any way.
12 Q. When did you publish your first article
13 relating to radiant barrier systems and
14 lightning-induced fires?
15 A. I believe lightning was mentioned in the
16 first article, but it wasn't the primary focus. But
17 definitely in the second article, which would have
18 been October 2010.
19 Q. The first article that dealt with radiant
20 barriers, though, came out in 2009. Is that right?
21 A. Yes.
22 Q. Of the 15 to 20 fire investigations that
23 you've been involved with in some way while at
24 McDowell Owens involving radiant barriers, how many
25 of those were -- took place after the publication of

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1 your first article in 2009?
2 A. I can't give you that number.
3 MS. MACLEOD: Objection, form.
4 Q. (By Mr. Ellis) Can you give me even an
5 estimate?
6 A. No, sir, I can't.
7 Q. About how many investigations have you done
8 relating to radiant barrier systems in 2012?
9 A. I can't give you a precise -- less than
10 ten, I believe. But that -- 2012 is a long year.
11 Q. How many fire investigations relating to
12 radiant barrier systems did you do in 2011?
13 A. I can't tell you that.
14 Q. Less than ten?
15 A. I hate -- when we're talking about numbers
16 that precise, I hate to guess.
17 Q. You don't know, you can't give me a number?
18 A. I can't --
19 Q. Even an estimate?
20 A. No.
21 Q. Would that be the same for 2012, you can't
22 give me a number of fire investigations relating to
23 radiant barrier systems that you did in 2012?
24 MR. ELLIS: Objection to form.
25 A. No, I can't. I mean, I can give you a

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1 guess but that's not -- that's only a guess.
2 Q. I'm not asking you to guess here today.
3 For 2010, can you tell me approximately how many fire
4 investigations relating to radiant barrier systems
5 you did?
6 A. No, I can't.
7 Q. In 2009, can you tell me approximately how
8 many fire investigations relating to radiant barrier
9 systems you did?
10 A. No.
11 Q. So the fact is you can't really give me a
12 number at all as to how many fire investigations
13 you've done relating to radiant barrier systems?
14 MS. MACLEOD: Objection to form.
15 A. I believe I did that, sir.
16 Q. You gave me a sort of a range and then we
17 tried to break it down. You can't give me a number,
18 can you?
19 MS. MACLEOD: Objection, form.
20 A. A number of what?
21 Q. (By Mr. Ellis) Fire investigations that
22 you've done that are related to radiant barrier
23 systems.
24 A. You mean a specific number? I gave you a
25 range, sir.

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1 Q. Do you have back at your office a list of
2 the investigations that you've done that are related
3 to lightning-induced fires that have involved radiant
4 barrier systems?
5 A. No.
6 Q. You don't keep a list?
7 A. We keep a list of all jobs but not
8 segregated like that.
9 Q. Are you able to segregate it?
10 A. I don't know. That's something that the
11 staff would do. This is all in a database.
12 (Phone ringing)
13 THE WITNESS: I just turned that off
14 again. I apologize.
15 Q. (By Mr. Ellis) You don't have a list?
16 A. No.
17 Q. And to your knowledge, does any member of
18 the staff have a list?
19 A. No.
20 Q. What percentage of your fire investigation
21 work is done at the behest of insurance companies or
22 their representatives?
23 A. I can't give you a number. I could say
24 that most of it.
25 Q. In any of the investigations that you've

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1 done where there has been a lightning-induced fire
2 and radiant barrier system was present, did you
3 determine that the cause of the fire was something
4 other than the radiant barrier system?
5 A. Yes.
6 Q. You have done that?
7 A. Yes.
8 Q. How many times?
9 A. Very small number. It's more than one.
10 I'm not going to try to be any more precise.
11 Q. So you remember one anyway. Is that right?
12 A. Yes.
13 Q. What was the name of that residence?
14 A. Oh, I can't tell you that. I don't know.
15 Q. Looking back again at your resume, which is
16 attached to the original McDowell Owens report,
17 you'll see an Exhibit B, which is entitled
18 "Accounting Policy." Do you have that?
19 A. Yes.
20 Q. You see there are hourly rates that are
21 attached to various types of professionals, correct?
22 A. Yes.
23 Q. Which one do you fall into?
24 A. Electrical engineer.
25 Q. So you're billing from \$235 an hour to \$275

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1 an hour. Is that correct?
2 A. Yes.
3 Q. What's the rate that you're charging on
4 this case?
5 A. I don't know.
6 Q. How many hours have you put on this case?
7 A. That's actually part of the stack that I
8 provided to you.
9 Q. I'm sorry?
10 A. There's a -- there's a list of -- we call
11 it a professional summary analysis that the staff
12 prepares. It would be towards the back. Those are
13 the things that were requested in the deposition
14 notice.
15 MR. ELLIS: Let's go ahead and mark
16 this as an exhibit, please.
17 (Exhibit 38 marked)
18 Q. (By Mr. Ellis) I'm showing you what's been
19 marked as Exhibit No. 38. Can you tell us what that
20 is, please?
21 A. This is a list prepared by our staff
22 entitled Professional Summary Analysis and this is a
23 listing of the time that has been charged against
24 this account.
25 Q. All right, sir. Could you hand that back

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1 to me?
2 A. (Witness complies.)
3 Q. Thank you.
4 So this has you beginning on this
5 matter in February of 2012. Is that right?
6 A. I'd have to look at it to see. Yes.
7 Q. Just keep that one. And you've charged a
8 total of 69.25 hours to this matter. Would that be
9 correct?
10 A. That's what the list shows, yes.
11 Q. Have there been others that have charged
12 time to this case?
13 A. Just administrative staff.
14 Q. No other professionals at McDowell Owens
15 have charged time to this case?
16 A. Not that I'm aware of.
17 Q. Is State Farm the only client that you're
18 working with in connection with the RBS matters?
19 A. No.
20 Q. What other clients are you working with?
21 A. I can't give you a list right now.
22 Q. Why?
23 A. I don't know it.
24 Q. You don't know why?
25 A. I don't know what the list is.

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1 Q. You know you're working for State Farm,
2 though?
3 A. Yes.
4 Q. And you don't know any of the other names
5 of the clients that you're working with?
6 A. I'd prefer not to guess. There are other
7 insurance companies.
8 Q. But you would have to guess at their names?
9 A. I'm not going to give you a name without
10 confirming it, sir.
11 Q. Just to clarify, though, when you say you
12 would be guessing, does that mean you don't actually
13 know what their names are or you would prefer not to
14 give the names to me?
15 A. I don't know for sure what their names are.
16 I know that there are companies other than State
17 Farm, but without confirming which ones, I don't want
18 to give a wrong name.
19 (Exhibit 39 marked)
20 Q. (By Mr. Ellis) Let me show you what's been
21 marked as Exhibit No. 39. Is that a list of
22 depositions you've given in the past?
23 A. It appears to be.
24 Q. All right, sir. Did you testify in any
25 other cases prior to 2009?

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1 A. In a completely different industry many
2 years ago, and I can't give you any detail other than
3 what the nature of the case is.
4 Q. And when you say in another industry, did
5 any of that involve fire causation, fire origin or
6 radiant barrier systems?
7 A. No.
8 Q. Were you testifying as an expert?
9 A. Yes.
10 Q. Do you understand the difference between
11 being a fact expert and a -- I'm sorry, between being
12 a fact witness and an expert witness?
13 A. I believe I do.
14 Q. What's the difference?
15 A. An expert is going to offer opinions and a
16 fact witness is going to relay facts.
17 Q. In that case, prior to 2009, you gave
18 expert testimony, you gave opinions?
19 A. Yes. In one case, yes.
20 Q. And what was the nature of your expertise?
21 A. I was the design engineer who designed that
22 piece of equipment.
23 Q. What kind of equipment are we talking
24 about?
25 A. Large-scale semiconductor manufacturing

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1 equipment.
2 Q. Looking at Exhibit No. 39, the first item
3 here is dated May 9, 2009. Was that a deposition
4 that you gave in connection with Alfonso and Maria
5 Elena Lopez versus Caterpillar?
6 A. Yes.
7 Q. And you were testifying on behalf of the
8 plaintiff in that case. Is that correct?
9 A. Yes.
10 Q. Were you giving fact or expert testimony?
11 A. Expert testimony.
12 Q. What was the nature of your expertise that
13 you were applying to that case?
14 A. I had analyzed the electronics of the
15 control system in a piece of equipment.
16 Q. Did it involve a fire?
17 A. No.
18 Q. The next one is Jab, J-A-B, Inc. versus
19 Fisher Tool Company. Is that right?
20 A. Yes.
21 Q. Did that in August of 2009, correct?
22 A. That's what it indicates, yes.
23 Q. You testified for the defendant in that
24 case?
25 A. Yes.

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1 Q. As an expert?
2 A. Yes.
3 Q. And what was the nature of the expertise?
4 A. Again, analysis of a piece of electrical
5 equipment.
6 Q. That did not involve a fire?
7 A. It did involve a fire.
8 Q. It did involve a fire. Did it involve
9 lightning?
10 A. I don't believe so.
11 Q. The next one is Cantu-Sapien versus Juan
12 Mendoza Corporation in December of 2010. Is that
13 right?
14 A. Yes.
15 Q. You testified as the plaintiff --
16 testified, I'm sorry, for the plaintiff?
17 A. Yes.
18 Q. And what was the nature of your testimony
19 in that case, fact or expert?
20 A. Expert.
21 Q. And what expertise did you bring to it?
22 A. Analysis of a control system and also the
23 improper operation of a piece of equipment.
24 Q. I see there are actually two of these
25 cases, Cantu-Sapien. Is that right?

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1 A. There were -- as I recall, there were --
2 they did separate that into two different -- two
3 different cases.
4 Q. All right. You testified at two different
5 depositions, both for the plaintiff. Is that right?
6 A. Yes.
7 Q. And the testimony involved an analysis of
8 control systems but did not involve expert testimony
9 relating to lightning or radiant barrier systems. Is
10 that correct?
11 A. Correct.
12 Q. The next one is Tucson Electric Power
13 versus Pauwels Canada. Is that correct?
14 A. Yes.
15 Q. You testified for the defendant in that
16 case?
17 A. Yes.
18 Q. There was a deposition given in June of
19 2011, correct?
20 A. That's what it indicates, yes.
21 Q. What was the nature of your expertise in
22 that case?
23 A. This was analysis of a fire and explosion
24 in a power transformer.
25 Q. It did not involve lightning, correct?

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1 A. We do not believe so.
2 Q. And it did not involve radiant barrier
3 systems, correct?
4 A. Correct.
5 Q. Next one is Cause No. D-127629, Ansely
6 versus Arrow Trucking Company. Is that correct?
7 A. Correct.
8 Q. You testified on behalf of the defendant in
9 that case?
10 A. Yes.
11 Q. What was the nature of the expertise that
12 you brought to that one?
13 A. This was a heavy equipment operation, and
14 it was a question of proper operating procedures.
15 Also there was the question of a reaction of the
16 controls of a certain piece of equipment.
17 Q. It did not involve lightning, correct?
18 A. Correct.
19 Q. Did not involve fire?
20 A. Correct.
21 Q. Did not involve radiant barrier systems?
22 A. Correct.
23 Q. The next one is Zuniga versus Whirlpool
24 Corporation. Is that right?
25 A. Yes.

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1 Q. You testified on behalf of the defendant in
2 that case?
3 A. Yes.
4 Q. What was the nature of your testimony in
5 that case?
6 A. This was an electrocution case, and it was
7 an issue of improper wiring in the structure.
8 Q. Did not involve lightning, correct?
9 A. Correct.
10 Q. Did not involve radiant barrier systems?
11 A. Correct.
12 Q. Did it involve a fire?
13 A. No.
14 Q. The next one is Roger and Nelma Boisjolie
15 versus Payless Insulation, right?
16 A. Correct.
17 Q. You testified on behalf of the plaintiff in
18 that case?
19 A. Yes.
20 Q. What did your testimony involve there?
21 A. This was a fire involving a recessed light.
22 So it was an electrical analysis.
23 Q. Did your testimony involve lightning?
24 A. No.
25 Q. Did it involve radiant barrier systems?

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1 A. No.
2 Q. And did it involve a fire?
3 A. Yes.
4 Q. And that fire related to a piece of
5 equipment, namely recessed lighting. Is that right?
6 A. Yes.
7 Q. Next one is Gail Menchaca versus USAA. Is
8 that right?
9 A. Yes.
10 Q. You testified on behalf of the defendant in
11 that case?
12 A. Yes.
13 Q. What was the subject of your testimony in
14 that one?
15 A. This was analysis of the electrical system
16 of a home.
17 Q. Did it involve lightning?
18 A. No.
19 Q. Did it involve a fire?
20 A. No.
21 Q. Did it involve radiant barrier?
22 A. No.
23 Q. That the sum total of the deposition
24 testimony you've given with the exception of what
25 you're doing today?

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1 A. That's all I can recall.
2 Q. So just to be sure, then, you've never
3 testified in a deposition as an expert on the subject
4 of lightning-induced fires caused by radiant barrier
5 systems, correct?
6 A. Not that I recall.
7 Q. You'd remember that, wouldn't you?
8 A. I think I probably would, yes.
9 Q. All right. So the answer is no, you have
10 not, right?
11 MS. MACLEOD: Objection to form.
12 Q. (By Mr. Ellis) Sir? It's not just that you
13 don't recall. You haven't testified as an expert in
14 a deposition about lightning-induced fires in radiant
15 barrier systems?
16 A. I'm scanning my memory, sir.
17 I have no recollection of any.
18 (Exhibit 40 marked)
19 Q. (By Mr. Ellis) All right. I've passed to
20 you what's been marked as Exhibit No. 40. Is that a
21 summary of trial testimony that you've given, sir?
22 A. I believe it is.
23 Q. Did you prepare it?
24 A. No.
25 Q. Who prepared this for you?

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1 A. This is prepared by our staff.
2 Q. The first item on the list there is Lopez
3 versus Caterpillar. You see that?
4 A. Yes.
5 Q. You testified on behalf of the plaintiff in
6 that case. Is that correct?
7 A. Yes.
8 Q. What was the nature of your testimony in
9 that case?
10 A. Expert analysis of the control systems and
11 the operation of a piece of equipment.
12 Q. Was that a piece of equipment manufactured
13 by Caterpillar?
14 A. Yes.
15 Q. What was it?
16 A. A wheel tractor scraper.
17 Q. Did your testimony in that case relate to
18 lightning-induced fires?
19 A. No.
20 Q. Did it relate to radiant barrier systems?
21 A. No.
22 Q. The next item on the list is Menchaca
23 versus USAA. Is that right?
24 A. Yes.
25 Q. And is that the case that you told us about

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1 that also appears on your deposition list?
2 A. Yes, it appears on the deposition list.
3 Q. So you testified as both a witness in a
4 deposition and a trial in that case, correct?
5 A. Yes.
6 Q. And that was an analysis of an electrical
7 system, correct?
8 A. Yes.
9 Q. Which did not involve lightning-induced
10 fires or radiant barrier systems, correct?
11 A. Yes.
12 Q. So would it be fair to say, sir, in looking
13 at your trial summary testimony, that you have never
14 been qualified as a witness on the subject of
15 lightning-induced fires?
16 A. Not that I recall.
17 Q. You've never been qualified as a witness --
18 expert witness to testify about fire cause or fire
19 origin. Is that correct?
20 MS. MACLEOD: Objection to form.
21 A. At trial or in deposition, Mr. Ellis?
22 Q. (By Mr. Ellis) I'm talking about at trial.
23 A. At trial? No, I have not.
24 Q. You've never been qualified as an expert
25 witness to testify at trial about first material

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1 ignited in a lightning-induced fire, correct?
2 A. Correct.
3 Q. You've never been qualified as an expert
4 witness at trial to testify about electrical events
5 which ensued after a lightning strike. Is that
6 correct?
7 A. Correct.
8 Q. You never have been qualified as an expert
9 witness to opine with respect to the involvement of
10 construction materials in a lightning-induced fire,
11 correct?
12 A. Again, sir, are we talking about at trial?
13 Q. At trial.
14 A. Correct.
15 Q. And you've never been qualified to testify
16 as an expert witness at trial about the
17 characteristics of radiant barrier systems. Is that
18 correct?
19 A. Correct.
20 Q. You've never been qualified to testify as
21 an expert at trial about the involvement of radiant
22 barrier systems in lightning-induced fires. Is that
23 correct?
24 A. Correct.
25 Q. Your timeline, which is on Exhibit No. 38,

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1 indicates that you had a telephone discussion with
2 the client on February 22, 2012. Is that right?
3 A. I'd have to refer to the list.
4 Yes.
5 Q. Who is the client that you talked to?
6 A. That's Ms. Skye MacLeod.
7 Q. And what did Ms. MacLeod tell you about the
8 case?
9 A. At that point, just basic introduction that
10 we have a fire that we believe lightning was involved
11 in and that the structure included reflective radiant
12 barrier.
13 Q. Were you asked to do anything at that time?
14 A. I believe at that time we were just asked
15 to review certain information that would be provided.
16 Q. Would be provided?
17 A. Yes.
18 Q. You weren't provided anything in February
19 of 2012?
20 A. I don't -- I don't recall exact dates that
21 we received photos or anything like that.
22 Q. Were you given an assignment at that point
23 in February 2012?
24 A. I don't believe it -- I can determine that.
25 Yes, we were given an assignment during the month of

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1 February 2012.
2 Q. What was the nature of your assignment?
3 A. To analyze and consult.
4 Q. About what?
5 A. About the possible involvement of the
6 lightning and the radiant barrier in this fire. I'm
7 not even sure that it was -- it was basically -- the
8 assignment was just to look at the photographs and
9 provide consultation about what some of the
10 photographs might indicate.
11 Q. But as you just told us, what you were
12 asked to do was to look at the involvement of radiant
13 barrier systems in this lightning-induced fire. Is
14 that right?
15 A. No, sir. That's why I was clarifying that
16 immediately that at that time -- we won't take an
17 assignment presuming a conclusion. We'll take it
18 until we actually get some documentation. So at that
19 time the assignment was to look at the photographs
20 and provide some consultation as to what the
21 photographs might tell us.
22 Q. At that point in time -- and I'm talking
23 about February of 2012 -- what did you understand
24 might already have been done in the way of research
25 and analysis on this fire?

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1 A. We understood that a cause and origin
2 investigation had been performed.
3 Q. By whom?
4 A. By Mr. McGraw. Mr. Rob McGraw.
5 Q. Did you perform any actual site work in
6 connection with this matter?
7 A. No.
8 Q. And by that I would include any visits to
9 the site?
10 A. No.
11 Q. You never visited the Taylor home?
12 A. No.
13 Q. To this date you still have not visited the
14 Taylor home?
15 A. Correct.
16 Q. Have you talked with Mr. Taylor?
17 A. No.
18 Q. You've never talked with the homeowner at
19 all about the fire?
20 A. No.
21 Q. Has anyone at McDowell Owens talked with
22 the homeowner about the fire?
23 A. Not to my knowledge.
24 Q. So you didn't take any photographs,
25 obviously, of the Taylor home yourself, did you?

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1 A. Correct.
2 Q. You didn't take any measurements, did you?
3 A. Correct.
4 Q. You didn't see the home to be able to make
5 a diagram of the home, did you?
6 A. Only in photographs.
7 Q. So the entirety, then, of your analysis in
8 this case is really based upon the photographs,
9 diagrams and work that was performed by Mr. McGraw,
10 correct?
11 MS. MACLEOD: Objection to form.
12 A. I can't say the entirety. I viewed some
13 newspaper articles about storm event and fires in
14 that vicinity. Of course, I've spoken in general
15 terms with Ms. MacLeod, and I have viewed other
16 reports about the matter.
17 Q. (By Mr. Ellis) You told me news articles
18 and other reports. Is the news article the one that
19 appeared in The Franklin Times?
20 A. I believe that it was.
21 Q. You pulled that up by screen shot off the
22 Internet, correct?
23 A. Yes.
24 Q. When you saw that report that appeared in
25 The Franklin Times about the fire at the Taylor home,

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1 what did you learn?
2 A. I don't recall what I learned specifically.
3 Just that there was a fire and there had been a storm
4 in the area recently.
5 Q. Did you learn whether or not there were
6 other home fires that were lightning induced that
7 night other than the Taylor home?
8 A. I don't recall that. I recall that there
9 was a -- that there was a storm and there were
10 reported multiple lightning strikes, but I don't
11 recall a name.
12 Q. Did you have conversations with Mr. McGraw
13 about this matter?
14 A. About -- in general terms or are you
15 talking about a specific matter?
16 Q. I'm talking about this case, about the
17 Taylor home fire.
18 A. Well, of course I had general conversations
19 with her about it.
20 Q. I'm sorry. Not Ms. MacLeod. I'm talking
21 about Mr. McGraw.
22 A. Oh, with Mr. McGraw. About the fire?
23 Q. Right.
24 A. No.
25 Q. You've never had a conversation with Rob

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1 McGraw about the Taylor home fire?
2 A. I had a very brief conversation with
3 Mr. McGraw, getting some clarification on his
4 photographs, a couple of his photographs. Brought
5 the -- of course, I've read his report. But as far
6 as any kind of a detailed conversation about the
7 fire, no.
8 Q. And this was a brief conversation?
9 A. Yes. As I recall, there was no --
10 Q. Less than ten minutes?
11 A. I believe so.
12 Q. Less than five minutes?
13 A. I -- sometimes you spend time on the phone
14 waiting for something, so I can't be that precise.
15 Q. How long did you talk to Mr. McGraw?
16 A. You want an exact number?
17 Q. As close as you can get it.
18 A. I'm going to say that what I recall was
19 less than ten minutes.
20 Q. Okay. So the only telephone conversation
21 that you recall having with Mr. McGraw lasted less
22 than ten minutes?
23 A. I believe there were other conversations
24 about logistics of sending evidence back and forth.
25 He did send evidence to our office, and so there were

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1 some discussions about that. I don't recall how
2 many -- exactly how many. We may have played phone
3 tag back and forth.
4 Q. But in terms of fire causation, fire
5 origin, radiant barrier systems, the sum total of
6 your conversation with Mr. McGraw was something less
7 than ten minutes?
8 A. That's what I recall. I don't recall any
9 protracted discussions about anything. At that point
10 we don't want to -- we don't want to get other
11 opinions.
12 Q. You relied totally upon his work in the way
13 of fire investigation, right?
14 MS. MACLEOD: Objection to form.
15 A. I relied on photographs that were -- that
16 I -- that were produced to me, and I'm not even sure
17 where all the photographs came from as I sit here,
18 and written reports by others.
19 Q. (By Mr. Ellis) Other than the report by
20 Mr. McGraw, what other reports did you rely on?
21 A. I relied on the reports by Mr. Scardino and
22 by Mr. Goodson.
23 Q. You didn't have those at the time of your
24 original report in August of --
25 A. At the time of the original report,

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1 correct.
2 Q. So what other reports did you rely upon
3 other than Scardino and Goodson?
4 A. In forming my opinions? Those are the only
5 ones that I recall that I relied on in forming my
6 opinion.
7 Q. You didn't do any work independent of
8 Mr. McGraw to determine a point of fire origin, did
9 you?
10 MS. MACLEOD: Objection to form.
11 A. I did not repeat -- fully repeat
12 Mr. McGraw's work. We will always do what we call a
13 reality check any time that someone else has done an
14 initial investigation to confirm that the work that
15 they've done and the conclusions that they've reached
16 are consistent with evidence that's available.
17 Q. (By Mr. Ellis) And did you do that with
18 Mr. McGraw's work and analysis concerning point of
19 fire origin?
20 A. Yes, of course.
21 Q. Then you know that Mr. McGraw determined
22 that he could not identify a point of fire origin,
23 right?
24 MS. MACLEOD: Objection, form.
25 A. Depends on the definition of "point." He

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1 did determine an area of origin.
2 Q. But he was unable to determine a point of
3 origin, right?
4 MS. MACLEOD: Objection, form.
5 A. I did not see that in his report. I don't
6 know that he has -- I don't recall in his report that
7 he explicitly said he could not determine a point. I
8 recall that he identified an area.
9 Q. (By Mr. Ellis) Do you know why it was that
10 Mr. McGraw was unable to determine a point of fire
11 origin?
12 MS. MACLEOD: Objection to form.
13 A. I know very well why -- in fires like this,
14 why it is very difficult to determine an exact point.
15 Q. I'm talking about this fire, not similar
16 fires.
17 A. I know in this fire why it is very
18 difficult to determine an exact point. Yes, I know
19 that.
20 Q. And did you learn that from Mr. McGraw?
21 A. No. I learned that from looking at the
22 photographs.
23 Q. Tell me what you know about it then.
24 A. I know that there was material consumed in
25 this fire. I know that in the area of origin, that

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1 the radiant barrier material was consumed.
2 Therefore, the location -- the exact point where the
3 fire originated no longer exists. It's been
4 consumed.
5 Q. Did you also learn that 240 square feet of
6 the roof was removed?
7 MS. MACLEOD: Objection to form.
8 Q. And destroyed?
9 A. 240 square feet? No, I did not know that
10 number.
11 Q. Mr. McGraw never told you that that amount
12 of the roof was taken off at some point either during
13 the time period when the fire department was there or
14 during reconstruction work?
15 MS. MACLEOD: Objection to form.
16 A. I don't recall ever being told that number,
17 and I don't recall estimating that number myself.
18 Q. (By Mr. Ellis) So Mr. McGraw never told you
19 that before the time that he actually had an
20 opportunity to visit the Taylor home and take
21 photographs, 240 square feet of that roof had been
22 taken off?
23 MS. MACLEOD: Objection to form.
24 A. Again, I don't recall ever hearing that
25 exact number, Mr. Ellis.

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1 Q. Would that have concerned you?
2 MS. MACLEOD: Objection to form.
3 A. No, I don't believe so because I saw
4 photographs of the actual scene.
5 Q. You're aware of the fact that Mr. McGraw
6 identified an area of origin for the fire. Is that
7 correct?
8 A. Yes.
9 Q. Did you do any work independently of
10 Mr. McGraw to determine an area of fire origin?
11 MS. MACLEOD: Objection to form.
12 A. Again, Mr. Ellis, we will always do work to
13 confirm that a described area of origin is consistent
14 with available facts and information.
15 Q. (By Mr. Ellis) And did you confirm that
16 Mr. McGraw's identification of an area of fire origin
17 was satisfactory to you?
18 A. Yes.
19 Q. You've also prepared a report that's dated
20 November 21, 2012. Is that correct?
21 A. Yes.
22 MR. ELLIS: Do you have this, Skye?
23 I've got a copy for you.
24 (Exhibit 41 marked)
25 Q. Showing you what's been marked as Exhibit

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1 No. 41. Do you have that?
2 A. Yes.
3 Q. What is that, sir?
4 A. That appears to be the amended and
5 supplemental report that was prepared November 21.
6 Q. That's a report that you prepared. Is that
7 correct?
8 A. Yes.
9 Q. And you prepared this as an amended and
10 supplemental report to the original report that was
11 filed on August 29. Is that right?
12 A. Yes.
13 Q. Can you identify for me what specific
14 things in this Exhibit 41 are corrections of matter
15 that was incorrect in the original August 29 report?
16 A. To identify every single correction, I'm
17 going to have to go through it page by page. There
18 were some -- as I recall, there was a spelling error
19 and a plurality error and some things like that that
20 I'd have to look to find. So I can't -- I'm happy to
21 go through it line by line and compare.
22 Q. Other than editorial changes -- I'm asking
23 for changes of substance to your opinions and
24 report -- what matter appearing in the November 21
25 report is a correction of what appears in the

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1 August 29 report?
2 A. I may miss something. On the bottom of
3 page 2 of Exhibit 41, there is a number that is 8
4 that originally was 10.
5 Q. All right. You're referring to the last
6 sentence that appears on page 2 where it says, and
7 I quote, "The size of the heavily burned area
8 appeared to be less than 8 feet by 12 feet." Is that
9 correct?
10 A. Yes.
11 Q. And what you're saying is is that in the
12 original report, that was 10 feet by 12 feet?
13 A. Yes.
14 Q. And you changed it to 8 feet by 12 feet?
15 A. Yes.
16 Q. Why did you do that?
17 A. Better photographs, more -- just better
18 views of the scene.
19 Q. The photographs you're referring to were
20 all taken by Mr. McGraw, correct?
21 MS. MACLEOD: Objection to form.
22 A. As I sit here, I can't recall who all the
23 photographs may have been taken by. Taken by someone
24 other than me for sure.
25 Q. And you were aware of the fact that

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1 Mr. McGraw had identified the area as being 10 by
2 12 feet?
3 A. I don't recall that exactly, but it was
4 something like that. I don't recall the exact
5 numbers.
6 Q. Why did you change it from what Mr. McGraw
7 had arrived at?
8 A. This was -- this was not based on
9 Mr. McGraw's determination. This was based on what
10 I could see in the photographs.
11 Q. So you --
12 A. My own estimate.
13 Q. You know that Mr. McGraw places it at 10 by
14 12 feet, correct?
15 A. I probably knew that at one time. I can't
16 quote exactly what's in his report now.
17 Q. Did you talk with Mr. McGraw about your
18 conclusion that the area was not 10 by 12 but 8 by
19 12?
20 A. No, I don't recall that at all.
21 Q. In any event, the area that you two are
22 talking about is different in size, right?
23 A. These are estimates, Mr. Ellis. Again,
24 I wasn't there to measure. This was just estimates
25 from what I can see in the photographs.

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1 Q. You didn't measure it yourself?
2 A. Of course not. Only in photographs.
3 Q. What other changes that amount to
4 corrections of information that appear in your
5 original report?
6 A. On the bottom of page 3 of Article -- or
7 Exhibit 41 where it says -- the next to the last line
8 where it says, "just north of the ridgeline,"
9 originally that had said "just south of the
10 ridgeline."
11 Q. In fact, that's a fairly typical change
12 throughout your amended report, isn't it?
13 A. Yes.
14 Q. The burned area, as you originally
15 identified it in the August 29 report, was placed on
16 the south-facing roof, right?
17 A. Depends upon where in the report.
18 Q. We'll go through it in a minute, but you
19 remember changing "south roof" to "north roof" on not
20 just this occasion but on other occasions as well,
21 right?
22 A. I believe that there were two occasions,
23 yes. That's what I recall.
24 Q. Any other changes that appear in the
25 November 21 report which is Exhibit 41 that were

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1 corrections to the earlier report?
2 THE VIDEOGRAPHER: Sir, I'm going to
3 have to change.
4 MR. ELLIS: Okay.
5 THE VIDEOGRAPHER: Going off the
6 record at 11:09, ending tape 2.
7 (Recess taken)
8 THE VIDEOGRAPHER: Back on the record
9 at 11:13 a.m., beginning tape 3.
10 Q. (By Mr. Ellis) Mr. Simmons, before we went
11 off the record, I had asked you to look through your
12 new supplemental and amended report to find any other
13 instances where you were making corrections to what
14 appeared in the earlier August 29 report. Have you
15 found any?
16 A. Much of the section of the report of
17 Exhibit 41 that begins on the bottom of page 3, "Burn
18 Damage Area Examination," has been rewritten from the
19 original report to include additional information
20 such as examination of evidence at Mr. Goodson's
21 facility.
22 Q. So that's new, right?
23 A. Yeah, there is new information in that
24 area.
25 Q. Has to be new because you didn't see the

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1 material at Mr. Goodson's lab prior to the time that
2 you wrote your original report in August of 2012,
3 right?
4 A. Correct.
5 Q. So that's not a correction. That's new
6 material?
7 A. It's new material. There -- it's primarily
8 new material. There's a little bit of verbiage
9 change -- of wording change, and so I'm sure we'll
10 want to identify that.
11 Q. Anything else that was a correction to the
12 August 29 report?
13 A. I'm zeroing in on that here.
14 Okay. About 1 inch from the bottom of
15 page 4 of Exhibit 41 -- it was actually one, two,
16 three, four, five, six -- on the sixth line up from
17 the bottom, there's a statement that says, "The
18 appearance of arcing evidence was consistent with
19 that observed as a result of arcing through charred
20 insulation."
21 In the original report it was stated
22 that, "Evidence of arcing through char was found."
23 So it's a little bit different wording.
24 The label on Photo 5 of Exhibit 41,
25 that's a photograph that originally was Photo 6 and

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1 the terminology there is slightly different.
2 Q. All right. Anything else?
3 A. There are a number of additions and
4 different wording, but nothing right now that I'm
5 finding that is a real content change.
6 Q. Remember, I'm looking for things that are
7 corrections to your original report.
8 A. Yes, sir, I understand.
9 Again, there are a number of
10 additions. Those are the only things I could
11 identify that I would call corrections.
12 Q. All right, sir. Thank you. Let's come
13 back, then, to the beginning of your amended report,
14 Exhibit No. 41, where you talk about the background
15 of the fire incident. Do you see that paragraph?
16 A. Yes.
17 Q. Is it your understanding that the lightning
18 strike which hit the Taylor home was a result of a
19 storm that was spawned by Hurricane Irene moving
20 through the area around Louisburg, North Carolina?
21 A. That was my understanding.
22 Q. And you refer in the next sentence to
23 reports in The Franklin Times. Is that right?
24 A. Yes.
25 Q. That's the one that you looked up on the

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1 Internet and took the screen shot of and put that in
2 your file, right?
3 A. Yes.
4 Q. Were you aware of the fact, then, that at
5 least two structure fires had occurred in the
6 Franklin County area as a result of that storm?
7 A. Obviously I was aware of it because it's
8 here in my report. Again, it was not something that
9 was significant to me in any way. Only that there
10 was a storm that was spawning lightning.
11 Q. When you said it wasn't significant to you,
12 you didn't look into that at all, did you?
13 A. Into whether there were multiple fires?
14 Q. The second fire that's reported in your
15 report.
16 A. Well, the fact that there were two fires,
17 no, I did not confirm that.
18 Q. In other words, you didn't try to
19 determine, for instance, whether or not radiant
20 barrier was present at the scene of the second
21 lightning-induced fire, correct?
22 A. Correct.
23 Q. Did Mr. McGraw tell you that he had had a
24 conversation with the fire marshal where he had
25 learned -- or learned from Mr. Taylor that as many as

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1 five lightning-induced fires occurred that evening?
2 A. I don't recall that.
3 Q. You don't know whether you were told that
4 or not?
5 A. I don't recall being told that. And again,
6 that was not information that was relevant to me.
7 All I needed to know and what I was concerned about
8 was there was a storm that was spawning lightning and
9 we had good reason to believe lightning was involved
10 in this fire. And that's the only thing I'm
11 concerned about.
12 Q. So you were not concerned and it would not
13 have been important to you to look into the other
14 four lightning-induced fires in the Louisburg, North
15 Carolina area to determine whether or not any of
16 those involved radiant barrier?
17 MS. MACLEOD: Objection to form.
18 A. That was not anything I was involved with
19 at all. I was involved with one fire in one home,
20 and what happened -- was reported to have happened
21 anywhere else is of no consequence whatsoever. It
22 doesn't -- I might have had idle curiosity, but it
23 was not germane to this investigation.
24 Q. (By Mr. Ellis) Of no consequence to you, as
25 you just said?

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1 A. In --
2 MS. MACLEOD: Objection to form.
3 A. -- terms of this investigation.
4 Q. (By Mr. Ellis) Some of the research you've
5 got to support your opinions in this case and the
6 material that appears in the report was gathered from
7 the Internet?
8 A. The fact that there was a storm in this
9 area that was generating lightning was gathered off
10 the Internet.
11 Q. You also got your research on lightning,
12 though, from Wikipedia off the Internet, correct?
13 A. Oh. Sure. Much technical research these
14 days is done on the Internet.
15 Q. I understand. But the answer to my
16 question is is that the research that appears in your
17 file on lightning came from Wikipedia, correct?
18 A. There is a -- there is a -- yeah, there's
19 one paper that came from Wikipedia.
20 Q. More than one, right?
21 A. I have to look and see.
22 Q. In fact, you looked into autoignition
23 temperatures and found that at Wikipedia as well,
24 right?
25 A. Many times Wikipedia is the first thing

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1 that comes up when you do a search.
2 Q. You relied on it?
3 A. Usually when I print something off of
4 Wikipedia, it's so that -- it's because it's
5 presented in a way that's easy to understand it,
6 I could use it to explain to other people. I rarely
7 use Wikipedia as an authoritative technical -- as a
8 technical authority.
9 Q. About the photos which you saw in
10 connection with arriving at your opinions, it's true,
11 isn't it, that you never saw a photograph of the fire
12 damaged area before the 240 feet of roofing was
13 replaced?
14 MS. MACLEOD: Objection to form.
15 A. Again, I don't know about the 240 feet.
16 Early, I never saw a photograph of the roof before it
17 had been temporarily repaired or had been made --
18 attempted to be made weather tight. Since then I
19 have seen photographs of that area before it was fire
20 damaged at all.
21 Q. (By Mr. Ellis) Right. Before any fire
22 occurred?
23 A. Correct.
24 Q. Before the lightning strike?
25 A. Correct.

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1 Q. In other words, as was in its as
2 constructed condition?
3 A. Correct.
4 Q. But the fact is you never saw any
5 photographs of the fire damaged area as it existed
6 after the fire and before the placement of the
7 roofing?
8 MS. MACLEOD: Objection, form.
9 A. Before the temporary repair to the roof,
10 yes.
11 Q. (By Mr. Ellis) Right. Let's turn to the
12 paragraph in your amended report where you referred
13 to the overview of the fire damage. Do you have
14 that?
15 A. Yes.
16 Q. In your amended report you say, "On the
17 exterior of the house, fire damage was observed on
18 the center section of the north-facing roof surface
19 and on a small portion south of the roof ridgeline."
20 Is that right?
21 A. That's what it says.
22 Q. And in your original report you said that
23 the fire damage was observed on the south-facing roof
24 surface?
25 A. Let me go back to the original report.

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1 Correct.
2 Q. So what you have there about the fire
3 damage appearing on the south-facing roof surface in
4 your original report was wrong, right?
5 A. Yes.
6 Q. A little bit further down in the "Overview
7 of Fire Damage" section of your amended report, you
8 make this statement: "The main burned area was near
9 the east-to-west center of the roof deck and just
10 north of the roof ridgeline." Do you have that?
11 A. Yes.
12 Q. And in your original report you said that
13 the main burned area was near the east-to-west center
14 of the roof deck and just south of the roof
15 ridgeline, right?
16 A. Yes.
17 Q. And what you said in your original report
18 about that location was wrong?
19 A. The north-south orientation was wrong.
20 Q. So you made a mistake in the original
21 report about where the fire damage occurred, whether
22 it was on the north or the south roof, right?
23 MS. MACLEOD: Objection to form.
24 A. No. I made a mistake in interpreting a
25 photograph of a compass in front of the home --

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1 actually, I made a mistake by properly interpreting a
2 compass reading in front of the home.
3 Q. But you reported the fire damage was on the
4 south roof when, in fact, it was on the north roof,
5 right?
6 A. I reported what the compass reading in the
7 photograph told me, and later I learned that that was
8 not correct.
9 Q. All right. But my statement was correct,
10 right? You had originally reported fire damage was
11 on the south roof when, in fact, it occurred on the
12 north roof?
13 MS. MACLEOD: Objection, form.
14 A. Yes, that statement is correct that I
15 originally reported it on the south.
16 Q. (By Mr. Ellis) And if you'd turn to page 3,
17 your section entitled Burn Damage Area Examination
18 and Analysis. In the next-to-last sentence of that
19 paragraph at the bottom of page 3 on your amended
20 report you say, "The burned area was near the
21 east-to-west center of the roof and just north of the
22 roof ridgeline." Correct?
23 A. Correct.
24 Q. And you should have said that it was just
25 south of the roof ridgeline. Is that right?

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1 A. In that...
2 Yes, in the original report on -- in
3 the second paragraph from the bottom, it correctly
4 reports the north-south orientation.
5 Q. You're looking at the original report?
6 A. Yes, in the original report on page 4,
7 second paragraph up from the bottom, the third
8 sentence up, it says, "Most burn damage is
9 approximately 8 to 10 feet north of the roof
10 ridgeline."
11 So in the original report, I had it
12 correct in some locations and not correct in others
13 and this was because of conflicting readings in the
14 photograph.
15 Q. All right. Looking at page 3 again on your
16 amended report, the sentence that says, "The main
17 burned area was near the east-to-west center of the
18 roof and just north of the roof ridgeline," do you
19 see that?
20 A. Yes.
21 Q. Is that correct or not?
22 A. I believe that's correct.
23 Q. And what you said in your original report
24 about it being just south of the roof ridgeline, that
25 would have been incorrect?

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1 A. In the sentence where I said it was south,
2 that is incorrect, but in the sentence where I say
3 it's north, that is correct in the original report.
4 Q. You've got it one way one time and one way
5 the other?
6 A. Yes.
7 Q. Almost within the same paragraph of the
8 report?
9 A. Correct.
10 Q. All right. Turning to page 4 of your
11 report --
12 A. Is this the amended report?
13 Q. Yeah, the amended report. Looking at Photo
14 No. 4. Do you see that?
15 A. Yes.
16 Q. You make the statement just beneath the
17 photo that, "as flame tends to spread upward and
18 outward." Would that be correct?
19 A. Yes.
20 Q. You used this reference for that NFPA 921,
21 Chapter 6, right?
22 A. Yes.
23 Q. Now, with that statement in mind and
24 looking at Photograph No. 4, can you tell us by
25 looking at the wall partition which is depicted in

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1 Photograph No. 4 whether or not the fire started
2 north of that wall partition?
3 MS. MACLEOD: Objection, form.
4 A. By looking at this photograph --
5 Q. Yeah.
6 A. -- alone? No, I couldn't tell you just by
7 looking at this photograph alone.
8 Q. With your knowledge of the photographs and
9 the fire investigation, can you tell me whether or
10 not the fire started north of where the wall
11 partition would extend upward to the roof?
12 MS. MACLEOD: Objection to form.
13 A. I'm going to ask you to restate that
14 question, Mr. Ellis, to make sure I get it right.
15 Q. Let me give you a little bit more
16 background. Which direction are we facing when we
17 look at Photograph No. 4?
18 A. I believe you're facing north.
19 Q. Now, if you look at that partition and
20 assume that it extended all the way up to the roof
21 and the rafters weren't in the way, would the fire
22 have started north of where the partition intersects
23 the roof?
24 A. You're asking my opinion or...
25 Q. Well, sure. You're the one who wrote this

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1 report.
2 A. In my report I do not opine about the
3 origin -- point of origin, Mr. Ellis. I told you
4 that my work to that extent was only to confirm that
5 the finding by Mr. McGraw appeared consistent with
6 available evidence that was available to me, but
7 I did not make an independent determination of
8 where -- you know, what the area or point of origin
9 was.
10 Q. Can you tell me as you sit here whether or
11 not the fire originated north of where the partition
12 wall intersects the roof?
13 MS. MACLEOD: Objection to form.
14 A. You're talking about the point of origin
15 now?
16 Q. (By Mr. Ellis) Where it originated, point
17 of origin.
18 A. No, I can't, by looking at this available
19 evidence, tell you the exact point of origin.
20 Q. In fact, in any of the available evidence,
21 you're not able to tell us where the point of origin
22 was, right?
23 A. Restate your question, Mr. Ellis.
24 Q. In fact, in looking at all of the available
25 evidence, you're not able to tell us where the point

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1 of origin was, right?
2 MS. MACLEOD: Objection to form.
3 A. I have not attempted to do that. I can't
4 say that I'm not able to. I'm saying that I have not
5 made that determination.
6 Q. (By Mr. Ellis) You have a discussion
7 beginning on page 4 about the 14-2 and 14-3 cables.
8 Is that right?
9 A. Yes.
10 Q. Did you inspect both 14-2 and 14-3 cables
11 in your laboratory?
12 A. We inspected them at our -- I inspected
13 them at our facility.
14 Q. And did you inspect them prior to preparing
15 the original report which is dated August 29, 2012?
16 A. I did a partial inspection.
17 Q. You did a partial inspection?
18 A. Yes.
19 Q. As distinguished from a full inspection?
20 A. A full inspection many times involves
21 destructive examination, and that's what we performed
22 at Mr. Goodson's facility. But I only looked at what
23 was available -- easily available without disturbing
24 any of the evidence.
25 Q. Did you look at these cables under

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1 microscope in your laboratory before you wrote the
2 August 29, 2012 report?
3 A. I did a partial inspection of the cable
4 under a microscope.
5 Q. And what does "a partial inspection under
6 microscope" mean?
7 A. It means I viewed only areas that were
8 exposed, easily accessible without any -- removing or
9 disturbing any material.
10 Q. So when you wrote your August 29, 2012
11 report, you did not do a full visual inspection under
12 microscope of the 14-2 or 14-3 cables. Is that
13 correct?
14 MS. MACLEOD: Objection to form.
15 A. I did not inspect all -- every inch of the
16 conductors that were not exposed. It was not
17 possible.
18 Q. (By Mr. Ellis) How much of them did you
19 look at?
20 A. Portions that were exposed. I didn't
21 measure the exact -- how much was exposed and how
22 much wasn't.
23 Q. But you looked at all of the exposed
24 portions of both the 14-2 and 14-3 cables?
25 A. I didn't look at all of it under a

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1 microscope. I visually looked at them and inspected
2 to see if there were any locations that obviously
3 needed closer examination.
4 Q. And did you find some areas that required
5 closer examination?
6 A. Yes.
7 Q. What does 4 -- what does Exhibit -- I'm
8 sorry. Let's go to your original report, Exhibit
9 No. 37.
10 A. On the original report now?
11 Q. Yes. Okay. You have Photograph No. 5
12 there on your original report?
13 A. Yes.
14 Q. What does Exhibit -- Photo 5 show?
15 A. It shows a portion of the burned area and
16 what appears to be a portion of an electrical cable.
17 Q. In fact, you label Photo 5 by saying,
18 "Shows a section of 14-2 NM electrical cable in the
19 lowest burn portion of the origin area," right?
20 A. Yes.
21 Q. You further say, "This wire was confirmed
22 to not be the cause of the fire." Correct?
23 A. Yes.
24 Q. And at the time that you wrote the original
25 report on August 29, 2012, did you believe that this

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1 section of the 14-2 electrical cable was in the
2 lowest burned portion of the origin area?
3 A. That's what I believed at this time.
4 Q. Did you change that opinion?
5 A. Okay, Mr. Ellis. I'm going to ask you to
6 repeat the specific opinion that you're asking about.
7 There are a number of opinions in this paragraph,
8 so...
9 Q. The specific question I asked you was to
10 look at Photo No. 5 and to tell me whether or not
11 what's depicted there in Photo 5 shows a section of
12 14-2 in an electrical cable in the lowest burned
13 portion of the origin area?
14 A. Okay. Most of --
15 Q. We're looking at your original report.
16 A. Yes. Yes. The -- I was not able to
17 confirm that for sure this is the lowest burned area
18 from this photograph. It appears to be. That's why
19 that photograph is not included in the report.
20 Q. Stop there. In your original report you
21 said it was in the lowest burned area, right?
22 A. That's correct. That's what it says here.
23 Q. Now you're saying you're not able to
24 confirm that it was in the lowest burned area. Is
25 that right?

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1 A. Based on additional information, I
2 cannot -- I could not confirm for sure that this was
3 the lowest burned area. It appeared to be, but I was
4 not able to confirm this, certainly that this was the
5 lowest burn area.
6 Q. In fact, you deleted Photo 5 from your
7 original report when you went to prepare your new
8 report, right?
9 A. That's correct, based upon additional
10 information that was available.
11 Q. So you no longer know that Photo 5 depicts
12 a location that's in the lowest burned portion of the
13 origin area, right?
14 A. That's correct, that particular photograph.
15 Q. Now, in your new report you say that, "The
16 14-2 cable contained no evidence of localized
17 overheating or electrical activity. Therefore, this
18 cable could not have been the cause of the fire,"
19 right?
20 A. Yes.
21 Q. What kind of evidence would have
22 demonstrated to you some sort of localized
23 overheating or electrical activity such that the
24 cable could have been a cause of the fire?
25 A. An arc, of course, an arc divot, arc beads

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1 or any evidence of localized overheating. And that
2 would be some sort of a physical anomaly on the
3 wires.
4 Q. And you're saying you did not find those.
5 Is that correct?
6 A. Correct.
7 Q. Let's turn to the 14-3 cable. What is the
8 14-3 cable. Do you know?
9 A. You mean what is 14-3 cable?
10 Q. What was its function?
11 A. It's my understanding that this was the
12 alarm circuit.
13 Q. All right. And was that made up of a
14 number of different types of wires?
15 MS. MACLEOD: Objection to form.
16 A. I'm sorry, the overall circuit or the --
17 Q. (By Mr. Ellis) The 14-3 cable itself, was
18 it made up of a number of different wires?
19 A. Well, 14-3 cable have four wires in it,
20 three that are considered conductors.
21 Q. And one which is what?
22 A. Would be the ground.
23 Q. The original report says that, "On a
24 section of the 14-3 cable that was near the origin
25 area, evidence of arcing through char was found,"

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1 correct?
2 A. Correct.
3 Q. How near the area of origin was this
4 section of the 14-3 cable?
5 A. From the -- the evidence that I have seen,
6 several feet.
7 Q. And we're talking about the specific arcing
8 artifact that appeared on the 14-3 cable --
9 MS. MACLEOD: Objection, form.
10 Q. -- or something else?
11 A. No, the arcing artifacts. There were
12 actually two on that ground wire.
13 Q. What does "arcing through char" mean?
14 A. Okay. Bear with me.
15 In a fire -- after a fire we will
16 normally see two types of arcing evidence. One
17 results from direct contact between two conductors or
18 a conductor and a -- two wires. That is commonly
19 called "parting arc" and other terms. I call it a
20 "direct contact arc" because I believe that's more
21 descriptive. It results when two wires come in
22 direct contact. After they come in direct contact,
23 then they separate again, and that's where we get the
24 parting arc. It all is initiated by direct contact
25 between two wires.

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1 The second type of arcing artifact
2 that we often see is generically commonly called
3 "arcing through char." This is arcing that does not
4 result from a direct contact and it's really -- any
5 arcing that is not a result of a direct contact will
6 look like arcing through char.
7 Q. In other words, "arcing through char" to
8 you means any nondirect contact between two wires?
9 A. Yes. That's one way to put it. It means
10 an arcing event occurred but the two wires were not
11 touching. It was separated by some medium, and
12 that's why the events are electrically and physically
13 different. It means the current is going through a
14 resistance.
15 Q. In looking at page 6, Photo No. 6 of your
16 original report, you label that as, "Shows arcing
17 through char on a conductor of the 14-3 NM electrical
18 cable." Correct?
19 A. Correct.
20 Q. And what was it about the appearance of
21 Photo 6 that led you to believe that this was arcing
22 through char?
23 A. Primarily two things. The first is there
24 are no sharp divots, no sharp lines of demarcation
25 between areas on the wire. And the second is the

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1 very -- I'm going to use the term "soft spreading" of
2 copper material. It's almost like it was poured in
3 places. A sharp divot, a sharp demarcation in the
4 material is usually evidence of a direct contact arc
5 and the soft smearing of copper material is usually
6 indicative of arcing through something.
7 Q. If you would, have you got a pen over
8 there?
9 A. I have a pencil.
10 Q. Okay. Let me let you borrow my pen here.
11 And if you would, please, just circle what you've
12 just described as the soft spreading of copper
13 material.
14 A. (Witness complies.)
15 Q. Now, draw a line to the outside of that and
16 label it as "B."
17 A. (Witness complies.)
18 Q. And you say you're not seeing any sharp
19 divots here at all. Is that right?
20 A. Not in this photograph.
21 Q. What other arcing artifacts, if any, do you
22 see on Photo No. 6?
23 A. Well, there is a -- there is a bubble, but
24 we can't call that a bead.
25 Q. What's the bubble from?

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1 A. It's just an artifact of arcing. Again,
2 with a direct contact arc, we will often get beads.
3 You can get beads from both but -- and a bead is a
4 much more spherical formation.
5 Q. You say that -- well, let's back up just a
6 second. Using my pen there, would you mark that
7 artifact that we're talking about now as "A"? Just
8 circle it and put an "A" to the outside.
9 A. (Witness complies.)
10 Q. And you're not calling that a bead. Is
11 that right?
12 A. Correct.
13 Q. You're calling that, what, a bubble?
14 A. I call it a bubble.
15 Q. And what produced the bubble?
16 MS. MACLEOD: Objection, form.
17 A. It's -- again, it's produced by arcing.
18 Q. (By Mr. Ellis) Why are you reluctant to
19 call it a bead?
20 A. A bead is a much more spherical object.
21 Q. Can I have my pen back? Thank you.
22 Are these pictures which you took
23 yourself, Photo No. 6?
24 A. These may have -- Photo No. 6 may have
25 been. I have to look back.

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1 Q. Do you believe Photo 6 is one that you
2 took?
3 A. It looks like one that I would have taken,
4 yes.
5 Q. Would you have taken it under the
6 microscope?
7 A. Under a microscopic lens and it may have
8 been on one of my cameras that has a -- has a
9 microscopic lens.
10 Q. In your original report you conclude that
11 the 14-3 cable did not sustain a failure such as a
12 short circuit prior to the start of the fire. Is
13 that right?
14 A. Correct.
15 Q. And what led you to that conclusion?
16 A. The electrical anomalies, the arcing was
17 only on the ground wire -- I'm sorry. Were you
18 asking about the original report?
19 Q. Yes.
20 A. In the original report, we had not yet
21 confirmed that this was the ground wire but we had --
22 I was able to apparently confirm that we had arcing
23 on only one wire.
24 Q. And that led you to the conclusion that the
25 14-3 cable did not sustain a failure prior to the

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1 start of the fire?
2 A. Yes. If you're going to have a failure --
3 an arcing event that is a result of a failure, it's
4 going to be between two -- two wires. You have to
5 have a source of a current and a return.
6 Q. In your original report you determined that
7 the 14-3 cable was energized when attacked by fire.
8 Is that correct?
9 A. That it was -- the 14-3 was energized?
10 Q. Uh-huh.
11 A. Did I say that?
12 Q. Page 5, the paragraph next to the bottom.
13 Did you make the statement, "We can conclude that the
14 14-3 cable was energized when attacked by fire"?
15 A. The --
16 Q. First of all, answer my question. You made
17 that statement, right?
18 A. Yes.
19 Q. All right. What was the basis for that
20 conclusion?
21 A. Well, the basis for that was we, at that
22 point, had no information that this could have been a
23 very unusual event, which was that it was energized
24 by the -- that the arcing event was from the
25 lightning. And so any time you have an arcing event,

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1 you know that the cable was energized. The cable,
2 indeed, was energized. But at this point all we're
3 saying is that it was energized.
4 This seems to imply that it was
5 energized and that the arcing was from the house
6 current, but that's really not what I was intending
7 to say. All I'm saying is that we know that it was
8 energized. We had an arcing event and, therefore,
9 there was energy available.
10 Q. No, that's not what you're saying. You're
11 saying here, "We can conclude that the 14-3 cable was
12 energized when attacked by fire." Right?
13 A. That is what it says, yes.
14 Q. And you changed that, didn't you?
15 A. Didn't explicitly change it.
16 Q. Is your opinion still that the 14-3 cable
17 was energized when it was attacked by fire?
18 A. My opinion now is that it probably was not.
19 Q. So you have changed it?
20 A. I didn't explicitly change it in the
21 report. You asked me if my opinion now is -- and I
22 didn't specifically state that in this report, but my
23 opinion now is that it probably was not energized
24 when it was attacked by fire.
25 Q. And what is it about your present opinion

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1 that leads you to believe that the 14-3 cable was not
2 attacked by fire?
3 MS. MACLEOD: Objection to form.
4 A. I think you meant another question,
5 Mr. Ellis. It was attacked by fire. But I think you
6 meant another question.
7 Q. Well, yeah, okay. Why is your opinion
8 changed from what you gave in the original report
9 that the 14-3 cable was energized when attacked by
10 fire?
11 A. We now -- based upon the examination at
12 Mr. Goodson's facility, we now have information that
13 tells us that the -- that -- if you want to call it
14 the damage on the ground wire of this 14-3 cable was
15 the result of current from lightning. We did not
16 have that information prior that would allow us to
17 make that determination.
18 Q. You didn't have the information beforehand?
19 A. Correct. We didn't know for sure that this
20 was the ground wire that had the arcing on it.
21 Q. Why didn't you know that?
22 A. Because we hadn't been able to strip the
23 wires back all the way.
24 Q. What difference would that have made to
25 you?

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1 A. If I had known --
2 MS. MACLEOD: Objection, form.
3 A. -- it was the ground wire?
4 Q. Yes.
5 A. Then I would have a different opinion.
6 The -- if you have arcing on a ground wire and no
7 arcing anywhere else, it's not going to be the result
8 of house current -- being energized by house current.
9 MR. ELLIS: Why don't we take a --
10 well, let's see. It's 12:00 noon. Let's go off the
11 record.
12 THE VIDEOGRAPHER: Going off the
13 record at 12:05 p.m., ending tape 3.
14 (Recess taken)
15 THE VIDEOGRAPHER: Back on the record
16 at 12:47 p.m., beginning tape 4.
17 Q. (By Mr. Ellis) Mr. Simmons, before we broke
18 for lunch, you had made a distinction between direct
19 contact arcing and arcing through char. Do you
20 remember that?
21 A. Yes.
22 Q. Do you have any references that you would
23 rely upon to establish that distinction?
24 A. This is discussed in many different texts
25 or different books that have been published on fires.

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1 NFPA 921 is certainly one. The Fire Ignition
2 Handbook is another. Again, this is a real -- it's a
3 very commonly discussed subject, and I can't quote
4 every reference that I've ever looked at.
5 Q. But at least those two you say draw a
6 distinction between arcing through char and arcing
7 through direct contact?
8 A. Or parting arc, yes.
9 Q. All right, sir. Isn't it true that you
10 were always in a position where you could determine
11 that the arcing artifacts were on one wire of this
12 circuit, namely the ground wire?
13 A. No, I did not believe so.
14 Q. Why weren't you able to do that? You had
15 the physical evidence in front of you, right?
16 A. The -- to really confirm that required some
17 level of destructive examination. I knew that there
18 was going to be a more detailed evidence examination
19 later. I elected not to do any level of destructive
20 examination.
21 Q. You wouldn't have to destroy the evidence
22 to put it under an x-ray, for instance, right?
23 A. We do not have an x-ray in our facility.
24 Q. You don't. But you could have, couldn't
25 you?

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1 A. I could have -- I'm not sure I could have
2 because that level of examination needs to be
3 witnessed by all parties, and so the -- the proper
4 decision was to conduct that sort of examination when
5 all parties could be present such as we did at the
6 Goodson facility.
7 Q. Was the breaker for this circuit tripped?
8 A. Which circuit, Mr. Ellis?
9 Q. The fire alarm.
10 A. It was reported to me that that breaker was
11 tripped.
12 Q. What tripped it?
13 A. You're asking me now?
14 Q. Yes.
15 A. Now I believe that it was tripped by
16 current from lightning.
17 Q. But before you thought it was what?
18 A. Before I didn't know for sure.
19 Q. You didn't have an opinion?
20 A. Well, the only information that I had
21 available would suggest that it was from house
22 current.
23 Q. So you thought it was a hot wire?
24 A. That was the assumption -- the reasonable
25 assumption at that time.

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1 Q. And your opinion changed?
2 A. Additional information has become available
3 that allowed me to refine my opinion.
4 Q. You've now reached the opinion in the new
5 report that there was arcing from the radiant barrier
6 sheathing to the 14-3 cable. Is that correct?
7 A. Yes.
8 Q. All right. Show me on any photograph in
9 your new report the physical evidence demonstrating
10 that there was an arc from the RBS to the 14-3 cable.
11 A. There is no photograph in my report that
12 would show that.
13 Q. Did you see any photograph that shows that
14 which is not in your report?
15 A. The photograph and the evidence is of the
16 arcing on the ground wire, and that includes
17 photographs and SIM analysis performed at
18 Mr. Goodson's lab.
19 Q. Just to be clear, though, you have not seen
20 any photograph which would show that there was arcing
21 from the RBS to the 14-3 cable?
22 MS. MACLEOD: Objection to form.
23 A. I believe that the photographs I just
24 referenced show that.
25 Q. (By Mr. Ellis) And the photographs you're

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1 referring to is Photo 5 on page 5 of your amended
2 report which just shows the ground wire from the 14-3
3 cable?
4 A. And all the photographs that were taken at
5 Mr. Goodson's lab which are on a diskette in my file.
6 Q. Again, just of the 14-3 cable, correct?
7 A. I'm sorry. Are you asking if --
8 MS. MACLEOD: Objection, form.
9 A. -- all the photographs are just of the 14-3
10 cable?
11 Q. Right.
12 A. I believe there are other photographs of
13 the 14-2 cable.
14 Q. We're talking about the 14-3 cable arc at
15 this point, okay?
16 My question to you is: Do you have
17 any photographs of the radiant barrier sheathing
18 which shows some physical damage, some physical
19 information, some physical evidence that you would
20 rely upon to demonstrate that the arc came from the
21 RBS to the 14-3 cable?
22 A. Radiant barrier in that immediate vicinity
23 was consumed in the fire, no longer existed after the
24 fire. The evidence is on the wire itself.
25 Q. Is the answer to my question that you don't

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1 have a photograph, then, of the RBS which shows any
2 arcing from the RBS to the 14-3 cable?
3 MS. MACLEOD: Objection, form.
4 A. Of course, no one has that photograph. The
5 material no longer existed after the fire.
6 Q. (By Mr. Ellis) Is the answer no? I mean,
7 why is it so hard just to say no, there's no evidence
8 of it?
9 A. That was not your question, Mr. Ellis. You
10 asked if I had any photographs that showed that and I
11 believe I have photographs that show it. But now you
12 want to refine it to evidence -- to a photograph of
13 the RBS material.
14 Q. That's what I asked you. And you
15 apparently have trouble saying that there's no
16 photograph of the --
17 MS. MACLEOD: Objection.
18 Q. (By Mr. Ellis) -- RBS which would help
19 support your theory that there was arc from the RBS
20 to the conductor.
21 MS. MACLEOD: Objection, form.
22 A. May I have -- I may have misunderstood your
23 question that was a fairly long question that
24 involved evidence of the arcing, which is also --
25 which is on the wires. But specifically about the

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1 RBS material in the location where those arcs
2 occurred, that RBS material did not exist after the
3 fire.
4 Q. Are you able to -- was that part of the RBS
5 consumed during the fire, to your knowledge?
6 A. To my knowledge, the foil on the material
7 was consumed, the laminate, what I'm calling the
8 lamination on the OSB.
9 Q. Do you know whether or not that portion of
10 the radiant barrier sheathing was removed and
11 destroyed after the fire?
12 A. I don't know that, of the OSB, if that was
13 removed.
14 Q. Are there any photographs that you're aware
15 of which would show the location where the section of
16 the 14-3 conductor which is depicted in Photo 5
17 existed at the time of the fire?
18 A. There are photographs taken by Mr. McGraw
19 that show that wire after the fire. Whether it's in
20 the exact position that it was during the fire,
21 almost certainly not. But how much it may be
22 displaced, I don't know.
23 Q. And you've examined those photographs by
24 Mr. McGraw, correct?
25 A. I have viewed them, yes.

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1 Q. Tell me what you believe the distance was
2 from the RBS to the 14-3 cable when this arcing event
3 took place.
4 MS. MACLEOD: Objection to form.
5 A. Ask your question again, Mr. Ellis.
6 Q. (By Mr. Ellis) Tell me what you believe was
7 the distance between the RBS and the 14-3 conductor
8 when it took -- when the arcing event took place.
9 MS. MACLEOD: Objection, form.
10 A. I have not formed an opinion of exactly how
11 close it was. It would have been within inches.
12 Q. How far could the arc have traveled from
13 the RBS to the 14-3 cable to create this arcing
14 artifact?
15 A. Arcing due to lightning voltage could have
16 traveled a great distance.
17 Q. What distance is that?
18 A. Theoretically, lightning can arc many feet.
19 In this environment it would have been, for my
20 opinion, it is -- would be measured in inches
21 probably.
22 Q. But it could have gone several feet?
23 A. Theoretically.
24 Q. All right. When the wire was examined
25 either in your laboratory or Mr. Goodson's, was any

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1 evidence of aluminum deposits found on the arcing
2 artifact of the 14-3 cable?
3 A. No.
4 Q. Would you have expected to see any deposits
5 of aluminum on the 14-3 cable?
6 A. Given all the rest of the information, no,
7 would not have expected to see it.
8 Q. What's all the other information that leads
9 you to believe that you would not have seen an
10 aluminum deposit on the wire?
11 A. Information that tells us that this was
12 arcing from the RBS material to the -- to the ground
13 conductor of this cable, based upon the fact that
14 it's -- only a single wire and only the ground wire
15 has arcing, that tells us that this arcing was
16 through insulation. This was arcing through
17 insulation, which is very similar to -- arcing
18 through char is actually arcing through insulation.
19 It's just whether -- how much it's been charred
20 before the arcing occurs.
21 But the fact that it was arcing
22 through insulation tells us that any aluminum is
23 going to be embedded in that insulation sheathing and
24 would not have made it to the wire.
25 Q. Turn to page 7 of your new report,

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1 Photograph No. 9. Here you say, "Photos," plural,
2 "such as Photo 9 show conclusive evidence of arcing
3 at the joints between radiant barrier sheets along
4 the path between the fireplace chimney and the dryer
5 vent." Do you see that?
6 A. Yes.
7 Q. What specifically on the photograph shows
8 that?
9 A. I want to make sure I'm answering the
10 "that" that you're talking about, Mr. Ellis. So
11 you're saying that shows that there was arcing?
12 Q. Shows the conclusive evidence of arcing at
13 the joints between radiant barrier sheets along the
14 path between the fireplace chimney and the dryer
15 vent?
16 A. The damage pattern on the foil -- a damage
17 pattern such as that I have -- is not caused by
18 mechanical damage, No. 1. It's a very irregular
19 pattern and it is completely consistent with what
20 electrical -- the type of damage that electrical
21 arcing generates. There is evidence of melting along
22 the fine edges. There is --
23 Q. Let me stop you there because what I'd like
24 for you to do is to mark these pieces of evidence for
25 us.

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1 MR. ELLIS: Skye, have you got a pen
2 that you can loan to Mr. Simmons so we can do this?
3 (Discussion off the record)
4 Q. (By Mr. Ellis) All right, sir. Now, what I
5 want you to do is to describe for me what this
6 conclusive evidence of arcing is. And when we do so,
7 what we'll do as we describe it is mark it with this
8 location on Photograph No. 9 with circles and with
9 letters off to the side. So tell us what you're
10 doing as you go along and mark it for us.
11 A. You'll have to tell me what you want me to
12 mark, Mr. Ellis. I'll tell you --
13 Q. It's the same thing that I asked you to do
14 before, which is to show us the conclusive evidence
15 of arcing at the joints between the radiant barrier
16 sheets along the path between the fireplace chimney
17 and the dryer vent.
18 A. Based upon that question, I'm going to
19 circle this whole photograph. I think you want me to
20 be more precise than that.
21 Q. Yeah. Show us the evidence on the
22 photograph. What is it?
23 A. First piece of evidence is the irregularity
24 of the damage pattern that is not consistent with any
25 known mechanical damage but it is consistent --

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1 completely consistent with electrical damage.
2 Q. All right. Anything else?
3 A. Do you want me to circle that?
4 Q. Well, that sounds like a general comment
5 about the whole photograph again, so --
6 A. It's about the damage pattern, Mr. Ellis.
7 Q. All right. Then circle what it is about
8 the damage pattern that helps you with that.
9 A. (Witness complies.)
10 Q. Okay. Take a -- draw a line out to the
11 side of that and put a "C" next to it.
12 A. (Witness complies.)
13 Q. Anything else other than the irregularity
14 of the pattern?
15 A. It's difficult to see in this photograph in
16 this report. On a computer screen you can see it
17 much -- there is evidence of melted aluminum.
18 Q. Where are you seeing that?
19 A. Again, in this photograph it's difficult to
20 see. I believe that in the far left side of the
21 damage pattern, there's a couple little points right
22 here that I believe have it. But again, on this
23 paper printed photograph, it's difficult to see. You
24 have to look at it on a computer screen to really be
25 able to see it.

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1 Q. Do your best with this photograph.
2 A. Okay. I believe --
3 Q. Circle the ones that you're talking about
4 and we'll mark those with a "D" out to the side.
5 A. Okay. So difficult in this photograph.
6 Q. All right, sir. Any other conclusive
7 evidence of arcing of the joints?
8 A. The black sooting that you see on the
9 material behind the aluminum.
10 Q. All right. Would you circle that and mark
11 it with an "E"?
12 A. It's actually in pretty much the whole
13 picture. It's here, it's here, it's here, it's here.
14 Q. Just put circles around these areas and
15 then connect them with an "E."
16 A. They're going to include some other areas.
17 Q. Are you done?
18 A. Again, I could -- I could circle the
19 whole -- the whole...
20 Q. Is there any other conclusive evidence of
21 arcing on this photo?
22 A. The fact that it occurs on two adjacent
23 pieces of the foil, same pattern, actually extends
24 across two adjacent pieces of foil at a joint is
25 evidence in and of itself.

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1 Q. Anything else?
2 A. That's what comes to my mind right now.
3 MS. MACLEOD: Neal, before we go on,
4 should we label that joint "F"?
5 MR. ELLIS: I don't mind if he goes
6 ahead and does that.
7 Q. This area that's identified by Photo No. 9,
8 do you know where it was in relationship to the area
9 of fire origin?
10 A. I believe this was immediately -- if you're
11 looking up at the roof, immediately to the right of
12 the portion of the RBS material that had been removed
13 and replaced.
14 Q. Page 17 indicates that there are photos
15 which show conclusive evidence of arcing at the
16 joint. What other photos other than Photo No. 9 show
17 this?
18 A. These are part of Mr. McGraw's photograph
19 package, and there were several. I can't tell you
20 off the top of my head. This was produced as a
21 representative sample.
22 Q. You didn't put those in your report,
23 though, did you?
24 A. I did not put every one, no.
25 Q. Just Photo No. 9, sir?

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1 A. Right. There would have been many. Too
2 many.
3 Q. Are the -- let me ask you to turn to page 8
4 of your amended report.
5 In the middle of the second paragraph
6 you say, "The clearly visible localized black soot
7 deposits seen in photos leave no doubt that
8 combustion occurred in some of those locations and
9 that the heat effects included combustion, paren,
10 burning." Do you see that?
11 A. Yes.
12 Q. Now, have you identified for us on Photo
13 No. 9 what you believe were the localized black soot
14 deposits?
15 A. These are examples of the localized black
16 soot deposits.
17 Q. And you marked those with what letter?
18 A. Those are "E."
19 Q. All right. Neither you nor Mr. McGraw took
20 any action to sample these localized black soot
21 deposits and determine whether they were, in fact,
22 soot, did you?
23 MS. MACLEOD: Objection to form.
24 A. I'm not sure what Mr. McGraw did. I did
25 not.

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1 Q. But that is something that you could have
2 done in order to confirm that what you were looking
3 at was, in fact, soot, correct?
4 A. It was not something I could have done. I
5 had no access to this material.
6 Q. You don't think that if you had asked
7 Mr. Taylor to have access to his house, he would have
8 said yes? Is there any doubt in your mind that he
9 would have allowed you access?
10 MS. MACLEOD: Objection to form.
11 A. It's my understanding that when I was
12 working on this, that the house had been repaired. I
13 had no knowledge that this house was still in the
14 condition -- in this condition.
15 Q. (By Mr. Ellis) And you never made any
16 effort to try and ask Mr. McGraw whether or not he
17 would do that, namely, take a sample of what you are
18 now calling soot deposits to examine and confirm that
19 they were, in fact, soot rather than something else,
20 right?
21 A. Again, it's my understanding that
22 Mr. McGraw had already completed his examination and
23 that this house had probably been repaired and that
24 this material was no longer available.
25 Q. But you never did anything to try and

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1 confirm that, did you, by asking Mr. McGraw whether
2 or not he still had access to the material and
3 whether or not what you have told us are black soot
4 deposits could be examined and confirmed as black
5 soot deposits?
6 A. Mr. Ellis, in an investigation like this,
7 you only do things that are deemed reasonable. If
8 there's a reasonable reason to pursue some additional
9 action, then you might consider requesting it. But
10 in this case it's my opinion that there was no
11 reasonable reason to further sample that or to -- but
12 again, in addition, it was my understanding that this
13 material was no longer even available. It wasn't
14 possible to do.
15 Q. Let's go back to the first part of your
16 answer. So confirmation that these were, in fact,
17 soot deposits would not have been a reasonable
18 request for you to make. Is that right?
19 A. There was no reason to believe that they
20 could have been anything other than that, Mr. Ellis.
21 There's no information at all that suggested that
22 that -- the black deposits could have been anything
23 other than soot.
24 Q. The answer to my question is, though, that
25 you did not deem it reasonable to go back and try to

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1 confirm it?
2 A. In this particular case, based upon the
3 information that I had, that's correct. I did not
4 deem it reasonable.
5 Q. Page 9 of your amended report, sir --
6 before we do that, let's go to page 9 of your
7 original report.
8 What does Diagram No. 1 show?
9 A. This is a pictorial of a structure with a
10 fireplace chimney and a dryer vent and a dryer and a
11 path that electrical current from a lightning strike
12 would very likely take in this case.
13 Q. Does it illustrate, as you've indicated on
14 page 9, the roof's electrical environment?
15 A. It indicates a portion of it.
16 Q. And have you indicated here that everything
17 in red is a potential electrical current path for
18 lightning? Is that right?
19 A. Yes.
20 Q. So there were a number of other paths to
21 ground, were there not, than the one that you've
22 illustrated in Diagram No. 2 of your amended report.
23 Is that right?
24 A. I'm going to answer no. There were only
25 two identified reasonable paths.

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1 Q. What were the two identified reasonable
2 paths to ground?
3 A. This path and the path to the ground wire
4 of the 14-3 cable.
5 Q. So by "this path" you mean the path from
6 the fireplace chimney through the dryer vent to the
7 dryer?
8 A. Yes.
9 Q. And the other path would have been through
10 the ground wire of the 14-3 cable?
11 A. Yes.
12 Q. And you don't recognize that there are any
13 other potential paths to ground?
14 A. Electrical current flows through the path
15 of least resistance to its destination. And
16 lightning always goes to ground and it can take many
17 paths, but it prefers -- as electrical current always
18 does, it prefers the path of least resistance, the
19 most direct path. There were very probably small
20 amounts of current that flowed in other locations,
21 but this would have been the predominant path of the
22 electrical current.
23 Q. Do you recognize that there were other
24 possible paths for the current to take, for instance,
25 through the gutters, piping in the attic and through

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1 other means to get to ground or not?
2 A. I have no information that those were
3 connected to ground, and there has to be a direct
4 connection to ground or through a path. We know for
5 sure that the dryer was connected to ground. We know
6 for sure that the dryer vent was connected to the
7 dryer.
8 Q. If you look at Diagram No. 2 on page 9 of
9 your amended report, sir, what does that show?
10 A. This is a top down view representative of a
11 roof section with a fireplace chimney and a dryer
12 vent.
13 Q. All right. And it's a depiction of the
14 north-facing roof. Is that correct?
15 A. Yes.
16 Q. And what are you depicting as the
17 electrical current path here?
18 A. The red line.
19 Q. And that shows a path that goes from the
20 fireplace chimney to the dryer vent. Is that right?
21 A. An approximate path, yes.
22 Q. And this path, according to you, would have
23 gone diagonally across the north-facing roof through
24 what you say is the fire origin to the dryer vent.
25 Is that right?

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1 A. Yes. These drawings and shapes, of course,
2 are very approximate. They're just representative.
3 No dimensions on here at all.
4 Q. I understand that. But what you're
5 depicting is a line that goes diagonally down from
6 the fireplace chimney to the dryer vent, right?
7 A. Generally, yes. We have photographs of
8 arcing evidence around the chimney. We have
9 photographs of arcing evidence around the dryer vent.
10 We have photographs of arcing evidence generally
11 along this path. And I saw no photographs of arcing
12 evidence anywhere else.
13 Q. I know you didn't look at the nails in the
14 roof, correct?
15 A. I'm sorry. When you say "look at," look at
16 in photographs or do an examination?
17 Q. You didn't physically examine the nails in
18 the roof, right?
19 A. No, of course not. Nobody does.
20 Q. Did you see any physical evidence based
21 upon the photographs that the nails had been
22 energized by lightning?
23 A. Yes.
24 Q. What was that?
25 A. The somewhat circular arc damage patterns

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1 around the nails, along with the fact that those
2 nails were directly connected to the flashing of the
3 fireplace chimney, which we know was energized by
4 lightning.
5 Q. Let's turn to page 9 of your report under
6 the section that is entitled "Testing Performed." Do
7 you see that?
8 A. Is this the amended report?
9 Q. Yes. About halfway down through the first
10 paragraph there, your sentence says, "This testing
11 has confirmed sheet resistance of the radiant barrier
12 sheathing material such that when the current density
13 in the material exceeds approximately 300 amps per
14 square millimeter, resistive heating within the
15 material generates temperatures higher than the
16 ignition temperature of common material such as
17 paper, glue and light plastics." Correct?
18 A. Correct.
19 Q. In your original report what you said was
20 that the resistive heating within the material
21 "always generates temperatures higher than the
22 ignition temperature of common materials," right?
23 A. When the current density exceeds a certain
24 level, yes. Either of those -- both of those
25 statements are correct.

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1 Q. Why did you delete the "always" in the
2 statement which appears in the amended report?
3 A. I don't recall explicitly deleting that.
4 It was just an editorial variation that both of those
5 statements are equally true.
6 Q. In the next sentence it says, "As a result,
7 when the current density exceeds this level, the
8 paper and glue layers and other light combustibles in
9 contact can easily ignite in flame." Do you see
10 that?
11 A. Yes.
12 Q. In your original report you said it would
13 always ignite in flame. Why did you change that?
14 A. Again, I -- that was just an editorial
15 verbiage change. There's no specific reason. I
16 don't even explicitly recall making the change.
17 Again, the meaning is the same. There's no
18 difference in the --
19 Q. So both statements would have been true,
20 the one that appears in the original report and the
21 one that appears in the amended report. It would
22 always ignite in flame, in other words?
23 A. Let me...
24 Q. It's page 10, the original report, second
25 sentence from the bottom.

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1 A. In the testing that we had performed that
2 these determinations were based upon, it always
3 ignited in flame. That's where that came from.
4 Actually, at the time of this report, we had
5 conducted additional testing.
6 Q. And what did that show, that it always
7 ignited in flame?
8 A. That there -- we were actually able to
9 generate -- up until this point, every time we
10 energized the material, the paper and glue always
11 ignited in flame. Subsequent to that we were able
12 to, in certain cases -- not very often -- to -- well,
13 to have a situation where only the aluminum foil
14 ignited in flame.
15 Without a very detailed analysis of
16 the paper, we can't tell -- and the glue -- we
17 couldn't tell how much of the glue burned. I'm quite
18 sure that the glue on top of the paper burned away,
19 but we weren't able to confirm that. It required
20 much too detailed of an analysis. But at least in
21 one case, part of the paper remains.
22 Q. All right. So it didn't always ignite in
23 flame?
24 A. Subsequent -- in testing that we performed
25 subsequent to this original report.

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1 Q. In subsequent testing after this original
2 report, then the paper did not always ignite in
3 flame, correct?
4 A. Correct. There was one event where it --
5 the paper did not -- the glue did appear to but the
6 paper did not. And the aluminum foil did ignite in
7 flame.
8 Q. In the testing which you performed, what
9 was the current and what was the duration of the
10 current that was applied to the RBS?
11 A. Which testing, Mr. Ellis? We've done many
12 tests.
13 Q. What record do you have of your tests?
14 Let me ask you, first of all, how many
15 tests have you performed?
16 A. So many I couldn't count them. We probably
17 cumulatively have spent more than a hundred hours
18 testing this material.
19 Q. And what's the shortest duration period
20 that you've applied?
21 A. The shortest one that we were able to
22 record was a rise time of 1 microsecond -- less than
23 1 microsecond, well less than 1 microsecond, a
24 duration of 20 milliseconds, but that is at a current
25 level hundreds, thousands of times less than

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1 lightning can provide.
2 Q. For somebody who's not an electrical
3 engineer, define for me what you mean by "rise time."
4 A. That's how long it takes the voltage to go
5 from zero to whatever the level it's going to be to.
6 Technically it's the 10 to 90 percent point but...
7 Q. And duration is something different than
8 the rise time?
9 A. Duration is how long the electrical energy
10 is applied.
11 Q. And the shortest period of duration that
12 you applied is 20 milliseconds. Is that correct?
13 A. Shortest we were able to record. We know
14 there was some shorter than that, but we didn't
15 capture them on the subsequents. But again, this was
16 at a current level probably thousands of times less
17 than what lightning can provide.
18 Q. Thousands of times less?
19 A. Yes.
20 Q. What current level?
21 A. They was between 1 and 200 amps.
22 Q. What did you use to energize the RBS?
23 A. This was actually an automotive battery.
24 Q. A battery that was taken out of a vehicle?
25 A. Purchased separately.

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1 Q. Sir?
2 A. It's an automotive battery, but it didn't
3 come out of a vehicle. It was new.
4 Q. But it was an automotive battery?
5 A. Yes, it was an automotive battery.
6 Q. And when you did the test that lasted a
7 duration of 20 milliseconds, what was the result?
8 A. Radiant barrier material erupted in flame.
9 Q. Did the flame go out or did it continue to
10 burn?
11 A. Since there was no other light combustibles
12 in the area, of course, after a few seconds, it went
13 out.
14 Q. So it sustained a flame for a few seconds?
15 A. We didn't precisely measure how long the
16 flame sustained. It was certainly long enough that
17 it would have ignited any nearby combustible
18 material.
19 Q. Just to be sure, though, you didn't measure
20 how long that was, did you?
21 A. No, but you can estimate in those time --
22 in those time frames you can estimate pretty closely.
23 So it was a crude measurement, but it was measured.
24 Q. All right. And did you record how long the
25 flame lasted?

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1 A. It was written on a piece of paper that was
2 there at the time. It wasn't recorded in a report or
3 anything like that.
4 Q. Okay. When you do these tests, what kind
5 of record do you make of the tests?
6 A. Depends upon the test. There's a whole
7 gamut -- there's a whole range of types of testing
8 that you do when you're -- initially you're doing
9 what you call discovery testing, which is you don't
10 know what you're going to see, you're just putting it
11 through some paces to see if there's anything more to
12 look at.
13 Then you will begin to do much more
14 characterization type testing to refine what you
15 think that you have learned in a discovery testing
16 and then you'll move on to where you're actually
17 documenting the test, where you're taking
18 photographs, we have a video camera running. So
19 we've done all of the above.
20 In the early cases, there's no
21 residual record when we were just discovering. Later
22 and for certain tests, the -- we have documented them
23 through photographs, through video. Some of them --
24 some of the results have shown up in the charts and
25 graphs in our reports, in our articles.

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1 Q. What kind of record do you have of the
2 tests that you just described, the one that lasted
3 for 20 milliseconds?
4 A. You have a video of it.
5 Q. Is the current that you applied continuous
6 current?
7 A. Yes. This is DC from an automotive
8 battery.
9 Q. So it's not transient current like you
10 might experience in a lightning strike, right?
11 A. No, sir, it is transient current like you
12 might experience in a lightning strike.
13 Q. It is transient?
14 A. Lightning -- there's a difference between
15 continuous current and transient current. Transient
16 currents are continuous. Lightning is
17 unidirectional. It's DC. It's not alternating
18 current.
19 Q. Were you trying to replicate lightning in
20 this test?
21 A. Not at all.
22 Q. What were you trying to do?
23 A. Just to document the response of the
24 material to a short impulse, a fast rise time, short
25 impulse. It's not reasonably possible to duplicate

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1 lightning.
2 Q. It's not possible reasonably to replicate a
3 lightning strike?
4 A. Correct. What it is possible to do is to
5 demonstrate fundamentals of how something responds
6 that are the same regardless of the source of
7 electrical current. Lightning is just one of many
8 sources of electrical current.
9 There's nothing magic about lightning.
10 There's nothing that's greatly different. Once it
11 becomes -- once it gets into a conductor and becomes
12 electrical current, it behaves exactly the same as
13 current from any other sources.
14 Q. You told us that it wouldn't be reasonable
15 to try and replicate the current from a lightning
16 strike. So I want you to tell me in what ways your
17 test, the one that we've just been talking about,
18 differs from a lightning strike.
19 A. The only significant difference is the
20 amount of current available.
21 Q. What do you mean by "the amount of current
22 available"?
23 A. A lightning strike can generate -- can
24 deliver hundreds of thousands of amps. We were able
25 to deliver maybe a hundred amps.

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1 Q. I'm sorry. How many?
2 A. We were able to deliver a little over a
3 hundred amps. The lightning can deliver hundreds of
4 thousands of amps.
5 Q. So how many orders of magnitude difference
6 is there between the magnitude of a lightning strike
7 and what you delivered, which was just over 100 amps?
8 A. Well, that would have been something over
9 three orders of magnitude.
10 Q. Something over three orders of magnitude?
11 A. Yes, a thousand times more is three orders
12 of magnitude.
13 Q. It's a lot more than just a thousand times,
14 isn't it?
15 A. A hundred thousand versus a hundred is a
16 thousand times.
17 Q. And what would be the range of current in a
18 lightning strike?
19 A. It's a very, very wide range and people
20 don't -- if you look at the STRIKEfax and that sort
21 of thing, they will give you an estimate of how many
22 kiloamps the strike was. This is only a gross
23 estimate, but they can range anywhere from tens of
24 kiloamps to, you know, hundreds and thousands of
25 kiloamps. But those are not precise measurements at

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1 all.
2 Q. All right. You said that your test lasted
3 for approximately 20 milliseconds. Is that correct?
4 A. Yes, this particular one.
5 Q. And what is the duration range for a
6 lightning strike?
7 A. Big variable. Typically people talk about
8 in a range of 100 microseconds, but it can be much
9 longer. Also, there are types of lightning strikes
10 that -- there's different terminology used, but
11 they're basically continuous. You'll get multiple
12 lightning strikes that really all act as one. There
13 are also many other phenomenon in a -- electrical
14 phenomenon get involved in determining how long the
15 current -- the current from a lightning strike
16 continues to flow. There are capacitance effects,
17 there are inductive effects. There are many things
18 in a total environment that will affect how long that
19 current flows. Generally it flows much longer than
20 just the duration of the lightning strike itself.
21 Q. You told us that there were such things as
22 continuous lightning strikes --
23 A. That's a -- that's a term that I'm pulling
24 off of my head. It's a descriptive term. It's
25 probably not the actual term that's used. But there

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1 are, yes.
2 Q. Is there any evidence of what hit the
3 Taylor home was a continuous lightning strike?
4 A. I have no evidence of that.
5 Q. But typically what you say is is that a
6 lightning strike has been said to have a duration of
7 approximately 100 micro seconds?
8 A. No, I said that typically people speak of
9 lightning strikes in terms of hundreds of
10 microseconds, in the 100-microsecond range.
11 Q. In orders of magnitude, how is that
12 different than your 20-millisecond duration?
13 A. That's a couple of orders of magnitude, in
14 that range. However, Mr. Ellis, higher current
15 levels -- or lower current levels to generate the
16 same amount of heating will require longer. Higher
17 current levels will have the same effect, same result
18 in a much shorter time. So trying to equate a
19 hundred amps to tens, hundreds of thousands of amps,
20 there's not a linear relationship there at all.
21 Q. What's the formula for determining energy?
22 A. Well, in this case the power from
23 electrical current -- P equals I squared R , power
24 equals the current squared times the resistance. For
25 a given level of current -- sorry. For a given level

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1 of resistance, a ten times increase in the amount of
2 current will result in a 100 times increase in the
3 amount of power delivered and, therefore, the amount
4 of heat generated. It's a logarithmic relationship.
5 Q. The amount of energy is a direct function
6 of both the amount of current and time applied,
7 correct?
8 A. Yes. I want to be careful about the direct
9 relationship. It is a function of, yes.
10 Q. All right.
11 A. The more current applied, the less time
12 required to generate the same heat. And to clarify
13 just a little bit more why the testing that we do is
14 valid in assessing the effects of lightning, when it
15 has been demonstrated that something can be heated to
16 a certain level with a small amount of heat applied,
17 that is sufficient proof that it can be heated to
18 that same level with a larger amount of heat applied.
19 If you can heat -- if you can ignite something with a
20 match, you can ignite it with a blow torch. So if we
21 could generate with a very short impulse, we could
22 ignite this material with 100 amps.
23 Q. Do you know what the result would have been
24 if you had done your same test but instead of
25 applying it for 10 milliseconds --

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1 A. 20 milliseconds.
2 Q. Sir?
3 A. 20 milliseconds.
4 Q. 20 milliseconds. Instead of a duration of
5 20 milliseconds you had applied it for
6 10 microseconds, do you know what the result would
7 have been?
8 A. With that amount of power?
9 Q. Right.
10 A. No.
11 Q. You don't know?
12 A. Not with that amount of power, no.
13 Q. You indicated just a little bit ago that
14 there was one test where the paper did not burn?
15 A. Yes.
16 Q. Was that this test?
17 A. No.
18 Q. What test was that?
19 A. It was a test where we were testing the
20 battery connections to make sure that we had a good,
21 balanced setup.
22 Q. By "battery connections," you mean the
23 tests were performed with the auto battery?
24 A. Yes.
25 Q. And when you were testing it, then, do you

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1 know what the length of time was that you applied the
2 current to the RBS?
3 A. It wasn't recorded exactly. I know it was
4 longer than 20 milliseconds. On an oscilloscope the
5 trace goes across the screen and how long it
6 represents depends on what scale you have it adjusted
7 to. If it goes off the screen, then you don't know
8 exactly how far it went off the screen, so you don't
9 get an exact reading. So I know that it was longer
10 than the duration of it.
11 Q. On page 9 --
12 A. Which report, sir?
13 Q. Page 9 of the amended report. The items
14 that you're referring to there that -- let's see.
15 Let me just try to get it exactly.
16 Nine lines down you see the words
17 "paper, glue and light plastics"?
18 A. Yes.
19 Q. You had "wood" in there in your original
20 report. Why did you change that to "plastic"?
21 A. Light plastics were involved in this
22 particular fire. Wood was as well, of course, but
23 light plastics were involved. So it seemed like the
24 appropriate thing to do to include that.
25 MR. ELLIS: Let's go ahead and switch

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1 tapes.
2 THE VIDEOGRAPHER: Going off the
3 record at 1:45 p.m., ending tape 4.
4 (Recess taken)
5 THE VIDEOGRAPHER: Back on the record
6 at 1:53 p.m., beginning tape 5.
7 Q. (By Mr. Ellis) Mr. Simmons, do you consider
8 yourself an expert in lightning?
9 A. I consider myself an expert in one
10 particular aspect of lightning.
11 Q. What's that?
12 A. That is its behavior in conductors in
13 structures -- after it has become current in
14 conductors and structures.
15 Q. Do you consider yourself an expert, then,
16 as to that part of lightning when it gets into a
17 conductor in a structure?
18 A. Yes, when it becomes current in a
19 conductor, it's at a structure.
20 Q. When it becomes current in a conductor?
21 A. Yes.
22 Q. In a structure. All right, sir. Can you
23 tell me what amount of current in a lightning strike
24 is necessary to ignite TechShield?
25 A. It's not a function of the amount of

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1 current. It's a function of the current density. If
2 the current density in TechShield foil exceeds a
3 certain minimum of amount -- and it's going to vary
4 somewhat from specimen to specimen -- it's in the
5 range of 300 amps per square millimeter. When the
6 current density exceeds that level, the material will
7 heat to and beyond the melting point.
8 It's not dependent upon any specific
9 amount of current. It's not dependent upon the
10 source of current. The source of current can be
11 lightning. The source of current can be a pen light
12 battery. It's strictly a function of the current
13 density.
14 Q. What amount of current in a lightning
15 strike is necessary to damage TechShield without
16 bringing about ignition of the TechShield?
17 A. Totally depends on your definition of
18 "damage," Mr. Ellis. I don't know.
19 Q. What level of current is necessary in a
20 lightning strike to ignite OSB without a radiant
21 barrier?
22 A. I have not measured that. It also totally
23 depends upon the current path.
24 Q. Can a house ignite that has OSB without --
25 without the aluminum and still burn?

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1 MS. MACLEOD: Objection to form.
2 A. Just so I understand, these are questions
3 that are coming from Mr. Goodson, it appears. The --
4 Q. (By Mr. Ellis) I'm asking the questions.
5 A. Yes, sir.
6 Q. Can a house ignite that has OSB without the
7 aluminum and still burn?
8 A. Of course. But now, ignite from what
9 source and -- I mean, there's many -- it's
10 open-ended. But yes, of course, a house with
11 standard OSB can ignite and burn.
12 Q. All right. Tell me what you know about the
13 lightning strike that hit the Taylor home. In other
14 words, what was the duration, what was the polarity
15 and what was the intensity in amps?
16 MS. MACLEOD: Objection to form.
17 A. I don't recall that off the top of my head.
18 The specifics, I'd have to look back at the STRIKEfax
19 data. But I recall that it was a relatively low
20 intensity strike. It wasn't -- it was tens of
21 kiloamps is what I recall. I could be wrong. And
22 other than that, I don't -- I don't have any of the
23 specifics and I did not research them in great detail
24 because they were not significant.
25 Q. (By Mr. Ellis) But you were able to

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1 identify this particular strike on the STRIKEfax
2 reports?
3 A. I recall seeing a report and I want to say
4 it reported it at 40 kiloamps but I -- this is a
5 vague recollection. Again, the exact amount of
6 current is not significant.
7 Q. I'm going to show you what's been marked
8 already in another deposition as Exhibit No. 34.
9 That was a LightningTrax report that Mr. McGraw
10 attached to his report. Can you, by looking at the
11 LightningTrax report, identify the specific lightning
12 strike that hit the Taylor home?
13 A. Uh-huh.
14 Q. Did you say yes?
15 A. I'm sorry, I'm just -- it's not -- from
16 this report it's not possible to identify the
17 specific one. Looks like it could have been one of
18 several or it could have been several.
19 Q. Identify for me which of the several those
20 would be.
21 A. It could have been any of the first six or
22 seven or eight.
23 Q. On the last page of this exhibit?
24 A. Yes.
25 Q. Any one of the eight listed here for No. 1

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1 through 8. Is that right?
2 A. All right. Let's go over it. At least
3 through 9.
4 Q. And why did you take it through 9?
5 A. Because it's pretty well known that
6 STRIKEfax is not -- I have confirmed that a STRIKEfax
7 that listed a strike at 9/10ths of a mile was a
8 strike that hit a different house. So STRIKEfax, the
9 distance in miles is approximate and also, this
10 distance is measured from up in the atmosphere at
11 some altitude. It is not measured where it impinges
12 on the ground, where it actually strikes the ground.
13 So the exact distance on the STRIKEfax
14 you cannot -- you can't go by. Even if it's 2 miles
15 away, then you're pretty sure it was not involved but
16 if it's anywhere within, like, a half a mile, it
17 could have been involved.
18 Q. So you're willing to take anything up to
19 about .6 of a mile because that's what No. 9 is,
20 right?
21 A. Yes.
22 MR. ELLIS: Let's mark this one.
23 (Exhibit 42 marked)
24 Q. I'm showing you what's been marked as
25 Exhibit 42.

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1 A. 42.
2 Q. Which was Attachment No. 6 to Mr. McGraw's
3 report. Is that a STRIKENet report?
4 A. Yes, this is a Vaisala report.
5 Q. By looking at this STRIKENet report that
6 was attached to Mr. McGraw's report, are you able to
7 identify the specific lightning strike that hit the
8 Taylor home?
9 A. I'm not sure where the Taylor -- from here
10 I can't confirm where the Taylor home is relative to
11 this center point of this track.
12 Q. Do you know whether or not Mr. McGraw would
13 have placed the center point at the Taylor home?
14 A. I'm not sure. You would assume that he
15 would have placed it there or near, but I can't
16 confirm that.
17 Q. Is the answer, then, that you can't tell?
18 A. From just looking at this document, I can't
19 tell for sure where this Taylor home was relative to
20 the center of this track. But relative to the center
21 of the track, we have some -- many strikes that are
22 out miles and some that are within a half a mile. So
23 you would assume that it has to be one of the closest
24 one -- closer ones.
25 Closest one that I can identify is

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1 half a mile and it's minus 25 kiloamps. But I don't
2 know how that corresponds to the exact time that
3 anyone would have...
4 Q. You can put that exhibit aside. Other than
5 the resistance calculation which you gave us earlier,
6 can you tell me what other calculations you carried
7 out for this case?
8 A. We carried out calculations to determine
9 the current density levels, calculation to determine
10 the size of a specimen of material that we needed to
11 test to achieve a certain current density level with
12 a known current source.
13 Q. Any others?
14 A. Those are the ones that come to my mind.
15 Q. What level of current was present in the
16 lightning strike that hit the Taylor house?
17 A. Again, I don't know for sure. We looked at
18 a STRIKEfax and you can't tell positively which of
19 those strikes was the one that hit the house. But
20 the one that I saw that looked most likely on that
21 report indicated minus 25 kiloamps.
22 Q. What was the duration of the strike?
23 A. It's not measured on here, I don't believe,
24 unless there's something new. No, it's not measured.
25 Q. How important was your testing and was it

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1 necessary to prove your hypothesis?
2 MS. MACLEOD: Objection, form.
3 A. I'm sorry, Mr. Ellis. Ask that again.
4 Q. (By Mr. Ellis) How important was your
5 testing and was it necessary to prove your
6 hypothesis?
7 MS. MACLEOD: Objection to form.
8 A. Which hypothesis are we talking about here,
9 Mr. Ellis?
10 Q. (By Mr. Ellis) That the RSB -- or RBS
11 caused the fire.
12 A. And I'm going to assume -- since you didn't
13 bound it, I'm going to assume that it's the total
14 body of the testing that we have performed, and the
15 answer is that the knowledge that we've gained in our
16 testing is very important in conclusions that we
17 reach in these cases. Because it provides the
18 fundamental knowledge of how this material performs
19 under certain conditions when energized.
20 Q. Do you recognize a difference between hot
21 and cold lightning?
22 A. I know that there is a differentiation, but
23 I couldn't -- I couldn't give you the definition that
24 you've probably read somewhere.
25 Q. Can you define "hot lightning"?

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1 A. No, I'm not going to try to define either
2 one.
3 Q. Can you define "cold lightning"?
4 A. Again, I'm not going to attempt to
5 define -- to generate a definition for either one.
6 Q. I understand you may not want to try to
7 attempt it, but can you?
8 A. Okay. I can't.
9 Q. Do you know whether or not the lightning
10 which struck the Taylor home was hot or cold
11 lightning?
12 A. I have no information to that effect.
13 Q. Do any of your opinions or their underlying
14 bases disagree with NFPA 921?
15 A. No.
16 Q. Did you make any use of ANSI standards as
17 you performed your testing?
18 A. Just general methodology that is prescribed
19 in ANSI -- in testing. But there are no ANSI
20 prescribed tests or ASTM prescribed tests for what we
21 were testing for. That's one of the big problems
22 that we have is that no one has generated or created
23 tests for what we need to be testing. So all of the
24 tests that we have applied, we had to create.
25 Q. So similarly, you would say they didn't

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1 conform with IEEE C-62 standards. Is that correct?
2 A. IEEE C-62 standards do not apply.
3 Q. What about IEC series standards? Do they
4 apply?
5 A. Not to my knowledge.
6 Q. And I take it from your earlier answer,
7 then, there's no testing methodology in your view
8 that does apply?
9 A. To the parameters that need to be tested
10 here, correct. And we have contacted bodies such as
11 ASTM and no one is interested in generating such
12 testing at this point.
13 Q. You're aware of the fact that Mr. Goodson
14 did a test of the purity of the TechShield aluminum,
15 correct?
16 A. Yes.
17 Q. And his testing demonstrated that that
18 aluminum was 100 percent pure, correct?
19 A. That's what I understand.
20 Q. Do you have any reason to dispute the
21 findings of Mr. Goodson's testing of the purity of
22 the TechShield aluminum?
23 A. I have no reason to dispute that.
24 Q. And you yourself did not chemically test
25 the aluminum?

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1 A. That's correct.
2 MS. MACLEOD: Objection, form.
3 Q. (By Mr. Ellis) Have you seen Mr. Goodson's
4 observation that then pieces of aluminum would be
5 expected to ablate in circumstances like lightning
6 strike? Do you remember seeing that in Mr. Goodson's
7 report?
8 A. I remember seeing that.
9 Q. Do you agree or disagree with that?
10 A. I disagree.
11 Q. Why?
12 A. Circumstances that are experienced in a
13 lightning strike vary widely. It's not uniform, the
14 amount of current that flows through any path. The
15 duration of the current flows will vary greatly, even
16 during a single lightning strike. There's no way to
17 make a generalization of what can be expected during
18 a lightning strike.
19 Q. Page 19 you make the statement, "The
20 testing has also demonstrated that when high voltage
21 arcing occurs between roofing sheets with radiant
22 barrier material, high current densities are not
23 required for ignition to occur because of the high
24 temperatures generated by the arcing." Do you see
25 that?

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1 A. Yes.
2 Q. Did that testing which you referred to in
3 this paragraph involve metal clips between the
4 sheets?
5 A. No.
6 Q. Were the aluminum foil sheets of the RBS in
7 contact with each other?
8 A. No.
9 Q. Turn to page 11 of your original report.
10 Under the section that's entitled "The Role of
11 Lightning in a Fire," do you see that?
12 A. Yes.
13 Q. You make the statement, "When an electrical
14 appliance has failed and caused a fire, the
15 electricity from the utility company provided the
16 energy that ignited the fire, but we do not consider
17 that the electricity caused the fire." Right?
18 A. Yes.
19 Q. What if you have a situation where
20 lightning struck a house, an appliance fails and a
21 fire results? Is the appliance defective (sic) in
22 your view --
23 A. Is the appliance defective?
24 Q. Defective in your view, yes.
25 A. What you described --

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1 MS. MACLEOD: Objection, form.
2 A. -- there was no evidence of a defect in
3 the -- you gave no indication of a defect in the
4 appliance. I can only go based on what you just told
5 me.
6 Q. (By Mr. Ellis) I'm not telling you that
7 there's any defect in it. I want you to tell me
8 whether or not if the appliance fails because of the
9 lightning strike and a fire results, is the appliance
10 defective?
11 MS. MACLEOD: Objection to form.
12 A. Is it defective simply because it failed --
13 it's defective after the fire.
14 Q. Is it defective -- because of the fact that
15 the lightning struck it, it fails and a fire results
16 because of the fact that it's failed, is the
17 appliance defective?
18 MS. MACLEOD: Objection to form.
19 A. Is it defective because it failed as a
20 result of the lightning striking it?
21 Q. (By Mr. Ellis) And the fact that a fire
22 then ensues because of the failure of the appliance?
23 MS. MACLEOD: Objection.
24 Q. Would you --
25 A. This --

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1 Q. -- label the appliance as defective?
2 A. That's not a valid question, Mr. Ellis. I
3 think what you're trying to ask is simply the fact
4 that a fire ensued after lightning struck, is that
5 evidence that the appliance was defective.
6 Q. The failure of the appliance has caused the
7 fire to ensue?
8 MS. MACLEOD: Objection.
9 A. If the failure of the appliance was a
10 result of a lightning strike, then the appliance was
11 not defective before the lightning strike. If the
12 failure of the appliance was not the direct result of
13 a lightning strike, then possibly the appliance was
14 defective. It requires more investigation. If the
15 lightning strike caused the failure in the appliance,
16 then the appliance -- there's no basis to assume it
17 was defective.
18 Q. Let's take a different scenario. Lightning
19 strikes a roof at a nail head, the nail head splits
20 off, is so hot that it causes a house fire. Is the
21 nail head defective?
22 A. Is the nail head -- no, the nail head -- I
23 would not define the nail head as being defective.
24 If this were an aluminum nail used where steel
25 normally is and every time it's struck by lightning

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1 it overheats and ignites, then the nail is defective
2 as it is being used.
3 Q. Turn to page 10 in the section that is
4 entitled "The Role of Lightning in the Taylor Fire."
5 A. Is this the original report, Mr. Ellis?
6 Q. The new one. There in the second sentence
7 you say that, "Recent field experience indicates that
8 there have been more lightning involved structure
9 fires in recent years because of new products being
10 used in home construction." Do you see that?
11 A. Yes.
12 Q. And what is the basis for your statement
13 that there are more lightning involved structure
14 fires in recent years because of new products?
15 A. Our own observations at McDowell Owens
16 Engineering over the last several years.
17 Q. Have you done any statistical comparisons?
18 A. We have attempted to -- we -- statistics in
19 a database, the typical places that lightning data is
20 reported and is recorded is not available. No one --
21 no one is reporting radiant barrier involved fires as
22 radiant barrier involved, and it's very difficult to
23 even find a CSST fire reported as such. So the data
24 does not yet exist in a database -- in databases
25 where it needs to be. Let me continue to answer the

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1 other question.
2 Our own observations --
3 Q. Just a second. Just to make sure that
4 we're clear on this, your answer is that there's no
5 data to support your statement that there's more
6 lightning involved structure fires in recent years
7 because of new products?
8 MS. MACLEOD: Objection, form.
9 A. We have our own local data. The number of
10 fires that we investigate, number of structure fires,
11 and the number of structure fires that involve new
12 products such as CSST and radiant barrier, it's very
13 limited data, but it's what we have available to us.
14 We have also spoken with a number of
15 first responders and different fire professionals,
16 and they relate to us the same impression. Again,
17 they don't have a volume of hard data, but we have
18 been told by multiple individuals that they're seeing
19 more structure fires and their characterization of it
20 is that the homes involved all fit the same profile.
21 They don't specifically know that these homes include
22 radiant barrier or CSST, but they're all newer homes
23 built in high lightning areas and in a lot of these
24 high lightning areas, it's simply not possible to
25 build a home that doesn't include radiant barrier.

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1 It's not allowed. So we know for sure that many of
2 these newer homes include radiant barrier.
3 Q. Let me ask you, first of all, about your
4 statement that the data that you're relying upon is
5 local data. By "local data" do you mean the
6 experience of McDowell Owens?
7 A. It means data that we have and the data
8 that we gather from talking with other fire
9 professionals in the Texas area, in the Houston area.
10 Q. I want to segregate it out from McDowell
11 Owens, and then we'll talk about other Houston area
12 fire professionals. Okay?
13 A. Okay.
14 Q. The local data that you're talking about at
15 McDowell Owens, in what form is that data?
16 A. We have a running record of all cases that
17 we investigate.
18 Q. So you're just talking about the cases that
19 McDowell Owens is asked to investigate then. That's
20 the local data?
21 A. That's the hard data that we have.
22 Q. All right. You're not talking about any
23 other cases that any other fire investigation
24 professionals have been involved with, just McDowell
25 Owens investigated cases?

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1 A. We don't have the exact numbers from other
2 sources, but we have gotten summaries of their
3 analysis of their data. So it's not just McDowell
4 ones. McDowell ones, we have hard numbers we can
5 prepare. Other people have described to us what they
6 feel that they're seeing in their records, and then
7 we have other people who have described to us just
8 their general impressions, like fire first
9 responders.
10 Q. Who is the "they" that have these summaries
11 of other data?
12 A. Off the top of my head, I can't give you
13 names. We talk to people at fire scenes usually is
14 where these sort of conversations occur.
15 Q. You're talking about first responders?
16 A. No, I was -- I believe that you were
17 talking about other local fire investigators that we
18 talk to.
19 Q. That's really what I was asking about.
20 A. I thought so. Those people we normally
21 speak to at fire scenes, and we -- we discuss
22 different things that are going on. Those are ones.
23 I'd have to go back and dig to get exact names. But
24 these are people in the local area who do the same
25 thing that we do and have some of the same

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1 impressions. The first responders include people
2 like, you know, firemen, fire chiefs, fire marshals.
3 Excuse me.
4 MS. MACLEOD: You want to go off the
5 record?
6 THE VIDEOGRAPHER: Going off the
7 record at 2:23 p.m.
8 (Recess taken)
9 THE VIDEOGRAPHER: Back on the record
10 at 2:25 p.m.
11 Q. (By Mr. Ellis) So the summaries of data
12 that you referred to in answer to an earlier question
13 are held by other fire investigators that you meet at
14 scenes of fires, but you can't give me the names of
15 any of those?
16 A. Not off the top of my head. Sorry.
17 Q. And you've never seen the summaries of the
18 data that they hold?
19 A. I've never seen anything, but yes, correct.
20 Q. And with respect to the McDowell Owens data
21 that you're referring to, you haven't produced a
22 tabulation of that?
23 A. I have not.
24 Q. This is all off the top of the head stuff,
25 right?

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1 MS. MACLEOD: Objection to form.
2 A. It's more than that.
3 Q. (By Mr. Ellis) Well, have you reduced it to
4 writing? Have we got a list somewhere that shows
5 this increase in fires that are due to new housing
6 products?
7 A. We do not have it right now. I can produce
8 it.
9 Q. It doesn't exist now, does it?
10 A. At this moment it does not exist. The data
11 exists. It's just a tabulation of it does not exist,
12 a tabulation of it separately that I can produce to
13 you.
14 Q. All right. We can't get any names of the
15 other fire investigation professionals from you, so
16 let me ask you about the fire professionals, fire
17 marshals, fire chiefs, first responders that you
18 mentioned in answer to an earlier question. What are
19 their names?
20 A. Billy Westerson is one of them, who's a
21 fire chief in Austin, Texas.
22 Q. I'm sorry. Say that again.
23 A. His name is in at least one of the articles
24 that we published. Bill -- in the newspaper it was
25 printed as Billy Westerson (phonetic).

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1 Q. Westerson. Okay.
2 A. Don't quote me on that spelling.
3 Q. But he's the fire chief of Austin, Texas?
4 A. I believe at the time that he made his
5 report, his statement was he was the assistant fire
6 chief. I believe now he is the fire chief of Austin
7 or one of the little burbs just north of Austin.
8 Q. And you've talked to Chief Westerson?
9 A. I have not personally. We did this from a
10 newspaper article that was printed and published.
11 Q. So when you say you did this, you mean that
12 you read some sort of article that may have quoted
13 Chief Westerson?
14 A. Yes.
15 Q. So have you actually talked to any other
16 fire professionals, fire marshals, fire chiefs?
17 A. We have -- one of the members of our staff
18 is a volunteer fireman in this area, and he has
19 spoken with people. He knows everyone in the fire
20 community, and that's where that comes from. That's
21 where part of that comes from.
22 Q. Somebody in your office who's a member of
23 the fire department?
24 A. Yes. Nestor Camara is the -- but again,
25 this is all informal conversations that occur, but it

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1 all becomes a part of a body of information, a body
2 of evidence. And when you get enough of it and it
3 all seems to point and suggest something in the same
4 direction, then you have to be -- you have to begin
5 to pay attention to it.
6 Q. So this is the kind of stuff, evidence,
7 that you would rely upon to reach the kind of
8 conclusion that's in your report that there's an
9 increase due to new materials being used in homes?
10 MS. MACLEOD: Objection to form.
11 A. To answer your question directly, no.
12 Q. (By Mr. Ellis) Well, I've tried to exhaust
13 all of the possibilities for support for that
14 conclusion. You can tell me any others. You got any
15 others?
16 A. Excuse me just a moment.
17 That was not a conclusion. This was a
18 statement that there is evidence that indicates.
19 It's not a conclusion. And the answer is no, I would
20 not use such information to reach a conclusion in a
21 report of a case such as this.
22 Q. That's good to hear.
23 Let's go to page 11. In the section
24 that's entitled "The Role of Radiant Barrier Material
25 in the Fire," do you see that?

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1 A. Yes.
2 Q. Your report says that, "Metal components in
3 buildings are common, but they're not as thin and as
4 easily ignited as RBS."
5 A. Correct.
6 Q. So is the thinness of RBS the basis for
7 your opinion that RBS is easily ignitable?
8 A. Yes, it is part of the basis for my
9 opinion.
10 Q. What about the thinness of RBS helps you
11 with that opinion?
12 A. The thinness of the aluminum foil on the
13 RBS is what creates the sheet resistance property
14 characteristic. It's what gives it a relatively high
15 sheet resistance. Resistance is what generates heat
16 when current flows through it. So it is the thinness
17 of this material that creates the relatively high
18 sheet resistance. And this was all part of our early
19 reports.
20 Q. The comment about the thinness was a part
21 of your original report?
22 A. Yes, the relationship between the --
23 between the physical structure of the material and
24 the physical properties, the sheet resistance, the
25 conductivity -- I'm sorry, articles. I said -- used

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1 the term "reports." But in our early articles, we
2 published this and made this very clear, this sort of
3 thing.
4 Q. So when you refer to "articles," you're
5 referring to your publications but not reports that
6 you rendered in this case?
7 A. Yes. I apologize. I misused the term.
8 Q. Is the first point at which your reference
9 to the thinness of the RBS as a factor in fires this
10 report right here?
11 MS. MACLEOD: Objection to form.
12 A. I'm sorry. I didn't understand the
13 question.
14 Q. Yeah. Is the thinness of the RBS as a
15 factor in causing fires, does that first appear here
16 in your amended report on page 11, or does it appear
17 somewhere else?
18 MS. MACLEOD: Objection to form.
19 A. I have written it so many times that it's
20 hard for me to remember for sure where the --
21 Q. (By Mr. Ellis) Let's just go to "The Role
22 of Radiant Barrier Material in the Fire" on page 11.
23 A. That's what I'm looking at, sir.
24 Q. And compare that with page 11 of your
25 original report and tell me whether or not thinness

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1 as a factor was something you identified in your
2 original report.
3 A. I did not.
4 Q. All right.
5 A. However, that's fundamental electrical
6 engineering and knowledge.
7 Q. It's fundamental, but it wasn't in your
8 original report, was it?
9 MS. MACLEOD: Objection to form.
10 A. Our articles have been included as
11 attachments to this report, so in my opinion that
12 information was included.
13 Q. So are you saying that the articles that
14 have been attached to your reports are a part of your
15 opinions?
16 A. They provide information that establishes
17 the basis for our -- my opinion, yes. A topic like
18 this is very technical and can get very complex,
19 Mr. Ellis. To include a complete dissertation of all
20 the fundamentals involved in a report is just not --
21 not normally done, or it's not practical.
22 Q. Do you know whether or not the lightning
23 strike to the Taylor home was a direct strike?
24 A. Depends on your definition of a "direct
25 strike." I know that lightning energy directly

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1 impinged upon the chimney. Now, did that lightning
2 strike a tree somewhere else and then deflect over to
3 the chimney, I have no knowledge of that. But I know
4 that the lightning current directly impinged upon
5 that chimney.
6 Q. But you don't know whether or not the
7 lightning first struck some other object before it
8 hit the chimney of the Taylor home?
9 A. Some other object such as a tree?
10 Q. I don't know. That's what I'm asking you.
11 Do you know whether or not it hit something else
12 before it hit the chimney of the Taylor home?
13 A. I don't know if it hit some other object
14 such as a tree. I can be quite certain it didn't
15 first strike some other object on the house because
16 that's not what lightning does. Lightning doesn't
17 bounce back up.
18 Q. Do you recognize any difference between
19 negative and positive lightning?
20 A. Yeah, there is a difference. In one case
21 current is going one way, in another case current is
22 going another way. And --
23 Q. Which is which? Let me stop you there.
24 A. The negative lightning is lightning where
25 the lightning originates in a source of electrons.

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1 And that is generally in the cloud.
2 Q. All right. That's negative. What about
3 positive?
4 A. Positive would be the opposite. It would
5 be lightning that originates in a source of positive
6 charge which is on the ground usually -- generally.
7 Not always but generally.
8 Q. What struck the Taylor house, negative or
9 positive?
10 A. What I saw in the STRIKEfax indicated it
11 was a minus 25 kiloamps.
12 Q. Which would be negative lightning?
13 A. I'm going to have to confirm that because
14 there is -- there are different conventions for
15 identifying the direction of current flow. The
16 conventional current versus majority carrier
17 current -- and I don't want to go off on the deep end
18 here, but it's not as simple as you might think. And
19 in almost all cases it makes no difference, but if
20 you want to split hairs, then I'm going to have to
21 confirm what convention that they're using in the
22 STRIKEfax to refer to direction of current. I'm not
23 trying to be evasive here, I'm just telling you
24 you're getting into some real technical detailed
25 areas here.

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1 Q. Can you tell us what the likelihood of a
2 lightning strike to the Taylor home would be in terms
3 of strikes per year? For instance, could you tell us
4 that the likelihood of a strike to the Taylor home
5 would be once in ten years, once in 20 years, once in
6 30 years?
7 MS. MACLEOD: Objection, form.
8 A. I have no idea. I'd have to research the
9 strike density of this particular area. And that was
10 not anything that had any bearing on this -- on this
11 case at all in my investigation or my conclusions.
12 Q. (By Mr. Ellis) It's not something you
13 did -- not something you're able to offer an opinion
14 about?
15 A. Correct. I did not research it at all.
16 Q. If the Taylor house had been struck by
17 lightning and no radiant barrier had been installed
18 in the Taylor house, what damage would you expect?
19 A. Damage to electronic equipment, possibly
20 damage to -- in fact, I would expect damage --
21 possibly damage to the fixed wiring system. That's
22 what I would expect.
23 Q. Can you say, Mr. Simmons, that if the same
24 lightning strike had struck the Taylor house, same
25 conditions but no radiant barrier had been installed

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1 on the house, that no fire would have resulted?
2 MS. MACLEOD: Objection to form.
3 A. Two issues there. First of all, it's my
4 opinion that without the presence of the radiant
5 barrier, it's entirely possible that the lightning
6 would have struck a different location on the house.
7 So assuming that you simply removed the radiant
8 barrier and everything else is the same is not
9 necessarily a valid assumption.
10 Okay. Now, having said that, the --
11 based on my analysis of data -- and the data is not
12 real clear -- that just because lightning strikes a
13 house, there's no guarantee that there's going to be
14 a fire. There's a very good -- more times than not,
15 there is not a structural fire as a result of a
16 lightning strike to a house, according to my analysis
17 of the data. There is usually some sort of damage
18 usually in electronic equipment and that sort of
19 thing. But it's more likely than not that there will
20 not be a structure fire as a result of a lightning
21 strike to a house without radiant barrier or CSST or
22 something like that.
23 Q. That's not a complete answer, though, to my
24 question. I want you to take as givens for the
25 question that we're dealing with the same lightning

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1 strike which hits the chimney cap of the Taylor
2 house, same conditions, no radiant barrier in the
3 house. Got it so far?
4 A. Okay. So you want to assume that that's
5 where it's going to strike.
6 Q. Okay. Can you tell us that a fire would
7 not have resulted, assuming the radiant barrier had
8 not been installed?
9 A. I can tell you that my analysis of the data
10 indicates that more likely than not, a fire would not
11 have occurred. The number of lightning strikes to
12 homes versus the number of lightning-caused fires to
13 homes is a big difference.
14 Q. Do you know what a skin effect is,
15 Mr. Simmons?
16 A. Absolutely.
17 Q. You do?
18 A. Yes.
19 Q. How does the skin effect apply in this
20 case, if it does at all?
21 A. I do not believe that it applies. Skin
22 effect is a high frequency phenomenon.
23 Q. First of all, define for me what the skin
24 effect is.
25 A. Skin effect is when electrical current

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1 flows on the outside of a conductor.
2 Q. Why doesn't it apply to this case?
3 A. Skin effect is a high frequency phenomena
4 primarily.
5 Q. Isn't that what lightning is?
6 A. No. Lightning is not high frequency.
7 Lightning is DC. High frequency is when you have an
8 alternating current that reverses direction.
9 Q. So in your opinion the skin effect wouldn't
10 apply in this case at all?
11 A. That is correct.
12 Q. And would not apply to radiant barrier
13 sheathing in the Taylor home?
14 A. That's my opinion.
15 Q. I want to go back to the hypothetical that
16 we talked about before, which was the same lightning
17 strike to the chimney cap of the Taylor house on the
18 evening in question, no radiant barrier installed in
19 the home. Got it?
20 A. Yes.
21 Q. Okay. What path to ground would the
22 lightning have taken?
23 A. Not possible to determine it. That's part
24 of why I opined that more likely than not, the
25 lightning would not have struck there because I

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1 didn't see a path to ground on that chimney. Not
2 saying it wasn't there but I didn't see one. Because
3 I'm quite sure if there had been a viable path to
4 ground, that the current would not have gone across
5 the radiant barrier to the dryer vent. So I can't --
6 based on the information I have available, I can't
7 tell you what the path to ground would have been.
8 Q. Can you tell me what the possible path to
9 ground would have been?
10 A. If it had struck that fireplace chimney?
11 Q. The chimney cap, right.
12 A. I am aware of no possible path to ground.
13 That's why, again, my opinion that more likely than
14 not, without the radiant barrier providing the path
15 ground, it probably would not have struck that
16 chimney cap. It would have struck somewhere else,
17 somewhere where there was a viable path to ground.
18 Again, people don't want to believe
19 that lightning isn't magic or something but it's just
20 like any other current, it wants a path to ground.
21 It's going to find one. And if there's a good path
22 to ground available, it's going to take that over
23 other paths that are not good paths. That's an
24 unfortunate situation with a radiant barrier. It
25 always provides a path to ground, or essentially all

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1 the time. Never seen a case where it didn't.
2 Q. Has a part of your work and analysis in
3 connection with this case involved a determination as
4 to whether or not there's any alternative design
5 available?
6 A. I have not intentionally set out to explore
7 that, but I have wound up exploring it.
8 Q. So you have explored it?
9 A. Yes.
10 Q. And what have you concluded?
11 A. There are viable alternatives. There are
12 alternatives. I'm not going to define them as
13 viable. Someone else will have to determine that.
14 Q. Is what you just said that there are
15 alternatives but you're not sure that they're viable?
16 A. I'm not going to define them as viable
17 because there are going to be many factors that would
18 go into defining them as viable. Based on what
19 I have -- the limited amount that I've seen so far, I
20 would have to believe that it's entirely -- if
21 they're not viable now, it's entirely possible for
22 them to be. But as they exist right now, I'm not
23 going to say that they're viable.
24 Q. What are the alternatives?
25 A. One is a product called SOLEC that was sent

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1 to me by the president of the company.
2 Q. How do you spell that?
3 A. S-O-L-E-C.
4 Q. And tell us about this SOLEC product.
5 A. It is a radiant barrier product. All of
6 the exact characteristics and properties and all that
7 I don't know. All I know is that I performed certain
8 electrical tests on it.
9 Q. And what were the results?
10 A. I got virtually no conductivity, no heat
11 generated, no current flow.
12 Q. And what sort of material is it made of?
13 A. I'm not going to -- it was on a piece of --
14 looked like OSB to me, but what the material was, I
15 don't know.
16 Q. You don't know what the material is?
17 A. I don't know what the material was.
18 Q. All right. Do you have any other
19 alternative designs in mind?
20 A. Again, my efforts in this direction were
21 not necessarily intentional and they were primarily
22 focused on understanding if there -- if there
23 probably were viable alternatives, not focused on
24 trying to actually design a viable alternative. And
25 I can tell you that based upon the testing and the

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1 results that we have, I believe that if the backing
2 on the aluminum foil was something other than very
3 flammable glue and paper, that that would be
4 beneficial.
5 Q. Any other alternatives?
6 A. That's all I'm prepared to talk about.
7 Q. Those two?
8 A. That's not saying that there aren't more.
9 Again, I have not made a concerted effort to redefine
10 or redesign the product but simply to understand if
11 there was a reasonable possibility that there would
12 be a viable alternative.
13 MR. ELLIS: Let's take a break, then,
14 while this is changed.
15 THE VIDEOGRAPHER: Going off the
16 record at 2:50 p.m., ending tape 5.
17 (Recess taken)
18 THE VIDEOGRAPHER: Back on the record
19 at 3:03 p.m., beginning tape 6.
20 Q. (By Mr. Ellis) Mr. Simmons, can you tell me
21 whether or not you have taken any continuing
22 education courses that are devoted to lightning?
23 A. I have not. I'm not aware of any that are
24 devoted to lightning. Wish I could find some.
25 Q. Sir?

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1 A. I wish I could find some.
2 Q. Did you study it in college?
3 A. Lightning?
4 Q. Yes.
5 A. No. To my knowledge, lightning is not --
6 maybe in environmental sciences but in engineering it
7 isn't.
8 Q. I'm going to ask you a series of questions
9 here, and I would like for you to tell me whether or
10 not you agree with this statement, disagree with this
11 statement or tell me that you don't know.
12 First one is, lightning strikes 40 to
13 50 times a second worldwide for a total of
14 1.4 billion flashes per year.
15 A. I don't know the exact number. That sounds
16 a little high to me.
17 Q. Next one, data from the National Lightning
18 Detection Network shows that over the continental
19 U.S., an average of 20 million cloud-to-ground
20 flashes occur every year?
21 A. In the U.S. or over the U.S? Did I
22 understand that correctly?
23 Q. Continental U.S.
24 A. Again, I don't know the exact numbers.
25 That's not things that you carry around in your head.

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1 It sounds a little high.
2 Q. Your answer is "I don't know"?
3 A. I don't know the exact number.
4 Q. Next, an average bolt of lightning carries
5 an electric current of 30,000 to 10 -- I'm sorry. An
6 average bolt of lightning carries an electric current
7 of 30,000 to 100,000 amperes at millions of volts and
8 transfers 15 coulombs electric charge and 500
9 megajoules of energy?
10 A. I agree with that.
11 Q. Large bolts of lightning can carry up to
12 120 kA and 350 coulombs?
13 A. I don't agree with the 350 coulombs. And
14 actually, they can carry more than that current.
15 Q. So you disagree with saying that it can
16 carry more current?
17 A. No.
18 MS. MACLEOD: Objection.
19 A. My information is that it can carry more
20 current than that, but 350 coulombs I disagree with
21 that. It sounds too high.
22 Q. (By Mr. Ellis) An average bolt of positive
23 lightning carries an electric current of about
24 300,000 amperes?
25 A. I don't know.

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1 Q. During 2004 to 2008, U.S. fire departments
2 responded to an estimated annual average of 24,600
3 fires started by lightning?
4 MS. MACLEOD: Objection to form.
5 A. Mr. Ellis, as I understand your question,
6 each of those requires me to agree with a specific
7 number, a very specific number. Those are not
8 numbers that anyone carries around in their head, so
9 the way you've asked the question --
10 Q. You can very easily just answer it by
11 saying "I don't know."
12 A. I'm going to say I disagree.
13 Q. You disagree with that?
14 A. Uh-huh.
15 Q. Is your figure higher or lower?
16 MS. MACLEOD: Objection to form.
17 A. My number would be somewhat lower.
18 Q. (By Mr. Ellis) Of the 24,600 fires started
19 by lightning during the period from 2004 to 2008, of
20 these, 4,400 of reported lightning fires occurred in
21 homes?
22 A. I don't know.
23 MS. MACLEOD: Objection to form.
24 A. The bounded time frames and all that are --
25 are not -- is not numbers that we carry around in our

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1 head. I don't know.
2 Q. An average of 11,400 of reported wildland
3 fires were started by lightning per year?
4 MS. MACLEOD: Objection to form.
5 A. I don't know.
6 Q. You do know that forest fires are caused by
7 lightning?
8 A. Yes.
9 MS. MACLEOD: Objection.
10 MR. ELLIS: You objected to that?
11 Q. How does a forest fire get started by
12 lightning?
13 A. That's a question to me, sir?
14 Q. Yes.
15 A. Different ways. It depends on what the
16 lightning strikes.
17 Q. Well, tell me what the different
18 possibilities are. Say it hits a tree?
19 A. Generally when it hits a tree, the current
20 will flow through a moist -- through moisture in the
21 tree. That's what makes it -- in a real high voltage
22 situation, it makes it somewhat a conductor. And as
23 it's going through the moisture, it will super heat
24 the moisture and turn it into steam and you'll get a
25 steam explosion and it will sometimes blow out small

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1 embers, if you will, or hot material that will ignite
2 some other light combustible. The tree itself
3 doesn't usually directly ignite, but something like
4 that.
5 Q. There were 392 lightning strikes within a
6 5-mile radius of the Taylor home between 4:24 and
7 5:53 on the day of the fire?
8 A. I don't know that detailed information.
9 Q. You don't know? Do you know how many homes
10 within that 5-mile radius were struck by lightning?
11 A. No.
12 Q. Do you know how many of the homes that were
13 struck by lightning had radiant barrier sheathing?
14 A. No.
15 Q. Do you know how many homes within the
16 5-mile radius that had radiant barrier sheathing were
17 not struck by lightning?
18 MS. MACLEOD: Objection to form.
19 A. No, I don't know those things because I
20 didn't research them at all. They're not germane in
21 this investigation.
22 Q. Do you know how many of the homes that were
23 struck by lightning which had radiant barrier
24 sheathing had a house fire?
25 MS. MACLEOD: Objection to form.

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1 A. No, I don't know. Didn't research it.
2 It's not important, not significant.
3 Q. There were five other house fires
4 apparently caused by lightning in the vicinity of the
5 Taylor home on the day of the Taylor fire. Is that
6 right?
7 A. Is that a question, sir?
8 Q. I asked you a question. Is that right?
9 A. I didn't -- you didn't have the "Is that
10 right" first. I don't know.
11 Q. Do you know how many of the five other
12 homes had RBS in them?
13 MS. MACLEOD: Objection to form.
14 A. I don't know.
15 Q. (By Mr. Ellis) And in your view, that's of
16 no consequence, what happened in the five other
17 homes?
18 A. In this investigation it does not bear upon
19 the investigation in any way.
20 Q. Sir, I couldn't hear what you said.
21 A. I said in this investigation, that does not
22 bear on the investigation in any way.
23 Q. Have you been asked to investigate any
24 cases where a home was struck by lightning, radiant
25 barrier was present and no fire resulted?

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1 A. Yes.
2 Q. How many times has that happened?
3 A. Again, I can't tell you off the top of my
4 head. We investigate many, many fires every year,
5 hundreds.
6 Q. And you have had situations, then, where
7 radiant barrier was present, lightning struck and no
8 fire resulted. Is that right?
9 A. Not where lightning struck and -- and
10 actually impinged upon a radiant barrier. I think
11 with one exception I believe that the lightning
12 current got on a radiant barrier. But if lightning
13 struck a home but did not get on the radiant barrier,
14 the -- we have seen those, and I can't tell you how
15 many.
16 Q. So you have seen situations, then, where
17 radiant barrier was present in the homes, lightning
18 strikes it and no fire results?
19 MS. MACLEOD: Objection to form.
20 Q. Right?
21 A. Yes.
22 Q. But you can't tell me how many times you've
23 seen that happen?
24 A. No, not off the top of my head. Where it
25 strikes a home but doesn't get into a structure,

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1 the -- it's not very often, but I can't tell you.
2 You asked me if I had ever seen any and, yes, I have.
3 Been very few but I can't tell you exactly how many.
4 Q. Have you seen situations where lightning
5 strikes a home where radiant barrier's been
6 installed, radiant barrier was energized and no fire
7 resulted?
8 A. I believe there was one where a structure
9 fire did not result. Let me qualify that. There was
10 evidence of very localized burning but didn't
11 progress into a full structure fire.
12 Q. Do you know what the term statistical
13 significant -- "statistical significance" means?
14 A. Yes.
15 Q. What does it mean?
16 A. Means you have enough data to create a
17 statistically valid sample. Statistically valid is a
18 relationship between the number of samples you have
19 and the total body of data that you're trying to
20 compare to.
21 Q. And what is the significance of having a
22 statistically significant sample?
23 A. Ask the question --
24 Q. What is the significance of having a
25 statistically significant sample?

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1 A. The more statistically significant your
2 sample, the more confidence that you can have in the
3 data, that any conclusions that you draw from that
4 data are, indeed, valid. So it relates to the
5 confidence level.
6 Q. In fact, you would want, wouldn't you, a
7 statistically significant sample before you drew
8 conclusions about the incidence of fire induced by
9 lightning in homes having radiant barrier sheathing?
10 A. Can you define what you mean by
11 "incidence"?
12 Q. Well, let's define it as broadly as you
13 have in your reports by saying occasionally that
14 there are more home fires where radiant barrier is
15 installed.
16 MS. MACLEOD: Objection to form.
17 A. I'm sorry. I did not understand that.
18 Q. Let's define it as broadly as you have
19 where you made conclusions about the level of
20 incidents of fires caused by lightning in homes where
21 radiant barrier is present.
22 MS. MACLEOD: Objection, form.
23 A. I don't recall that I have made that
24 conclusion.
25 Q. (By Mr. Ellis) So in your judgment there

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1 really is no increase in the number of fires caused
2 by lightning in homes with radiant barriers?
3 A. In my judgment there is, but I'm not
4 offering that as a conclusion.
5 Q. Coming back to my question, then, before
6 you ever offer that as a conclusion, you recognize,
7 don't you, that you would have to have a
8 statistically significant sample size?
9 A. Of course. That's why we have not yet
10 offered it as a conclusion. It's an observation --
11 we report data that's observed but it's not -- we do
12 not have yet enough data to call that a conclusion
13 and won't get such data until things get reporting --
14 get reported accurately in enough detail. Right now
15 that's not happening. So data is not being
16 generated.
17 Q. Let's come back to lightning strike on the
18 Taylor house. And let's assume that we don't have
19 radiant barrier sheathing in the home.
20 A. Okay.
21 Q. Also they were talking about the same
22 lightning strike that hit the Taylor home on the
23 night of August 29, 2011. In other words, one that
24 hits a chimney cap. Got it?
25 A. Okay. I think so. Trying to follow.

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1 Q. Does the electrical current have to go to
2 ground?
3 A. Yes.
4 Q. As it goes to ground in a zone that does
5 not have the radiant barrier sheathing in it, is it
6 your opinion that no fire could have been caused
7 along the way?
8 A. Could have been?
9 MS. MACLEOD: Objection.
10 Q. Right.
11 A. Again, Mr. Ellis, it's my opinion that more
12 likely than not, it would not have been. That's not
13 the same as saying it could not have been.
14 Q. And that was my question to you, whether or
15 not a fire could have been caused by the same
16 lightning strike on this house in the absence of RBS?
17 MS. MACLEOD: Objection to form.
18 A. And again, we're limiting it to a strike on
19 that chimney cap?
20 Q. (By Mr. Ellis) Same strike on the chimney
21 cap.
22 A. Of course, I cannot say it's -- that it's
23 impossible. In the engineering world we don't deal
24 in absolutes. There are no such things as absolutes.
25 We deal in probability. So no, I cannot say that

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1 it -- I cannot say that it's impossible that a fire
2 would not occur.
3 Q. All right. To put it differently, then, a
4 fire could have resulted as a result of the same
5 lightning strike to the chimney cap of the Taylor
6 house in the absence of RBS in the home?
7 MS. MACLEOD: Objection, form.
8 A. I believe that the answer in that form
9 mischaracterizes -- I would say it is possible. It's
10 not impossible that a fire could have occurred.
11 Q. It's possible that it could have occurred
12 without the RBS in it?
13 MS. MACLEOD: Objection to form.
14 A. Many things are possible, so yes, it's
15 possible.
16 Q. All right, sir. Never visited the Taylor
17 home?
18 MS. MACLEOD: Objection, form.
19 A. Is that a question, Mr. Ellis?
20 Q. Yes.
21 A. I have never visited the Taylor home.
22 Q. Never personally saw the site of the fire?
23 A. Only in photographs.
24 Q. How many times have you issued a report on
25 fire causation without actually visiting the scene of

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1 the fire?
2 A. Again, I can't tell you that number off the
3 top of my head, but several.
4 Q. On what occasions would you have issued a
5 report on fire causation without actually visiting
6 the scene of the fire?
7 A. If it's not possible or extremely difficult
8 to visit the fire and if the available evidence is
9 sufficient to validate a conclusion.
10 Q. Were all of those cases where you issued a
11 report on fire causation without actually visiting
12 the fire cases that were in litigation?
13 A. No, not that I recall.
14 Q. What does NFPA 921 say about issuing a fire
15 report without actually visiting the scene of the
16 fire?
17 A. I would have to refer to it to give you the
18 exact verbiage, but basically it says that it's
19 highly desirable. If reasonably possible, you should
20 visit the scene. It does not say that it's not
21 possible.
22 Q. Was it possible for you to visit this
23 scene?
24 A. According to my understanding, to visit the
25 scene as it existed in the photographs, that that was

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1 not possible.
2 Q. If you had been contacted by State Farm at
3 the same time that Mr. McGraw was contacted by State
4 Farm, you would have had an opportunity, wouldn't
5 you, to see the scene of the fire?
6 MS. MACLEOD: Objection to form.
7 A. I assume.
8 Q. (By Mr. Ellis) Have you been asked to do
9 any additional work in connection with the Taylor
10 house fire?
11 A. Additional other than is represented in
12 these reports?
13 Q. I mean other than the reports which you've
14 already done and your appearance here today.
15 A. All of the work that I have been requested
16 to do is -- has resulted in this report and my
17 deposition here today. There's nothing that I have
18 been asked to do that is not represented in that time
19 sheet.
20 Q. Are you aware of any other engineer or
21 expert who's given an opinion that radiant barrier
22 sheathing is hazardous in the event of a lightning
23 strike other than yourself?
24 A. Other than -- other than people within
25 McDowell Owens, I'm not personally aware of them.

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1 Q. All right. Have you sent the papers which
2 you've written about lightning and radiant barrier
3 sheathing to insurance carriers or lawyers that
4 represent them?
5 A. I believe our office has -- that requests
6 have been made to our office for some of these
7 publications.
8 Q. Have you sent them without a request to
9 insurance companies or their attorneys?
10 A. I personally have not, but I can't say that
11 our office has not.
12 Q. Have you had conversations with attorneys
13 from firms other than Ms. MacLeod's about this
14 matter?
15 A. About this matter, the Taylor case?
16 Q. The Taylor home fire.
17 A. The Taylor fire?
18 Q. The Taylor fire.
19 A. I don't recall any.
20 Q. Have you spoken with attorneys from the
21 Cozen O'Connor firm?
22 A. Yes.
23 Q. Which attorneys have you spoken with?
24 A. Not about this particular case or about
25 certainly any details. I may have made them aware

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1 that I have a case -- in fact, I'm pretty sure that
2 I did, that there is a case that is slated to go
3 to -- to go to court. But no details. Marcos
4 Hazan-Cohen is the gentleman at Cozen O'Connor that
5 I've spoken with.
6 Q. But not about this case?
7 A. Not about any details. Just the fact that
8 the case exists.
9 Q. You attached RIMA International Technical
10 Bulletin 108 to your report. Is that right?
11 A. I believe so.
12 Q. And what relationship does that technical
13 bulletin have to this case?
14 A. Just that it is a technical bulletin that's
15 published by the radiant materials industry, and it
16 does mention lightning in a precautionary statement.
17 Q. I guess I'm asking you: What's the reason?
18 Why did you attach this technical bulletin to your
19 report? What does that have to do with this case?
20 A. It is a technical bulletin from the radiant
21 barrier industry, radiant material industry, and it
22 talks about installation.
23 Q. What does it have to do with this case?
24 A. It is very specific about radiant barrier
25 and the installation of radiant barrier and

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1 precautions that need to be taken in the installation
2 of radiant barrier. That's -- it's not about
3 anything else. It's about this -- the installation
4 of radiant barrier and the fact that lightning is a
5 concern.
6 (Exhibit 43 marked)
7 Q. (By Mr. Ellis) I'm showing you what's been
8 marked as Exhibit No. 43. Can you identify what that
9 is?
10 A. This appears to be a copy of a paper that
11 we prepared.
12 Q. Were you the principal author on the paper?
13 A. I'm sure I was.
14 Q. And when you say "we," you mean yourself,
15 Mr. Benstock and McDowell Owens Engineering. Is that
16 right?
17 A. Yes.
18 Q. And how was this paper presented?
19 A. This paper was published in the proceedings
20 of the ISFI.
21 Q. ISFI is International Symposium on Fire
22 Investigation?
23 A. Yes.
24 Q. When did that occur?
25 A. October of this year.

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1 Q. October of 2012?
2 A. Yes.
3 Q. Did you just present the paper, or did you
4 make an oral presentation as well?
5 A. We made an oral presentation as well.
6 Q. Was the oral presentation illustrated in
7 any way?
8 A. Define "illustrated," sir.
9 Q. Sure. Were you using PowerPoint or slides?
10 A. Yes, it was a PowerPoint.
11 Q. I'd ask you to turn to page 589.
12 There's a paragraph there that's
13 captioned, "What is the evidence that RBS attracts
14 lightning?" Is that right?
15 A. Yes.
16 Q. And the first sentence says, "Generally,
17 the initial reaction to this suggestion the radiant
18 barrier sheathing attracts lightning is that it
19 sounds outrageous."
20 Did you make that statement?
21 A. I believe that was my statement.
22 Q. And is it true?
23 A. Is it true that that's the general
24 reaction?
25 Q. Right.

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1 A. I would say so.
2 Q. In the next sentence you say, "At first the
3 idea seemed farfetched to the investigators at
4 McDowell Owens as well."
5 Did you make that statement?
6 A. Yes.
7 Q. And did it seem farfetched to the
8 investigators at McDowell Owens?
9 A. It did.
10 MS. MACLEOD: Objection.
11 Q. And by "investigators," were you referring
12 to yourself?
13 A. Myself, Mr. Benstock, Mr. Camara, probably
14 Mr. Bonyata. I don't -- it's just -- I don't
15 remember specifically who made what comments.
16 Q. At the end of that paragraph you say, "The
17 initial thoughts about the possibility that RBS might
18 be attracting lightning were triggered by comments in
19 a newspaper article," then there's a colon and some
20 material in a box, right?
21 A. Yes.
22 Q. The material in the box says, "Firefighters
23 in a central Texas city say that they've seen an
24 increase in house fires caused by lightning. Round
25 Rock Fire Department Assistant Chief Billy

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1 Wusterhausen says house fires caused by lightning
2 strikes are becoming a lot more common. He can't
3 explain why, but he did say all the homes fit the
4 same profile." Do you see that?
5 A. Yes.
6 Q. Beneath that there's a citation that says,
7 "Excerpt from article, Lightning Storms a Potential
8 Cause for House Fires on KEYE TV website,
9 www.weareAustin.com." Is that right?
10 A. Yes.
11 Q. Did this quotation from Chief Wusterhausen
12 come from a newspaper article or from a website?
13 A. This was published in the Austin Statesman.
14 It looks like this came from a website.
15 Q. When you say "published in the Austin
16 Statesman," that's a newspaper?
17 A. Yes.
18 Q. Do you still have a copy of that?
19 A. I don't know.
20 Q. But you extracted this quoted material here
21 from the newspaper article in the Austin Statesman?
22 A. This, I'm fairly sure, was extracted from
23 the website because that's where -- this was
24 extracted by a member of our staff. We have staff
25 people that sometimes they do research. And so I

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1 would have to check for sure where she got it, but I
2 believe she got it from the website. But this is --
3 this is what was published in the Austin Statesman.
4 Q. All right. Is the quoted material here
5 that we're now looking at the same information and
6 quoted material that you referred to some hours ago
7 by somebody that you then were calling Chief
8 Westerson?
9 A. Yes.
10 Q. So you now know we're talking about a chief
11 that's named Wusterhausen, right?
12 A. Yes. At the time I made it very clear
13 I did not remember his name and pronunciation
14 exactly.
15 Q. All right. Turn the page. You make the
16 following statement in this paper: "The comments by
17 Chief Wusterhausen about 'homes with the same
18 profile' caused McDowell Owens investigators to
19 reflect on the fact that most (more than 90 percent)
20 of the lightning involved house fires they had
21 investigated over the last couple of years had been
22 in houses with RBS roofing." Is that a quotation?
23 A. Yes.
24 Q. That's an accurate reading of what you say
25 in the paper, right?

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1 A. As I heard it, yes.
2 Q. Did the comments by Chief Wusterhausen
3 concerning homes with the same profile say anything
4 about homes with RBS in them?
5 A. No.
6 Q. They did not?
7 A. No. I stated that before.
8 Q. Turn to page 592.
9 The middle of the page there you say,
10 "In summary, there are five reasons that make us tend
11 to believe RBS material attracts lightning." You see
12 that?
13 A. Yes.
14 Q. The No. 1 reason below that, and I'll read
15 it, is, "Independent fire investigators on the front
16 line of structure fires such as Chief Wusterhausen
17 have observed that there's been an increase in
18 lightning caused structure fires in houses of similar
19 and new construction." Correct?
20 A. Correct.
21 Q. Chief Wusterhausen never said anything
22 about an increase in lightning caused structure fires
23 due to RBS, right?
24 A. Correct. And I explained that before,
25 Mr. Ellis, the fact that they are similar in newer

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1 construction.
2 Q. Why in the world would you make this your
3 No. 1 reason underneath the conclusion that says, "In
4 summary, there are five reasons that make us tend to
5 believe RBS material attracts lightning"? Why?
6 A. That is not the No. 1 reason, Mr. Ellis, as
7 you're using the term "No. 1."
8 Q. It's No. 1 right here, isn't it?
9 A. You are defining the order to be a
10 priority. Many people make that mistake. That was
11 the first --
12 Q. Let's take the order completely out of it.
13 It is, nevertheless, a reason that you have cited for
14 making McDowell Owens tend to believe that RBS
15 material attracts lightning, right?
16 A. It's a reason that led us to look deeper.
17 It is the reason that led us to look deeper.
18 Q. Go to the last paragraph on that page. You
19 make the statement there, and I quote, "First and
20 most desirable would be a statistically valid set of
21 data containing properly adjusted numbers of
22 lightning strikes to houses with RBS versus houses
23 without RBS." Is that an accurate quotation?
24 A. Yes, it is.
25 Q. And so you agree that you would have to

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1 have a statistically valid set of data before you
2 could draw conclusions about numbers of lightning
3 strikes to houses with RBS versus houses without it,
4 right?
5 A. Before --
6 MS. MACLEOD: Objection.
7 A. Before we could call it a conclusion, yes.
8 The purpose of this paper was not to present
9 conclusions, just to present a body of available
10 evidence so that people who should be interested in
11 it would have that available.
12 Q. (By Mr. Ellis) Let's go to page 595. Under
13 the paragraph which is captioned "Summary" -- do you
14 see that?
15 A. Yes.
16 Q. You say pretty far down the first
17 paragraph, and I quote, "If a house with an RBS roof
18 is struck by lightning, the probability of a
19 resulting attic fire is estimated by McDowell Owens
20 to be roughly 80 percent." Do you see that?
21 A. I do.
22 Q. Where did the 80 percent come from?
23 A. That's from data -- our own internal data
24 over the last two to three years of
25 lightning-involved structure fires.

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1 Q. Investigated by McDowell Owens?
2 A. Yes.
3 Q. No one else?
4 A. Data from no one else was part of this --
5 was a basis for this paper.
6 Q. I'm sorry. Data from no one else was the
7 basis -- you lost me there. Say that again.
8 A. Data from anyone else was not a basis for
9 this paper, was not included in this paper, was not
10 reflected in this paper.
11 Q. I understand.
12 A. That doesn't mean it doesn't exist, that we
13 didn't hear of it, but it was not data we could use.
14 Q. It's just data, then, about fires that
15 McDowell Owens has been asked to investigate?
16 A. That's right.
17 Q. Correct? All right.
18 Obviously then, since you got an
19 80 percent figure here, you investigated some number
20 of houses, then, where radiant barrier was installed,
21 lightning hit them and no structure fires ensued,
22 right?
23 A. That was a long question. Ask it again,
24 Mr. Ellis.
25 Q. Obviously, because you used the figure

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1 80 percent here, that means even within your own
2 data, namely the fires that McDowell Owens has been
3 asked to investigate, there's some not insubstantial
4 percentage of homes, 20 percent, where radiant
5 barrier sheathing is on the house, lightning struck
6 it and no fires ensued, correct?
7 A. No. As you stated the question, that's not
8 correct.
9 Q. What's not correct about it?
10 A. You used the number 20 percent for houses
11 struck where a fire did not ensue.
12 Q. I think I was just interpolating from your
13 statement where you said, "If a house with an RBS
14 roof is struck by lightning, the probability of
15 resulting attic fire is estimated by McDowell Owens
16 to be roughly 20 percent."
17 So if we assume that statement is
18 correct, wouldn't it also be true that if a house
19 with an RBS roof is struck by lightning, the
20 probability of resulting attic fire not occurring is
21 roughly 20 percent?
22 MS. MACLEOD: Objection, form.
23 A. No. This is an estimate, and this is a
24 conservative estimate. So to extrapolate other data
25 from that conservative estimate is not a valid

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1 process.
2 Q. By the way, was Exhibit No. 43, which is
3 the one we were just talking about, peer reviewed, to
4 your knowledge?
5 A. Peer reviewed in the same manner that our
6 other papers were reviewed. This one was probably
7 more stringently examined. This one had to be
8 approved by the committee -- had to be accepted by
9 the ISFI committee. I'm not sure how many people
10 were on that committee, but this -- this one was
11 almost certainly more thoroughly reviewed.
12 (Exhibit 44 marked)
13 Q. (By Mr. Ellis) I've handed you what's been
14 marked as Exhibit No. 44. Can you identify Exhibit
15 No. 44?
16 A. This looks like the very first article
17 related to radiant barrier that we published.
18 Q. And that was during the summer of 2009?
19 A. I believe so, yes.
20 Q. And when you say you -- I'm sorry, when you
21 say "we," you mean yourself, Eric Benstock and Rick
22 Bonyata and Nestor Camara. Is that correct?
23 A. Yes.
24 Q. Are all four of those people still with
25 McDowell Owens?

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1 A. Yes.
2 (Exhibit 45 marked)
3 Q. (By Mr. Ellis) I'm showing you what's been
4 marked as Exhibit No. 45. Can you identify that,
5 please?
6 A. This looks like the second paper that we
7 did on radiant barrier.
8 Q. Is this paper entitled "Reflective Radiant
9 Barriers, Good for Energy Savings - Bad for Fire
10 Safety"?
11 A. Yes.
12 Q. Were you the author of this paper?
13 A. I was the principal author. Again,
14 collaborative effort. The -- actually, Mr. Benstock
15 and Mr. Camara are listed as coauthors on this.
16 Q. And about when was this prepared and
17 published?
18 A. This was in 2010, I believe about midyear.
19 Q. How was it published?
20 A. This was posted on the National Association
21 of Fire Investigators website.
22 Q. Was it peer reviewed?
23 A. Peer reviewed in the same way, peer
24 reviewed by multiple engineers at McDowell Owens and
25 by the committee, the team, whoever accepts papers

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1 for publication at NAFL.
2 Q. Turn to page 8. In the first paragraph
3 there about six lines down, you make the statement,
4 "Although we did not have the exact metal alloy
5 composition analyzed, we can be virtually certain
6 that the aluminum in these foils is not high quality
7 'pure' aluminum. We can be highly confident that
8 there are impurities in the aluminum and that the
9 impurities will have the effect of increasing
10 resistivity." Have I quoted that correctly?
11 A. You quoted what's written there, yes.
12 Q. And you now know by virtue of the test that
13 Mr. Goodson performed that at least as to the
14 LP TechShield, we're talking about pure aluminum?
15 MS. MACLEOD: Objection, form.
16 A. That's what I'm -- I have heard reported.
17 I've not seen that independently confirmed.
18 Q. You don't have any reason to dispute it, do
19 you?
20 A. I have no reason at this point. And the
21 fact is the exact composition is not -- is not
22 germane. This was just -- addressing the fact that
23 that can affect resistivity was just trying to be
24 engineer -- complete from an engineering point of
25 view. All that matters is the resulting sheet

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1 resistance property, which is a function of the
2 material but also it's a function of the structure.
3 Another thing that we did not have was
4 the exact thickness of this material, and we know --
5 but again, we estimated it to be -- what did we
6 estimate it to be -- .01 millimeters. The -- I don't
7 remember. But again, neither of those parameters are
8 directly important. What's important is the sheet
9 resistance that results. Because that's what
10 generates heat. These could vary up and down.
11 Doesn't matter.
12 Q. Let's go to that, then. Let's talk about
13 the heat resistance. Go to page 10. You see a chart
14 there that's captioned No. 1 which says, "Test strip
15 resistance versus current density." Do you see that?
16 A. Yes.
17 Q. Is each dot along the blue line there a
18 test result?
19 A. I believe that was, yes.
20 Q. I notice here that at least as to this
21 chart, there is no duration for the test noted. Is
22 that right?
23 A. Correct.
24 Q. Anywhere in this report do you note the
25 duration of the test?

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1 A. I don't believe so.
2 Q. Do you know as you're sitting here what the
3 duration of these tests was?
4 A. This duration was -- was many minutes
5 because we were interested in -- we were interested
6 in avoiding the effects of any transient conditions.
7 We wanted to know statically what it was. If we had
8 this much current flowing through a piece of metal
9 for an unlimited amount of time, what's it
10 likely to -- then what is the temperature likely to
11 achieve.
12 Q. How many minutes?
13 A. The process here was to increase the
14 current amount until the measurement stabilized. And
15 it would -- and the exact duration will be different
16 for each of these dots.
17 Q. What's the range?
18 A. The range is in single-digit minutes. I
19 can't give you a range. Again, the process was to
20 wait until the reading stabilized so that we knew we
21 were getting a consistent reading and then record the
22 reading.
23 Q. At the bottom of page 10 you say, "It
24 should be noted that the material will ignite at
25 current densities much less than this value, maybe

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1 50 percent less if enough time is allowed." Correct?
2 A. Where are you reading that from, sir?
3 Q. The very bottom of page 10.
4 A. It's not on my page 10. The text is on
5 page 11 of the copy that I have here. "It should be
6 noted that the material will ignite at current
7 densities much less than this value if enough time is
8 allowed," yes.
9 Q. I read that correctly then?
10 A. Yes.
11 Q. And the range of time allowance apparently
12 was in single-digit minutes. Is that correct? So
13 anywhere from one minute to nine minutes?
14 A. Say that again or ask the question again.
15 Q. The range of time allowed, the duration of
16 the test was anywhere from one minute to nine
17 minutes? Or can you more accurately tell us what
18 single-digit range we're talking about?
19 A. The -- at the end of this test sequence
20 that the chart is derived from, if you look back at
21 the chart, Mr. Ellis, page 10.
22 Q. Right, 6.
23 A. Okay. You see how it -- the rise of the
24 curve starts to get very steep and it is truncated
25 because that's where it ignited. Once it ignited,

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1 then the readings go to zero. So we actually
2 repeated this several times and the very last ones we
3 had to make the readings quickly because it was in
4 the process of igniting. We wanted to have the chart
5 as complete as possible, to have it extend out as far
6 as possible. But out towards the end, we had to --
7 we had to make the measurements much more quickly.
8 We were not able to allow them to completely
9 stabilize.
10 Q. Are we still talking single-digit minutes?
11 A. No, we're not, not out at the end.
12 Q. What duration are we talking about at the
13 end?
14 A. This was -- this was in seconds. Only as
15 much time as -- that we could get a reading because
16 it ignited very quickly.
17 Q. Less than a minute, in any event?
18 A. Way less than a minute, out at the very end
19 here. But again, exactly how long depends upon how
20 far we are on the curve.
21 Exact values of many of these
22 parameters that we've measured, people think are very
23 significant. They're not. The fact is that at a
24 certain current density, this material ignites. And
25 depending upon a whole bunch of environmental

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1 conditions, the amount -- exact amount of time
2 required will be different. The exact amount of
3 current required will be different.
4 Q. If you did this test on wood for some
5 period of time, wouldn't the wood ignite?
6 A. This test?
7 Q. Applying some current to the wood?
8 A. Current to the wood?
9 Q. Yeah.
10 A. Wood does not conduct current. Okay.
11 (Exhibit 46 marked)
12 Q. (By Mr. Ellis) I've handed you what's been
13 marked as Exhibit No. 46. Can you identify that,
14 sir?
15 A. This is a -- I'm going to call it a paper
16 that we prepared very early on that was -- I believe
17 this was posted on our website.
18 Q. Is Exhibit No. 46 a paper entitled
19 "Reflective Radiant Barriers - Energy Saving Wonder
20 or Disaster Waiting to Happen?"
21 A. I'm sorry?
22 Q. Is the paper as I just described it?
23 A. Is this --
24 Q. Is this exhibit, Exhibit No. 46, a paper
25 entitled "Reflective Radiant Barriers - Energy Saving

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1 Wonder or Disaster Waiting to Happen?"
2 A. What I have with a 46 on it has that title,
3 yes.
4 Q. Were you the author of this?
5 A. Probably.
6 Q. Is there some reason you don't know whether
7 or not you're an author of this?
8 A. I am the author of most all of the material
9 that I'm looking at. Whether it was edited by
10 someone else before it was posted, I can't say right
11 now for sure.
12 Q. Do you know what date this one was
13 prepared?
14 A. I don't recall off the top of my head.
15 This would have been after the first article in Fire
16 Findings.
17 Q. Was this one published?
18 A. This was -- as I recall, this was posted --
19 only posted on our website.
20 Q. Was it peer reviewed before posting on your
21 website?
22 A. It was peer reviewed by engineers at
23 McDowell Owens.
24 Q. And can you define any better for us about
25 when this was put on your website?

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1 A. I cannot at this time. It would have been
2 after the Fire Findings publication because this one
3 contains more information.
4 Q. Let's take a break so that --
5 THE VIDEOGRAPHER: Going off the
6 record at 4:01 p.m., ending tape 6.
7 (Recess taken)
8 THE VIDEOGRAPHER: Back on the record
9 at 4:12 p.m., beginning tape 7.
10 Q. (By Mr. Ellis) Mr. Simmons, it's a fact
11 that you relied upon Mr. McGraw for identification of
12 the area of fire origin, right? Subject to the fact
13 that you confirmed it within your firm?
14 A. Yes.
15 Q. And you also relied upon Mr. McGraw's fire
16 investigation through photographs and diagrams and
17 other things that he provided to you, subject, of
18 course, to your independent verification within your
19 own firm?
20 A. Yes.
21 Q. And you do know that Mr. McGraw was not
22 able to identify a specific first ignited building
23 material?
24 A. Yes.
25 Q. And you know that he was not able to do

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1 that because materials had been removed from the site
2 and destroyed, correct?
3 MS. MACLEOD: Objection, form.
4 A. I don't know that that's the reason that he
5 could not identify it.
6 (Exhibit 47 marked)
7 Q. (By Mr. Ellis) All right. I've handed you
8 what's been marked as Exhibit No. 47. Can
9 you identify that?
10 A. This is a version of the paper that we
11 prepared for ISFI.
12 Q. All right. Go ahead.
13 A. Yes, that's -- this is a version of that
14 paper.
15 Q. All right. Is Exhibit No. 47 a paper
16 that's entitled "Unusual Behavior of Radiant Barrier
17 Materials in Fire Causation"?
18 A. Yes.
19 Q. And you were one of the authors, in fact,
20 the lead author of this paper?
21 A. Yes.
22 Q. And you said, "This is a variation of the
23 paper that was presented to the International
24 Symposium on Fire Investigation." Is that correct?
25 A. That's correct.

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1 Q. And the one that we looked at earlier was
2 entitled "A Strange New Source of Structure Fire
3 Ignition." Is that right?
4 A. That's correct.
5 Q. So what we have in Exhibit No. 47 is just
6 another version of that same paper?
7 A. Essentially, yes.
8 Q. Is it different in any way that you know
9 of?
10 A. I don't believe so, but again, I'd have to
11 go through it line by line. But the --
12 Q. It's appears to be the same?
13 A. Yeah. That "Strange New Source" title got
14 tagged on, I guess, by ISFI. There was -- early on
15 you had to submit an abstract, and that was something
16 that was included in the very first abstract
17 presentation and they stuck with it and so we wound
18 up having to publish it with that. That wasn't the
19 preferred title.
20 Q. Do you know about when Exhibit No. 47 was
21 prepared?
22 A. It would have been in the early fall of
23 this year, of 2012.
24 Q. Was this paper published independently of
25 the paper that you submitted ISFI entitled "A Strange

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1 New Source of Structure Fire Ignition"?
2 A. No, I don't believe that this was published
3 anywhere. This may be on our website.
4 Q. All right. Looking at your amended report,
5 Photograph No. 7, do you have that?
6 A. I do.
7 Q. Is Photograph No. 7 a photo that's entitled
8 "High current electrical burning around nails
9 penetrating through chimney flashing"?
10 A. Yes.
11 Q. All right. Does that show the paper
12 backing intact?
13 A. Can't tell from this picture.
14 Q. Looking at Photo No. 8, that's a photo
15 which is labeled at the bottom, "Clear evidence of
16 large amounts of lightning current from the radiant
17 barrier foil into the dryer vent pipe." Is that
18 right?
19 A. Yes.
20 Q. Is the paper backing intact there?
21 A. It is in places.
22 Q. Let's go back to Photo No. 7. You say you
23 can't tell us from looking at the photo whether or
24 not the paper is intact. Is that right?
25 A. Correct.

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1 Q. Do you know whether or not it was, in fact,
2 intact?
3 A. No.
4 Q. How about from Photo No. 8?
5 A. Do I know if, in fact, it was intact, is
6 that your question?
7 Q. Yeah, same question.
8 A. Do I know --
9 Q. Do you know whether or not the paper
10 backing is, in fact, intact?
11 A. It is in places and in places it appears to
12 not be.
13 Q. Can you take the pen there and mark for me
14 where the paper is not intact. And then connect
15 those to a letter "R" on the outside margin.
16 A. (Witness complies.)
17 Q. Let's turn to Photo 9. Looking at Photo 9,
18 can you tell me whether or not the paper is intact
19 there or not?
20 A. Same answer, it's very difficult to tell.
21 There are places where it looks like that it could be
22 intact and there are places where it looks like that
23 it is not intact.
24 Q. All right. Take your pen and circle the
25 places which you believe show that the paper is not

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1 intact and connect them with a line to the margin and
2 put a letter "H" beside those.
3 A. (Witness complies.)
4 Q. Are there any other photos in your amended
5 report, Exhibit No. 41, which depicts the RBS and
6 show that the paper is not intact?
7 A. There are no photos that provide enough
8 detail to be able to make that determination.
9 Q. All right, sir. Take a look at Exhibit
10 No. 37. Look through Exhibit No. 37, which is your
11 original report, at the photos and identify for me
12 which photos show that the paper is not intact.
13 A. I do not have Exhibit 37.
14 Photo 5 shows the paper not intact.
15 Q. All right. That's on page 5?
16 A. Yes.
17 Q. All right. Take your pen, circle wherever
18 it is that you believe the picture shows that the
19 paper is not intact and connect it with a line to the
20 letter "K" in the margin.
21 A. Okay.
22 Q. Let's go to the next one. Are there any
23 other photos in Exhibit No. 37 which you believe show
24 that the paper is not intact?
25 A. Photo 10.

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1 Q. That appears to be one of the same photos
2 that's used in the amended report, right?
3 A. Yes.
4 Q. But if you wouldn't mind, why don't you go
5 through the exercise on Photo No. 10 of circling the
6 parts of this photograph which you believe show that
7 the paper is not intact?
8 A. And what letter would you like me to use
9 for that?
10 Q. Let's try "L" this time. We're going to
11 run out of the alphabet probably.
12 A. (Witness complies.)
13 Q. Are you done?
14 A. Bear with me here.
15 Q. Did you connect it?
16 A. Sorry?
17 Q. Did you connect it to a letter "L"?
18 A. Yes.
19 Q. Thank you.
20 Your paper on page 8 indicates that a
21 small remaining piece of the styrofoam vent channel
22 can be seen under a staple in Photo 10?
23 A. Yes.
24 Q. Can you find that, circle it and connect it
25 to a letter "M" in the margin?

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1 A. This is in the original report?
2 Q. Right.
3 A. (Witness complies.)
4 Q. All right, sir. Then any other photos in
5 your original report which you believe show the paper
6 not intact?
7 A. Again, Photo 9.
8 Q. All right. And on Photo 9, which I believe
9 is a duplicate of something that we just looked at in
10 your amended report, but if you will go through the
11 exercise there on Photo 9 of circling the parts of
12 that photo which you believe show the paper not
13 intact and connect it to a letter "N" in the margin?
14 A. It's a little more difficult to see in this
15 photograph. You said "N" as in November?
16 Q. Right.
17 A. (Witness complies.)
18 Q. Any other photos in the original report
19 which show the paper is not intact?
20 A. No.
21 Q. Are you aware of any other photos that
22 you've seen in connection with your investigation
23 which show that the paper is not intact?
24 A. I believe my recollection is that there
25 were other of Mr. McGraw's photos that showed it not

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1 intact, but there was many photos -- I can't tell you
2 exactly which one right now. I'd have to go through
3 them.
4 Q. I'm going to show you -- I'm showing you
5 what was marked as Exhibit No. 31 in Mr. McGraw's
6 deposition, which is his report dated August 22,
7 2012. I'd ask that you look through there at
8 Mr. McGraw's photographs and see if you can find any
9 photos which show that the paper is not intact?
10 A. None other than photos we have already
11 discussed that I can find that I can confirm with the
12 quality of these pictures, the reduced pictures.
13 Q. All right, sir. Can you hand that back to
14 me?
15 A. (Witness complies.)
16 Q. I'm going to show you what was marked as a
17 copy of Exhibit No. 33 in Mr. McGraw's deposition,
18 which is a copy of his report dated November 7, 2012,
19 and I'll ask you the same thing: Look through the
20 photographs there and see if you see any photos which
21 show that the paper is not intact.
22 A. So difficult to see in some of these
23 photographs.
24 MS. MACLEOD: You just asked him to
25 look at the photos attached to Rob McGraw's report

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1 and not the photos that came from the Taylors. You
2 want him to look at those preconstruction photos from
3 the Taylors?
4 A. Yeah, this looks like a bunch of
5 preconstruction photos. I'm not sure.
6 Q. Yeah, right. The preconstruction photos
7 you really don't have to look at.
8 A. I'm not sure where the line is between
9 them. I assume it's this --
10 MR. ELLIS: This is out of Goodson's
11 file.
12 MS. MACLEOD: Okay.
13 MR. MURPHY: We make no
14 representations that it's going to work.
15 A. Unless we spend a lot of time looking at
16 this paper intact, it really doesn't make any
17 difference.
18 Q. (By Mr. Ellis) Having looked at Exhibit
19 No. 33, did you find any additional photos which you
20 believe show that the paper is not intact?
21 A. None that I could confirm with the quality
22 of the pictures. It's reduced on paper. Now, the
23 page with the exhibit number on it, is that -- did we
24 take it off there?
25 Q. What?

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1 A. That doesn't have an exhibit number on
2 front, does it?
3 Q. No.
4 A. Okay. It didn't have one?
5 Q. No. This was Exhibit No. 33 in the earlier
6 deposition.
7 A. Okay.
8 Q. It was his amended report.
9 A. All right. I just didn't see the exhibit
10 number. I wanted to make sure I hadn't lost the
11 page.
12 Q. The original exhibits are being kept by the
13 court reporter, so we don't have those.
14 MR. ELLIS: You've already got a copy
15 of this, don't you?
16 MS. MACLEOD: I don't know what it is.
17 MR. ELLIS: His file.
18 MS. MACLEOD: Who?
19 MR. ELLIS: His file.
20 MS. MACLEOD: His?
21 MR. ELLIS: Yeah. Do you need a copy
22 of it?
23 MS. MACLEOD: No. I should say
24 please, no.
25 (Exhibit 48 marked)

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1 Q. (By Mr. Ellis) Can you identify what I've
2 handed you that's been marked as Exhibit 48?
3 A. This appears to be a copy of McDowell
4 Owens -- material that was in the McDowell Owens file
5 for this job.
6 Q. This would include your papers as well as
7 anybody else's papers that dealt with this fire?
8 A. It would include whatever was in the file.
9 Q. I'd ask you to turn to the drawing in the
10 file that looks like that there.
11 A. Is there a page number, or how can I find
12 that?
13 Q. These aren't numbered. If you want to,
14 just use this one until you come to it.
15 A. Yes.
16 Q. Just hold that out in front of you then.
17 Can you identify what that is, please?
18 A. That's a sketch that was made by myself
19 while I was reviewing -- doing initial review of
20 photographs.
21 Q. Was that made to illustrate the current
22 path from the chimney cap down to the dryer vent?
23 A. This was made to illustrate what I was
24 seeing and information I was extracting from
25 photographs as I was going through them.

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1 Q. Did you do it on or around March 26th of
2 2012?
3 A. I believe I did.
4 Q. Flip to the next page. Is that the
5 Franklin Times article that you pulled off the
6 Internet?
7 A. It appears to be.
8 Q. Go to this part of your file which begins
9 an engineering bulletin that says, "Role of IEEE."
10 My question to you is: What was
11 the -- I'm sorry. You haven't got it yet, have you?
12 A. How far back in the stack is it?
13 Q. Looks like it's a third of the way back.
14 A. I fear I'm wasting too much time trying to
15 thumb through these and find it, that page.
16 Q. I'll just show it to you.
17 A. Okay.
18 Q. Do you know what this part of your file is?
19 A. I do.
20 Q. What is it?
21 A. It's a summary of IEEE C-62 test standard.
22 Q. And why were you interested in putting this
23 in your file?
24 A. Because it is believed by some that IEEE,
25 C-62 describes the proper way to do the testing that

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1 we were doing. And IEEE C-62 is for testing surge
2 protection devices on low voltage circuits. It has
3 nothing to do with radiant barrier in any way.
4 Q. Let me ask you to turn to this part of your
5 notes.
6 A. These are not organized, so I'm forced to
7 fumble through every page.
8 Q. Yeah. I'm sorry. You guys could have
9 numbered them to make it a lot easier for us.
10 MS. MACLEOD: I'm sure everything
11 I got was numbered. I think this might be it.
12 THE WITNESS: Okay. Thank you.
13 Q. (By Mr. Ellis) Can you identify what that
14 is for us?
15 A. These are some notes that I made to myself
16 while reviewing expert reports.
17 Q. Of Mr. Goodson and Mr. Scardino?
18 A. Yes, these two are -- these are the two
19 that are covered here.
20 Q. Flip to the next document.
21 A. That's not next in my order here in this
22 stack. But again, you could just show me the
23 document, Mr. Ellis, and I --
24 Q. Yeah.
25 A. This is just one of many sources of -- or

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1 things that were found by our staff that have to do
2 with lightning.
3 Q. And was that the research from Wikipedia on
4 lightning that y'all collected?
5 A. We didn't call information from Wikipedia
6 research. It's just explanatory information. It's,
7 again, our staff -- we ask them to do -- to do
8 searches for information, and they invariably always
9 come up with some stuff from Wikipedia. It's good --
10 it's illustrative and it's good for explaining things
11 to other people, but we don't -- we don't necessarily
12 take information from Wikipedia as authoritative.
13 It's mine to coordinate with other information but if
14 you get the same information from other sources, then
15 you believe it. But Wikipedia is not considered an
16 authoritative source by many.
17 Q. I'm going to show you that from your file.
18 Can you identify what that is?
19 A. This is another page printed off by our
20 staff, and this one addresses the autoignition
21 equation.
22 Q. And that's another article from Wikipedia,
23 correct?
24 A. Yeah. It is -- this is one where I'm
25 familiar enough with this autoignition equation to

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1 know that this is -- for the purposes that we
2 extracted it, this is valid.
3 MR. ELLIS: Let me take a few minutes
4 with George here, and I'm going to see if we're able
5 to wrap this up.
6 THE VIDEOGRAPHER: Would you like to
7 go off the record, sir?
8 MR. ELLIS: Yes.
9 THE VIDEOGRAPHER: Off the record at
10 4:44 p.m.
11 (Recess taken)
12 THE VIDEOGRAPHER: Back on the record
13 at 5:00 p.m.
14 Q. (By Mr. Ellis) All right. Mr. Simmons, you
15 told us a little while ago that in connection with
16 your presentation to the ISFI, you made a PowerPoint
17 presentation. Is that correct?
18 A. A PowerPoint version of the presentation --
19 or the paper that was published.
20 Q. Would you mind making a paper copy of that
21 and give it to your counsel so that she can produce
22 it to us?
23 A. Certainly not. The -- I'm not sure that
24 it's not -- the -- no, he's talking about a different
25 one. It's just a subset of what is in the paper.

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1 (Exhibit 49 marked)
2 Q. (By Mr. Ellis) If y'all wouldn't mind
3 sharing this one. I'm handing you what's been marked
4 as Exhibit No. 49. Could you take a look at that,
5 Mr. Simmons?
6 A. Yes, I recognize it.
7 Q. All right. What is it?
8 A. This is a paper version of a very short
9 PowerPoint presentation that includes some video
10 clips of the testing.
11 Q. And is this the test that we were talking
12 about earlier where you energized a strip with the
13 auto battery?
14 A. No. That is -- one of those is included in
15 here, but there are several different video clips.
16 I thought we were talking about the first one. Are
17 we talking about the first one yet?
18 Q. Let's go back to the first page and
19 start --
20 A. Okay.
21 Q. -- with each page. What does the first
22 page show?
23 A. This is a brief overview of what is -- what
24 appears on the second page of this paper copy, which
25 is a high voltage test that we did on the radiant

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1 barrier.
2 Q. Have we already talked about that
3 particular test today?
4 A. Only slightly. We talked about the fact
5 that we have done high voltage testing without
6 sheathing clips.
7 Q. All right. And the second page of Exhibit
8 No. 49 is a photo that's taken from the video clip --
9 A. Yes.
10 Q. -- showing the high voltage testing. Is
11 that right?
12 A. Yes.
13 Q. And that was 12,000 volts, correct?
14 A. Yes. 12,000 volts at 30 milliamps.
15 Q. And what was the duration of the test?
16 A. This one was maybe seconds. 20 seconds,
17 30 seconds.
18 Q. 20 to 30 seconds. What was the purpose of
19 that test?
20 A. Simply to show that arcing from sheet to
21 sheet occurs without the presence of sheathing clips
22 and that high voltage, even at a very low current --
23 extremely low current, could ignite this material and
24 subsequently ignite adjacent light combustibles.
25 Q. When did you do this?

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1 A. This one may have been done a year or more
2 ago.
3 Q. Take a look at the last page of Exhibit
4 No. 49. Does this describe the test that you
5 performed using a 12-volt car battery?
6 A. This is one of the many tests that we did
7 with a 12-volt car battery. This is one of the ones
8 we talked about earlier.
9 Q. Rise time of less than 1 microsecond,
10 correct?
11 A. Yes.
12 Q. And this would have been the one you talked
13 about earlier that had a duration of about
14 20 milliseconds? Is that right?
15 A. Yes.
16 Q. When did you do this one?
17 A. This one was done recently. Within the
18 last few weeks. And also, again, it stipulates that
19 this does not duplicate lightning in any way. It's
20 simply due -- to show that a fast rise time, short
21 pulse will ignite this material.
22 Q. Let me ask you to look at Exhibit No. 38.
23 Looking at Exhibit No. 38, can you tell us when you
24 performed the test on the first few pages of Exhibit
25 No. 49, namely the higher voltage 12,000-volt test?

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1 A. Okay. There was high voltage testing done
2 in August, but I don't believe that's the one that
3 was -- that's actually in this picture.
4 Q. All right. I think you said that you may
5 have done the test that's in the picture and
6 described in the first two pages of Exhibit 49
7 approximately a year ago?
8 A. Yeah, it's some time ago. Again, as
9 I related to you, we have done a lot of testing on
10 this material.
11 Q. By looking at Exhibit No. 38, can you tell
12 us when you performed the test that's described on
13 the third page of Exhibit 49?
14 A. That would be down in mid November, 11-13
15 and 14.
16 Q. So that's the testing that's described on
17 Exhibit No. 38 at November 13 and 14 of 2012. Is
18 that right?
19 A. Yes, that's one of the tests that would
20 have been performed.
21 Q. And you apparently did a DVD with video
22 clips of RBS testing on November 16th, 2012. Is that
23 right?
24 A. Yes.
25 Q. Is that a video clip of the test that's

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1 described on the third page of Exhibit 49?
2 A. It's video clips of everything that's
3 described in Exhibit 49.
4 Q. Is it a video clip of everything that's
5 described in Exhibit 49?
6 A. Well, the PowerPoint that this was printed
7 off from, I believe there are four or five tests in
8 it. That's what these video clips are.
9 Q. So none of the testing you've done was
10 intended to replicate lightning. Is that correct?
11 A. Correct. It's not possible -- not
12 reasonable at all to try to replicate lightning. All
13 of our testing demonstrates fundamental physics,
14 electrical engineering and how they apply to this
15 material and it demonstrates the fact that this
16 material can be ignited by electrical current from
17 virtually any source as long as the current density
18 achieves a certain level.
19 Q. You weren't trying to replicate lightning
20 and in your view it wouldn't be reasonable to do so,
21 correct?
22 A. It's not reasonable, and it is completely
23 unnecessary. Again, once you've proven that you can
24 ignite something with a match, proving that you can
25 ignite it with a blow torch is unnecessary.

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1 Q. If you would, get your report -- your
2 original report and your amended report out. What
3 I'd ask you to do is take a look through those
4 reports and identify for me any photographs which you
5 believe show sooting.
6 A. Exhibit 37 -- so this would have been the
7 original report -- Photograph 4 is a photograph of
8 most of the fire scene. There would be sooting in
9 that photograph. Photograph 5 --
10 Q. Just a second.
11 A. Any time you have combustion, there --
12 almost any time there will be part of that
13 combustions that is incomplete and that's what
14 generates sooting. So any time this material does
15 not completely burn --
16 Q. Let me ask you to look at the photographs
17 where the RBS appears and show us on those where
18 sooting appears.
19 A. Photograph 8, I can't tell from this
20 reproduction, but I believe close examination in the
21 original photos indicated some there.
22 Photograph 9 --
23 Q. Just a second. Where on Photograph 8 are
24 you seeing sooting?
25 A. I'm not -- you can't see it in this quality

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1 of the photograph. But what I recall is -- something
2 that you can see in these photographs does not
3 include flow rate but in my on-screen examination, I
4 recall that I saw some sooting here. So just
5 information for what it's worth.
6 But in this photograph you can't tell,
7 the quality of the photograph. In this reproduction
8 of the photograph. Photograph 9 shows sooting.
9 Q. Take your pen out, circle the sooting,
10 attach it by a line in the margin to the letter "R."
11 A. (Witness complies.)
12 Q. Can you pin it down any more than just
13 circling the entire photograph, Mr. Simmons?
14 A. There are many individual locations in this
15 but they're connected, so it's not possible to
16 separate.
17 Q. Try to draw a small circle around the ones
18 that are connected and link it up with the letter
19 that I just asked you to put in the margin.
20 A. In some cases we already have circles
21 around this location, so -- but I'll draw another.
22 And in many cases they overlap. I've done that on
23 Photograph 9.
24 Q. What about 10?
25 A. 10 we have -- did we not do that on 10?

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1 Q. Take a look at the circles on 10. Are they
2 circles that surround sooting already?
3 A. All of them do appear to include some
4 sooting, but I'm going to draw one more circle and
5 then I'll draw an "R" to them.
6 Q. Okay. Take a look through the rest of
7 Exhibit No. 37 when you finish that and see if there
8 are any other photos in here which show sooting.
9 You didn't find any more in that
10 exhibit?
11 A. No.
12 Q. All right. Turn to Exhibit No. 41, then.
13 A. Now, remember we talked about Photograph 4
14 shows sooting but we didn't circle that. But
15 that's -- that's the burn scene, so, of course,
16 it's --
17 Q. Right. The rafters. Okay. Exhibit 41,
18 find any photos that show sooting.
19 A. Again, we've got the same Photograph 4 of
20 the rafters, but I assume we don't want to circle
21 that one?
22 Q. No, we can skip over that.
23 A. Same Photograph 8, which is of the dryer
24 vent. We've already done that.
25 Q. Right.

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1 A. Do you want me to do it again here?
2 Q. No. Don't do it again.
3 A. In Photograph 7, this is a little more
4 clear than the copy in the other exhibit, and you
5 can -- you begin to see some sooting. So I'm going
6 to go ahead and circle it.
7 Q. You're on Photo 7 and you're circling areas
8 which you believe are sooting and if you would attach
9 those by a line to the margin and mark those as
10 letter "S."
11 A. In Rob's big photograph stack, there were
12 other photographs around this chimney but they're not
13 here.
14 Photograph 9 definitely does, but we
15 have so many circles on it already, I don't know how
16 we can --
17 Q. Is Photo 9 one that we covered in the
18 original report?
19 A. We must have.
20 Q. Is that the same as Photo 10 in the
21 original report?
22 A. Yes.
23 Q. Are there any other photos which you say
24 show sooting in your amended report?
25 A. No.

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1 Q. Are there any other photos that you've seen
2 which you believe show sooting?
3 A. That I have seen in these reports or
4 period?
5 Q. Period.
6 A. Again, in the couple hundred or several
7 hundred photos that I received from Mr. McGraw, I
8 recall that there were photos with sooting. But --
9 Q. Let's take a look at what is marked as
10 Exhibit No. 33 in the McGraw deposition.
11 MR. ELLIS: Have you got a copy of
12 that, Skye, here that you can share with him?
13 MS. MACLEOD: I do.
14 A. Again, this does not include all of the --
15 all of the photographs that Mr. McGraw took.
16 Q. (By Mr. Ellis) Yes, I understand. But I
17 want you to look at the photos that Mr. McGraw
18 attached to his report dated November 7, 2012 and
19 tell me if any of those show sooting.
20 A. Photograph 1, of course, is going to show
21 sooting.
22 Q. Again, you're looking at the burn material
23 from the scene rather than RBS stuff, right?
24 A. Well, there is some RBS stuff here, but
25 the -- this photograph shows sooting. How much of it

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1 is on what, hard to tell. Photograph 2, the same.
2 Photograph 3, the same.
3 Q. Does Photograph 2 show any sooting on the
4 RBS?
5 A. I can't tell. There's not enough -- this
6 is too far --
7 Q. You couldn't tell on Photo 1 either, could
8 you?
9 A. Right.
10 Q. All right.
11 A. Photograph 5, the same but can't tell if
12 it's on RBS. And Photograph 6, the same.
13 Q. Again, you can't tell if there's any
14 sooting on RBS from Photo 6, right?
15 A. It's not a close enough photo of the RBS.
16 Most all these photos show sooting, but you can't
17 tell if it's on the RBS.
18 Okay. None in this stack that clearly
19 show sooting on the RBS.
20 Q. All right. That was McGraw's amended
21 report. I'm showing you what was marked as
22 Exhibit 31 in McGraw's deposition, which is his
23 original report from August 22, 2012. Ask you the
24 same question. Look through the photographs and
25 identify for us what you believe show RBS sooting.

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1 A. Photograph 10 probably does but, again,
2 it's so far away and out of focus that you can't
3 tell. So what we really get into here is just the
4 focus and the distance on the photographs.
5 THE VIDEOGRAPHER: About three minutes
6 of tape left.
7 A. Photograph 17, almost certainly will but,
8 again, it's the -- it's the -- the distance from the
9 material is such that you can't -- you can't tell in
10 this.
11 Q. All right.
12 A. Because it includes a number of locations
13 of -- he's calling it scorched or melted aluminum
14 foil, so it shows at least a half a dozen of those
15 locations.
16 Photograph 23, which is one that we've
17 seen in our other report several times, it's of the
18 dryer vent pipe. Photograph 19, which is the --
19 Q. That's the same photo as Photo No. 9 in
20 your amended report, right?
21 A. Yeah. We've addressed that one several
22 times. Photograph 24 -- again, I'm sure does, but
23 it's -- the distance from the subject in the
24 photograph is too great.
25 Q. So you can't tell if there's any sooting

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1 there from the photo?
2 A. Correct.
3 Q. All right.
4 A. That photograph includes a portion of the
5 vent pipe, I believe, that was -- it does. That is
6 in Photograph 24, so I'm fairly certain that it has
7 some but you just can't see it in this photograph.
8 So they're either -- in this report they're either
9 photographs that we have already addressed in other
10 reports or where the distance of the camera from the
11 subject is too great and you can't -- you don't have
12 enough detail.
13 Q. To be able to tell whether there's sooting
14 or not?
15 A. Correct.
16 Q. Thank you. That's all the questions we
17 have for you.
18 EXAMINATION
19 BY MS. MacLEOD:
20 Q. Mr. Simmons, this morning when we began
21 your deposition, you were asked to list your opinions
22 that you'd be offering at trial. Are there opinions
23 that you intend to offer that you've not been asked
24 about today during the deposition?
25 A. Yes. There are opinions that stem from my

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1 report and I did stipulate that any opinions in my
2 report would be opinions that I would be offering
3 later.
4 Q. And what opinions would those be that you
5 listed and/or were in your report that you have not
6 discussed today?
7 A. One of the opinions has to do with the
8 subject of testing. We did talk quite a bit about
9 testing that McDowell Owens has performed, but we
10 have not talked at all about testing that other
11 people have or have not performed. And since the
12 subject of testing has been made to be a fairly
13 significant issue here in this case, my complete
14 opinion about McDowell Owens testing is that it is
15 completely appropriate and it definitely does
16 demonstrate the characteristics of this material when
17 energized. Further, no evidence whatsoever has been
18 produced of testing on similar characteristics that
19 have been performed by anyone else. And the fact
20 that the proposal that I saw in other reports was
21 that McDowell Owens should have used, for example,
22 IEEE C-62 as the testing methodology, which has --
23 THE VIDEOGRAPHER: Excuse me. We have
24 to switch tapes. I'm about to run out.
25 MS. MACLEOD: Sorry.

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1 THE VIDEOGRAPHER: Sorry to interrupt
2 your answer.
3 A. And this has absolutely nothing to do with
4 radiant barrier --
5 MS. MACLEOD: He was asking you to
6 stop --
7 THE VIDEOGRAPHER: We're about to run
8 off right now.
9 THE WITNESS: Oh, right now. I'm
10 sorry. I thought you were just giving us a warning.
11 THE VIDEOGRAPHER: Time is 5:29. Off
12 the record, ending tape 7.
13 (Recess taken)
14 THE VIDEOGRAPHER: Back on the record
15 at 5:29 p.m., beginning tape 8.
16 Q. (By Ms. Macleod) We just switched out the
17 videotape and we were in the middle of talking about
18 testing that McDowell Owens has done in regard to
19 radiant barrier products and you were also discussing
20 testing that others have conducted or should have
21 conducted. If you could continue with your answer in
22 regard to what your opinions are in regard to the
23 testing done by others.
24 A. So based upon information available to me
25 and gleaned from proposals that were made in other

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1 expert reports, my opinion is that manufacturers of
2 radiant barrier products have done no testing that is
3 appropriate to address the problem and the issue that
4 we're dealing with here in this case. Clearly the
5 issue here is the behavior of this material when it's
6 energized by electrical current, and I have -- from
7 what I see, no testing of that issue -- those
8 characteristics, those parameters of that behavior
9 has been performed.
10 Q. Is it your opinion that that testing should
11 have been conducted?
12 A. Absolutely. As a -- many years as a
13 product development engineer, I can tell you for sure
14 that safety evaluations of products, especially
15 consumer products, are very, very important and
16 absolutely should be part of the protocol in
17 developing or releasing a product. And the fact that
18 aluminum foil is a great conductor is basic
19 engineering knowledge. Any engineer should know
20 that.
21 The fact that thin metals, thin wires,
22 small wires, when they conduct excessive amount of
23 current, get hot is basic engineering knowledge. Any
24 engineer should know that. The fact that the roof
25 structure of a house is the most likely place that

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1 lightning is going to strike is common knowledge.
2 That's even reflected in the RMI -- in the R-M-I, RMI
3 bulletin. So testing that addresses obvious
4 potential dangers of a product absolutely should be
5 done.
6 Q. And do you have any opinions -- have you
7 done any research to determine whether Louisiana
8 Pacific did any of that testing on the TechShield
9 product?
10 A. I have been able to find zero evidence of
11 any testing. In all of the advertisements, the
12 testing that is mentioned is ASTM E84 and similar
13 tests which address surface burn characteristics of
14 construction material, things like that. Do not
15 address behavior when energized by electrical
16 current, do not address the ability of electrical
17 current to generate extreme heat that will ignite the
18 material. I have seen absolutely zero evidence and I
19 have looked, searched that that has been -- any of
20 that testing has been performed.
21 Q. Again, going back to the list of opinions
22 that you provided this morning, anything in addition
23 to the opinions that you've just told us about that
24 you intend to offer that you haven't been asked about
25 or had an opportunity to talk about today?

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1 A. Yes. In my report I included opinions that
2 this material -- the behavior of this material in the
3 location that it is installed creates a hazard. And
4 in effect, with the characteristics of this material
5 combined with the location that it is installed, it
6 creates an unsafe situation. It's an unsafe product
7 as it is used.

8 Q. Is it your opinion that Louisiana Pacific
9 should have been aware of this hazard?

10 A. Again, it's unimaginable that they could
11 not have been aware. We're dealing with basic
12 engineering fundamentals here that any engineer
13 should be aware of. This is not rocket science.
14 It's not magic. There's nothing to -- any engineer
15 that would think about it for a few minutes would
16 realize aluminum is a great conductor. It's listed
17 as No. 2 in the common conductors. Any engineer
18 knows that if a small wire or a small conductor
19 carries excess current, it gets hot.

20 Any engineer knows that the roof
21 structure of a house is where lightning is most
22 likely to strike and so there's a very, very good
23 probability that radiant barrier is going to get
24 energized by it. So you start putting that stuff
25 together, it is very obvious that this should have

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1 been recognized and some level of effort should have
2 been taken to test this material.

3 Excuse me, I'll have to get some
4 water.

5 MS. MACLEOD: Go off the record for a
6 second.

7 THE VIDEOGRAPHER: Going off the
8 record at 5:35 p.m.
9 (Recess taken)

10 THE VIDEOGRAPHER: Back on the record
11 at 5:35 p.m.

12 Q. (By Ms. Macleod) All right. We had gone
13 over the opinions that you offered -- you stated this
14 morning that you'd be offering and hadn't been asked
15 about, including hazards of the product as well as
16 material construction of the product, or I believe
17 you called it construction materials this morning.
18 Are there any other areas or topics in which you
19 intend to offer an opinion that you have not had the
20 opportunity to talk about today?

21 A. There are many specific technical details
22 that underlie these opinions that relate to current
23 flow behaviors and that sort of thing. I intend to
24 address all of those detailed underlying issues that
25 directly relate to and explain my opinions that I've

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1 already stated.

2 MS. MACLEOD: I don't have any other
3 questions at this time.

4 FURTHER EXAMINATION
5 BY MR. ELLIS:
6 Q. Mr. Simmons, you told us that you would
7 offer an opinion at trial relating to testing that
8 should have been performed by others and then you
9 referred to the manufacturer. Is the "others" that
10 you were referring to the manufacturer, or do you
11 mean somebody more than that?

12 A. The manufacturer.

13 Q. In this case Louisiana Pacific?

14 A. Yes.

15 Q. Show me where in your original or amended
16 reports you offer an opinion about testing that
17 Louisiana Pacific should have performed.

18 A. In those reports I did not -- we dealt with
19 the topic of testing primarily from the point of view
20 of the testing that we performed. In my opinion it's
21 implicit that anyone testing the behavior of this
22 material would do those tests, that those are the
23 tests that need to be -- those types of tests are
24 what need to be performed.

25 Q. Do you anywhere, in either your original or

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1 your supplemental report, give an opinion that LP
2 should have performed certain tests and did not do
3 it?

4 A. In articles, papers that were attachments
5 to my report, I have addressed testing by
6 manufacturer.

7 Q. I'm talking about Exhibits 37 and 41, which
8 are the reports that you gave on August 29, 2012 and
9 November 21, 2012. In either of those expert
10 reports, do you give an opinion that LP should have
11 performed certain testing?

12 A. Again, sir, there were attachments that
13 were included to this report. In my opinion those --
14 and as I've already discussed, many of the details of
15 our technical -- of our testing were explained in
16 those attachments well beyond what's explained in the
17 body of the report. My opinion, those attachments
18 were part of this report.

19 Q. The second thing that you just testified
20 about, Mr. Simmons, was that there were certain
21 opinions that you didn't list this morning that the
22 material -- I guess you were referring to the RBS --
23 creates a hazard because of both its characteristics
24 and the location in which it is placed. In other
25 words, that it makes it an unsafe product as used.

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1 Show me where in either Exhibit 37 or
2 41 you offer that as an opinion.
3 MS. MACLEOD: Objection to form.
4 A. First part of my answer to that question,
5 Mr. Ellis, is that, again, those things are addressed
6 in some of the attachments to these reports, but I'm
7 looking for specifics in the report itself.
8 In Exhibit 41, page 11, the bottom of
9 the second to last paragraph I state, "Reports and
10 articles previously published by McDowell Owens and
11 are attached to this report clearly show how easy the
12 material is ignited." So I am specifically referring
13 to such -- to the attachments to this report.
14 Q. (By Mr. Ellis) So that's supposed to
15 support an answer to my question where I asked you to
16 identify where in your reports you opine that the
17 material creates a hazard because of its
18 characteristics and the location where it's placed?
19 A. The bottom sentence in the conclusion of
20 Exhibit 41, "We conclude this fire was caused by the
21 hazardous properties and hazardous behavior of the
22 reflective radiant barrier material."
23 Q. Is that the opinion that you're talking
24 about?
25 A. This is one part of a statement of that

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1 opinion.
2 Q. I don't think you understood my question.
3 Just a few minutes ago, in answer to
4 Ms. MacLeod's examination, you said that you were
5 going to offer opinions that this material, the RBS,
6 creates a hazard because of its characteristics and
7 the places in which it is used. In other words, that
8 it is an unsafe product as it is used. So where in
9 your expert report does that opinion appear?
10 A. Part of the opinion is here in this last
11 sentence. Again, Mr. Ellis, this issue is --
12 involves some fairly complex technical issues.
13 The -- to include in a simple statement everything
14 that relates to an opinion about those issues is just
15 not -- is not realistic. Can't do it.
16 The properties of the material, the
17 behavior of the material, that is fairly specifically
18 addressed here. And the fact that lightning is a
19 factor, that's specifically addressed here. The fact
20 that locating it on the roof puts it close to
21 lightning, that is not specifically addressed here
22 but it's -- that's -- it is addressed in other
23 attachments. But that is obvious, the fact that
24 locating something in a roof structure puts it close
25 to where lightning is likely to strike --

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1 Q. Sir, it's not obvious as an opinion unless
2 you specifically put it in your expert report and you
3 didn't do it.
4 A. The things that I just mentioned are
5 specifically in this report, and I specifically
6 mention in this report that -- that much of the
7 support for this is in the attachments. Again, the
8 reason that those attachments were attached is
9 because they contain technical details that is beyond
10 what is reasonable to put in a report.
11 Q. The third and last item which you said you
12 were going to offer an opinion about at trial that
13 you hadn't been asked about today was that Louisiana
14 Pacific should have been aware of the hazard. Where
15 in your original or your supplemental report do you
16 give an opinion that Louisiana Pacific should have
17 been aware of the hazard?
18 A. That will be in the attachment, sir.
19 Q. It's not in the reports itself, is it?
20 A. That specific statement is not in the body
21 of the report. And that's why I'm bringing it out
22 now, so that you are aware.
23 Q. Well, trying to make us aware of things
24 that you're going to opine about at trial that are
25 not in your expert reports is a violation of the

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1 rules, sir.
2 A. My opinion is they are in the report, sir,
3 because they are in attachments. Some of it is
4 directly in the report, some of it is in the
5 attachments that I specifically include as part of
6 the report.
7 MR. ELLIS: We don't have any other
8 questions.
9 MS. MACLEOD: I don't either.
10 THE VIDEOGRAPHER: Going off the
11 record at 5:46 p.m., ending the deposition with
12 tape 8.
13 (Proceedings concluded at 5:46 p.m.)
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1 CHANGES AND SIGNATURE OF RONALD D. SIMMONS
 2 PAGE LINE CHANGE REASON
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1 STATE OF TEXAS
 2 COUNTY OF HARRIS
 3
 4 REPORTER'S CERTIFICATE
 5 ORAL VIDEOTAPED DEPOSITION OF RONALD D. SIMMONS
 6 November 30, 2012
 7
 8 I, the undersigned Certified Shorthand Reporter
 9 in and for the State of Texas, certify that the facts
 10 stated in the foregoing pages are true and correct.
 11 I further certify that I am neither attorney or
 12 counsel for, related to, nor employed by any parties
 13 to the action in which this testimony is taken and,
 14 further, that I am not a relative or employee of any
 15 counsel employed by the parties hereto or financially
 16 interested in the action.
 17 SUBSCRIBED AND SWORN TO under my hand and seal
 18 of office on this the 7th day of December, 2012.
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 13
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 17 SIMMONS, on this the _____ day of _____,
 18 2012.
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 22 THE STATE OF _____
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 25

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