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Client Alert

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FERC Proposes Rule to Address Threat to the Power Grid From Geomagnetic Disturbances

On October 18, 2012, the Federal Energy Regulatory Commission (FERC) issued a Notice of Proposed Rulemaking (NOPR) proposing to direct the North American Electric Reliability Corporation (NERC) to develop one or more Reliability Standards that address the impact of geomagnetic disturbances on the reliability of the bulk-power system. The NOPR proposes an aggressive timeline for the development of the Reliability Standard(s), with initial Reliability Standard(s) due within 90 days of the effective date of a final rule.

The NOPR was prompted by concerns that the interaction of the Earth's magnetic field and solar events can cause low frequency geomagneticallyinduced currents (GICs) to flow along the surface of the Earth and into the bulk-power system. GICs can interfere with normal system operations and can potentially lead to outages and cascading blackouts. Specifically, GICs can cause transformer cores to become "saturated," which can cause internal components to overheat, produce harmonic distortions, and cause the transformer to substantially increase its absorption of reactive power.

The NOPR finds that there is a gap in NERC's Reliability Standards regarding geomagnetic disturbances, and proposes to direct NERC to file Reliability Standards addressing such disturbances. Importantly, the NOPR draws specific attention to the effect of GICs on step-up transformers at large generating facilities, suggesting that both generators and transmission owners will have Reliability Standards with which to comply.

FERC proposes a notably aggressive timetable for implementing the new measures. For the first stage, which must be done within 90 days of the effective date of a final rule, NERC would file with FERC Reliability Standards requiring owners and operators of the bulk-power system to develop and implement operational procedures to mitigate the effects of geomagnetic disturbances. For the second stage, which must be done within six months of the effective date of the final rule, NERC would file with FERC Reliability Standards requiring owners and operators of the bulk-power system to conduct initial and on-going assessments on the impact of geomagnetic disturbances on bulk-power equipment and the bulk-power system. In addition, based on those assessments, the Reliability Standards would also require owners and operators of the bulk-power system to develop and implement plans so that instability, uncontrolled separation, or cascading failures do not occur as a result of a geomagnetic disturbance.

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The NOPR specifies that second stage Reliability Standards cannot be limited to operational procedures or enhanced training alone, but should contain strategies for protecting against the impact of geomagnetic disturbances based on factors such as the age, condition, technical specifications, or location of specific equipment. Such strategies may include automatically blocking GICs from entering the bulk power system, instituting revised technical specifications for new equipment, and isolating equipment that is uneconomic to retrofit in order to mitigate or prevent the effects of geomagnetic disturbances on other equipment. The broad scope of the second stage may make it difficult for owners and operators of the bulk-power system to perform the assessments required and develop strategies based on such assessments in the proposed six month time frame.

Comments on the NOPR and its timing provisions are due 60 days after publication of the NOPR in the Federal Register.

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