Climate Change and Clean Technology Blog

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Coordinating Committee for California's Renewable Energy Transmission Initiative Issues Final Report for Phase 2A

In order to identify the extensive renewable electric transmission infrastructure that California will need to meet future consumer demand, the Renewable Energy Transmission Initiative (RETI) was created as a statewide initiative to identify the transmission projects needed to meet the state's energy goals (33% of California's electricity from renewable energy by 2020) and the greenhouse gas reduction goals of Assembly Bill 32. The RETI is a joint effort among the California Public Utilities Commission (CPUC), the Energy Commission, the California Independent System Operator (California ISO), Investor-Owned Utilities, and Public Utilities.

RETI's central task is to identify transmission facilities capable of delivering enough renewable energy to meet the state's goals, but also minimize costs and environmental impacts. RETI's work is organized into three phases:

> Phase 1: Identification and ranking of Competitive Renewable Energy Zones (CREZ) in California and other regions where renewable projects (biomass, geothermal, solar, and wind) can be built;
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> Phase 2: Development of a statewide transmission plan to rank the CREZ; and
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> Phase 3: Development of detailed plans of service for the priority components of the statewide transmission plan.

Phase 1, which provided a broad, project-level ranking of CREZ and broadly identified transmission requirements to access the zones, was completed in two phases in May 2008 and January 2009.

Last month, RETI released its Phase 2A Report, which examines generation and transmission in more detail and develops conceptual transmission plans for the highest-ranking zones. The RETI Phase 2 work focuses on two major goals:

1. Expanded evaluation and re-ranking of the CREZ identified in Phase 1; and
2. Development of a statewide conceptual transmission expansion plan to access the CREZ.

The primary function of the Phase 2A Report is to provide RETI's recommendation as to which potential transmission projects should be considered priorities for future study, and provide a head start on designating the identified and potential transmission corridors to allow for future renewable energy developments.

Revised CREZ Descriptions:

Phase 1 CREZ descriptions were revised in the Phase 2A Report because the previous information use to create the CREZ was either incomplete or inaccurate. Consequently, the CREZ descriptions were updated based on new environmental screening information, proposed renewable energy projects with updated locations and descriptions, new information about permitting and developability, estimated economic scores for out of state renewable energy resources, and the effect of the potential establishment of the Mojave Desert National Monument.

RETI Phase 2A Conceptual Transmission Plan Snapshot:

In order to develop a Conceptual Transmission Plan (the "Plan"), the RETI Stakeholder Steering Committee ("SSC") formed a Conceptual Planning Work Group ("CPWG"). CPWG members included representatives from all major transmission providers, Load-Serving Entities ("LSEs"), regulatory and permitting agencies, renewable energy generators, environmental organizations, and other stakeholders.

In order to provide a workable framework for the CPWG, the SSC mandated that the Plan should: (1) provide access for approximately 100,000 GWh/year of renewable energy (160% of the target for new renewable energy in 2020); (2) include some level of access to all CREZ; and (3) provide for import of approximately 15,000 GWh/year of renewable energy from out of state resources. The SSC also directed the CPWG to assume that only about 40% of the energy output potential of each CREZ would actually be developed by 2020.

Based on these mandated assumptions, the RETI Plan does the following:

1. Identifies additional transmission capacity to access and deliver renewable energy to meet state goals of providing 33% of California's energy needs from renewable energy by

2020;

2. Evaluates relative usefulness of potential lines for accessing and delivering renewable energy;

3. Identifies potential transmission network lines for further detailed study;

4. Locates most conceptual lines in existing rights of way and/or designated utility corridors;

5. Builds in environmental considerations from the first report and includes high-level screening of conceptual transmission lines; and

6. Incorporates a wide range of stakeholder perspectives.

The RETI Phase 2A Plan Does Not:

1. Include precise routing of lines;

2. Preclude study of other areas with renewable potential;

3. Provide a determination of need, or information about power flows, congestion, or reliability;

4. Determine ability of existing systems to accommodate flows, congestion, or reliability; or

5. Provide the project-level environmental impact assessments required for project specific approvals.

Rating Of Transmission Groups:

After identifying the CREZ and conceptual transmission lines, the RETI Phase 2A Report scores each transmission group by energy produced, environmental difficulty/issues, and cost. While these results give a general understanding of the benefits and challenges facing each transmission group, the report is quick to note that the uncertainty in the data used to create the results necessarily creates uncertainly in the results. Additionally, the different transmission groups serve different functions (i.e. foundation lines, collector lines, delivery lines). So, comparisons between the transmission groups are not always appropriate. Thus, even a group with a low energy score can make a valuable contribution to the power grid as a whole if it has a low cost and a strong environmental rating score. Consequently, the numerical rating for any purpose should only be used as a general understanding of the benefits and pitfalls of each individual transmission group.

Next Steps:

Given the controversial nature of new transmission lines, the conceptual plan described in the Phase 2A report is a work in progress that is subject to revision in the future. RETI will likely re-rank the CREZ in an update to the Phase 2A report later in 2009. The SSC will then determine the scope of Phase 2B work. This work will likely include efforts to: (1) reduce the number of lines in the Phase 2A conceptual transmission plan; (2) re-evaluate the cost of out-of-state options; and (3) identify short-term measures that may allow some renewable energy projects to be built in the next few years before major transmission projects can be built.

The details for Phase 3 have not been released, but will likely be part of RETI's planned updates every two years, depending on agency and stakeholder input.

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