Grid Reliability Energy Innovation Adder

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Background: California's policies to promote renewable energy have been based on the need to hedge fossil fuel price increases and to provide reduced emissions in order to protect human health, the environment and address climate change. While the RPS has been successful at lowering costs of many technologies and moving toward the target of 33% renewables by 2020, it has also contributed to a regulatory framework that does not evaluate electric generation resources in a manner that fairly and holistically accounts for the value of renewable supply-side resources or demand-side resources as compared to fossil-fueled electric generation. Thus, while evaluation of RPS procurement is based on a "least cost – best fit" methodology, in practice this approach has primarily focused on a "least-cost" framework tied to fossil generation that has largely ignored the "best-fit" or value to California's environment and grid reliability of a diverse portfolio of renewable electric generation resources and technologies.

As a result, California is now considering replacing nuclear power, coastal power plant retirements and balancing the RPS primarily with fossil fuels. Nearly 5000 MW of new or repowered power plants, expanded pipelines and new gas CAISO tariffs are being considered even though California already relies on natural gas for 62% of its net dependable capacity. If the state proceeds with using natural gas to replace nuclear power and to integrate renewable generation, GHG emissions will certainly increase. In contrast, CARB's October 1, 2013 AB 32 Scoping Plan Draft suggests that we must achieve double the rate of current GHG reductions between 2020 and 2050. CARB's plan also recommends carbon capture of fossil emissions within the same timeframe, which will add to the cost of natural gas generation.

To meet California's goals the state must build a diverse electricity portfolio of supply- and demand-side resources that is truly a "best fit" to the state's needs, consistent with the procurement loading order of preferred resources. In addition, greater transparency must be achieved in the consideration and evaluation of all technologies and their attributes.

Addressing the issues arising from the recent closure of SONGS provides an excellent opportunity to improve the planning process in the direction discussed above. New local generation capacity will be required to ensure grid reliability, but the amount of new capacity can be minimized by increasing deployment of demand-side technologies such as energy efficiency. The energy needed to replace SONG's output does not need to be locally generated and can come from a wide range of technologies, including a mix of renewable technologies that would also provide grid reliability benefits. To that end, the following Grid Reliability Renewable Energy Innovation Pilot is proposed to provide a least cost, best fit solution to these issues.

Proposed Pilot: To provide appropriate incentives for renewable energy

generation technologies that provide grid reliability benefits in order to send market signals, which ensure that system reliability is appropriately addressed by renewable deployment. The goal of this proposed pilot is to identify combinations of preferred resource technologies best able to provide operational and grid reliability benefits. The intent is to enable the CPUC to authorize, and utilities to procure renewables considering the operational and grid reliability benefits they can be designed to provide. Development of an appropriate adder will send a market signal that encourages all renewable technologies to do more to ensure transmission system reliability.

This proposal will help integrate preferred resources and create a market mechanism to encourage renewable technologies to innovate and provide additional grid benefits as well. It should also encourage the CAISO to develop renewable tariffs similar to the new tariffs being developed for natural gas to ensure gas facilities are available for reliability purposes.

Eligibility: Any renewable generation technology that provides grid stability or resiliency including system balancing, inertia, minimal integration costs e.g., geothermal, solar thermal technologies with storage, and other renewable technologies.

Transparent Program Design:

- Adder that is based on the value of a project's (preferred resource or combination of preferred resources) specific grid reliability benefits.
- Open architecture, public program data, all projects within this program would be required to provide detailed project information on the web to spur innovation and encourage analysis and program adjustment over time. Proprietary technology information would be kept confidential.