

Special Study – Early Retirement of Gas-fired Generation

Submitted by	Company	Date Submitted
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Wellhead Electric Company (“Wellhead”) appreciates and supports the CAISO conducting this additional analysis which will provide insight into the system reliability implications if existing gas-fired resources were to retire early. The study should provide important information that can be used by decision makers to frame the additional studies that will be required in order to refine the analysis as well as understand the full set of potential solutions that will facilitate and accelerate the transition to a reliable electric system dominated by GHG-free energy supply sources. We look forward to participating in this stakeholder process.

Wellhead understands and appreciates that this special study will be an initial step (simplified screening analysis) in what will be a much larger effort to address any reliability concerns that may be identified. A couple of questions and concerns that Wellhead hopes will be addressed and considered in this initial study include the importance of: 1) performing intra-hourly modelling; and 2) clearly identifying the performance requirements and resource attributes that will be needed in the event of early retirement. We also appreciate that this study will not address possible solutions to the problems which will facilitate the analysis being completed much sooner (i.e. appropriate for a screening study).

Sufficiently Detailed Analysis

To ensure the reliability of an electric system that will have more than 50% of its energy supply from non-dispatchable GHG-free energy sources, significant operational flexibility will be required from the balance of the fleet. Most importantly, this will require intra-hourly analysis to take proper account of energy supply volatility that will increase very significantly. Wellhead performed analysis in the CPUC’s long term planning proceedings which shows intra-hour volatility can be several times what is observed in hourly modelling. This is also consistent with the real time data the CAISO has provided in the CPUC’s flexible RA proceeding. A big problem for one or two intervals during an hour has very different performance/attribute requirements than a lesser problem for the duration of the hour. Looking only at hourly data and analysis obfuscates critical details of the problem which must be addressed.

This study also needs to take account of what we know today regarding the resources of the future. If not properly managed, over-generation can turn into a significant electric system reliability issue. The CAISO’s prior analysis in several CPUC proceeding has identified the serious implications over-generation has on electric system reliability. It’s relatively easy to understand how replacing Diablo Canyon with several thousand MWs of energy efficiency, solar and wind resources will increase the previously identified over-generation problem by 6,000 to 8,000 MW. That is not trivial. Neither are the implications to the costs of curtailing or exporting that amount of additional generation.

Intra-hourly analysis is also necessary to understand locational reliability issues. Although this study will not be addressing potential solutions, it will provide important information to be considered in the design of the necessary future studies including location-specific analysis.

Focus on Performance Requirements and Solutions that Support the Future

Wellhead believes it is fairly well understood and agreed that an analysis of this type needs to be focused on the performance requirements that are essential to reliable operation of the electric grid now as well as in the future when the percentage of non-dispatchable generating sources will be that much larger. This information, which will be subject to further analysis and refinement in future studies, will be particularly helpful in allowing developers to ideate potential solutions and decision makers to authorize “no regrets” decisions. Actions that are effective in meeting near term requirements as well as ensuring a reliable electric system that can support an increased renewables future are likely part of the least-cost-best-fit set of solutions that need to be acted on in the near future to ensure there are no problems come 2025 when Diablo Canyon will retire.

Wellhead looks forward to active participation with the goal of having this study clearly identify the performance attributes the system will need to add in order to operate reliably in California’s clean energy future.