DOCKET
09-AFC-3
DATE
RECD. FEB 08 2011

Mariposa Energy Project
09-AFC-5

Mariposa Needs Discussion

Mariposa project needs discussion by David Vidaver, Electric Generation System Specialist III, Electricity Analysis Office

This testimony presents excerpts of Edward Mainland's "Rebuttal Testimony on Project Need and Alternatives," filed by the Sierra Club on January 21, 2011 in bold face type. Staff's response to each of these excerpts follows immediately in standard face type.

Recent information from the California Energy Commission3 as well as that forecasted in the California Gas report [sic] demonstrates decreasing demand for electricity from natural gas power plants in the coming years. CEC's 2010 revised energy forecast indicated that in 2010, demand in PG&E's service area was far below 2006 levels and not anticipated even to climb back to 2006 levels within the subsequent five years.

The power purchase agreement (PPA) between the Mariposa Power Project and PG&E is intended to provide PG&E with flexible capacity to meet long-term needs for peaking energy and operational needs for dispatchable energy given large amounts of intermittent generation in PG&E's portfolio. The facility is expected to operate at a very low capacity factor and is thus not inconsistent with a decline in the use of natural gas as a generation fuel on a system-wide basis.

The relationship between 2006 peak demand and forecasted demand for PG&E is of limited, if any relevance, as the peak demand in 2006 was a product of a 1-in-50-year temperature event. Weather normalization of demand in 2006 indicates that peak demand in 2015 is expected to be above that of 2006 under "normal" temperatures at the time of peak demand.

[The Mariposa Power Project] is inconsistent with California's commitment to renewable energy

The California Public Utilities Commission (CPUC), in approving the all-party settlement agreement regarding the PPA between the Mariposa Power Project and Pacific Gas & Electric[1] concluded that the facility is consistent with the state's commitment to renewable energy:

[1] D.09-10-017, October 15, 2009.

- "[The CPUC] previously established that there is a need for 800 – 1200 MWs of new generation in Northern California by 2015 and directed PG&E to procure operationally flexible resources…the project has the requisite operational flexibility to provide "firming" for intermittent renewable resources (p. 7)"
- "We find that the PPA and proposed Settlement Agreement are consistent with the law and our prior decisions. In determining the need for new resources in D.07-12-052, we considered forecasts of energy and peak demand, and compared these with available resources consistent with the preferred loading order, including energy efficiency (EE), demand response (DR), renewable energy, and distributed generation resources. As stated in D.07-12-052, the procurement authority granted by that decision 'shall in no way be used by the IOUs to instead reduce or adversely impact procurement of EE, DR, renewables, or QF resources to the maximum extent feasible.' The proposed PPA is consistent with the requirements of D.07-12-052, including the preferred loading order, and the need for dispatchable ramping resources to firm the intermittent type of renewable resources." (pp. 8-9)
- "We agree with the parties [sic] conclusion that the PPA supports the flexibility required by [CPUC decision] D.07-12-052, that it is consistent with the overall GHG reduction approach, and will assist PG&E's efforts both to integrate renewable generation into its supply [sic]." (p. 10)
- "…[A]pproval of the PPA is consistent with the Commission's goals in terms of PG&E's supply portfolio and assisting PG&E in dispatchability and management of its renewable resources." (p. 11)

The Energy Commission has commissioned analysis that has found that flexible gas-fired resources are needed to integrate the substantial amounts of intermittent renewable resources expected to be developed in order to satisfy the state's Renewable Portfolio Standard/Renewable Energy Standard. This analysis was presented in the Energy Commission' proceeding on the Greenhouse Gas Emission Impacts of Power Plants (08–GHG OII–01) in 2009. [2]

The 2009 and 2010 CAL-ISO Summer preparedness assessments both demonstrate that PG&E does not need any new MW. The 2009 Planning Reserve Margin in PG&E's NP 26 territory consistently remained at 44-46 percent, far beyond the required 15 percent reserve margin required.

The need for new generation capacity in the PG&E service territory and authorization for PG&E to procure this capacity are determined in the CPUC's long-term procurement proceeding. As stated in the Energy Commission's decision on the Blythe Power Plant Project (99-AFC-8):

[2] McClary, Steven C., Heather L. Mehta, Robert B. Weisenmiller, Mark E. Fulmer and Briana S. Kobor (MRW & Associates). 2009. Framework for Evaluating Greenhouse Gas Implications of Natural Gas-Fired Power Plants in California. California Energy Commission, CEC-700-2009-009. Available at http://www.energy.ca.gov/2009publications/CEC-700-2009-009/CEC-700-2009-009-F.PDF

> Effective January 1, 2000, Senate Bill 110 (Stats. 1999, ch. 581) repealed Sections 25523(f) and 25524(a) of the Public Resources Code, and amended other provisions relating to assessment of need for new resources. Specifically, it removed the requirement that the Commission make a finding of need conformance in a certification decision. Senate Bill 110 states in pertinent part:
>
> *Before the California electricity industry was restructured, the regulated cost recovery framework for power plants justified requiring the commission to determine the need for new generation, and site only power plants for which need was established. Now that power plant owners are at risk to recover their investments, it is no longer appropriate to make this determination. (Pub. Resources Code,／25009, added by Stats. 1999, ch. 581,／1.)*[3]

The CPUC approved procurement of 800 – 1,200 MW of new capacity by PG&E in D.07- 12-052 (December 20, 2007). The need for this capacity, and thus the PPA with the Mariposa Power Project, was not based upon 2009 reserve margins referred to above, but the anticipated need for flexible capacity to meet reliability needs and integrate intermittent renewable resources later in the decade.

PG&E's 2008 Request for Offers (2008 RFO) solicited offers for this capacity; the proposed PPA with the Mariposa Power Project resulted from this RFO and was submitted to the CPUC for consideration on April 1, 2009. Opposition to the agreement from Californians for Renewable Energy (CARE) and the Division of Ratepayers Advocates (DRA) led to an all-party settlement agreement approved by the CPUC (D.09-10-017) in October 2009.[4]

Reasons for rejecting the Mariposa proposal to build and procure additional natural-gas MW include changed assumptions about demand owing to decreased population growth, inaccurate estimates of the amount of MW that would be exported and retired, decreased energy consumption, increase in energy efficiency and use of renewable sources.

The CPUC has considered changes in forecasted peak demand and retirement assumptions and their impact on PG&E's need for new capacity subsequent to its initial approval of the PPA. PG&E submitted an application for approval of four agreements from the 2008 RFO (these did not include the Mariposa Power Project PPA) on September 30, 2009.[5] The Sierra Club filed a response to the application in support of protest lodged by other parties.[6] In a proposed decision issued May 26, 2010,[7] the CPUC assessed the implications of changes in the demand forecast and assumptions

---

[3] Final Commission Decision on the Blythe Power Plant Project, California Energy Commission (P 800-01-010), March 2001, p. 14. Available at http://www.energy.ca.gov/sitingcases/blythe/documents/2001-03-21_FINAL_DECISION.PDF

[4] Additional to this settlement included California Unions for Reliable Energy (CURE) and The Utility Reform Network (TURN)

[5] A.09-09-021, available at http://docs.cpuc.ca.gov/efile/A/107933.pdf

[6] November 5, 2009. Available at http://docs.cpuc.ca.gov/efile/RESP/109512.pdf

[7] D. 10-07-045, available at http://docs.cpuc.ca.gov/efile/PD/118600.pdf

regarding the retirement of once-through-cooled plants for the capacity that PG&E should be authorized to procure. The decision rejected one of the proposed agreements but reaffirmed the CPCU's earlier approval of the Mariposa Power Project PPA. While issues surrounding the appropriate level of procurement remain unresolved – a subsequent petition to modify D.10-07-045 was both rejected and approved in separate proposed decisions,[8] and numerous parties including the Sierra Club filed requests for rehearing on January 19, 2011 – the appropriate venue for resolving these issues is the CPUC. In asking the Energy Commission to reject the application for the Mariposa Power Project on the grounds that it is not needed, the Sierra Club is asking the Commission to reject or ignore the findings of the CPUC and supersede said findings with its own.

Allowing PG&E to procure unneeded fossil fuel energy will likely deter needed development of renewable projects

There is no reason to believe that the Mariposa Power Project will deter the development of renewable projects. First, PG&E will continue to be subject to (unchanged) renewable energy purchase requirements. Second, the CPUC has approved the PPA on the condition that it not be used to "reduce or adversely impact procurement of…renewables" Finally, the CPUC has approved the PPA in large part because it will "assist PG&E's efforts to integrate renewable generation into its supply."

Even if more backup was needed for renewable energy, energy storage and upgraded existing facilities can meet this need… Indeed, CEC has further found that existing storage technology is sufficient to back up renewable energy [2009 IEPR, p 82.], a conclusion also reached by CAISO.

Far from saying that existing storage technology is sufficient to back up renewable energy, the 2009 IEPR merely states that, where problems related to the integration of renewables are concerned, energy storage "could be preferable [to gas-fired generation] in the longer term as more aggressive climate mitigations targets are addressed." The document then discusses the research and development tasks necessary to increase the role of storage in renewable integration.

The California ISO has concluded that, while existing gas-fired resource are sufficient to integrate 20% renewables in 2012, substantially more resources will be needed to meet a 33% target in 2020. Initial studies of the resources needed did not consider storage as an alternative, replaced retiring OTC units with more than 9,000 MW of gas-fired capacity, and concluded that gas-fired generation in excess of that needed to yield a 15% – 17% reserve margin might be needed to integrate intermittent renewables. The California ISO has made no statements regarding the likely contribution of storage to meeting the 33% target, declaring their intention to study the impact of a combination of

[8] November 2, 2010. Available at http://docs.cpuc.ca.gov/efile/PD/126000.pdf and http://docs.cpuc.ca.gov/efile/PD/126001.pdf

generation and non-generation resources in Phase II of their ongoing study on renewable integration.[9]

California Energy Commission (CEC) data show no new natural gas facilities are currently needed in the Bay Area to integrate renewable energy…CEC has found that new natural gas facilities are not currently needed to integrate renewable energy and meet RPS goals…Any alleged need for new facilities becomes even less justified when PG&E's existing facilities are running at extremely low annual capacity factors

The testimony misinterprets the structure and conclusions of the Energy Commission staff report cited.[10] The simulations undertaken as part of the study added more than 7,000 MW of gas-fired capacity in the California ISO control areas to replace once-through cooled plants assumed to be retired, and more than 4,000 additional MW of combined heat and power.

The capacity factors at which PG&E's existing facilities run are not an indicator of the need for new gas-fired capacity or a lack thereof. A not insignificant share of system capacity runs at very low capacity factors as a result of both the system's load factor and the need for capacity in transmission-constrained areas in order to maintain local reliability under adverse, high load conditions.

[9] ISO Study of Operational Requirements and Market Impacts at 33% RPS, presentation at the CPUC Workshop on CAISO and PG&E Renewable Integration Model Methodologies, August 24, 2010, slide 8

[10] Impact of Assembly Bill 32 Scoping Plan Electricity Resource Goals on New Natural Gas-Fired Generation, California Energy Commission, CEC-200-2009-011, June 2009