

Renewables Integration – Market & Product Review, Phase II
COMMENTS OF EAGLE CREST ENERGY ON MARKET VISION & ROADMAP
October 31st, 2011

Eagle Crest Energy (ECE) appreciates the opportunity to submit these comments on the CAISO's *Market Vision & Roadmap* ("Proposal") in the Market & Product Review, Phase II (RI-MPR2).

ECE is developing a 1,400 MW pumped-storage plant in southern California. The project is in the CAISO interconnection queue, in Queue Cluster 4, and is expected to come on-line in 2016-2017.

This plant will be capable of providing, among other things: (1) fast Regulation service; (2) ramping/load-following services; (3) multi-hour energy storage services (e.g., storing off-peak energy, for use in on-peak periods and/or to ameliorate over-generation conditions); and (4) relief of import congestion from the southwest. In other words, this plant would provide multiple integration services to help the CAISO meet the future integration challenges associated with meeting a 33% Renewables Portfolio Standard (33% RPS).

Our comments focus on the proposed "Forward Procurement of Flexible Capacity" (FPFC) mechanism, to provide multi-year contracts (3-5 years) for capacity capable of providing ramping and balancing services (#2 in the paragraph above). ECE has several concerns and recommendations about this proposal:

- The program should be open to any resources capable of providing the service.
- The program should fully recognize (and value) all the useful attributes needed by the CAISO for integration of Variable Energy Resources (VERs) – not just simple ramping and balancing – and also any associated resource costs and/or operational limitations.
- The CAISO should consider changes related to the proposed 3-5 year contract term to facilitate development of more economic and optimal longer-term solutions.

These recommendations are discussed further below.

Resource eligibility

It appears that the motivation for the FPFC program of the program is CAISO concern about long-term viability of flexible gas-fired resources that the CAISO now relies on to manage system variability, given potential increased costs (start-ups, etc) and lower market revenues at high VER penetration levels, and Once-Through Cooling (OTC) unit retirements.

However, it would be unduly discriminatory for the CAISO to limit program eligibility to only these resources, and exclude other resources that could meet the CAISO's needs. The CAISO procurement process should be competitive and open to all resources that are capable of providing the service.

Program attributes and valuation

The program should consider broad benefits and costs of the resources that would be under contract, and not focus narrowly on the cost per MW or MWh of basic ramping and balancing service. Resource selection and payment should fully recognize (and value) all the useful attributes provided by resources under contract, and also the negative value of any associated costs and/or resource limitations that could ultimately lower or raise the costs borne by ratepayers.

For example, resource selection and payment rules should recognize the following:

- **Speed and accuracy of response**, since the CAISO should be able to procure less of the service (and thus reduce integration costs) with faster and more-accurate resources.
- **Uplifts and associated costs**, e.g., costs for resource start-up, ramping (up/down), and minimum-load energy (e.g., Bid Cost Recovery (BCR) uplifts), where applicable.
- **Operational limitations**, e.g., limits on the number of start-ups and minimum run times.
- **The full range of ramping and balancing service provided.** For example, 1,400 MW of conventional generation operating at full capacity can provide 1,400 MW of over-generation or congestion relief; a 1,400 MW pumped-storage plant can provide twice that relief, by “going negative” and becoming a 1,400 MW (?) load, without the need to dispatch another resource.
- **The value of storing (instead of curtailing) renewable energy**, and thus helping California meet the 33% RPS. An August 18th, 2011 memo to the Board from CAISO Market and Infrastructure Development VP Keith Casey about renewables integration – posted at <http://www.caiso.com/Documents/110825BriefingonRenewableIntegration-Memo.pdf> – indicates a need for up to 800 MW of downward flexibility under the CAISO “High Load” scenario by 2020, and notes that this could be provided by “using curtailment and/or additional storage.”

Storing renewable energy, instead of curtailing it, would both resolve the immediate problem and allow the renewable energy to be used later. This solution would be helpful for both:

- **Over-generation situations**, given the large amount of expected wind generation and potential high solar production on the weekends; and
- **Transmission congestion** in high-potential renewable-energy areas. For example, given the amount of renewable-energy development (in California, and also southern/central Nevada, Arizona, and New Mexico) that must be transmitted along the I-10 corridor where ECE’s facility will be located, and the West of Devers and other transmission limitations that could impede deliverability before and after 2020, a storage facility in this location could prevent the loss of renewable generation to transmission congestion in this area.

Contract term and related issues

The 3-5 year contracts contemplated by the CAISO for FPFC service are simply not sufficient to facilitate new-resource development or the other long-term solutions to this problem. Depending on the program structure, this element could actually inhibit such longer-term solutions.

The CAISO memo referenced above refers to new generation as a key element of preparation for a 33% RPS, along with repowered or technology enhancement to existing generation and new transmission infrastructure. However, it is widely recognized that long-term contracts (15+ years) are generally required to facilitate new-resource development at a reasonable cost, and the other solutions are similarly long-term in nature. If this program feature does not change, there is a risk that it could:

- Become little more than a life-support program for outdated, dirty generation that suppresses market signals for new resources and undermines the clean-energy goals of the 33% RPS; and
- Ultimately cost more in the long term, since newer resources that are more economic in the long term could not be developed with such short contract terms, and the competition that they would provide to older and less-efficient resources could not therefore occur.

To avoid this outcome, the CAISO should consider the following changes:

- ***Lengthen the contract term.*** If the CAISO will be the contracting entity, it must look at longer contract terms in order to facilitate the resource competition and efficiency that would lower long-term costs and reduce environmental impacts that could undermine the intent of the 33% RPS.
- ***Allow Load-Serving Entities (LSEs) to self-provide FPFC services.*** For example, Ancillary Services (A/S), Resource Adequacy (RA), and RPS requirements are all short-term (1 year or less) CAISO requirements, but LSEs can and do execute long-term contracts with resources that enable them to self-provide capacity to meet these requirements, because their contracts can (subject to CPUC guidance) recognize multiple resource attributes. (The CPUC is currently examining how energy storage could fit into procurement planning for jurisdictional LSEs.)

The CAISO could simply specify the attributes it wants for FPFC service and allow LSEs to meet their share of these requirements, e.g., pro rata or based on their load variability and the nature of their resource portfolio. The CAISO could then fill a “backstop” procurement role through its FPFC procurement mechanism.

Conclusion

The FPFC program could provide the CAISO with the tools and attributes it needs to reliability manage the system given the challenges it will face under a 33% RPS, but changes should be made to the program proposal to provide value to ratepayers and avoid discrimination or higher long-term costs. Specifically, the CAISO must take care to ensure that the FPFC program is open to all qualified resources, fully recognizes all attributes of resources under contract, and contains contract-length and associated terms sufficient to facilitate new-resource development.