

EAGLE CREST ENERGY COMMENTS ON CAISO FRAC-MOO2 REVISED DRAFT FRAMEWORK

Eagle Crest Energy (ECE) appreciates this opportunity to comment on the CAISO's January 31st document, *Flexible Resource Adequacy Criteria and Must Offer Obligation, Phase 2 – Revised Draft Framework* (Proposal).

ECE is developing the 1,400 MW Eagle Mountain Pumped Storage Project in Riverside County, California. The Project – which can provide 22,000 MWh of energy storage capacity, with minimal environmental impacts – has the potential to become a major Flexible Capacity resource for the CAISO system under a well-designed Flexible Resource Adequacy (FlexRA) program.

Like the earlier draft framework, issued in November 2017, the Proposal couples FlexRA changes with reforms to the CAISO Flexible Ramping Project (FRP), focusing on the three CAISO market timeframes: Integrated Forward Market (IFM), Fifteen Minute Market (FMM), and (5-minute) Real Time Dispatch (RTD).

ECE strongly supports the CAISO's efforts to revise the FRP and FlexRA processes to better meet CAISO operational needs, and to ensure that resources counted for FlexRA requirements are capable of actually providing those services to CAISO's markets. The changes in the Proposal from the earlier draft framework are a significant step toward meeting those objectives.

ECE's specific comments on the Proposal are provided below. These comments address: (1) EFC ratings generally; (2) storage EFC ratings; and (3) overall FlexRA requirements determination.

EFC Ratings Generally

The Proposal adopts ECE's earlier recommendation that CAISO decouple FlexRA Effective Flexible Capacity (EFC) ratings from "generic" RA Net Qualifying Capacity (NQC) ratings. The Proposal would allow non-RA Resources to provide FlexRA and receive an EFC rating, as long as they accept the FlexRA Must-Offer Obligations (MOOs) and are found to be deliverable in a separate FlexRA deliverability assessment.

ECE wishes to correct a statement in the Proposal indicating that it did not support this FlexRA deliverability assessment. ECE's earlier comments stated specifically:

In conclusion, ECE supports the Framework proposal to perform EFC Deliverability Assessments to ensure that all EFC capacity is deliverable in actual operations. Those studies should:

- Include EO and PCDS resources willing to assume Economic MOOs for their EO capacity, and assign EFC values to resources that reflect their full potential flexibility value and ramping capability, regardless of their generic RA status; and
- Reflect realistic operational ramping conditions (as opposed to peak demand conditions) and consider CAISO market optimization capability, e.g., through congestion management.

In other words, ECE fully supports a separate FlexRA deliverability assessment, subject only to the caveat that it be based on assumptions related to ramping and not peak-load conditions.

Storage EFC Ratings

CAISO should revisit and adopt an earlier FRAC-MOO2 proposal to assign storage resources with very short transition times RA (EFC and NQC) ratings that reflect their full operating range, i.e., both “generation” and “demand” capabilities. CAISO said in the recent stakeholder meeting on the Proposal that it had simply overlooked this suggestion in ECE’s earlier comments and asked ECE to include it in comments on the Proposal, which is done below.

Tariff Section 40.10.4.1(d) awards EFC values to non-Regulation Energy Management storage resources for “the MW output range the resource can provide over three hours of charge/discharge while constantly ramping.” This language has been interpreted to mean that:

- Storage resources with continuous ramping capability (e.g., no transition times between or within charge and discharge modes, in either direction) could receive EFC values reflecting both their “load” and “generation” modes, i.e., the full value of their ramping range; but
- Storage resources with “transition times” during those ramps (no matter how short) would have their EFC ratings limited to ratings based on their output levels level only, without consideration of the flexibility provided by their charging (load) capabilities – effectively limiting their EFC ratings to half their actual ramping range.

The CAISO’s December 15th, 2015 FRAC-MOO2 Straw Proposal included a proposal to consider awarding pumped storage resources with transition times EFC ratings for the full flexibility range, i.e., including both generation and pumping modes. This proposal was dropped without explanation in the November 9th, 2016 FRAC-MOO2 Supplemental Issue Paper and is not currently proposed to be in scope for this initiative. However, it was both sensible and important, and it should be reinstated in the scope of the current effort.

Very short transition times should not disqualify such resources from counting for the full range of flexibility that they offer into the market. (For example, Eagle Mountain will be able to span the full 2,800 MW range between full output to full pumping mode (or vice versa) in less than 10 minutes, including a 3-4 minute transition time to change modes.)

Inter-mode transition times are simply equivalent to start-up times for generation and load resources, and ECE notes the Proposal provision to allow resources with start-up times as long as 60 minutes to qualify for FlexRA. If storage resources were split into separate generation and load resources, with start-up times equal to or less than that range, each piece could qualify for EFC values that reflect this full range. There is no reason that the combined resources – especially those with transition times far less than 60 minutes – should count for less.

In addition, ECE notes FERC’s February 15, 2018 issuance of Order No. 841 (18 CFR Part 35, Docket Nos. RM16-23-000; AD16-20-000). That order, among other things is intended to “...remove barriers to the participation of electric storage resources in the capacity, energy, and ancillary service markets...” It goes on to state as follows, on pp.1-2 (emphasis added):

Specifically, we require each RTO and ISO to revise its tariff to establish a participation model consisting of market rules that, recognizing the physical and operational characteristics of electric storage resources, facilitates their participation in the RTO/ISO markets. The participation model must: (1) ensure that a resource using the participation model is eligible to provide all **capacity**, energy, and ancillary services that the resource is technically capable of providing in the RTO/ISO markets...(3) **account for the physical and operational characteristics of electric storage resources** through bidding parameters or **other means...**

ECE submits that expansion of EFC ratings for storage resources with short transition times would not only be consistent with this FERC directive but would seem to be required by it.

Therefore, because there is no operational justification for the current restriction, and to comply with FERC's directive to "remove barriers" and "account for the physical and operational characteristics" of storage resources, the CAISO should reinstate its earlier proposal in the current initiative and examine reasonable transition times that would allow these resources to count for FlexRA EFC ratings reflecting their full flexibility range and their ramping value to the CAISO.

Overall FlexRA Requirements Determination

ECE's comments on the draft framework recommended that the CAISO consider: (1) Determining FlexRA requirements using a longer ramping period (e.g., 4-8 hours), instead of the current and proposed 3 hours; and/or (2) including the flexibility to lengthen ramping periods as these market changes evolve over time. The Proposal states that the CAISO considered this recommendation but rejected it (p. 20, footnote 9) for this reason:

The ISO has reviewed numerous ramping time horizons (i.e. 6-8 hours) and has not identified a need longer than the three-hour net load ramp. While summer days have longer ramps with greater magnitudes in terms of MWs, the overall net load ramp rates observed on the days is far less than observed during the non-summer months three-hour net load ramps. As such, the ISO will not explore a flexible RA product spanning a time interval longer than three hours.

If summer days have longer ramps with higher MW magnitudes than at other times, ECE questions how those ramps also be, "overall," "far less than observed during the non-summer months three-hour net load ramps." The CAISO response seems to indicate that longer ramps would be appropriate for FlexRA requirements determinations in summer months, if the requirements will vary monthly, and during the year generally if the same FlexRA requirements will be the same for the full year.

Thus, ECE asks that the CAISO further consider longer ramps for this product, and/or provide the flexibility to change the ramping duration used to determine requirements over time, as needed and as the market evolves.