Comments of Pacific Gas & Electric Company

Resource Adequacy Enhancements – Straw Proposal – Part 2

Submitted by	Company	Date Submitted
Paulo Amaral (415-973-0434)	Pacific Gas & Electric	March 20, 2019

Pacific Gas and Electric Company (PG&E) offers the following comments on the California Independent System Operator's (CAISO) Resource Adequacy (RA) Enhancements straw proposal – part two, published February 27, 2019, and discussed in the stakeholder meeting on March 6th.

PG&E appreciates the CAISO's analysis of best practices in other ISO/RTOs and likes that the proposed approach rationalizes the counting of RA, simplifies planned and forced outage substitution, and eliminates the RA Availability Incentive Mechanism (RAAIM). We agree that the current system has become needlessly complex and has created a perverse incentive to not make capacity available. PG&E supports an effort to align the counting of RA resources and corresponding must offer obligations (MOO) to eliminate the financial and regulatory risk that incent this behavior.

Proposed changes would create significant commercial complications, particularly considering changes currently envisioned by the California Public Utilities Commission (CPUC) to long-term procurement requirements. The CAISO and the CPUC must coordinate these changes to provide clear requirements and market certainty to incent proper investment in reliable capacity in California. Though we support the broad approach, many critical design details and operational concerns must be resolved to make these changes viable.

PG&E's comments are organized under the following topics:

1. PG&E broadly supports continued development of an unforced capacity (UCAP) counting methodology, while advocating for close coordination with the CPUC. Many critical design details and operational concerns must be resolved prior to full support.
2. PG&E asks for more information on how the CAISO proposes to calculate the requirement for system flexible capacity.
3. PG&E supports clear, realistic market obligations; rational and simplified planned and forced outage substitution; and the elimination of RAAIM.
4. PG&E believes the allocation of Available Import Capability should remain with load.

1. PG&E broadly supports continued development of a UCAP counting methodology, while advocating for close coordination with the CPUC. Many critical design details and operational concerns must be resolved prior to full support. [1]

PG&E supports the consideration of a UCAP counting methodology. This approach shows promise in rationalizing the counting of RA and simplifying the assessment and substitution processes. However, PG&E stresses the importance of cooperation with the CPUC on the development of RA counting rules to establish clear requirements to achieve effective reliability outcomes and to avoid creating confusion in RA compliance and transactions.

The adoption of a UCAP would create an additional and parallel reliability and compliance metric alongside the Net Qualifying Capacity (NQC), significantly complicating many aspects of managing an LSE portfolio, including bilateral contracting and positioning for forward procurement obligations – all while accommodating evolving CPUC rules and requirements. The most straightforward solution would be to work with the CPUC to directly update the NQC to account for the probability of forced outages, and then make the necessary changes to the local reliability portion of the proposal and Planning Reserve Margin to reflect the change to the NQC. This would, however, leave open questions on the MOO, the likelihood of backstop procurement from the CAISO, and the potential for bid insertion.

As it stands, a new UCAP methodology could create a mismatch between changes being considered at the CPUC and the CAISO concurrently, as well as the gap between the filed RA value, the MOO, and the available energy schedule in a given hour; particularly with respect to hydroelectric resources. If there continues to be a gap between the RA value and the hourly available energy a resource can bid, there will likely continue to be a reduction in the RA shown. Creating clear requirements regarding the MOO for, particularly, hydroelectric resources, will be key to addressing this gap.

<u>General methodology for UCAP</u>

Regarding usage of the CPUC's Effective Load Carrying Capability (ELCC) methodology, the effectiveness of this approach is very much dependent on a given portfolio and the details of the formula. The CPUC is responsible for the ELCC methodology and its formula was recently discussed at the CPUC's workshop on March 13, 2019. PG&E recommends the CAISO clarify in its next proposal how outage data – planned and forced – is or will be incorporated into the development of the UCAP for resources that follow the ELCC methodology. This will allow for a side-by-side comparison with the treatment of non-ELCC resources when developing the UCAP methodology.

While UCAP methodologies for demand response (DR), imports, hydroelectric resources, and Qualifying Facilities (QFs) were not proposed at this time, they are naturally of equal importance.

<u>General methodology for Effective Flexible Capacity determination</u>

PG&E opposes the proposed change to the Effective Flexible Capacity (EFC) calculation currently. The equation offered was:

[1] 1. Comments on proposal section 4.3.1 Calculating NQC, UCAP, and EFC values

*EFC = UCAP * (Percent of available capacity economically bid)*

This formulation echoes the Effective Forced Outage Rate of demand (EFORd) logic of UCAP, reflecting a resource's 'availability for ramp'; that is "willingness to ramp" based on past "actual demonstrations".[2] However, the product of this equation does not reflect actual ramp capability. PG&E supports continued discussion on this methodology but asks that the CAISO wait to modify the EFC methodology until the Day Ahead Market Enhancements (DAME) changes are in place.

The CAISO also referred to the need to align the EFC product with DAME's day-ahead flexible ramping product (DAFRP). PG&E supports this objective but does not yet understand how the proposed change truly aligns the EFC with the DAFRP, or the current flexible ramping product.

Additional questions: Is the CAISO proposing to incorporate into the EFC calculation bidding behavior in months when a resource hasn't been shown for Flexible RA? If so, wouldn't this create an implicit, perpetual Flexible RA obligation by threatening to reduce a resource's EFC value for behavior in months when it has no such obligation? This would create a version of the current "RAAIM problem" (disincentive) for flexible resources.

Tracking forced outages and data sources

PG&E supports the CAISO adjusting its Outage Management System (OMS) to accommodate the needs of the EFORd calculation. Given the shortcomings the CAISO described in using the Generation Availability Data System and the discretion CAISO enjoys over the design of its OMS, using OMS appears to be the sensible choice.

Determining the intervals of interest for forced outage rate assessments

PG&E supports the usage of a forced outage assessment window with the understanding that the intention is to push operational outages to periods outside the window. The proposed 16-hour window from 5:00 AM to 9:00 PM may be correct for the system as it exists today. However, the window may need to change to reflect system needs as the resource fleet evolves.

2. PG&E requests more information on how the CAISO proposes to calculate the requirement for system flexible capacity. [3]

PG&E asks for more information on how the CAISO proposes to calculate the requirement for system flexible capacity from the combined "identified needs from net load ramp, day-ahead flexible ramping product and current flexible ramping product".[4] Certainly, much more detail and discussion will be necessary.

[2] RA Enhancements straw proposal – part 2, 18.
[3] Comments on proposal section 4.3.2 Determining System, Local, and Flexible RA requirements
[4] RA Enhancements straw proposal – part 2, 21.

3. PG&E supports clear, realistic market obligations, rational and simplified planned and forced outage substitution; and the elimination of RAAIM. [5]

Market participation obligations

As discussed above, the primary gap to be addressed is the mismatch between the MOO (based on the NQC of a resource) and the filed RA quantity (based on the UCAP). If a resource is required to bid up to its NQC when filed in an RA showing but the actual available energy schedule will vary, LSEs may opt to reduce the RA shown from a resource to avoid the regulatory risk of violating its MOO.

To avoid this outcome, the CAISO must create a clear requirement for LSEs that file resources, such as hydroelectric resources, with variability in their energy schedule. This can be achieved either by adjusting the Qualifying Capacity of these resources (similar to the approach being evaluated in the ongoing CPUC RA Track 2) or by treating unbid capacity as forced outages while providing clarity that this does not violate a resource's MOO and that the CAISO would not subject these resources to bid insertion in these hours.

Planned outages

PG&E was encouraged by the proposal for the treatment of planned outages. The broad strokes of first-in-last-out, no substitution required above a threshold, and then allowing bilateral substitute procurement or recourse to the competitive solicitation process (CSP) all seem reasonable. However, the CPUC is correct in its comment that this approach increases the requirement on the LSE, whereas RAAIM is assessed on the generator. Relatively recently, the Reliability Services Initiative (RSI) Phase 1B/2 switched the planned outage substitution obligation from LSE to supplier. This would switch it back to the LSE. The repercussions and process of this change should be carefully considered to ensure a smooth transition and that the benefits outweigh the costs.

Other considerations include: How would allowed transmission outages be handled? If the CAISO allows a resource to go on planned outage, but then believes it needs capacity and designates Capacity Procurement Mechanism capacity, would the CAISO then allocate the charge back to LSE, despite the decision being the CAISO's?

There appears to be some confusion at the CAISO regarding the ability to transition a planned outage to forced. The CAISO stated that if an LSE is required to provide substitute capacity for a planned outage, and cannot, the LSE could then take it as a forced outage. This would violate the language in the Business Practice Manual Proposed Revision Requests (PRRs) 1074 and 1122. PG&E has submitted comments to the PRRs making clear that it will be necessary that generators retain the ability to take forced outages if the planned outage has been canceled under certain circumstances. Additionally, PG&E strongly urges that the CAISO re-examine the practices of cancelling planned outages.

[5] Comments on proposal section 4.3.3 RA showings, supply plans, and assessments

Forced outages and RAAIM application

PG&E believes RAAIM provides the wrong incentives. It should not be used in the role of transitional tool or for new resources. As a transitional tool, it would blend two very different assessment / penalty methodologies and create additional implementation work. For use with new resources – in addition to the above reasons – it would require the indefinite systems' support of the mechanism.

For new resources, a better alternative could be a weighted blend of available resource-specific data and class averages.

PG&E is pleased to see the CAISO abandon the idea of adding performance assessment to RAAIM.

For resources under 1 MW, CAISO should coordinate with the CPUC in developing reliability requirements.

Currently, the only enforcement mechanism for the Demand Response Auction Mechanism (DRAM) to ensure that a resource is meeting its MOO is that a resource is subject to RAAIM. However, this does not apply to resources under 1 MW. Many distributed energy resources (DERs) participating in the wholesale market are under 1 MW. Moving forward, as the number of DERs under 1 MW grow PG&E recommends the CAISO coordinate with the CPUC in developing reliability performance requirements.

4. **PG&E believes the allocation of Available Import Capability should remain with load**. [6]

PG&E believes the allocation of Available Import Capability should remain with load and follow departing load, perhaps using a mechanism akin to that of Congestion Revenue Rights allocation. PG&E did not see evidence to hoarding, and asks whether there is indeed substantial, economic external capacity attempting to compete with internal RA capacity.

[6] Comments on proposal section 4.4.2 Available Import Capability Allocation Process review