Pacific Gas and Electric Company

# Comments of Pacific Gas & Electric Company

Resource Adequacy Enhancements – Third Revised Straw Proposal

| Submitted by | Company | Date Submitted |
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Pacific Gas and Electric Company (PG&E) offers the following comments on the California Independent System Operator Corporation's (CAISO) Resource Adequacy (RA) Enhancements – Third Revised Straw Proposal (the Proposal), published December 20, 2019, and discussed in the stakeholder meeting on January 7 and 8, 2020.

PG&E appreciates the CAISO's efforts to respond to and incorporate stakeholder feedback. This initiative is extremely complex and requires robust analysis and design to create a well-crafted program. PG&E would like to reiterate its guiding principles for RA reform outlined here:

- Simplicity – for reasons of compliance, staffing, and alignment with the California Public Utilities Commission (CPUC)
- Focused scope and clearly defined rules to support compliance, operation, and forward sales
- Reflect physical reality – the reliability need and resource capability
- Achieve reliability fairly – avoid leaning, cost shifting, and over procurement
- Provide the proper incentives for RA to offer and at reasonable prices

PG&E appreciates and broadly supports the CAISO's own design principles. However, distance remains between the sets of principles and the proposal.

PG&E's comments can be summarized as follows:

1. PG&E opposes the CAISO's overall direction unless the proposal demonstrates greater consistency in objectives and design across forums, study assumptions, and elements of the RA program. The CAISO must provide more robust analysis in support of its proposed designs prior to making such vast program changes. The CAISO should harmonize its RA program with the CPUC's RA program to achieve the "right mix" of resources to meet reliability needs.
2. PG&E opposes Unforced Capacity counting unless key concerns are addressed.
3. The CAISO should explore alternative must-offer requirements that better reflect resource characteristics, do not increase direct and uplift costs, and foster comparable resource treatment.
4. PG&E supports the CAISO's proposed Planned Outage Enhancements Option 1 and believes Option 2 is inferior.
5. The CAISO should carefully align the various incentive structures including backstop pricing.

1. **PG&E opposes the CAISO's overall direction unless the proposal demonstrates greater consistency in objectives and design across forums, study assumptions, and elements of the RA program. The CAISO must provide more robust analysis in support of its proposed designs prior to making such vast program changes. The CAISO should harmonize its RA program with the CPUC's RA program to achieve the "right mix" of resources to meet reliability needs.**

PG&E is concerned that the level of complexity being introduced by the Proposal into RA program and ISO market is not fully supported by the analysis and design work to date. In addition, most areas of the Proposal do not align well with the current CPUC RA program or its potential upcoming changes. Misaligned or even opposing requirements create tremendous challenges for all market participants.

The CAISO should provide robust modeling analysis of its proposed Unforced Capacity design and drive consistency across reliability studies

PG&E is concerned that the Unforced Capacity (UCAP) proposal as it stands introduces significant complication to the RA program without enhancing reliability or creating the appropriate incentive structure.

The CAISO should conduct and share analysis on how a transition to UCAP and its proposed 110% Planning Reserve Margin (PRM) will affect reliability on a Loss of Load Expectation basis. This includes understanding the capability of the existing resource fleet to meet reliability requirements in the proposed paradigm.

Similarly, PG&E asks the CAISO to demonstrate how its proposed portfolio sufficiency test would have resulted in Capacity Procurement Mechanism (CPM) designations using past annual and monthly showings.[1] This would help market participants understand how the CAISO's chosen net load deterministic portfolio assessment modeling option will define, determine, and address deficiencies, as contrasted with how the current approach has assessed the same circumstances. This analysis would also promote a healthy discussion of the key objectives, assumptions, design principles, as well as the CAISO discretion in backstop procurement.

Without these analyses, market participants cannot judge the merits of the Proposal.

The CAISO should also discuss how the objectives and assumptions underpinning the UCAP PRM align with those used in the Integrated Resource Plan, the Summer Loads and Resources Assessment, the Local Capacity Technical Study, Transmission Planning Process and other studies. Different studies may have different objectives or assumptions. However, it is important to understand how the respective analyses help achieve them. When goals are aligned and differing assumptions are not

[1] Examples of possible study cases: In July 2019 no Collective Deficiency was determined for Humboldt and no designation made, though a significant need quickly arose with successive Exceptional Dispatch CPMs; also, the October 1, 2018 Significant Event at http://www.caiso.com/Documents/October_1_2018_Significant_Event_CPM_Designation_Report.pdf.

themselves under study (e.g., specific hydro conditions), it is important that the studies reflect consistent assumptions, logic and design. Otherwise, they may produce different counting results and/or drive diverging procurement needs.

The CAISO should address multi-year requirements in its RA Enhancements design

The CAISO has not discussed multi-year RA requirement in this initiative despite the CPUC having adopted multi-year forward requirements for local RA, or how the multi-year requirement will be accommodated by resource UCAP fluctuating from year to year. The CAISO needs to address the application of UCAP in the context of local RA disaggregation with multi-year forward requirements. The CAISO has advocated at the CPUC extending multi-year forward RA requirements for system and flexible RA, but has not to PG&E's knowledge proposed corresponding multi-year RA requirements for non-CPUC jurisdictional LSEs.

We also note that the CAISO has proposed multi-year Maximum Import Capability allocations in a separate initiative, pointing to the need to support build-out of capacity external to the CAISO Balancing Authority Area (BAA). PG&E supports the CAISO's stated objective in the Proposal to "create more comparable treatment for RA imports to internal RA resources". Yet, there appears to be discontinuity between the contemplation and treatment of internal and external generation. We ask why generation internal to the CAISO does not merit the multi-year support sought for external generation.

The CAISO should demonstrate how its proposed design framework would accommodate multi-year requirements and support the multi-year showings of all types of resources, including internal and external resources.

The CAISO should coordinate with the CPUC and other Local Regulatory Authorities

Close coordination and full alignment with the CPUC is critical to creating a program that is feasible to implement. The CAISO should make the case to the CPUC and other Local Regulatory Authorities (LRAs) that UCAP should be the basis of reliability planning. If unable to do so successfully, the CAISO should keep NQC-based requirements and modify the PRM.

PG&E also asks the CAISO to publish the PRMs of all LRAs to illuminate planning differences across LRAs.

The CAISO should address commercial concerns

Market participants have raised concerns about introducing UCAP to bilateral trading alongside NQC. Existing differences between the CPUC and CAISO will become even more complex because the CAISO uses monthly NQCs for local RA while the CPUC uses the August NQC for all twelve months, requiring separate tracking of resources for CPUC and CAISO compliance. An additional counting mechanism (UCAP) that fluctuates over the term of the contract could aggravate this complexity.

## 2. PG&E opposes the Unforced Capacity calculation unless key concerns are addressed.

For PG&E to modify its opposition of UCAP, PG&E requests the CAISO address key concerns, including those outlined below.

PG&E supports the proposed Hourly Availability Factor assessment with caveats

The two hundred-hour, two-season Hourly Availability Factor (HAF) assessment better recognizes the evolving needs of the system.

However, the CAISO should provide a clear definition of "tight supply cushion" conditions, including an explanation of load and supply measurements and examples of the HAF calculation using historical data.

The following example scenarios illustrate some of the concerns with this approach.

- If a large resource trips and several of the seasonal HAF hours happen in short succession: What if another resource has the misfortune of experiencing a forced outage during that same period? Would the resulting diminished UCAP be fair?
- Very large resources are more vulnerable, as they would induce a constrained "supply cushion" and trigger the calculation of an HAF whereas small resources are unlikely to induce supply tightness.
- Is it problematic if the sample hours represent bizarre events and are not representative of the evolution of system needs?
- In the HAF equation, how do "Derates" differ from "Forced Outage Impacts"?

Explain the impact of adding the UCAP penalty to the seven-day forced outage window

Until relatively recently, the CAISO did not penalize outages requested seven to four days before start. The financial penalty was only assessed to outages requested within three days of start.[2] The analog UCAP penalty should follow that period or the CAISO should justify a change. The CAISO should support the expected impact of the UCAP penalty and explain how use of a seven-day outage definition impacts the system forced outage numbers in the CAISO's analyses.

We note that the NERC definition of forced outage differs from the CAISO's current definition and the impacts of the change are not clear and need to be understood in concert with the UCAP penalty.

Explain the rationale and provide guidance on Nature of Work outage cards impacts on a resource's UCAP

[2] This penalty was the Standard Capacity Product (SCP) price. The CAISO changed the definition of forced outage from outages requested within three days to within seven days of start in the initiative Outage Management System Replacement, implemented in 2015. The purpose was to align the generation outage timeline with transmission outage timeline. However, outages requested within four to seven days remained exempt from non-availability penalties until Reliability Services Initiative Phase 1, implemented in 2016, replaced SCP with the RA Availability Incentive Mechanism.

While how certain Nature of Work outage cards will impact UCAP has not yet been cemented, the CAISO should explain the rationale in its current proposal and address questions that arise from it.

For example, the CAISO appears to suggest it will factor use-limited outages into UCAP,[3] whereas in the ongoing Commitment Cost Enhancements Tariff Clarifications there exists a proposal to have those outages impact NQC instead (admittedly, under the current paradigm).[4] Depending on how UCAP is ultimately calculated for use-limited resources like hydroelectric, it may indeed be appropriate to have use-limited outage cards impact UCAP. Yet, this should be clarified. Additionally, how would these outage cards affect use-limited resources using the Effective Load Carrying Capability (ELCC) RA counting method? Would they not be penalized? Any limitation should be accounted for only once.

Also, PG&E asks why the CAISO proposes to have the previously substitution-exempt outage cards Ambient Not Due to Temperature and Unit Supporting Startup impact UCAP.

## 3. The CAISO should explore alternative must-offer requirements that better reflect resource characteristics, do not increase direct and uplift costs, and foster comparable resource treatment.

RA resource must-offer obligations should reflect a resource's physical capability, provide the proper incentives to be available, and produce fair treatment in relation to other resources.

The CAISO should continue to explore alternatives to the proposed day-ahead 24 by 7 standard must offer obligation

The CAISO should consider working closely with the CPUC to help align individual resource MOOs to potentially revised MCC buckets. The CAISO has highlighted MCC buckets as a valuable RA design construct, pointing to it as the appropriate means of guiding LSEs in their procurement to ensure that they – and the system as a whole – have the right types of resources for the CAISO to reliably operate the grid in all hours. PG&E has supported redesigning MCC buckets in comments to the CPUC.[5] This effort would serve to better align the CAISO and CPUC RA programs.

Additionally, the CAISO should clarify MOO requirements within the tariff, not in the Business Practice Manuals, to alleviate perceived legal or regulatory risk for participants.

The CAISO has not adequately addressed PG&E's concern that a day-ahead-only MOO could increase direct and uplift costs

[3] The Proposal, Table 3 at http://www.caiso.com/InitiativeDocuments/ThirdRevisedStrawProposal-ResourceAdequacyEnhancements.pdf, 24, 25.
[4] See SCE's proposal at http://www.caiso.com/InitiativeDocuments/SCEProposal-CommitmentCostEnhancementsTariffClarifications.pdf, 2.
[5] California Public Utilities Commission Rulemaking 19-11-009, *Comments of Pacific Gas and Electric Company (U 39 E) on the Order Instituting Rulemaking to Oversee the Resource Adequacy Program*, dated December 3, 2019, at http://docs.cpuc.ca.gov/PublishedDocs/Efile/G000/M321/K474/321474444.PDF, 1, 2.

Previously, PG&E expressed concern that freeing capacity from offering in real-time (RT) that can be used to address changes between the day-ahead (DA) market and RT markets could result in increased redispatch and uplift costs. In response, the CAISO pointed to the Imbalance Reserve (IR) product proposed in its Day-Ahead Market Enhancements initiative and data analysis in that proposal.[6] This response is inadequate.

The design for IR product has not been defined, let alone delivered. The CAISO cannot assert what it will achieve. Incidentally, IRs do not help with managing local constraints which historically have been the driver of RT Congestion Offset.

Specific resource types and conditions need additional focus:

Battery Storage

The CAISO proposes that RA battery storage should maintain a state-of-charge in RT such that it can deliver DA awards for hours later in the day. This diverges from the treatment of other RA resources, including non-battery storage, which may completely rebid their output in RT. The CAISO should allow the resource owner to operate their resource and trust its RT market to send the right signals reflecting RT system need. This requirement should also affect the CAISO's NGR model, but this complication was not mentioned in this initiative.

Additionally, the CAISO proposes to calculate Effective Flexible Capacity for battery storage resources as the charge and discharge capability over fifteen minutes. How will the CAISO manage the interplay between IR awards (both up and down) across multiple intervals with the requirement to maintain a state-of-charge capable of delivering DA awards?

Eligible Intermittent Resources and Conditionally Available Resources

Eligible Intermittent Resources (EIRs) and Conditionally Available Resources (CARs) should not have bid insertion. Bid insertion implies that a CAR resource is available when it may not be. Therefore, CARs should submit a forecast (in the form of an energy schedule and outage submission) to the CAISO and their obligation should be set at their forecast, like EIRs.

PG&E asks the CAISO to clarify the MOO of EIRs, as it is not stated in the Proposal. The general proposal is that resources will show their UCAP but be required to bid up to their NQC. NQC for EIRs is proposed to be their ELCC. An EIR's current RT MOO is the VER forecast and not its NQC/ELCC. At the stakeholder meeting, the CAISO said that it proposes to maintain the current RT MOO for EIRs. This clarification should be stated in the next proposal.

Import RA

PG&E supports the CAISO's current import RA proposal to specify the source BAA and implement CPUC import RA requirements. PG&E asks the CAISO to consider alternative methods to further clamp down on speculative supply, but not require RA be resource-specific. There has been strong advocacy by some stakeholders for requiring import RA be resource-specific. PG&E reiterates that it

[6] The Proposal, 32, 33.

believes the features of Western Systems Power Pool Schedule C (or contractually equivalent) firm energy (e.g., firm energy delivery with a stipulated damages provision against Seller upon failure to deliver, with limited exemptions due to force majeure or a requirement to meet public utility or statutory obligations) are robust and provide reliability value.[7] A resource-specific requirement could preclude such contracts.

## 4. PG&E supports the CAISO's proposed Planned Outage Enhancements Option 1 and believes Option 2 is inferior.

PG&E reiterates its previous comments that the CAISO should use the Competitive Solicitation Process (CSP) to procure adequate substitute capacity, then give LSEs the option to either pay the CSP price, find alternative capacity, or cancel the outage.[8] An LSE's self-directed RA procurement obligations should end with showings at T-45 before the RA month and any subsequent need for capacity should be procured through the CSP.

## 5. The CAISO should carefully align the various incentive structures including backstop pricing.

PG&E opposes an implied UCAP CPM soft offer cap higher than the current $6.31/kW-month for NQC. The CAISO has proposed that it will maintain the current CPM soft offer cap, tied to NQC. When the CAISO conducts backstop procurement to meet UCAP requirements, the effective capacity price, on a UCAP basis, may be much higher. Since the CAISO proposes that LSEs will have UCAP RA compliance requirements, for both system and local, and will backstop to these requirements for system RA, this effectively raises the system RA soft offer cap.

Finally, the CAISO should carefully consider the interplay between the various, overlapping incentive structures. For example, the CAISO proposes that no UCAP incentive payment will be paid to LSEs committing capacity above their obligation if no other LSEs are deficient and no resulting penalty is collected. LSEs will therefore consider the trade-offs of showing above their requirement, and committing the capacity, versus holding the capacity for bidding into the CSP, to meet Option 2 substitution requirements, or avoid unreasonable standard bidding obligations.

[7] Please see PG&E's comments at http://www.caiso.com/Documents/PGEComments-ResourceAdequacyEnhancementsRevisedStrawProposal.pdf, 5.
[8] Ibid., 4; and http://www.caiso.com/InitiativeDocuments/PG_EComments-ResourceAdequacyEnhancements-SecondRevisedStrawProposal.pdf, 6.