



Comments of Pacific Gas & Electric Company
Flexible Resource Adequacy Criteria and Must Offer Obligation –
Phase 2 Revised Straw Proposal

| Submitted by | Company | Date Submitted |
|---|------------------------|----------------|
| Kristin Charipar (415-973-6177) Peter Griffes (415-973-3335) | Pacific Gas & Electric | May 23, 2017 |

Pacific Gas and Electric Company (PG&E) offers the following comments on the California Independent System Operator’s (CAISO) Flexible Resource Adequacy Criteria & Must Offer Obligation Phase 2 (FRAC MOO 2) Revised Straw Proposal.

PG&E supports CAISO’s efforts to focus the discussion on the state’s reliability needs, and secondarily consider state policy goals. However, PG&E offers an alternative approach to the Revised Straw Proposal that will work towards CAISO’s reliability goals and allow the state to continue its processes to determine its policy preferences on renewable curtailment.

PG&E has split its comments into three sections: 1) PG&E’s Proposal and Preferred Approach, 2) Comments on CAISO’s Revised Interim Straw Proposal to change the flexible resource eligibility criteria to resources with a minimum cold start time of 4.5 hours or less and a minimum run-time of 4.5 hours or less, and 3) Comments on the Long-term Enhancements Proposal.

PG&E Proposal and Preferred approach for FRAC MOO 2: CAISO should work towards a clear definition of flexibility needs in this initiative.

PG&E appreciates CAISO’s efforts to ensure flexibility in the market to meet reliability needs as our renewable generation increases. However, we believe the best approach is to begin working on a clear definition of flexibility needs in this initiative and address risk-of-retirement concerns in better-suited CAISO initiatives.

1. Define Flexibility Needs and Tailored Solutions in FRAC MOO 2

PG&E proposes that the CAISO begin working with stakeholders on a durable definition of flexibility in the FRAC MOO 2 initiative, with a 2018 RA Compliance Year implementation date (for 2019 delivery), as discussed in the May 8th Stakeholder meeting. It is our understanding that the CPUC could issue an advisory opinion if the full process is not completed in time. This would bring more certainty to LSEs who are planning their future portfolio needs, as well as for generators who are attempting to make investment decisions.

Flexible Resource Adequacy Criteria and Must Offer Obligation – Phase 2 Revised Straw Proposal

PG&E recommends proceeding with FRAC MOO 2 through a series of workshops, where stakeholders and CAISO can collaboratively and systematically analyze the flexibility problem and identify a tailored solution. PG&E proposes the CAISO hold workshops throughout the summer and fall of 2017 to examine the following:

- Analysis of flexibility needs and drivers: real-time net load uncertainty, hourly variability, or ramping capacity. PG&E has stated its position on flexibility needs in previous venues¹ and would be willing to present its analysis and proposal at a FRAC MOO 2 workshop.
- Analysis of existing tools that can address the specific flexibility needs: flexible ramping product, increased economic bidding, must-offer obligation enhancements, increased import and export capability and storage resources not using the Non-Generating Resource model.
- If needed, analysis of new tools to address the specific flexibility needs: market solutions (such as a Day-Ahead flexible ramping product), increased import and export capability, or forward procurement of a new flexibility RA product.

In addition, PG&E encourages the CAISO to use the current FRAC MOO 2 process to address the issues raised by FERC in its conditional approval of the FRACMOO Tariff.² Namely, FERC directed that CAISO analyze whether it is feasible to expand the flexible RA eligibility to include imports³ and encouraged CAISO to evaluate existing EFC rules to allow energy storage resources that do not fit into the ISO's NGR model to provide flexible capacity from both their charging capabilities and their discharge capabilities (i.e. pumped hydro).⁴ PG&E looks forward to working with CAISO to address FERC's requests.

2. Address Risk-of-Retirement concerns in the CAISO's Initiative on Capacity Procurement Mechanism Risk of Retirement Process Enhancements, or other initiative focused on Risk of Retirement.

We agree with CAISO that Risk of Retirement is an important issue and must be addressed. However, the FRAC MOO 2 initiative is not scoped and set-up for a detailed discussion on this issue. Such consideration may be better suited to CAISO's initiative on Capacity Procurement Mechanism (CPM) Risk of Retirement Process Enhancements. The goal of that initiative is to improve the CPM Risk of Retirement designation process to more effectively enable generators at risk of retirement and needed for reliability to obtain revenue sufficiency in the near term. Not only is this initiative directly applicable to the Risk of Retirement concerns raised by the CAISO in the FRAC MOO 2 Revised Straw Proposal, but it also proposes to have a solution in place in the near term (November 2017). Alternatively, CAISO should open an initiative to directly address its Risk of Retirement concerns.

¹ See Pacific Gas & Electric Company's (U 29 E) Preliminary Phase 3 Proposal, CPUC OIR to Oversee the Resource Adequacy Program, Consider Program Refinements, and Establish Annual Local and Flexible Procurement Obligations for the 2016 and 2017 Compliance Years. R14-10-010

² Order of Tariff Revisions, 149 FERC ¶ 61,042. Docket No. ER14-2574. Issued: October 16, 2014.

³ Id at ¶ 79

⁴ Id at ¶ 93

Comments on the Revised Straw Proposal – Interim Solution

The CAISO's Revised Straw Proposal has a stated goal of supporting California's clean energy policies and minimizing risk of retirements while ensuring future grid reliability by better meeting the flexible needs of the system. However, PG&E is concerned that the proposed solution to restrict eligibility to resources with a minimum cold start time of 4.5 hours or less and a minimum run-time of 4.5 hours or less, does not address the actual flexibility needs of the system, predetermines state policy, The CAISO's proposal does not carry sufficient data to support the proposed solution or its feasibility.

1. CAISO's should provide supporting data and analysis to on how limiting resource eligibility will help meet the 3 hour ramp needs.

CAISO's flexibility needs are currently defined as the ability to meet a 3 hour net-load ramp period. In the FRAC MOO decision, it was determined that resources with cold start times and minimum run times greater than 4.5 hours provide the forward assurance that the system can meet the 3 hour ramping needs. Absent supporting evidence, there is no basis to now exclude these resources from offering their flexible attributes as RA to meet the 3 hour net-load ramp. To the extent that long-start resources are unable to meet the 3 hour ramp needs, PG&E requests additional information supporting how limiting eligibility of flex resources will help meet the 3 hour net-load ramp.

PG&E agrees with CAISO's previous assertions that flexibility needs may vary. For instance, there may be a need to meet a 3 hour ramp, or a need to have real-time flexibility. PG&E would support efforts to evaluate the flexibility needs of CAISO, tools for addressing those needs, and which resources would be eligible to service that need. However, if CAISO's goal with this Revised Straw Proposal is to address a flexibility need other than the 3 hour ramp, the definition of flexibility should be adjusted.

2. There is insufficient information to determine whether this proposal is feasible, taking into consideration local resource adequacy needs.

During the May 8th Stakeholder meeting, the CPUC indicated that it would be helpful for to examine the feasibility of the Revised Straw Proposal with respect to the location of impacted resources. We agree that it would be helpful for the CAISO to provide the total flexibility capacity by TAC area under the current rules and the flexible capacity by TAC area if the FRAC MOO 2 resource eligibility restrictions were adopted. In addition, a CAISO analysis of how procurement of system, flex and local would be impacted would be useful for stakeholders.

3. CAISO proposal is aimed at avoiding renewable curtailment, which presupposes state policy.

Flexible Resource Adequacy Criteria and Must Offer Obligation – Phase 2 Revised Straw Proposal

As mentioned previously, PG&E supports attaining state policies. However, in this instance, PG&E is concerned that CAISO has not focused on resolving a specific flexibility issue and is presupposing California's integrated planning, renewables, and climate goals, and prematurely signaling market participants towards a path the state may not ultimately decide to take.

California is currently examining its renewable portfolio standard and cap-and-trade goals in the Integrated Resource Planning process. This proceeding considers the cost effectiveness of meeting several state goals, which could range from expanding imports and exports, requiring renewable economic curtailment in all future contracts (with portfolios evaluated by LSEs), or focusing on GHG impacts rather than renewable energy deliveries. CAISO in turn should as a part of this initiative explore what the reliability needs as we proceed towards 50% RPS (and potentially higher) but equally consider all the reliability tools available including economic curtailment of renewables when evaluating solutions (and not presuppose narrow policy choices where certain reliability options would be off the table).

4. Even if Risk of Retirement was a proper subject in FRACMOO2, there is insufficient information to analyze whether this proposed solution will be sufficient to retain 'needed' generation and 'retire' others

As mentioned previously, PG&E agrees that Risk-of-Retirement is an issue that needs to be addressed, but believes it is best addressed in other stakeholder efforts such as the Capacity Procurement Mechanism Risk of Retirement Process Enhancements Proceeding. However, if the CAISO proceeds with addressing Risk of Retirement issues through this Initiative, PG&E requests additional information to better understand how this proposal will meet CAISO's objectives:

- What is the magnitude of resources at risk of retirement, and what are the specific reliability concerns? Can reliability be achieved by other resources or market solutions?
- What investments could be needed to alter existing generation to meet flex needs?
 - i. If so, what is the ISO's priority for capacity at risk of retirement: quick start resources or resources with a lower p-Min?
- Will the implementation timeline (for 2019 delivery year) be sufficient to avoid risk of retirement for generators with imminent retirement decisions?

5. PG&E Supports CAISO's proposal to require Category 3 resource to be available 7 days per week.

PG&E agrees with the DMM's analysis that greater ramping needs occur on weekends, and thus super-peak resources should have a must offer obligation consistent with that system need. Based on this analysis, we support CAISO's proposal to expand Category 3 resources' MOOs to the weekends as well as weekdays.

Comments on the Long-Term Enhancements Proposal for Flexible Capacity

Flexible Resource Adequacy Criteria and Must Offer Obligation – Phase 2 Revised Straw Proposal

PG&E supports CAISO's efforts to scope the flexible capacity redesign and encourages CAISO to address the Long-Term Enhancements proposal as part of this current initiative, rather than waiting until 2018.

Provide for the efficient retention and retirement of resources needed to maintain reliable grid operations by aligning resource adequacy requirements with operational needs

PG&E supports this objective, and encourages the CAISO to begin this analysis now. PG&E also requests that CAISO consider aligning operational needs with market solutions, such as a day-ahead flexibility product, in addition to forward RA requirements. Please see PG&E's proposal above.

Simplify RA procurement and showing processes through alignment with system and local capacity provisions

PG&E supports this objective.

Enhance requirements to more closely differentiate particular resource attributes of flexible capacity needed to maintain operational reliability and achieve state policies

Defining flexibility needs will be essential to developing a product that can meet operational needs. There needs to be ample data and evaluation of the real-time flexibility needs and clear, established state policy before the CAISO acts. We propose to begin evaluation of feasibility needs in the current proceeding rather than as a long-term enhancement (as discussed above), while state policy is determined through the IRP process and other CPUC, legislative, and CEC venues.

Align long-term planning and annual RA processes to ensure the long-term planning objectives and assumptions are properly reflected through RA procurement and vice versa

PG&E supports this goal, but also wants to evaluate whether planning objectives can be met through energy market design (not solely forward capacity procurement).

Provide opportunities for internal and external resources to qualify to supply flexible capacity if they are able meet the specified requirements

Flexible Resource Adequacy Criteria and Must Offer Obligation – Phase 2 Revised Straw Proposal

PG&E supports examination of how imports and exports can be utilized to improve system flexibility. This would also address FERC’s directive in conditionally approving FRAC MOO.⁵

Solutions should be scalable regardless of number of LSEs or size of LSEs

PG&E supports this goal.

PG&E also requests that the “Long Term Enhancements” address the flexibility of non-NGR model storage resources, as directed by FERC in its conditional approval of FRAC MOO.

⁵ Id at ¶79.