Comments of Pacific Gas and Electric Company

Reliability Services Initiative – Revised Straw Proposal 8/11/14

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's (CAISO) Reliability Services Initiative (RSI) August 11th Revised Straw Proposal.

Minimum Eligibility Criteria and Must-Offer Rules

- PG&E supports the CAISO's reassessment of block dispatchable pumping load to ensure such resources get properly counted and recommends the CAISO address the issue in Phase 1 of the RSI.
- The CAISO should comprehensively examine the requirements placed on all storage technologies in receiving Resource Adequacy (RA) credits.
- The CAISO should look at creating a new resource classification and qualifying capacity provisions for resources that are available to meet system needs but are not capable of responding to real-time (RT) dispatch instructions.
- PG&E supports the CAISO's proposal to expand the scope of the RSI to include the issue of metered subsystems (MSS) load-following LSE's flexible capacity requirements to ensure MSS load-following LSE's fully cover their allocable share of flexible capacity.
- The CAISO should specify the requirements for Proxy Demand Resources (PDR).

Availability Incentive Mechanism (AIM)

- The CAISO should maintain alignment between the RSI and CPM initiatives given the strong link between the backstop price and the penalty charged to RA capacity that does not offer into the energy market.
- The AIM price should not be lower than the CPM price in order to serve as a strong incentive to provide substitution.
- The AIM payment cap should be set at up to three times the AIM price.
- PG&E opposes the proposed monthly roll-over account for AIM payments in order to preserve the link between impact and benefit in the AIM.
- PG&E recommends that the CAISO establish a methodology to periodically reevaluate the fixed availability percentage band.

Replacement and Substitution Rules

- PG&E supports the CAISO's proposed improvements to the substitution rules for the 2016 RA year.
- PG&E opposes the requirements that non-dispatchable system resources cannot replace dispatchable system resources and that use-limited system resources cannot replace non-use-limited system resources for the 2016 RA year.
- PG&E has concerns with the proposed changes to the outage rules for the 2017 RA year.

1. Minimum Eligibility Criteria and Must-Offer Rules

   a. **PG&E supports the CAISO's reassessment of block dispatchable pumping load. The CAISO should consider the issue in Phase 1 of the RSI.**

   In the CAISO's Flexible Resource Adequacy Criteria and Must Offer Obligation (FRAC-MOO) initiative, the CAISO recognized the benefits that flexible hydro resources can provide, but did not determine whether or how to count the pumping capabilities of a pump hydro resource for flexibility. PG&E agrees that pumping load should count as flexible capacity. PG&E's Helms units can routinely reduce the CAISO's flexibility needs both through its generation *and pumping* functions. Timely resolution of this issue is important – it should be a Phase 1 issue - so that the CAISO's market recognizes the appropriate value that all storage resources can provide and so that parties can properly value different technology types in the upcoming procurement of storage resources.

   b. **The CAISO should comprehensively examine the requirements placed on all storage technologies in receiving RA credits.**

   For Phase 1 of the RSI, PG&E supports the CAISO conducting a comprehensive analysis not only of deliverability for all storage technologies, e.g. hydro pumped storage, but also of how variable loading, transition time, and state of charge management impact a storage resource's ability to deliver flexibility to the grid. In its final FRAC-MOO proposal, the CAISO committed to examining the additional flexible capacity potential of energy storage resources in the RSI.[1] Additional information on the CAISO's further examination of this issue should be included in the next proposal. The results of CAISO's analysis should inform revisions to the CAISO's counting criteria for storage resources. Revised counting criteria for storage resources should ensure that the value that flexible storage resources is properly accounted for on an equal basis with other technologies. Timely resolution of this issue is important so that the CAISO's market recognizes the appropriate value that all storage resources can provide and so that parties can properly value different technology types in the upcoming procurement of storage resources.

   c. **The CAISO should contemplate a new resource classification and qualifying capacity provisions for resources that are available to meet system needs but are not capable of responding to RT dispatch instructions.**

   Not all resources are fully capable of responding to the CAISO RT dispatch instructions, yet these same resources may serve to meet some of the CAISO's planning or operational needs. Consider some Qualifying Facilities, Combined Heat and Power resources, and Proxy Demand Resources (PDR) for instance. These resources might be dispatchable in the day-ahead (DA) timeframe or

[1] CAISO, FRAC-MOO Revised Draft Final Proposal, March 7, 2014, p.39. Located at: http://www.caiso.com/Documents/RevisedDraftFinalProposal-FlexibleRACriteriaMustOfferObligation-Clean.pdf.

callable consistent with other CAISO agreements and so likely serve some aspects of CAISO needs. Accordingly, a new resource classification and qualifying capacity provisions for units that are capable of responding to dispatch instructions with a longer lead time seems beneficial and can leverage the available capabilities of these resources while providing incentives to increase their operational flexibility.

d. PG&E supports the CAISO's proposal to expand the scope of the RSI to include the issue of metered subsystems (MSS) load-following LSE's flexible capacity requirements.

PG&E agrees with the CAISO that it is important to ensure responsible parties fully cover their allocable share of flexible capacity. PG&E supports the requirement that a MSS load-following LSE show variable energy resources in its designated portfolio of resources used to balance the LSE's load, in order to eliminate the potential for a MSS load-following LSE to lean on other LSE's to provide flexible capacity needed to address the variability of these resources.

e. The CAISO should provide more specificity in terms of the requirements for PDR.

Per PG&E's understanding, there is some ambiguity and a lack of detail in terms of the requirements for PDR. The CAISO should develop a section dedicated to PDR for the sake of clarity and transparency, as well as a dedicated row in Figure 12, Appendix A. As wholesale DR continues to develop in California, industry needs to better understand the CAISO's expectations for PDR market participation. PG&E requests the CAISO detail the following aspects of the proposed rules/treatment for PDR that provides System and Local RA:

- **The minimum number of hours per month and the minimum number of hours that a PDR must be capable of being dispatched.** In Section 4.4, the CAISO proposes that the minimum availability requirements for PDRs be 1) at least 24 hours per month, 2) at least three consecutive days, and 3) at least four hours per dispatch. It is not clear what is meant by "minimum availability requirements." For example, does the first requirement infer that a PDR must only submit bids into the CAISO market for a minimum of 24 hours per month, or is it meant to require that a PDR be capable of dispatching for a minimum of 24 hours per month? If it is the latter, then PG&E recommends that the CAISO refer to the three requirements above as "minimum dispatch requirements." PG&E would support the three proposed requirements as minimum dispatch requirements in order to maintain consistency with the CPUC's minimum requirements for RA resources and the CPUC's Maximum Cumulative Capacity (MCC) Buckets.
- **The hours of the day that a PDR must bid into the CAISO market.** The Revised Straw Proposal is unclear regarding the hours of the day and

days of the week that PDRs would be required to submit bids into the CAISO market. PG&E supports the use of the existing Standard Capacity Product (SCP) availability requirement discussed in Section 6.3 of the Revised Straw Proposal of five consecutive hours of each non-weekend, non-holiday weekday.

- **Whether a PDR can take itself offline once it has been dispatched for three consecutive days or 24 hours in a month and can no longer operate for the remainder of the month.** If the minimum availability requirement proposed in Section 4.4 of the Revised Straw Proposal is in fact a minimum dispatch requirement, then a PDR should be able to go offline for the following business day and not be subject to a MOO after being dispatched for three consecutive days. Similarly, a PDR that has been dispatched for 24 hours in a month should have the option of taking itself offline and not be subject to a MOO without impacting its AIM score. Regardless, the CAISO should explain the process for a PDR to reflect the fact that it has reached its dispatch limits (whatever they may be).
- **Whether a PDR can submit a minimum run time.** If the CAISO retains its current SCP availability requirements, a PDR should be able to specify a minimum run time of four hours to ensure that it is being dispatched once over a contiguous time period.

2. Availability Incentive Mechanism

a. The CAISO should maintain alignment between the RSI and CPM initiatives.

In its comments to the CAISO on the CPM Replacement July 24^{th} Revised Straw Proposal, PG&E explicitly recommended that the CAISO include the development of the Availability Incentive Mechanism (AIM) rules within the scope of the Capacity Procurement Mechanism (CPM) Replacement initiative. This re-scoping is essential because of the strong link between the backstop price associated with deficiencies and the penalty charged to RA capacity that does not offer into the energy market. If the AIM and the CPM Replacement rules are misaligned, resources receiving a CPM designation may have improper incentives to participate in energy markets. For example, consider if a unit receives a CPM at a higher price than the AIM. Such a unit could make money even if they never participate in CAISO markets. Or consider a case where only a small number of units are available to address a need. With a CPM price that is higher than an AIM price, a market participant has the incentive to withhold an RA resource from the market, incurring an AIM penalty solely to receive a CPM designation at a higher price for another of its nearby units. More generally, the AIM and CPM prices are incentive signals that factor into procurement and operational decisions and must work together. At a minimum, the CAISO must ensure that the RSI and CPM initiatives are progressing on parallel and complementary tracks.

b. The AIM price should not be lower than the CPM price.

The CPM price moving forward should be the floor for the AIM price in order to send the right price signals to generators. The AIM price should be high enough to incent substitution of forced outages, and if substitution from procurement in the bilateral market costs more than the AIM price there will not be an incentive to get substitution capacity during forced outages and the CAISO will be more likely to make a CPM call. The proposed AIM price of $3.50/kW-month could be too low to incent substitution. PG&E encourages the CAISO to consider the idea of increasing the AIM price and lowering the bottom bound of the availability incentive standard percentage band, so that fewer units are penalized, but at a higher penalty price. This will serve as a stronger incentive to provide substitution and incent quicker action from generators.

c. The AIM payment cap should be set at up to three times the AIM price.

The current Standard Capacity Product (SCP) process includes a cap on the Availability Incentive Payment rate that can be paid to a resource for its eligible capacity within a given month equal to three times the monthly Non-Availability Charge rate, as outlined in section 40.9.6.3. PG&E supports an AIM payment cap of up to three times the AIM price, rather than double the AIM price as proposed by the CAISO in its Revised Straw Proposal. The current cap of three times the incentive price is a reasonable level to incent generator performance while not over-valuing capacity provided in excess of the monthly upper threshold.

d. PG&E opposes the proposed monthly roll-over account for AIM payments.

Under the current SCP process, if the pool of funds collected from incentive penalties exceeds the total pool needed for incentive payments (up to the payment cap for each high-performing resource), the funds are allocated back to load serving entities (LSEs) through a monthly payment based on load ratio share. In the Revised Straw Proposal, the CAISO proposes to create a roll-over account for any monthly AIM penalties that exceed the total pool needed for AIM payments in that month to be used in AIM payments to high-performers for the following month. Any excess funds in the roll-over account at the end of the year would then be paid to LSEs based on load ratio share. The CAISO gives no justification for the change from the current construct. In addition to making settlements considerably more difficult, there is a general monthly balance argument because a generator that did nothing to help one month when there were a lot of outages and strains on the system could get rewarded in the following month for performing well when there were no outages. This would seem to be unfair for high-performing resources in early months and would remove the link between impact and benefit that is currently incorporated into SCP.[2]

[2] For example, in Month 1, consider a Resource A that provides RA bids in excess of the AIM metric resulting in 3 MW/months of capacity in excess of the AIM threshold. No resources are deficient in this month, so Resource A does not receive any subsequent payment for its performance. In Month 2, a Resource B fails to meet the lower AIM

e. **PG&E recommends that the CAISO establish a methodology to periodically reevaluate the fixed availability percentage band.**

The CAISO has proposed to use the same fixed availability standard range throughout the year, rather than varying the range each month. PG&E is willing to move forward with the fixed range, but recommends that the CAISO establish a methodology to periodically reevaluate this range to understand if the fixed range is providing adequate incentives to the capacity that the CAISO needs, and adjust as necessary (with a 3-year rolling average for example).

3. Replacement and Substitution

PG&E has reviewed the CAISO's replacement and substitution proposal roadmap and proposed rule changes and offers the following comments. PG&E looks forward to participating in the upcoming September 16th working group meeting on the replacement and substitution rules and providing further comments after that discussion.

a. **PG&E supports the CAISO's proposed improvements to the substitution rules for the 2016 RA year.**

PG&E supports the following proposed changes to the substitution rules for the 2016 RA year, as they should provide incremental improvements to the substitution process:

- Moving the deadline for providing DA substitution from 6 AM to 8 AM. This will allow LSEs more time for ensuring proper submission in CAISO's system, while still providing CAISO with several hours to evaluate the substitution before the DA market runs at 10 AM.

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threshold and is penalized for an overall deficiency of 10 MW/months. No resources perform in excess of the AIM threshold, so the entirety of this penalty is allocated to the roll-over account for later use. In Month 3, a Resource C provides RA bids in excess of the AIM metric resulting in 3 MW/months of capacity in excess of the AIM threshold and is paid at 3x the AIM penalty rate for this performance; a result of 9MW/months multiplied by the established AIM price. No resources are deficient in this month, so the entirety of this payment is taken from the roll-over account.

The issue is that the over performance of Resource A and that of Resource C provided identical benefit to the CAISO system during months 1 and 3 but only Resource C received compensation for its behavior. Likewise, the high performance of Resource C may have been entirely linked to the existence of funds in the roll-over account. Following this logic, it would seem that this process would incentivize resources to adjust their behavior as the process progressed through the year to provide more availability at the end of the roll-over period in order to capture as much revenue as possible from the roll-over account. This would be profitable even if this late-year over performance does not directly benefit CAISO system reliability (i.e. providing capacity bids in excess of those anticipated in order to cover overlapping deficiencies in other units) because funds from past performance impacts would likely still be available for distribution. With this process there would no longer be a benefit to being a high performer during months when other resources are deficient because the revenues associated with these deficiencies would remain available for recovery through later months with a greater likelihood of incentive payments closer to the AIM payment cap.

- Requiring that flexible RA capacity must be substituted from the same flexible category or better.
- Expanding the CAISO's systems to allow for many-to-many substitutions. We encourage the CAISO to provide these capabilities as soon as possible, as they will facilitate the replacement and substitution changes contained in this proposal.
- Allowing real-time substitution for non-local RA resources. Allowing real-time substitution for pre-qualified flexible and system resources is an idea worth exploring, as it could provide benefits to both the CAISO (in the form of greater reliability) and LSEs (who would avoid unavailability penalties). Further discussion is needed on the prequalification criteria.
- Allowing a local resource to substitute for other local resources that are not at the same bus.

b. PG&E opposes the requirements that dispatchable system resources cannot be replaced by a non-dispatchable system resource and that non-use limited system resources cannot be replaced by a use-limited system resource for the 2016 RA year.

The CAISO proposes to impose significant limitations on system replacement for planned outages in the 2016 RA year, including requirements that dispatchable system resources cannot be replaced by a non-dispatchable system resource and that non-use limited system resources cannot be replaced by a use-limited system resource. PG&E opposes these proposed rule changes and does not believe it is an appropriate replacement method in advance of an established rule related to flexible RA planned outages. The proposed requirement implies that new rules kick in after the LSE's original showing and that there is nothing preferable about the initial showing. This is a concern for an LSE that is attempting to minimize its cost risk when making the initial showing and it also creates a disincentive to show a resource as dispatchable. It also doesn't make sense to have strict replacement rules and more relaxed substitution rules.

c. PG&E has concerns with the proposed changes to the outage rules for the 2017 RA year.

PG&E has concerns with the proposed changes to the outage rules for the 2017 RA year and we look forward to participating in the upcoming September 16th working group meeting on the replacement and substitution rules and providing further comments after that discussion. Our first concern is with the shortened timelines proposed, in which an LSE's time to cure deficiencies in its RA showing has decreased from 14 to 10 days, and a generator's time to replace deficiencies has decreased from 14 to 12 days. The reduction in time could present implementation challenges, as the market for replacement RA is not extremely liquid and the timeline is already tight when there are multiple weekends or a holiday in a given time period.

We are also concerned about the requirement that suppliers are responsible for all replacement, and the impact that this requirement would have on the bilateral RA market. It is likely that capacity prices would increase due to the added outage risk that must now be priced into the RA market. It is also likely that a supplier is less able to assess the costs of replacement RA versus an LSE that has a portfolio of resources to potentially provide replacement RA. Additionally, there is the potential that a supplier with too much market power could raise prices significantly for replacement RA.