

Comments of PG&E on the CAISO's Standard Resource Adequacy Capacity Product Straw Proposal

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Matthew Barmack
M4b3@pge.com

I. Introduction

PG&E welcomes the opportunity to comment on the ISO's November 11, 2008 straw proposal for the implementation of a Standard Resource Adequacy Capacity Product (SCP).¹

Based on the proposal itself as well as discussions at the November 18 stakeholder meeting, PG&E shares the concerns of many other stakeholders about how the ISO has proposed to implement availability standards and performance incentives. Fundamentally, the ISO's proposal applies different availability criteria to different resources, undermining the whole notion of a standardized product. At the stakeholder meeting, the ISO questioned whether uniform availability standards, such as those in Eastern capacity markets, could be implemented in the context of the current Resource Adequacy (RA) program and given the ISO's existing infrastructure. PG&E believes that uniform availability standards are feasible and desirable. We describe some general approaches to implementing them below.

PG&E has a number of concerns about other elements of the straw proposal. First and related to the measurement of availability, PG&E believes that once an LSE has procured the tags associated with a given resource for a given delivery month, the LSE should not be at risk for the reduction in the RA MW associated with the tags in any given delivery month due to approved planned outages. Under the current RA regime, LSEs are exposed to the risk that the quantity of RA that they can count from a specific resource might change within the year if the outage plan for the resource changes. If this happens, an LSE may be required to make up any resulting shortfall. The ISO's straw proposal does not clearly articulate that tag sellers are responsible for potential shortfalls due to changes in outage plans or that the ISO will coordinate outages so that shortfalls do not occur. Second, PG&E shares the preference of many other parties for financial penalties over physical penalties. Further, PG&E believes that such penalties should be uniform, i.e., they should not be tied to the commercial terms of the RA transaction(s) associated with a resource that fails to perform. Third, PG&E continues to support the exemption for use limited resources from the AS MOO that was crafted in the Scarcity Pricing context. PG&E will not support a SCP proposal that limits our ability to manage our own water in order to meet physical and environmental constraints and serve our customers at least cost. Fourth, PG&E believes that grandfathering of existing RA arrangements is necessary. Fifth, PG&E offers some preliminary thoughts on how DR might be treated under SCP. Finally, we note that the ISO's Straw Proposal does not address explicitly

¹ <http://www.caiso.com/207c/207cdf1569880.pdf>

local RA. It is unclear how elements of the ISO's proposal would apply to local RA or whether local RA requires a different treatment. Subsequent versions of the SCP straw proposal should address local RA more explicitly.

II. Availability standards

Availability standards should be uniform and tied to the appropriate definition of the capacity product itself. Uniformity implies that the same availability standards should apply to every RA resource to the extent feasible. PG&E rejects the unit-specific availability metric approach in the ISO's straw proposal.

The uniform availability metric should be related to the definition of the capacity product. Capacity is the capability to generate (or curtail load in the case of demand response). The capability to generate as opposed to the energy produced by a resource is valuable when it is scarce, i.e., under the most stressful system conditions. Consequently, the measurement of availability and the assessment of performance incentives should be focused on a comparatively small set of hours corresponding to periods in which capacity is presumed to be scarce.

Measures of availability such as EFORd and EFORp that are used in Eastern capacity markets and the CFCM proposal attempt to capture the availability of units when they are actually needed.² In the stakeholder meeting, the ISO seemed to suggest that it would be unable to calculate EFORd and EFORp. Even if the ISO were able to calculate EFORd and EFORp, there may be more direct measures of when capacity is really scarce. PG&E offers the following potential alternatives:

1. Measure availability in high load hours

This approach would involve measuring availability during the highest load hours in the year or each month. This is essentially the approach that the ISO has recommended for determining the NQC of wind resources.³ There is a certain logical consistency to measuring the availability of all resources during the same set of hours that is used to determine the NQC of wind. PG&E is amenable to suggestions about the appropriate hours to include in such a calculation.

2. Measure availability during hours in which scarcity pricing is triggered

An even more direct measure of availability during periods in which capacity is scarce will be available once scarcity pricing is implemented under MRTU. By definition, capacity is scarce when Scarcity Pricing is triggered. PG&E understands the concerns of

² For example, see *PJM Manual 22: Generator Resource Performance Indices* (<http://www.pjm.com/contributions/pjm-manuals/pdf/m22.pdf>) as well as <http://www.pjm.com/committees/working-groups/rpmwg/downloads/20071025-item-08-eforpcalculation.pdf>.

³ For example, see <http://www.caiso.com/1fad/1faddd73c590.pdf>.

many stakeholders that the regime of availability metrics and penalties be sufficiently predictable that it provide meaningful incentives for availability and not impose undue risk on resource owners. Measuring availability during hours in which scarcity pricing is triggered may provide meaningful and reasonable availability incentives if scarcity pricing is triggered sufficiently frequently and predictably. The ISO has suggested that scarcity pricing might be triggered in at least tens of hours annually.⁴

3. *Measure availability in high price hours*

A third alternative involves measuring availability in periods in which day-ahead and/or real-time prices exceed certain thresholds.⁵

On page 29 of the straw proposal, the ISO raises the possibility of measuring availability during “RA peak hours.” PG&E believes that the set of RA peak hours defined by the ISO is too broad to correspond to periods during which capacity is actually scarce.

Measuring availability during high price hours or during hours in which Scarcity Pricing is triggered is broadly consistent with the performance penalty scheme in New England’s Forward Capacity Market (FCM). In the FCM, capacity suppliers face two potential types of “penalties.” First, the FCM has an ex-post peak energy rent deduction which requires capacity sellers to refund a portion of their capacity payment that is related to the extent and frequency with which real-time energy prices exceed a certain cost-based benchmark. To the extent that a resource is unavailable during these high price periods, it loses the natural hedge against these ex-post PER deductions. Second, the FCM includes additional penalties for unavailability during “Shortage Events”—which are roughly analogous to the circumstances under which scarcity pricing is likely to be deployed.^{6 7}

PG&E believes that an approach that focuses on availability in a relatively narrow set of hours will address many of the ISO’s concerns about uniform availability metrics. For example, it may be difficult for an old steam unit to achieve the availability benchmark of 80 percent across all hours in the Joint Parties’ proposal, but, if it is an RA resource, presumably it should be available for the vast majority of the highest load/price hours in a year.

III. Planned outages

Under the current system, an LSE cannot include RA capacity in its annual and monthly compliance filings from units that are on approved planned outages. LSEs face the risk

⁴ See <http://www.caiso.com/1fdc/1fdcd4371bca0.xls>.

⁵ Focusing on high price hours crudely approximates the logic of EFORp, which captures availability in periods in which a unit would have been dispatched or used to provide ancillary services. In sufficiently high price hours, most units should be providing energy or ancillary services.

⁶ See section III.13.7.2.7 of the ISO-NE tariff (http://www.iso-ne.com/regulatory/tariff/sect_3/08-11-7_mr1_sect_13-14_v11a.pdf)

⁷ The CAISO’s simulations suggest that Scarcity Pricing is likely to be deployed much more frequently than Shortage Events occur in New England.

that unanticipated (but ISO approved) outages may reduce the RA MW from certain units that they are allowed to count for RA compliance. PG&E believes that SCP should eliminate this risk. PG&E requests that the ISO make explicit in its straw proposal that, under SCP, the quantity of capacity associated with a tag will not be reduced during the year, nor will any LSE be required to procure tags in excess of those necessary to meet its RA requirement due to the performance of a unit within the year.

IV. Penalties

PG&E agrees with the views of many stakeholders that financial penalties are preferable to physical penalties. The Net Qualifying Capacity of a unit should reflect realistically the *prospective* capacity of a unit. Physical penalties effectively link a unit's prospective NQC to its historical performance. Historical peak performance may not be a good measure of a unit's prospective performance. For example, an outage may be caused by the failure of a major component. Once the component is replaced, the performance of the unit might improve significantly. In addition, reducing NQC for past performance may limit incentives to take actions that increase NQC on a prospective basis.

The ISO's main concern about financial penalties seems to be that because it is not aware of the commercial terms of bilateral RA transactions, it would be unable to assess penalties that are tied to the commercial terms of specific transactions. PG&E agrees with the comments of many stakeholders at the November 18 stakeholder meeting that financial penalties should be uniform, i.e., they should not be tied to the commercial terms of specific RA transactions. PG&E believes that an approach to financial penalties that requires the ISO and potentially other parties to obtain information about the terms of individual transactions in order to assess financial penalties, such as the approach proposed on pp. 27-28 of the SCP straw proposal, is both unnecessary and undesirable. PG&E prefers an approach based on a proxy price. The Interim Capacity Procurement Mechanism (ICPM) price of \$41/kw-year may constitute a natural proxy price on which to base penalties, but PG&E may be amenable to other potential proxy prices.

The ISO raises the possibility of assessing penalties on a monthly as opposed to an annual basis. PG&E notes that assessing monthly penalties is potentially more complicated and may involve determinations about the relative value of capacity across months within a year. Bilateral RA prices for shoulder and winter months tend to be lower than prices for the peak summer months. Presumably, penalties should reflect this market reality.

The California Forward Capacity Market (CFCM) proposal includes a proposal to allocate annual capacity payments to individual months based on the peak loads in each month. Penalties in a month are then limited to the monthly allocation of the annual capacity payment. This approach yields a monthly allocation that may be insufficiently peaky, i.e., it yields allocations of the annual capacity payment and hence potential penalties that range between a low of 7 percent for March and a high of 11 percent for

July and August. Certainly, a much greater range of potential penalties across months is warranted.

In the event that availability is assessed during a set of hours that is defined on an annual as opposed to a monthly basis, e.g., the 500 highest load hours in a year, PG&E recommends that potential penalties in each month be linked to the proportion of hours during which availability is assessed in each month. For example, if availability is assessed during the 500 highest load hours in a year, and 200 of those hours occur in August while 10 occur in May, then the potential penalty for non-performance in August should be 20 times larger than the potential penalty for non-performance in May.

V. AS MOO

At the stakeholder meeting, some parties objected to the treatment of use limited resources in the ISO's SCP straw proposal. For the reasons that we have articulated previously,⁸ PG&E believes that use limited resources require a different type of Must Offer Obligation (MOO). The requirement to provide energy and AS bids for hydro resources would expose their owners to the risk that the ISO might dispatch the units in ways that are inconsistent with various physical and environmental constraints that have no explicit representation in the ISO market rules. In addition, given MRTU's market power mitigation rules, there may be no obvious way for hydro resource owners to fully reflect the opportunity costs of water in energy and AS bids. Consequently, imposing the MOO on hydro resources may lead to their uneconomic dispatch.

VI. Grandfathering

Implementing SCP raises a number of thorny issues related to existing contracts. For example, if SCP is made mandatory, do existing RA contracts obligate sellers to subject themselves to the provisions of SCP? Would the SCP availability and penalty provisions supplant any availability and penalty provisions in existing contracts? Because of the complexity associated with conforming existing contracts to SCP, PG&E submits that the only feasible approach is a broad exemption for existing contracts. The exemption should be combined with mandatory conformity with SCP for all contracts signed following the adoption of SCP, which may precede the implementation of SCP.

VII. DR

The participation of DR in ISO markets is in flux. It is at least conceivable that by the time that SCP is implemented, most DR will participate directly in ISO markets as some form of Participating Load.⁹ If this comes to pass, then, from the standpoint of the ISO,

⁸ For example, PG&E has proposed similar limitations on the MOO for hydro in the Scarcity Pricing context. (<http://www.caiso.com/2015/2015ca291ce40.doc>)

⁹ <http://www.caiso.com/2070/2070c79e59140.pdf>

DR will look very much like generation and might be subject to similar availability metrics and penalties, particularly if, as recommended above, availability is measured during the high price/high load periods in which DR is typically dispatched.

If DR programs are not modified to conform to the ISO's participating load model by the time that SCP is implemented, there is no obviously better approach to DR than the one in the current RA program, i.e., DR would continue to be subtracted from load before determining each LSE's RA requirements. Hence, it would not be subject to the provisions of the SCP.

VIII. Local RA

The straw proposal does not address local RA explicitly. Certainly, there are elements of local RA that might require different treatments depending on exactly how SCP is implemented. For example, the availability of local RA may contribute to local reliability during periods that are different than the periods during which all resources contribute to system reliability. Consequently, it may not make sense to measure the availability of local RA and assess penalties for the non-performance of local RA in the same periods as the availability of system RA is measured and rewarded/penalized. If there are different availability and penalty regimes for local and system RA, given that local RA resources count for system RA, potential overlaps between the different availability and penalty regimes will have to be resolved.