

Reliability Services Initiative – Second Straw Proposal Comments

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Company	Date	Submitted By
Alliance for Retail Energy Markets (AReM)	9/5/14	Sue Mara RTOAdvisors, L.L.C. (415) 902-4108 sue.mara@rtoadvisors.com
Opening Comments		
<p>The Alliance for Retail Energy Markets (“AReM”) appreciates the opportunity to submit these comments on the CAISO’s Reliability Services Revised Straw Proposal dated August 11, 2014. AReM strongly supports the CAISO’s changes to the current replacement rules for Resource Adequacy (“RA”) capacity for planned outages.² As AReM has previously argued, load-serving entities (“LSEs”) neither control such outages nor have information about when they are planned. Instead, such information resides (or should reside) with the RA supplier. Further, the CAISO controls whether requests for planned outages by the RA supplier are approved and for what time period. The current rules impose an unnecessary administrative burden on LSEs, who are forced to scramble to find replacement capacity when notified by the CAISO that a planned outage, of which it had no previous knowledge, has been approved for its RA capacity. Thus, the CAISO’s proposal to transfer the replacement obligation to the RA supplier makes logical sense and relieves the current administrative burden on the LSEs.</p> <p>AReM notes, however, that the CAISO currently plans to roll-out implementation of this new replacement rule for the 2017 RA compliance year.³ AReM respectfully requests that the CAISO consider accelerating implementation of the new outage replacement rules to 2016. AReM sees no reason to further delay this significant improvement to the current rules.</p>		
<p>¹ AReM is a California non-profit mutual benefit corporation formed by electric service providers that are active in the California’s direct access market. This filing represents the position of AReM, but not necessarily that of a particular member or any affiliates of its members with respect to the issues addressed herein. ² Revised Straw Proposal, p. 63. ³ Revised Straw Proposal, p. 7.</p>		
ISO Response		
<p>Thank you for your comments. The ISO appreciates the desire to move forward with the new rule changes quickly. The ISO has proposed to delay the full revision of the RA monthly process and outage replacement rules in order to have time to work with the CPUC in their annual RA</p>		

process to ensure alignment between ISO and CPUC RA rules. Additionally, the ISO is proposing significant revisions to many other areas of ISO markets and will need to prioritize rule changes in order to ensure everything be implemented in the needed timeframes.

Company	Date	Submitted By
California Department of Water Resources	9/5/14	Mohan Niroula California Department of Water Resources 916-574-0712 Mohan.niroula@water.ca.gov

Opening Comments
California Department of Water Resources State Water Project (CDWR-SWP) appreciates the opportunity to provide its comments to CAISO on its “Reliability Services Revised Straw Proposal” dated August 11, 2014. CDWR respectfully submits the following comments:

Comment 1

CDWR appreciates ISO’s consideration of the Participating Load (PL) calculation model proposed by CDWR in the Availability Incentive Mechanism (AIM); the revised proposal states: “Unlike traditional capacity, pumping load must have a DA AS schedule in order to produce energy in the real-time. The ISO will only assess pumping load under the availability incentive mechanism if there is pumping load available. During the periods when there is no available load in the real-time, the ISO will exempt the capacity from the incentive mechanism in that interval”.

This will ensure a PL resource can effectively and efficiently provide resource adequacy (RA) capacity based on the existing PL functionality and Local CDWR’s Regulatory Authority (LRA) criteria.

ISO Response

Thank you for your comment.

Comment 2

With regard to CDWR’s previous comment on opportunity cost for use limited resources’

monthly limitations, CAISO indicates that it will address through a separate stakeholder process

CDWR appreciates CAISO's plan to revisit dispatchable definitions. CDWR raised this concern in previous comments and CAISO could improve clarity and eliminate inconsistency in its application and definition.

ISO Response

The ISO has proposed to delay the definition of dispatchability until phase two. There was strong stakeholder pushback on implementing more stringent replacement rules for system resources in 2016. Therefore, this part of the proposal along with the redefinition of dispatchability was removed. The ISO agrees; however, that a clarified definition is needed and that this could improve transparency and eliminate inconsistencies.

Comment 4

CDWR supports assessment of monthly availability in the revised version instead of hourly in the previous version.

ISO Response

Thank you for your support of this element.

Comment 5

AIM availability is based on "bid"; Bid should include both self-schedule, economic bid and ancillary service (A/S) self-provision also. For a resource that is subject to both energy bid as well as ancillary service (A/S) bid must offer, which bid will be used for AIM assessment? Both energy and A/S or higher of either one? In the case of a use limited resource (such as a hydro generator) for which A/S must offer is exempt for generic RA, will the assessment of the bid consider the higher of the energy bid or the voluntary A/S bid; or the energy bid plus the additional ancillary service bid up to the RA capacity?

ISO Response

The AIM will only look at energy bids and the energy must-offer obligation. Ancillary service bids

need an underlying energy bid, therefore, there is no need to add AS bid and energy bid. The ISO will compare the energy bid against the RA capacity value shown.

Comment 6

As proposed, a single availability metric and price for system, local, and flexible capacity will be considered. How does this line up with the proposed Capacity Procurement Mechanism (CPM) safe harbor price? There needs to be an inter-link between the CPM process and AIM pricing.

ISO Response

The ISO has revised the CPM competitive solicitation process to one with no safe harbor price. Under this new proposal there is a limited link between CPM backstop price and the AIM price. The AIM price is used as input into the mechanism to incent substitution when a resource has a higher than average forced outage rate and encourage routine maintenance so that forced outages do not often occur. It is in addition to energy market incentives to earn revenues by offering into the day-ahead and real-time market. Because the ISO does not run a capacity market and all capacity is either owned or under bilateral contract, resources have highly varied contract conditions and prices. If the theoretical intent of the AIM is to exactly penalize a resource what it was paid for capacity, then a single AIM price will inevitably be too high or too low. The best the ISO can do; therefore, is pick a price reflective of a “high average” contract that for most resources is high enough to incent proper maintenance and needed substitution, but low enough not to affect the bilateral contract market or unduly penalize suppliers.

The CPM price on the other hand will reflect the specific market conditions under which the CPM designation will occur. The ISO has proposed a competitive solicitation process. The ISO will allow suppliers to offer into the CSP at a price lower than a soft offer cap without validation and above the soft offer cap with FERC approval. There is therefore no single “CPM price” and the only pre-determined value is a soft offer cap, which acts as insurance against a resource exerting market power to the extent it has a large financial impact. The soft offer cap is proposed to be set a high enough level where most resources will not need to file at FERC for legitimate recovery of costs and only so low as to not allow or incent resources to significantly exert market power.

The ISO does not believe that it is appropriate to set the soft offer cap, which should reflect a very high bilateral contract equal to the AIM price which should only reflect a slightly higher than average bilateral contract price. Put another way, the CPM soft offer price is reflective of the upper bound of residual capacity cost, and residual capacity should be some of the highest priced capacity on the system under the assumption that LSEs already procured the lower cost capacity. The AIM price should reflect a price that is on the high end of average for the total capacity procured by LSEs, which should be lower than the residual capacity average price, and certainly lower than the residual capacity soft offer cap price.

Comment 7

CDWR supports monthly incentive AIM price and payment capped at two times the AIM price to prevent windfall to a few resources.

ISO Response

Thank you, the ISO has revised the payment to be capped at three times the AIM price in order to be consistent with current practice.

Comment 8

\$3.5/kw-month is the proposed AIM price. How often will it change, as it appears to be based on historical RA price? If it is too low entities may resort to this penalty rather than substituting capacity which could cost more to buy. Ultimately, driving ISO backstop events higher and increasing the backstop price and cost to market participants.

ISO Response

Although the price is based on the weighted average 2013 bilateral contract price in the 2012 CPUC report, the price is an average of many multi-year contracts. Therefore the price represents both a historical and future contract price. The ISO proposes to reassess every three years using any available bilateral RA data.

Comment 9

ISO seeks stakeholder suggestions on the link between CPM safe harbor price and AIM price. An analysis of whether the AIM price and the safe harbor price could be the same value may provide a direction.

ISO Response

See response to comment 8.

Comment 10

Replacement and substitution should apply only to those resources that are required to report forced outages and planned outages. A participating load (PL) resource is not subject to report forced outages and planned outages in the same as way as a generator. Therefore, a PL resource should not be required to replace or substitute as there are no such outages (that are applicable to a generator) associated with a PL. The AIM calculation model for PL addresses this in availability calculation by excluding those hours when no load exists.

ISO Response

The ISO agrees with this statement.

Comment 11

Similar to local RA replacement by a system RA resource in planned outages, CAISO should allow replacement of flexible RA by generic RA resources, at its discretion, based on a reliability assessment.

ISO Response

Thank you for your input.

Comment 12

A tariff language correction would be needed in current tariff section: 40.6.4.3.2 to incorporate a participating load that can provide A/S non-spin in the IFM to meet it RA requirement. An excerpt from CDWR-SWP's previous comments:

"There is a third category of resource (described in section 40.6.4.3.2) that exists today which is use limited hydro non-dispatchable resource for which MOO is a bit different from slides 21-22 (shown under the tariff section below). This third category of resource includes Hydro Generating Unit and Pumping Load (Participating Load).

As described above, CDWR believes that the MOO hours for Participating Load should be made consistent with the MOO hours for Proxy Demand Resources as described in 6 above. Moreover, the MOO for Participating Load should be clarified and made consistent with the Participating Load Agreement. Pursuant to the recent restatement of the CDWR Participating Load Agreement (PLA), Participating Load can provide only non-spin (no energy) in the IFM to satisfy resource adequacy obligation because of the model limitation and energy bid in the real time. Therefore, the MOO requirement for this resource should reflect this specific provision. Additionally, the Participating Load (pumping load) and hydro resources MOO should reflect the fact that ULRs are not subject to ancillary services (A/S) MOO, in contrast to the non-ULRs which are subject to A/S MOO also.

Moreover, the current MOO requires Pumping Loads (participating load) to bid or self-schedule "for their expected available Energy or their expected as-available Energy." (Tariff § 40.6.4.3.2). The difference between "available Energy" and "as-available Energy" should be clarified or the terms should be defined as they relate to MOO.

Finally, CDWR's understanding is that a Pumping Load would be unable to provide supply without being a Participating Load with a Participating Load Agreement (PLA) with ISO, which implies that a Pumping Load must be a Participating Load. Pumping Load is defined as "A hydro pumping resource that is capable of responding to Dispatch Instructions by ceasing to pump". Participating Load is defined as "An entity, including an entity with Pumping Load or Aggregated Participating Load (PLA), providing Curtailable Demand, which has undertaken in

writing by execution of a Participating Load Agreement to comply with all applicable provisions of the CAISO Tariff". Tariff section 30.5.2.3 indicates Participating Load includes a Pumping Load. Pumping Load representing a Participating Load in the section 40.6.4.3.2 would also require inclusion of its ability to provide only non-spin in the IFM (instead of expected available energy or expected as-available energy) as mentioned in the recently revised PLA with CDWR".

ISO Response

Thank you bringing this to our attention. Legal will review this and incorporate as appropriate during the tariff drafting.

Company	Date	Submitted By
California Department of Water Resources – Working Group Meeting	9/24/14	Mohan Niroula California Department of Water Resources 916-574-0712 Mohan.niroula@water.ca.gov

Comment 1

1) CDWR-SWP appreciates the CAISO effort in making changes to simplify the complex replacement and substitution requirements.

ISO Response

Thank you for your comment.

Comment 2

2) “Operationally Available” meaning should be limited to a generating unit’s capacity not on a “planned outage” or “forced outage” if known at the time of RA capacity commitment.

ISO Response

Thank you for your input.

Comment 3

3) ISO should clarify instances how outages beyond the control of a generating resource such as transmission outages would impact replacement requirements.

ISO Response

Planned transmission outages and planned generation outages are looked at as a group and are approved on a first come, first served basis. The ISO has a list of proposed exempt outages in Section 6.9.

Comment 4

4) CDWR-SWP supports the idea that LSEs should be able to bring designated resource between T-45 and T-11. This would provide LSE more flexibility in designating resources prior to the actual compliance month

ISO Response

Thank you for your input.

Comment 5

5) CDWR-SWP supports the proposal to allow a system RA resource to replace or substitute a local resource if the local resource is designated as a system RA resource. CDWR-SWP believes, however, that such local resources designated as system RA resources should be counted towards satisfying CAISO local collective deficiency check. A local resource contributes to local capacity regardless of whether the resource is designated as local or system RA. If CAISO only counts local RA resources towards the local collective deficiency check, it might find a deficiency even if there are sufficient resources available to meet the local need, just because some of those resources happen to be designated as system RA. Therefore, local collective deficiency check should include all local capacity irrespective of local or system designation.

ISO Response

Thank you for your input, the ISO has delayed the consideration of local replacement by a system resource until phase two.

Comment 6

6) CDWR-SWP supports revisiting the “same bus” requirement for real time substitution of a local RA resource. ISO should be flexible enough to allow substitution by the same local area resource in real time also, or system resource if such substitution improves the grid reliability.

ISO Response

The ISO has proposed relaxing this standard and this is described in section 10.3.

Comment 7

7) CDWR-SWP supports the proposal that the resource for replacement or substitution should be released once the outage is cancelled or moved.

ISO Response

Thank you for your input.

Comment 8

8) Proposal on outage timeline and responsibilities: The ISO proposes to assess backstop requirement at T-30, execute backstop by T-25, and lock down the monthly RA plan at T-25. There will be no backstop procurement for outages after T-25. If a capacity resource without substitution has a forced outage or a denied planned outage request after T-25, it will be subject to availability incentive mechanism (AIM) penalty. Substitution after T-25 falls into supplier’s responsibility. It may reduce the complexity of existing replacement requirement. CDWR-SWP is concerned that suppliers may choose not to provide substitute capacity if the price of substitute capacity procurement is higher than the AIM price. If suppliers do not make substitutions for planned outage and forced outages after T-20, there is a risk that ISO will fall short of capacity requirements and could be forced to resort to exceptional dispatches thereby

causing higher costs to all market participants including those who did not cause shortfall in capacity. Therefore, CDWR-SWP urges CAISO to consider the impact of not having a backstop mechanism after T-20, and clarify what steps it will take in those situations to address capacity shortfalls for reliability. Moreover, allowing suppliers to provide non-specified replacements after T-20 would provide suppliers more flexibility.

ISO Response

Thank you for your input. The ISO believes that it can manage reliability under the tools in place today. Under current practice, if a resource wants to take an outage and the request is denied, a resource may still go on forced outage. Because this outage would occur after the replacement CPM deficiency check, today the ISO would only be able to CPM resources under the Exceptional Dispatch CPM or Significant Event CPM, and not the Replacement Requirement CPM. In this situation additionally, if the resource did not reclassify the outage as a forced outage the resource would not be subject to any SCP mechanism penalties. Under the ISO's proposal, the ISO could subject this resource to the AIM penalty and still be able to use the CPM, if needed. Therefore, maintaining the Replacement Requirement CPM will not enhance reliability.

Closing Comment

Apart from these comments, CDWR-SWP maintains its position on the comments submitted earlier on revised straw proposal.

Company	Date	Submitted By
California Energy Storage Alliance	9/8/14	Chris Edgette 510.665.7811 x102 cedgette@storagealliance.o

Default Energy Bid Methodology for Non Generator Resources

CESA recognizes that the DEB construct may be problematic for Non-Generator Resources (NGRs). For many energy storage resources, the appropriate cost of discharge energy will be based upon multiple factors, including: previous charging energy cost, round trip efficiency, cycle cost of the energy storage technology, and opportunity cost based upon likely future charge and discharge prices.

Similarly, charging energy bids for an energy storage resource should take into account factors that include: previous discharge energy price, round trip efficiency, cycle cost of the energy storage technology, and opportunity cost based upon likely future discharge and charge prices. Due to the complexity of bidding an energy storage resource, CESA recognizes that calculating a DEB for energy storage will be challenging, and may require taking into account factors that are not currently accounted for in the existing DEB methodology.

CESA understands that DEBs are employed in two scenarios: (a) bid insertion when the Scheduling Coordinator has not included a bid during a Must Offer time period and (b) in situations where a resource is determined to have market power.

Given that energy storage resources are unlikely to have market power in the near term, and that appropriately bidding energy storage resources is complex, CESA proposes a temporary strategy. In this strategy, NGRs would negotiate a reasonably appropriate DEB, as is done today with with Potomac Electric Power Company. Additionally, Scheduling Coordinators for energy storage resources should be encouraged to economically bid into all must offer obligation segments to maximize the value of each resource.

This possible strategy is not perfect, as negotiated DEBs will not account for all of the above factors. However, if: (a) SCs provide economic bids in accordance with the offer obligation of their resources and (b) energy storage resources do not have market power – the DEB would not be required to be used.

CESA asks the CAISO to consider a future DEB structure that could account for the actual charging and discharging costs of an energy storage resource, but believes that the issue could generally be dealt with in the near term by means the temporary solution proposed above.

ISO Response

The ISO appreciates this suggestion. Based on a review of these comment and a further review of the available means for determining the default energy bids, the ISO has determined that the three options available (price-taker, LMP based, or negotiated bids) can be applied to non-generator resources.

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Company	Date	Submitted By
California Large Energy Consumers Association (CLECA)	9/5/14	

Opening Comments

The California Large Energy Consumers Association (CLECA) provides these comments on the California Independent System Operator's (CAISO's) Second Reliability Services Initiative (RSI) Straw Proposal (Proposal), dated August 11, 2014. CLECA's comments on the Proposal focus on how it applies to demand response (DR), many aspects of which are unclear in the current draft.

Based on a conversation with Carrie Bentley, CLECA recommends that the next version of the Proposal explicitly clarify the following points:

- ✓ That PDR will not be treated as non-hydro and dispatchable use-limited resource per pages 67-68; rather, specific proposed provisions applicable to PDR will be included in the text and Appendix A in the next version.
- ✓ Whether the 5 peak hours during which the AIM offer requirement applies will be the same hours for the entire year or not;
- ✓ That upon reaching the use limit of 24 hours per month (i.e. through dispatch), an outage card can be submitted and the PDR resource would have met its must offer obligation and be exempt from the AIM for the rest of the month. An outage card can also be submitted for one day if the PDR resource has reached its limit of being dispatched 4 hours for 3 days.
- ✓ Where part of a resource can be dispatched more than 24 hours per month and another part cannot, it may be possible to put in a derate, but the derate mechanism must be developed, with appropriate consideration of baseline calculation issues;
- ✓ That PDR will not qualify for RUC, since RUC is a unit commitment tool with no Pmin; and
- ✓ That PDR resources have no market power and can offer at the price cap without mitigation.

These requested clarifications are each discussed briefly below.

ISO Response

The ISO has proved additional clarity on the treatment of Proxy Demand Resources, including specific treatment regarding RUC bidding requirements. Further, as requested, the ISO has

provided this in a breakout comparable to the table provided in appendix A

Whether the 5 peak hours during which the AIM offer requirement applies will be the same hours for the entire year or not;

Yes, these hours are consistent through the year and can be found in the Reliability Requirements BPM section 8.3.

That upon reaching the use limit of 24 hours per month (i.e. through dispatch), an outage card can be submitted and the PDR resource would have met its must offer obligation and be exempt from the AIM for the rest of the month. An outage card can also be submitted for one day if the PDR resource has reached its limit of being dispatched 4 hours for 3 days.

Yes, the outage card will be called “non-environmental use-limit reached”

Where part of a resource can be dispatched more than 24 hours per month and another part cannot, it may be possible to put in a derate, but the derate mechanism must be developed, with appropriate consideration of baseline calculation issues;

Yes, correct.

PDR will NOT be treated as a non-hydro and dispatchable use-limited resource per pages 67-68. A future Proposal should include specific provisions for PDR in the text and in the table in Appendix A.

The relationship between availability and must offer requirements (AIM and MOO) is somewhat confusing. This is CLECA’s understanding of the two obligations. If this is wrong, we request clarification in the next straw proposal.

ISO Response

Thank you for requesting clarification. Please let us know if further information is needed.

Availability:

PDR will be subject to the AIM. It will have to offer into the market at least during the 5 peak

hours. It is unclear if these will be the same 5 hours for the entire year. Please clarify. Since the maximum use for PDR for system RA is 4 hours a day, the CAISO's optimization would select the best 4 hours. Since some PDR cannot start and stop without negative customer impacts, a minimum run time of 4 hours can be set. The AIM availability percentage (compared to 96.5%) is based on the amount of MW shown for RA value for eligible days of the month, subject to the use limitations. If the full PDR resource is bid in for the full 24 hours per month determining its QC, it would be considered fully available. Of course, if possible, it can be bid in for more hours.

ISO Response

Yes, these hours are consistent through the year and can be found in the Reliability Requirements BPM section 8.3.

Yes, the CAISO's optimization will select the best 4 hours and a minimum run time of 4 hours may be established.

No, the resource must offer-into the market for at least the 5 assessment hours (for system/local RA) to be considered fully available. (The resource may offer into the energy market for more hours.)The resource must have the ability to be dispatched for 24 hours, but this dispatchability is not assessed under the AIM.

Must-Offer Obligation:

PDR will not initially have a Use Plan, although the CAISO may require one in the future. A PDR resource's monthly use limitation would be 24 hours per month. Since a monthly use limitation is not reflected in the Master File, once the use limit of 24 hours per month is reached (i.e. through dispatch), an outage card can be submitted and then the resource would have met its must offer obligation. It would also be exempt from the AIM for the rest of the month. An outage card can also be submitted for one day if the resource has reached its limit of being dispatched 4 hours for 3 days. This would also have no negative impact on availability for the AIM, although the resource would still have to be dispatched at least 24 hours in that month before submitting a monthly use limitation outage card.

If part of a resource can be dispatched more than 24 hours per month and another part cannot, it may be possible to put in a derate, but only if the base amount is determined in advance. Otherwise there would be a problem with the baseline calculations. The mechanism for a derate would have to be developed. The remaining resource once derated would still have to

meet the 100 kW size limitation.

PDR will not participate in RUC since RUC is a unit commitment tool and it has no Pmin. Please clarify that this is the case. There would be no penalty for not bidding into the real-time market unless the PDR is providing flexible RA.

PDR would have no limitation on the price at which it is offered and could offer at the price cap. It is not subject to market power mitigation.

ISO Response

Yes, the ISO confirms the above related to outage cards and partial RA resources. The ISO likely will require a use-plan and this is being discussed in the Commitment Costs Enhancements initiative.

The ISO has provided additional detail on Proxy Demand Resource resources participation RUC as part of the second revised straw proposal.

The ISO is not proposing any changes to the Proxy Demand Resource bidding or market power mitigation rules.

Company	Date	Submitted By
California Public Utilities Commission	9/8/2014	Michele Kito Jaime Gannon Joanna Gubman Donald Brooks

Part I. Eligibility Criteria and Must-Offer Rules

With respect to eligibility criteria, the CAISO refers to both “**default** qualifying capacity provisions, including availability and eligibility criteria requirements” (see p. 10, emphasis added) and “**minimum** eligibility criteria for system, local and flexible resource adequacy (RA) capacity” (emphasis added, p. 6). Consistent with the CAISO tariff (Section 40.8), it is Energy Division staffs’ understanding that the CAISO here is referring to **default** criteria to be applied only where the CPUC or other Local Regulatory Agency has not established its own minimum

eligibility requirements and, thus, references to “minimum” eligibility criteria should be replaced in all instances with “default” eligibility criteria.

In addition, it would be helpful to clarify the 0.5 MW requirement for distributed generation resources. CAISO states that “this requires the resource be at least 0.5 MW,” but also states that “individual distributed generation facilities may not exceed the minimum 0.5 MW.” It is unclear if this is a minimum or a maximum requirement.

The CAISO indicates that it intends to reevaluate the MCC buckets, beginning with an evaluation of subset of hour contracts, but the overall scope of this effort is unclear. Energy Division staff look forward to providing additional comments when the study method is more fully developed and hopes to work jointly with the CAISO on this effort.

ISO Response

The ISO is proposing amendments to section 40.8 of the tariff. This section specifically addresses default qualifying capacity rules. Some of these rules also have minimum availability requirements. For example, Proxy Demand Resources would be required to be available for a minimum number of dispatches and duration for each dispatch. These requirements remain under the default qualifying capacity rules and apply only in instances when the LRA does not have its own counting rules.

The ISO has provided clarity regarding the 0.5 MW requirement for distributed resources.

The ISO looks forward to working closely with the CPUC on any assessment of the MCC buckets.

Part II. Availability Incentive Mechanism

CAISO proposes to revamp its incentive program (the current SCP availability mechanism) to include flexible resources and address other issues that it has identified. The CAISO is

proposing to move its incentive mechanism from one that focuses on forced outages to one based on bidding behavior (for flexible capacity) and availability (for system and local capacity), to change the target to 96.5% availability on a monthly basis and the band around the target from 2.5% to 2%, and to use an incentive price of \$3.5/kW-month (\$42/kW-year), rather than current CPM price of \$70.88/kW-year, or \$5.90/kW-month.

At this time, the CPUC staff have no position on this proposal, but note several concerns, including a potential mismatch between RA payments and RA penalties/incentives that will differ by month and a potential mismatch between the CPM price and RA penalties/incentives. Additionally, staff are concerned about the potential complexity of the proposal given that the magnitude of the problem (i.e., performance of flexible capacity RA resources) is still unknown.

ISO Response

Thank you for your comments.

Part III. Replacement and Substitution

The CAISO proposes, among other provisions, to place the replacement obligation on generators and to revise the Resource Adequacy compliance timeline. ED staff appreciate the CAISO's efforts to align this process with the CPUC process and to delay implementation of this proposal until the 2017 or 2018 compliance year. Given this schedule, however, it would be helpful to understand the timeframe the CAISO is proposing for adoption of the rules governing its proposed changes. If these changes are contemplated for the 2017 or 2018 compliance years, should these proposals be considered by the Board for approval in Q1 2015 or at a later date when more fully developed?

In addition, the CAISO proposes that the CPUC complete its RA compliance process in 10 days, with receipt of supply plans from the CAISO at T-40 and completion of its validation process at T-30. First, ED staff note this process will work to the extent that the CPUC receives supply plans from CAISO on a date certain (i.e., T-40) but that this regularity has not been achieved in practice. Second, Energy Division staff are somewhat concerned that the compressed timeframe could lead to unnecessary use of the capacity procurement mechanism, and undue costs to ratepayers, for issues/deficiencies that could have been resolved with

additional time.

Finally, it would be helpful if the CAISO could clarify additional details in its straw proposals. For example, does an LSE still have an obligation to replace resources it knows will be on outage at T-45, or will this responsibility always fall on the generator, regardless of the timeframe (in other words, can LSEs show resources on their plans that they know will be on a planned outage)? In assessing replacement requirements in the timeframe after T-45, will the CAISO use current forecasted system conditions rather than the CEC 1 in10 forecast for local and/or the 1 in 2 forecast for system? If a resource wishes to take a planned outage during a summer peak month but that request is denied, is the availability incentive mechanism (set at \$3.5/kW-month) sufficient to deter the resource from going offline regardless, as a forced outage, if the resource is contracted for a higher amount?

ISO Response

The ISO has tried to clarify the timeline of BOG approval and FERC filing in the 10/29/14 presentation, but as noted in the meeting, timing is still in a state of flux. We do plan to take the 2017 outage proposal to the BOG in Q1 2015, but may delay the FERC filing until late 2015 or Q1 2016.

The obligation to coordinate replacement capacity under the 2017 outage rules will always fall on the supplier. The ISO will use the same forecast as the monthly RA process (CEC 1 in10 forecast for local and/or the 1 in 2 forecast for system) in all processes.

Under current practice, if a resource wants to take an outage during a summer peak month and the request is denied, a resource may still go on forced outage. Because this outage would occur after the replacement CPM deficiency check, today the ISO would only be able to CPM resources under the Exceptional Dispatch CPM or Significant Event CPM. In this situation additionally, if the resource did not reclassify the outage as a forced outage the resource would not be subject to any SCP mechanism penalties. Under the ISO's proposal, the ISO could subject this resource to the AIM penalty and still be able to use the CPM, if needed. Therefore the ISO expects that the added penalty will help deter any false forced outage reporting.

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Company	Date	Submitted By
Calpine	9/5/14	Matt Barmack Director, Market & Regulatory Analysis Calpine Corp. 925-557-2267 barmackm@calpine.com

Opening Comment

Calpine appreciates the opportunity to comment on the revised straw proposal. Calpine's comments focus on the availability incentive mechanism and revised rules for replacement and substitution. Calpine believes that the proposed single availability assessment for both system and flexible capacity is overly complex and lacks a clear analytic justification. Calpine believes that the CAISO should assess and reward the availability of system and flexible RA separately. Calpine strongly supports the significant streamlining of replacement and substitution rules in the proposal.

Availability Incentive Mechanism

The CAISO proposal has three main elements: (1) The CAISO will use whether a resource was bid or scheduled to determine availability, rather than whether or not a resource is on a forced outage; (2) The CAISO will assess availability relative to a fixed target rather than a target that is updated to reflect the historic availability of the RA fleet; (3) The CAISO will calculate a single measure of availability for each resource that reflects its compliance with both the generic and/or flexible must offer obligations. Availability will be rewarded based on a single price applied to this single availability metric.

Calpine is not opposed to the first two elements of the proposal, but Calpine does not support the third element, i.e., assessing the availability of both flexible and generic RA using a single combined metric and providing a single availability incentive payment for both generic and flexible capacity. Ideally, penalties should be related to the cost of replacement capacity. If penalties are below the cost of replacement capacity, suppliers may prefer not to replace rather

than comply with the relevant must-offer. If penalties are above the price of replacement capacity, then penalties will artificially inflate RA prices to reflect the risk of incurring penalties. By combining the availability assessments of both flexible and generic RA into a single assessment, suppliers do not necessarily face penalties reflecting replacement cost. For example, a supplier's exposure to penalties might be no greater than the single penalty price regardless of whether it has sold flexible RA alone, generic RA alone, or both flexible and generic RA.

Calpine believes that the CAISO should calculate and reward flexibility separately for generic and flexible RA capacity. The CAISO's primary justification for a single availability metric and incentive payment is that separate metrics and incentive payments might lead to "double the availability incentive risk compared to a generic resource" for a flexible resource that is forced out and hence can comply with neither the generic nor the flexible must-offer obligation. Resources only would be subject to "double" the availability incentive risk in specific circumstances, for example, if each hour of availability had the same weight in each separate availability calculation and the prices used to calculate incentive payments also were the same. This would not be case if, for example, the availability for flexible RA were calculated over many more hours and/or incentive payments for flexible RA were calculated using a lower price.

Calpine does not find persuasive the CAISO's arguments in Appendix B of the proposal against separate availability incentives for flexible and system RA. For example, the CAISO argues that using a low price to calculate availability incentive payments for flexible capacity would "undervalue flexible capacity." In fact, the limited information available about flexible capacity suggest that it is not particularly valuable and can be procured and replaced cheaply—although the pricing will be influenced by whatever availability incentive mechanism is adopted, e.g., high potential penalties could lead to higher prices. In addition, the CAISO argues that a low penalty price would provide insufficient incentives to comply with the flexible RA must-offer obligation. In fact, suppliers have additional incentives, beyond any availability incentive payments, to offer economic bids in CAISO markets and hence comply with the flexible RA must-offer obligation including better opportunities to exploit differences between day-ahead and real-time prices and earn bid-cost recovery compensation. In light of these additional incentives, it is unclear that high penalties are necessary to encourage compliance with the flexible RA must-offer obligation.

ISO Response

Thank you for your input. Ultimately the ISO believes that there is no transparent differentiation between flexible and generic RA capacity prices at this time. Therefore, rather than devise a complex and arbitrary set of differentiated penalties, we propose a single penalty, and propose to let the energy markets differentially reward flexible and generic generation. Appendix B was simply meant to illustrate the difficulties and potential repercussions in arbitrarily picking a flexible and generic value.

Replacement and Substitution

Calpine strongly supports the CAISO's proposed changes to replacement and substitution rules, which would greatly simplify replacement and substitution by allowing most planned outages to be coordinated between suppliers and the CAISO without involving LSEs.

With respect to the details of the proposal, section 9.2.5 of the proposal specifies, "If the capacity substituted in is at a higher quality than the original capacity on outage, the substitute capacity must still comply with the higher category must-offer requirements." Calpine requests clarification that for substituted capacity, there is no obligation for it to satisfy the must-offer obligation for the highest flexible category for which it is physically eligible, e.g., if a resource that is capable of providing category 1 flexible RA is used to substitute for category 2 flexible RA that the SC for the substituted resources could choose to subject the substitute resource to the less onerous category 2 must-offer obligation.

Calpine particularly supports the changes to local substitution rules proposed in section 10.3.6. Calpine regularly sells capacity from resources in local areas as system RA and has had longstanding concerns about onerous requirements to replace such resources with local resources even when they have been sold as local.

ISO Response

The ISO has clarified the category proposal in section 9.2. The ISO clarifies that there is no obligation for a substitute resource to satisfy the highest flexible category for which it is

physically able. Rather, a resource must satisfy the highest flexible category must-offer requirement for which it is shown to the ISO. For example, if a 100 MW is shown on a monthly plan as 50 MW of flexible RA in category one and then within the month substitutes for a resource on outage in category two for 25 MW, the resource must fulfill the entire RA amount (75 MW) as a category one resource. The ISO does not want to get into multiple categories on a single day on a single resource because this increases the complexity immensely from a tracking perspective.

Company	Date	Submitted By
Large-Scale Solar	9/5/14	Rachel Gold and Susan Schneider
Opening Comments		
<p>The Large-scale Solar Association (LSA) hereby submits these comments on the August 11, 2014 document, “Reliability Services – Revised Straw Proposal” (Proposal). The Proposal was discussed at an August 18th stakeholder meeting. LSA’s comments address the Proposal provision that would apparently exempt wind and solar resources not providing “flexible RA” capacity from the proposed Availability Incentive Mechanism (AIM) (Proposal, p.37).</p> <p>LSA supports these Proposal provisions generally and appreciates the CAISO’s recognition of the strong incentives contained in Power Purchase Agreements (PPAs) for high availability levels. However, LSA requests clarification on the following points, which are described in detail below.</p> <ul style="list-style-type: none"> - The Proposal provision exempting wind/solar “system RA” resources is intended to apply to all resources providing “generic” (non-flexible) RA based on the discussion in the Proposal, i.e., that the exemption would also apply to wind/solar resources providing non-flexible Local RA capacity. - Wind/solar resources providing flexible capacity would only be subject to the applicable AIM in the relevant Must-Offer Obligation (MOO) hours for their flexibility category, i.e., those resources would also be exempt from the AIM in hours where MOOs might apply for RA but flexible-capacity MOOs do not. 		

In addition, the CAISO may need to review its treatment of opportunity costs in the market optimization to account for future changes in the supply market, as explained further below.

Summary of relevant Proposal provisions regarding AIM exemptions

The Proposal would exempt wind and solar resources providing “system RA” from the proposed Availability Incentive Mechanism. This exemption would be based on two factors:

- These resources are already incented to be highly available. “Wind and solar resources’ output influences their QC [Qualifying Capacity]. Therefore, wind and solar resources are already incented to perform during their must-offer hours.”
- Applying the proposed mechanism to these resources would be unfair to other RA Resources. “...The only way to assess wind and solar under the proposed methodology is to use the resources forecast as a baseline for comparison,” and if these resource “perform up to a forecasted amount that is less than their RA amount; they could be taking away payments from resources that are in fact performing up to their RA amount.”

Wind and solar resources providing flexible RA would not be exempted, “because their EFC and NQC is not inherently tied to whether the resources economically bid as opposed to self-schedule.” These resources would be expected to “bid up to a specified forecast and be dispatched downward.” Where these resources “have output dependent on a dynamic forecast,” the CAISO would “measure flexible RA availability using economic bids at CAISO- or the scheduling coordinator- provided forecast to assess availability.”

The current RA Standard Capacity Product (SCP) availability-reporting mechanism would terminate when the AIM becomes effective (August 18th meeting slide no. 39), as would the current grandfathering provision exempting resources having Power-Purchase Agreements (PPAs) executed before August 2010 from that mechanism.

ISO Response

Yes this is correct, the ISO is proposing to exempt wind and solar that is shown as local or system RA. New grandfathering provisions are proposed in section 6.13. The ISO seeks input on these new provisions.

LSA comments – AIM exemptions

LSA fully supports the proposed AIM exemption in the Proposal for wind and solar resources not providing flexible RA, and the termination of the current RA SCP mechanism and associated grandfathering provisions once the AIM is implemented.

LSA also understands and does not oppose the CAISO's proposed applicability of the AIM to wind/solar resources providing flexible capacity. However, as noted above, LSA requests that the CAISO clarify that the AIM would only apply in the hours when the flexible-capacity MOO is in effect.

LSA has stated many times (e.g., in the stakeholder process that established the RA-SCP mechanism) that there are significant incentives for high availability under the current structure that additional mechanisms are unnecessary. These incentives apply equally to wind/solar resources providing System or Local RA (hence, the first clarification requested above). Aside from the NQC incentives cited in the Proposal, virtually all PPAs for wind/solar resources provide payments only for energy produced, i.e., there is no capacity payment and all PPA revenues are completely dependent on maximum equipment availability and production. Moreover, these PPAs contain multipliers that provide for higher payments (and thus even greater availability/production incentives) during hours that are designed to be highly correlated with system needs.

These PPA provisions provide much greater monetary incentives than any RA SCP or AIM for the high availability and production levels that the CAISO seeks from wind and solar resources during critical system periods. In fact, no evidence has been offered to date that resources exempt from the current RA SCP mechanism have any lower availability or production levels than those that are not exempt, and LSA does not believe that further investigation would yield

such evidence.

In other words, LSA does not believe that the current mechanism has (or would have) any impact on wind and solar availability or production in high-need hours. These mechanisms only add unnecessary complexity to the PPA process, and risk to suppliers, with no corresponding benefit.

LSA agrees with the Proposal that there would be no further need for grandfathering provisions regarding the RA SCP mechanism once that mechanism expires.

ISO Response

The ISO clarifies that AIM will only apply to flexible MOO hours. Thank you for your comments on wind and solar resource exemptions from the generic MOO.

LSA comments – opportunity costs in market optimization

Section 6.13 of the Proposal states as follows:

Use-limited resources can have daily or monthly limitations. Daily limitations, MWh or other limitations, can be accounted for in the optimization and should not lead to the need for special treatment under the availability incentive mechanism. On the other hand, the ISO's market optimization cannot account for monthly limitations. To address this deficiency, the ISO will allow resources to include opportunity cost in their minimum load and start-up costs. (Resources can already include opportunity costs in default energy bids.) This functionality was initially included in the commitment cost enhancements initiative and will be completed in a separate initiative. The opportunity cost functionality will be implemented prior to or at the same time the availability incentive mechanism becomes effective.

Some use-limited resources that do not have calculable opportunity costs may be exempted from the availability incentive mechanism. Any exceptions will be determined through a review of use plans. The ISO seeks stakeholder feedback on the types of use-limitations that may require an exemption from the availability incentive mechanism.

LSA recommends that the CAISO investigate this issue further before concluding that the

current daily market optimization can address all forms of opportunity costs for Use-Limited Resources in the future, especially less-traditional, more complex configurations that may arise – e.g., coupling of solar generation and storage. These facilities may have different kinds of opportunity costs than existing, more traditional generators; some of these new opportunity costs may be recognized in the current daily optimization, but others may not.

LSA also supports allowing inclusion of opportunity costs in start-up and minimum-load bids, and consideration of other ways of recognizing opportunity costs outside the daily market optimization.

ISO Response

Thank you for this input. It has also been passed along to the lead of the Commitment Cost Enhancements initiative, which is addressing these issues related to daily use-limitations.

In order to account for certain daily limitations that cannot be tracked, the ISO will allow resources to put in outage cards that will exempt the resource from the AIM in the event a use-limited resource reaches an outage that the ISO daily optimization cannot account for. This is discussed in section 6.10.

Company	Date	Submitted By
EnerNOC	9/5/14	Melanie Gillette Director, Western Regulatory Affairs EnerNOC, Inc. mgillette@enernoc.com

Opening Comments

EnerNOC, Inc. (EnerNOC) appreciates the opportunity to comment on the California Independent System Operator’s (CAISO’s) Reliability Services Revised Straw Proposal, dated August 11, 2014. EnerNOC’s comments are primarily an attempt to clarify our understanding of how the proposal applies to demand response (DR). We appreciate the willingness of CAISO staff to address some of these points in recent conversations, and we look forward to seeing the clarification on these points in the next version of the RSI Proposal.

Minimum Eligibility Criteria

CAISO's proposal in Section 4.4 is to modify the existing default qualifying capacity provisions for Proxy Demand Resources (PDR) to more closely align the requirements with CPUC requirements. CAISO's proposal for minimum availability requirements is: 1) at least 24 hours per month; 2) at least three consecutive days, and 3) at least four hours per dispatch. The proposed eligibility criteria align with the CPUC's minimum requirements for DR to qualify for resource adequacy (RA), which we believe is appropriate. It would be helpful, however, to clarify how the RSI eligibility criteria, which are annual, fit into the RA requirements which are designed to meet peak demand.

The 24 hour per month limitation for DR for system and local is based on DR meeting 5% of the total resource needs for May through September. If CAISO's proposal is annual, does that create a disconnect between the two requirements?

In addition, for RA, the 4 hours per dispatch and 3 consecutive days are tied. So under RSI, if the resource is dispatched for less than 4 hours at a time or fewer than 3 consecutive days, it may still meet the requirement of 24 hours per month without meeting the other two requirements. Please clarify how that is addressed for DR in the RSI proposal.

ISO Response

The RSI's eligibility criteria are monthly. Each month a resource at a minimum must 1) be able to be dispatched at least 24 hours per month; 2) be dispatched for at least three consecutive days, and 3) be dispatched for a minimum of four hours per dispatch. In order to sell PDR over the entire year, a resource must be able to meet these requirements each month. Therefore, ISO's proposal will not create a disconnect between the proposed Proxy Demand Resource eligibility criteria and the RA requirement. Ultimately, it is up to the SC for the resource to determine how much capacity it sells regardless of the season. However, once that resource sells that capacity, it must be prepared to provide it for whatever month the resource is shown as RA capacity.

A PDR RA resource must meet all three criteria to be eligible to qualify as an RA resource. The resource may not end up being used up to the minimum eligibility requirements. The ISO only

requires that the resource be capable of meeting these requirements, not that the resource ensures the ISO's optimization fully uses the resources to the extent possible.

Availability Incentive Mechanism

Section 5.2 maintains the position that it is not necessary to modify the PDR must offer obligation since the proposed availability incentive mechanism (AIM) is expected to provide adequate incentives for PDR to be available in a manner comparable to other use-limited resources. Given that premise, it is critical that we fully understand how AIM applies specifically to PDR.

EnerNOC appreciates that CAISO is not proposing to hold all generic resources accountable to a 24-hour bidding availability check for this phase of the initiative. Certain resources, including DR, are not available or under contract 24 hours each day, and it would not make sense to require them to be bid in for every hour of the day. We support CAISO's proposal to maintain the five-hour methodology used in the current Standard Capacity Product assessment hours. However, it would be helpful if those hours were clearly defined in the next version of the RSI Proposal since not all resources are currently subject to SCP. For RA the five hours are 1-6 pm, but for flexible capacity the hours change by season. How will this work for RSI? Are the hours static or do they change seasonally?

EnerNOC's understanding of the AIM methodology is that the bid-based metric would count a resource as fully available if it bids in during the appropriate hours. For system and local RA, this is defined as the expected 5 peak hours per day; for flexible RA, this is defined by the resource category. EnerNOC supports this proposal. EnerNOC also finds it reasonable to accommodate use-limited resources with hourly and monthly limitations. It is our understanding that the hourly limit on DR is automatically respected by the CAISO optimization, so the resource does not need to adjust its bidding. If a DR resource has a maximum dispatch of four hours, it could still bid into the CAISO energy market day-ahead for all 24 hours, and CAISO would only schedule the resource for a maximum of 4 hours. This seems very reasonable. EnerNOC also appreciates the recent clarification that PDR can submit a minimum run time of four hours to ensure that it is only dispatched during contiguous hours.

It is also our understanding that PDR will not initially have a Use Plan, and since a monthly use limitation is not reflected in CAISO's Master File, once the 24 hour per month use limit is reached, an outage card can be submitted. At this point the resource is considered to have met its monthly must-offer obligation and is exempt from AIM for the rest of the month. It is also our understanding that an outage card can be submitted for one day if the resource has been dispatched for four hours for three consecutive days. This does not negatively impact AIM availability, however the resource would need to resume bidding in to the market until it has been dispatched for at least 24 hours in the month before submitting a monthly use limitation outage card.

EnerNOC appreciates the recent clarification that the AIM proposal does allow for a portion of the DR resource to bid beyond the monthly use limitation, so long as that portion meets the minimum threshold of 100 kW. This would require the resource to put in a derate, and we look forward to additional information on that mechanism in the next draft of the Proposal. We understand CAISO's concern that the base amount would need to be determined in advance so as to not cause a problem with the baseline calculation.

It would be helpful to have additional clarification on the AIM monthly availability assessment percentage calculation. We appreciate that a resource can be above or below the standard percentage of 96.5% in any individual hour or day without incurring a charge or payment since this is a monthly MW-weighted average percentage. And availability will be assessed only during availability incentive hours. So if PDR bids in to meet the 5 peak hours per weekday requirement, it is considered 100 percent available. Additionally, if the resource is dispatched for 24 hours in any month, the resource is exempt from offering into the day-ahead market and is considered 100 percent available. If the average monthly availability is greater than the threshold value, the resource would be eligible to receive a pro-rata share of any penalties assessed in the month. Conversely, if the average monthly availability is less than the threshold value, the resource will be penalized. To calculate this penalty, CAISO will subtract the average monthly available MW from the threshold value and charge the scheduling coordinator the difference multiplied by \$3.5. Please clarify whether this understanding is correct, and also clarify whether the incentive and penalty are based on dispatch or availability. For example, PDR meets its availability requirement if it bids in for the 5 peak hours per weekday or is dispatched for 24 hours in a given month. However bidding in for 5 peak hours per weekday is

110 hours per month. Which metric will be used for determining the potential incentive or penalty?

ISO Response

The ISO confirms the above scenario and clarifies that the mechanism is based on the availability (bids) and not dispatch.

The one item the ISO is considering changing is the use-limited and use plan policy. New rules being discussed can be found in PRR 787 here: <http://bpmcm.caiso.com/Pages/default.aspx> Regardless of these changes, PRD will be able to put in an outage card “Non-environmental use-limit reached” after being dispatched for 24 hours. Please contact Carrie Bentley for additional details.

Appendix A

It would be helpful to have a specific line item in Figure 12 to provide the bidding requirements for PDR.

Thank you for the opportunity to provide these comments. We look forward to continuing to work with CAISO as this initiative moves forward.

ISO Response

The ISO has provided a specific breakout of Proxy Demand Resource as was provided in Appendix A.

Company	Date	Submitted By
Northern California Power Agency	9/10/14	

Additional Flexible Capacity Needs Allocation Issue

CAISO proposes in Section 4.6 of the Revised Proposal to add a new requirement that a load-following MSS LSE is required to make a showing of flexible capacity to CAISO for any flexible capacity requirement assigned to it that is directly attributed to a variable energy resource that is not contained in its load following MSS portfolio. NCPA does not object to this new requirement as a supplement to the FRAC-MOO tariff amendments, in order to provide that a load-following MSS will make a flexible capacity showing for any variability that is not already managed by the load-following MSS requirements. While NCPA does not currently have any variable energy

resources outside of its load-following MSS portfolio, NCPA understands and does not object to the concept.

ISO Response

The ISO appreciates NCPA's support on this and has included a more detailed proposal in the second revised straw proposal in section 4.6.

Availability Incentive Price

As described in Section 6.7 of the Revised Proposal, CAISO proposes to use \$3.5/kW-month as the availability incentive mechanism price. NCPA supports CAISO's proposed price. The price should be structured to strike a balance between providing an incentive for resources to perform routine maintenance in order to reduce the chance of unexpected outages, and not punishing resources that may experience very occasional unplanned outages in spite of good maintenance practices. The current SCP rate of \$70.88/kW-year is overly punitive. To take one example, NCPA has recently experienced a situation in which one of its resources experienced an unpreventable forced outage that lasted for approximately five (5) days. During the five (5) day forced outage period, the resource was penalized for SCP non-availability. In this instance, the profits earned by the resource for an entire monthly period were effectively wiped out due to an unpreventable five (5) day forced outage and the severity of the current SCP rate. This is not an equitable balance of risk and reward. While generators can and should take actions and make best efforts to perform maintenance in order to reduce the risk of unplanned outages, in the real world "stuff" happens. It is unrealistic to assume that a resource will never experience an unplanned outage, even if well-maintained. Therefore, NCPA strongly believes that the rate set by the CAISO should be structured to provide incentives to perform preventive maintenance, but not so high as to wipe out the benefit of the unit participating in the market for a given month when the reality is that units will occasionally experience outages despite best efforts to prevent them.

Regarding CAISO's question for how the rate should be adjusted over time, NCPA supports adjusting the rate based on actual market data, using information provided by the CPUC and other local regulatory authorities, to ensure the price set is consistent with current market prices. NCPA also supports developing an automated or formulaic approach for updating the price,

rather than reevaluating the price through a formal stakeholder process, if the price is to be updated frequently. This would improve the transparency and durability of the price, and will avoid having to open Pandora’s Box each and every time the price is reset.

ISO Response

Thank you for your example of how a high price may be overly punitive. The ISO proposes to review the price every three years using any available data on bilateral market transactions. The ISO is concerned that any automatic or formulaic approach might lead to escalating costs that make sense in the mid-term, but in the long-term end up unrealistically high.

Local Substitution Rules

As described in Section 9.2.4 of the Revised Proposal, the CAISO currently requires that local resources that become unavailable due to a forced outage can only be substituted with local resources located at the same electrical bus. While this concept may seem logical from an engineering perspective, in reality it is unlikely that there are many resources available for substitution that are in fact located at the same bus as a resource that experiences a forced outage; therefore this rule does not provide much benefit or flexibility for a resource to address the situation in which it experiences a forced outages. NCPA strongly supports CAISO’s effort to explore alternatives to this rule, including assessing whether the definition of a local resource for substitution can be expanded to include those resources that are capable of provide similar reliability benefits as the original resource, but are not required to be physically interconnected at the same bus.

ISO Response

Thank you, the ISO has proposed “compatible bus” criteria in section 10.3 that attempts to provide a compromise between reliability needs and generation realities.

Company	Date	Submitted By
NRG Energy	9/5/14	Brian Theaker
Measuring availability on a monthly basis.		

NRG supports and appreciates the CAISO returning to assessing availability on a monthly basis, rather than on a daily basis.

ISO Response

Thank you, we have kept the monthly assessment.

Requirement to submit an economic bid from flexible capacity.

In general, NRG supports discouraging self-scheduling and prefers that scheduling coordinators for resources submit economic bids to the CAISO's markets. Nevertheless, NRG believes that it is necessary at times to self-schedule certain resources to achieve certain outcomes (e.g., ensuring a gas burn or protecting resources from adverse settlements due to the resources being decremented from its day-ahead schedules), especially for resources that are represented as multi-stage generating (MSG) units. NRG does not oppose the CAISO implementing an availability incentive mechanism that would work for both generic/local and flexible resource adequacy capacity.

However, until CAISO market participants can find some other way to avoid adverse outcomes created by CAISO markets, requiring flexible capacity to submit an economic bid or be counted as unavailable and penalized accordingly will be a problem that likely will cause market participants to think twice about offering their flexible capacity as flexible capacity. Before the CAISO implements a mechanism that would have a unit submitting a self-schedule declared to be unavailable for that period, the CAISO should thoroughly evaluate what causes market participants to self-schedule generating resources and address the fundamental causes behind self-scheduling.

ISO Response

Thank you for your input. The ISO believes that there is sufficient capacity on the grid that does not need to frequently self-schedule. The flexible RA requirement is intended to ensure that the most reliably flexible resources are contracted as flexible RA and therefore not at risk-of-retirement. A penalty is necessary to ensure that resources unable to meet the flexible RA must-offer requirement to economically offer into the energy market do think twice about offering their capacity as flexible capacity.

The ISO does agree that the underlying cause of self-schedules needs to be continually addressed in order to ensure that resource characteristics and not market rules are causing self-scheduling.

Proposed penalty rate.

NRG supports decoupling the AIM penalty rate from the CPM price. NRG supports the CAISO's proposal to reduce the AIM penalty rate to \$3.50/kW-month, but also notes that the proposed \$3.50/kW-year still remains substantially above (several multiples of) NRG's estimate of the going price for system RA capacity.

The concerns raised by some parties that decoupling the AIM penalty rate from the CPM price would create an incentive for parties that have been given a CPM designation to simply quit bidding their units into the CAISO's markets and pocket the differential between the CPM rate and the AIM penalty are overstated. In any case, NRG would not object to penalizing a resource that has been given a CPM designation for non-availability at the CPM rate. However, NRG would object to an AIM penalty rate that is unduly higher than the going rate for RA contracting.

ISO Response

Thank you for your input and feedback on other participants' comments. The ISO continues to believe a decoupled AIM price and CPM soft offer cap is appropriate.

Proposed AIM structure.

The CAISO has proposed to:

- Eliminate monthly availability targets with an annual availability target of 96.5%.
- Reduce the dead-band around the annual availability target from +/- 2.5% to +/-2%.
- Cap the availability incentive payment rate at \$7/kW-month, twice the proposed AIM penalty rate. While excess incentive payment funds will be carried over to the following month through December, after December, any excess funds will be paid out to load.

NRG offers these comments:

Trade Month	Availability Standard Percentage				Average
	2014	2013	2012	2011	
Jan	97.7%	97.5%	97.2%	98.0%	97.6%
Feb	97.0%	97.7%	97.8%	98.0%	97.6%
Mar	96.8%	97.0%	95.7%	96.0%	96.4%
Apr	96.2%	95.8%	95.4%	95.0%	95.6%
May	95.3%	94.9%	94.0%	95.0%	94.8%
Jun	96.3%	96.3%	96.6%	97.0%	96.6%
Jul	96.9%	96.6%	96.0%	96.0%	96.3%
Aug	95.1%	95.3%	96.8%	96.0%	95.8%
Sep	95.9%	95.5%	95.8%	96.0%	95.8%
Oct	95.3%	96.3%	97.2%	98.0%	96.7%
Nov	95.9%	96.1%	97.1%	96.0%	96.3%
Dec	97.4%	97.8%	97.7%	98.0%	97.7%
Average	96.3%	96.4%	96.4%	96.6%	96.4%

- As shown above, the CAISO’s proposed flat annual 96.5% availability target is a higher monthly target than the availability targets in 15 of the 20 past peak RA season months (months in which the 96.5% availability target is greater than the monthly target are highlighted).
- While the proposed 96.5% target would lower availability targets in January, February and December, it seems unlikely that these lower targets would result in significant incentive payments, for several reasons. First, as the data shows, units in these months have higher availabilities; given that the CAISO is paying out only to the extent it collects non-availability penalties, there would likely be reduced pools of non-availability penalties in these months due to the higher availabilities.
- Second, the CAISO has proposed to cap the availability incentive payment rate at twice the proposed penalty rate. While the CAISO has indicated it will roll over any excess funds from month to month through the end of the year, the CAISO has proposed that any excess moneys would be returned to load at the end of December – which, coupled

with the higher historical availability rates in January, would reduce the pool of funds available to units with high availability in January.

In sum, while the CAISO has indicated that implementing lower availability targets in December, January and February (in exchange for higher targets in all but one of the summer months) would be a benefit – those benefits appear illusory.

ISO Response

The ISO has revised the proposal to allow payments up to three times the penalty rate. This should reduce the amount of roll over from month to month. An analysis by the ISO looking at historical data shows that there would have been payments to generators in Dec and Feb (the ISO did not assess January) and that the benefits in fact are tangible, not illusory. This is further described in the ISO's 10/29 presentation. Regardless, the primary motivation for the flat threshold band is to align the threshold with the RA program and reliability needs, and hopes that NRG supports this goal.

Exempting resources

The CAISO has proposed to exempt the following resources from the AIM:

- Planned outage capacity that does not require replacement or has replacement provided
- Planned Unit testing
- Unit Cycling
- Unit Supporting Startup
- Transitional Limitation
- Ambient not due to Temperature
- Transmission-induced Outage
- Environmental Restrictions Use Limit Reached
- $P_{max} < 1.0$ MW
- Contracts for Energy from non-specified resources
- Modified Reserve Sharing LSE and Load following MSS resources
- Most Qualified Facilities (QFs)
- Some use-limited resources if use-limitation cannot be captured in market optimization or opportunity cost calculation

- Wind, solar and CHP (generic RA obligation)

NRG does not oppose this list of proposed exemptions. In particular, NRG has experience with use-limited resources whose use limits are not easily captured in the market optimization or in the supporting CAISO systems and agrees that exempting such resources would be preferable to trying to adapt or alter CAISO systems to ensure the availability calculations are sound.

Grandfathering. The CAISO has expressed concern about the amount of RA capacity that currently is not subject to the CAISO's SCP availability penalties because it is "grandfathered" pursuant to an existing contract. The CAISO has proposed to implement a new AIM in 2016, and notes that "many contracts will have to be renegotiated due to the new flexible RA requirement."¹

The schedule the CAISO has proposed for this initiative has this matter going to the Board in Q1 2015. While some RA contracts may not be finalized and executed until summer 2016, after FERC approval of the CAISO proposal, and could be revised to incorporate the new AIM, it is likely that some RA contracts have already been put in place for 2016. The CAISO's assumption that those contracts already in place can simply be amended to address this issue may not be a valid assumption. Whether and how RA contracts can be restructured to incorporate the new AIM is a topic that must be more fully explored.

¹ Revised Straw Proposal at 40.

ISO Response

The ISO has changed the use-limited exemption proposal and seeks feedback from NRG on the new proposal. (Section 6.10.)

The ISO has proposed certain grandfathering provisions in section 6.13 and seeks additional input on the new provisions.

Comments on Modifications to Replacement and Substitution

NRG agrees with the CAISO that the current systems for providing replacement and substitution are very complex and can be difficult to navigate. While NRG shares the CAISO's overall goal of

developing a more streamlined, rational process, NRG is not yet persuaded that assigning the replacement obligation (and the consequent risk) solely to the supplier, while simplifying the process, is the right or equitable approach.

The following issues must be addressed as part of any new system regarding replacement and substitution:

The risk of moving outages. While suppliers often submit planned outages well in advance, the CAISO often does not approve them until around the T-45 time frame. Further, the CAISO can and does move planned generation outages in that time frame or even beyond that time frame. This creates two sets of risks for the supplier: the risk of losing crews and equipment lined up to do the outage work and the risk of having to provide replacement capacity for the new outage window. While the CAISO proposal notes that the CAISO “typically” does not ask suppliers to provide replacement if the CAISO moves an outage after T-45,² this does not amount to a guarantee that a supplier will be held harmless for the CAISO moving one of their planned outages requested well in advance. Moreover, it is not clear how the CAISO simultaneously considers and processes transmission and generation outages, and how suppliers are affected by those considerations. While suppliers are already exposed to the risk of moved outages, the CAISO proposal exacerbates that risk by proposing that suppliers alone would be responsible for providing replacement. The CAISO must address the risks associated with moving planned outages for NRG to get comfortable with any new direction for replacement and substitution.

Substitution Criteria. The CAISO currently has broad discretion in deciding what it will or will not accept as substitute RA capacity. Given that the Local RA requirements are enforced only at the local capacity area level, and that the CAISO has broad discretion in exercising its backstop authority if local sub-areas are deficient, requiring that substitution be provided at the same bus, or by a unit with identical operating and electrical flow characteristics, provides the CAISO with a “bus-specific” product that is far superior to the local area capacity product that the supplier committed to, and was paid to, provide. As part of this initiative, the CAISO needs to replace its current broad discretion for approving substitution with explicit, detailed criteria that allows suppliers to know in advance whether their substitution requests will be granted. Substitution should not be a “bring me a rock” exercise.

Having to provide local capacity to substitute for or replace system capacity within a local area. NRG supports the CAISO proposal to separate system and local showings so that a supplier will not have to replace system capacity within a local area with local capacity within that same area, as is currently required. The current rule allows LSEs to acquire local capacity at system prices.

Using the T-25 forecast instead of the T-45 forecast. NRG sees no value in using the T-25 forecast instead of the T-45 forecast to determine whether suppliers need to provide replacement capacity. NRG is unaware of any forecasting technique that would allow the CAISO to draw different, reliable conclusions about the need (much of which is driven by weather) 25 days out as opposed to 45 days out.

² CAISO Presentation for August 18, 2014 meeting at slide 66.

ISO Response

The risk of moving outages. The ISO understands the concerns with the ISO moving outages around and in order to decrease some of the risk has clarified in section 10.2.5 that if the ISO asks a supplier to move an outage, the new outage will maintain the priority of the original outage for replacement “last in, first out” purposes.

Currently, the ISO prioritizes planned generation and transmission outages in a “first come, first serve” manner. If a planned generation outage is requested prior to a planned transmission outage, the generation outage will have priority. Likewise if the planned transmission outage was requested first, it would have priority. The ISO recognizes that there may be benefits to assessing other characteristics to give one or the other priority, but has not implemented any such practices.

Finally, the ISO would like to clarify that the proposal is not for suppliers to bear all replacement and substitution responsibility. The ISO has no intention of getting involved in contracts and suppliers and LSEs may decide to put the responsibility on either party. The ISO is only changing the outage coordination responsibility prior to T-45 to entirely coordinate and communicate with the supplier that is on outage. This is clarified further in section 10.3.2.

Substitution Criteria. The ISO only has discretion in approving local substitution at this time if

the ramp rates are different. Everything else is essentially an automated process. This process is outlined in the Outage Management BPM. The ISO has proposed though to increase the subjectivity of the ISO by creating a “compatible bus” concept. This is described in section 10.3.7.

Having to provide local capacity to substitute for or replace system capacity within a local area.

The ISO has proposed to move forward with this in phase two. There are numerous policy and implementation details along with coordination with the CPUC that will need to be addressed prior to bringing this policy to the BOG. Therefore, in order not to delay the remaining proposal items the ISO will continue this proposal into phase two.

Using the T-25 forecast instead of the T-45 forecast.

Thank you for your comment; I was disappointed to find out that this is completely true. Therefore the ISO will use the same forecast in all time periods.

Company	Date	Submitted By
Pacific Gas and Electric Company	9/5/14	Jordan Parrillo (415) 973-3631
Minimum Eligibility Criteria and Must-Offer Rules		
<p>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.</p> <p>The CAISO should comprehensively examine the requirements placed on all storage technologies in receiving Resource Adequacy (RA) credits.</p> <p>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.</p>		

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).

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.

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.

ISO Response

The recent FERC ruling conditionally approving the ISO’s Flexible Resource Adequacy Criteria and Must Offer Obligation tariff instructed the ISO to continue to examine how resources like Helms would be able to provide flexible capacity. The ISO remains committed to conduct the reliability assessment instructed by FERC and to resolve this issue as part of phase 2 of this initiative.

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.

¹ CAISO, FRAC-MOO Revised Draft Final Proposal, March 7, 2014, p.39. Located at:

<http://www.caiso.com/Documents/RevisedDraftFinalProposal-FlexibleRACriteriaMustOfferObligation-Clean.pdf>.

ISO Response

See the above response.

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 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.

ISO Response

Developing new resource classifications are beyond the scope of this stakeholder initiative; however, this discussion would be appropriate to continue in phase two.

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.

ISO Response

The ISO appreciates the support on this item and has included a proposal in the second revised straw proposal.

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.

ISO Response

The minimum number of hours per month and the minimum number of hours that a PDR must be capable of being dispatched.

The ISO apologizes for any confusion. The three PDR conditions are eligibility requirements

and therefore dispatch requirements, not must–offer requirements.

The hours of the day that a PDR must bid into the CAISO market.

PDR must bid into the market in all hours applicable to the RA category shown. For generic RA, at a minimum PDR must offer in during the five peak assessment hours (SCP hours) and for flexible RA, PDR must offer into the flexible category hours.

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.

Yes, if a PDR RA resource has at least met the minimum dispatchability requirements, then it can put in a “non-environmental use-limit reached” outage card and be exempt from the AIM and must-offer requirements for the remainder of the month. It also can put in this card after three days, to exempt the resource during the outage period, before offering into the market again.

Whether a PDR can submit a minimum run time.

PDR can include minimum run times in the master file.

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 24th 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.

ISO Response

The ISO understands PG&E's desire for the CPM initiative to include the AIM; however, the ISO believes that alignment can be maintained despite the separate initiatives. The Reliability Services initiative is too large, currently the proposal is at 88 pages, and cannot accommodate another issue (CPM replacement) within its scope. The CPM Replacement is in settlement discussions and it would be impractical to discuss the full AIM proposal within these limited meetings.

The ISO also believes under the current proposals there is a limited link between CPM backstop price and the AIM price. The AIM price is used as input into the mechanism to incent substitution when a resource has a higher than average forced outage rate and encourage routine maintenance so that forced outages do not often occur. It is in addition to energy market incentives to earn revenues by offering into the day-ahead and real-time market. Because the ISO does not run a capacity market and all capacity is either owned or under bilateral contract, resources have highly varied contract conditions and prices. If the theoretical intent of the AIM is to exactly penalize a resource what it was paid for capacity, then a single AIM price will inevitably be too high or too low. The best the ISO can do; therefore, is pick a price reflective of

a “high average” contract that for most resources is high enough to incent proper maintenance and needed substitution, but low enough not to affect the bilateral contract market or unduly penalize suppliers.

The CPM price on the other hand will reflect the specific market conditions under which the CPM designation will occur. The ISO has proposed a competitive solicitation process. The ISO will allow suppliers to offer into the CSP at a price lower than a soft offer cap without validation and above the soft offer cap with FERC approval. There is therefore no single “CPM price” and the only pre-determined value is a soft offer cap, which acts as insurance against a resource exerting market power to the extent it has a large financial impact. The soft offer cap is proposed to be set a high enough level where most resources will not need to file at FERC for legitimate recovery of costs and only so low as to not allow or incent resources to significantly exert market power.

The ISO does not believe that it is appropriate to set the soft offer cap, which should reflect a very high bilateral contract equal to the AIM price which should only reflect a slightly higher than average bilateral contract price. Put another way, the CPM soft offer price is reflective of the upper bound of residual capacity cost, and residual capacity should be some of the highest priced capacity on the system under the assumption that LSEs already procured the lower cost capacity. The AIM price should reflect a price that is on the high end of average for the total capacity procured by LSEs, which should be lower than the residual capacity average price, and certainly lower than the residual capacity soft offer cap price.

PGE points to two examples of why the AIM price should be at least as high as the CPM price. First, the example is that a resource is designated under a CPM, they could arbitrage the difference between the AIM price and the price paid under CPM. First, in order for a resource to do this, the resource would have to go on an unnecessary forced outage for the entire month and not participate in any energy market. In addition to the resource losing out on any potential revenues, the ISO wants to make clear, declaring a false forced outage is against market rules and could be reported to FERC if caught. PGE is then contending that it is a possibility that for (using the current proposed AIM and CPM soft offer cap price) a likely maximum potential of \$2.56/kW-month a resource would risk a FERC fine of a million dollars per day and give up all market revenues. Although the ISO believes this is highly unlikely, the ISO proposes that if

capacity is designated under the CPM, the ISO will assess its availability using the price offered into the CSP rather than the AIM price. Therefore there is no potential for arbitrage.

The second example PGE gives is that if “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.”

First, the ISO would like to point out that a supplier intentionally submitting a false outage for one resource in order for a different one of their resource's to profit is a classic example of physical withholding and against market rules. Second, that in order for there to be incentives for a resource to go out on a forced outage, there would have to at least be a reasonable chance that the ISO would designate not just a resource under the CPM, but that same supplier's resource. Given that since the CPM was implemented the ISO has literally had thousands of forced outages and only once issued a CPM because of it – SONGS- the ISO does not believe that a CPM soft offer cap price higher than the AIM price leads to any incentives for a supplier to try and arbitrage the costs of one resource going on forced outage and the gains of another resource - who only very hypothetically might receive a CPM payment. Especially when in order to arbitrage this difference, a supplier would have to declare a false outage.

The ISO agrees that these are important considerations and that both the AIM price and CPM price need to be thought about both in context of each and the RA bilateral market. Both the CPM replacement initiative and RSI initiative are being run in almost parallel due to an anticipated joint FERC filing and the ISO will continue to coordinate between the two initiatives.

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.

ISO Response

The ISO believes that the AIM price will be high enough to incent substitution if the resource is on a significant enough outage and substitution is possible. If the ISO lowered the percentage band and increased the AIM price, the ISO would be penalizing resources the net effect would be to penalize less capacity, but at a higher price. This would provide a disincentive for a resources that have derates at less than this lowered bound to provide substitute capacity, and given the lower bound is currently tied to a minimum reliability level, the ISO is uncertain as to whether lowering the bound would help or hurt reliability ultimately. Given that \$3.5/kW-month is a high average price by all accounts, the ISO struggles to understand why this would not provide the correct incentives for suppliers to provide substitute capacity. The ISO requests clarification on if PGE is saying that at \$3.5/kW-month this is too low of a price for PGE to provide substitute capacity or whether they are hypothesizing that other entities may not provide substitute capacity at \$3.5/kW-month.

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.

ISO Response

Thank you for this correction. We have revised the proposal to allow payments up to three times the incentive price.

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 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.

ISO Response

The ISO has created a roll over account in order to keep both penalties and payment distributions contained to suppliers as much as possible. The penalties are assessed to suppliers and the ISO does not see why load should receive the payments for what is ultimately a supplier incentive tool.

PGE has two reasons why there should not be a settlement account. The first is that it is difficult for ISO settlements. The ISO asks for clarification on whether PGE is saying it is difficult for the supplier side of PGE to understand the settlement statements? A roll over account is not difficult from the perspective of ISO settlements.

The second reason is that a generator could perform well in a month that did not have a significant amount of outages and still be paid as if there were a significant number of outages. This is true; however, this should not create any incentives to try and over- or under-perform in any month because the available payment pool is not known until after the month has ended. Historically, only in a few months have there been excess penalties paid to load. The ISO does not expect this to change in the future. Furthermore, high penalty months have tended to be nonsystematic- there is no pattern from year to year. Therefore there will be no incentive nor ability for a resource to guess somehow when they might be rewarded more for being available due to the roll-over account and “game” the system by performing better in that month than in the month where the roll-over penalties were accumulated due to high outages. It doesn't seem likely that a resource will easily have the ability or incentive to save availability in order to capture AIM payments.

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).

ISO Response

The ISO proposes to monitor the range and adjust the threshold, if necessary. The ISO agrees that it is always necessary to evaluate new policy once implemented. The range is tied to expectation that come from the planning reserve margin. Because the planning reserve margin is fixed, the ISO does not anticipate having to adjust the threshold except in the circumstance of extreme capacity condition availability changes.

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.
- 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.

ISO Response

Thank you for your comments.

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.

ISO Response

In response to PGE's comments here and at the working group the ISO has removed this proposal.

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.

ISO Response

The ISO has changed these timelines, but asks for clarification if once the outage replacement coordination obligation is moved to the supplier, whether PGE needs the same amount of days

as today.

The ISO is not proposing that replacement obligation in contracts always be on the supplier, only that the outage coordination go through the supplier. If the LSE still wants to provide replacement, the supplier simply has to communicate the new resource from the LSE to the ISO and the ISO will accept it. Today, the ISO is aware that contractually the obligation to replace may be on the supplier or LSE regardless of whether the ISO is notified of the outage before or after T-45. This does not need to change in the future. The ISO will only coordinate outages through the supplier (just as we do with 75% of all outages today) and not have to have additional rules and policies to address the remaining 25%, which are coordinated through the LSEs. The ISO does not believe that this should have an impact on bilateral costs, because contracts are still able to put the obligation on either party and if anything, should making contracting easier because the coordination obligation will now be certain. Please see section 10.3 for more details.

Company	Date	Submitted By
Powerex Corp.	9/8/14	Mike Benn 604-891-6074
Comment 1		
<p>Powerex appreciates the opportunity to provide these limited comments on the Reliability Services Revised Straw Proposal published on August 11, 2014.</p> <p>Powerex continues to urge CAISO to develop an appropriate framework through which 15 minute dispatchable resources external to the CAISO can commit to providing flexible capacity. Currently, CAISO does not plan to address this issue until Phase 2 of the Reliability Services Initiative, expected to start in Q1 2015 and to be brought to the board in Q2 2016.¹ Powerex believes such a timeline is too slow for the development of a framework that will provide important reliability and efficiency benefits to the CAISO. Market experience since the implementation of the new Fifteen Minute Market (“FMM”) reinforces the need to develop mechanisms for CAISO to secure access to flexible resources on the interties, ahead of the real-time market. As CAISO is well aware, since the implementation of the FMM on May 1, 2014, there has been very limited 15-minute economic bid participation from the interties, as well as a significant decrease in the amount of economic import and export real-time bids more</p>		

generally, prompting CAISO and DMM to express concerns about liquidity in the real time market.² The reduction in economic (*i.e.*, price-sensitive) intertie bids, even on interties that have enabled 15-minute scheduling, reflects the risk that market participants may face in committing external resources to participate in the FMM. Specifically, bids into the CAISO's real-time market are due at T-75. To stand ready to honor any 15-minute dispatch awards in the FMM, a market participant at the interties would need to set aside a portion of its physical resources, thus potentially foregoing other sales it could make from those same physical resources.³ In Powerex's experience, a substantial volume of bilateral trading activity occurs *after* T-75, meaning that an external market participant may incur an opportunity cost merely in submitting a bid into the CAISO's real-time market. An external market participant may also forego the ability to use its flexible resource for its own balancing, flexibility and/or operational needs, should such a need arise after T-75. While participating in the CAISO's real-time market entails material opportunity costs for an external market participant, there is no certainty that the external resources bid into the market will actually be dispatched by CAISO, or whether they will be dispatched for only some of the 15-minute intervals in the hour. In short, for many external resources, participation in the CAISO's real-time market appears to entail opportunity costs that may be substantial, to receive rewards that are uncertain. Recent experience indicates this is a proposition few participants are willing to undertake.

² CAISO Department of Market Monitoring - *Q2 2014 Report on Market Issues and Performance*, August 18, 2014 at pg. 46-48.

³ Powerex notes that Section 30.6.2.5 permits Scheduling Coordinators to effectively reduce the quantity of potential FMM awards by reducing the transmission profile in e-Tags, which may occur up to 37.5 minutes prior to the start of the operating hour, at the Scheduling Coordinator's discretion. While this provision potentially limits some of the opportunity cost of participating in the FMM, opportunity costs after T-37.5 will still exist and are not explicitly compensated.

ISO Response

The ISO appreciates the need to allow import resources to provide flexible capacity. The recent FERC ruling conditionally approving the ISO's Flexible Resource Adequacy Criteria and Must Offer Obligation tariff instructed the ISO to submit an informational filing by January 1, 2016 showing what the ISO is doing to integrate imports into the flexible capacity model or show why this cannot be done. The ISO phase 2 schedule is consistent with FERC's instructions.

Further, the ISO has included additional information about the assessment it plans to conduct in phase 2 of this proceeding in the second revised straw proposal.

Comment 2

The lack of a capacity payment for the commitment of flexible capacity at the interties ahead of dispatch also places the CAISO at a significant competitive disadvantage to other purchasers of flexible capacity in western wholesale markets. In Powerex’s experience in the bilateral markets outside of CAISO, sub-hourly dispatch flexibility is generally contracted under arrangements that provide both (1) a capacity payment for committing flexible capacity and (2) an energy payment for any energy actually requested and delivered. Under this structure, sellers are able to recover their opportunity costs associated with setting aside capacity ahead of time, regardless of whether it is dispatched. The advanced commitment also supports more efficient generation planning, which may permit a greater quantity of flexible generation to be available than would otherwise be the case.

ISO Response

See above response to Powerex comment 1.

Comment 3

The development of an appropriate framework for external resources to commit to providing—and being compensated for—flexible capacity at the interties could be highly effective in overcoming the current economic impediments to real-time market participation. Moreover, this would expand the supply options available for California load-serving entities to meet their flexible resource adequacy requirements, leading to lower costs and more efficient investments in flexible resources. As part of such a framework, Powerex fully supports developing robust and verifiable performance criteria for external resources comparable to the requirements for internal generators providing flexible capacity.

ISO Response

See above response to Powerex comment 1.

Comment 4

Powerex strongly urges CAISO to start a separate stakeholder initiative, distinct from the

Reliability Services Initiative, focusing specifically on accelerating development of a mechanism for external resources to provide flexible capacity to CAISO. The goal of such an initiative should be to enable external resource participation coinciding with the FRAC-MOO go live date of January 1, 2015.

ISO Response

See above response to Powerex comment 1.

Company	Date	Submitted By
San Diego Gas & Electric	9/8/2014	Nuo Tang ntang@semprautilities.com

Minimum Eligibility Criteria and MOO

SDG&E remains unconvinced for the need to change RA from a daily product to an hourly product. SDG&E has not seen any hourly products in the market associated with CAISO resources. The only hourly products that do exist are based on inter-tie capacity which is paired with an import allocation. This is primarily due to the fact that energy products are structured around On-Peak and Off-Peak hours

ISO Response

Thank you for your comments, the ISO has maintained the proposal for a daily product.

Availability incentive standard percentage

SDG&E understands why the ISO proposes to use 96.5% as a standard availability metric. However, SDG&E questions whether the data is skewed due to unit substitution. To the extent a supplier provided a substitute resource for a forced outage, the availability of the resource is considered to be 100%. If this is the case, then the actual unit would be lower and the standard metric should potentially be lower as well. Also, since the proposed availability is based on bidding, the metric should be based on historic bidding data rather than forced outage data. SDG&E understands that actual bidding data may be difficult to differentiate when there is automatic bid insertion in SIBR. However, ISO's proposed metric does not actually line up with the dataset to justify the metric.

ISO Response

The ISO does not have any better data than that published. The ISO will monitor forced outage rates going into the future in order to assess whether future rates are different than historical.

Availability incentive price

The ISO currently does not pay the CPM resource when the resource is on outage. SDG&E recommends decoupling AIM and CPM. This would not allow a CPM resource to arbitrage its CPM payment and an AIM penalty for not bidding. A CPM resource would be paid based on its own availability and its offer price.

ISO Response

The ISO agrees, thank you for your comments. In the future, the ISO will pay a CPM resource during a planned outage and will penalize the resource under the AIM using the price paid for the resource during a forced outage.

Wind and Solar Resources

SDG&E believes the ISO's exemption of Wind and Solar resources is unreasonable when such resources are shown as generic RA. ISO reasons that since the resource's historical output influences the NQC, the resources are already incented to perform during their must-offer hours. There are two issues with the ISO's reasoning. First, for resources whose QC is based on historical data, the CPUC inserts proxy data rather than using actual meter data for the resource when the resource is on outage. This proxy data is the average of the values for the same hour on the same calendar day for the other years in the data set. The insertion of proxy data does not affect the resource's QC calculation as much as the ISO believes. Second, the current exceedance methodology is expected to be replaced with the ELCC methodology starting the 2016 compliance year at the soonest. ELCC methodology is not based on historical output but rather the aggregate of similar generation on the system.

ISO Response

Thank you for this correction. The ISO has updated the reasons for exempting wind and solar from the generic AIM penalty in section 6.13.

CHP Resources

For the same first reason stated in the Wind and Solar Resources comments, SDG&E believes that CHP resources should not be unilaterally exempt from AIM either. The resource is not being double penalized under the AIM as well as its QC calculation. However, the resource may be penalized in its existing contract for non-availability.

Unilateral exemption of resources based on technology type contradicts the purpose of AIM which is to incent ALL suppliers to maintain resources to limit forced outages which may impact grid reliability. By exempting such resources, the ISO is disregarding its own goal for establishing the mechanism.

It may be difficult to measure the availability of resources whose QC is based on historic data. SDG&E suggests the following:

ISO Response

See above comment.

Wind and Solar Resources

For both generic and flexible RA, calculate the total MWhs of energy and bids produced and submitted in the month and divided by the total MWhs of RA and Flexible RA shown on the monthly plans. This availability is capped at 100%. The calculated availability is combined with the NQC data to assess charges or incentives

ISO Response

See above comment.

CHP Resources

The availability of CHP resources could be measured against its Use-Limited Resource Template data. If the resource did not submit a bid during the time it was registered for, then the availability for that hour is 0%. Any partial bid would result in a non-zero percentage based on the ULR template data. This availability percentage is ultimately combined with the NQC data to assess charges or incentives of the resource.

It is unclear if substitute capacity will receive its own AIM penalty or incentive rather than

supporting the original resource on forced outage. SDG&E recommends the former which is more inline with FERC's decision in the Many for Many substitution ruling. This may require discussion on how a substitute resource is paid for providing 1 day of capacity while the standard availability metric is calculated based on an entire month's bids.

SDG&E believes the ISO has left out inter-tie resources as part of the AIM design. Inter-tie capacity receives its own availability calculation and should continue to do so.

ISO Response

See above comment.

Thank you for pointing out the gap with inter-tie capacity. In the future there will be no different calculation for intertie and internal capacity.

Replacement and Substitution

SDG&E appreciates the ISO providing a 2 phase roadmap for redesigning the replacement process. SDG&E believes this is a good step in the right direction to simplify the RA replacement process. SDG&E's comments are separated into the two time frames as proposed by the ISO.

ISO Response

Thank you for your comments.

2016

SDG&E understands the ISO wishes to extend some of the current substitution rules to the planned outage for 2016. SDG&E would recommend that such requirements to be enforce after the T-45 showing. The T-45 showing is when the ISO receives its portfolio of resources from LSEs. LSEs should be allowed to provide its portfolio of resources it has procured to satisfy the month ahead system requirement. The system RA requirement is agnostic as to the type of resources that have a must offer. As an example, suppose an LSE provided the less than optimal replacement capacity as Designated capacity during the T-45 showing such that the LSE met its system RA requirement net of the outage, the ISO would not require the replacement and thus would depend on the entire portfolio of resources to meet the system requirement. SDG&E does not see the need to have such a requirement at the T-45 showing.

SDG&E would like the ISO to consider allowing new Designated resources at T-11. Currently, LSEs are not allowed to provide new incremental D resources at T-11 in order to effectively increase the capacity to meet the daily requirement. Allowing incremental D resources would provide the system with surplus capacity above the requirement on certain days while meeting the requirement on others when there are outages. This would increase the RA capacity and may decrease the amount of replacements required during the operating month.

ISO Response

Thank you for your comments. Please see response to the below set of SDG&E's comments to "Comment 1."

2017 forward

SDG&E agrees that changing the replacement responsibility to the Supplier would resolve a majority of the issues that revolve around the current processes. SDG&E recommends the ISO consider creating a process to provide Suppliers greater access to procure replacement capacity. This process may supplement the ISO's AIM proposal. The ISO would replace the capacity for the Supplier in the day ahead process assuming the Supplier did not already do so and charge the Supplier for the replacement capacity of the outage.

Another consideration would be to allow Suppliers access to unused Import Allocations of LSEs for the compliance month. While this may seem like inter-tie capacity is being used to replace CAISO resources, it is not. LSEs currently are able to provide inter-tie capacity to meet the system requirement. When the responsibility shifts, Suppliers will not have access to the import allocations to provide RA capacity. The ISO should not prevent itself from much of the intertie capacity which it has depended on to meet RA requirements

ISO Response

The ISO agrees that there may be benefits to allowing suppliers access to unused import allocations and proposes to explore this in phase two of the RSI.

Company	Date	Submitted By
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San Diego Gas & Electric – Working Group Meeting	9/16/14	Nuo Tang ntang@semprautilities.com
Comment 1		
<p>SDG&E would like to thank the ISO for putting together a very well organized workshop on Replacement and Substitution Rules. The current rules and issues are very complex and the ISO staff was able to provide detailed explanations without causing more confusion. That is not an easy task given the topic and the level of background required. That being said, SDG&E wishes to provide some comments based on the minor revised proposal discussed at the workshop.</p> <p>SDG&E supports delaying proposed changes to the replacement rule until phase II of RSI. These include the like for like requirement and the replacement of flexible resources on outage until 2018. However, SDG&E would like the ISO to monitor the situation in 2015 based on the portfolio of resources provided as flexible resources which also take outages but did not provide flexible replacement capacity. If these events cause more exceptional dispatches or flexible ramping constraint, then the ISO should consider starting the flexible replacement requirement discussion sooner. The ISO may already be able to gather such data from the 2014 RA monthly data.</p> <p>Based on the ISO’s Release User’s Group documents¹ as well as the Master Stakeholder Engagement Plan², the Automated Many to Many Substitution solution is expected to be implemented for Spring 2015 rather than Fall 2015 as noted by the working group slides. This project is combined with App Consolidation of RAAM and CIRA. It is important to note that ISO’s proposal of releasing substitute RA capacity in the event of an outage move or cancellation will likely affect either RAAM or CIRA. Based on the Many to Many project implementation, SDG&E would recommend delaying this particular proposal until Spring 2016 as Fall 2015 release already has many major initiatives tentatively scheduled. This proposal seems to show up again in the 2017 implementation roadmap on slide 89. SDG&E wishes to better understand which year this proposal would take place. Ultimate, if the ISO decides one</p>		

¹ http://www.caiso.com/Documents/Agenda-ReleaseUserGroupWebConferenceSep16_2014.pdf, pg 4

² http://www.caiso.com/Documents/MasterStakeholderEngagementPlan_090214.pdf

day to move the replacement/substitution functionality to OMS rather than CIRA, which would make sense in light of the ISO's proposal to place the replacement responsibility onto suppliers, the efforts spent on building this particular new functionality into RAAM/CIRA would be duplicative.

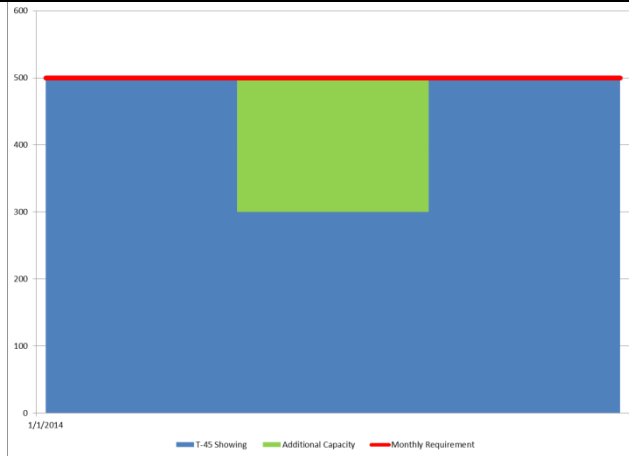
SDG&E does not support the after the fact review of Local RT substitutions. If a resource were contracted to provide substitution but an after the fact review determined that it did not qualify, the cost of the transaction is sunk and the resource on forced outage would suffer an AIM penalty. The uncertainty of the after the fact review approving or denying the substitution is too great. SDG&E would also say that the annual pre-qualification process is unnecessary. It would be simpler for the ISO as well as market participants to exclude how RT outages impact the availability metric and thus negating the need for RT substitution all together. However if the resource does not "bid or self-schedule" in the RT market as obligated then its availability metric would be affected.

SDG&E supports the proposed 8am deadline for day ahead substitution as the changes required to RAAM should not be overly complex.

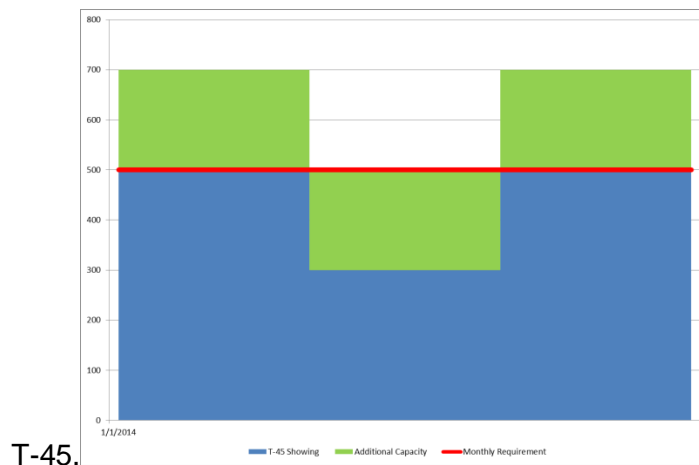
Along the same lines, SDG&E again strongly recommends the ISO to consider a minor change to its current replacement process at T-11. SDG&E believes the ISO should allow LSEs to submit new Designated resources at T-11 in order to meet the PRM. Currently, the ISO only accepts Specified or Non-specified replacement at T-11, the ISO only accepts new Designated resources prior to T-25 in order to cure deficiencies or fix administrative errors.

As an example, at the T-45 showing, the LSE provides 500MWs of capacity which meets 500MWs of RA requirement. Assuming a 200MW outage during the month, the LSE is able to provide 2 solutions.

Option 1: Provide Specified capacity or Intertie Capacity at T-45 to meet the daily requirement.



Option 2: Provide extra Designated capacity from a generation resource for the entire month at



In both cases the RA requirements are met. If the LSE provided only 500MWs of capacity at T-45 with no replacement, the LSE is then prohibited from supplying Intertie-capacity or additional Designated capacity at T-11. SDG&E would recommend the ISO allow LSEs to provide additional intertie capacity or Designated capacity at T-11 as there is no issue to grid reliability since the RA requirements are met. This issue is critical to all LSEs and changing the current process could potentially lower replacement costs and provide greater efficiency.

For 2017 RA year, SDG&E supports simplifying the replacement process and assigning the replacement responsibility to Suppliers. While SDG&E supports simplifying the overall process by assigning the replacement obligation to suppliers, SDG&E is concerned that the LSEs that provide surplus capacity as replacement capacity to meet the their own respective RA requirement net of outages will be applied to other LSEs' resources which are on outage based on the last in first out rule. Currently, when LSEs provide surplus or replacement capacity, the

ISO applies such capacity to the resources which are on outage in the LSE's RA plan. LSEs will not be required to provide replacement capacity for the outages impacted. However in 2017, suppliers would seem to lose the certainty that surplus capacity provided by one LSE, particularly inter-tie capacity, may be allocated to the outages of other resources on other LSE's RA plan because of the last in first out rule. SDG&E believe it is necessary to keep this particular process in the future since inter-tie capacity cannot be entered into CIRA as replacement capacity. SDG&E proposes that the ISO consider keeping the current surplus concept in place when requiring replacement capacity from suppliers. Any outages requested after the LSE showing would not have such LSE components but rather the ISO's total system capacity test.

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¹ http://www.caiso.com/Documents/Agenda-ReleaseUserGroupWebConferenceSep16_2014.pdf, pg 4
¹ http://www.caiso.com/Documents/MasterStakeholderEngagementPlan_090214.pdf

ISO Response

Thank you for your comments on many-to-many implementation timing. The ISO is still assessing when this may be completed.

The ISO has proposed to allow real-time local substitutions at a "comparable bus" based on an annual pre-qualification process. The ISO agrees that an after-the-fact review of local substitutions has some issues from the perspective of market participant risk certainty.

Thank you for your input and example on designating resources after T-11. The ISO agrees that this would be a reasonable change to automate this capability, but the need for it will be negated by the proposed new RA process timeline and outage coordination responsibility division between LSE and supplier. Additionally, this is not prohibited under the current tariff rules and so the benefits may still be achieved today through a manual process.

Regarding the comments on the replacement assignment to the supplier still being linked to an underlying excess or shortage by an LSE- when the obligation to coordinate replacement moves to the supplier, the ISO will also concurrently revise the timeline when the replacement is needed. In the future, by the time the ISO will assign replacement to a supplier, no LSE will be

short except due to outages that make the system as a whole short. SDG&E is correct that this could allow leaning; however, as SDG&E pointed out this is only an issue if the LSE over shows. It may also be an issue if intertie capacity cannot be used as replacement. Rather than continue the connection between LSE monthly showings and supplier replacement obligations, the ISO proposes in phase two, for potential implementation concurrent to assigning replacement coordination to suppliers, assess how intertie capacity could be used for replacement and substitution purposes.

Comment 2

For the ISO's next proposal, SDG&E would recommend the ISO change the format it represents the business days versus calendar days. Currently, ISO uses the format of T-45 to T+31 in business days. This is the same format that is used for the ISO's current process of T-45 to T+31 calendar days. Changing to business days is acceptable as long as the following items are taken into account:

1. January month-ahead showing is not before the year-ahead RA showing
2. Other CPUC processes such as Load Forecast updates or CAM credit/debit allocation notifications are appropriated coordinated
3. ISO's NQC and EFC monthly update schedules are appropriately moved in order to allow LSEs to continue to utilize updated values as soon as possible

SDG&E does not support the ISO's proposal to separate the system and local showings in order to determine whether or not local resources need to provide local substitutions in order to minimize AIM penalties. There are several reasons for SDG&E's view:

1. Unlike generic and flexible capacity, the locational aspect of a resource is a geographical attribute that cannot be changed one day to the next. Flexible capacity attribute is a financial/economic decision of the resource's operator which can change every hour. When the resource is generating, it is first and foremost supporting the load in the local pocket.
2. Suppose a local resource were shown as 75% local capacity and 100% system capacity. When the resource is partially Forced Out, which attribute should the resource substitute first? Does the Outage Management Office have the correct set of tools to make such determinations in real-time? It does not seem so since the ISO responded no to SDG&E's suggestion of analyzing whether or not there's sufficient surplus local capacity

in the committed local RA portfolio to not need local for local substitution in real-time.

3. If the ISO only counts local capacity shown, it is theoretically possible that the LSEs within a Local area may not have the ability to contract for the Local attribute of the capacity not shown when the ISO notifies market participants of a collective deficiency. In CPUC space, the Local and System attributes are bundled for procurement. In order for one LSE to obtain the Local attribute, it must swap another system resource to the other LSE. If transacted after the showing, the ISO validation process itself would prevent the original LSE from removing the local resource from the RA plans because it was already shown.
4. The CPUC's Local RA program is annual by nature. August NQCs are used to meet a 1 in 10 August Peak requirement for all months of the year. The ISO on the other hand seems to suggest that the respective monthly NQC values are used to meet the static Local monthly RA requirement. SDG&E would like the ISO to clarify its proposal.

ISO Response

The ISO meant to use the format T-45 to T+31 in calendar days, not business days and apologizes for the confusion.

The ISO agrees with the remaining suggestions and will incorporate them into the proposed timeline.

The ISO has moved the proposal to separate local and system showings to phase two and looks forward to a robust discussion there.

Comment 3

SDG&E is likewise affected by the current situation where a Local resource may be sold as system capacity and would like the ISO to think of more creative solutions in its next revised proposal. SDG&E has several suggestions for consideration:

1. What is the primary issue? Is it that the AIM price is too high because the resource was

compensated at a lower price or is it the substitution resource must be another Local resource?

2. Does this issue occur more in certain months than others?
3. Should the AIM metric be lower such that resources are not constantly penalized for non-availability?
4. Would either shaping the AIM price or the AIM metric mitigate the financial concern?
5. Should the ISO consider reviewing a similar LIFO method for Local substitution as it does with System capacity replacement? If there is surplus local capacity and system capacity net of the outage, the ISO would not need replacement which is now 9 calendar days prior to the start of the outage.

Many participants noted that not all suppliers have the portfolio of resources to which can provide replacement capacity. This may be the single reason why the ISO is receiving so many more outage requests after T-45 than before. The proposed process will not change this behavior if the supplier cannot readily access replacement capacity. Therefore, SDG&E believes the ISO should explore the benefits of utilizing the proposed CSP to allow suppliers access to the residual capacity. This capacity may be pay as bid and awarded daily to resolve outages on a daily granularity.

SDG&E looks forward to discussing these topics and more at the next RSI meeting.

ISO Response

The ISO has moved the proposal to separate local and system showings to phase two and looks forward to a robust discussion there. Likewise a discussion of utilizing the CSP to allow suppliers access to residual capacity may be warranted in phase two as well.

Company	Date	Submitted By
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Six Cities	9/5/14	Bonnie S. Blair Thompson Coburn LLP 1909 K Street N.W. Suite 600 Washington, D.C. 20006-1167 bblair@thompsoncoburn.com 202-585-6905
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Opening Comments

In response to the ISO’s request, the Cities of Anaheim, Azusa, Banning, Colton, Pasadena, and Riverside, California (collectively, the “Six Cities”) submit the following comments regarding the August 11, 2014 Revised Straw Proposal on Reliability Services (the “Revised Straw Proposal”).

The Revised Straw Proposal addresses numerous issues relating generally to implementation of Resource Adequacy requirements for generic and flexible RA capacity. The Six Cities support many elements of the Revised Straw Proposal but have questions or concerns regarding several aspects of the Proposal. The Cities’ comments below address three general topics covered by the Revised Straw Proposal: (i) application of the Availability Incentive Mechanism (“AIM”), (ii) elements of the AIM, and (iii) replacement and substitution rules.

Application of the Availability Incentive Mechanism - -

The Six Cities support the ISO’s proposal (Revised Straw Proposal at 39-40) to exclude from the availability calculation process use-limited resources that have reached or passed applicable use limitations, including (but not limited to) daily, monthly, or annual restrictions on number of starts or operating hours.

The Six Cities oppose the ISO’s proposal (Revised Straw Proposal at 40) to rescind the exemption from availability penalties/payments for currently grandfathered resources subject to resource-specific contracts entered into prior to June 28, 2009. The currently effective exemption for grandfathered resources has been in place since the initial implementation of availability standards, and the ISO has not presented any evidence that the exemption has resulted in any impairment of system reliability. In the case of the Cities, many of the grandfathered resource contracts were executed long before the establishment of RA

requirements and even prior to the establishment of the ISO. The grandfathered resource exemption appropriately recognizes that contracts entered into prior to the adoption of availability standards may give rise to additional risks or challenges to avoiding penalties. Renegotiating such contracts at a minimum would impose substantial burdens on LSEs and may not even be possible. The ISO should continue to respect pre-existing contractual commitments and limitations and should keep the exemption from availability penalties/payments for grandfathered resources in place unless and until there is a compelling reason, based on a demonstrable reliability concern, to revoke the exemption. The ISO has not demonstrated that such a reason exists.

At page 40 of the Revised Straw Proposal, the ISO states that some use-limited resources that do not have calculable opportunity costs may be exempted from AIM through a review of use plans and requests stakeholder input on the types of use-limitations that may require an exemption. The Six Cities recommend that small hydro resources and landfill gas generators be included in the exemption from the AIM. Small hydro resources are self-scheduled based on water demand, and landfill gas generator output is dependent on the gas flow from the landfill gas supply system. Calculating the opportunity costs for these types of resources is problematic due to the variable nature of the fuel supply.

In addition, the ISO indicates (Revised Straw Proposal at 40) that it will consider exemptions from the AIM on a resource-specific basis. Two of the Six Cities (Pasadena and Riverside) require the use of internal generation facilities during peak load periods to maintain local reliability as a result of limitations on their ability to import into their UDC areas sufficient energy to serve their maximum loads. To the extent their internal resources are designated for System or Local RA capacity, the Cities assume that self-scheduling such resources would meet the availability test. Where such resources are designated as Flexible RA, however, they should be exempt from the availability assessment process during periods when they must be used to maintain local reliability. Because the ISO's need for flexible capacity generally does not occur during system peak conditions (which is when the Cities' internal resources are most likely to be needed for local reliability), the impact of such an exemption on the availability of the affected resources to meet flexibility requirements should not be significant.

ISO Response

The ISO has not proposed to rescind the exemption for currently grandfathered resources from the SCP mechanism and is instead proposing an entirely new availability mechanism. This mechanism will need new provisions to accommodate grandfathered resources, if necessary. These rules are proposed in section 6.13 and the ISO seeks input as to whether these are sufficient.

The commitment costs enhancements initiative has proposed to allow a negotiated opportunity cost for resources such as small hydro and other resources that have unique limitations. In conjunction with this, the ISO proposes in Section 6.10 a new outage category “non-environmental use-limit reached.” The ISO believes that even resources with unique use-limitations will be able to use the new outage category and negotiated opportunity cost and therefore not need to have a blanket exemption for the availability incentive mechanism.

On the two specific resources Six Cities mentions, the ISO confirms that self-scheduling during peak load periods will fully satisfy the generic must-offer obligation and the resources will not be penalized under AIM. These resources are not eligible to be exempt from the flexible must-offer obligation because flexible RA is specifically used to manage ramping needs up to the net-load peak. If a resource that is flexible RA self-scheduled during this time, the resource would be increasing the ISO’s net load ramping requirement rather than helping solve the issue. If the local reliability issues occur outside the flexible must-offer hours, then there will be no availability incentive impact and no need for the exemption. The ISO allows resources to be shown as peak category or super-peak category resources that have only a five hour must-offer requirement and these resources may be better suited to these categories if they have restrictions on their flexible use.

Elements of the Availability Incentive Mechanism - -

The Six Cities specifically support the following proposed elements of the AIM:

- Maintaining the currently effective five-hour availability assessment period for generic capacity (Revised Straw Proposal at 24);
- Monthly assessment of availability performance (Revised Straw Proposal at 24-25);
- The proposal that payments to resources for availability more than 2% above the average be funded exclusively through charges to resources for availability lower

than 2% below the average (Revised Straw Proposal at 33-34);

- The proposed availability incentive price of \$3.50/kW-month (Revised Straw Proposal at 36), which the Cities suggest should be subject to adjustment every two years based on changes in prices for RA capacity as reported by the CPUC; and
- The proposed cap on availability incentive payments of two times the availability incentive price and distribution to load of excess funds remaining at the end of each year (Revised Straw Proposal at 36, 41).

ISO Response

Thank you for your support of these elements.

Replacement and Substitution Rules:

The Six Cities support the ISO's objectives of simplifying and clarifying the rules for replacement or substitution for RA capacity that is unavailable due to planned or forced outages. In general, the Cities support the ISO's recommendations to eliminate the distinction between replacement (currently applicable to planned outages) and substitution (currently applicable to forced outages) and to address replacement/substitution requirements on a single, sequential timeline. Indeed, the Cities urge the ISO to undertake comprehensive reform of the replacement/substitution process without delay. However, as discussed below, certain recommendations in the Revised Straw Proposal are unclear or unduly restrictive and should be revised.

The Six Cities agree that the complexities and defects in the current replacement/substitution process summarized at pages 51-59 of the Revised Straw Proposal engender confusion, inconsistent treatment of resources, and unnecessary procurement, and that the process should be reformed. However, the ISO's proposed implementation of different replacement/substitution rules for the 2016 RA Year, the 2017 RA Year, and the 2018 RA Year is hopelessly confusing and inconsistent with the ISO's stated objective of simplifying and clarifying the replacement/substitution rules. A focused effort to develop and implement a comprehensive overhaul of the replacement/substitution rules and process makes far more sense than piecemeal revisions implemented over the next three years. The broad framework for a unified and coordinated timeline for the replacement/substitution process outlined at pages 59-64 and Figure 15 of the Revised Straw Proposal appears promising, and there is no obvious reason

why such a comprehensive reform of the replacement/substitution process cannot be fleshed out and in place in time for the 2016 RA Year. The Six Cities urge the ISO to move forward promptly to address in an integrated fashion all issues relating to the replacement/substitution rules and process.

The Six Cities request further explanation and/or clarification of the interrelationships among the AIM proposal and proposed revisions to the replacement/substitution rules. The discussion of the AIM at pages 22 and 39-40 indicates that planned outages for which the ISO does not require replacement and “resource outages . . . beyond the resource’s control” will be excluded from the availability assessment. How does this correlate with the concept of providing substitute capacity for an RA resource subject to a forced outage, bearing in mind that under the ISO’s recent revisions to the OMS tariff provisions, any outage that is requested less than nine days in advance (or seven days according to the ISO’s idiosyncratic counting convention) is defined as a forced outage? Does the ISO contemplate a difference in treatment between an outage considered a forced outage simply because it is requested less than nine days prior to the commencement of the outage and a forced outage that is “beyond a resource’s control?”

The Six Cities oppose elements of the Revised Straw Proposal that would place unnecessary restrictions on replacements/substitutions for unavailable RA resources. The fundamental goal of the ISO’s replacement/substitution rules should be to maintain reliability by ensuring availability of capacity sufficient to meet forecasted needs while avoiding procurement of unnecessary, excess capacity. The replacement/substitution rules should reflect not only the operating characteristics of the RA resource affected by an outage (whether planned or forced) but also the duration of the outage. In general, replacement/substitution rules for RA resources should not impose eligibility requirements more stringent than necessary for the replacement/substitution period nor more onerous than the eligibility requirements for the capacity subject to replacement/substitution during that period. The replacement/substitution rules should allow the broadest possible array of resources to satisfy the replacement/substitution requirement consistent with maintaining reliability.

Applying these principles, the ISO’s proposed terms for replacement of Flexible RA resources are unnecessarily restrictive. For an outage of limited duration, it is unreasonable to require a replacement resource to satisfy all of the criteria for the category applicable to the resource to

be replaced, as proposed at pages 48-49 of the Revised Straw Proposal. The ISO proposes that a Category 1 Flexible RA resource must be able to start up at least twice a day to be designated for a month. But if a designated Category 1 Flexible RA resource is subject to an outage (either planned or forced) for a week during a month, a use-limited resource with 15 allowed start-ups (as well as sufficient energy availability) should be eligible to serve as a replacement/substitute resource for the seven-day outage, as it will be able to meet the availability requirements for the resource on outage during the outage period. For similar reasons, the Six Cities also oppose: (1) the categorical prohibitions on allowing a use-limited resource to replace a non-use-limited resource or allowing a non-dispatchable resource to replace a dispatchable resource as recommended at page 46 of the Revised Straw Proposal, and (2) the proposal to require a “higher quality” resource providing substitute capacity to comply with the higher category must-offer requirements rather than the must-offer requirements applicable to the resource for which it is substituting (Revised Straw Proposal at 49).

Subject to the comprehensive approach to reform of the replacement/substitution rules as discussed above, the Six Cities specifically support the following proposed revisions to the replacement/substitution rules:

- Moving the deadline to provide Day-Ahead substitution from 6:00 a.m. to 8:00 a.m. (Revised Straw Proposal at 47);
- Prompt implementation of many-to-many substitution capability, including for Flexible RA resources (*Id.*);
- Expansion of substitution options for local RA resources (Revised Straw Proposal at 48);
- Release of capacity designated to provide replacement capacity if the outage that caused the replacement designation is moved (Revised Straw Proposal at 64);
- Allowing a system resource to substitute for a local resource that was designated only for system RA capacity (*Id.*).

To the extent the AIM applies to capacity subject to forced outage, the Six Cities reiterate their suggestion that the ISO allow real-time substitution for RA resources (both flexible and generic) with after-the-fact determination regarding the suitability of the substitute resource. Allowing real-time substitution for RA resources would encourage SCs to make resources capable of

operating available to the ISO when designated RA resources are subject to forced outage. Although the Cities recognize that it may not be feasible for the ISO to pre-approve a substitution request submitted after the close of the Day-Ahead Market, it is not obvious why advance approval is essential either from the perspective of the ISO or from the perspective of the SC offering the substitute resource. If an SC makes available an alternative resource and requests that it be recognized as a substitute for RA capacity that is not available, and the ISO determines after-the-fact that the substitute resource was useful or could have been useful in meeting the ISO's needs, it would be reasonable to excuse the non-availability penalty otherwise applicable to the original resource. Alternatively, if the proposed substitute resource could not effectively meet the ISO's needs, then the non-availability penalty should apply. An SC offering a substitute resource in the Real-Time Market could not be assured in advance that the substitution would be accepted, but there still would be an incentive to offer a substitute resource if there was a possibility of avoiding or mitigating a non-availability penalty.

ISO Response

The ISO appreciates the Six Cities desire to move forward with a full revision of the current RA process and replacement and substitution rules. The ISO has proposed to delay this in order to have time to work with the CPUC in their annual RA process to ensure alignment between ISO and CPUC RA rules. Additionally, the ISO is proposing significant revisions to many other areas of ISO markets and will need to prioritize rule changes in order to ensure everything be implemented in the needed timeframes. In short, it is not that the policy cannot be completed by the 2016 RA year, but that there are other coordinating elements that need to be considered.

The ISO has provided a specific list of outages that will exempt resources from the availability incentive mechanism in Section 6.9 Exempt capacity due to outages and derates. The ISO is also proposing to remove the tariff exemption for forced outages reported from seven to four days. (Section 9.2.6)

The ISO appreciates Six Cities input on the category restrictions for flexible substitution and has revised the rules to only require that the substitute resource take on the must-offer requirement (or better) of the resource on outage. The ISO will not monitor the minimum category of the substitute resource and will allow scheduling coordinators to determine their own level of risk.

Likewise, the ISO has removed the replacement rule restrictions for system resources and will not change these rules in the interim period before flexible replacement rules are developed.

The ISO will allow real-time substitution of system resources without pre-qualification or an after the fact check. The ISO has automated substitution criteria, except in the instance where the substitute resource has a lower ramp rate than the resource on outage. In that circumstance a day-ahead operator would have to manually approve or disprove the substitution. Given that the ISO now will have flexible RA, a ramp rate check for system resources is no longer needed to maintain system reliability. Therefore the ISO proposes to remove the ramp rate rule for system substitution.

Company	Date	Submitted By
Viasyn	9/5/14	Sean Breiner (925) 904-4424

Page 14 — Intertie resources providing flexible RA capacity

The ISO seeks stakeholder input on how to assess imports for flexible capacity, stating that the flexible RA program is designed to address both long duration and short duration ramping needs, and while imports could provide long duration ramping service they lack the dispatchability to resolve intra-15-minute ramping needs.

While the flexible RA program was designed, in total, to address both long duration and short duration flexibility needs, the program recognizes that some resources are better characterized to address only a subset of this overall flexibility need. Regulation Energy Management (REM) capacity, for example, can be procured as flexible RA category 3 capacity even though this capacity type can only provide the CAISO with additional regulation service - a short duration flexible ramping product. Integrating import capacity - a long duration flexible ramping product - into the flexible RA program is therefore not idiosyncratic with the goals of the flexible RA program, but is rather complementary to the exception made for REM.

The ISO also allows demand response resources to offer category 3 flexible RA capacity, even though these resources are not capable of providing load following or short duration ramping

capability (intra-15-minute).

In light of the Spring 2014 release collapse of real-time-market economically bid-in imports,² and with consideration towards the above two exceptions to the requirement that flexible capacity must be capable of "simultaneously addressing load-following and long, steep ramps, as long as the resources providing the flexible capacity are available for five-minute dispatch,"³ the ISO should have less difficulty integrating imports into the flexible RA program design. This would only serve to improve the quality of import capacity available to the ISO and to increase the attractiveness of the import market to stakeholders.

Just as the flexible RA program would be unworkable if 100% of the flexible RA capacity was REM, the same would be said for 15-minute dispatchable imports. Therefore, a maximum procurement limitation should be levied on imports just as it is for REM. A comparative analysis of the flexible capacity needed to resolve 5-minute versus longer duration flexibility needs would provide a bright line that identifies the point beyond which procurement of imports as flexible RA would become burdensome for system reliability (i.e. the point beyond which too much 5-minute dispatchable capacity becomes boxed out by 15-minute dispatchable capacity in flexible RA procurement). It is likely that this analysis would show that permitting imports to offer category 2 or 3 flexible RA would only serve to contribute towards total system flexibility.

We request the ISO provide clarity around treatment of EIM participating resources. Since these resources are 5-minute dispatchable they already meet the most stringent definitions under FRAC-MOO.

¹ <http://www.caiso.com/Documents/RevisedStrawProposal-ReliabilityServices.pdf>

² Economically bid-in imports in HASP more than halved on May 1, 2014.
[http://www.caiso.com/Documents/Agenda- Presentation MarketPerformance-PlanningForum_Sep9_2014.pdf](http://www.caiso.com/Documents/Agenda-Presentation_MarketPerformance-PlanningForum_Sep9_2014.pdf)

³ Revised Straw Proposal at pg. 14.

ISO Response

The ISO appreciates the need to allow import resources to provide flexible capacity. The recent FERC ruling conditionally approving the ISO's Flexible Resource Adequacy Criteria and Must Offer Obligation tariff instructed the ISO to submit an informational filing by January 1, 2016

showing what the ISO is doing to integrate imports into the flexible capacity model or show why this cannot be done. The ISO has included additional information about the assessment it plans to conduct in phase 2 of this proceeding in the second revised straw proposal.

Page 18 — Default energy bids for non-generating resources

As a straw man argument, we would posit that an offer from a non-generating resource for energy will be based on a price spread between a decremental economic bid (charging energy; DEC) and an incremental economic bid (discharging energy; INC). The price spread between DEC energy bid and INC energy bid must at least recover (1) cycle-life charging and discharging costs, (2) compensation for taking on the risk that stored energy cannot be discharged in future intervals at a profit (i.e., the risk that future market prices will not rise above the incremental economic energy bid). Market revenue associated with price fluctuations below the DEC bid and above the INC bid can be classified as inframarginal rent. It can be assumed that fixed costs are recovered in the capacity markets.

Fixing the price spread relationship between INC bid and DEC bid is not enough however to mitigate the potential exercise of market power because a non-generating resource may still move the price spread far into the negative or positive price range so as to manipulate the market. That is, assume a resource requires a \$70/MWh profit on the spread to recover variable expenses, a DEC Bid of \$20/MWh and an INC Bid of \$90/MWh would recover such expenses just as a (\$100)/MWh DEC Bid and (\$30)/MWh INC Bid would, however the latter scenario would introduce unusual inefficiencies associated with prices not reflecting economics and system conditions. Tying the price spread to average market prices would remedy this adverse outcome while still allowing the resource to recover variable expenses.

We recommend the ISO consider a default energy bid for an INC economic bid from a non-generating resource be set based on a price spread above the same resource's DEC economic bid so as to ensure variable expenses are recovered. In the day-ahead market (DAM), the DEC and INC economic spread could be placed half-way around the trailing average market price for a predetermined number of market intervals. In the real-time market (RTM) the DEC and INC economic spread could be placed halfway around the average DAM price for the same hour.

This would be better than the trailing average of RTM prices for multiple reasons, but primarily because the RTM is an imbalance market and prices in a previous interval are not likely to provide as reliable an indication of the price level for power in the current interval.

The equations in the day-ahead market (DAM) could be:

$$\text{INC_DEBHE_X} = \text{DEC_DEBHE_X} + \text{VariableExpenses}$$

$$\text{DEC_DEBHE_X} = \text{DAM_LMPHE_X-1} - \text{VariableExpenses}/2$$

The equations in the real-time market (RTM) could be:

$$\text{INC_DEBHE_X} = \text{DEC_DEBHE_X} + \text{VariableExpenses}$$

$$\text{DEC_DEBHE_X} = \text{DAM_LMPHE_X} - \text{VariableExpenses}/2$$

This potential mechanism for calculating a non-generating resource's default energy bid is a simplification and would likely need to be modified to reflect the work taking place in the Flexible Ramping Products Initiative, among other potential considerations.

ISO Response

While the ISO appreciates the proposal, the current non-generator resource model does not provide for spread bidding. As such, applying the proposed default energy bids is not compatible with the current non-generator resource product design. The ISO has conducted further review of the available means for determining the default energy bids and determined that they can be applied to non-generator resources.

Page 36 — How to make AIM price durable

Viasyn views the AIM price of \$3.5/kW-Month as reasonable and not unduly burdensome. This level represents a value very close to the average prices for RA as listed on the CPUC's 2012

Resource Adequacy Report, as it should be. The price cap set at double the AIM price also

appears reasonable.

The AIM price should be tied to bilateral RA prices provided by the CPUC on an annual basis. The efficiencies that the overall RSI proposal will create in the RA program (consolidation of substitution responsibility, certainty of availability assessment bandwidth, clarity around mechanism applicability, etc.) will, all else equal, create prices in the bilateral market more directly tied to the value of the product being sold (resource adequacy), with regulatory uncertainty and complexity of compliance occupying a lesser role than before. By tying the AIM price to bilateral prices under the improved RA construct, the AIM price can trend with the value of the products being sold. That is, as capacity becomes tight (flush) and RA prices rise (drop), the penalty price will rise (drop) proportionately.

A linear scalar could be used to tie the AIM price to bilateral prices. For example assuming the ISO uses the Weighted Average Price for all RA capacity transacted for 2012-2016 (\$3.28/kW-Month) as identified in the CPUC's 2012 Resource Adequacy Report,⁴ the scalar would be 1.067. Therefore if the weighted average price next year rises to \$3.4/kW-Month the penalty price will rise proportionately to \$3.6278/kW-Month.

Because the AIM price of \$3.5/kW-Month is likely to receive acceptance from stakeholders the scalar used to tie this price to bilateral prices becomes arbitrary. Therefore the ISO and stakeholders should determine what bilateral data will be examined on a systematic basis to determine the AIM price. We recommend a data set be used that represents the near-term RA market such as the median price of all RA capacity transacted for the 2015-2016 RA years, and maintain that percentage relationship as the data is updated year-over-year. A median price should be used so as to mitigate the effect of outliers. All RA capacity transactions reported to the CPUC should be used because the AIM price is applied to all RA capacity categories.

⁴ Table 11, Page 24, 2012 Resource Adequacy Report, April 2014.
<http://www.cpuc.ca.gov/NR/rdonlyres/94E0D083-C122-4C43-A2D2-B122D7D48DDD/0/2012RARReportFinal.pdf>

ISO Response

Thank you for your suggestion. The ISO considered tying the price directly to the CPUC RA

bilateral report, but is concerned that although the report is a helpful gauge, using a specific price in the report will influence contracting prices. The ISO is aware that the contracts surveyed by the CPUC have very different terms and conditions. Because the ISO would only be using a reported price and not taking in account terms and conditions, a blind use of this price could lead to suppliers changing their contracting or reporting practices to influence the average bilateral price.

Additionally, the ISO does not have visibility in to the data behind the CPUC RA report so while it is a useful number to use as a check on the proposed price, the ISO does not want to exaggerate the importance of an analysis in creating an availability price that only needs to reflect a high average bilateral RA contract price and not a specific data point.

Page 37 — Wind and solar exemption under AIM

Viasyn supports the exemption of variable energy resources (VERs) from the AIM proposal because the incentive mechanism for this category of capacity is already embedded in the determination of their qualifying capacity. We recommend that any category of capacity that is already exposed to an availability incentive mechanism embedded in the determination of their qualifying capacity be similarly exempt from the AIM proposal, such as non-dispatchable resources as run-of-river hydro and many municipal waste treatment facilities. This would include all resources that utilize a historic qualifying capacity (HOC) determination.

ISO Response

Thank you for your comments. Please see the response to your comments on use-limited resources.

Page 37 — VER bid up to forecast to be 100% available

Viasyn strongly supports allowing VERs to offer flexible RA capacity through the submission of economic bids to be decremented below the forecast. This functionality provides the ISO with additional capacity to resolve over-generation conditions and allows resources to be better positioned to resolve upward ramping needs.

The ISO should create a default EFC determination methodology for VERs in this initiative as one was not created in FRAC-MOO. The EFC for VERs will likely take into account upward and

downward ramp rates which are likely to be complicated by irradiance or wind speed in any given interval.

While we strongly support the ISO's proposal to incorporate dispatchable VERs into the flexible RA program, we recommend the ISO re-examine the relationship between real-time market Inter- SC Trades (ISTs) and fifteen-minute market (FMM) self-schedules, as the current construct disincentivizes many VERs to offer dispatch capability to the ISO. While many PPAs specify that VERs will not curtail output to economic signals, this is not our concern because this clause is easily modifiable. Our concern is that many VER PPAs specify payment at the PPA rate to be based on the Physical IST quantity. Therefore any market design or resource operation that reduces the Physical IST quantity will be deemed undesirable for the resource. A VER with this type of PPA would not submit decremental economic bids because if such bids were awarded, the Physical IST quantity submitted that hour would be reduced to match the new, lower dispatch point and a Converted Physical Trade (CPT) will be generated for the difference. To overcome this disincentive VERs will be required to economically bid close to the bid floor of (\$150).

While outside of the scope of this initiative, we note here that we have observed multiple resources to be significantly harmed after the introduction of the fifteen-minute market (FMM) this spring because of the modified relationship between real-time market ISTs and FMM self-schedules for VERs. If the structure of real-time ISTs and their relationship to the supporting FMM schedules is determined to be ideal by the ISO, then market participants will adapt their bilateral arrangements. However it is not clear at this time that the trades and bids in the real-time market are ideally structured so as to incentivize either enhanced dispatchability or efficient settlement outcomes.

ISO Response

Thank you for your comments. As you pointed out this is out of scope for the RSI, but I have passed your comments along to Don Tretheway who developed the VER bidding rules and led the FMM initiative.

Page 40 — Types of use-limitations that require AIM exemption

Resources that have their qualifying capacity assessed based on a historic qualifying capacity (HOC) determination should be exempt from AIM because these resources are already exposed to appropriate incentives to ensure their contracted capacity is made available. Such resources include VERs, run-of-river hydro, and other non-dispatchable resources such as municipal waste treatment facilities. These non-dispatchable resources should not be exposed to two incentive mechanisms that have the same general effect.

ISO Response

The ISO proposes to exempt solar, wind, and CHP resources from the generic availability incentive mechanism. The ISO is also considering whether it makes sense to exempt run-of-river hydro.

Page 46 — Feedback on clarification of use-limited status

Use-limited status should be used to identify resources that are dispatchable, but are however constrained in their ability to maintain that dispatchability over an extended period of time. For example peaker generation with emissions restrictions or proxy demand response resources would be classified as use-limited.

Historic qualifying capacity (HOC) resources that are not dispatchable should not be classified as use-limited. VERs, run-of-river hydro, and non-dispatchable municipal waste treatment facilities are examples of HOC resources that should not be classified as use-limited.

This clear delineation is useful in mitigating ambiguity. Use-limited status should be used for resources that are first of all dispatchable and subsequently constrained in that dispatchability. HOC, output constrained, or another classification should be used for resources that are, in the first analysis, constrained in their ability to be dispatched.

ISO Response

Defining use-limited has been dropped from the scope of this initiative. The ISO is instead revising the definition of use-limited in the Commitment Costs Enhancements phase two initiative and has passed along these comments.

Page 46 — Dispatchable resources offering planned outage replacement

The ISO allows a resource to be classified as dispatchable if it meets one of two criteria: (1) the

resource is new, or (2) the resource has submitted at least 10 economic hourly bids within the previous year. We recognize that the ISO is increasing the stringency of the term dispatchable for purposes of replacement, as a resource would already have to be classified as dispatchable in the Master File for the resource to have submitted 10 economic bids within the previous year.

The ISO should recognize that there are multiple scenarios where a non-dispatchable resource makes the decision to become dispatchable. This would require a Pmax test and a change in the Master File. The ISO should modify criteria 1 to state that if the resource is new or has been changed in the Master File to be classified as dispatchable within the previous year, it may be classified as dispatchable for purposes of replacement.

ISO Response

The ISO has removed the dispatchable criteria for outage replacement. Additionally, FERC has ordered that Effective Flexible Capacity should not require the resource to have submitted economic hourly bids and should be entirely based on resource physical characteristics.

The ISO agrees with these comments and acknowledges that there is a need to better define “dispatchable”.

Company	Date	Submitted By
Western Power Trading Forum Comments	9/5/14	Ellen Wolfe Resero Consulting for WPTF 916 791 4533 ewolfe@resero.com
Opening Comments		
<p>WPTF has chosen to submit these comments on the CAISO’s latest Reliability Services Initiative (RSI) proposal (Revised Straw Proposal, August 11, 2014) and its latest Capacity Procurement Mechanism (CPM) discussions (from the August 25, 2014 workshop) in a single document because key issues from the two initiatives are interrelated.</p> <p>Generally, WPTF believes that the availability incentive mechanism and the CPM mechanisms should recognize that flexible service is a superior product to generic service. This would be consistent with the CAISO’s implementation of a specific Flexible RA product. Further, WPTF</p>		

would ultimately like to see market-based procurement mechanisms for RA replacement and CPM. However, given that the CPUC has not yet authorized a multi-year RA requirement for LSEs, and given the limited number of CPM designations for insufficiency, we do not expect a sophisticated CPM auction mechanism to be particularly valuable at this time.

Rather, given the limited impact of the CPM mechanism at this time and the limited premium that Flexible RA is commanding during these initial years of FRAC MOO, WPTF is supportive of considering alternative, more simple, approaches.

ISO Response

Thank you for your support of a simple alternative.

Regarding the Availability Incentives Mechanism,

whereas WPTF believes added incentives for flexible performance are preferred, WPTF is willing to consider a single incentive payment for generic and flexible capacity. WPTF is more supportive of this approach if the penalty for a failure in a single hour is proportionally more for generic service than for flexible service (as the CAISO has proposed) by virtue of the fact that the offer requirement for generic is concentrated in a smaller number of hours. This will equilibrate the incentive impacts to some extent rather than having the much longer Flexible RA must offer obligation carry a much larger risk.

ISO Response

The ISO appreciates both the on-going discussion with WPTF on this matter and their support for a single incentive payment approach at this time.

Regarding the CPM Replacement,

WPTF believes a higher CPM replacement price is appropriate for flexible capacity, but WPTF would be willing for simplicity's sake to consider a single designation for the highest quality of service a resource is able to provide within a specified operating range (e.g., a unit receiving a CPM designation in its flexible range would receive a generic+ flexible designation and have a Flexible RA must-offer obligation). This we believe is consistent with SCE's CPM replacement proposal presented on August 25, 2014.

ISO Response

The ISO also believes this is consistent with SCE's presentation and appreciates the support for the simplified design.

Regarding the Competitive Solicitation Process (CSP)

WPTF encourages discussions about simplifications. One such simplification would be to establish a CPM replacement price. Then, for any CPM need, the CAISO could accept offers from other Suppliers to provide the backstop at any price below CPM. By continuing a fixed CPM price this allows competition when competition exists and allows the CAISO to simply grant a CPM designation to a single unit at the CPM price if no other supplier offers less than CPM. With the presumption that we continue to view the CPM price as reasonable, then no cost demonstrations would be needed under such an approach; either a supplier would receive CPM or suppliers would under-bid CPM. Especially during the next several years when capacity is likely to be in excess of needs and during which it is likely that no multi-year RA requirement will be in place, it may be inefficient to apply an extensive CSI mechanism.

ISO Response

The ISO believes this is consistent with the soft offer cap proposal and looks forward to WPTF's participation in the settlement discussions.

Regarding the RSI replacement proposal

WPTF is not particularly opposed to the CAISO's proposal whereby the risk of replacement would be directed solely to the supplier. However, WPTF believes that the CAISO should include consideration of further transparency and coordination on outage planning in the RSI stakeholder process. In particular, WPTF believes that it is of the utmost importance for market participants to understand the risk, for example, of having the CAISO move or cancel a generating unit outage and thereby cause the supplier to incur replacement costs in a subsequent month. WPTF would like the CAISO to add to the discussion such questions as: What decision criteria does the CAISO use to prioritize outages? How does the CAISO trade-off between transmission and generation outages?

ISO Response

Currently, the ISO prioritizes planned generation and transmission outages in a last in, first out (LIFO) order. If a planned generation outage is requested prior to a planned transmission outage, the generation outage will have priority. Likewise if the planned transmission outage was requested first, it would have priority. The ISO recognizes that there may be benefits to assessing other characteristics to give one or the other priority, but has not implemented any such practices.