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Part 2: Availability Incentive Mechanism

Summary

The general design of the Availability Incentive Mechanism was received positively by most market participants [CESA, EnerNOC, IEP, LSA, ORA, Viasyn]. CESA believes that a more efficient evaluation of reliability as well as a more equitable framework will develop from a bid-based assessment. While not fully supportive, most other market participants find the bid-based assessment design to be at least reasonable [EnerNOC, IEP, LSA, NRG, SDG&E, Six Cities, Viasyn]. SDG&E notes that the proposed bid-based assessment is a more appropriate measurement than using forced outage information because of the obligations of flexible RA resources and future demand response resources. SCE was the exception, seeing no need to change the current SCP availability incentive mechanism.

Additionally, ORA states concerns that the mechanism may increase availability awards for gasfired generation, creating a disadvantage for use-limited resources. NRG, PG&E, Six Cities and Viasyn all point out that a daily assessment is unreasonable compared to a monthly assessment.

ORA supports the proposed fixed availability percentage band and its intent to adapt to future grid needs. Overall, most market participants are also willing to move forward with this feature, however they offer various adjustments for CAISO to consider [IEP, NRG, ORA, PG&E, Viasyn, WPTF]. SCE believes the self-funding mechanism has the potential for costs and revenues to become misaligned and recommends that some form of revenue sharing be developed to offset the cost of backstop procurement to mitigate the impact on load. SDG&E opposes the fixed availability percentage band, stating that one standard for the entire fleet could disproportionately favor or punish one resource.

Responses to the single assessment for overlapping flexible and generic capacity are generally supportive amongst market participants. PG&E, among others [Calpine, IEP, NRG, SDG&E, Viasyn] find a single assessment to be reasonable. CDWR supports separate prices and WPTF ask CAISO to examine other options.

NRG supports CAISO's proposal to remove the cap on incentive payments, believing this to be even more of an incentive for resources to be available.

In regards to price, Calpine finds a price tied to the offer cap to be a simple and reasonable basis rather than one directly tied to fluctuating market conditions. Viasyn and PG&E also support a price tied to the offer cap. SDG&E does not believe that capacity contract data from the CPUC accurately reflects market conditions. In addition, NRG notes that "while there is simplicity in using the CPM price as the AIM penalty price, there is no inherent relationship between those two prices". Similarly, IEP points out that the product associated with backstop procurement is distinct from the product associated with AIM.

Both SDG&E and Six Cities would like CAISO to consider allowing currently grandfathered resources with pre-existing contractual agreements to continue exemption from the mechanism. Lastly, Six Cities suggest revenues from non-availability penalties be distributed to Measured Demand, and IEP disagrees that any of that "charge" be diverted to LSEs.

Finally, IEP along with other stakeholders ask for grandfathering of signed contracts on the grounds that this policy will affect their contractual agreements.

ISO Summary Response

The ISO appreciates stakeholder's comments and given the general support for the overall design will move forward with limited changes.

One of the things participants commented on most was the connection between the AIM price and CPM price. The ISO thinks that participants made good points on both sides (whether they should be connected) and proposes this as a topic for discussion at the CPM working group meeting on Monday, August 25th.

On grandfathering: policy changes at the ISO should be expected, especially during this period of unprecedented renewable expansion and flexible RA requirements. If the ISO issued a blanket exemption to all contracts already signed prior to this new availability incentive mechanism, the ISO would likely exempt 75% of all resources. This would allow a significant portion of the fleet to take forced outages or not bid into the energy markets without immediate consequences. It would neuter the value in having an availability incentive mechanism and would likely lead to more frequent exceptional dispatch and significant event CPMs. The cost of this would ultimately be borne by load serving entities. It is in everyone's interest- suppliers, LSEs, ISO- to address the new availability incentive mechanism out contractually to the extent possible and for the proposal to allow only limited, targeted exemptions.

Alliance for Retail Energy Markets (AReM)

AReM comments: When a resource sells system, local, or flexible capacity, that sale carries a must-offer obligation. An unexcused failure to meet the must offer obligation should carry with it some sort of sanction as it represents a failure to meet its obligation. For instance, if resources have sold flexible capacity, but continue to self schedule or otherwise fail to offer capacity as required, there should be consequences for that, just as there are penalties for LSEs who fail to procure capacity in required quantities. Currently, an RA resource that fails to bid and has not provided notification of an outage has a default bid inserted for it, and if the resource is indeed unavailable, that unavailability will be reflected in the incentive payment structure. As AReM understands it, the purpose of the new structure, where availability is predicated upon bids, is intended to ensure that the flexible resources have actually submitted economic bids in the day ahead market, and are not using outage reporting to avoid the prohibition on self-scheduling.

AReM is not necessarily opposed to this new mechanism, but would like to have more discussion of possible unintended consequences. For instance, the new proposal seems to suggest that an entity may consider the economics of failing to meet the obligation in deciding whether or not to comply; indeed the fixed band proposal, which imposes no incentive charge as long as the resource has bid 94.5% of the must offer obligation tells all resources that failure to meet 5.5% of the obligation is acceptable. Similarly, allowing a resource to garner additional incentive payments for bidding above the contracted quantity may only serve to incent a resource owner to

hold back some capacity knowing that it can make up the revenue through the availability incentive.

ISO Response

The basis for penalizing for 100% of forced outages is that the 115% planning reserve margin (PRM) adopted by most LRA's accounts for a certain amount of forced outages. It is not the ISO's intent to incent substitution beyond what the ISO needs, only as much as planned for in the PRM.

The ISO does not believe that providing payments to capacity that provides on average more than the availability will incent resources to hold back some capacity as the supplier can only receive payments for the amount shown on their RA plan. In order for holding back capacity to be worthwhile the supplier would have to receive more through incremental incentive payments achieved by the held back capacity being substituted in for an RA resource on outage than the capacity would receive for a full or partial RA capacity contract. The payment would have to be very high per MW for this to be worth it to the supplier to intentionally hold back capacity. Although the ISO does not think this situation is likely, a cap on the incentive payment per MW may mitigate the risk. Therefore, the ISO proposes a cap of double the penalty price.

There is another related issue that must be considered and that is to clarify how outages, forced and planned, are treated in the development of a resource's Qualifying Capacity ("QC"), and how that in turn informs the level of the Planning Reserve Margin ("PRM"). If outages are taken into account in assigning QC to a resource, then the PRM should be lower than if the QC does not reflect any outage information. That is, the PRM can be relaxed if the available capacity has already been corrected for outages. Moreover, if a resource's QC reflects outages, then it could be questionable whether there should be any performance incentive at all, since improved performance will be reflected in the resource's QC.

AReM believes that the potential for unintended consequences from the general design of the proposed availability incentive bear further consideration, and that the interrelationships of QC the PRM, and incentive payments needs further discussion and simplification as well.

ISO Response

The planning reserve margin (PRM) varies by LRA; however, the majority of the ISO's load has a 115% PRM. Outages are only taken into account in the QC of variable energy resources and do not affect the PRM as it is for the most part is fixed and does not vary from year to year. (Although one could imagine that a significant increase in forced outages potentially could cause LRA's to change their PRM, this is unlikely to occur except in the very long-term.)

California Department of Water Resources (CDWR)

a. Comments on design features

i. Bid-based assessment

- <u>A.</u> For a Participating Load (Pumping Load as referenced in the tariff section 40.6.4.3.2), the non-spin ancillary service bid should be counted towards availability in the DAM instead of "energy" as discussed in 1(ii) above. Otherwise, if an energy bid is required in the DAM, its availability would be zero as it cannot submit an energy bid in the DAM due to the current BPM rules and modeling of PL, which would effectively eliminate current provisions that allow participating load to meet generic RA obligations. Alternatively, if an energy bid must be considered, then the Participating Load's RTM energy bid could be used without DAM bid assessment.
- <u>B.</u> For a Participating Load used for RA, bid assessment should also include tracking demand bids for the same hour. If there is no demand bid for that hour, then there won't be an ancillary service bid in the DAM or an energy bid in the RTM. When there is no demand bid during the availability assessment hour, such hours should be taken out of the availability assessment so that the resource is not penalized for not having load to meet. This may happen because water demand varies on a daily basis. Reducing demand does not cause reliability concerns to ISO, especially during availability assessment hours which normally fall during the system peak.

hours	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24
RA	5	5	5	5	5	5	5	5	5	5	5	5	5	50	50	50	50	50	5	5	5	5	5	5
capacity	U	U	U	U	U	U	U	U	U	U	U	U	U						U	U	U	U	U	U
IFM	9	9	9	9	9	9	9	9	9	9	9	9	9	90	90	0	30	90	9	9	9	9	9	9
demand	0	0	0	0	0	0	0	0	0	0	0	0	0						0	0	0	0	0	0
schedule																								
IFM non-														50	50	0	30	50						
spin bid																								
IFM non-														50	30	0	30	50						
spin																								
Award																								
RTM														50	30	0	30	50						
Energy																								
bid																								
Monthly														50	30	0	30	50						
RA																								
Capacity																								
used for																								
availabilit																								
У																								
calculatio																								
n																								
Hrly AIM														100	100	100	100	100						
Availabilit																~	~							
у, %																								

In the example above, in a random day, there is no demand schedule in the IFM at hour 16. Consequently there is no non-spin bid for the same hour in the IFM and no energy bid in the RTM also. For availability assessment, Hour 16 should be excluded from the calculation since there is no demand in that hour. Ideally, availability assessment for the Participating Load in this scenario should be based on hours 14, 15, 17 and 18, only when there is A/S non- spin bids for these hours with demand schedules. Alternatively, if energy bids must be considered, then an RTM energy bid only could be considered for the hours when there is actual demand. If IFM non-spin and RTM energy bids are to be considered for the availability assessment, then hours when demand schedule is zero should be excluded. In case of a non-zero demand schedule that is less than the RA capacity (Hour 17), RA capacity for that hour should be equal to the IFM demand schedule (similar to wind and solar updated dynamic forecast proposed under section 6.9) which is 30 MW for the hour 17 in this example.

With the concept illustrated above, the availability for the day should be 100% assuming availability assessment hours are hours 14 through 18. For reference, CDWR has developed and attached a Calculation Model for a Participating Load based on RTM energy bid as indicated by ISO during June 23rd web-conference.

ISO Response

The ISO agrees with CDWR's assessment and will create a rule that says pumping load will only be evaluated for availability in real-time in the circumstance where the demand schedule is greater than zero.

- iii. Single assessment for flexible and generic overlapping capacity
 - C. Complexity seems to be the main issue in terms of overlapping of two types of RA capacities for the same resource. The CAISO example (Figure 8, page 36-37) shows 40 % total availability even when the resource met its generic RA by 100%. Same price for incentive whereas different availability for the same capacity creates inconsistency between value and availability for the same capacity of the resource. It would be interesting to see if separate assessments for flexible and system RA would yield value based availability. The CAISO concern that separate assessment would impose a double penalty in case the resource performs poorly in both types of RA, could be addressed by different prices for the flexible and generic RA.

ISO Response

The ISO believes that assessing flexible RA and system RA availability separately would decrease the incentive for resources to provide economic bids for overlapping capacity. In order to not impose a double penalty on a resource for a single outage and still assess flexible and system RA separately, the ISO would have to have come up with prices that incent resources enough to comply with both requirements independently, yet do not double penalize capacity for a single outage. This is because the availability incentive mechanism applies to capacity that is solely system RA, solely flexible RA, or both flexible and system RA.

The ISO does not believe in the construct where a MW can be shown as only flexible RA or only system RA, or as both system and flexible RA that it is possible to have separate prices for flexible RA and system RA without negative consequences. Under the two price system, either the ISO undervalues flexibility availability or double penalizes a resource that is shown as both flexible and system RA. This is because capacity has to cover its underlying going forward fixed costs regardless of whether it is shown as flexible and system RA. Therefore, there is no adder price to system RA that would appropriately incent capacity shown as only flexible RA to be available.

A simple example illustrates this point: Assume a resource's NQC = EFC = 100 MW and it must recover \$3.5/kW- month. It believes that providing flexible RA will have a \$.5/kW-month adder. The resource then would sell its capacity for either \$3.5/kW-month as system RA or \$4.0/kW-month as flexible and system RA, or \$4.0/kW-month as flexible only RA. There is no difference in cost to the resource to provide system and flexible RA or flexible only RA. The resource can be shown to the ISO in three ways. However, in all cases in order to incent the resource to be available, the ISO has to have a price that is a significant enough proportion of the resources payments.

If the incentive prices were (as some participants have suggested) a system price and then "adder" flexible price, the incentive to be flexible would be small at best and non-existent at worst. For example, assume an availability price of \$3.5/kW-month for system RA and \$.5/kW-month for flexible RA. The following would then occur:

- If the resource was shown as flexible RA only, the ISO would only incent it by penalizing or paying it \$.5/kW-month. This is only 1/4th of its capacity payment and far smaller than the resources RA payment of \$4/kW-month, which undervalues flexible capacity.
- If the resource is shown as flexible and system RA and self-schedules for large portions of the month, the resource could end up being paid under the incentive mechanism for being fully compliant with the system obligation at up to \$7/kW- month (twice the system price) and only end up being penalized \$. 5/kW-month for sometimes not fulfilling the flexible obligation. This also undervalues the flexible RA portion of the resource and undermines the availability incentive mechanism for flexibility.

If the ISO therefore made both the flexible and system RA price equal at \$3.5/kW-month, the ISO would end up over-penalizing resources on outage. For example, the following would occur:

• If the resource was shown as flexible and system RA and went on outage, the ISO would penalize the resource by charging it \$7/kW-month. This is now overly punitive to the resource.

Therefore the ISO proposes to assess a single MW at a single price under a single availability

metric. This essentially puts all flexible resources in a bucket and all generic resources in a

bucket and then assesses these buckets in the exact same way using the same price.

- d. Comments on capacity and resource exemptions
- D. To the extent, CDWR's proposed availability assessment calculation model for Participating load under 2b(i) above is not acceptable, Participating Load resources should be exempt from AIM (section 6.12), as it is currently exempt from the availability assessment so that such resources could be used for RA obligation as established by the Local Regulatory Authority (LRA) criteria.

ISO Response

CDWR's proposed availability assessment for participating load appears reasonable and is

preferable to a blanket exemption.

California Energy Storage Alliance (CESA)

a. Comments on the general direction of the design

CESA Response: CESA is generally pleased with the direction of the Availability Incentive Mechanism design. Moving toward a bid-based assessment rather than an outage-based assessment enables an efficient evaluation of how resources provide reliability services to the grid as well as a more equitable framework across resources.

e. Other Comments

CESA Response: While potentially outside the scope of this initiative, CESA urges the CAISO to include the ability for NGRs to place multi-segment bids. As with other conventional resources such as multi-stage generators (MSGs), different bids for different levels of MW output should be considered. Certain classes of energy storage technologies may have different incremental costs at various output levels for charge and/or discharge. Segmented bidding would capture these incremental costs.

ISO Response

Thank you for your comments. Allowing NGR's to place multi-segment bids is outside the scope

of the RSI; however, the comment was passed along to the appropriate people.

California Large Energy Consumers Association (CLECA)

No comments submitted for AIM section.

Calpine (CPN)

a. Comments on the general direction of the design

The basic design of the incentive appears coherent. Generally, Calpine does not fully understand the motivation for a design based on a single availability measure for each hour rather than distinct availability measures for flexible and generic RA, as in some previous proposals. Leaving current availability incentives in place for generic RA but introducing new additional availability incentives for flexible RA might require fewer changes to current market rules and disrupt existing contracts less.

ISO Response

The ISO believes that assessing flexible RA and system RA availability separately would decrease the incentive for resources to provide economic bids for overlapping capacity. In order to not impose a double penalty on a resource for a single outage and still assess flexible and system RA separately, the ISO would have to have come up with prices that incent resources enough to comply with both requirements independently, yet do not double penalize capacity for a single outage. This is because the availability incentive mechanism applies to capacity that is solely system RA, solely flexible RA, or both flexible and system RA.

The ISO does not believe in the construct where a MW can be shown as only flexible RA or only system RA, or as both system and flexible RA that it is possible to have separate prices for flexible RA and system RA without negative consequences. Under the two price system, either the ISO undervalues flexibility availability or double penalizes a resource that is shown as both flexible and system RA. This is because capacity has to cover its underlying going forward fixed costs regardless of whether it is shown as flexible and system RA. Therefore, there is no adder price to system RA that would appropriately incent capacity shown as only flexible RA to be available.

A simple example illustrates this point: Assume a resource's NQC = EFC = 100 MW and it must recover \$3.5/kW- month. It believes that providing flexible RA will have a \$.5/kW-month adder. The resource then would sell its capacity for either \$3.5/kW-month as system RA or \$4.0/kW-month as flexible and system RA, or \$4.0/kW-month as flexible only RA. There is no difference in cost to the resource to provide system and flexible RA or flexible only RA. The resource can be shown to the ISO in three ways. However, in all cases in order to incent the resource to be available, the ISO has to have a price that is a significant enough proportion of the resources payments.

If the incentive prices were (as some participants have suggested) a system price and then "adder" flexible price, the incentive to be flexible would be small at best and non-existent at worst. For example, assume an availability price of \$3.5/kW-month for system RA and \$.5/kW-month for flexible RA. The following would then occur:

- If the resource was shown as flexible RA only, the ISO would only incent it by penalizing or paying it \$.5/kW-month. This is only 1/4th of its capacity payment and far smaller than the resources RA payment of \$4/kW-month, which undervalues flexible capacity.
- If the resource is shown as flexible and system RA and self-schedules for large portions of the month, the resource could end up being paid under the incentive mechanism for being fully compliant with the system obligation at up to \$7/kW- month (twice the system price) and only end up being penalized \$. 5/kW-month for sometimes not fulfilling the flexible obligation. This also undervalues the flexible RA portion of the resource and undermines the availability incentive mechanism for flexibility.

If the ISO therefore made both the flexible and system RA price equal at \$3.5/kW-month, the ISO would end up over-penalizing resources on outage. For example, the following would occur:

• If the resource was shown as flexible and system RA and went on outage, the ISO would penalize the resource by charging it \$7/kW-month. This is now overly punitive to the resource.

Therefore the ISO proposes to assess a single MW at a single price under a single availability metric. This essentially puts all flexible resources in a bucket and all generic resources in a bucket and then assesses these buckets in the exact same way using the same price.

b. Comments on design features

iii. Single assessment for flexible and generic overlapping capacity Could the CAISO explain the claim in section 6.5.3 that "This proposal also reflects the fact that the ISO created the flexible requirement in part due to difficulties with oversupply." Is the CAISO referencing the current oversupply of generic RA capacity relative to the planning reserve margin, the oversupply of self-scheduled resources in CAISO spot markets, or something else? In what sense have concerns about oversupply shaped the CAISO's availability incentive mechanism proposal?

ISO Response

We appreciate this question and agree that "oversupply" is not at all clear within this context. What we meant was the oversupply of self-scheduled resources in ISO energy markets. The idea is simply that we don't want to provide resources an incentive payment if they committed the MWs to be flexible and then only complied with the generic must-offer requirement and selfscheduled. This would defeat the purpose of having flexible RA requirements as the majority of flexible RA will overlap with generic RA.

iv. Other features

Calpine requests clarification of the claim in section 6.5.2 that "Practically, the ISO may not be able to freely dispatch Pmin capacity even without a self-schedule due to minimum run-time constraints; however, this was not addressed in the initial development of the EFC and will not be addressed in phase 1 of this initiative." The claim suggests that resources with different minimum run-time (and perhaps other) operating constraints, that are not considered in the current EFC counting rules, have different value to the CAISO with respect to addressing operational flexibility problems. Throughout their development, Calpine repeatedly expressed concern about the treatment of operating characteristics in the EFC counting rules. In particular, Calpine suggested that resources that require day-ahead starts should not be counted the same as resources that can be started during the operating day. To reflect the value of different operating characteristics that are not currently considered in EFC counting rules in this initiative and the CPUC RA proceeding.

ISO Response

The ISO agrees that there are outstanding issues related to the flexible RA requirement and EFC and has committed to revisit these issues by Q1 2016. The ISO does plan to include these issues in phase II of the RSI, which will initiate a stakeholder process in 2015 to begin to look at future flexibility needs.

c. Comments on price

Calpine believes that potential exposure to availability penalties should not exceed greatly prevailing RA compensation. As suggested in the proposal, if the CAISO chooses to replace current CPM procurement at an administrative price with competitive solicitations and offers in the solicitations are capped, the offer cap might provide a plausible upper bound on prevailing RA compensation and serve as a reasonable basis for the availability incentive mechanism payments. In addition, for simplicity, it might make sense to base availability incentive payments on a relatively static price, such as an offer cap, rather than a price that it tied directly to market conditions and fluctuates more often.

ISO Response

Under ideal circumstances, the ISO would be able to have an incentive mechanism that assessed a penalty of a prorated RA payment made to the resource that retracts payments for forced outages above the amount expected under the PRM. Given that for multiple reasons (no capacity market, varying, non-transparent bilateral contracts, etc) this is not feasible, we agree that it makes sense for the penalty to be relatively static and not greatly exceed RA compensation. A too high price would overly penalize resources without adding to reliability. However, the ISO also believes that it must not set the price so low that it would render the incentive mechanism useless for certain resources. A middle ground is likely something a little higher that then the prevailing RA compensation.

California Public Utilities Commission (CPUC)

No comments submitted for AIM section. EnerNOC

a. Comments on the general direction of the design We generally find the proposed mechanism to be reasonable.

b. Comments on design features

i. Bid-based assessment

CAISO's proposed 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; for flexible RA, the hours are outlined in the FRACMOO proposal. EnerNOC supports this proposal and would like to see the CPUC adopt a consistent requirement as opposed to the current proposal to bundle flexible and peak resources.

Another element of the bid-based metric that we find reasonable is the functionality that accommodates use-limited resources with hourly and monthly limitations. It's our understanding that the hourly limit on demand response 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 4 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.

The mechanism for the monthly use limitation is not quite as clear. Does the CAISO optimization not recognize this use limitation and thus require the resource to put in an outage card once the use limitation is reached? If so, is there an ability for a portion of the DR resource to bid beyond the monthly use limitation?

ISO Response

The ISO thanks EnerNOC for their supportive comments and confirms their understanding of how the energy market optimization would work.

For monthly use-limitations, the ISO optimization cannot track monthly limitations and so a resource would be required to put in an outage card once the use-limitation is reached. This should only be done in the event the demand response resource no longer has the ability to bid into the market, even if it has met the minimum flexible RA must-offer category days. This is because the flexible must-offer rule set maximum limits on use-limitations rather than a structure where a resource only has to be RA for part of the month.

Independent Energy Producers Association (IEP)

a. **Comments on the general direction of the design**. The design of the Availability Incentive Mechanism (AIM) is evolving, so IEP awaits further discussion of the proposal. However, at this early stage, IEP is generally comfortable with the direction of the overall AIM design.

b. Comments on design features

- i. **Bid-based assessment**. Moving to a bid-based protocol (vs. an outagebased protocol) needs to be further considered, but appears on its face to be reasonable.
- ii. **Fixed availability percentage band**. The bandwidth proposed appears reasonable. IEP recommends that the Fixed Availability Percentage Band be based on a rolling 4-year average. The current proposal is not clear, and might be read as saying the 4-year average is fixed for some undefined duration. IEP seeks clarity as to the proposal in this regard.

ISO Response

Section 6.6 describes the availability incentive band proposal in detail. In summary, the ISO proposes to change the methodology for determining the band. Initially the ISO set the band using historical data; however, after several years of experience using this methodology the ISO notes several flaws. First and foremost, the planning reserve margin that accounts for fixed percentage of capacity to be on forced outage does not vary monthly. The ISO plans for reliability where each month a fixed percentage of capacity goes out on forced outage and this expectation does not change dependent on the month. Second, using a fixed band, rather than the historical band has the following additional benefits:

- Allows generators that perform above the band to receive payments in all months (under historic threshold in January, February, and December the threshold was 100% so all penalties were paid to load)
- Allows payments to reflect market conditions. During months with higher percentages of forced outages, high performers will be paid more. During months with lower percentages of forced outages, high performers are paid less.
- Resources with historically high forced outage rates will equally penalize lower performers as months with low forced outage rates. Under any historical band, when the ISO needed the capacity the most (during months with many forced outages) low performers were being penalized less.
- Allows generators that perform above the band to receive payments in all months (under historic threshold in January, February, and December the threshold was 100% so all penalties were paid to load)
 - iii. Single assessment for flexible and generic overlapping capacity. Because the assessment is in the context of "availability," which applies in the condition of all RA products, imposing a single assessment for nonavailability irrespective of the product for which the resource is unavailable or LSE RA-counting protocols appears reasonable.
 - **iv.** Other features. IEP seeks further clarity on the methodology for determining whether an individual resources' availability falls below or, alternatively, exceeds the availability standard.

As IEP understands the proposal, the deficiency in availability will be calculated on a daily MW-weighted average percentage basis. We remain unclear whether this calculation is daily or monthly. We believe that

including a table in the 2nd Straw Proposal describing how an individual resource will be measured to determine whether it meets or exceeds the availability standard on a daily and/or monthly basis would be helpful.

ISO Response

Thank you for your support of the single availability metric.

The ISO has revised the proposal so that availability will be a <u>monthly</u> assessment. Section 6.8 has been added to show exactly how the assessment will be done. In general, a supplier can have a higher forced outage rate that the threshold on any individual day and will only be assessed on the total monthly outage rate. If the monthly outage rate falls outside the threshold, a penalty or payment will occur for those MWs that exceeded or fell short of the threshold value. The ISO has posted an excel spreadsheet of the requested table.

c. **Comments on price**. IEP seeks further clarification as to the availability deficiency "charge" (e.g. the methodology for determining the charge, the basis on which it is determined, etc.)

Under the straw proposal, when an individual resource fails to meet the availability standard, then the individual resource will be "charged" for its deficiency in meeting the availability standard. While unclear, apparently the CAISO is proposing to impose a deficiency charge based on, and equivalent to, the CPM "backstop" compensation price (to be determined).

As a practical matter, the "product" associated with CAISO backstop procurement appears to be differentiated and, therefore, distinct from the "product" associated with the availability incentive mechanism. CAISO CPM backstop procurement (a) occurs when the CAISO purchases needed capacity outside the market in a condition of RA shortage due to inadequate forward procurement by LSEs or "significant events" (e.g. exceptional dispatch, risk-ofretirement, etc.); and, (b) typically results in whole resources being procured for a specified duration of time. On the other hand, the "deficiency charge" (a) is imposed on individual resources failing to meet a prescribed RA availability standard; and, (b) typically will result in a charge per deficient MW that may range from 1 MW to many. Given the distinct and differentiated "products" associated with these two market design features, we remain unconvinced that any direct, "one-for-one" linkage between a CPM compensation price/payment and the deficiency charge/penalty for unavailability is appropriate or reasonable.

ISO Response

The ISO agrees and has proposed a price unrelated to the CPM offer cap or compensation. The

ISO is open to consider a connection between the safe harbor price and AIM price. The ISO

proposes to use \$3.5/kW-month.

d. Comments on capacity and resource exemptions. While the current CAISO

tariff provides exemptions from the SCP availability incentive mechanism (tariff section 40.9.2), the straw proposal states that "The ISO does not propose to automatically apply the same exemptions to the new availability incentive mechanism." (p. 43). The rationale being that significant amounts of capacity are currently exempt from the current availability incentive mechanism, and secondly that the proposed changes will not be implemented until 2016.

IEP seeks further clarification as to specifically what resources that are currently exempt from the SCP will no longer be exempt from the new standard? Certainly, to the extent that an existing contract terminates then the Resource that sells an RA product must be expected to meet the new requirements on a going-forward basis. However, resources continuing to operate under existing contracts post implementation of the new availability incentive mechanism which are exempt from the current SCP should be entitled to retain this exemption for the duration of its existing contract.

ISO Response

The ISO lists the exemptions from the availability incentive mechanism in 6.14. The ISO does not propose an exemption for grandfathered contracts under this new availability incentive mechanism. It should be expected that ISO policy change, especially with the advent of flexible RA requirements. The ISO cannot propose exemptions for all signed contracts without risking the reliability of the grid. The ISO seeks specific contract information as to why there should be exemptions under this new mechanism. Please see initial ISO response to summarized comments for additional thoughts.

e. Other Comments. IEP believes that the rationale for creating availability incentives is sound. As IEP understands the proposal, charges to so-called "availability underachievers" will be awarded to so-called "availability over-achievers." This approach should achieve the desired outcomes. We disagree, however, that any of the deficiency "charge" imposed on under-achievers should be diverted to other market participants such as Load-serving Entities (LSEs) as suggested by some at the workshop, as this will mute the incentives for resources to be available when others are not. Importantly, this aspect of the overall proposal is not directly related to CPM compensation, rather it is focused on affecting availability performance of resources. Thus, it would be inappropriate and unnecessary to divert any of the deficiency "charge" to compensate LSE's for CAISO CPM backstop procurement which, by definition, arises in the context of a failure of the LSE procurement practices in the forward markets to mitigate the occurrence of backstop procurement in any form.

IEP asks for clarification re the Proposed Availability Assessment Methodology (p. 31). The straw proposal states that "in any individual hour a resource could be above or below the standard percentage [band-width] without incurring a charge or payment." Yet, the straw proposal goes on to state that "Only if the daily MW-weighted average percentage fell above or below the standard percentage would a charge or payment be incurred." A table describing how this Availability Assessment Methodology would be applied over the course of a 24

hour period would be helpful.

ISO Response

In the event of a large amount of forced outages, the ISO would issue a CPM Significant Event designation and this cost would be paid by LSEs. Given this the ISO does believe that in the event there are excess funds it is appropriate to divert them to LSEs. However, the ISO does see the point that ultimately the availability incentive mechanism is supposed to be for suppliers. Therefore the ISO proposes to create a rolling account that will allow any excess funds to roll to the next month to pay "over-achievers." Only at the end of the year if there are still excess funds will the ISO distribute these to LSEs.

Large Scale Solar Association (LSA) Availability Incentive Mechanism (AIM)

LSA sees no compelling reason to revise the current RA SCP availability mechanism (or, as noted in LSA's earlier comments on the SCP, to have any such mechanisms at all), at least for Variable Energy Resources (VERs). VERs – whether or not they are covered by the current SCP mechanism – are already highly incented to be available at all times when their "fuel" is available, and especially during the hours when these mechanisms operate, for the reasons explained below.

Virtually all VER Power Purchase Agreements (PPAs) feature both volumetric payments only and time-of-day energy payments. Thus, VERs are not paid at all unless they produce energy, and their energy payments are much higher in the on-peak hours that are the primary focus of both the current and proposed incentive mechanisms. Other PPA features – including minimum production guarantees – provide additional incentives for high availability levels.

That said, LSA does not object to a bid-based RA AIM in general. However, any bid-based framework must address the imbalance between decision-making and consequences that it could create, given the terms and conditions of most PPAs.

Under most VER PPAs:

- The Buyer is the Scheduling Coordinator (SC) for the resource and is free to schedule the resource and may schedule/bid the resource in any manner that it wishes. As long as the resource fulfills its obligations under the PPA to provide availability, meteorological, and other data to the Buyer, the latter assumes all imbalance-related risks and consequences of imbalances.
- The Seller assumes all responsibility for availability reporting to the CAISO, and any resulting RA SCP incentives and penalties.

Section 6.9 of the Proposal states that solar resources "will be considered 100% available" when "the resource is bid in up to the forecast amount." Most VERs are in PIRP, and the CAISO produces forecasts and submits schedules for those resources equal to those forecasts.

Thus, it appears that PIRP resources would not be assessed any penalties under the AIM. (This conclusion is supported by the provisions in Section 6.10 of the Proposal exempting capacity unavailable due to forced outages or derates from the AIM availability calculation.)

In many PPAs, the <u>Buyer</u> decides whether or not a VER joins PIRP. There is little a VER can do if: (1) the VER is not in PIRP; (2) the Buyer is the SC; and (3) that SC submits a schedule/bid that is not consistent with the forecast. In general, in fact, VERs under PPAs where the Buyer is the SC do not even know what forecasts or schedules/bids are submitted on their behalf.

Thus, if the CAISO implements a bid-based RA AIM, it should also incorporate a proxy bid insertion feature for the difference between the forecast and the schedule, where the Buyer is the SC and the VER is not in PIRP. This bid insertion is <u>not</u> needed where the Buyer is not the SC, since presumably in those circumstances the Seller can determine both forecasts and schedules/bids, and thus fairly bear the consequences of any differences between the two.

ISO Response

The ISO proposes to exempt wind and solar resources from the generic RA availability incentive mechanism for the reasons stated. In the event a wind or solar resource provides flexible RA capacity, they will be fully subject to the mechanism. This is because a VERs NQC is not affected by whether the VER bids or self-schedules and therefore needs the same incentive mechanism as a conventional resource to ensure economic biddings.

Elimination of current RA SCP exemptions

The RA SCP mechanism exempts VERs operating under PPAs executed before August 2010 for the life of the agreements, because they could not have known they would be subject to such mechanisms. The Proposal (Section 6.12) "does not propose to automatically apply the same exemptions to the new availability incentive mechanism" but will "seek to exempt" only a select set of resources that are physically or uniquely unable to fully comply with their must-offer requirement."

The Proposal justifications for this proposed exemption revocation, and LSA's responses to these justifications, are detailed below.

• "The significant amount of capacity exempt from the current incentive mechanism... the ISO does not think it is in the best interest of reliability to expose only a portion of resources to new rules needed to reliably integrate renewable and preferred resources."

The amount of capacity under the exemptions is not new information, as the procurement contracting status of the CPUC-jurisdictional LSEs (the large majority of the procurement market) is regularly provided in public reports and has been so for years.

Moreover, as noted above, there are significant availability incentives already in VER

PPAs. The Proposal offers no evidence that these incentives are insufficient or that exempt resources have availability that is any lower than similar non-exempt resources.

• "The ISO will not implement the new availability incentive mechanism until 2016. Additionally, many contracts will have to be and have been reopened due to the new flexible RA requirement."

PPA parties may choose to re-open their agreements to accommodate the new flexible RA requirement. However, the Effective Flexible Capacity requirements are such that it is not clear to what extent VERs may qualify as flexible RA capacity or that those contracts need to be reopened at this time.

• The rapidly changing energy landscape."

PPA parties execute contracts specifically to provide certainty despite any "rapidly changing landscape." This is insufficient justification for upsetting long-term commercial agreements already in place.

ISO Response

The ISO stands by its reasons for not exempting the majority of resources from the incentive mechanism. VERs; however, are unique in their contractual obligations and QC qualifications and therefore will be exempted from the generic RA incentive mechanism.

NRG Energy, Inc. (NRG)

a. Comments on the general direction of the design

Ideally, markets should create positive incentives for resources to be available to the CAISO. A resource has incentive to remain available to the CAISO if and when there is an opportunity for it to earn satisfactory revenues by doing so. Availability incentive mechanisms that rely on stringent penalties to ensure availability introduce perverse incentives to not provide the desired products. As the CAISO moves forward with its current proposal or with any other availability incentive proposal, it should strive to create markets that, in and of themselves, encourage availability. If the CAISO markets do not create those incentives, the CAISO should ask why not. To the extent that penalty structures are needed to encourage availability, those structures should introduce risks that are comparable to the corresponding rewards than can be earned from subjecting a resource to the non-availability penalty structure.

ISO Response

The ISO agrees and is working on several initiatives to create better energy market incentives for resources to supply economic bids, most notably the flexible ramping product. The changes to the energy market should go hand in hand with the incentive mechanism. The ISO believes both are needed to ensure grid reliability.

- b. Comments on design features
- i. Bid-based assessment

The concept of assessing a resource's availability based on its compliance with the associated must-offer obligations is worth exploring. However, one aspect of this proposal that was not explored is the issue of how bids inserted by the CAISO if the SC for a generating unit fails to submit a bid will be treated in the availability calculation. Presumably, if the CAISO inserts a default bid for a resource that is providing RA capacity, such inserted default bid should act to count the resource as fully available.

Such treatment could be extended to use-limited resources, as the CAISO is exploring the use of bid adders for use-limited resources, which would presumably lead to the CAISO inserting bids (with the appropriate bid adders) for use-limited resources.

While NRG understands the CAISO's intent to create strong incentives to offer the resource to the CAISO's markets consistent with its obligations, it seems harsh that the inadvertent failure by an SC to submit a bid would be treated the same as the mechanical unavailability of a generating unit.

ISO Response

Inserted bids will be treated the same as an SC bid under the availability incentive mechanism. The clean bid set produced by SIBR is what ultimately will be used in the availability incentive mechanism assessment and this set includes both bid types.

ii. Fixed availability percentage band

The idea of using an annual fixed availability target is worth exploring. However, the CAISO has not sufficiently explained or supported the proposed reduction in the "deadband" from five to four percent. Reducing the "deadband" around that target from five percent to four percent would subject generators to penalties even if they achieved higher levels of availability than currently required. While it would also make generators eligible for availability incentive payments at lower levels of availability than those currently used, the risk/reward is not likely to be symmetrical, even with the proposal to remove caps on availability penalties, because of the self-funding aspect of the proposal would affect the current levels of penalties and incentive payments (acknowledging that the historical analysis may not be indicative of future performance).

ISO Response

The current threshold is a historical average of performance. Therefore the ISO's presentation on April 23rd should give a sufficient indication on how previous resources may or may not fall within the new proposed threshold- <u>http://www.caiso.com/Documents/Presentation-</u> ReliabilityServices-WorkingGroupApr23_2014.pdf

There is no analysis that can show whether 5% or 4% band is "better." As stated in the proposal, the bandwidth is simply a tool to prevent shifting of dollars between suppliers. A more

relevant assessment would ask what the lowest percentage of compliance is that the ISO can feel comfortable with from a reliability perspective. The ISO therefore believes the lower band of 94.5% is the lowest acceptable threshold it should allow under the availability incentive mechanism without proposing a change to the CPUC's PRM. The reason for this can be shown on page 75 of the April 23rd presentation. Historically, in only a single outlier month did the forced outage rate drop below 94.5%. If the ISO were to consider 94% the new acceptable level, this would necessitate a review of month-ahead and intra-month planning and CPM activities and PRM requirement.

iii. Single assessment for flexible and generic overlapping capacity NRG appreciates the CAISO posting the spreadsheet examples that allow a market participant to calculate the "aggregate" availability of a resource that is providing both generic and flexible RA and is submitting both economic bids and self-schedules. NRG finds that the spreadsheet produces intuitive results, but that the straw proposal, which provides only a single example of this calculation on page 37, does not adequately describe how the aggregate availability is calculated. NRG requests the CAISO publish the formula for how the aggregate availability is determined from the variables (NQC, Pmin, Flex RA provided, Generic RA provided, Economic bid submitted and total bid submitted).

ISO Response

The ISO has added a section to the proposal with a description of how the monthly assessment will occur; however, has not proposed a formula due to the many complexities of the assessment. No single formula will capture the availability incentive mechanism assessment and the formulas involved will end up being specific to the RA type provided, flexible category type, start-up type, and resource type. A formula for the hourly availability methodology is included in the appendix of the August 18th, 2014 RSI presentation. These formulas will ultimately be provided in the updated Reliability Requirements Business Practice Manual (BPM).

- iv. Other features
- 1. Measuring availability on a daily basis.

While NRG does not recall it being publicly discussed, NRG understands from the RSP that the CAISO is proposing to assess availability on a daily basis. From pages 29 and 30 of the Straw Proposal (emphasis added):

"The ISO will use the availability assessment in a resource's average **daily availability calculation**, in both the day-ahead and real-time markets. This would mean that, in any individual hour, a resource could be above or below the standard percentage without incurring a charge or payment. Only if the daily MW- weighted average percentage fell above or below the standard percentage would a charge or payment be incurred. The ISO will then use the minimum of the dayahead and real-time market availability assessment in the daily availability assessment percentage calculation.

"The **daily assessment methodology** is illustrated in a separate spreadsheet, *Incentive Calculation Model.*"

NRG did not pick up on the fact that the CAISO was planning to move from monthly availability assessment to a daily availability assessment during the June 12 stakeholder meeting. Given that this is a major departure from current practice, NRG would have expected that the CAISO would have provided an express opportunity to comment on this change in the comment template.

NRG opposes this change. The CAISO has not explained why it believes it is necessary to move from monthly to daily availability assessment. Nor has the CAISO explained, or even tried to quantify, what the impact of this would be on the incentive payment mechanism.

Should the CAISO believe it is necessary to move from assessing availability from a monthly basis to a daily basis, it must provide sufficient explanation for this proposed change and discuss this proposed change in a stakeholder meeting.

2. Removing the cap on incentive payments.

NRG supports the CAISO's proposal to remove the cap on incentive payments. While the amount of penalty money available to pay out as incentive payments is uncertain, removing the cap should increase the incentive to be available to the CAISO.

ISO Response

The ISO proposes that the assessment be done monthly and the initial daily proposal was merely an oversight on how the current mechanism worked.

Due to feedback from stakeholders and the fear of "windfall" arbitrary profits, the ISO has changed the proposal in two ways. (1) monthly payments to suppliers are proposed to be capped at twice the monthly penalty price, and (2) any excess funds will roll-over to the next month, rather than be distributed to load.

c. Comments on price The penalty price used in the AIM should not be so much higher than the prices that can be obtained from selling RA capacity that the AIM creates a disincentive to sell RA capacity. While there is simplicity in using the CPM price as the AIM penalty price, there is no inherent relationship between those two prices. The CPM price should provide adequate compensation for the longer-term fixed costs that must be recovered in order to provide capacity for a short duration of time.

The AIM penalty price can and should be a totally separate price, the goal of which is encourage the unit to remain available to the CAISO. Again if the AIM price is too high, it will discourage suppliers from selling RA capacity because doing so introduces the risk of incurring high non-availability penalties.

ISO Response

The ISO agrees and proposes an unrelated price to the CPM initiative.

d. Comments on capacity and resource exemptions Ideally, all resources providing the same product (RA or flex capacity) should be subject to the same eligibility criteria and incentive/penalty structures. However, California's decision to rely on bilateral contracting for RA makes this all but impossible. The CAISO's incentive mechanism should not conflict with or be additive to those incentive mechanisms that already are in place through bilateral contracts.

ISO Response

The ISO agrees with the first two sentences. Given that contracts with incentives mechanisms in place are not transparent to the ISO and may change at any point in time, they are inherently inferior to an ISO incentive mechanism. The original intent behind the ISO creating an incentive mechanism was for all contracts to have a standard term related to offer incentives. Therefore it is still the ISO's intent that contracts respond to ISO availability incentive mechanism policy and not the other way around.

Office of Ratepayer Advocates (ORA)

a. Comments on the general direction of the design

The purpose and general direction of the design appropriately addresses evolving reliability needs. ORA voices some general concerns in the following comments.

b. Comments on design features

i. Bid-based assessment

The California Independent System Operator's (CAISO) Straw Proposal is not clear on the potential outcomes for gas-fired resources versus the outcomes for preferred resources under the bid-based assessment. The CAISO proposes to calculate a resource's availability by comparing the MWs that the CAISO expected to be available to the MWs that were economically bid or self-scheduled into the CAISO market. Under this proposed bid-based assessment metric, use-limited resources (i.e., preferred resources) will be treated more like non-use limited resources (i.e., gas-fired resources). This may result in a shift that favors the more flexible gas-fired resources, especially those with newer technologies. Caution should be taken with the new assessment to avoid disadvantaging use-limited resources in either generic or flexible capacity availability. Similarly, the use-limited resources should not be disadvantaged in the CAISO's proposed rewards and penalty incentives. The CAISO proposes

that resources that are more than 2.5% above the CAISO's availability standard would be eligible for an availability reward payment, while resources with availability less than 2.5% below the availability standard would be subject to a penalty charge. This reward and penalty incentive mechanism should not increase availability rewards for gas-fired generation without providing equally attainable incentives for preferred resources.

While the CAISO strives to be technology agnostic, the proposed resource availability calculation methodology may require modifications so that preferred resources are allowed and encouraged to reach their maximum potential to provide flexible capacity. In order to guide the development of the best metrics for assessment of availability incentives, ORA requests that the CAISO provide data on the projected reward and penalty payments by resource type under the new Availability Incentive Mechanism (AIM).

ISO Response

The availability incentive mechanism is technology agnostic and should not in any way advantage gas-fired resources over preferred resources. The majority of use-limited resources affected by this proposal are in fact, gas-fired resources. The ISO will allow any resource with a monthly use-limitation to manage their resource through bidding and ultimately exempt any resource that has fulfilled their use-limitation for the month. Daily use-limitations are accounted for in the ISO's energy market optimization and therefore any daily use-limitations will not impact a resource's availability under the availability incentive mechanism. As long a resource offers into the energy market or indicates that the use-limitation has prevented the resource from doing so, the resource will be counted as fully available.

ii. Fixed availability percentage band

ORA supports in principle the CAISO's proposal to create an availability incentive standard percentage band assessment for individual resource availability. This band is intended to adapt to future grid need and create a self-funding mechanism. ORA recommends that the CAISO provide an analysis to indicate if cost-shifting from preferred resources to non-preferred resources may occur with the fixed band.

ISO Response

Cost-shifting between resource types of any kind may occur under the availability incentive mechanism. The ISO has created a mechanism that is technology agnostic and does not consider how certain resource types may or may not have a higher forced outage rate than other resource types. A new biomass plant for example may rarely go out on forced outage while an older natural gas plant may be more likely to break and need immediate repairs. The ISO will not hold the biomass plant to a higher standard than an older CT. Any resource type

that commits itself as RA will be equally accountable to the availability incentive mechanism. While this may cause shifting of payments from one group to another, this ultimately aligns with the ISO's goal to maintain the safely and reliability of the energy grid.

a. Comments on price

ORA supports the CAISO proposal to include an offer cap both as a mitigation measure and a price for the AIM. The offer cap price and AIM price would be the same price and would be best reflected by an average capacity contract price derived from information provided to the CAISO by the California Public Utilities Commission (CPUC).

The CAISO proposal recommends a fixed price for system, local, and flexible capacity. The CAISO notes uncertainty over the future of flexible capacity prices and asserts that flexible capacity may not require a premium. However, the CAISO does not dispute the significant premium currently paid for local capacity. ORA recommends consideration of the potential benefits of utilizing a separate price, based on contract prices, for local capacity rather than the proposed single price for all capacity. Since local capacity commands higher prices based on its increased demand, there may be a reliability benefit to offering higher incentive prices for local capacity. A higher local capacity incentive would create greater incentives for the more valuable local resources to perform routine maintenance, thus reducing unexpected outages.

ISO Response

The ISO believes that an appropriate AIM price would reflect something a little higher than the average bilateral contract price. The offer cap however for the CPM competitive solicitation process is not intended to mitigate resources, but act as a damage control cap. It therefore should reflect the highest capacity price likely in a competitive environment. It is possible for the safe harbor price proposed in the CPM initiative to be tied to the AIM price and the ISO looks forward to discussing this further.

The ISO agrees that the ability to have higher penalties for local resources would incent local resources to perform more than a lower price. However, prices are expected to change from year to year and from location to location. At this time, the current SCP mechanism is a single price for both system and local capacity and appears to be able to incent both local and system substitution. The ISO will never be able to perfectly reflect individual bilateral contract prices in an availability incentive mechanism. It would be very difficult for the ISO, absent a capacity market, to annually determine local area capacity contract prices relative to each other and

relative to system capacity. The ISO believes that a single availability incentive price, if set high enough, will provide enough incentive for the majority of resources to provide enough substitute capacity to the ISO to maintain reliability.

b. Comments on capacity and resource exemptions

ORA supports the CAISO's proposal to re-evaluate which resources are exempt in the revised availability incentive mechanism. Under the current availability incentive mechanism many resources are exempt due to their inability to comply with must-offer requirements. The CAISO proposes to reduce the amount of exemptions by more narrowly defining the resources that are physically or uniquely unable to fully comply with their must-offer requirement. This process will likely be controversial and result in a significant impact on resources which are granted or denied exempt status. Accordingly, ORA recommends that this re-evaluation include stakeholder workshops and multiple comment opportunities, and should be conducted in cooperation with the CPUC.

c. Other Comments

ORA appreciates the CAISO's efforts to develop this complex revision to the existing incentive mechanism and looks forward to participating in this additional effort to address the changing power system.

ISO Response

The ISO is not sure why must-offer exemptions will impact CPUC processes. Does the CPUC have rules related to performance for RA resources in the ISO energy market? Can you please

explain further in your next set of comments?

Pacific Gas & Electric (PG&E)

a. Comments on the general direction of the design

The CAISO has proposed moving from the current *monthly* availability assessment and settlement methodology to a *daily* availability assessment and settlement methodology. PG&E opposes this change, and would like clarity on what, if any, benefits that the CAISO believes this would provide. RA is a monthly product, and as such should be assessed on a monthly basis. Furthermore, the standard availability range proposed by the CAISO is based on historical *monthly* average availabilities. It is therefore inappropriate to compare a resource's daily availability to that standard, as daily availability will have a greater degree of variability. A daily assessment is potentially more restrictive, as a resource would not be able to average out days of poor availability with days of high availability within the month.

Also, on any given day, there may not be resources both below and above the standard availability range. A daily assessment and settlement would increase the likelihood that underperforming resources are charged while no well-performing resources exist to credit, or vice versa.

ISO Response

The ISO proposes that the assessment be done monthly and the initial daily proposal was merely an oversight on how the current mechanism worked. This is clarified in the revised straw proposal. Thank you for your comments on it.

b. Comments on design features

ii. Bid-based assessment

The CAISO has proposed moving away from the current outage based availability assessment to a bid-based assessment, to facilitate the availability assessment of flexible and use-limited resources. If a resource is required to bid into both the day-ahead and real-time markets, the availability assessment will be based on the minimum of the day-ahead and real-time availability. PG&E requests that the CAISO provide explain why this approach is preferable to an assessment based on an average of day-ahead and real-time availability, or having separate pools for realtime and day-ahead assessments.

We request that the CAISO clarifies in its next draft of the proposal that resources without an obligation to bid in real-time will be assessed only on their day-ahead availability.

We also request that the CAISO clarify how a resource will be assessed if it has provided the necessary bids in accordance with its must offer obligation, but does not ultimately follow the CAISO's dispatch instructions. Would the resource still be deemed available in this situation for purposes of the availability incentive mechanism?

ISO Response

If a resource bids in the day-ahead, but then does not make its energy available in real-time, the capacity has served no physical usefulness to the ISO. If a resource only offers into the real-time market, then it has not been optimized in day-ahead where over 90% of the unit commitment takes place and is used as a tool to determine whether long-start resources are needed. Therefore a resource is only FULLY available to the ISO if the resource offers into both market subject to must-offer requirements.

This clarification has been made in several sections- 6.5.1, 6.5.2, and section 6.9. Thank you for your comment.

Under the current proposal the ISO would still deem the resource as available. There are other mechanisms at the ISO which will penalize the resource for non-performance (Flexible ramping

product cost allocation, for example). The ISO distinguishes the idea of non-performance from non-availability. The DMM also brought up this point. Although there could be a design that would look at both availability and performance, given that the ISO already assigns costs to non-performing resources, the ISO proposes to maintain the current (somewhat) simple design that does not take in account performance.

iii. Fixed availability percentage band

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 would like CAISO to 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 has proposed to reevaluate this range in phase II of the RSI. If after this there are observed changes in average availability, the ISO always has the right to file at FERC to revise sections of the tariff. The ISO will commit to periodic, transparent review of average availability.

iv. Single assessment for flexible and generic overlapping capacity

For any hours where a resource's system and flexible RA obligations overlap, CAISO has proposed to assess the availability of that unit based on the flexible must offer requirement. PG&E finds this to be a reasonable and simple approach for assessing overlapping capacity. We recognize the CAISO's need to assess against the more stringent criteria, as flexibility is likely to be a key reliability need going forward.

v. Other features

The current 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 3 times the monthly Non-Availability Charge rate, as outlined in section 40.9.6.3. PG&E supports this cap on the incentive payment rate in order to not over-value capacity provided in excess of the monthly upper threshold. For example, if the CAISO assesses \$100,000 in Non-Availability Charges for a given month, but then only has 1 MW of eligible capacity to then allocate these funds to, it is clear that the benefit provided to the system by this 1 MW of capacity is not equal to the full burden created by the total non-availability. CAISO should clarify whether such a cap will also be part of the new AIM design.

ISO Response

Thank you finding this to be a reasonable and simple approach.

Thank you for this citation. We added a proposed cap of double the AIM price.

c. Comments on price

Linking Backstop Offer Cap and AIM Price

The CAISO proposes to create an offer cap for the backstop competitive solicitation bids which could also serve as the AIM price. PG&E supports maintaining a linkage between the AIM price and the backstop price, and is open to discussing what type of relationship is appropriate (e.g. other than a 1:1 ratio).

If a generator does not perform and the CAISO is required to make a CPM call for replacement capacity, the CAISO will be valuing the missing capacity at the CPM price, but penalizing the non-performing generator at the AIM. Consideration of efficiency and fairness would require the AIM to be least as large as the CPM price. Setting the AIM to the CPM offer cap may be an appropriate solution.

AIM Price for Flex v. Generic RA

CAISO has proposed a single availability incentive price for flexible and generic RA. PG&E recognizes that appropriately valuing the flexible and generic attributes of a resource is a complex issue. As such, this seems like a reasonable approach given its simplicity, and alignment with the proposed combined assessment methodology.

ISO Response

The ISO believes an appropriate link between the CPM and the AIM price may be the safe harbor price. The CPM offer cap would reflect the highest conceivable RA capacity contract price under competitive conditions. The AIM price does not need to be this high to incent additional capacity to be provided to ensure reliability.

d. Comments on capacity and resource exemptions

Exempt Capacity

PG&E supports AIM exemptions for resources on a planned outage that did not require replacement, and for forced outages "beyond the control" of the

resources as outlined in the proposal. PG&E also supports assessing the replacement resource for availability where applicable to ensure CAISO has sufficient RA capacity. This is consistent with current exemptions.

Exempt Resources

Tariff section 40.9.2 identifies the resources that are currently exempt from the SCP availability incentive mechanism, including Qualifying Facilities (QFs). CAISO has proposed to limit the exemptions under the new AIM to a smaller group of resources- those that are unable to fully comply with their must offer obligations. While PG&E recognizes the CAISO's need to limit exemptions, the exemption for QFs should continue. At times, PG&E is able to negotiate amendments to existing QF agreements to increase the availability of dispatch to the CAISO from the existing agreement, but potentially not to the extent of the current must offer obligation. In such cases, the exemption should also be extended since failure to do so would be a disincentive to amendment existing contracts to bring these resources closer to market.

e. Other Comments

PG&E supports assessing the availability of Variable Energy Resources (VERs) against their forecast (as described by CAISO staff during the stakeholder call 6/23/2014), rather than against the minimum of their forecast and the amount shown for RA (as described in the proposal).

ISO Response

The ISO has revised its VER proposal. If wind or solar resource is shown as system RA, the ISO proposes to exempt the resource from the availability incentive mechanism for two reasons. First, wind and solar resources' output influences their QC. Therefore, wind and solar resources are already incented to perform during their must-offer hours. Second, the only way to assess wind and solar under the proposed methodology is to use the resources forecast as a baseline for comparison. The ISO acknowledges the potential concern that in the event the resources 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. The ISO proposes to not exempt VERs from the flexible AIM assessment.

Powerex Corp.

No comments submitted for AIM section.

Southern California Edison (SCE)

a. Comments on the general direction of the design

Consistent with SCE's comments above on the must-offer obligation for Flex RA, SCE sees no need to change the current availability incentive mechanism.

If we are not yet certain as to the need for a more stringent must-offer obligation nor the form necessary to address incentives while at the same time not being overly burdensome, there is no manner in which the availability incentive mechanism could be changed. Until there is more experience with the need for a specific must-offer obligation, including examination of why the energy markets are not sufficient to allocate resources, SCE recommends that no changes be made to the availability incentive mechanism.

ISO Response

RA capacity is expected to comply with the current must-offer rules as defined in the tariff. These must offer rules provide the ISO assurance that RA capacity will be available to the energy market. Although the ISO can expect the energy market in most cases to incent resources to offer during the must-offer hours, there are situations in which the ISO cannot and should not rely entirely on energy prices to ensure enough capacity is available to the ISO. Even under theoretically perfect conditions, where there are no externalities influencing the energy price through distortionary contracts, the ISO has (1) an offer cap of \$1,000 and (2) an energy market that supplier relatively low revenues compared to RA contracts. An offer cap of \$1,000 means it is entirely possible at times for the energy price not to be high enough to incent resources to offer into the market. Additionally, given the overall low revenues that some resources could expect to receive relative to the RA contract, without a must-offer requirement, RA resources could simply take the RA payment and not staff the resource.

The ISO acknowledges that the energy market is not theoretically perfect and has taken measures to better align prices with reliability need. The flexible ramping product and contingency modeling enhancements are under way, and the 15 minute market has been implemented. These three changes are intended to better capture flexible needs and reflect these through prices. However, as noted above, none of these will negate the need for must-offer requirements.

The ISO could police must-offer requirements in many ways. The current method only takes in account forced outages and therefore will not be able to account for the FRAC MOO flexible RA must-offer requirements. Without availability criteria it will be very difficult to assess whether resources are complying with the RA requirements and therefore whether any flexible deficiencies are due to the need for updated requirements or more stringent enforcement of current must-offer rules. An availability metric is absolutely required to assess the success and future of flexible RA requirements.

Finally, this mechanism is adaptable. No matter which direction the ISO ends up going with flexible RA requirements, the ISO will always impose an economic bidding must-offer requirement. Economic bids are necessary for the market optimization and the proposed flexible ramping product. The ISO therefore proposes an availability incentive mechanism that captures both self-schedules and economic bids.

b. Comments on design features

iv. Other features

SCE believes that the proposal to make the mechanism completely selffunding has the potential for costs and revenues to become misaligned. In a situation in which a significant amount of RA resources become unavailable, the CAISO is likely to backstop procure. In practice, such backstop has had its costs allocated to load. Thus, the provision of a reliable grid was in part made available by the resources that performed their RA function and in part by load paying to make additional resources available. It is not clear then why all payments would accrue strictly to the RA resources that performed when that was not the only cost to providing for a reliable grid. If changes must be made to the Availability Incentive Mechanism, then SCE recommends that some form of revenue sharing be developed to offset the cost of backstop procurement to mitigate the impact to load.

ISO Response

The current SCP mechanism is self-funding and the program is meant as a resource incentive program. SCE is correct and if a large amount of capacity goes on outage, the ISO may end up issuing a CPM designation.

It is unlikely, however, that the ISO will CPM because of a short-term outage, which is what the availability incentive mechanism is meant to cover. (Capacity on longer term outage will be able to move from a forced outage to a planned outage and will no longer be penalized under the incentive mechanism.) Short-term outages are much more like to be covered by resources performing above the expected availability threshold. It would therefore be inappropriate to allocate incentive mechanism payments from the penalty pool to load.

San Diego Gas & Electric (SDG&E)

a. Comments on the general direction of the design SDG&E agrees that there should be an Availability Incentive Mechanism to incent resources to be operationally available. However, as proposed, the program does not incent but rather penalize a resource for its availability. This is primarily due to the fact that the incentive is funded by the charges. Thus the incentive is not guaranteed. A true incentive program would have a guaranteed incentive or target amount monthly to be shared by resources that were available. This incentive could then funded by the non-availability charges assessed to non-available resources. There would be a balancing account such that any surplus charges would roll into the following month while any deficits would allow the ISO to lower the target incentive amount.

ISO Response

The Iso agrees that perhaps calling it an "incentive mechanism" is a bit of euphemism. It is intended as a penalty program and therefore the ISO does not propose to guarantee the incentive payment. That said, the ISO has added a proposal to maintain a balancing roll-over account for month to month, and only at the end of the year allocate any excess to load.

- b. Comments on design features
- i. Bid-based assessment

As Calpine noted during the meeting, this measurement is just the opposite side of the availability coin where the SCP mechanism only focuses on forced outage data. However, with the obligations of flexible RA resources as well as future demand response resources, forced outage information is not accurate measurement for assessing the bidding obligation. SDG&E also does not believe there is a simpler method for the ISO to determine compliance of economic bids rather than self-schedules. Thus focusing on the bid is appropriate so that the ISO does not have to breakout the flexibility and generic attributes of one MW of capacity.

ISO Response

Thank you for your comments.

ii. Fixed availability percentage band

In the FERC order accepting and rejecting parts of SCP, the Commission agreed that basing the standard on the past performance of the RA fleet was a better measurement than a specific number. "This ensured that each resource is measured by a fair and achievable standard that will stay relevant as market conditions change." Having one standard for the entire fleet could unduly favor or punish one resource. SDG&E recommends the ISO to reconsider the reasoning of using a fixed availability target.

The Planning Reserve Margin holds a 7% requirement for Forced Outages. SDG&E would like the ISO to consider whether the availability metric should be 93% if fixed. The ISO should also consider removing the tolerance band above and below the standard metric. This could limit the amount of funds Load receives when no resources achieve above the availability threshold. While this may seem trivial to move dollar amounts from one resource to another, the actual accounting is very simple in the ISO's system. SDG&E would like the ISO to provide all of the bidding data used in the availability calculation to SCs for validation. Not doing so will cause SCs to not be able to accurately validate the ISO's settlements and increase the amount of settlement disputes created.

ISO Response

The ISO does not believe that reliability should adapt to market conditions. The ISO should set up a system (similar to energy market) where in periods where the ISO expects there to be a higher need, there is a higher reward.

The ISO has never agreed with the 7% forced outage rate and in fact, the ISO has seen something must closer to 4% - 5%. Removing the tolerance band could cause funds to needlessly shift from supplier to supplier without one supplier actually providing significantly more availability than another. We currently have a tolerance band and have not had a problem with settlements disputes due to the band.

iii. Single assessment for flexible and generic overlapping capacity SDG&E believes that a single assessment is appropriate for overlapping capacity when such capacity is bid into the markets and not selfscheduled. However, in the case when the capacity is NOT overlapping, ISO is not calculating the availability assessment based on the higher of the combined capacities. SDG&E recommends that since the ISO's availability metric is based at an hourly level, the availability could be based on a dynamic capacity value.

ISO Response

Availability will be based on a dynamic capacity value depending on the hour, capacity type, and

flexible category.

iv. Other features

SDG&E believes that the ISO should apply incentives and penalties to all types of RA capacity. This should not be limited to only RA capacity that is shown on an RA plan. Any capacity, whether it is CPM or substitute or replacement capacity, should receive an incentive or a charge for the capacity. The original resource that goes out on forced outage, should not receive an incentive based on the availability of the substitute unit at all.

The ISO should consider having a cap to the incentive a MW of capacity may receive compared to the rate at which the non-availability charge is

assessed. In the original SCP order by FERC, the Commission agreed that a cap was a reasonable way to avoid windfall payments to a limited set of RA resources.

SDG&E does not believe that any surplus incentives not claimed by generators should be allocated to load. The incentives are funded by generators and load does not affect a resource's maintenance or performance. Rather load depends on generators to be available in time of need. SDG&E would like the ISO to expand on how much of the historic availability funds were distributed to Load each year. This could provide some context as to the amount of incentives needed for each month.

ISO Response

The ISO does propose this on all RA capacity types and not just RA capacity shown on the monthly plan.

The ISO has proposed a cap at double the incentive mechanism.

As noted above, the ISO has proposed a roll-over account and will only allocate funds to load if there is excess at the end of the year.

c. Comments on price

SDG&E is interested in further discussion on the incentive mechanism price. SDG&E does not believe that the capacity contract data from the CPUC achieves the goal of reflective of market conditions. The CPUC report blends many contracts executed within a single year to come up with an average price. However this weighted price does not provide a reference to the month or year of the capacity. This does not represent market conditions of the operating month in which AIM is targeted.

ISO Response

Thank you for your comments.

d. Comments on capacity and resource exemptions

Section 40.9.5 requires RA resources with Pmax between 1MW and 10MWs that are not required to report Forced Outages within 60 mins of discovery to provide equivalent availability-related information at the end of the calendar month. Section 8.1 of the Outage Management BPM further details that such reporting to be performed no later than 3 business days after the end of the calendar month. If the ISO were to base the measurement only on the bid data, those resources would consistently be at 100%. SDG&E believes that the ISO should consider including such outage information data into the availability assessment for those resources.

With regards to grandfathering, the original exemption adopted by FERC based

on existing contract language which penalizes resources for not being available. Such language is expected to still exist if the ISO's new AIM is adopted by FERC. The ISO should consider allowing resources to seek a continuation of the exemption if they were on the original list. Perhaps with a guaranteed incentive mechanism rather than one that's dependent on the failures of other resources would result in more resources participating in the AIM.

ISO Response

The ISO is proposing an entirely new availability incentive mechanism so any previous exemptions will no longer apply. Policy changes at the ISO should be expected, especially during this period of unprecedented renewable expansion and flexible RA requirements. If the ISO issued a blanket exemption to all contracts already signed prior to this new availability incentive mechanism, the ISO would likely exempt 75% of all resources. This would allow a significant portion of the fleet to take forced outages or not bid into the energy markets without immediate consequences. It would neuter the value in having an availability incentive mechanism and would likely lead to more frequent exceptional dispatch and significant event CPMs. The cost of this would ultimately be borne by load serving entities. It is in everyone's interest- suppliers, LSEs, ISO- to address the new availability incentive mechanism out contractually to the extent possible and for the proposal to allow only limited, targeted exemptions.

e. Other Comments

Based the follow-up call on June 23rd, the ISO proposes to measure availability of wind and solar resources using the ISO or SC's provided forecast and bid. This methodology is different from the availability calculation for all other resource types. All other resources are limited to 100% of its NQC shown while a renewable resource would be paid 120% if the resource were shown at 100% level in the ISO's example. A wind and solar resource could also be committed for 1% of its NQC and would be able to be paid based on greater than 100% of its NQC as there does not seem to be a limitation to this methodology. The ISO explains that the renewable resource's NQC is based on generation history and performing below its NQC amount effectively lowers the resource's future NQC. The ISO seems to not want to "double penalize" such a resource. Yet the opposite would be also true. The resource could perform above its NQC and raise the resource's future NQC. In such a case, the resource would be "doubly rewarded" for its performance. ISO's proposal for AIM should not be concerned with the contracts and payments from LSEs to resources. SDG&E recommends the ISO treat all resources the same and calculate the availability using the same metric. Perhaps the ISO could consider assessing the availability percentage using the forecast and bids while the capacity volume is based on the NQC.

Further, to the extent that a renewable resource's forced outage capacity affects the NQC of the resource, that capacity amount should be considered unavailable. In fact this method should be used for all resources which derive its

NQC based on historical output. In phase two, when the assessment hours are expected to increase, the ISO should consider that the availability only apply to the hours in which use-limited resources are able to provide energy. This would be more equitable so that resources that are unable to provide energy during certain hours are not rewarded.

ISO Response

The ISO proposes to exempt solar and wind resources from the generic availability incentive

mechanism. The ISO will treat all flexible resources the same and only pay solar and wind up to

their RA shown value, although assess availability against the forecast.

Cities of Anaheim, Azusa, Banning, Colton, Pasadena, and Riverside, CA ("Six Cities")

- b. Comments on design features
- i. Bid-based assessment

<u>Six Cities' Response:</u> Provided it is clear that submission of a selfschedule for system or local RA capacity satisfies the availability requirement, the Six Cities generally do not oppose assessment of resource availability based on submission of bids.

iv. Other features

<u>Six Cities' Response:</u> During the June 23, 2014 stakeholder conference call, there was a suggestion to apply the availability performance calculation on a monthly basis rather than a daily basis. The Six Cities support that suggestion, as basing the availability assessment on average monthly performance will mitigate the impact of anomalous events that could have a disproportionate impact on daily performance.

ISO Response

The submission of a self-schedule will satisfy system or local RA capacity must-offer obligations in the circumstance the capacity is not also flexible RA.

The ISO will assess performance based on a monthly average.

d. Comments on capacity and resource exemptions

<u>Six Cities' Response:</u> The Six Cities support the ISO's proposal 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 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 ISO has not demonstrated that the currently effective exemption for grandfathered resources has resulted in any impairment of system reliability. 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. 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.

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.

ISO Response

The ISO does not propose to rescind any exemptions. The ISO is proposing a completely new incentive mechanism so any new exemptions will need new language as the previous exemptions are only applicable to the SCP mechanism which will no longer exist.

In general, policy changes at the ISO should be expected, especially during this period of unprecedented renewable expansion and flexible RA requirements. If the ISO issued a blanket exemption to all contracts already signed prior to this new availability incentive mechanism, the ISO would likely exempt 75% of all resources. This would allow a significant portion of the fleet to take forced outages or not bid into the energy markets without immediate consequences. It would neuter the value in having an availability incentive mechanism and would likely lead to more frequent exceptional dispatch and significant event CPMs. The cost of this would ultimately be borne by load serving entities. It is in everyone's interest- suppliers, LSEs, ISO- to address the new availability incentive mechanism out contractually to the extent possible and for the proposal to allow only limited, targeted exemptions.

On the specific noted facilities, yes, the self-scheduling would meet the availability test and therefore these resources should have no need for an exemption. The ISO does not understand why these resources would be used as flexible RA if they must self-schedule. They would not meet the requirements of a flexible RA resource, which requires economic bidding. If the ISO exempted all local resources, which are all used for local reliability at times, from the flexible RA mechanism, the ISO would effectively make the flexible RA requirement useless. The ISO

seeks more information as to why these two resources would be considered flexible if they are expected to be self-scheduled so often that they would need an exemption from the flexible availability incentive mechanism.

e. Other Comments

<u>Six Cities' Response:</u> The Six Cities support the ISO's 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. In months when no resources are eligible for availability payments, the revenues from non-availability penalties applied during that month should be distributed to Measured Demand.

ISO Response

Thank you for your comments. The ISO has revised the direction of the proposal and created a

roll-over account where only at the end of the year would excess revenues be paid to measured

demand.

The Utility Reform Network (TURN)

No comments submitted for AIM section.

Viasyn, Inc.

a. Comments on the general direction of the design

Viasyn supports the general direction of the Availability Incentive Mechanism (AIM) design, however we do not view the assessment of penalties on a daily basis as reasonable.

First, RA Capacity is a product that is procured and assessed in monthly granularity, and any penalties associated with the performance related to that product should be assessed at a similar level of granularity.

Second, the ISO does not propose to allow resources to substitute for capacity on a forced outage in the real-time market. If a resource is forced offline in the real-time market due to reasons outside of their control, under the current AIM proposal the resource will incur potentially significant penalties even if the system is flush with capacity. It is unreasonable to assess penalties to resources on a daily basis because resources have no way of mitigating the impact of forced outages on real-time market availability through substitution. Assessing penalties on a monthly basis dilutes this market inefficiency, and is appropriate for the interim FRAC MOO construct.

Third, the ISO procures operating reserves to address unit contingencies.

Last, LSEs are required to procure a 115% planning reserve margin based on historical outage rates. The cost of unexpected forced outages in the real-time market is therefore already accounted for in the RA program.

ISO Response

Thank you for your comments. The ISO has revised to proposal to an average monthly availability assessment.

b. Comments on design features

i. Bid-based assessment

Viasyn views the bid-based assessment as a superior approach to the existing design.

ii. Fixed availability percentage band

Viasyn supports the fixed availability percentage band proposal, however the ISO should recognize the fact that the proposed lower bound of 94.5% is more stringent than the 4 year average for 9 months under the current design. In light of the proposed elimination of the grandfathering of RA contracts, the ISO should consider a lower bound that is more representative of historic availability.

ISO Response

The ISO believes it is more appropriate to have the average of 96.5% reflect the middle bound and create the threshold in that manner.

iii. Single assessment for flexible and generic overlapping capacity

Viasyn supports the treatment of overlapping capacity.

c. Comments on price

Viasyn supports the use of a single availability incentive price based on the offer cap of the competitive solicitation process as discussed in our comments to section 4.e.

d. Comments on capacity and resource exemptions

Viasyn supports the elimination of blanket exemptions only if the ISO assesses the availability assessment penalty on a monthly basis instead of daily. A daily assessment of availability penalties is excessively burdensome, does not allow resources to mitigate their exposure to penalties associated with uncontrollable real-time contingencies, and ignores other market mechanisms that address forced outages such as contingency reserves and planning reserve margins.

ISO Response

Thank you for your comments.

Resero Consulting for Western Power Trading Forum (WPTF)

a. Comments on the general direction of the design

We appreciate the ISO's thoughtful efforts to design an efficient incentive mechanism that is applied as uniformly as is practical across resource types.

b. Comments on design featuresi. Bid-based assessment

See comment under (iii) single assessment, below.

ii. Fixed availability percentage band

WPTF has no strong objections to the use of a fixed band but would like further discussion on the totality of the performance mechanism before finalizing the fixed band. WPTF encourages the ISO to further discuss the relationship between the Planning Reserve Margin (PRM), the QC determination, outage replacement, and the availability mechanism to ensure the ISO is not – with the replacement requirements and the availability incentives – effectively over procuring.

ISO Response

Thank you for your comments. The ISO agrees that these all need to be looked at together and

there is much discussion on this in the replacement rule section of the revised straw proposal.

iii. Single assessment for flexible and generic overlapping capacity

WPTF has concerns that the single assessment, which results in generic capacity also not being available when flexible capacity is not available, may create undesirable disincentives to suppliers for offering flexible RA. WPTF requests more consideration and discussion on this issue.

ISO Response

The ISO is willing to continue the discussion on the value of a single assessment and is open to

other proposals.

At this time, the ISO believes that assessing flexible RA and system RA availability separately would decrease the incentive for resources to provide economic bids for overlapping capacity. In order to not impose a double penalty on a resource for a single outage and still assess flexible and system RA separately, the ISO would have to have come up with prices that incent resources enough to comply with both requirements independently, yet do not double penalize capacity for a single outage. This is because the availability incentive mechanism applies to capacity that is solely system RA, solely flexible RA, or both flexible and system RA.

The ISO does not believe in the construct where a MW can be shown as only flexible RA or only system RA, or as both system and flexible RA that it is possible to have separate prices for flexible RA and system RA without negative consequences. Under the two price system, either the ISO undervalues flexibility availability or double penalizes a resource that is shown as both flexible and system RA. This is because capacity has to cover its underlying going forward fixed costs regardless of whether it is shown as flexible and system RA. Therefore, there is no adder price to system RA that would appropriately incent capacity shown as only flexible RA to be available.

A simple example illustrates this point: Assume a resource's NQC = EFC = 100 MW and it must recover \$3.5/kW- month. It believes that providing flexible RA will have a \$.5/kW-month adder. The resource then would sell its capacity for either \$3.5/kW-month as system RA or \$4.0/kW-month as flexible and system RA, or \$4.0/kW-month as flexible only RA. There is no difference in cost to the resource to provide system and flexible RA or flexible only RA. The resource can be shown to the ISO in three ways. However, in all cases in order to incent the resource to be

available, the ISO has to have a price that is a significant enough proportion of the resources payments.

If the incentive prices were (as some participants have suggested) a system price and then "adder" flexible price, the incentive to be flexible would be small at best and non-existent at worst. For example, assume an availability price of \$3.5/kW-month for system RA and \$.5/kW-month for flexible RA. The following would then occur:

- If the resource was shown as flexible RA only, the ISO would only incent it by penalizing or paying it \$.5/kW-month. This is only 1/4th of its capacity payment and far smaller than the resources RA payment of \$4/kW-month, which undervalues flexible capacity.
- If the resource is shown as flexible and system RA and self-schedules for large portions
 of the month, the resource could end up being paid under the incentive mechanism for
 being fully compliant with the system obligation at up to \$7/kW- month (twice the system
 price) and only end up being penalized \$. 5/kW-month for sometimes not fulfilling the
 flexible obligation. This also undervalues the flexible RA portion of the resource and
 undermines the availability incentive mechanism for flexibility.

If the ISO therefore made both the flexible and system RA price equal at \$3.5/kW-month, the ISO would end up over-penalizing resources on outage. For example, the following would occur:

• If the resource was shown as flexible and system RA and went on outage, the ISO would penalize the resource by charging it \$7/kW-month. This is now overly punitive to the resource.

Therefore the ISO proposes to assess a single MW at a single price under a single availability metric. This essentially puts all flexible resources in a bucket and all generic resources in a bucket and then assesses these buckets in the exact same way using the same price.

iv. Other features

WPTF is also concerned about the need for flexible RA units to schedule routine maintenance given the extended offer window requirements. WPTF requests further consideration about how the ISO could release a limited number of flexible RA resources during periods when less than the full level of flexible RA is needed within a month such that resources can perform maintenance without having their measured performance affected. Consideration would need to be given to how such resources could request maintenance windows and how the ISO would choose which flexibility resources' requests would be granted (e.g., first come - first served).

ISO Response

The flexible RA requirement varies monthly. The ISO would expect flexible resources on outage would either not offer themselves as RA that month or provide replacement capacity if needed. At this time the ISO does not propose restrictions on planned outages for flexible resources until the 2018 RA year.

c. Comments on price

The ISO's proposal does not currently include a strong statement of the price. Given that the ISO's principles call for the incentive to adjust with the replacement value, it seems the incentive price has to be based on ISO replacement expenditures over some period of time. We ask the ISO to detail this further such that the ISO and stakeholders can consider alternatives.

ISO Response

The ISO proposes a price of \$3.5 in the paper and additionally will discuss this at the CPM

working group on August 25th.