

Comments of Viasyn, Inc. Reliability Services Revised Straw Proposal

Submitted by	Company	Date Submitted
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Viasyn appreciates the opportunity to comment on the ISO's Reliability Services Revised Straw Proposal.¹ The proposal creates a more efficient RA program design, reduces the complexity of managing resource participation, and more appropriately balances economic rationality with the need to manage resource adequacy. For these reasons Viasyn strongly supports the revised proposal.

Page 14 — Intertie resources providing flexible RA capacity

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

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

The ISO also allows demand response resources to offer category 3 flexible RA capacity, even though these resources are not capable of providing load following or short duration ramping capability (intra-15-minute).

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

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

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

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

³ Revised Straw Proposal at pg. 14.

procurement). It is likely that this analysis would show that permitting imports to offer category 2 or 3 flexible RA would only serve to contribute towards total system flexibility.

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

Page 18 — Default energy bids for non-generating resources

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

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

We recommend the ISO consider a default energy bid for an INC economic bid from a non-generating resource be set based on a price spread above the same resource's DEC economic bid so as to ensure variable expenses are recovered. In the day-ahead market (DAM), the DEC and INC economic spread could be placed half-way around the trailing average market price for a predetermined number of market intervals. In the real-time market (RTM) the DEC and INC economic spread could be placed halfway around the average DAM price for the same hour. This would be better than the trailing average of RTM prices for multiple reasons, but primarily because the RTM is an imbalance market and prices in a previous interval are not likely to provide as reliable an indication of the price level for power in the current interval.

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

$$INC_DEB_{HE,X} = DEC_DEB_{HE,X} + VariableExpenses$$

$$DEC_DEB_{HE,X} = DAM_LMP_{HE,X-1} - VariableExpenses/2$$

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

$$INC_DEB_{HE,X} = DEC_DEB_{HE,X} + VariableExpenses$$

$$DEC_DEB_{HE,X} = DAM_LMP_{HE,X} - VariableExpenses/2$$

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

Page 36 — How to make AIM price durable

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

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

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

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

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

Page 37 — Wind and solar exemption under AIM

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

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

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

The ISO should create a default EFC determination methodology for VERs in this initiative as one was not created in FRAC-MOO. The EFC for VERs will likely take into account upward and downward ramp rates which are likely to be complicated by irradiance or wind speed in any given interval.

While we strongly support the ISO's proposal to incorporate dispatchable VERs into the flexible RA program, we recommend the ISO re-examine the relationship between real-time market Inter-SC Trades (ISTs) and fifteen-minute market (FMM) self-schedules, as the current construct disincentivizes many VERs to offer dispatch capability to the ISO. While many PPAs specify that

⁴ Table 11, Page 24, 2012 Resource Adequacy Report, April 2014.

<http://www.cpuc.ca.gov/NR/rdonlyres/94E0D083-C122-4C43-A2D2-B122D7D48DDD/0/2012RARReportFinal.pdf>

VERs will not curtail output to economic signals, this is not our concern because this clause is easily modifiable. Our concern is that many VER PPAs specify payment at the PPA rate to be based on the Physical IST quantity. Therefore any market design or resource operation that reduces the Physical IST quantity will be deemed undesirable for the resource. A VER with this type of PPA would not submit decremental economic bids because if such bids were awarded, the Physical IST quantity submitted that hour would be reduced to match the new, lower dispatch point and a Converted Physical Trade (CPT) will be generated for the difference. To overcome this disincentive VERs will be required to economically bid close to the bid floor of (\$150).

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

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

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

Page 46 — Feedback on clarification of use-limited status

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

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

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

Page 46 — Dispatchable resources offering planned outage replacement

The ISO allows a resource to be classified as dispatchable if it meets one of two criteria: (1) the resource is new, or (2) the resource has submitted at least 10 economic hourly bids within the previous year. We recognize that the ISO is increasing the stringency of the term dispatchable for purposes of replacement, as a resource would already have to be classified as dispatchable in the Master File for the resource to have submitted 10 economic bids within the previous year.

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