Submitted By	Company	Date Submitted
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General comments

In general, NRG supports the direction laid out in the Day-Ahead Enhancements stakeholder initiative – to change the granularity of Day-Ahead schedules and to create a biddable Day-Ahead Imbalance Reserve (“IR”) product.[1]

NRG also supports:

- Imposing a real-time must-offer obligation only on those resources that have been awarded Imbalance Reserves.
- Procuring 100% of the IR requirement in the Day-Ahead Market. NRG notes that much work remains with regards to determining how the requirement will be set and offers comments on whether to use a demand curve or a tiered penalty price approach below.
- Not having a separate certification process to qualify for providing IR.

Specific issues on which CAISO is seeking feedback:

Performance evaluation

The CAISO discusses two approaches to performance evaluation: (1) establishing a minimum performance threshold and disqualifying resources that do not meet the minimum threshold from providing IRP for some period in the future, or (2) modifying the no-pay rules for penalize non-performance.

NRG strongly encourages the CAISO to focus on option (2) – creating a no-pay mechanism. Disqualifying a resource from providing IR in the future introduces significant challenges. First, how do you develop an equitable and effective minimum performance threshold? The CAISO established a performance threshold for regulation resources a while back but had to make an emergency filing to halve the requirement when too many regulation resources failed to meet the performance threshold. Second, what happens if a resource that an LSE is counting on to satisfy its flexibility requirements (however that may be defined) is disqualified from providing IR?[2] As the CAISO notes (page 23), any disqualification process would have to align with the RA program. NRG notes in the CAISO’s example on page 23 that if a resource failed to meet the minimum threshold in June, disqualifying it from providing IR in August would not align with the RA program, as August showings are made on June 15.

Procurement of Imbalance Reserves

The CAISO discusses two approaches for IR procurement (pages 21-22):

[1] NRG respectfully encourages the CAISO to abandon the acronym “IRP” and select another acronym for the Day-Ahead Imbalance Reserve Product because that acronym is already associated with the CPUC’s Integrated Resource Planning process.

[2] The nexus, if any, between the CAISO’s new proposed IR paradigm and the forward flexibility showing requirements of the CPUC’s RA program is unclear. NRG requests that the CAISO explicitly clarify the relationship between these two things in its next proposal.

- The penalty price will be set at the real-time flexible reserve product penalty price. (The CAISO uses a demand curve to determine FRP procurement.)
- The penalty price will be tiered based on the deficient amount of imbalance reserve bids. If the market recognizes a small shortage of imbalance reserve bids (~25 MW), a lower penalty price will be used. However, if the market recognizes a significant shortage of imbalance reserve bids (~200 MW) a larger penalty price will be used.

NRG is willing to consider either approach. What penalty price is appropriate for failing to meet IR procurement will depend on how the CAISO sets the IR requirement. The IR product is intended to account for uncertainty; if a conservative amount of uncertainty is factored into the IR procurement target, then it would seem reasonable that failure to procure a small amount of IR based on a procurement target that incorporates a conservative (high) amount of uncertainty should not result in huge penalty prices. If the IR requirement is set low, however, then higher penalty prices for failure to procure would be appropriate.

Deliverability

The CAISO writes at page 29: "The ISO seeks stakeholder comments if the imbalance reserve design should address deliverability or if deliverability should be addressed for all products? If the latter, should deliverability be added to this initiative or prioritized through the annual roadmap process?"

How the CAISO will ensure the deliverability of energy from IR is an important topic, given the recent experience with stranding FRP procurement. While allocating the IR requirement across different sub-regions helps reduce the possibility of stranding IR because the energy cannot be delivered, but this accommodation does not eliminate it.

How the CAISO will ensure the deliverability of all CAISO-procured day-ahead and real-time capacity products – its ancillary service products, IR, FRP, perhaps even corrective capacity – is a topic that should be explored across all these products, not just for IR. For that reason, it would seem reasonable to consider deliverability in a broader initiative, not just in DA Enhancements. The benefit of considering deliverability in *this* initiative, however, is that this initiative is currently live and has already attracted a significant amount of stakeholder participation. Deferring the deliverability question to a yet unidentified stakeholder process may mean that it does not get dealt with in a meaningful and timely way.

RAAIM

The CAISO offers that the CAISO will only consider compliance with day-ahead must-offer obligations in RAAIM (page 25). While NRG does not disagree with approach (because, as NRG understands, the CAISO will have a separate performance evaluation and penalty system for IR), NRG is still evaluating and does not yet support the CAISO's proposal in the April 27, 2018 FRACMOO2 Second Revised Flexible Capacity Framework to require flexible capacity to have a 24x7 MOO. The CAISO evaluates the performance of generic RA capacity based on a five-hour strip of peak hours. Given that some hours are clearly more important than others (both from a peak-based RA basis and from a flexibility basis) and further given the CAISO does not feel it necessary to evaluate every hour of a generic RA resource's performance, NRG remains unconvinced for the need to evaluate a resource's compliance with its flexible MOO in every hour to establish a flexible performance metric for that resource. The complex misalignment between the five-hour RA assessment period and the 16-hour flex RA assessment period resulted in the CAISO having to restructure the RAAIM penalty. Retaining a misalignment between the assessment period for generic and flex RA does not seem like the optimal way forward. The CAISO should not interpret that comment to conclude that NRG supports evaluating generic RA performance over a 24-hour period; rather, it should note NRG's concerns about (1) evaluating the performance of flexible capacity over all hours and (2) having different assessment periods for generic and flexible RA.

Re-Optimizing AS Between the DA and FMM markets

While NRG is not opposed to further considering re-optimizing DA AS procurement in the FMM (page 30), NRG is concerned about how such re-optimization would be implemented. Would the CAISO *force* buy-back of DA products? Would it do so only when the market participant could earn a higher payment from providing a different product in the real-time market?

On page 30, where the CAISO says "Thus, the need for economic bids for all ancillary services may not be needed.", does that imply that the CAISO would re-optimize the procurement of AS in real-time after throwing away a market participant's AS capacity bid? If so, NRG would oppose that.