Submitted By	Company	Date Submitted
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- **Constructing a new Minimum Load Costs value following a Re-Rate of a Generating Unit's Minimum Load**

NRG agrees with the CAISO that, when a generating unit's minimum load (P_{min}) is re-rated, the CAISO should also adjust the unit's minimum load cost (MLC) to account for the re-rated P_{min}.

The CAISO has proposed to use the generating unit's Default Energy Bid (DEB) between the original Pmin and the new Pmin to develop the new MLC.

NRG does not support using the generating unit's DEB to construct a new MLC in all circumstances. Assuming that it complies with all approved criteria, a market participant's submitted bid should be used in every circumstance unless it can be conclusively and reasonably proven that the market participant has the potential to exercise market power.

However, as NRG understands from the CAISO's explanation on the January 14, 2016 call – the CAISO proposes to use the DEB to construct the re-rated MLC because (1) the CAISO currently does not subject MLCs to local market power mitigation (LMPM) and (2) the re-rated MLC would be developed in the CAISO's market optimization prior to the LMPM being applied to the market participant's energy bid.

NRG strongly prefers that, unless the CAISO can demonstrate that the generating unit has the potential to exercise market power, the CAISO construct the re-rated MLC using a market participant's submitted energy bid instead of the unit's DEB. However, given the current limitations of the CAISO's market systems, NRG understands the CAISO's desire to construct the re-rated MLC using the DEB. While using the DEB to construct the re-rated MLC is the wrong approach from a market efficiency standpoint, it seems to be the only possible approach from a CAISO systems limitations standpoint.

NRG requests that the CAISO identify what changes to the CAISO's systems would be required to construct the re-rated MLC using the market participant's submitted energy bid.

- **NRG Offers an Alternate Settlement Approach That Prevents Unnecessary Mitigation**

As NRG understands, the CAISO proposes to use the DEB rather than the unit's submitted energy bid to construct the re-rated MLC because the energy bid has not been subjected to LMPM at the point in the market optimization when the re-rated MLC is constructed.

NRG offers an approach that would not require a change to the CAISO's market optimization but would still allow the energy bid to be used to construct the re-rated MLC. The CAISO could use the re-rated MLC constructed using the DEB in the market optimization. Then, if LMPM is not

triggered for the MLC for the settlement interval, the CAISO could, post-process, construct a new MLC using the original energy bid and settle the unit based on that bid.   While this solution would result in settling the resource based on a bid other than that used in the optimization – a suboptimal result –that result is no less suboptimal than mitigating a resource's bid when the mitigation is unnecessary.

- **Allowing a Lower Energy Bid Than the DEB**

  As NRG understands, the CAISO does not propose to use a market participant's submitted energy bid to construct the re-rated MLC, even when that submitted energy bid is lower than the DEB.   On the January 14 call, the CAISO offered that if a market participant wanted to present the unit as less expensive to the CAISO's market optimization, it could do so by submitting a lower MLC bid.

  NRG does not believe submitting a lower MLC to be a viable option.

  First, MLC bids apply to a 24-hour period and cannot be changed hourly.   In contrast, a unit's P_{min} may only need to be re-rated on an hourly basis. Using 24-hour locked-in MLC bids as a surrogate for hourly energy bids is not a viable approach.

  Second, in NRG's experience, Scheduling Coordinators (SCs) often have to reflect the risk of having to procure same-day gas in their MLC bids (because failing to account for same-day gas risk in a unit's MLC bid could result in catastrophic losses if gas conditions change suddenly, as they have at the end of 2013 and early 2014), and then use hourly energy bids below the unit's DEB to try to present the generating unit to the CAISO's market optimization at the unit's rational cost.   Using the unit's DEB to construct a new MLC for P_{min} re-rates does not allow an SC to use this strategy to try to present the unit at a reasonable cost while still protecting against same-day gas risk.

  For these reasons, NRG would like the CAISO to use a market participant's submitted energy bid to construct the re-rated MLC if that bid is below the unit's DEB.

- **Using No-Load Costs instead of MLC in the market optimization would provide a more flexible and robust framework**

  Instead of using MLC as part of three-part bids, the PJM and MISO market optimizations use "no-load costs" (NLC).   NRG strongly encourages the CAISO to explore modifying the CAISO's market optimization to use NLC instead of MLC.   Under this construct, the first energy bid segment would apply to the range from zero (0) MW to unit's minimum load level rather than beginning at the unit's minimum load level.

- **Clarifying conditions under which P_{min} re-rates are permitted**

  NRG urges the CAISO not to be too prescriptive in specifying the conditions under which SCs can use P_{min} re-rates. For example, some situations (e.g., mandatory RATA testing, which requires the generating unit to operate at a particular level higher than the unit's P_{min}) could be effectively managed using a combination of day-ahead and real-time self-schedules and P_{min} re-

rates. Using P_{min} re-rates would allow the SC to return the unit to its normal operating configuration in a more timely fashion than self-schedules if the RATA testing concluded earlier than scheduled.   Before limiting P_{min} re-rates to situations that involve mechanical limitations to the generating unit, the CAISO should consider all situations (e.g., environmental restrictions) in which using P_{min} re-rates may be the best, or at least the least risky, approach.