Stakeholder Comments Template

Commitment Costs and Default Energy Bid Enhancements

June 30, 2017 Straw Proposal

The ISO provides this template for submission of stakeholder comments on the June 30, 2017 straw proposal and July 6 stakeholder meeting. The straw proposal, presentation and other information related to this initiative may be found at:

Submitted by	Company	Date Submitted
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http://www.caiso.com/informed/Pages/StakeholderProcesses/CommitmentCosts_DefaultEnergyBidEnhancements.aspx

Upon completion of this template please submit it to initiativecomments@caiso.com. Submissions are requested by close of business on **July 20, 2017.**

Straw Proposal

1. **Feedback on stakeholder positions for each proposed scope item**

   The CAISO is seeking feedback on the straw proposal for the Commitment Cost and Default Energy Bid Enhancement Initiative. Please state whether you support, oppose or hold no position on the following aspects of the proposal, and explain the rationale for your position.

   a. Support hourly minimum load offers. *Support. Hourly minimum load offers will enable market participants to reflect changing costs across a day and should result in more rational bidding than currently possible under the 24-hour locked in structure. NRG requests that the CAISO confirm that, if the CAISO implemented hourly minimum load offers, it would move the minimum load cost from the DAILY BID Components tab to the HOURLY BID COMPONENTS tab in SIBR so market participants can see which costs will be used in the market optimization.*

   b. Apply settlement rules when no minimum load cost offer present. *Support.*

   c. Add a negotiated option for commitment cost reference levels *NRG supports the availability of a negotiated commitment cost reference level. However, the usefulness of this option will depend on what the CAISO considers to be "systematic" differences in price formulations (Straw Proposal, page 25) and the amount of flexibility the CAISO will have in setting the negotiated levels.*

d. Allow suppliers to provide ex ante reference level adjustments, subject to verification requirements (ex ante and ex post verification processes) *Strongly support.*

e. Support market-based offers subject to 'circuit breaker' caps *Support, as long as the "circuit breaker' caps are sufficiently high as to not unreasonably constraint the market-based offers.*

f. Apply dynamic market power mitigation to commitment cost components *Support. Dynamic competitive testing and market power mitigation would be the best solution. Should the costs of implementing dynamic competitive testing and market power mitigation prove to be as bad as some of the figures discussed at the end of the July 6 meeting, NRG supports investigating some measure of periodic off-line competitive testing for mitigation of commitment costs.*

g. Apply the results of market power mitigation on commitment costs to default assessments for exceptional dispatch *Support, subject to resolving details about how the default state is determined.*

2. Feedback on whether CAISO proposal resolves stakeholder concerns

CAISO seeking feedback on whether the straw proposal addresses the bidding flexibility issues raised under this stakeholder effort. If not, please explain what "gaps" might remain based on stakeholder perspective if this proposal is approved?

The CAISO Straw Proposal goes a long way towards addressing NRG's concerns about several current problems, including

- *Suppliers' ability to reflect their cost expectations in the bids without being unreasonably constrained by lagging or inapplicable gas price indices;*
- *24-hour locked-in minimum load costs that make it difficult to reflect economics that change across a day*

Whether the CAISO Straw Proposal address all of NRG's concerns will depend on the details of what rules the CAISO adopts to "lock-in" commitment cost bids across certain time periods (e.g., across inter-temporal constraints) and to what extent the CAISO allows suppliers to revise commitment cost offers in the Real-Time Market for hours in which the resource has already received a DA schedule. NRG would like to be able to submit commitment cost bids that reflect its real-time willingness/desire to either run a unit to meet its DA schedule, or to de-commit the a unit as market conditions warrant.

3. Proposal for hourly minimum load

CAISO seeks feedback from stakeholders on whether its proposal to support hourly minimum load offers resolves the flexibility concerns raised by stakeholders in this initiative. In the straw proposal and the meeting, the CAISO and its stakeholders discussed the complexity around not only supporting hourly variation but supporting ability for non-RA resources to select the hours they wish to participate. CAISO is seeking greater explanation of the specific driver for desire to select hours to participate and examples of how suppliers requesting this flexibility would envision their optimal flexibility.

Providing the flexibility to allow market participants, where possible, to decide which hours in which they submit bids is most consistent with the principle articulated in Section 5.1 of the Straw Proposal - resources without must-offer-obligations should have the flexibility to select the hours in a day they participate in the market. NRG strongly agrees with this principle.

4. Proposed addition of a negotiated option for proxy costs

CAISO seeking feedback on whether its proposal to leverage the existing negotiated processes to allow the commitment cost components to be negotiated is a sufficient level of detail. CAISO seeks information on what information stakeholders would seek on the proposal to expand the existing negotiation option to all commitment cost components.

The CAISO has proposed that suppliers be able to negotiate reference levels for "…complex formulations of delivered fuel price that do not assume the next day gas index is the appropriate price benchmark for the resource." The CAISO has also proposed that negotiated reference levels be established for use "…on a routine basis…". Finally, the CAISO has indicated that "…[o]n an exceptional basis when conditions warrant, the ISO finds it appropriate for suppliers' valuation of fuel price to change to reflect fuel availability so the ISO dispatch can consider the scarcity in finding the optimal solution." (Straw Proposal at page 26).

Providing a negotiated option for proxy costs is valuable, if the negotiated option allows for real negotiation around complex formulations of costs and does not simply amount to another formulaic approach to setting proxy costs that works well under non-volatile conditions but leaves market participants exposed under volatile conditions, even where those volatile conditions happen frequently or routinely. For example, NRG's steam turbine units are often exceptionally dispatched after the Day-Ahead market and NRG secures the gas needed for the units' operation in the intra-day market. Additionally, given physical constraints, SoCalGas has either been at risk for or actually declared operational flow orders with increasing frequency as a result of the closure of the Aliso Canyon facility. These conditions expose NRG to being unable to recover legitimate costs (e.g., the cost of procuring gas in the intra-day market, or unavoidable OFO charges) that it cannot avoid. Especially during peak load conditions, bilateral pricing on the weekends moves with the risk of an OFO, not simply whether one is declared. Does the CAISO consider these circumstances occur to on a "routine" or an "exceptional" basis? NRG asserts these costs should be recoverable, and, while it would prefer that such unavoidable costs be recovered through "normal" market bids, believes they should be recovered through negotiated levels if that is the avenue available.

5. When should fuel replacement cost be considered in reference levels

It is a widely accepted principle that the marginal cost of fuel is the market price at which supplier would expect to replace the inventory, but there is an open debate instead on "when" that replacement would or should occur. Establishing the marginal cost of fuel to an electric generator based on replacement cost of the next unit purchased is accepted widely because economics are rooted in the need to evaluate whether to burn the fuel to produce energy, maintain it in inventory, or sell fuel. A profit maximizing electricity supplier would evaluate and weigh each of those possibilities.

CAISO maintains that the appropriate value for establishing a benchmark for that replacement fuel is at the prevailing market price when the offer is submitted. On the other hand, the CAISO understands the Department of Market Monitor to believe the replacement costs would be incurred at a time in the future when fuel prices are the lowest so as to maximize profits. However, the CAISO understands from other stakeholders they view the timing of that replacement as being tied to specific times of year or based on the prevailing market price at the time the decision is made. ISO seeks stakeholder input on the nuance in this discussion specifically what if any requirements for "when" should be considered if fuel replacement cost were to be considered in reference levels?

Further is this a component better suited for a negotiated default energy bid or negotiated proxy cost?

NRG believes that it is futile to establish any kind of requirement governing "when" a supplier is expected to procure replacement fuel. Suppliers are frequently unable to time their replacement procurement to maximize profits. Under OFO conditions, suppliers are forced to procure gas in the intra-day market or face OFO penalties. The assumption that suppliers will always be able to procure replacement gas at a favorable price is an unrealistic assumption. While, as noted above, NRG would prefer to treat cost recovery matters through means other than negotiated reference levels, doing so through negotiated reference levels would be a better avenue than through structures that make unreasonable assumptions about the timing of the procurement of replacement fuel.

6. Establishing guidelines for reference level adjustment amount

As stated in the Straw Proposal, the CAISO proposes to introduce reference level adjustments rather than adjustments to only the fuel price component. The addition of a reference level adjustment will allow suppliers to submit requests to update up to four components of the supply offer where the submitted adjustment for that component would replace the routinely calculated reference level. In its Business Practice Manuals, the CAISO will clarify that the technology agnostic definition of its supply offer components should be revised accordingly:

- **Startup costs** – costs associated with bringing a unit online from being shut down *or a state not capable of producing energy into a mode it can produce energy*

- **Transition costs** – costs associated with moving from one configuration to another for multi-stage generators (MSG)

- **Minimum load costs-** operating the unit at the minimum operating level (Pmin) where a unit cannot drop below without compromising the unit's operation including costs of producing energy up to Pmin as well as *run hour costs unrelated to any energy production possible even for resources with 0 MWh minimum operating level*

- **Incremental energy costs** – costs associated with producing energy above Pmin expressed as a $/MWh value *where participating demand response resources costs should be at least at net benefits test value*.

The italicized language is intended to clarify that the CAISO systems will support minimum load costs even for resources without minimum load energy that incur run hour costs. CAISO seeks stakeholder feedback as to whether this meets the need for greater clarity expressed and on what further guidelines should be developed for how the CAISO would expect the cost-based offer for the reference level adjustment to be developed.

Specifically, the CAISO seeks stakeholder feedback on whether the CAISO should provide examples of potential approaches for establishing an appropriate amount to request for a reference level adjustment for each condition warranting an adjustment? Please provide feedback on what level of information is necessary to evaluate these reference level adjustments.

A foundation of the CC-DEBE process is the principle that bids – even mitigated bids - should reflect suppliers' reasonable cost expectations. Consequently, the supplier should provide information that informed the supplier's cost expectations at the time the bids and reference levels were submitted to the CAISO. Information relevant to the supplier's cost expectation – not information on the actual costs incurred – is the information relevant to assessing the reasonableness of the supplier's bids and reference levels.

With this principle in mind, NRG believes it would be very helpful for the CAISO to provide guidelines and examples for both the development and adjustment of reference levels.

With regards to what information would be provided – one possible option would be to provide ICE screenshots, though, to include a time stamp, such screenshots would have to include more information than just the information relevant to the supplier.

Other options could include relevant information from Envoy or the equivalent system of other gas suppliers.

The topic of what information should be provided warrants much greater discussion in the stakeholder process.

7. Conditions described in Guidelines

The CAISO proposes that the guidelines should not provide specific conditions that would warrant suppliers' requesting adjustments but should provide the following scenarios and guidelines for approving adjustments for:

- Day-ahead supply offers where prevailing prices in next day gas products are trading more than 110% of the index price published the day prior to the CAISO day-ahead market run (GD1)
- Real-time supply offers where prevailing prices in non-standard products are trading more than 110% above the index price published the morning of the CAISO day-ahead market run (GD2)
- Real-time supply offers reflecting risk margin or scarcity value needed to support reliability on upstream fuel systems only eligible for adjustments in hours after 4PM Pacific under

scenarios where gas pipeline instruction has been released and/or gas system capacity levels are insufficient to deliver fuel supply to avoid violating a gas pipeline instructions

CAISO seeks stakeholder feedback on what other conditions the CAISO should specifically describe – especially if any are non-gas related – in the guidelines for conditions warranting adjustments and sufficient supporting documentation.

NRG questions whether the CAISO should try to establish any a priori thresholds that would govern when a supplier can submit a reference price adjustment. If the CAISO is going to perform ex ante verification of reference price levels and adjustments, the ex ante *verification process should serve as a sufficient screen without imposing other arbitrary thresholds for when adjustments can be submitted.*

8. Ex ante and ex post verification process details

CAISO seeking stakeholder feedback on the level of process details that stakeholders request the CAISO to provide to enable evaluation of the CAISO proposals for an ex ante and ex post verification process.

The CAISO should provide the following process details:

- *The type of information that the CAISO finds necessary to validate the supplier's cost expectations. As NRG noted above, much additional discussion is required to identify what kinds of information are available and what kinds of information the CAISO would require. Such information could include – ICE screenshots, IM screenshots for bilateral transactions, and screenshots from Envoy or other similar gas supply systems.*
- *Deadlines for:*
    - *When this information must be submitted to the CAISO*
    - *When the CAISO can request additional information and when that additional information must be provided*
    - *When the CAISO will complete the verification process*

9. Clawback if CAISO determines supplier submits reference level request based on artificial price information

To be included in the market, the CAISO will require the requested adjustment to be verified prior to the market run (i.e., ex ante verification). This ex ante verification will be performed through evaluating the reference level adjustment through an automated screen comparing the adjusted value against a reasonableness threshold. If the adjustment falls below the reasonableness threshold, the CAISO will accept the reference level adjustment automatically. If the adjustment is higher than lower of the reasonableness threshold or cost-based cap if applicable, the CAISO will adjust the reference level adjustment to the reasonableness threshold – capping the adjustment at a reasonable rate and sending the original adjustment request to the ex post verification process.

CAISO is considering whether it should seek authority to initiate an audit process if suppliers' behavioral issues are identified. If CAISO is not able to substantiate the suppliers' compliance in following the established guidelines, CAISO will clawback the market revenues or uplift payments. CAISO is seeking stakeholder comments on whether it should seek authority to clawback these artificial payments.

NRG believes that the CAISO's ex ante validation process should be the primary means to evaluate and condition reference levels and that the audit process would be used infrequently, and only when behavioral issues – not simply mis-matched expectations – are evident.

NRG does not object to the CAISO clawing back market revenues or uplift payments if the CAISO conclusively determines that the reference level adjustment was based on artificial price information. Given that the reference level adjustment sought will be based on a supplier's cost expectation, not on actual prices, it is important that the CAISO identify a priori *the kinds of information that will be necessary to support a supplier's representation of its cost expectations. Further, the CAISO must account for the fact that suppliers' cost expectations will sometimes be wrong. Missed expectations should not automatically trigger audits. To the extent that the CAISO attempts to screen for behavioral issues to trigger audits, it must do so in a way that clearly identifies behavioral issues, not missed expectations.*

NRG expects that the CAISO will be unwilling to disclose the amount of the "reasonableness threshold" for fear that suppliers will view it as a safe harbor ceiling and bid just up to, but not above, that level. However, given the CAISO's proclivity for implementing measures that work well when market prices are not volatile but leave suppliers exposed when they are, NRG would oppose setting the "reasonable threshold" at a level that would continue to leave suppliers exposed under volatile conditions. NRG looks forward to working with the CAISO to establish a "reasonable threshold" that will allow for meaningful adjustments to reference levels that protect suppliers under volatile market conditions.

10. Proposed caps for commitment cost components

CAISO seeks feedback on whether its proposed cap for market based commitment cost components as 300% of mitigated proxy costs. CAISO is proposing that the mitigated proxy cost would include a 110% scalar for incidental costs outside of the calculation to maintain consistency with its scalar used in its variable cost default energy bid. For example, if the minimum load proxy cost is estimated at $1,000/hour then the mitigated proxy cost will be $1,100/hour ($1,000*110%). The CAISO proposes that the market based commitment cost components be subject to a circuit breaker cap of 300% of mitigated proxy cost. In this example at $3,300/hour. The same methodology would be adopted for the transition cost and start up cost components.

NRG supports this proposal, with concerns. NRG strongly supports raising the "circuit breaker" caps to 300% of the proxy cost. What concerns NRG about this proposal is the establishment of the proxy cost. If the proxy cost reflects stale, unavailable or otherwise unsuitable gas prices, suppliers will remain exposed. Further, while a 300% cap makes much more sense under competitive conditions – whether the CAISO's proposal to dynamically assess market power for commitment costs using an 85% flow test is reasonable is not yet fully evident.

11. Proposed mitigation for commitment cost components

CAISO believes that within the CAISO system there is not a risk of market power at a system level. Instead the market power concerns are based on local market power which if exercised would exacerbate congestion inflating the marginal cost of congestion component. Consequently, CAISO's proposal is to expand the core concept of local market power mitigation to evaluate uncompetitive transmission constraints where there is insufficient supply to meet demand after removing the largest suppliers including its minimum load energy. CAISO's concern with applying its mitigation to its commitment cost components comes from the theoretical concern that generation within a locally constrained area might be needed to serve load within the pocket and when committed to minimum load would result in the transmission constraints into the area not binding due to the lumpy amount of the committed energy.

CAISO is seeking stakeholder input on whether the CAISO should consider any other items in its design for applying market power mitigation to commitment including is there general consensus that market power is a local concern and that the ability to inflate marginal cost of congestion is the condition that a test should identify.

NRG supports the CAISO's position expressed at the last CC-DEBE meeting that the ability to exercise market power relates only to local conditions.

12. Proposed Mitigation Characteristics

As mentioned in the Straw Proposal, the CAISO proposes to introduce a commitment cost market power mitigation in the unit commitment processes. The CAISO seeks stakeholder feedback on the information in the Straw Proposal and the table below, which lists the proposed characteristics for the commitment cost mitigation. Specifically the CAISO is seeking input on stakeholder views on the type of constraint tested (Row 3), the RSI calculation for maximum capacity that could be withheld (Row 5), and how the mitigation would apply (Row 6).

Mitigation Design Feature	IFM	STUC	HASP	RTM Pre-Dispatch/FMM
Requires new process	N	Y	N	N
Type of constraint tested	Critical (85% Flow)	Critical (85% Flow)	Critical (85% Flow)	Critical (85% Flow)
RSI calculation – allows commitment/de-commitments	Y	Y	Y	Y
RSI calculation – basis for maximum capacity that could be withheld from pivotal suppliers	maximum effective available capacity	maximum effective available capacity	maximum effective available capacity	maximum effective available capacity

Apply mitigation	If hour failed test	If failed test in any of the 15-minute intervals associated with an hour	If failed test in any of four 15-minute HASP intervals for that hour for HASP up to RTPD/RTD	If failed test in applicable 15-minute interval of RTPD run through balance of hour

First, *NRG encourages the CAISO to adopt a term other than "critical" for describing constraints for which the flow is more than 85% of the applicable rating – a term such as "approaching" or "potentially binding". The term "critical" has substantial connotations beyond describing a path or element that is not yet loaded to its rating.*

Second, *NRG encourages the CAISO to provide some historical data-based numerical justification as to why 85% - as opposed to 90% or 95% or any other value - is the "right" level for defining the flow level at which constraints should be tested for local market power.*

Finally, with regards to Row 6 ("Apply Mitigation", NRG notes that history has shown that the accuracy of the market power mitigation increases the closer to the actual trading interval the evaluation is conducted. Ideally, the mitigation should only be applied for the binding/"critical" interval and should not carry into intervals that have not been determined to be binding/"critical".

13. Proposed application of commitment cost mitigation for exceptional dispatches

CAISO is proposing to transfer the new mitigation test to mitigating incremental exceptional dispatches consistent with existing policy for mitigating incremental exceptional dispatches based on historical analysis of uncompetitive transmission constraints.

CAISO seeking stakeholder feedback on the following proposal for purposes of mitigating commitment cost components of an incremental exceptional dispatch:

- A constraint that passes the following two thresholds will be deemed competitive for purposes of applying mitigation to commitment cost portion of the Exceptional Dispatch:
    - Congestion Threshold: Critical flow in 10 hours or more in the RTUC run where the dynamic competitive path assessment is calculated, and
    - Competitive Threshold: Deemed competitive 75 percent or more of the instances where the constraint was critical and tested.

NRG acknowledges that the parameters set forth above describe the current default competitive path assessment, which FERC has found to be reasonable. Ideally, the competitiveness of each path should be assessed using current real time conditions and should use default assessments only under the most unusual conditions. If the CAISO is going to assess competitiveness for every constraint even where the flow on that path does not exceed the path's rating (i.e., using the 85% flow threshold), NRG asks why the CAISO could not establish competitiveness for all paths in or near real-time using a flow threshold that is even less than the "critical" level. This kind of assessment would be far more accurate than any kind of "default" assessment that would rely on potentially stale data taken from as much as a two-month look-back.

With regards to the CAISO's proposal - the CAISO has proposed that these tests would be conducted no less frequently than every seven days using a sample period that includes the most recent 60 days

(Straw Proposal at page 36). These parameters seem reasonable, but it is difficult to assess whether they are truly reasonable without some statistical support.

In theory, using a 60-day sample set could result in false positive or negative results during the transition from high load conditions to low load conditions or vice versa. Given that the CAISO intends to run these assessments no less frequently than every seven days, the sample size used should reflect prevailing conditions at the time to the greatest extent possible