Attachment A

Stakeholder Process: Contingency Modeling Enhancements

Summary of Submitted Comments

Stakeholders submitted four rounds of written comments to the ISO under the Contingency Modeling Enhancements stakeholder initiative on the following dates:

- Round One (comments following Issue Paper), 04/09/13
- Round Two (comments following Straw Proposal), 05/28/13
- Round Three (comments following Revised Straw Proposal), 07/01/13
- Round Four (comments following Second Revised Straw Proposal), 03/27/14
- Round Five (comments following Third Revised Straw Proposal), 12/22/15
- Round Six (comments following Congestion Revenue Rights Alternatives Discussion Paper), 02/19/16
- Round Seven (comments following Draft Final Proposal), 08/31/17

Stakeholder comments were received from:
California Department of Water Resources (CDWR), California Public Utilities Commission (CPUC), Calpine, DC Energy, Division of Market Monitoring (DMM), Northern California Power Agency (NCPA), NRG Energy (NRG), Pacific Gas & Electric (PG&E), Peak Reliability, Powerex Corp., San Diego Gas & Electric (SDG&E), Six Cities, Southern California Edison (SCE), Silicon Valley Power (SVP), Valley Electric Association (VEA), Vitol, Inc., Western Power Trading Forum (WPTF)

Stakeholder comments are posted at:
http://www.caiso.com/informed/Pages/StakeholderProcesses/ContingencyModelingEnhancements.aspx

Other stakeholder efforts include:

- Stakeholder Conference Call, 03/26/13
- Stakeholder Meeting, 05/22/13
- Stakeholder Conference Call, 06/25/13
- Stakeholder Conference Call, 03/20/14
- Stakeholder Meeting, 12/10/2015
- Market Surveillance Committee Meeting, 02/11/16
- Market Surveillance Committee Meeting, 02/03/17
- Market Surveillance Committee Meeting, 07/10/17
- Stakeholder Conference Call, 08/22/2017

Comments of following Market Participants	Model temporal constraints in the day-ahead and real-time market	Updating congestion revenue rights settlement and monitoring temporal constraint congestion
DC Energy	Support. Requests the ISO provide information on which temporal constraints it intends to model and how it will determine new constraints to enforce. Requests the same level of transparency related to temporal constraints as provided for preventive constraints today.	Support. Concerned that the congestion revenue rights settlement proposal will not provide a complete hedge to holders of congestion revenue rights. Request the ISO add a $15M trailing six-month threshold to re-evaluate the congestion revenue rights policy decisions.
Department of Market Monitoring (DMM)	Support modeling 30-minute constraints. Concerned that there may be limited benefits to implementing this policy. Concerned about extending the implementation to apply to constraints with greater than 30-minute temporal requirements.	No position

Pacific Gas & Electric Company (PG&E)	Support. Concerned about extending the implementation to apply to constraints with greater than 30-minute temporal requirements. Requests the ISO provide information on which temporal constraints it intends to model and how it will determine new constraints to enforce.	Support. Requests the same level of transparency related to temporal constraints as provided for preventive constraints today.
Powerex	Supports policy but opposes implementation until ISO develops further congestion revenue rights policy.	Oppose. Concerned that the congestion revenue rights settlement proposal will not provide a complete hedge to holders of congestion revenue rights.
Six Cities	Oppose. Concerned that there may be limited benefits to implementing this policy.	No position.
Southern California Edison (SCE)	Oppose. Concerned that there may be limited benefits to implementing this policy. Concerned that there is no demonstration that the proposal would result in least-cost outcomes for consumers. Concerned that the proposal introduces significant complexity. Concerned that the proposal will make market prices less transparent with material impacts to settlements systems and increasing market solution time. Requests the ISO provide information on which temporal constraints it intends to model and how it will determine new constraints to enforce.	Oppose. Concerned that the congestion revenue rights settlement proposal will not provide a complete hedge to holders of congestion revenue rights.

Calpine	Support, but advocates for ability of market participants to bid for the capacity similar to how they bid for A/S.	No position
NRG Energy	Support, but advocates for ability of market participants to bid for the capacity similar to how they bid for A/S.	No position

Management Response	Management is no longer proposing to apply the contingency modeling enhancements to transmission lines with greater than 30 minute limits. In the event Management finds that it is necessary to apply the implementation to transmission lines with greater than a 30 minute limit, Management will conduct a new stakeholder process to develop the additional policy to effectively implement the proposal to transmission lines with longer limits. The Six Cities, SCE, and DMM question the benefit in implementing this policy. The ISO currently achieves a transmission-feasible dispatch using exceptional dispatches and minimum online commitments as a supplement to the day-ahead market. The ISO reviews results, and when required issues exceptional dispatches. Instead of relying on manual reviews, determinations, and interventions, all of which inherently have clear precision disadvantages, Management's proposal achieves a transmission feasible solution in the market at minimized cost. The proposal also clearly and transparently values energy through the LMP and capacity through the LMCP sending appropriate signals to the market related to locational scarcity of energy and capacity. Results of the technical analysis indicate a robust solution with clear reliability and efficiency benefits over manual exceptional dispatches and minimum online commitment constraints. SCE is concerned that the proposal will negatively impact the cost that electricity consumers have to pay when temporal constraints are binding. The market objective is to lower the overall production cost of operating the system given its many reliability constraints. The proposal holds the potential to greatly reduce both out-of-market exceptional dispatches and unpriced minimum online commitment constraints. Reductions in use of these inefficient tools will lower the overall production cost of operating the system and allow locational prices to appropriately represent the value of energy and capacity. SCE is concerned that the proposed market design is complex, and therefore, less transparent. The proposal to value capacity needed to meet reliability constraints in the market improves overall market transparency, pricing, and dispatch. The proposal will also decrease	SCE, Powerex, and DC Energy are concerned that the congestion revenue rights settlement proposal will not provide a complete hedge to holders of congestion revenue rights. The ISO proposed to make minimal changes to congestion revenue rights settlement because it has found through its prototype analysis that the temporal constraints may rarely bind, obviating the need for a congestion revenue rights product that hedges the temporal constraint congestion. The congestion revenue rights proposal maintains the current definition of the existing congestion revenue rights product: a product that hedges preventive flow congestion (which does not involve the temporal constraint congestion). The proposal further commits to publicly monitoring the amount, if any, of temporal constraint congestion collected by the day-ahead market.

	market operator reliance on exceptional dispatches and minimum online commitment constraints, further improving price formation. These benefits outweigh the perceived solution complexity. PG&E and DC Energy request the same level of transparency related to temporal constraints as provided for preventive constraints today. The ISO will provide the same level of transparency for the temporal constraints as exist for preventive constraints today. That is, it will provide binding constraints, contingency definitions, and shadow prices through the existing market result communication mechanisms. SCE, PG&E, and DC Energy request the ISO to provide information on which constraints it intends to model under CME and how it will determine new constraints to enforce. The ISO currently does not provide a list of preventive constraints that it enforces in the market each day and will not provide a list of temporal constraints that it will enforce in the market each day. The process behind deciding which constraints to enforce in the market on a given day is not new and it will be no different than it is today. The only difference will be that instead of the operations engineering team choosing to enforce a minimum online commitment constraint, it will instead enforce a temporal constraint. In the initial implementation, the ISO can use the constraint on any facility with a 30-minute temporal limitation that the operations engineering team finds they would otherwise use a less efficient tool to resolve. The generation community supports the initiative but still advocates for the capability to bid for corrective capacity. The proposed capacity pricing fully captures and compensates for the capacity needed to meet the reliability constraints. The preventive-corrective constraint will allow for compensation at the capacity price, which will be paid to all resources at each location. The capacity price reflects: (1) a resource's opportunity costs, (2) marginal congestion cost savings, and/or (3) the marginal capacity value to follow dispatch. As discussed in prior stakeholder meetings, providing bidding for corrective capacity surfaces significant questions, both about the additional amount of complexity allowing bidding would introduce into the design and compensation of the corrective capacity product as well as how to apply local market power	

	mitigation to that product. Also, as noted previously by the Department of Market Monitoring, because there is no identifiable cost, that is in addition to energy opportunity costs, associated with providing the corrective capacity, under competitive conditions the market would expect to see price-taking offers if bidding were allowed.	