FINAL
Approved: February 2, 2018

GENERAL SESSION MINUTES
MARKET SURVEILLANCE COMMITTEE MEETING

December 1, 2017 10:00 a.m.
General Session
Offices of the ISO
250 Outcropping Way
Folsom, CA 95630

December 1, 2017

The Market Surveillance Committee (MSC), an advisory committee to the ISO Board of Governors, convened the general session at approximately 10:00 a.m. and the presence of a quorum was established.

ATTENDANCE

The following members of the Market Surveillance Committee were in attendance:

Benjamin Hobbs, Chair – in person
James Bushnell - in person
Scott Harvey – via teleconference

GENERAL SESSION

The following items were discussed in general session.

PUBLIC COMMENT

No public comment

DECISION ON GENERAL SESSION MINUTES

Motion

Committee member Hobbs:

> ***Moved, that the Market Surveillance Committee, Advisory Committee to the ISO Board of Governors, approve the general session minutes from the September 8, 2017 meeting.***

The motion was seconded by Committee member Harvey and approved 3-0.

MSC opinion on contingency modeling enhancements

Dr. Benjamin Hobbs, Chair of the CAISO Market Surveillance Committee summarized the opinion as follows. The contingency modeling enhancements (CME),[1] differs in that it explicitly optimizes both preventive and corrective actions in response to certain transmission contingencies.The corrective actions involve the search for a feasible system redispatch that satisfies generator ramp and network constraints in order to return the system to a secure operating point within 30 minutes or other time period.

The major conclusion of the Opinion was that implementation of the preventive-corrective modeling approach to represent system actions to satisfy system operating limits within the time required has the potential both to lower the cost and to improve system security. Such an explicit representation of system response to contingencies is, in in theory, the most efficient approach to managing those constraints, and results in the identification of "contingent capacity" that is able to respond post-contingency. However, we also concluded that the CME simulations conducted by the CAISO, although helpful, do not provide unambiguous evidence of large cost savings, since the costs of meeting operating limits with minimum on-line constraints versus the CME approach were calculated only for a single day and we do not have an estimate of the number of days per year such differences would exist. Nevertheless, there will be a desirable increase in price transparency for the unloaded capacity that resolves these constraints in the market, which is now missing in the current mechanisms employed by the CAISO.

It was moved and seconded that the Opinion be adopted. The Opinon was then adopted by a 3-0 vote.

DISCUSSION ON DYNAMIC COMMITMENT COST MARKET POWER MITIGATION

Cathleen Colbert, Senior Market Design Policy Developer, briefed the Market Surveillance Committee on commitment cost and default bid enhancements initiative, the proposed dynamic market power mitigation test for commitment cost bids. Her presentation emphasized the role in the present proposal of the residual supply index on determining the competitiveness of binding and nonbinding transmission constraints, accounting for the ability of suppliers to ramp or shut down. The proposed use of analogous tests to determine the competitiveness of minimum on-line constraints was also discussed. How

[1]California ISO, *Contingency Modeling Enhancements*, Draft Final Proposal, August 11, 2017, www.caiso.com/Documents/DraftFinalProposal-ContingencyModelingEnhancements.pdf

those tests would then be used under the proposal to mitigate unit commitment costs was then reviewed by Ms. Colbert. Ms. Colbert also discussed how these procedures would be applied to supply that was exceptionally dispatched. Her part of the presentation concluded with a summary of how the proposal would address inter-temporal concerns, to prevent already committed units from being able to exercise market power by later altering their offers.

The last part of the presentation was made by Dr. George Angelidis, Principal at the California ISO, he discussed how mitigation tests are applied in the energy imbalance market to identify potential uncompetitive conditions on contract paths between balancing areas

Discussion ensued between the MSC and stakeholders. Dr. Scott Harvey, member of the MSC, concluded this agenda item by making several points about the proposal. One point concerned exceptional dispatch. He asked why all exceptionally dispatched generation would not be mitigated, given that operators need to move quickly and may not have many options. In another point, Dr. Harvey asked about the calculation of adjustments of flow on a nonbinding constraint when a candidate unit for mitigation is decommitted in the competitiveness test. The concern is that a decommitment would require a matching increment in generation from other resources, and this might either exacerbate or mitigate congestion problems on the constraint in question.

RECESSED

The meeting was recessed at approximately 12:00 p.m. for lunch. Chair Hobbs stated the meeting would reconvene at 1:00 p.m.

DISCUSSION ON LOAD SHIFT/LOAD CONSUMPTION

John Goodin, Manager, Infrastructure & Regulatory Policy introduced the topic of load shift/load consumption. Mr. Goodin started the discussion by making a short presentation in which he outlined some advantages of restricting incentives to load shifts from stationary devices, and discussed some of the conceptual issues involved in defining baselines for “load consumption” and distinguishing between what was termed “productive” and “unproductive” consumption. He concluded by asking the MSC for recommendations on what issues and impacts to consider in policy development. These included: market efficacy, whether wholesale payments for load shifting would significantly alter consumer behavior, interactions with retail rate setting, the basis for assessing the value of load consumption, and the risk of double payments.

MSC Member Dr. Jim Bushnell then followed with a presentation on “Addressing Retail Problems with Wholesale Products”. In that presentation he described the ideal set of prices, which would dynamically reflect the full marginal cost of supply, a large portion of which is the wholesale locational marginal price. In the ISO’s markets, however, wholesale locational prices only apply to nondistributed supply and a limited amount of participating demand response; many resource investment decisions, including distributed resources in front of and behind the meter, face a different set of prices. The latter prices included fixed (volumetric) components to recover investment costs for the distribution and transmission networks and do not vary over time, except for some pre-determined time-of-day rates. Some customers in California also pay demand charges. Dr. Bushnell showed a map based on his work with Prof. Sev Borenstein of UC Berkeley that indicates that California has among the lowest fixed customer charges for electricity in the US, and as a partial result, its retail per kWh rates exceed marginal social cost by a greater margin than any other region in the US. These distortions, together with the lack of time variations that reflect system conditions, dampen incentives for efficient implementation of storage and energy using technologies.

Dr. Bushnell concluded by discussing how and whether wholesale market products can be used to fix problems in retail pricing. They could counteract retail pricing imperfections, but there can be issues concerning identifying baselines if payments are made relative to some assumed “without program” consumption. There can also be “double payment” issues, for instance by paying consumers to reduce energy use at the same time they then avoid paying the retail price. Wholesale market products could promote use of storage, but if poorly designed, biases could result in favor of behind-the-meter installations versus larger, and perhaps more efficient front-of-meter installations. Dr. Bushnell also cautioned against making a priori judgments about good and bad consumptive uses of energy.

In the ensuring discussion, Dr. Hobbs, Chair of the MSC, suggested that consumers have many options to be flexible, including electric vehicle charging, pre-cooling of living spaces, pool pre-heating, and storage, and that these opportunities and the resulting bill savings will be factored into consumer decisions about what types and efficiency of batteries to buy, and whether to make investments in energy efficiency investments and PV installations. It is desirable that reforms of retail rates or introduction of wholesale products into retail markets not worsen existing biases for or against certain types of flexibility or investments. He also voiced concern over locking in products designed for particular technologies, since those market products may become quickly outmoded because of technology change but difficult to alter once in place.

Discussion then followed among ISO staff, MSC members, and stakeholders. Among other issues raised were treatment of combined heat and power facilities, and efficiency implications of incentives for front-of vs behind-the-meter installation of storage.

DISCUSSION ON TRANSMISSION ACCESS CHARGE

Chris Devon, Sr. Infrastructure & Regulatory Policy Developer briefed the Market Surveillance Committee on transmission access charge. Mr. Devon began this agenda item by outlining two fundamental types of decisions involved in redesigning the transmission access charge (TAC) within the ISO. The first decision is the TAC structure, in terms of whether it is applied on a volumetric (per kWh) basis (the present system), demand charge basis (e.g., based on coincident peak), fixed customer charge basis, or some combination. The second decision is the measurement point: should the TAC be applied to net consumer consumption ("consumer downflow", which is the present system) or to net flow from the high voltage grid to the distribution system ("transmission downflow", as proposed by some stakeholders)?

Decisions on TAC structure and measurement point affect economic efficiency by altering incentives for dispatch of existing resources as well as investment in new resources. For instance, basing TAC structure on coincident peaks might diminish incentives for behind-the-meter generation, while using "transmission downflow" could increase the financial value of front-of-meter distributed generation to load serving entities. Mr. Devon highlighted several issues involved in assessing the market impacts of changes. Examples include the magnitude of consumer response to changes; how the TAC are ultimately translated by load serving entities into energy, demand, and customer charges; and the reduction in transmission investment and operations costs that could result if transmission downflow changes.

Dr. Hobbs, MSC Chair, then followed with a presentation that described a simple modeling analysis of the economic implications of changing the measurement point from consumer downflow to transmission downflow. These implications include changes in (i) the amount of power provided by three sources of energy (bulk power resources; front-of-meter distributed generation (DG); and behind-the-meter DG); (ii) consumer prices; and (iii) overall supply and network costs. Simple assumptions are made so that the fundamental economic issues can be highlighted. The model consisted of equations representing the balance of supply and demand; the price incentives to suppliers in each of the three parts of the system; and how ISO market prices, TAC allocation, and distribution network cost allocation affect those price incentives.

Dr. Hobbs concluded that the economic efficiency impacts of those shifts depend on the size of the TAC and the divergence of retail rates from marginal cost of serving load. In addition, whether there are avoidable EHV and/or distribution network costs arising from changes in bulk and DG generation also affects the overall net benefits of changing the TAC point of measurement. On one hand, if network costs are largely independent of transmission downflow, $/kWh retail rates and the total cost of energy supply will likely increase if TAC is allocated to transmission downflow. That is, allocation of TAC costs to load net of front-of-meter DG would in that case likely decrease market efficiency. On the other hand, if marginal avoided network costs are similar to average network costs, then increases in DG could result in lower total generation and network costs of supply. Thus, the key tradeoff is between potential increases in supply costs (if increased DG is at the expense of cheaper bulk supply) and saved network costs.

Discussion with stakeholders ensued concerning the assumptions and implications of that analysis. There was agreement that understanding the drivers of future grid costs and the relationships between the average and marginal long run cost of the grid would be crucial to understanding the benefits, if any, of reforming TAC.

FUTURE AGENDA ITEMS

Dr. Hobbs announced that the next in person meeting would tentatively be held in February of 2018.

ADJOURNED

There being no additional general session matters to discuss, the general session meeting was adjourned at approximately 4:15 p.m.