

GENERAL SESSION MINUTES BOARD OF GOVERNORS MEETING September 18-19, 2014 ISO Headquarters Folsom, California

September 18, 2014

The ISO Board of Governors convened the general session meeting at approximately 1:00 p.m. and the presence of a quorum was established.

ATTENDANCE

The following members of the ISO Board of Governors were in attendance:

Bob Foster, Chair Ash Bhagwat Angelina Galiteva Richard Maullin Dave Olsen

The following members of the executive team were present at the meeting: Steve Berberich, Keith Casey, Karen Edson, Mark Rothleder, Petar Ristanovic, Roger Collanton and Becky Regan.

GENERAL SESSION

The following agenda items were discussed in general session:

PUBLIC COMMENT

No public comment was offered at this time.

DECISION ON GENERAL SESSION MINUTES

Governor Olsen moved for approval of the ISO Board of Governors general session minutes for the July 15-16, 2014 meeting. The motion was seconded by Governor Maullin and approved 5-0-0.

CEO REPORT

Steve Berberich, President and CEO, provided an overview of the following sections in his CEO report: overall conditions, energy imbalance market, transmission planning standards,

CorpSec/S. Karpinen Page 1 of 9



ISO study results that identified over-generation risk, ISO symposium and renewable generation. Discussion followed regarding demand response and the role of renewables during peak conditions and the Board emphasized the importance of having the appropriate pricing tools in place.

EIM TRANSITIONAL COMMITTEE CHAIR REPORT

Rebecca Wagner, EIM Transitional Committee Chair, provided the Board with an overview of recent activities of the EIM Transitional Committee. Ms. Wagner noted the committee had met three times so far and stated that the meetings focused on the election of the Chair, organizing, setting the meeting schedule, receiving briefing from ISO staff on the status of EIM implementation as well as briefings on the regulatory and legal framework under which the ISO currently operates. Ms. Wagner provided highlights of the committee schedule and noted the goal was to develop a straw proposal by February 2015 and to provide a proposed EIM governance structure to the Board by September 2015. Ms. Wagner next discussed EIM go-live and explained that the committee did not at this time have sufficient information to advise the Board regarding the decision to go-live.

DECISION ON IMPLEMENTATION OF ENERGY IMBALANCE MARKET AND BRIEFING ON FULL NETWORK MODEL EXPANSION

Roger Collanton, Vice President, General Counsel, Chief Compliance Officer and Corporate Secretary, acknowledged receipt of the following public comment letters from: Bonneville Power Administration and San Diego Gas and Electric company.

Steve Berberich, President and Chief Executive Officer, provided introductory remarks on Management's proposal and provided highlights of the upcoming briefings regarding the proposal.

Sean Barry, on behalf of PricewaterhouseCoopers, provided the Board with an overview of the settlements system audit. Mr. Barry provided highlights of two significant market changes that occurred in 2014: FERC Order 764 and EIM expansion. He discussed the scope of the audit and stated they were testing the management assertion that quantities and prices were calculated in accordance with the tariff as approved in related FERC orders. He noted the audit was focused on the settlements system and did not cover other systems or processes, including market and operating systems. He provided an overview of key audit factors and the planned composition of the final report, including a PwC opinion on the management assertion. He discussed the current status and stated the final report would be issued within 30 days after EIM go-live.

Mr. Berberich also informed the Board that Mr. Barry is retiring at the end of October and provided remarks in appreciation of his service to the ISO.

CorpSec/S. Karpinen Page 2 of 9



Mark Rothleder, Vice President of Market Quality and Renewable Integration, provided the Board with a briefing on the full network model expansion and energy imbalance market metrics. Mr. Rothleder described how the full network model expansion increased the ISO's modeling capabilities. He discussed how accurately accounting for unscheduled flow in the day-ahead market improved reliability and market efficiency. Mr. Rothleder provided background comments on the full network model and noted that the Board approved the full network model in February 2014 and FERC conditionally approved the proposal in July 2014. He described the following two FERC conditions for approval: market results passing an ongoing accuracy metric and ISO submission of an informational report on its pre-implementation analysis. Mr. Rothleder described how an accuracy metric compared the ability to forecast actual unscheduled flow a day ahead under two scenarios. He next provided an overview of the pre-implementation accuracy metric results and discussed next steps.

Mr. Rothleder next described how the ISO would track EIM regional benefits and stated the ISO will provide quarterly reports to stakeholders. He explained how the EIM benefit was the difference between EIM dispatch cost with EIM and without EIM dispatch. He noted that the ISO also was exploring tracking other metrics in the future including over-generation, negative prices and renewable production. Mr. Rothleder concluded his presentation by further discussing the areas for cost savings and benefits associated with implementation of the energy imbalance market.

Discussion followed regarding the benefit metrics. Mr. Rothleder confirmed that spot tracking would commence after the October 1 implementation and continuous tracking would begin on November 1 with a quarterly report being published approximately one month after the conclusion of the quarter.

Petar Ristanovic, Vice President of Technology, provided the Board with an overview of the full network model expansion project. He stated the ISO network model was expanded to model unscheduled flow in the day-ahead market. He provided an overview of the balancing authority areas that were modeled in the full network model and further described the external balancing authority areas' nodal data. Mr. Ristanovic described how EIM implementation has been ongoing in parallel with stakeholder and regulatory activities. He provided an overview of the EIM project timeline that included implementation of parallel operations on October 1, 2014, and full deployment on November 1, 2014.

Mr. Ristanovic provided an overview of EIM parallel production operation and noted it eliminated some of the practical limitations of testing in a simulation environment. He described how it would be possible to analyze different operation scenarios without affecting actual flows between balancing authorities. He stated that upon Board approval, and successful passing of a final readiness assessment on September 28, Management was proposing to implement the full network model and the energy imbalance market on October 1, 2014. Discussion followed and Mr. Ristanovic stated that a one-month parallel operation scenario would likely not be needed for future EIM entities, as large market redesigns were not anticipated, but it would be a case-by-case situation.

CorpSec/S. Karpinen Page 3 of 9



Public comment

Natalie Hocken, on behalf of PacifiCorp, provided comments in support of implementation of the energy imbalance market and provided an overview of the readiness of PacifiCorp systems and described the overall inter-regional benefits. Ms. Hocken commended the collaboration efforts between the ISO, PacifiCorp and the Bonneville Power Administration.

Carl Zichella, on behalf of the Natural Resources Defense Council, provided comments in support of implementation of the energy imbalance market and noted its importance to the State of California and the rest of the western region.

Roy Kuga, on behalf of Pacific Gas and Electric Company, provided comments in support of implementation of the energy imbalance market. Mr. Kuga commended the collaborative efforts of ISO staff throughout the process.

Catherine Hackney, on behalf of Southern California Edison, provided comments in support of implementation of the energy imbalance market and further discussed the challenges ahead, including the impact the energy imbalance market would have on the settlements process.

Motion

Governor Bhagwat:

Whereas, Management and key market participants report significant progress on the energy imbalance market implementation;

Whereas, assuming progress on certain essential items continues as expected, Management reports that it expects all processes, procedures and systems to be ready for energy imbalance market implementation on October 1, 2014, and that the energy imbalance market will operate for one month in a parallel, non-binding production environment to allow continued analysis and training until full deployment of the energy imbalance market, anticipated to be on November 1, 2014; and

Moved, that the ISO Board of Governors directs Management to continue to monitor the status of the energy imbalance market; and

Moved, that the ISO Board of Governors directs Management to implement the energy imbalance market on October 1, 2014, in a parallel, non-binding production environment with full deployment of the energy imbalance market on November 1, 2014, or as soon thereafter as Management deems appropriate.

The motion was seconded by Governor Olsen and approved 5-0-0.

CorpSec/S. Karpinen Page 4 of 9



DECISION ON COMMITMENT COST ENHANCEMENTS PROPOSAL

Greg Cook, Director – Market and Infrastructure Policy, provided the Board with an overview of the proposal regarding commitment cost enhancements. Mr. Cook described how the ISO market provided resources with the ability to indicate and recover costs of committing a resource. He noted that registered cost and proxy cost options shared all cost items with the exception of gas prices. He stated that under the current framework, the February 2014 gas price spike event led to inefficient market dispatch.

Mr. Cook provided an overview of the following proposed three targeted commitment cost enhancements to be implemented by this winter: (1) increase the proxy bid cap from 100 to 125 percent; (2) eliminate the registered cost option for most resources; and (3) rely on a manual process to update day-over-day gas prices when they increase 25 percent or more. Mr. Cook provided an overview of the stakeholder process and noted that stakeholders largely supported the proposed commitment cost enhancements. He noted that some concerns remained that an increase in the proxy cost bid cap was insufficient and that the cap should be increased to 150 percent. Mr. Cook concluded his presentation by providing a summary overview of the proposal's benefits.

Discussion followed regarding benefits associated with start-up and minimum load bid-cap adjustments and the potential for using local market power mitigation measures.

Public comment

Roy Kuga, on behalf of Pacific Gas and Electric Company, provided comments in support of Management's proposal but noted some concerns regarding the potential for inefficient dispatches during steep gas price reductions associated with the proposal.

Discussion followed and the Board emphasized to Management the importance of identifying inefficiencies and the best way to address them in the future.

Market Surveillance Committee comment

Shmuel Oren, on behalf of the Market Surveillance Committee, provided comments in support of Management's proposal and provided the Board with highlights of the MSC opinion titled "Opinion on Commitment Cost Enhancements". Brief discussion followed regarding the appropriate use of the manual approach.

<u>Department of Market Monitoring comment</u>

Eric Hildebrandt, Director of Market Monitoring, provided comments in support of Management's proposal.

CorpSec/S. Karpinen Page 5 of 9



<u>Motion</u>

Governor Olsen:

Moved, that the ISO Board of Governors approves the proposed commitment cost enhancements proposal, as described in the memorandum dated September 11, 2014; and

Moved, that the ISO Board of Governors authorizes Management to make all necessary and appropriate filings with the Federal Energy Regulatory Commission to implement the proposed tariff change.

The motion was seconded by Governor Galiteva and approved 5-0-0.

DECISION ON ISO PLANNING STANDARDS

Roger Collanton, Vice President, General Counsel, Chief Compliance Officer and Corporate Secretary, acknowledged receipt of a joint letter from San Francisco Mayor Edwin Lee and United States Senator Dianne Feinstein and a letter from the California Energy Commission.

Neil Millar, Executive Director of Infrastructure Development, provided the Board with an overview of the proposed changes to the ISO planning standards. Mr. Millar described how the ISO was proposing to modify the ISO planning standards in the following three areas: (1) planning for Category C (such as N-1-1) contingencies in high density urban load areas; (2) extreme event reliability; and (3) updates required due to the NERC transmission planning standards. Mr. Millar provided an overview of the stakeholder process that was initiated in April 2014 and provided a high-level overview of the stakeholder comments received in response to Management's proposal.

Mr. Millar stated that the revised planning standards were a much needed update to the current standards and that the new proposed standards would provide greater clarity and transparency on planning criteria and would help ensure reliable service. Discussion followed regarding the San Francisco Peninsula studies.

Governor Maullin stepped out the meeting.

Public comment

Kevin Barker, on behalf of the California Energy Commission, provided comments in support of the proposed planning standards and emphasized the importance of reliability and being prepared for various system conditions.

James Hendry, on behalf of the City and County of San Francisco, provided comments in support of the proposed standard associated with the San Francisco Peninsula and extreme event reliability.

CorpSec/S. Karpinen Page 6 of 9



Patrick Hogan, on behalf of Pacific Gas and Electric Company, provided comments in support of the proposed planning standards and applauded the work of the ISO in developing the proposed standards.

Motion

Governor Foster:

Moved, that the ISO Board of Governors approves the ISO planning standards, stated in full in attachment 1 and 2, and as described in the memorandum dated September 11, 2014.

The motion was seconded by Governor Galiteva and approved 4-0-0.

DECISION ON CONDITIONAL APPROVAL TO EXTEND RELIABILITY MUST-RUN CONTRACTS FOR 2015

Neil Millar, Executive Director of Infrastructure Development, provided the Board with an overview of Management's proposal to conditionally extend existing reliability must-run contracts for 2015. He further described why the extensions were conditional. Mr. Millar provided an overview of the pre-determined timeline of the resource adequacy process and noted that letters for reliability must-run extensions or terminations would be sent to resource owners on October 1, 2014. He stated that Management was seeking authority to extend existing reliability must-run contracts for 2015 conditional upon results of the resource adequacy showings process for Oakland combustion turbines and the Huntington Beach 3 & 4 synchronous condensers. Mr. Millar stated that Management would report back the results of the reliability must-run contract extensions at the November Board meeting.

<u>Motion</u>

Governor Bhagwat:

Moved, that the ISO Board of Governors authorizes Management to extend reliability must-run contracts for any of the reliability must-run units listed on Attachment 1, consistent with the criteria described in the memorandum dated September 11, 2014.

The motion was seconded by Governor Olsen and approved 4-0-0.

CorpSec/S. Karpinen Page 7 of 9



DECISION ON ELIMINATION OF ANNUAL OPERATIONS REVIEW

Governor Maullin rejoined the meeting.

Nancy Traweek, Executive Director – System Operations, provided the Board with an overview of Management's proposal to eliminate the annual operations review. Ms. Traweek provided a background overview of the operations review and stated that since 1998, the tariff has required an annual independent review of operational policies and procedures. Ms. Traweek stated that the scope of the review was based on input from market participants and noted that participants had not provided input over the last four years. She provided an overview of how the compliance landscape had evolved since 1998 including: Annual NERC/WECC self-certification, FERC audit of the tariff, annual SSAE 16 settlements audit, annual financial audit, and expanded focus of the Internal Audit Team. Governor Bhagwat, Chair of the Audit Committee, noted the committee members had been previously briefed on this proposal and fully supported it.

Motion

Governor Galiteva:

Moved, that the ISO Board of Governors approves Management's proposal to eliminate the annual operations review requirement from the ISO tariff, as described in the memorandum dated September 11, 2014; and

Moved, that the ISO Board of Governors authorizes Management to make all necessary and appropriate filings with the Federal Energy Regulatory Commission to implement the proposed tariff change.

The motion was seconded by Governor Foster and approved 5-0-0.

DECISION ON REVISION TO THE ISO CODE OF CONDUCT PROHIBITED INVESTMENTS RULE

Greg Fisher, Senior Counsel - Corporate, provided the Board with an overview of Management's proposed revisions to the ISO Code of Conduct prohibited investments rule. Mr. Fisher described how the proposed revision would be implementing recent FERC authority, which permits employees and governors to have financial interests in certain entities that have no more than a de minimis interest in, or impact on, ISO markets, while still maintaining independence. Discussion followed and Mr. Collanton provided clarifying comments in response to inquiries from the Board. Mr. Fisher provided an overview of the four-pronged test that would be applied and further discussed the benefits associated with the proposed revisions.

CorpSec/S. Karpinen Page 8 of 9



Motion

Governor Galiteva:

Moved, that the ISO Board of Governors approves the revised prohibited investments rule in the ISO Code of Conduct and Ethical Principles as described in, and attached to, the memorandum dated September 11, 2014, with an effective date of September 18, 2014.

The motion was seconded by Governor Bhagwat and approved 5-0-0.

INFORMATIONAL REPORTS

There were no questions on the following informational reports: regulatory update, State, Regional and Federal Affairs update, business practice manual change management report, Market Surveillance Committee update, master stakeholder engagement and release plans, Transmission Maintenance Coordination Committee update, and the market performance report.

ADJOURNED

There being no additional general session matters to discuss, the session was adjourned at approximately 3:45 p.m.

CorpSec/S. Karpinen Page 9 of 9