

GENERAL SESSION MINUTES EIM GOVERNING BODY MEETING September 6, 2017 Sheraton Seattle Hotel Seattle, Washington

September 6, 2017

The Energy Imbalance Market Governing Body convened the general session meeting at approximately 1:05 p.m. and the presence of a quorum was established.

ATTENDANCE

The following members of the EIM Governing Body were in attendance:

Douglas Howe, Chair
Valerie Fong, Vice Chair
Carl Linvill
John Prescott
Kristine Schmidt

The following members of the executive team were present: Steve Berberich, Keith Casey, Stacey Crowley, Petar Ristanovic, and Mark Rothleder.

GENERAL SESSION

The following agenda items were discussed in general session:

PUBLIC COMMENT

There were no public comments.

DECISION ON GENERAL SESSION MINUTES

Member Prescott moved for approval of the EIM Governing Body general session minutes for the July 13, 2017 meeting. The motion was seconded by Member Schmidt and approved 5-0.

REGIONAL ISSUES FORUM UPDATE

Cameron Yourkowski, Chair – Regional Issues Forum, provided an overview of the agenda for the RIF's upcoming September 7, 2017 meeting. Mr. Yourkowski next provided an update regarding RIF leadership, stating that he is now the Chair, Therese Hampton from Public Generating Pool is serving as Vice Chair, and Matt Lecar from Pacific Gas & Electric

Company is now serving as Secretary, a position formed as a result of the RIF's re-evaluation process. He next provided an update regarding a RIF liaison change, reporting that Pam Sporborg from Portland General Electric is now serving as liaison for the transmission owning utility sector in place of Sarah Edmonds from PacifiCorp. Lastly, Mr. Yourkowski reported that the RIF's next meeting is set for November 28, 2017, adjacent to the November 29, 2017 EIM Governing Body meeting in Boise, Idaho.

BODY OF STATE REGULATORS UPDATE

Ann Rendahl, Commissioner – Washington Utilities and Transportation Commission, and Chair – Body of State Regulators, provided an update regarding upcoming meetings of the BOSR. Commissioner Rendahl next reported that, though not required in the foundational documents on energy imbalance market governance, the BOSR has undertaken its own re-evaluation effort and has requested feedback from stakeholders. She noted that feedback is due on September 25, 2017. Discussion followed regarding the BOSR's expectations for feedback from the EIM Governing Body.

BRIEFING ON WESTERN ENERGY IMBALANCE MARKET READINESS

ISO update

Petar Ristanovic, Vice President – Technology, provided an update on behalf of the ISO regarding Portland General Electric's implementation readiness. Mr. Ristanovic reported on PGE's and the ISO's key accomplishments, including starting parallel operations on August 1, 2017 and signing the FERC-required EIM readiness certification on August 28, 2017. He next provided an overview of final implementation activities. He noted that PGE completed its implementation on schedule and thanked PGE for excellent leadership and execution. Mr. Ristanovic concluded his presentation by noting that implementations for the following future EIM entities are on schedule: Idaho Power (implementation date 4/4/2018), Powerex (implementation date 4/4/2018), Seattle City Light (implementation date 4/1/2019), Balancing Authority of Northern California/Sacramento Municipal Utility District (implementation date 4/1/2019), Los Angeles Department of Water and Power (implementation date 4/1/2019), and Salt River Project (implementation date 4/1/2020).

Portland General Electric update

Maria Pope, Senior Vice President of Power Supply Operations and Resource Strategy for Portland General Electric, provided an update on behalf of Portland General Electric regarding their EIM implementation readiness. Ms. Pope provided an overview of PGE and its resource portfolio. She next reviewed PGE's overall project schedule, noting that PGE trained over 400 employees through the project process in preparation for implementation. Ms. Pope described PGE's journey to EIM and its EIM systems integration process. Next, Ms. Pope provided an overview of some of the project challenges faced by PGE, as well as its key accomplishments. She described next steps, noting that PGE's implementation date of October 1, 2017 is near and that

Member Prescott will be visiting PGE as EIM operations begin. Ms. Pope concluded her presentation by describing PGE's service provider options and its longer-term goals, including working with the ISO Department of Market Monitoring to receive market based rate authority in their EIM footprint. Discussion ensued regarding PGE's wind integration efforts, its market based rate authority efforts, the potential reliability and modernization benefits of EIM, and the potential need for cultural or other systems-based changes within the organization in preparation for EIM.

BRIEFING FROM POWEREX ON ITS PARTICIPATION IN THE WESTERN ENERGY IMBALANCE MARKET

Mark Holman, Managing Director – Trade for Powerex, provided an overview of Powerex's participation in the western energy imbalance market. Mr. Holman provided background information about Powerex, explaining that it is a wholly-owned subsidiary of BC Hydro, the third largest electric utility in Canada. He reported that Powerex's participation in EIM will commence in April 2018, and that Powerex will be subject to the ISO's EIM requirements. He explained that Powerex will pay the EIM implementation fee and the EIM administrative fees. He next provided an overview of the specific implementation framework, which reflects Powerex's unique participation as a Canadian entity with resources and load located in Canada. Mr. Holman next provided a summary of Powerex's cost-benefit analysis of EIM participation. He concluded his presentation by describing the benefits Powerex's participation provides to the EIM. Discussion followed regarding FERC-approval of Powerex's implementation agreement, market based rate authority, potential outreach by Powerex to the Body of State Regulators, and potential reliability benefits.

GENERATOR CONTINGENCY AND REMEDIAL ACTION SCHEME MODELING PROPOSAL

Brad Cooper, Manager – Market Design, provided an overview of the generator contingency and remedial action scheme modeling proposal, including the elements within the EIM Governing Body's primary authority and the elements within its advisory role. Mr. Cooper explained that the proposed real-time market enhancements would allow explicit modeling of generator contingencies and remedial action schemes in the market optimization. He explained that the enhancements will improve market efficiency and transparency by reducing out-of-market transactions. Mr. Cooper next summarized the general design of the proposed enhancements and explained that the general design falls within the EIM Governing Body's advisory role. He concluded his presentation by highlighting ISO Management's request for approval from the EIM Governing Body to allow EIM entities to have the option to have the ISO model generator contingencies and remedial action schemes in their respective balancing areas. Discussion ensued regarding the optionality for EIM entities of the proposed enhancements, the balance between the complexity of the design and its benefits, and the Market Surveillance Committee's input on the proposed enhancements.

Keith Casey, Vice President – Market and Infrastructure Development, provided responsive comments to concerns raised in written comments by Southern California Edison regarding remedial action scheme pricing. Discussion followed.

Body of State Regulators comment

Commissioner Rendahl provided comments in support of Management's proposal to allow EIM Entities to have the option to have the ISO model generator contingencies and remedial action schemes in their respective balancing areas. Commissioner Rendahl noted the BOSR's recommendation for careful implementation, given the complexities of the design.

Briefing on modeling generator contingencies and remedial action schemes in the real-time market and decision on advisory role

Motion

Member Schmidt:

Moved, that the EIM Governing Body will provide verbal advisory input to the Board of Governors, as discussed at its September 6, 2017 general session meeting, supporting Management's proposal to model generator contingencies and remedial action schemes in the real-time market.

The motion was seconded by Member Fong and approved 5-0.

Decision on extending the option to EIM Entities to use generator contingency and remedial action scheme modeling

Motion

Member Schmidt:

Moved, that the EIM Governing Body approves the proposal to allow EIM Entities to have the option to have the ISO model generator contingencies and remedial action schemes in their respective balancing areas.

The motion was seconded by Chair Howe and approved 5-0.

BRIEFING ON WESTERN ENERGY IMBALANCE MARKET AND BENEFITS

Mark Rothleder, Vice President – Market Quality and Renewable Integration, provided an update on the performance of the western energy imbalance market, including implementation updates for Portland General Electric, Idaho Power, and Powerex. Mr. Rothleder provided an overview of the Quarter 2 2017 energy imbalance market benefits

report, stating that Quarter 2 gross economic benefits totaled about \$39.52 million. He reported that gross economic benefits since the start of EIM now total about \$213.24 million. Mr. Rothleder next reported on the continued observance of reduced renewable curtailment. He concluded his presentation by providing updates regarding flexible ramping procurement diversity savings and weekly average prices in EIM areas for Quarter 2, and energy transfer capability in Quarter 3. Discussion followed regarding examples of EIM reliability benefits.

BRIEFING ON WESTERN ENERGY IMBALANCE MARKET PRICE FORMATION

George Angelidis, Principal – Power Systems Technology Development, provided an overview of price formation in the EIM. Mr. Angelidis provided the locational marginal price (LMP) definition and explained how it is calculated. He described the four LMP components, including the system marginal energy cost, the marginal cost of congestion, the marginal cost of losses, and the marginal cost of greenhouse gas calculation. He concluded his presentation by demonstrating the LMP calculation and explaining how the EIM balancing authority area LMP calculation differs from the ISO balancing authority area LMP calculation. Brief discussion followed.

INFORMATIONAL REPORT

Member Schmidt raised a question regarding the decisional classification of the non-generating resource functionality element of the Consolidated EIM Initiatives that is in development. Mr. Casey explained Management's rationale for classifying that particular element as falling within the EIM Governing Body's advisory authority. Mr. Casey committed to reviewing the element's decisional classification to verify its accuracy. There were no other comments or questions on the EIM Governing Body policy calendar.

FUTURE AGENDA ITEMS

There were no items to discuss.

ADJOURNED

There being no additional general session matters to discuss, the general session was adjourned at approximately 3:25 p.m.