

Board of Governors meeting, November 7-8, 2013

Support for the decision on energy imbalance market design

- **APS - Energy Imbalance Market**
- **CEC and CPUC - Energy Imbalance Market**
- **CMUA - Energy Imbalance Market**
- **Iberdrola Renewables - Energy Imbalance Market**
- **IREC - Energy Imbalance Market**
- **Nevada PUC - Energy Imbalance Market**
- **NV Energy - Energy Imbalance Market**
- **Oregon PUC - Energy Imbalance Market**
- **PacifiCorp - Energy Imbalance Market**
- **Portland General Electric - Energy Imbalance Market**
- **Xcel Energy - Energy Imbalance Market**
- **Office of the California Governor - Energy Imbalance Market**
- **CalWEA, AWEA, EDF, CEERT - Energy Imbalance Market**
- **Renewable Northwest Project - Energy Imbalance Market**
- **Southern California Edison - Energy Imbalance Market**



A subsidiary of Pinnacle West Capital Corporation

Justin Thompson
Business Support

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PO Box 53999, Mail Station 9842
Phoenix, Arizona 85072-3999

October 29, 2013

Board of Governors
California Independent System Operator
PO Box 639014
Folsom, CA 95763

Ladies and Gentlemen:

Arizona Public Service Company (“APS”) is a wholly-owned subsidiary of Pinnacle West Capital Corporation and is engaged in the business of generating, transmitting, and distributing electricity in Arizona and serves more than one million retail electric customers within the state. In addition, APS participates in the wholesale energy market and often transacts in the California ISO market.

APS appreciates the opportunity to provide comments to the board on the development of an Energy Imbalance Market (“EIM”). We have participated in many stakeholder meetings and provided comments on the market design. In each of the stakeholder meetings ISO staff elicited input to ensure participants had an opportunity to express concerns and offer ideas. They listened and incorporated suggestions into the design. They also held several technical workshops to explain details of the existing market and how it would change with EIM. These workshops were very informative and helped to alleviate many concerns on various aspects of the market.

Development of a functioning market is very complex. Creating an EIM that works for participants in an existing organized market as well as neighboring bi-lateral markets is even more difficult. The staff did an incredible job putting the design together quickly and working with stakeholders to get the market operating in a fair and reasonable manner. Of course, as implementation begins, fine tuning will need to occur. The Governance proposal provides a mechanism to do that and for interested parties to have direct input to the Board, which is extremely important. Having a say in the design and operation of the market is essential for many potential EIM participants.

APS supports the approval of the EIM design and Governance proposal. We believe it will be an enhancement to the market and could provide benefits to retail customers through more efficient use of resources and lower costs. APS needs to validate those benefits and as a result has not yet made a determination to join. APS continues to conduct due diligence to ensure customers will realize benefits and that there are no misunderstood costs or unintended consequences.

APS appreciates the opportunity to submit these comments and thanks the CAISO Board for its consideration thereof.

Sincerely,

Justin Thompson

Justin Thompson
Director of Business Support, Resource Management

**California Energy Commission**

1516 Ninth Street
Sacramento, California 95814
Main website: www.energy.ca.gov

**California Public Utilities Commission**

505 Van Ness Avenue
San Francisco, California 94102
Main website: www.cpuc.ca.gov

November 4, 2013

Board of Governors
California Independent System Operator
P.O. Box 639014
Folsom, CA 95763-9014

Dear Board of Governors,

We are pleased with the prospect of an Energy Imbalance Market (EIM) involving the California Independent System Operator (ISO) and PacifiCorp. The cost savings, renewable integration benefits, and improved reliability are compelling and offer the prospect of even greater benefits if other balancing authorities follow PacifiCorp's lead.

Since then, the ISO's EIM market design has evolved through a rigorous and thoughtful stakeholder process. Complex issues related to resource sufficiency testing, the California greenhouse gas cap and trade program, and settlement structures have been discussed and vetted through multiple stakeholder meetings, workshops and webinars. Importantly, the design allows other balancing authorities to join this voluntary market through a regular, orderly process.

While still undergoing work through a stakeholder process, the EIM governance proposal reflects thoughtful attention to providing a broad range of input on an independent EIM structure. The formation of a Transitional Committee to serve as an advisory committee to the ISO Board will provide a public forum for recommendations and the appropriate legal analysis that will continue to support the success of EIM and further interest in the market that benefits from additional geographically diverse resources.

We support approval of the EIM proposal that is before the Board on November 7th and look forward to seeing related tariff language approved by the Federal Energy Regulatory Commission and the design successfully tested under market simulations. The overall success of this effort is critical in order to realize untapped reliability, renewable integration, and cost reduction benefits for the entire region.

Sincerely,

Handwritten signature of Robert B. Weisenmiller in black ink.

Robert B. Weisenmiller
Chair
California Energy Commission

Handwritten signature of Michael R. Peevey in black ink.

Michael R. Peevey
President
California Public Utilities Commission

cc: Stephen Berberich, President and Chief Executive Officer, California Independent Systems Operator
Rob Oglesby, Executive Director, California Energy Commission
Paul Clanon, Executive Director, California Public Utilities Commission
Ed Randolph, Energy Division Director, California Public Utilities Commission
Commissioners, California Energy Commission
Commissioners, California Public Utilities Commission



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ARLEN ORCHARD

Sacramento Municipal Utility District

November 6, 2013

Robert Foster

Chairman, CAISO Board of Governors

P.O. Box 639014

Folsom, CA 95763-9014

RE: Energy Imbalance Market

Dear Chairman Foster:

The California Municipal Utilities Association (CMUA) recognizes the grid operation challenges facing the CAISO with respect to renewable resource integration. However, when examining market options to facilitate this integration, the needs of California consumers must be foremost. CMUA is hopeful that tangible benefits result from EIM implementation. However, current benefit projections seem speculative. Therefore, at a minimum, protections should be put in place to ensure that if the best intentions of the market design are not realized, California consumers are not left footing the bill.

The EIM initiative has proceeded at a considerable pace, with the core market design effort completed in roughly eight months. The EIM has many unique features and risks, including among others: (1) proxy GHG values in lieu of comprehensive application of cap-and-trade requirements; (2) very limited transmission over which the optimization will occur; (3) the lack of symmetrical Resource Adequacy requirements; and (4) the potential for increased Real Time uplifts that may be shared, in part, by California consumers. CMUA applauds the hard work and creativity of the CAISO Staff as it has reshaped proposals to address various concerns. Nevertheless, it cannot be denied that the EIM is a new and untested market mechanism.

For this reason, CMUA supports the arguments and proposals of Southern California Edison (SCE) as expressed to the Board by letter last week. In particular, CMUA urges the CAISO Board to adopt the EIM Circuit Breaker proposed by SCE.

BOARD OF GOVERNORS

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Interim GM - Riverside Public Utilities Department

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Metropolitan Water District of Southern California

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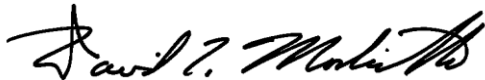
Modesto Irrigation District

Robert Foster
Chairman, CAISO Board of Governors
November 6, 2013
Page 2

This is a reasonable and minimum level of protection that must be afforded California consumers if the Board determines to embark on the EIM market design.

CMUA appreciates the opportunity to provide its views to the CAISO Board on this matter.

Sincerely,

A handwritten signature in black ink, appearing to read "David L. Modisette". The signature is fluid and cursive, with a large initial "D" and "M".

David L. Modisette
Executive Director

cc: CAISO Board of Governors



IBERDROLA RENEWABLES

Board of Governors
California Independent System Operator
250 Outcropping Way
Folsom, CA 95630

November 1, 2013

Dear Board of Governors:

I write again in support of the further efforts to establish an Energy Imbalance Market involving PacifiCorp and the California Independent System Operator (ISO). The operating plan before you this month is a significant step forward in furtherance of the goal of enabling more efficient and economic dispatch of resources.

The ISO is to be commended for the substantial stakeholder outreach and responsiveness to concerns raised in the outreach process. ISO staff have done exemplary work in addressing significant issues that inevitably arose as the EIM initiative progressed from conceptual to a detailed market design. Although work remains to ensure an efficient scheduling structure for variable generators, we are confident the final design will deliver meaningful benefits for participants and ratepayers.

Iberdrola Renewables encourages the ISO Board of Governors to continue the progress toward creation of an ISO-PacifiCorp EIM.

Sincerely,

Kevin A. Lynch
Vice President, External Affairs

Board of Governors
California Independent System Operator
P.O. Box 639014
Folsom, CA 95763-9014

Dear Board of Governors,

The Interstate Renewable Energy Council, Inc. (IREC) appreciates this opportunity to write in support of approval of the proposed Energy Imbalance Market (EIM).

IREC is a national non-profit organization whose goal is to enable greater use of clean energy in a sustainable way by (i) introducing regulatory policy innovations that empower consumers and support a transition to a sustainable energy future, (ii) removing technical constraints to renewable energy resource integration, and (iii) developing and coordinating national strategies and policy guidance to provide consistency on these policies centered on best practices and solid research.

IREC has monitored the development of the EIM proposal over the last several months and participated in the stakeholder meeting held in Phoenix, AZ. We are encouraged by the CAISO's inclusive approach and willingness to address the concerns of the broader region. Furthermore, we believe the proposed market design has improved greatly as a result of the stakeholder process and strongly aligns with each of the CAISO's strategic objectives, namely:

- Lead the transition to renewable energy,
- Reliably manage the grid during industry transformation
- Expand regional collaboration to unlock mutual benefits

For instance, the proposal supports the transition to renewable energy by providing an effective tool to help manage the variability of wind and solar resources. The ability to smooth power flows in real time helps overcome fundamental hurdles to a highly renewable future by lowering integration costs.

The EIM also enhances reliable management of the grid by providing additional visibility of the system. This notion has been supported by the FFERC. Meanwhile, additional system visibility is of paramount concern in the wake of the Sept 8th, 2011 blackout.

The EIM proposal also enhances regional collaboration by leveraging CAISO's unique position as the sole provider of real-time energy markets in the Western Interconnection. If implemented, the EIM would represent a significant step towards more standardization and transparency in the Western grid, which has been historically plagued by balkanized, overly complex transmission operations.

While regional governance will always be a difficult subject, CAISO's attention and dedication to this topic has produced a proposal that we believe will make it easy for broad adoption across the West. The structure, which relies on CAISO's existing platform, offers a low-cost opportunity to expand the EIM. This offers flexibility to market participants, making it easy for new entities to join the EIM or leave as needed. The governance structure also gives stakeholders outside of California a voice in the market.

Finally, in recent months, numerous studies have emerged that illustrate the significant benefits of the EIM concept. It is abundantly clear that the EIM has the potential to extend the CAISO's market efficiencies to the broader region, providing substantial savings to ratepayers in California and elsewhere.

In summary, the time for study and deliberation is over, and the time for implementation has arrived. We urge the Board's approval so that the West can collectively achieve the significant benefits that EIM offers.

Sincerely,

Kris Mayes (on behalf of Interstate Renewable Energy Council, Inc.)

Kris Mayes Law Firm

kmayes@krismayeslaw.com

602-757-7434



BRIAN SANDOVAL
Governor

STATE OF NEVADA
PUBLIC UTILITIES COMMISSION

ALAINA BURTENSHAW
Chairman
REBECCA WAGNER
Commissioner
DAVID NOBLE
Commissioner
CRYSTAL JACKSON
Executive Director

November 4, 2013

Board of Governors
California Independent System Operator
P.O. Box 639014
Folsom, CA 95763-9014

Dear Chairman Foster and Board of Governors:

As a Commissioner on the Public Utilities Commission of Nevada (PUCN) and as a member of the PUC-EIM group created by the State-Provincial Steering Committee of the Western Interstate Energy Board, I continue to follow the development of the ISO's Energy Imbalance Market (EIM) design with interest. I have been pleased with the progress that the ISO is making with respect to a market design that offers real-time (5-minute) economic dispatch of geographically and technologically diverse resources across a wider footprint.

As Nevada's investor-owned utility works toward achieving a 25 percent renewable energy portfolio standard, and as other states increase the amount of renewable energy entering the grid, the ability to draw from a larger geographic region allows for an optimal use of those intermittent resources.

The concept of sharing resources across a broader region is the subject of an investigatory docket (PUCN Docket No. 11-04025) over which I am the presiding officer. It is through this docket that we hope to learn how benefits such as those described in the study between the ISO and PacifiCorp may be realized in Nevada. In particular, we are interested in those benefits that include reduced flexibility reserves, enhanced system reliability and better visibility of system conditions.

While the PUCN has not taken a position in this matter, I write this letter to convey my personal support for the Board's decision to approve the market design and to move forward with the next steps toward successful implementation.

Sincerely,


Rebecca D. Wagner

Commissioner, Public Utilities Commission of Nevada



November 6, 2013

Board of Governors
California Independent System Operator
PO Box 639014
Folsom, CA 95763

Ladies and Gentlemen:

I am writing to encourage the approval of the Energy Imbalance Market ("EIM") design and governance proposal.

As you are aware, NV Energy (NVE) and the California Independent System Operator (CAISO) announced in August 2012 an initiative to jointly study "the potential for development of transmission facilities between the two systems, as well as sharing conventional and renewable energy resources for the benefit of the respective customer groups."

As part of this study NV Energy and the CAISO staff have been evaluating several potential participation scenarios including the EIM. Initial results of this complex multi-party modeling effort have indicated that, based on the expected market design, participation by NV Energy in the EIM may benefit both California and Nevada customers.

Upon completion of the studies, NV Energy intends to file a report with the Public Utilities Commission of Nevada (PUCN) and seek approval from the PUCN to join the EIM.

I appreciate the hard work and dedication that the CAISO staff has put forth in its effort to develop an EIM and specifically working with NV Energy in our joint evaluation. NV Energy will continue to participate in the EIM stakeholder process and looks forward to working with the CAISO as the EIM is further defined.

Sincerely;

A handwritten signature in blue ink that reads "Roberto R. Denis".

Roberto R. Denis



Oregon

John A. Kitzhaber, MD, Governor

Public Utility Commission

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November 5, 2013

Board of Governors
California Independent System Operator Corporation
PO Box 639014
Folsom, CA 95763-9014

Dear Board of Governors,

The Oregon Public Utility Commission recommends that you approve the energy imbalance market (EIM) design and provide the authority for ISO management to make the necessary filings at FERC to implement tariff changes.

We regulate PacifiCorp's operations in Oregon. PacifiCorp serves nearly 560,000 Oregon households and businesses. We believe that a voluntary Western EIM will benefit those customers through lower system cost and enhanced reliability as we integrate more wind and solar generation into the grid.

We have been briefed by ISO staff and tracked the open stakeholder process to craft a market design and resolve design issues. We are impressed with the efforts made to address and resolve stakeholders' issues. We believe that the ISO staff has proposed a workable design that can evolve over time.

In addition, we support the ISO's efforts to create an independent EIM governance structure. We will review and comment on any revised governance proposal.

We applaud the ISO and PacifiCorp for demonstrating leadership on this issue and we thank the ISO board for the opportunity to offer comments.

Sincerely,


Susan Ackerman
Chair


John Savage
Commissioner


Steve Bloom
Commissioner

NATALIE HOCKEN
Senior Vice President, Transmission and System Operations

825 NE Multnomah Street, Suite 1600
Portland, OR 97232-4116
Office (503) 813-7205



November 6, 2013

Board of Governors
California Independent System Operator Corporation
PO Box 639014
Folsom, California 95763-9014

Dear Board of Governors,

On behalf of PacifiCorp, we encourage your approval of the energy imbalance market (EIM) design, and authorization for ISO management to make the necessary filings with FERC to implement EIM tariff changes.

PacifiCorp strongly supports the ISO's ongoing efforts with respect to the development and implementation of the EIM. PacifiCorp found the ISO's market design stakeholder process to be informative and collaborative. Participation in the EIM will reduce costs for our customers and improve operational efficiency. The development of the EIM also will provide significant reliability benefits through better system visibility and enhance situational awareness across a larger footprint in the West.

PacifiCorp is prepared to meet key schedule milestones, most notably beginning formal market participation October 1, 2014. As demonstrated by the narrow scope of issues directly related to development of the EIM, it is reasonable to continue in accordance with the ISO's plan for developing draft tariff language and filing modified tariffs with the FERC for approval. PacifiCorp acknowledges the critical need to develop and conduct a robust market simulation prior to "go-live." If issues arise during market simulation, phasing of certain design aspects may be appropriate. PacifiCorp is prepared to work with the ISO to develop contingency measures necessary to assure that if issues arise after market implementation they can be quickly addressed.

I want to thank the ISO for their supportive engagement with PacifiCorp and other stakeholders during the market design process. We look forward to this type of continued engagement in the tariff drafting and governance processes. PacifiCorp also offers its commitment to continuing joint collaboration on finalizing the system improvements necessary to assure successful implementation.

Sincerely,

A handwritten signature in black ink, appearing to read "Natalie L. Hocken". The signature is fluid and cursive, with a long horizontal stroke at the end.

Natalie L. Hocken
Senior Vice President, Transmission and System Operations
PacifiCorp



Portland General Electric Company
121 SW Salmon Street • Portland, Oregon 97204

November 6, 2013

Board of Governors
California ISO
PO Box 639014
Folsom CA 95763-9014

Dear Board of Governors:

Portland General Electric Company (PGE) has been actively involved in several initiatives related to an Energy Imbalance Market (EIM), including the CAISO EIM Stakeholder process. PGE strongly supports the development of an EIM that will provide market efficiencies while increasing regional reliability and situational awareness.

PGE has commented on both CAISO's EIM stakeholder process and its proposed EIM governance proposal, and commends CAISO for its time and efforts in reaching a workable market design. PGE understands the sheer complexities of designing such a market in a manner that will achieve the intended benefits of this effort, while avoiding potentially harmful unintended consequences. As noted by other stakeholders and by PGE, we encourage the Board to reconsider the proposed timeline, and modify that timeline to allow for a more phased-in approach for implementation that includes an extension to the stakeholder process. PGE and other stakeholders have raised several concerns that may warrant further consideration. The development and implementation of an EIM market could be extremely beneficial for the Western Interconnection, and it is critical that the delivery and design of such a market be carefully crafted and free of unnecessary regulatory and governance concerns. Moreover, this effort should proceed at a pace that allows stakeholders to develop a clear understanding of potential operational constraints and seams issues.

Again, PGE applauds all the work that has been invested in the CAISO EIM stakeholder process and appreciates the inclusion of its customers' comments to influence the Board's decision on the EIM market. PGE will continue to closely follow the CAISO EIM process, and hopes that after careful consideration, the Board will decide to extend the proposed EIM timeline.

Respectfully,

A handwritten signature in blue ink, appearing to read "T. Peschka", is written over the typed name.

Terri Peschka
General Manager, Power Operations



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Denver, Colorado 80202

1-800-895-4999
xcelenergy.com

October 28, 2013

To: Board of Governors
California Independent System Operator
P.O. Box 639014
Folsom, CA 95763

Xcel Energy, on behalf of its operating utility Public Service Company of Colorado (PSCo), congratulates the Board of Governors on reaching a milestone in development of the CAISO Energy Imbalance Market (EIM). The EIM will improve operational efficiency and reliability compared to today's Western Interconnection bilateral market practices. In addition, the EIM will serve as a valuable tool to help integrate renewables, enhance grid reliability, and produce economic benefits for customers throughout the EIM footprint.

The Xcel Energy operating companies already participate in the Midcontinent ISO and Southwest Power Pool regional wholesale energy markets. Our evaluation of the proposed EIM is informed by our experiences in these other markets. We are evaluating PSCo's potential participation in the EIM based on the details of the CAISO design proposal. PSCo is also open to evaluating alternatives to the CAISO EIM design, for example, as the Northwest Power Pool considers its next steps towards improved regional integration.

The CAISO staff has listened to our questions and concerns along with those of other participants in developing the EIM design. Enhancements made in response to stakeholder input have strengthened the EIM concept. We appreciate the dedication and professionalism of the CAISO and PacifiCorp staff in advancing the developments to this level.


At this point PSCo has questions about its ability to participate in the proposed EIM from a logistical standpoint due to the lack of a direct delivery right to the PacifiCorp footprint, which we anticipate will add a substantial cost hurdle. To address this obstacle, PSCo is evaluating tariff-based methods that may permit delivery from its system for more complete integration into the proposed EIM.

Secondly we retain concerns with some technical details of the design proposal including still-undefined EIM seams coordination tools and operating practices, as well as methods to allocate EIM congestion cost settlement responsibility.

While we have questions about logistical and technical design issues as described above, we support EIM development. The ISO has accomplished a major achievement and Xcel Energy supports a decision by the Board of Governors to approve the EIM design concept.

PSCo plans to remain an advocate for the EIM and for evolutionary improvements to the EIM design as the EIM begins operation and expands participation into other regions in the West.

Sincerely,



on behalf of Thomas A. Imbler

Thomas A. Imbler
Vice President of Commercial Operations
Xcel Energy Services Inc.



OFFICE OF THE GOVERNOR

October 10, 2013

Board of Governors
California Independent System Operator
PO Box 639014
Folsom, CA 95763

Dear Board of Governors:

I have followed the development of the Energy Imbalance Market design and the Implementation Agreement between the California Independent System Operator and PacifiCorp with great interest. Studies between the two balancing authorities show that they will see marked and immediate efficiencies and cost savings by sharing resources in the real-time (5 minute) market.

As additional renewable generation is integrated into the resources portfolios of utilities around the Western United States, the automated and quick dispatch of energy resources provides for that renewable generation to be used for different peak times across a larger footprint – essentially balancing renewables with renewables. Additionally, a larger regional network provides better visibility and awareness of system conditions to better react to changes, thereby providing increased system reliability.

The California Independent System Operator proposal allows other balancing authorities to benefit from an established market and prove technologies. California utilities can also benefit from enhanced regional collaboration to find effective ways to share resources and maintain system reliability.

I urge the Board to approve the Energy Imbalance Market design, allowing the next step towards implementation, and for these benefits to be realized across the region.

Sincerely,

A handwritten signature in blue ink, appearing to read "Mike".

Michael Picker

Senior Advisor to the Governor for Renewable Energy Facilities



November 5, 2013

Board of Governors
California Independent System Operator
P.O. Box 639014
Folsom, CA 95763-9014

Dear Board of Governors,

The California Wind Energy Association, American Wind Energy Association, Environmental Defense Fund, and Center for Energy Efficiency and Renewable Technologies support approval of the ISO's Energy Imbalance Market (EIM) design proposal that is before you on November 7th. This is a critical milestone in establishing more efficient real-time operations in the West, which will improve renewable integration, enhance reliability and lower consumer costs.

We are encouraged by the wide range of interest groups that have been involved in the stakeholder process. The ISO facilitated that involvement by holding stakeholder meetings in Phoenix and Portland in addition to Folsom, hosting technical conferences, and conducting webinars to help parties understand the EIM and related issues.

We also appreciate the ISO's work on governance, with a proposal designed to establish regional oversight of EIM. Our hope is that successful implementation of EIM with PacifiCorp coupled with thoughtful changes to governance will make it easier for others in the West to join and gain the benefits of five-minute economic dispatch across a more geographically diverse set of loads and resources.

We will continue to monitor this effort and look forward to remaining engaged with the ISO on this and other issues.

Sincerely,

Nancy Rader
Executive Director
California Wind Energy Association

V. John White
Executive Director
Center for Energy Efficiency and Renewable
Technologies

Robert Gramlich
Interim CEO/Senior Vice President,
Public Policy

James Fine, Ph.D.
Senior Economist
Environmental Defense Fund

cc: Stephen Berberich, President and Chief Executive Officer
Keith Casey, Vice President, Market and Infrastructure Development
Karen Edson, Vice President, Policy and Client Services
David Miller
Dariush Shirmohammadi, Transmission Advisor, CalWEA

RNP Members

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Western Resource Advocates



**Renewable
Northwest
Project**

October 31, 2013

**Board of Governors
California Independent System Operator
250 Outcropping Way
Folsom, CA 95630**

Dear Board of Governors:

I am writing in support of the PacifiCorp and California Independent System Operator (ISO) real-time energy imbalance market (EIM). Renewable Northwest Project (RNP) is a non-profit coalition of renewable energy businesses, environmental organizations, and consumer advocates. A well-designed EIM will improve the reliability of the regional transmission system; it will allow more renewables to cost-effectively integrate into the existing grid; and it will decrease ratepayers' bills by optimizing the efficiency of within-hour dispatch. The current CAISO/PacifiCorp EIM market design appears to be structured to capture these benefits. As such, RNP supports the approval of the EIM market design.

Moving forward, RNP is also interested in ensuring that the CAISO/PacifiCorp EIM effort proves attractive to a broad group of potential participants. We support an independent governance structure with diverse representation from around the West.

RNP would also like to emphasize the importance of maintaining the efficiencies from implementing 15-minute schedules over the CAISO's interties. Although an EIM will efficiently dispatch generators on a five-minute basis, renewable generators will need to decrease their exposure to imbalance energy and capacity charges by scheduling on a 15-minute basis into the CAISO. An EIM should not interfere with or diminish the functionality of 15-minute scheduling between the CAISO and its neighbors.

With these comments, RNP strongly encourages the ISO Board of Governors to approve the EIM market design. This is a very exciting step for the Western Interconnection.

Sincerely,

**Cameron Yourkowski
Senior Policy Manager**

421 SW 6th Avenue, Suite 1125 • Portland, OR 97204
phone: 503-223-4544 • fax: 503-223-4554 • www.RNP.org

November 1, 2013

CAISO Board of Governors
P.O. Box 639014
Folsom, CA 95763-9014

Southern California Edison (SCE) has long supported efficient and competitive markets because they provide significant benefits to our customers and other market participants. Accordingly, SCE supports expanding the California Independent System Operator's (CAISO) markets to access additional resources and to benefit from inter-regional resource diversity. I would, however, like to take this opportunity to share our concerns with certain aspects of the proposed Energy Imbalance Market (EIM) with PacifiCorp.

CAISO management and staff deserve recognition for their significant progress on the proposed EIM design and for their constructive engagement with stakeholders. CAISO has an opportunity to start its broadening of the market smoothly and effectively, but we are concerned that any significant problems could delay further expansion for years. We believe that there must be confidence that EIM will function properly, and we have concerns that the EIM proposal has several material problems and lacks appropriate safeguards. Our experience has taught us that it is more important to get the market design right than to get it done quickly.

SCE believes the following four areas have not yet been adequately addressed: (1) mitigation of potential for market power in the EIM footprint; (2) insulating California load from potential excessive costs related to convergence bidding; (3) additional controls on the "GHG bid adder"; and (4) tariff authority to suspend the EIM market if actual performance results in detrimental outcomes.

(1) Mitigation of Market Power in the EIM footprint: A core design that includes comprehensive and effective mitigation will help ensure a successful EIM roll-out. Both the Market Surveillance Committee (MSC) and the Department of Market Monitoring (DMM) recognize that limited transmission coupled with significant generation concentration raises market power concerns. **We request that the Board include the three-pivotal supplier EIM regional mitigation described by the DMM in their most recent opinion.**

(2) Convergence bidding: The CAISO proposal includes convergence bidding. Convergence bidding was never designed to converge the prices of two different market footprints (CAISO only in day-ahead and CAISO+EIM in real-time). Both the MSC and DMM opinions recognize the proposed convergence bidding/EIM structure can create unwarranted costs to California load. While the proposal attempts to shield PacifiCorp from resulting uplift costs, it lacks comparable safeguards to protect California load. **We request that the Board require the proposal to similarly protect California load from convergence bidding uplift costs resulting from the EIM design.**

(3) GHG Bid Adders: Resources imported to California that have GHG emissions will be subject to California's Cap and Trade program and will incur compliance costs. The CAISO proposes a new bid adder with values up to \$1000/MWh regardless of whether the resource is subject to GHG compliance. This unnecessarily exposes the market to gaming risks. **We request that the Board require the proposal to include the bid adder caps proposed in the DMM opinion to ensure bids reasonably reflect expected GHG compliance costs.**

(4) EIM Circuit Breaker: SCE does not believe it is prudent to enter into a new market without standing ready to immediately address detrimental results. We appreciate that the CAISO plans to monitor and mitigate market abuses as quickly as possible if problems arise. **We request the Board require the proposal include tariff provisions that allow the CAISO to suspend the EIM in real-time if necessary to prevent detrimental market impacts.**

Although we initially expect only a few hundred megawatts of transmission between the two markets, the financial harm caused by the combined EIM weaknesses (e.g., limited market power mitigation, convergence bidding, uplift cost allocation to California load, and GHG bid adders at \$1000/MWh), which are more economic in nature than physical, could be substantial.

In conclusion, SCE continues to support an expanded market footprint for the CAISO. To achieve this end, we believe it is important for the CAISO to successfully implement an EIM free from material controversy that can serve as the template for future expansion. Otherwise, efforts to expand the CAISO footprint could be set back and prevent future progress. For these reasons, SCE asks that the Board instruct CAISO management to modify the proposal by implementing the elements highlighted above before moving forward with the EIM.

Thank you for the opportunity to express our views.

Sincerely,

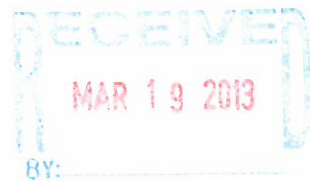
A handwritten signature in black ink, appearing to read "Steve Berberich". The signature is written in a cursive, flowing style.

cc: **Steve Berberich**, President and Chief Executive Officer
Mark Rothleder, Vice President, Market Quality and Renewable Integration
Nancy Saracino, Vice President, General Counsel and Chief Administrative Officer
Karen Edson, Vice President, Policy and Client Services

Board of Governors meeting, March 20-21, 2013

Support for the decision on PacifiCorp energy imbalance market implementation agreement

- **Office of the California Governor - Energy Imbalance Market Proposal**
- **CalWEA-AWEA-EDF-CEERT Energy Imbalance Market Proposal**
- **CEC and CPUC - Energy Imbalance Market Proposal**
- **Grant County PUD - Energy Imbalance Market Proposal**
- **Iberdrola Renewables - Energy Imbalance Market Proposal**
- **Large Scale Solar Association - Energy Imbalance Market Proposal**
- **Nevada PUC - Energy Imbalance Market Proposal**
- **Oregon PUC - Energy Imbalance Market Proposal**
- **Renewable Northwest Project - Energy Imbalance Market Proposal**
- **Valley Electric Association - Energy Imbalance Market Proposal**
- **WPTF - Energy Imbalance Market Proposal**



OFFICE OF THE GOVERNOR

March 18, 2013

Board of Governors
California Independent System Operator
P.O. Box 639014
Folsom, California 95763-9014

Dear Board of Governors,

For decades California and others in the west have benefited from seasonal trades of electricity. Today additional regional benefits are available from improved real-time operations of the grid.

For example, thousands of megawatts of solar generation rise and fall with sunrise and sunset, increasing the need for flexible resources to balance the system each and every day. Systems that can accelerate, optimize, and automate the dispatch of available resources will simultaneously lower customer costs and allow more renewable generation onto the western grid.

An opportunity to provide these benefits is before you on March 20th in the form of an agreement between PacifiCorp and the California Independent System Operator to balance load and resources every five minutes. The proposal will lower costs for California and PacifiCorp customers as well as improve reliability and renewable integration.

Congratulations to PacifiCorp and your staff for bringing this opportunity forward. I join others in the west in urging you to approve it and hope it is the first step in tapping the value of these services across the region.

Sincerely,

Michael Picker
Senior Advisor to the Governor for Renewable Energy Facilities
Office of the Governor



March 15, 2013

Chair Robert Foster
Governor Ashutosh Bhagwat
Governor Angelina Galiteva
Governor Richard Maullin
Governor David Olsen

RE: Support for Authorization to Proceed on Energy Imbalance Market

Dear Chair Foster and Governors Bhagwat, Galiteva, Maullin, and Olsen:

The California Wind Energy Association, American Wind Energy Association, Environmental Defense Fund, and Center for Energy Efficiency and Renewable Technologies write to strongly encourage your approval of the CAISO management proposal to launch an Energy Imbalance Market (EIM) when it comes before you during your March 20-21 CAISO Governing Board meeting.

As CAISO staff have explained, the CAISO's EIM, which will begin with the participation of PacifiCorp, will bring reliability and economic benefits to all market participants. These benefits are achieved by providing real-time visibility of available resources across all participating balancing areas, combining geographically diverse loads and resources, and using the least-cost available generation across the combined EIM area to balance markets in real-time. Importantly, this market will facilitate the integration of renewable resources in California and across the West.

Energy Imbalance Markets are a proven tool. An EIM operated by the Southwest Power Pool for the last six years has already produced hundreds of millions of dollars in net benefits for consumers. Studies have shown that an EIM that includes more participants across the western U.S. will yield around \$1.5 billion in net benefits over its first 10 years. An analysis conducted by consulting firm E3 for CAISO and PacifiCorp found that the EIM would provide major net benefits for consumers, with annual benefits of \$21 million to \$129 million, compared to annual costs of only \$2 million to \$5 million, with comparable costs for the initial start-up. FERC also conducted a qualitative analysis of the reliability benefits of an EIM, and found that an EIM could help address many of the problems that have caused blackouts and other reliability events in the past.

To expand the benefits of the EIM, we urge CAISO to incorporate fast interval energy dispatch into EIM operations, which will greatly reduce wind and solar forecast error by minimizing the time interval between when renewable energy forecasts are prepared and real time.

Finally, it is appropriate that the CAISO host the EIM, given its proven track record of operating energy markets. Moreover, an expanded market for CAISO should reduce transaction costs for CAISO's existing and new customers. We therefore encourage the CAISO to make a priority of seeking to expand its EIM to include additional balancing areas and market participants.

Sincerely,



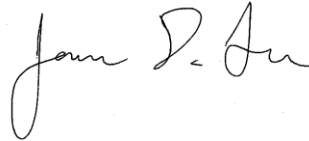
Nancy Rader
Executive Director
California Wind Energy Association



V. John White
Executive Director
Center for Energy Efficiency and Renewable
Technologies



Robert Gramlich
Interim CEO/Senior Vice President,
Public Policy
American Wind Energy Association



James Fine, Ph.D.
Senior Economist
Environmental Defense Fund

cc: Stephen Berberich, President and Chief Executive Officer
Keith Casey, Vice President, Market and Infrastructure Development
Karen Edson, Vice President, Policy and Client Services
David Miller, Consultant to Environmental Defense Fund
Dariush Shirmohammadi, Transmission Advisor, CalWEA

**California Energy Commission**

1516 Ninth Street
Sacramento, California 95814
Main website: www.energy.ca.gov

**California Public Utilities Commission**

505 Van Ness Avenue
San Francisco, California 94102
Main website: www.cpuc.ca.gov

March 8, 2013

Board of Governors
California Independent System Operator
P.O. Box 639014
Folsom, California 95763-9014

Dear Chairman Foster and Board of Governors:

We were pleased when on February 12, 2013, the California Independent System Operator (CAISO) and PacifiCorp announced a memorandum of understanding (MOU) to develop an energy imbalance market (EIM) between the two balancing authorities. This is a major step forward that offers economic benefits to both balancing authorities and enhances the two systems' abilities to integrate renewable generation.

Today, balancing authorities start with balanced schedules at the beginning of each hour. Load and resources change in real time, which western balancing authorities, other than the CAISO, manage by manually re-dispatching their resources. All balancing authorities carry reserves for meeting these requirements. In the case of the CAISO, a real-time, five minute market automatically optimizes and dispatches resources every five minutes to resolve these imbalances, making efficient use of resources and reducing the need for reserves.

This MOU extends to PacifiCorp the same efficiencies and automation that currently benefit California and which other balancing authorities in the West may choose to participate in the future. It also leverages geographical diversity so the regions can share resources during times of under- or over- forecasting of load and generation and provides better real-time visibility that improves reliability for both regions. Lastly, EIM is an important tool to assist renewable resource integration as we work toward California's important greenhouse gas reduction goals.

We urge the CAISO Board of Governors to approve the next step in this process by authorizing the organization to move forward with a detailed transition agreement and a stakeholder process to address the policy, governance and design issues that are a pre-requisite to implementation. We look forward to realizing the benefits and highly encourage other balancing authorities in the Western region to enter into similar relationships, creating a more efficient western transmission grid.

Sincerely,

Handwritten signature of Robert B. Weisenmiller.

Robert B. Weisenmiller
Chair
California Energy Commission

Handwritten signature of Michael R. Peevey.

Michael R. Peevey
President
California Public Utilities Commission

cc: Stephen Berberich, President and Chief Executive Officer, California Independent Systems Operator
Rob Oglesby, Executive Director, California Energy Commission
Paul Clanon, Executive Director, California Public Utilities Commission
Commissioners, California Energy Commission
Commissioners, California Public Utilities Commission



Grant County
PUBLIC UTILITY DISTRICT
Excellence in Service and Leadership

March 15, 2013

Board of Governors
California Independent System Operator
PO Box 639014
Folsom, CA 95763-9014

Dear Board of Governors,

Grant PUD has been watching with great interest your proposal, in conjunction with PAC, to expand real-time balancing to the PNW. Grant sees merit in your proposal in a number of such areas such as 1) ease of entry/exit, b) cost effectiveness through the leveraging of existing systems, c) CAISO's proven track record on delivery and operations, d) enhanced integration of resources.

We are contacting you to offer our support in working through the details of implementation. Your bilateral discussions with PAC risk missing important issues in certain areas and may inadvertently foreclose on future inclusion of parties beyond PAC. Specifically, Grant could offer unique perspectives given its differences from PAC; we are nearly 100% hydro and dispatch within Mid-C Hourly Coordination, we are a publicly owned entity, we are not directly interconnected to CAISO.

We would like to offer our assistance as you work through these and other issues such as governance, transmission and hydro operations.

Sincerely

A handwritten signature in dark ink, appearing to read 'Mike McClenahan', with a large, sweeping flourish extending to the right.

Mike McClenahan
Director of Power Management

Cc: Don Fuller
Stacey Karpinen



March 11, 2013

Board of Governors
California Independent System Operator
250 Outcropping Way
Folsom, CA 95630

Dear Board of Governors:

I am writing in support of the PacifiCorp and California Independent System Operator Corporation (ISO) proposal to develop a real-time energy imbalance market (EIM). This proposal represents significant progress toward regional coordination – progress that is critical to enabling more efficient and economic dispatch of resources.

Numerous efforts to develop an imbalance market across the Western interconnection have been underway over the past few years. Despite some reported progress, none of these initiatives has firm participant commitment or implementation timelines. With the dramatic increase of wind and solar resources in the West, a coordinated effort to reduce the quantity of required balancing reserves while improving reliability is critical. Iberdrola Renewables applauds PacifiCorp and the ISO for taking this important step forward to lead the region toward a more effective balancing solution.

Iberdrola Renewables strongly encourages the ISO Board of Governors to authorize PacifiCorp and the ISO to proceed with negotiating a formal agreement to implement the EIM.

Sincerely,

Kevin A. Lynch

Vice President, External Affairs
Iberdrola Renewables, LLC



March 19, 2012

Chair Robert Foster
Governor Ashutosh Bhagwat
Governor Angelina Galiteva
Governor Richard Maullin
Governor David Olsen

RE: Energy Imbalance Market Proposal

Dear Chair Foster and Governors Bhagwat, Galiteva, Maullin, and Olsen:

I am writing on behalf of the Large-scale Solar Association (LSA) to convey LSA's support for the February 12, 2013 Energy Imbalance Market Memorandum of Understanding (MOU) between the CAISO and PacifiCorp. The MOU provides for establishment of an inter-Balancing Authority Area (BAA) real-time Energy Imbalance Market (EIM), including a stakeholder process and invitation to other entities this year, a FERC filing around year-end, and testing/implementation by October 2014.

LSA applauds the CAISO's efforts to design and implement market changes to increase efficiency and lower costs. LSA sees promise in the EIM to reduce or eliminate "seams" issues between BAAs, and to increase system flexibility and diversity that should help the CAISO and other BAAs in the West address operating challenges as the resource mix on the grid changes in the future.

LSA's support for this initiative is tempered by several concerns, however.

LSA appreciates the CAISO's March 14th release of an initial analysis of EIM benefits (PacifiCorp-ISO Energy Imbalance Market Benefits). This appears to be a good starting point for a discussion about both the amount and distribution of potential EIM benefits. However, LSA and other stakeholders have had little time to examine the report, or request clarifications or additional information about the assumptions used in the report.

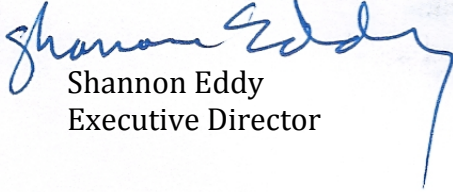
It is also not yet clear how this initiative will interact and be coordinated with other significant CAISO market initiatives scheduled to be developed and implemented over the same time period – e.g., 15-minute scheduling/settlement – that promise direct benefits to existing market participants within the CAISO's current footprint. There could be unintended consequences if the total impact of these initiatives is not well-considered and coordinated.

In addition, LSA wants to ensure that, as the CAISO undertakes major market-design changes such as this that are expected to have a positive net benefits, the changes reflect those benefits. For example, if the changes are supposed to lower "integration costs," then the new structure should not result in new or higher charges for such services. The CAISO should identify parties that might be harmed by those changes and mitigate that harm wherever possible, for example, by grandfathering or otherwise accommodating transactions under existing commercial contractual arrangements.

Finally, the CAISO should actively work with other entities like the CPUC, to ensure that there are no conflicts or inconsistencies with the utility procurement framework or other initiatives.

In summary, in offering general support for the EIM concept and the MOU, LSA hopes to work with the CAISO and with other stakeholders to address the issues described above in a way that helps distribute the net benefits of the new structure in an equitable manner. Thank you in advance for your consideration of LSA's positions on these issues.

Sincerely,



Shannon Eddy
Executive Director



BRIAN SANDOVAL
Governor

STATE OF NEVADA
PUBLIC UTILITIES COMMISSION

ALAINA BURTONSHAW
Chairman

REBECCA WAGNER
Commissioner

DAVID NOBLE
Commissioner

CRYSTAL JACKSON
Executive Director

March 19, 2013

Board of Governors
California Independent System Operator
P.O. Box 639014
Folsom, California 95763-9014

Dear Chairman Foster and Board of Governors:

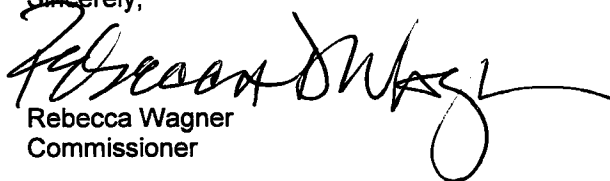
In my capacity as a Commissioner on the Public Utilities Commission of Nevada (PUCN) and a member of the PUC EIM group (created by the State-Provincial Steering Committee), I have been keenly interested in the concept of an energy imbalance market. In fact, I am the presiding officer of an investigatory docket (PUCN Docket No. 11-04025) that was opened to evaluate the concept of an EIM and the potential costs/benefits for Nevada.

I am writing to convey support for the efforts of the ISO to pursue an energy imbalance market initiative in the West. I am very excited that the agreement between the ISO and PacifiCorp will now move this important work into implementation and demonstrate both the economic and reliability benefits, while also assisting with renewable integration.

Further, the ISO and NV Energy are engaged in a mutual study of improved cooperation and collaboration and I hope that this study can also consider the potential benefits of NV Energy's participation in the EIM.

This is an important step in our region and I encourage your support.

Sincerely,



Rebecca Wagner
Commissioner

NORTHERN NEVADA OFFICE
1150 East William Street
Carson City, Nevada 89701-3109
(775) 684-6101 • Fax (775) 684-6110

<http://puc.nv.gov>

SOUTHERN NEVADA OFFICE
9075 West Diablo Drive, Suite 250
Las Vegas, Nevada 89148
(702) 486-7210 • Fax (702) 486-7206



Oregon

John A. Kitzhaber, MD, Governor

Public Utility Commission

550 Capitol Street NE, Suite 215

Mailing Address: PO Box 2148

Salem, OR 97308-2148

Consumer Services

1-800-522-2404

Local: 503-378-6600

Administrative Services

503-373-7394

March 8, 2013

RECEIVED

MAR 11 2013

LEGAL & REGULATORY DEPT.

Board of Governors
California Independent System Operator
250 Outcropping Way
Folsom, CA 95630

Dear Board of Governors,

We urge you to authorize the California ISO to proceed with its implementation agreement with PacifiCorp for a two-party energy imbalance market.

We regulate PacifiCorp's operations in Oregon. PacifiCorp serves nearly 560,000 Oregon households and businesses. We have been involved in and tracking efforts by Western Commissioners to explore the concept of a voluntary Western energy imbalance market (EIM) as a way to lower overall system costs and enhance reliability as we integrate more variable generation into the grid.

We are encouraged by the decision of the ISO and PacifiCorp to pursue a partnership. We see this as a pivotal development that could spur more coordination and more effective grid management across the entire region to the benefit of all ratepayers.


We await the additional details about the projected costs and benefits of the EIM and how it will be implemented. At the same time, we can see potentially great benefits to the parties moving forward to negotiate a full agreement and meet their goal of launching an EIM in 2014.

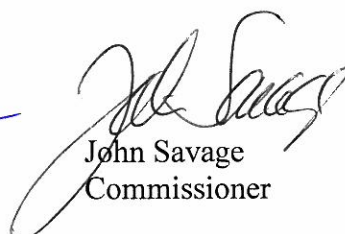
We are pleased to see that the parties have contemplated voluntary market participation that maintains the responsibility of each utility to meet its own capacity needs. This is a positive step that can deliver benefits for customers quickly and avoids the complications that have previously prevented the formation of coordinated markets in the West.

In addition, if successful, we are encouraged by the prospect of greater benefits in future years with participation from other Western Interconnection organizations.

We applaud the ISO and PacifiCorp for demonstrating leadership on this issue and we encourage the Board to authorize the agreement moving forward.

Sincerely,


Susan Ackerman
Chair


John Savage
Commissioner


Steve Bloom
Commissioner



March 15, 2013

Board of Governors
California Independent System Operator
250 Outcropping Way
Folsom, CA 95630

Dear Board of Governors,

I am writing in support of Energy Imbalance Markets (EIM), including the proposal between PacifiCorp and the California Independent System Operator (CAISO) regarding the creation of a real-time energy imbalance market.

The proposal marks a positive step forward in modernizing the Western electric grid and reducing costs to consumers. This sets an excellent example for other utilities to follow as they complete their own cost-benefit analyses and decide to pursue similar options to improve efficiency and reliability of the grid.

Energy imbalance markets have proven to be an effective tool in other parts of the country. For example, the Southwest Power Pool EIM launched in 2007 has far exceeded initial expectations. In its first year, the SPP EIM saw benefits exceeding \$100 million.

In addition to helping reduce costs for customers and improve grid reliability¹, EIMs have the added benefit of providing a great opportunity for the integration of wind, solar and other renewable resources. In an ever-changing energy landscape, it is important to continue improving the grid to allow for greater integration of more renewable resources. This proposal is one such avenue for doing so.

In conclusion, we support all efforts to improve grid efficiency and diversify our energy portfolio with cleaner resources. I encourage the Board of Governors to approve the proposed creation of a real-time energy imbalance market.

Sincerely,

A handwritten signature in black ink that reads "Rachel Shimshak".

Rachel Shimshak
Executive Director, Renewable Northwest Project

¹ <http://www.elabs7.com/c.html?ufl=7&rtr=on&s=lg13,10ifw,7k2,6sjg,8tce,b589,diqv>

- 3Degrees
- American Wind Energy Assoc.
- Blattner Energy
- Bonneville Environmental Foundation
- BP Wind Energy
- Calpine
- Center for Energy Efficiency & Renewable Technologies
- Christenson Electric
- Citizens' Utility Board
- Climate Solutions
- Columbia Gorge Community College
- Community Renewable Energy Association
- E.ON Climate & Renewables
- EDF Renewable Energy
- EDP Renewables
- Element Power
- Environment Oregon
- Environment Washington
- Eurus Energy America
- EverPower
- FirstWind
- Gaelectric
- Gamesa Energy USA
- GE Energy
- Geothermal Resources Council
- GL Garrad Hassan
- Green Mountain Energy
- Iberdrola Renewables
- Jones Stevedoring
- Kapla Law PLLC
- Lane Powell PC
- MAP
- Montana Environmental Information Center
- MontPIRG
- Natural Capital Partners
- Natural Resources Defense Council
- NaturEner
- NextEra Energy Resources
- Northwest Environmental Business Council
- Northwest SEED
- NW Energy Coalition
- Oregon Tech
- Oregon Solar Energy Industries Association
- OSPIRG
- Portland Energy Conservation, Inc.
- REC Silicon
- REpower USA
- RES America Developments
- Solar Oregon
- SolarCity
- Stoel Rives, LLP
- SunPower Corporation
- SWCA Environmental Consultants
- Tonkon Torp LLP
- Vestas Americas
- Warm Springs Power & Water Enterprises
- Washington Environmental Council
- WashPIRG
- Western Resource Advocates



Valley Electric Association, Inc.

A Touchstone Energy® Cooperative 

March 15, 2013

Board of Governors
California Independent System Operator
250 Outcropping Way
Folsom, CA 95630

RE: CAISO PacifiCorp EIM Proposal

Dear Board of Governors:

Valley Electric Association, Inc. (VEA) supports the efforts of the California Independent System Operator Corporation (CAISO) to facilitate an energy imbalance market (EIM) in the Western Interconnection. The Memorandum of Understanding between the CAISO and PacifiCorp is an important first step in creating such a market; therefore, VEA urges you to authorize the CAISO to move forward with completion of a definitive agreement with PacifiCorp to implement an energy imbalance market in 2014.

VEA joined the CAISO as a Participating Transmission Owner on January 3, 2013, expanding California access to significant renewable resources in Southern Nevada. VEA is a strong supporter of regionalization of the transmission grid. Coordinated planning and operation of the grid will provide economic benefits and increase reliability. By allowing real-time economic dispatch of resources across a wider footprint, an EIM market is an important tool in regionalization. In addition, it will facilitate the integration of more renewable resources, including large scale solar projects in Nevada.

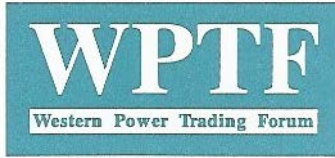
We also believe that the incremental approach inherent in the CAISO PacifiCorp proposal has a greater chance of success than proposals to immediately create an all-utility EIM market across the Western Interconnect. This incremental approach will allow interested utilities to join as they see benefits and consistent with their own needs and interests.

We look forward to participating in the Stakeholder process as this important project moves forward.

Sincerely,

A handwritten signature in blue ink, appearing to read "Thomas H. Husted", is written over a light blue circular stamp.

Thomas H. Husted
Chief Executive Officer
Valley Electric Association, Inc.



March 11, 2013

Board of Governors
CAISO
250 Outcropping Way
Folsom, CA 95630
Via Email to Stacey Karpinen

The Western Power Trading Forum supports the California ISO's implementation with PacifiCorp of a two-party real-time energy imbalance market.

WPTF will participate in the CAISO's stakeholder process to better understand the details of the proposal, and may comment at the appropriate opportunities. We trust that the CAISO will continue without interruption its ongoing market design initiatives during the development of the EIM.

However, the possibility of a real-time balancing energy market that further transcends the historical CAISO footprint is an exciting opportunity that may eventually include other neighboring balancing authorities in the western states and produce significant market efficiencies. WPTF applauds the CAISO and PacifiCorp for demonstrating leadership on this issue and we encourage the CAISO Board of Governors to authorize the CAISO-PacifiCorp agreement at its next meeting.

Sincerely,

Gary Ackerman
Executive Director

Federal Energy Regulatory Commission, Docket ER14-1386

Comments in support of the amendment to the ISO tariff to provide other balancing authority areas the opportunity to participate in the energy imbalance market

- **California Public Utilities Commission**
- **Governor Edmond G. Brown and Governor Brian Sandoval**
- **Iberdrola Renewables**
- **Natural Resources Defense Council**
- **Public Utilities Commissioner's EIM Working Group, Travis Kavulla (MT), Chair**
- **US Senate Majority Leader Harry Reid**
- **American Wind Energy Association, California Wind Energy Associations, Center for Energy Efficiency and Renewable Technologies and Renewable Northwest**

STATE OF CALIFORNIA
PUBLIC UTILITIES COMMISSION
505 VAN NESS AVENUE
SAN FRANCISCO, CA 94102-3298

EDMUND G. BROWN, *Governor*



March 28, 2014

VIA ELECTRONIC FILING

Kimberly D. Bose
Office of the Secretary
Docket Room
Federal Energy Regulatory Commission
888 First Street, N.E., Room 1A, East
Washington, D.C. 20002

Re: *California Independent System Operator Corporation*
Docket No. ER14-1386

Dear Ms. Bose:

Enclosed for e-filing in the above-docketed case, please find an electronic filing of the attached document entitled **“Notice of Intervention and Comments of the California Public Utilities Commission in Support of the California Independent System Operator’s Tariff Amendments to Implement an Energy Imbalance Market”**

Thank you for your cooperation in this matter and please do not hesitate to contact me at the phone number or e-mail address below if you have any questions or concerns regarding the foregoing.

Sincerely,

/s/ Charlyn Hook

Principal Counsel
Phone: (415) 703-3050
E-Mail: chh@cpuc.ca.gov

Enclosure

UNITED STATES OF AMERICA
BEFORE THE
FEDERAL ENERGY REGULATORY COMMISSION

California Independent System
Operator Corporation.

Docket No. ER14-1386-000

**NOTICE OF INTERVENTION AND COMMENTS OF THE
PUBLIC UTILITIES COMMISSION OF THE STATE OF CALIFORNIA
IN SUPPORT OF THE CALIFORNIA INDEPENDENT SYSTEM OPERATOR'S
TARIFF AMENDMENTS TO IMPLEMENT
AN ENERGY IMBALANCE MARKET**

I. NOTICE OF INTERVENTION

Pursuant to Rule 214(a)(2) (18 C.F.R. § 385.214) of the Rules of Practice and Procedure of the Federal Energy Regulatory Commission ("FERC" or "Commission"), the Public Utilities Commission of the State of California ("CPUC") hereby submits this Notice of Intervention in the above-docketed proceeding.

The CPUC is a constitutionally established agency charged with the responsibility for regulating electric corporations within the State of California. In addition, the CPUC has a statutory mandate to represent the interests of electric consumers throughout California in proceedings before the FERC. This Notice of Intervention serves to make the CPUC a party to this proceeding.

Communications to the CPUC in this proceeding should be addressed to:

Charlyn A. Hook
Principal Counsel
Public Utilities Commission of the
State of California
505 Van Ness Avenue, Room 5131
San Francisco, California 94102
(415) 703-3050
e-mail: chh@cpuc.ca.gov

Alan Meck
Principal Analyst
Public Utilities Commission of the
State of California
505 Van Ness Avenue
San Francisco, California 94102
(415) 703-5324
e-mail: am9@cpuc.ca.gov

II. COMMENTS

The CPUC supports the CAISO's Tariff Amendment to Implement an Energy Imbalance Market (EIM). The EIM design proposed by the CAISO is the product of a robust and inclusive stakeholder process in which the CPUC and other regional entities were engaged and contributed to the final Tariff Amendments. The CPUC strongly supports the goals of the EIM, which allows other balancing authorities within the Western United States area an opportunity to voluntarily participate in the CAISO's real-time energy imbalance market. The CPUC is also pleased with the direction of the transitional governance process, which will ensure an independent EIM governance structure, and full representation by a broad range of experienced and geographically diverse leaders.

Expanding and diversifying the pool of resources available to CAISO EIM will aid in optimizing efficiencies, leading to cost savings, and increased reliability. Most importantly, the EIM design will take advantage of the geographic diversity of renewable resources available in the broader area, thereby facilitating integration of renewable

resources. This is particularly important in California due to our existing minimum 33% by 2020 renewable resource requirements, and planned expansions of solar, wind and other renewable resources in the coming decades.

The implementation of the EIM is a complicated endeavor, and in particular the CPUC is concerned about the potential for increased uplift charges from convergence bidding practices. Two areas in particular will need to be watched closely. First, under the new EIM, there may be unforeseen opportunities to game the CAISO Day-Ahead market, for example, by submitting altered schedules. Secondly, attempts to create convergence by predicting what will happen in Real-Time will be subject to additional variables created by the EIM. This presents a new challenge for the Day-Ahead prediction, and thus may create additional opportunities for convergence bidders to take advantage of systemic differences between the Day-Ahead and Real-Time markets.

The CPUC understands that the EIM design is the starting point, and certain elements may evolve over time as the CAISO gains experience with running the EIM. The CAISO and its internal market monitor, the Department of Market Monitoring (DMM), should be empowered with the necessary tools, including the ability to make software modifications and correct uneconomic market behavior when warranted. The upcoming Tariff Amendment Filing on the CAISO's Full Network Model will be an important companion to the EIM design. The CPUC looks forward to continuing to work with the CAISO on the finalization of the FNM Tariff language, and will continue to

work with the CAISO on areas of concern that arise going forward, to ensure the ongoing success of the EIM design.

III. CONCLUSION

The CPUC supports the CAISO's Tariff Amendment filing and is optimistic that proven success will lead to increased participation throughout the West.

Respectfully submitted,

KAREN V. CLOPTON
CHRISTOPHER CLAY
CHARLYN A. HOOK

By: /s/ Charlyn A. Hook

Charlyn A. Hook

505 Van Ness Avenue
San Francisco, CA 94102
Phone: (415) 703-3050
Fax: (415) 703-2262

Attorneys for the Public Utilities Commission
of the State of California

March 28, 2014

CERTIFICATE OF SERVICE

I hereby certify that I have on this day caused the foregoing **NOTICE OF INTERVENTION AND COMMENTS OF THE PUBLIC UTILITIES COMMISSION OF THE STATE OF CALIFORNIA IN SUPPORT OF THE CALIFORNIA INDEPENDENT SYSTEM OPERATOR'S TARIFF AMENDMENTS TO IMPLEMENT AN ENERGY IMBALANCE MARKET** to be served electronically upon each party identified in the official service list compiled by the Secretary of FERC in **ER14-1386**

Dated at San Francisco, California, this **28th** of March, 2014.

/s/ Margarita Lezcano
Margarita Lezcano

ER14-1386
ER14-1729
ER14-1578

RECEIVED
MAY 23 2014



May 23, 2014

The Honorable Cheryl A. LaFleur
Acting Chairman
Federal Energy Regulatory Commission
888 First Street, N.E.
Washington, D.C. 20426

OFFICE OF
EXTERNAL AFFAIRS
2014 JUN -2 P 4:51
FEDERAL ENERGY
REGULATORY COMMISSION

RE: FERC Docket Nos. ER14-1386 and ER14-1729

Dear Chairman LaFleur:

We are writing in support of the application of the California Independent System Operator and NV Energy to implement a regional Energy Imbalance Market. We support the creation of this market as an important step to capture the benefits of regional coordination and build a clean energy future.

The Energy Imbalance Market will help grid managers in Nevada, California, and five other states optimize renewable energy resources, balance power supplies, enhance grid reliability, and reduce power costs for customers by taking advantage of a larger, multi-state pool of geographically diverse energy resources.

For example, when weather in one part of the Western United States is not conducive to renewable energy generation, the system can access resources across a larger market to offset that decreased output. Such regional coordination will be increasingly important as we integrate greater amounts of renewable energy into our electric system. By allowing operators to dispatch the most economic resources from a broader combined area, the EIM will improve reliability, promote competition, and save consumers an estimated \$15-\$29 million per year.

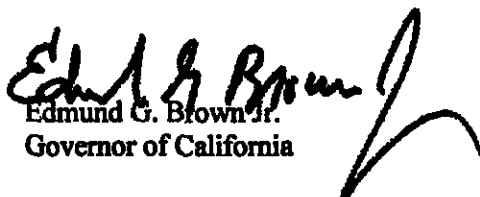
The proposed market will be similar to, and integrated with, CAISO's existing market processes. The design of the market is the result of an extensive stakeholder process and includes careful market safeguards to minimize risks to participants.

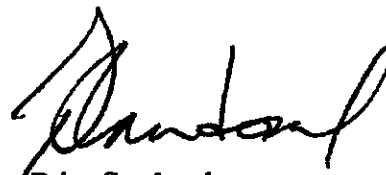
2014-00135

The Honorable Cheryl A. LaFleur
May 22, 2014
Page 2

We urge you to approve the CAISO and NV Energy application and help us create a clean energy future and a more reliable and modern electric grid.

Sincerely,


Edmund G. Brown Jr.
Governor of California


Brian Sandoval
Governor of Nevada

Dispatchable generation resources have limited options to offer and monetize the flexible capability of their resources into the market. Price signals do not exist for variable energy resource (“VER”) generators to incentivize responsible scheduling behavior. This environment is inefficient and not well positioned to integrate VERs or minimize costs to consumers. Despite these deficiencies, a clear preference for “business as usual” persists among many entities in the region, especially among public power entities in the Northwest. Initiatives purportedly seeking increased coordination and efficiency for Western energy markets have repeatedly delivered nothing more than lengthy PowerPoint presentations and endless meetings.⁵

The effort of the California ISO and PacifiCorp to develop an Energy Imbalance Market (“EIM”) with a planned in-service date that is deliverable within commercially reasonable timeframes represents the first credible initiative with promise to help the West take its first meaningful step toward a more efficient market structure. Considerable thought has gone into the design of this new EIM, with feedback from robust stakeholder processes solicited and incorporated. While market design efforts can be challenging, particularly when trying to overlay a market structure on top of an existing physical transmission/bilateral transaction structure, the California ISO’s proposed EIM represents a well-reasoned and robust structure that is well positioned to test a much needed, new energy market concept in the West. Accordingly, Iberdrola Renewables offers its comments herein in support of this important effort.

⁵ See e.g., *Inquiry Concerning the Commission’s Policy on Independent System Operators*, Docket No. PL98-5-000, Notice of Conference at 2 (March 13, 1998) (describing efforts of utilities in the Pacific Northwest to negotiate the formation of an ISO (the failed IndeGO)); WECC RTO Presentation, Western Electricity Coordinating Council, RTO West Update (April 9-11, 2003), available at <http://www.wecc.biz/committees/memrep/041003/Lists/Presentations> (last visited Mar. 26, 2014)(describing efforts to develop the failed RTO West); see also generally Commission Docket Nos. RT01-35-000 (initial utility filings related to the failed RTO West) and EL05-106-000 (initial utility filings related to the failed Grid West).

II. COMMUNICATIONS

The principal office of Iberdrola Renewables is located at 1125 NW Couch Street, Suite 700, Portland, Oregon 97209. All pleadings, orders, correspondence, and communications regarding this motion should be directed to the following persons:⁶

Toan-Hao B. Nguyen
Senior Counsel
Iberdrola Renewables, LLC
1125 NW Couch St., Suite 700
Portland, OR 97209
Tel: (503) 241-3204
Fax: (503) 796-6904
Toan.Nguyen@iberdrolaren.com

Laura Beane
Director, Market Structure
Iberdrola Renewables, LLC
1125 NW Couch St., Suite 700
Portland, OR 97209
Tel: (503) 478-6306
Laura.Beane@iberdrolaren.com

III. MOTION TO INTERVENE

Iberdrola Renewables is a non-transmission owning public utility engaged, directly and through its subsidiaries and affiliates, in the development of wind and thermal energy facilities, natural gas and electric marketing, gas storage and hub services, and in providing other energy services. Iberdrola Renewables, with its affiliates and subsidiaries, is the second leading developer and operator of wind energy projects in the United States, with approximately 5,700 MW of wind energy generating capacity.

Iberdrola Renewables develops, owns and operates wind energy facilities within the Northwest and participates regularly in the region's energy trading markets, such as they exist. Iberdrola Renewables anticipates participating in the proposed EIM. Iberdrola Renewables has a direct interest in this proceeding and no other party can adequately represent its interest. For the foregoing reasons Iberdrola Renewables respectfully requests that the Commission grant this

⁶ Designated for service pursuant to Rule 2010, 18 C.F.R. §385.2010 (2013).

motion to intervene and permit Iberdrola Renewables to participate as a party in the above-captioned proceeding.

IV. COMMENTS

A. Commercial Model Disruptions Do Not Equate to Discrimination

Many participants currently benefit from the inefficiencies inherent in the existing Western energy market structure. As with all market environments, players leverage assets, information, and trading positions to extract value. The current structure in the West creates numerous opportunities for entities to benefit from the limited liquidity and competition that inevitably occurs in an hourly, bilateral market structure. A more efficient Western energy market structure will threaten commercial models that thrive on the existing inefficiency. This fact has been used by EIM detractors to advance claims of discrimination resulting from the planned EIM. It is important that these claims be seen for what they are – attempts to thwart functioning markets in order to preserve existing advantages derived from the current suboptimal bilateral market.

Iberdrola Renewables holds considerable transmission rights on the California Oregon Intertie and could credibly express concern regarding potential impacts to its existing contractual rights. Iberdrola Renewables has carefully evaluated the transmission usage components of the proposed EIM and has determined that the market design fairly recognizes transmission rights of entities transacting within the California ISO and the EIM Entities without undue harm or diminution of these existing transmission rights. As with all significant market changes, market participants will be required to discover new ways to create value under the EIM environment. Iberdrola Renewables welcomes this challenge and is anxious to build on the progress of this new market design to achieve more efficient integration of all energy resources.

B. The Proposed EIM Resource Sufficiency Framework is Adequate

The California ISO has designed a flexible ramping constraint test to ensure each EIM Entity has the capacity to meet potential variations in generation output or load.⁷ If entities fail this test, the California ISO will limit transfers of energy between the EIM Entity and the California ISO at the value for the last 15-minute interval prior to the failure.⁸ This real-time test is sufficient to ensure EIM Entities are not “leaning” on the California ISO for capacity required to balance load and generation variability within the EIM Entity footprint.

The EIM is a real-time energy market. Suggestions for expanded resource sufficiency tests into the Day Ahead timeframe are out of scope and inappropriate. Further, participating EIM Entities retain all existing responsibility for meeting Balancing Authority reliability standards under the proposed EIM framework.⁹ It is unrealistic to suggest that these Balancing Authorities would jeopardize their ability to meet required reliability standards in an effort to avoid securing appropriate capacity to balance their systems.

C. The Addition of Properly Designed Scheduling Accuracy Metrics for Variable Energy Resources May Be Appropriate

Iberdrola Renewables has consistently supported market structures that require responsible scheduling behavior of VERs. Although it is unlikely that a VER would purposely overschedule its generation to somehow game the new EIM, and the Commission has significant

⁷ See CAISO EIM Filing at 28; *id.* at Proposed Tariff Revision § 11.25.

⁸ See CAISO EIM Filing at 28; *id.* at Proposed Tariff Revision § 11.25.3.

⁹ See CAISO EIM Filing at 3, 10, 11; *id.* at Proposed Tariff Revision § 29.4(b)(1)(B) (“Nothing in Section 29 shall alter an EIM Entity’s responsibilities under NERC Reliability Standards as the Balancing Authority for the EIM Entity Balancing Authority Area and, to the extent applicable, as the transmission operator for transmission facilities within its Balancing Authority Area.”); *id.* at EIM Entity Agreement § 2.1 (“The Parties are individually responsible for the efficient use and reliable operation of their Balancing Authority Areas consistent with the Reliability Standards established by the Western Electricity Coordinating Council (‘WECC’) and the North American Electric Reliability Corporation (‘NERC’), and in accordance with their respective tariffs on file with the Federal Energy Regulatory Commission (‘FERC’). Nothing in this Agreement is intended to change, supersede, or alter either Party’s obligations to abide by NERC and WECC Reliability Standards or to provide open and non-discriminatory transmission access in accordance with the terms of their respective FERC tariffs.”).

penalty authority in the event an entity engages in market manipulation,¹⁰ Iberdrola Renewables agrees it may be appropriate to implement some level of scheduling accuracy requirements for VERs. The California ISO is implementing one such requirement for imported VERs as part of its new FERC Order No. 764 market implementation.¹¹ VER imports are subject to potential decline penalties if they demonstrate a pattern of overscheduling generation.¹² Iberdrola Renewables believes a similar metric could be added to the EIM design to ensure responsible behavior and further mitigate concern of inappropriate capacity leaning on the system.

V. CONCLUSION

Western energy markets are woefully inefficient and continue to lag far behind the operational improvements and organized markets that have been implemented elsewhere in the country. The California ISO's proposed EIM represents a thoughtful and robust design that is sufficient to test a new market concept in the West. As with all energy markets, the design can be revised and improved over time as operational experience and data become available. Iberdrola Renewables strongly supports the implementation of the California ISO's EIM and looks forward to the improved efficiency and optimization that will ultimately benefit market participants and consumers.

¹⁰ See e.g., *Prohibition of Energy Market Manipulation*, Order No. 670, 114 FERC ¶ 61,047 at P 16 (2006).

¹¹ See *Cal. Indep. Sys. Operator Corp.*, Tariff Revisions to Comply with Order No. 764, Docket No. ER14-495-000 at Proposed Tariff Revision § 5.2.1 (Nov. 27, 2013).

¹² See *id.*

WHEREFORE, Iberdrola Renewables respectfully submits these comments for the Commission's consideration.

/s/ Toan-Hao B. Nguyen
Toan-Hao B. Nguyen
Senior Counsel
Iberdrola Renewables, LLC
1125 NW Couch St., Suite 700
Portland, OR 97209
Tel: (503) 241-3204
Fax: (503) 796-6904
Toan.Nguyen@iberdrolaren.com

March 31, 2014

CERTIFICATE OF SERVICE

I hereby certify that I have on this 31st day of March 2014 served the foregoing document, via electronic mail, upon each person designated on the official service list compiled by the Secretary in this Docket No. ER14-1386-000 proceeding.

/s/ Christian G. Yoder
Christian G. Yoder
Senior Counsel
Iberdrola Renewables, LLC
1125 NW Couch St., Suite 700
Portland, OR 97209
Tel: (503) 796-6992
Fax: (503) 796-6904
Christian.Yoder@iberdrolaren.com



NATURAL RESOURCES DEFENSE COUNCIL

March 18, 2014

The Honorable Cheryl A. LaFleur, Acting Chairman
Federal Energy Regulatory Commission
888 First Street, N.E.
Washington, D.C. 20426

RE: California Independent System Operator Corporation Tariff Amendments to Implement
an Energy Imbalance Market, Docket No. ER14-1386

Dear Acting Chairman LaFleur:

I am writing in support of the California Independent System Operator's (CAISO) Energy Imbalance Market (EIM) proposed tariff revisions submitted for your consideration in February 2014. The Natural Resources Defense Council is a non-profit organization dedicated to working with policymakers, utilities and communities to support clean energy solutions that will reduce the impact on our climate, revive our economy and create jobs.

The proposed tariff revisions represent the result of a broad stakeholder process, where complex market design issues were discussed and adapted based on participant feedback. Opportunities for balancing authorities around the west to voluntarily enter a real-time market, where the CAISO has existing and proven automated dispatch technology, allows energy customers to benefit from economic dispatch of a wider range of resources, reducing potential curtailment of valuable renewable resources all while improving the reliability of the grid.

As western balancing areas put more renewable energy resources on the grid, there are tremendous advantages to allowing those resources to be used in the real-time market to balance loads in larger regions of the west, where weather or system conditions may require additional resources. In addition, the proposed tariff successfully addresses the need for resources that serve load in California to comply with California's greenhouse gas cap and trade regulations, continuing to move carbon reduction practices forward.

The NRDC has been actively engaged in EIM design and governance issues and I look forward to working with CAISO as the EIM moves into implementation with PacifiCorp this year.

With kindest regards,

Carl Zichella
Director, Western Renewable Transmission

Cc: The Honorable Philip D. Moeller, Commissioner
The Honorable John R. Norris, Commissioner
The Honorable Tony Clark, Commissioner

**Public Utility Commissioners' EIM Working Group
Commissioner Travis Kavulla (MT), Chair**

March 31, 2014

The Honorable Cheryl A. LaFleur, Acting Chair
Federal Energy Regulatory Commission
888 First Street, N.E.
Washington, D.C. 20426

RE: California Independent System Operator Corporation Tariff Amendments to Implement an Energy Imbalance Market, Docket No. ER14-1386

Dear Chair LaFleur,

The Public Utility Commissioners' EIM Working Group (PUC EIM Group) appreciates the opportunity to comment on the California Independent System Operator's (CAISO) Energy Imbalance Market (EIM) proposed tariff revisions submitted to you on February 28, 2014.

The PUC EIM Group, facilitated by the Western Interstate Energy Board, was formed in late 2011 to investigate the potential benefits and costs of a regional EIM for ratepayers and to foster a multi-state dialogue between regulators and the industry. A primary objective of the Group is to support the development of strategies to optimize the reliability and efficiency of the electric grid via well-informed collaboration that considers the interests of a broad variety of stakeholders. The Group includes utility commissioners from Arizona, California, Colorado, Idaho, Montana, New Mexico, Nevada, Oregon, South Dakota, Utah, Washington, and Wyoming.

In advance of its tariff filing with the Commission, the CAISO has conducted a transparent and robust stakeholder engagement process. Its strong participation with entities across the region demonstrates a commitment to collaboration between California and the rest of the states in the Western interconnection.

The PUC EIM Group has commented on various aspects of the CAISO's market design throughout the stakeholder process. Primarily, our comments have focused on two areas: access to the market and governance of the market.

On the first topic, the PUC EIM Group has advocated that the market should be designed to allow generators to participate without undue restrictions, because the benefits of an EIM grow with the participation of a more diverse pool of resources. Similarly, there should exist on-ramps that encourage the participation of additional EIM Entities—i.e., Balancing Authorities other than PacifiCorp's (PAC's) and CAISO's. We believe the market, as developed in the CAISO stakeholder process, accomplishes these goals, because it establishes an easy path to market entry and participation, and exit from the market can be accomplished without payment of an exit fee. Additionally, PacifiCorp has made helpful revisions to its draft tariff with the effect of furthering the principles of simple and straightforward participation.

The PUC EIM Group supports deferring for a year the consideration of transmission usage charges. The transfer of imbalance energy between CAISO and PAC is being accomplished by the use of dedicated transmission capacity for those specific purposes, and not through the flow-based approach which is common in regional RTOs. It is not yet clear how much energy will transact through an EIM, and what impacts that will have on those within and outside the CAISO and PAC footprints. It would, at this point, be difficult to know what a reasonable, cost-based transmission usage fee for imbalance energy would look like. This is an important topic which deserves examination, but only after base data surfaces through the market's operation. Establishing a cost for imbalance transactions between CAISO and PAC's BAs now, other than the reciprocal approach proposed, would inhibit the more liquid operations of an EIM.

Regarding the issue of governance, a fundamental tenet for the PUC EIM Group is that the ultimate success of a regional EIM depends on a governance structure that is substantively and comprehensively independent from any one state in the market footprint. We are supportive of the CAISO's focus on the development of short- and long-term EIM governance structures that represent a broad range of stakeholders. We further support and appreciate the objective of including in the governing structures members who possess proven leadership ability, industry experience, sector diversity, and geographic diversity. In other organized markets, Section 205 filing rights over part of a transmission tariff have been delegated to an organization other than the market's board of directors. Understanding the options available to the EIM will prove helpful as the EIM Transitional Committee, which CAISO plans to constitute this spring, considers this important issue.

We believe that the rapidly changing nature of the electricity system infrastructure creates significant near- and long-term needs for efficient dispatch and improved situational awareness. The EIM is one means to help achieve these objectives.

We appreciate this opportunity to offer comments and look forward to continuing to engage in the process.

Sincerely,

Commissioner Travis Kavulla (MT)
Chair, PUC EIM Group
Montana Public Service Commission
1701 Prospect Ave.
P.O. Box 202601
Helena, MT 59620-2601
Phone: 406-444-6166
Email: tkavulla@mt.gov

Cc: PUC EIM Group

ER14-1386
ER14-1578
MAJORITY LEADER
ER14-1729

HARRY REID
NEVADA

ASSOCIATED
PUBLIC FILE

United States Senate

WASHINGTON, DC 20510-7012

May 15, 2014

The Honorable Cheryl A. LaFleur
Acting Chairman
Federal Energy Regulatory Commission
888 First Street, N.E.
Washington, D.C. 20426

The Honorable Philip Moeller
Commissioner
Federal Energy Regulatory Commission
888 First Street, N.E.
Washington, D.C. 20426

The Honorable John R. Norris
Commissioner
Federal Energy Regulatory Commission
888 First Street, N.E.
Washington, D.C. 20426

The Honorable Tony Clark
Commissioner
Federal Energy Regulatory Commission
888 First Street, N.E.
Washington, D.C. 20426

2014 MAY 20 P 3 45
OFFICE OF
EXTERNAL AFFAIRS
FEDERAL ENERGY REGULATORY COMMISSION

Dear Acting Chairman LaFleur and Commissioners Moeller, Norris, and Clark:

I am writing in regard to the California Independent System Operator Corporation (CAISO)'s proposed Energy Imbalance Market (EIM). I understand that CAISO and PacifiCorp have filed certain tariff amendments with the Federal Energy Regulatory Commission (FERC) to implement the voluntary EIM and begin operations later this year (Docket Nos. ER14-1386-000 and ER14-1578-000).

NV Energy, Nevada's largest utility, announced in August 2012 that it agreed to "jointly study the potential for development of transmission facilities between the two systems, as well as sharing conventional and renewable energy resources for the benefit of the respective customer groups" with CAISO. Subsequently, on April 16, 2014, CAISO also filed an implementation agreement with FERC to incorporate NV Energy into the EIM by October 2015 (Docket No. ER14-1729-000). I urge FERC to accept the above-referenced filings so this important initiative can move forward to implementation this year.

I have been encouraged by efforts to enhance regional coordination and improve market efficiency in the West. The proposed EIM is a voluntary regional initiative that allows participants to benefit from a real-time energy market to balance electricity supply and demand on the grid and improve reliability. It offers an automated, regional, and far more efficient method of meeting real-time energy needs than the manual operations currently used by many individual balancing authorities. In March 2014, NV Energy and CAISO released an economic analysis that was prepared by ABB, Inc. and Energy and Environmental Economics on the benefits and costs of NV Energy's participation in the voluntary EIM. This analysis found that the EIM would allow for more efficient interregional dispatch, reduced flexibility reserve requirements, and reduced renewable energy curtailment. Additionally, the analysis found that "even under conservative assumptions, the incremental benefits of NV Energy's participation in the EIM would be greater than expected costs." The voluntary nature of the EIM also allows

2014-00128

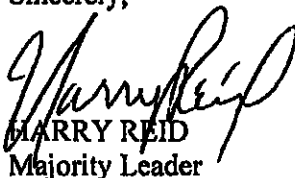
entities to participate without altering their autonomy, structure, or existing responsibilities. The EIM is designed as a flexible system in which each balancing authority has the ability to determine its level of voluntary participation. Importantly, there are no fees to exit if an entity no longer desires to participate in the EIM.

Additionally, the EIM will provide geographic diversity and extensive resource options to more effectively integrate variable energy supplies, such as wind power and solar energy, into regional grid operations. Further, it will establish transparency and broad-based situational awareness for grid operators that will help to ensure greater electricity reliability in the West.

Finally, I understand that the EIM has widespread support among regional stakeholders, Public Utility Commissioners, the Western Interstate Energy Board's PUC-EIM Working Group, renewable energy advocacy groups, environmental organizations, electric power trade groups, and a host of private corporations, including major electric utilities in the region.

Thank you for your consideration of this letter, and the pending EIM-related filings of CAISO, PacifiCorp, and NV Energy.

Sincerely,



HARRY REID
Majority Leader

CC: Chairman Alaina Burtenshaw, Nevada Public Utilities Commission
Commissioner Rebecca Wagner, Nevada Public Utilities Commission
Commissioner David Noble, Nevada Public Utilities Commission
Steve Berberich, California Independent System Operator
The Honorable Catherine Cortez Masto, Nevada Attorney General

**UNITED STATE OF AMERICA
BEFORE THE
FEDERAL ENERGY REGULATORY COMMISSION**

**California Independent System
Operator Corporation**

Docket No. ER14-1386-000

**MOTION FOR LEAVE TO INTERVENE AND COMMENTS
OF THE AMERICAN WIND ENERGY ASSOCIATION,
THE CALIFORNIA WIND ENERGY ASSOCIATION,
THE CENTER FOR ENERGY EFFICIENCY AND RENEWABLE TECHNOLOGIES
AND RENEWABLE NORTHWEST**

Pursuant to Rules 212 and 214 of the Rules of Practice and Procedure for the Federal Energy Regulatory Commission (“FERC” or “Commission”),¹ and the Commission’s March 11, 2014 Notice in the above-captioned proceeding, the American Wind Energy Association (“AWEA”), the California Wind Energy Association (“CalWEA”), the Center for Energy Efficiency and Renewable Technologies (“CEERT”), and Renewable Northwest² (collectively, “Intervenors”) respectfully submit this Motion for Leave to Intervene and Comments in response to the California Independent System Operator Corporation’s (“CAISO”) proposed tariff amendments submitted in this docket.³

I. CORRESPONDENCE AND COMMUNICATIONS

All correspondence and communications related to this proceeding should be addressed to the following persons, who should be placed on the Commission’s official service list and designated for service pursuant to Rule 2010, 18 C.F.R. § 385.2010:

Gene Grace
Senior Counsel
American Wind Energy Association
1501 M Street, NW

Dina Dubson
Staff Counsel
Renewable Northwest
421 SW Sixth Avenue, Suite 1125

¹ 18 C.F.R. §§ 385.212, .214 (2013).

² In recognition of its twentieth anniversary, Renewable Northwest Project recently dropped the “Project” from its name and is now known as “Renewable Northwest.”

³ See *Cal. Indep. Sys. Operator Corp.*, Docket No. ER14-1386-000, CAISO Tariff Amendments to Implement an Energy Imbalance Market, Feb. 28, 2014.

Washington, DC
Phone: (202) 383-2500
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II. BACKGROUND

On February 28, 2014, CAISO submitted tariff amendments to the Commission in order to provide other Balancing Authority Areas (“BAAs”) the opportunity to participate in the real-time market for imbalance energy that CAISO currently operates in its own BAA. The proposed tariff amendments set forth the rules and procedures governing the expansion of CAISO’s real-time market to allow for participation of other BAAs in this Energy Imbalance Market (“EIM”).⁴ As of this filing, while other BAAs have also expressed interest in joining the CAISO EIM, PacifiCorp is the farthest along the implementation path.

III. DESCRIPTION OF INTERVENORS

AWEA is a national trade organization that represents a broad range of entities with a common interest in encouraging the expansion and facilitation of wind energy resources in the United States. AWEA’s members include wind turbine manufacturers, component suppliers, project developers, project owners and operators, financiers, researchers, renewable energy supporters, utilities, marketers, customers and their advocates.

CalWEA is a non-profit trade association that supports the production of electricity through the use of wind generators, representing the interests of its members in various proceedings before California regulatory agencies and the CAISO. CalWEA’s members include project developers involved in developing wind projects to help meet California’s renewables

⁴ Unless the context suggests otherwise, Intervenor use “EIM” or “Energy Imbalance Market,” with initial capitalization, to refer to CAISO’s specific proposal presented in this proceeding, and “energy imbalance market,” without capitalization, to refer to the concept of such a market generally.

portfolio standard (“RPS”) program, existing wind project owners, support contractors, turbine manufacturers, and others.

CEERT is a non-profit public benefit organization providing technical, economic, and regulatory analysis to shape the public policies necessary to expand clean energy investments in California. CEERT’s members include environmental organizations and renewable energy developers, as well as utilities operating in California.

Renewable Northwest is a non-profit regional advocacy group that works to facilitate the expansion of responsibly developed renewable energy resources in the Northwest. Renewable Northwest’s members include renewable energy project developers and manufacturers, public and consumer interest groups, academic institutions, and others. The common goal of Renewable Northwest’s members is to promote the development of a cost-effective, reliable, and clean energy system for the betterment of the Northwest economy and environment.

IV. MOTION TO INTERVENE

Several of Intervenor’s members are transmission customers of CAISO and/or PacifiCorp that own and/or operate generation in those BAAs. These generators could serve as both purchasers and suppliers under CAISO’s proposed EIM. Moreover, Intervenor look to the EIM as a development that, among other benefits, could facilitate more efficient and cost-effective integration of Variable Energy Resources (“VERs”). As advocates for the development of clean energy resources and for the efficient and cost-effective integration of VERs into the grid, Intervenor have a direct, immediate and substantial interest in this proceeding. Intervenor’s interests cannot be adequately represented by any other party, and Intervenor will be directly affected by Commission action in this proceeding. Accordingly, Intervenor move to intervene in this proceeding.

V. COMMENTS

As discussed below, Intervenors support the development of energy imbalance markets in the West because they offer a cost-effective approach to increasing grid flexibility, improving the reliable operation of the grid, and more efficiently integrating VERs into the grid—all while saving ratepayers money. Intervenors also call attention to several noteworthy aspects of CAISO's EIM proposal, including (1) ensuring that the EIM enhances reliability while not diminishing the responsibility of individual balancing authorities to maintain reliability within their BAAs; (2) conducting an extensive stakeholder process; (3) providing a voluntary, low-cost pathway to join and exit the EIM; (4) fairly recognizing transmission rights and avoiding pancaked transmission rates; and (5) taking proactive steps to safeguard against market manipulation. Because of the expected benefits of energy imbalance markets—including the EIM proposed by CAISO—Intervenors support the Commission's timely facilitation of the CAISO EIM.

1. Energy Imbalance Markets Provide Substantial Economic Benefits.

Several studies have found significant economic benefits associated with using energy imbalance markets to dispatch the least-cost balancing resource within a given scheduling period. For example, a CAISO-PacifiCorp study found that the benefits of the CAISO EIM proposal range between \$21 million and \$129 million per year.⁵ In the Pacific Northwest, the Northwest Power Pool ("NWPP") found that a Northwest EIM would save consumers between \$70 million and \$90 million per year.⁶ Other studies have found evidence of similar magnitudes of benefits across various analyzed footprints.⁷

⁵ Energy and Environmental Economics, Inc., PacifiCorp – ISO Energy Imbalance Market Benefits at 4, 8 (Mar. 13, 2013), available at <http://www.caiso.com/Documents/PacifiCorp-ISOEnergyImbalanceMarketBenefits.pdf>.

⁶ Pacific Northwest National Laboratory, Analysis of Benefits of an Energy Imbalance Market in the NWPP at Section 5.1 (Oct. 2013), available at http://www.pnnl.gov/main/publications/external/technical_reports/PNNL-

Additional benefits will accrue from the netting effect of managing imbalances over larger geographic footprints and accessing the load and resource diversity across multiple BAAs. The diversity benefit associated with using energy imbalance markets decreases the amount of balancing reserves that need to be held in a given region, thereby increasing the utilization of existing resources and forestalling the need for new flexible generating plants.⁸ Both the economic dispatch and diversity benefits save ratepayers real money.

2. Energy Imbalance Markets Increase Grid Reliability.

Underlying the economic dispatch capability of an energy imbalance market is the capability of BAAs to view the real-time transmission flows across multiple neighboring BAAs; this capability provides a significant reliability benefit to the participating BAAs and the region. The increased visibility of real-time transmission flows offered by energy imbalance markets, coupled with the ability to incorporate a broader and more diverse pool of resources into managing imbalances on the grid, will make the grid more resilient to disturbances. For example, the 2011 Southwest Outage Report cites a lack of real-time visibility of transmission flows and a lack of situational awareness as underlying causes of the 2011 outage.⁹ Energy

[22877.pdf](#).

⁷ See, e.g., National Renewable Energy Laboratory, Examination of Potential Benefits of an Energy Imbalance Market in the Western Interconnection (Mar. 2013), available at <http://www.nrel.gov/docs/fy13osti/57115.pdf>; Federal Energy Regulatory Commission staff paper, Qualitative Assessment of Potential Reliability Benefits from a Western Energy Imbalance Market (Feb. 26, 2013), available at <http://www.aiso.com/Documents/QualitativeAssessment-PotentialReliabilityBenefits-WesternEnergyImbalanceMarket.pdf>.

⁸ For example, according to analysis conducted by the Northwest Power Pool, “if the [Northwest] region were to operate as a single BA with no operating or transmission restrictions the total amount of deployed in-hour reserve was reduced by 59% from 1871 MW to 771 MW.” Northwest Power Pool Members’ Market Assessment and Coordination Initiative, Final Phase 1 Report at 3-4 (Oct. 21, 2013), available at <http://www.nwpp.org/documents/MC-Public/MC-Initiative-Final-Phase-1-Report-Final-for-Posting.pdf>. There are 38 total BAAs in the Western Interconnection. Generally speaking, the more BAAs that participate in an energy imbalance market, the greater the economic dispatch and diversity benefits.

⁹ Federal Energy Regulatory Commission and North American Reliability Corporation Staff Report, Arizona-Southern California Outages on September 8, 2011: Causes and Recommendations at 5-7 (Apr. 2012), available at <https://www.ferc.gov/legal/staff-reports/04-27-2012-ferc-nerc-report.pdf>.

imbalance markets provide their participants with capabilities that help avoid these sorts of outages and thereby increase the reliability of the grid.

Energy imbalance markets do not supplant the responsibility of individual BAA participants to ensure reliability. Rather, energy imbalance markets optimize the reliable management of imbalances and make such management more efficient across a broader footprint. With respect to the CAISO EIM, each individual BAA, or “EIM Entity,” will still be required to demonstrate resource sufficiency prior to the start of the EIM operating period.¹⁰ This provision ensures that each EIM participant will bring sufficient resources into the market. Once resource sufficiency is assured, the EIM will allocate the diversity benefits back to the individual participants and optimize the dispatch required to manage the remaining imbalances.¹¹ Therefore, if a disruption to the EIM operations were to occur, participants would be positioned to fall back to the status quo management of their individual BAAs in order to maintain reliability. For these reasons, it is not necessary to conduct a resource sufficiency test for the day-ahead time frame in order to ensure the EIM’s reliable operation.

3. CAISO and PacifiCorp Have Conducted Extensive Stakeholder Processes.

Intervenors appreciate the extensive stakeholder processes conducted by CAISO and PacifiCorp in developing the EIM. Renewable Northwest and CalWEA have participated in several CAISO and/or PacifiCorp stakeholder meetings, and believe that they are doing a good job addressing stakeholder concerns. Both groups are currently participating in CAISO’s selection process for determining the makeup of the transitional governance committee, which will oversee the EIM during its first year of operation. This effort appears to be on schedule to establish a diverse group of independent representatives from around the West. These

¹⁰ *Cal. Indep. Sys. Operator Corp.*, Docket No. ER14-1386-000, CAISO Tariff Amendments to Implement an Energy Imbalance Market – Transmittal Letter at 3, 28, Feb. 28, 2014.

¹¹ *Id.* at 28.

representatives will continue to provide broad stakeholder input and oversight as the EIM accepts new participants.

4. The CAISO EIM is Voluntary and Provides for Low-Cost Entry and Exit.

Participation in the CAISO EIM is voluntary. Each BAA makes its own determination of the costs and benefits associated with participating in the EIM. Participants pay a modest startup cost at the beginning, determined through the standard implementation agreement; there is no exit fee if the participant later decides to discontinue its participation for whatever reason.¹² As such, entities that are not in favor of this EIM do not have to participate and can continue to operate under the current market structure.

5. The CAISO EIM Fairly Recognizes Transmission Rights.

Transmission access to the CAISO EIM will be provided under the applicable transmission service provider's tariff.¹³ Intervenors find that the EIM market design fairly accounts for transmission rights without creating any transmission rate pancakes. In addition, for the first year of operation, CAISO proposes to not charge an incremental rate for the use of transmission to support EIM transfers between participating BAAs. Intervenors find that this approach is beneficial to the smooth and timely launch of the EIM. We understand that the CAISO will work with stakeholders to consider the appropriateness of not charging for the transmission to support the EIM as it solidifies and expands.

6. CAISO Has Worked to Safeguard Against Market Manipulation.

CAISO proposes to use its existing market power mitigation tools to monitor and address any detection of market power in the EIM.¹⁴ CAISO has worked closely and proposes to continue to collaborate with its Department of Market Monitoring and Market Surveillance

¹² *Id.* at 12.

¹³ *Id.* at 36.

¹⁴ *Id.* at 40.

Committee to identify and address any risks of exposure to market manipulation. CAISO has committed to continue its examination of potential exposure to market power abuses and is currently developing solutions to concerns raised about potential BAA-wide market power. CAISO's efforts, coupled with the Commission's own authority in this area, should offer a range of tools to protect against and appropriately respond to market power issues, if such issues should arise.

7. The Commission Should Support the CAISO EIM Effort To Be Fully Operational by October 1, 2014.

For all of the above stated reasons, the Commission should support the CAISO EIM effort such that it can be up and running and fully operational by CAISO's target operations date of October 1, 2014. CAISO and PacifiCorp have already conducted extensive modeling and a lengthy stakeholder process. In addition, they intend to run a market simulation between July and October of 2014. The various safeguards, including resource sufficiency requirements and the ability to return to status-quo management of individual BAA imbalances, all provide assurance that the October start date is appropriate. Delaying the implementation of this EIM would delay the realization of significant financial and reliability benefits to consumers in the West. We encourage the Commission to embrace the October 1, 2014 start date so that the region can begin enjoying the economic, environmental, and reliability benefits of the EIM.

Respectfully submitted,

By: /s/ Gene Grace

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Dated: March 31, 2014

CERTIFICATE OF SERVICE

I hereby certify that I have this day served the foregoing document upon each person designated on the official service lists compiled by the Secretary in these proceedings.

Dated this March 31, 2014

By: /s/ Gene Grace

Federal Energy Regulatory Commission, Docket ER14-1578

Comments in support of PacifiCorp's changes to their OATT necessary to participate in the energy imbalance market

- **Iberdrola Renewables**
- **Public Utilities Commissioner's EIM Working Group, Travis Kavulla (MT), Chair**
- **American Wind Energy Association, California Wind Energy Associations, Center for Energy Efficiency and Renewable Technologies and Renewable Northwest**

**UNITED STATES OF AMERICA
BEFORE THE
FEDERAL ENERGY REGULATORY COMMISSION**

PacifiCorp)
) **Docket No. ER14-1578-000**
)

**MOTION TO INTERVENE AND COMMENTS
OF IBERDROLA RENEWABLES**

Pursuant to Rules 212 and 214¹ of the Federal Energy Regulatory Commission’s (“FERC” or “Commission”) Rules of Practice and Procedure, the Commission’s Combined Notice of Filings² and the Commission’s Notice of Extension of Time,³ Iberdrola Renewables, LLC (“Iberdrola Renewables”) hereby moves to intervene and respectfully submits these comments in response to PacifiCorp’s March 25, 2014 Filing⁴ in the above-captioned proceeding.

I. EXECUTIVE SUMMARY

It is no secret that the Western energy markets, outside of the state of California, are inefficient. More than 30 Balancing Authorities operate independently in the West with little ability to transact across borders within the operating hour. Transactions occur bilaterally and largely on an hourly basis. Transmission is scheduled physically and is not optimized. Dispatchable generation resources have limited options to offer and monetize the flexible capability of their resources into the market. Price signals do not exist to incent responsible

¹ 18 C.F.R. §§ 385.212, 385.214 (2013).

² *PacifiCorp*, Docket No. ER14-1578-000, Combined Notice of Filings (Mar. 25, 2014).

³ *PacifiCorp*, Docket No. ER14-1578-000, Notice of Extension of Time (Apr. 9, 2014).

⁴ *PacifiCorp*, Docket No. ER14-1578-000, Filing for Revisions to the OATT to Implement the Energy Imbalance Market (Mar. 25, 2014) (“PacifiCorp Filing”).

scheduling behavior by variable energy resource (“VER”) generators. This environment is inefficient and not well positioned to integrate VERs or minimize costs to consumers. Despite these deficiencies, a clear preference for “business as usual” persists among some entities in the region, primarily in the Northwest. Initiatives purportedly seeking increased coordination and efficiency for Western energy markets have repeatedly delivered nothing more than lengthy PowerPoint presentations and endless meetings.⁵

The effort of the California ISO and PacifiCorp to develop an Energy Imbalance Market (“EIM”) with a planned in-service date that is deliverable within commercially reasonable timeframes represents the most credible, concrete initiative in over two decades to help the West take its first meaningful step toward a more efficient market structure. Considerable thought has gone into the design of this new EIM, with feedback from robust stakeholder processes solicited and incorporated. While market design efforts can be challenging, particularly when trying to overlay a market structure on top of an existing physical transmission/bilateral transaction structure, PacifiCorp’s proposed OATT revisions effectuate a reasonable and robust structure to test a new energy market concept in the West. Accordingly, Iberdrola Renewables offers its comments herein in support of this important effort.

⁵ See e.g., *Inquiry Concerning the Commission’s Policy on Independent System Operators*, Docket No. PL98-5-000, Notice of Conference at 2 (Mar. 13, 1998) (describing efforts of utilities in the Pacific Northwest to negotiate the formation of an ISO (the failed IndeGO)); WECC RTO Presentation, Western Electricity Coordinating Council, RTO West Update (Apr. 9-11, 2003), available at <http://www.wecc.biz/committees/memrep/041003/Lists/Presentations> (last visited Mar. 26, 2014)(describing efforts to develop the failed RTO West); see also generally Commission Docket Nos. RT01-35-000 (initial utility filings related to the failed RTO West) and EL05-106-000 (initial utility filings related to the failed Grid West).

II. COMMUNICATIONS

The principal office of Iberdrola Renewables is located at 1125 NW Couch Street, Suite 700, Portland, Oregon 97209. All pleadings, orders, correspondence, and communications regarding this motion should be directed to the following persons:⁶

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III. MOTION TO INTERVENE

Iberdrola Renewables is a non-transmission owning public utility engaged, directly and through its subsidiaries and affiliates, in the development of wind and thermal energy facilities, natural gas and electric marketing, gas storage and hub services, and in providing other energy services. Iberdrola Renewables, with its affiliates and subsidiaries, is the second leading developer and operator of wind energy projects in the United States, with approximately 5,700 MW of wind energy generating capacity.

Iberdrola Renewables develops, owns and operates wind energy facilities within the Northwest and participates regularly in the region's energy trading markets, such as they exist. Iberdrola Renewables anticipates participating in the proposed EIM. Iberdrola Renewables has a direct interest in this proceeding and no other party can adequately represent its interest. For the foregoing reasons Iberdrola Renewables respectfully requests that the Commission grant this motion to intervene and permit Iberdrola Renewables to participate as a party in the above-captioned proceeding.

⁶ Designated for service pursuant to Rule 2010, 18 C.F.R. §385.2010 (2013).

IV. COMMENTS

A. PacifiCorp's Proposed OATT Revisions Represent a Reasonable Approach to Implement the EIM

Attachment T of PacifiCorp's OATT outlines the requirements and responsibilities of customers with respect to the EIM. These include providing registration data, planned and forced outage information, and forecast data. These requirements align well with Iberdrola Renewables' philosophy of efficient integration of VERs and represent a reasonable structure under which to implement the EIM. Through its experience in self-providing generation imbalance for its fleet of wind resources in the Pacific Northwest, Iberdrola Renewables has gained an appreciation for the importance of visibility of expected generation, accurate forecast data and market fundamentals. As the EIM Entity, PacifiCorp must have access to this information for all generators located within its control area in order to most effectively optimize the EIM operation.

Iberdrola Renewables has also consistently promoted the importance of proper price signals for efficient system operations. Generators – both non-dispatchable and dispatchable – must have proper price signals to ensure responsible scheduling and operation as well as to provide sufficient incentive to offer flexibility into the market. PacifiCorp's proposal to utilize the EIM to provide service to customers under Schedule 4 and Schedule 9 at the resulting EIM Locational Marginal Prices will improve the quality of price signals sent to generators within PacifiCorp's control area footprint.

B. PacifiCorp's Proposal to Utilize Firm Transmission Rights for EIM Transfers is Appropriate and Does Not Constitute a Transfer or Reassignment

Under the proposed structure, a PacifiCorp Interchange Rights Holder can voluntarily make its transmission capacity available to the EIM for EIM Transfers. Under PacifiCorp's

proposal, once transmission rights are made available for EIM Transfers, the capacity will be utilized by the Market Operator based upon the least-cost economic dispatch of all resources offered into the EIM. Some stakeholders have argued this provision is contrary to open access principles and constitutes an assignment of transmission rights to the owners of the resources which are actually dispatched in real-time for EIM Transfers. These stakeholders argue that a PacifiCorp Interchange Rights Holder cannot make transmission rights available for EIM Transfers in this manner. A potential consequence of these arguments is that PacifiCorp will not be able to make any transmission rights available for EIM Transfers, which would be a significant restriction on the potential benefits available through EIM. This is because PacifiCorp will not know prior to any Operating Hour which resources will be dispatched for EIM and, consequently, cannot effectuate a reassignment of transmission rights in the manner contemplated by the *pro forma* OATT. FERC's open access requirements were put in place to ensure the best and most efficient use of transmission capacity by requiring transmission capacity is made available to the market. By voluntarily making its transmission capacity available to the EIM, a PacifiCorp Interchange Rights Holder has elected to use its transmission capacity in a way that supports the best and most efficient use of the system through the optimized dispatch system of the EIM.

C. Commercial Model Disruptions Do Not Equate to Discrimination

The EIM may be bad for some western energy market participants but it will benefit consumers. Market inefficiencies harm consumers but benefit a few market participants. As with all market environments, players leverage assets, information, and trading positions to extract value. The current structure in the West creates numerous opportunities for entities to benefit from the limited liquidity and suppressed competition that inevitably occurs in an hourly,

bilateral market structure. A more efficient Western energy market structure will threaten commercial models that thrive on the existing inefficiency. This fact has been used by EIM detractors to advance claims of discrimination resulting from the planned EIM. It is important that these claims be seen for what they are – attempts to thwart functioning markets in order to preserve existing advantages derived from the current suboptimal bilateral market.

Iberdrola Renewables holds considerable transmission rights on the California Oregon Intertie and could credibly express concern regarding potential impacts to its existing contractual rights. Iberdrola Renewables has carefully evaluated the transmission usage components of the proposed EIM and has determined that the market design fairly recognizes transmission rights of entities transacting within the California ISO and the EIM Entities without undue harm or diminution of these existing transmission rights. As with all significant market changes, market participants will be required to discover new ways to create value under the EIM environment. Iberdrola Renewables welcomes this challenge and is anxious to build on the progress of this new market design to achieve more efficient integration of all energy resources.

D. The Proposed EIM Resource Sufficiency Framework is Adequate

The California ISO has designed a flexible ramping constraint test to ensure each EIM Entity has the capacity to meet potential variations in generation output or load.⁷ If entities fail this test, the California ISO will limit transfers of energy between the EIM Entity and the California ISO at the value for the last 15-minute interval prior to the failure.⁸ This real-time test is sufficient to ensure EIM Entities are not “leaning” on the California ISO for capacity required to balance load and generation variability within the EIM Entity footprint.

⁷ See PacifiCorp Filing at 51; *id.* at Proposed Tariff Revision §§ 1.14A, 8.5.6.

⁸ See *Cal. Indep. System Operator Corp.*, Docket No. ER14-1386-000, ISO Tariff Amendments to Implement an Energy Imbalance Market at 28 (Feb. 28, 2014); *id.* at Proposed Tariff Revision § 11.25.3.

The EIM is a real-time energy market. Suggestions for expanded resource sufficiency tests into the Day Ahead timeframe are out of scope and inappropriate. Further, participating EIM Entities retain all existing responsibility for meeting Balancing Authority reliability standards under the proposed EIM framework.⁹ It is unrealistic to suggest that these Balancing Authorities would jeopardize their ability to meet required reliability standards in an effort to avoid securing appropriate capacity to balance their systems.

E. PacifiCorp’s Decision Not to Expand the EIM to Include New Intertie Boundaries for Other Markets is Prudent

Iberdrola Renewables supports PacifiCorp’s decision not to expand the EIM to include new intertie boundaries for other ISO markets. The development and implementation of this new market mechanism in the Western energy market is a substantial undertaking. Further complicating this effort by expanding the EIM footprint or enabling additional markets at PacifiCorp’s intertie boundaries is unnecessary and may impede timely and successful implementation of this important initiative.

F. The Addition of Properly Designed Scheduling Accuracy Metrics for Variable Energy Resources May Be Appropriate

Iberdrola Renewables has consistently supported market structures that require responsible scheduling behavior of VERs. Although it is unlikely that a VER would purposely overschedule its generation to somehow game the new EIM, and the Commission has significant

⁹ See *id.* 3, 10, 11; *id.* at Proposed Tariff Revision § 29.4(b)(1)(B) (“Nothing in Section 29 shall alter an EIM Entity’s responsibilities under NERC Reliability Standards as the Balancing Authority for the EIM Entity Balancing Authority Area and, to the extent applicable, as the transmission operator for transmission facilities within its Balancing Authority Area.”); *id.* at EIM Entity Agreement § 2.1 (“The Parties are individually responsible for the efficient use and reliable operation of their Balancing Authority Areas consistent with the Reliability Standards established by the Western Electricity Coordinating Council (‘WECC’) and the North American Electric Reliability Corporation (‘NERC’), and in accordance with their respective tariffs on file with the Federal Energy Regulatory Commission (‘FERC’). Nothing in this Agreement is intended to change, supersede, or alter either Party’s obligations to abide by NERC and WECC Reliability Standards or to provide open and non-discriminatory transmission access in accordance with the terms of their respective FERC tariffs.”).

penalty authority in the event an entity engages in market manipulation,¹⁰ Iberdrola Renewables agrees it may be appropriate to implement some level of scheduling accuracy requirements for VERs. The California ISO is implementing one such requirement for imported VERs as part of its new FERC Order No. 764 market implementation.¹¹ VER imports are subject to potential decline penalties if they demonstrate a pattern of overscheduling generation.¹² Iberdrola Renewables believes a similar metric could be added to the EIM design to ensure responsible behavior and further mitigate concern of inappropriate capacity leaning on the system.

V. CONCLUSION

Western energy markets are woefully inefficient and continue to lag far behind the operational improvements that have been implemented elsewhere in organized markets across most of the United States. PacifiCorp's proposed OATT revisions to implement the EIM represent a thoughtful and robust design that is sufficient to test a new market concept in the West. As with all energy markets, the design can be revised and improved over time as operational experience and data become available. Iberdrola Renewables strongly supports the implementation of the EIM and looks forward to the improved efficiency and optimization that will ultimately benefit market participants and consumers.

¹⁰ See e.g., *Prohibition of Energy Market Manipulation*, Order No. 670, 114 FERC ¶ 61,047 at P 16 (2006).

¹¹ See *Cal. Indep. Sys. Operator Corp.*, Tariff Revisions to Comply with Order No. 764, Docket No. ER14-495-000 at Proposed Tariff Revision § 5.2.1 (Nov. 27, 2013).

¹² See *id.*

WHEREFORE, Iberdrola Renewables respectfully submits these comments for the Commission's consideration.

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April 25, 2014

CERTIFICATE OF SERVICE

I hereby certify that I have on this 25th day of April 2014 served the foregoing document, via electronic mail, upon each person designated on the official service list compiled by the Secretary in this Docket No. ER14-1578-000 proceeding.

/s/ Toan-Hao B. Nguyen

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Public Utility Commissioners' EIM Working Group
Commissioner Travis Kavulla (MT), Chair

April 23, 2014

The Honorable Cheryl A. LaFleur, Acting Chair
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RE: PUC EIM Group Comments on the PacifiCorp Filing for Revisions to the OATT to Implement the Energy Imbalance Market, Docket No. ER14-1578

Dear Chair LaFleur,

The Public Utility Commissioners' EIM Working Group (PUC EIM Group) appreciates the opportunity to comment on PacifiCorp's proposed OATT revisions submitted to the FERC on March 25, 2014.

The PUC EIM Group, facilitated by the Western Interstate Energy Board, was formed in late 2011 to investigate the potential benefits and costs of a regional EIM for ratepayers and to foster a multi-state dialogue between regulators and the industry. A primary objective of the Group is to support the development of strategies to optimize the reliability and efficiency of the electric grid via well-informed collaboration that considers the interests of a broad variety of stakeholders. The Group includes utility commissioners from Arizona, California, Colorado, Idaho, Montana, New Mexico, Nevada, Oregon, South Dakota, Utah, Washington, and Wyoming.

The PUC EIM Group has commented on various aspects of PacifiCorp's proposed tariff revisions and the broader EIM market design throughout the CAISO and PacifiCorp stakeholder processes. Primarily, our comments have focused on two areas: access to the market and governance. We address the former in these comments, and refer interested parties to our comments in the CAISO's EIM tariff filing for our views on the latter.¹

On the issue of market access, the PUC EIM Group has advocated that transmission tariffs should be designed to allow generators to participate in an EIM without undue restrictions because the benefits of an EIM grow with the participation of a more diverse pool of resources. We believe the PacifiCorp tariff filing largely accomplishes this objective. It allows participation

¹ [PUC EIM Group Comments filed March 31, 2014 under FERC Docket No. ER14-1386 on the CAISO Proposed Tariff Amendments to Implement an Energy Imbalance Market.](#)

of resources without undue requirements, and as the stakeholder process unfolded the draft tariff moved in a positive direction toward facilitating these resources' participation. For instance, PacifiCorp has removed a requirement that would have required resources to hold firm transmission rights to participate in an EIM. Instead, participating resources would only be required to purchase hourly transmission service for the hour in which the resource is dispatched by the EIM. Once operational experience of the EIM is acquired, PacifiCorp should consider reasonable improvements that would support the twin principles of market access and cost-based transmission rates.

The PUC EIM Group supports deferring for a year the consideration of creating an imbalance-energy-specific transmission usage charge. The tariff proposals suggest that the transfer of imbalance energy between CAISO and PAC would be accomplished by the use of dedicated transmission capacity for those specific purposes (as opposed to the within-PacifiCorp use of hourly reservations of transmission by participating resources). In this way, the proposed EIM departs from the flow-based approach which is common in RTOs.

It is not yet clear how much energy will transact through an EIM, and what impacts that will have on those within and outside the CAISO and PacifiCorp footprints. It would be difficult to know at this point what a reasonable, cost-based transmission usage free for imbalance energy would look like. This is an important topic that deserves examination, but only after base data surfaces through the market's operation. Establishing a cost for imbalance transactions between the CAISO and PacifiCorp's BAs now, other than the reciprocal approach proposed, would inhibit the more liquid operations of an EIM. Therefore, the PUC EIM Group respectfully requests that the FERC direct PacifiCorp and the CAISO to commence, as part of an open stakeholder process, the development of cost-based EIM transmission usage charges and to file OATT revisions with the FERC within a specific period of time after implementation of the EIM.

We appreciate this opportunity to offer comments and look forward to continuing to engage in the process.

Sincerely,



Commissioner Travis Kavulla (MT)
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Cc: PUC EIM Group

**UNITED STATE OF AMERICA
BEFORE THE
FEDERAL ENERGY REGULATORY COMMISSION**

PacifiCorp

Docket No. ER14-1578-000

**MOTION FOR LEAVE TO INTERVENE AND COMMENTS
OF THE AMERICAN WIND ENERGY ASSOCIATION,
THE CALIFORNIA WIND ENERGY ASSOCIATION,
THE CENTER FOR ENERGY EFFICIENCY AND RENEWABLE TECHNOLOGIES,
AND RENEWABLE NORTHWEST**

Pursuant to Rules 212 and 214 of the Rules of Practice and Procedure for the Federal Energy Regulatory Commission (“FERC” or “Commission”),¹ and the Commission’s April 9, 2014 Notice in the above-captioned proceeding, the American Wind Energy Association (“AWEA”), the California Wind Energy Association (“CalWEA”), the Center for Energy Efficiency and Renewable Technologies (“CEERT”), and Renewable Northwest² (collectively, “Intervenors”) respectfully submit this Motion for Leave to Intervene and Comments in response to PacifiCorp’s proposed tariff revisions submitted in this docket.³

I. CORRESPONDENCE AND COMMUNICATIONS

All correspondence and communications related to this proceeding should be addressed to the following persons, who should be placed on the Commission’s official service list and designated for service pursuant to Rule 2010, 18 C.F.R. § 385.2010:

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¹ 18 C.F.R. §§ 385.212, .214 (2013).

² In recognition of its twentieth anniversary, Renewable Northwest Project recently dropped the “Project” from its name and is now known as “Renewable Northwest.”

³ See *PacifiCorp.*, Docket No. ER14-1578-000, Filing for Revisions to the OATT to Implement the Energy Imbalance Market, Mar. 25, 2014.

II. BACKGROUND

On March 25, 2014, PacifiCorp submitted tariff revisions to the Commission in order to enable it to participate in the California Independent System Operator's ("CAISO") proposed Energy Imbalance Market ("EIM")⁴ as an "EIM Entity."⁵ Under the CAISO's proposal, an "EIM Entity" is a Balancing Authority ("BA") that enters into the CAISO's *pro forma* EIM Entity Agreement to enable the EIM to occur in its Balancing Authority Area ("BAA").⁶ PacifiCorp's two BAAs—PacifiCorp East and PacifiCorp West—would be the first EIM Entities to participate in the CAISO EIM.⁷ For simplicity, we refer to PacifiCorp's two BAAs as one EIM Entity.

III. DESCRIPTION OF INTERVENORS

AWEA is a national trade organization that represents a broad range of entities with a common interest in encouraging the expansion and facilitation of wind energy resources in the United States. AWEA's members include wind turbine manufacturers, component suppliers, project developers, project owners and operators, financiers, researchers, renewable energy supporters, utilities, marketers, customers and their advocates.

CalWEA is a non-profit trade association that supports the production of electricity through the use of wind generators, representing the interests of its members in various proceedings before California regulatory agencies and the CAISO. CalWEA's members include project developers involved in developing wind projects to help meet California's renewables

⁴ Unless the context suggests otherwise, intervenors use "EIM" or "Energy Imbalance Market," with initial capitalization, to refer to CAISO's specific proposal presented in docket ER14-1386-000, and "energy imbalance market," without capitalization, to refer to the concept of such a market generally.

⁵ See *Cal. Indep. Sys. Operator Corp.*, Docket No. ER14-1386-000, CAISO Tariff Amendments to Implement an Energy Imbalance Market, Feb. 28, 2014. Intervenor comments in support of the CAISO's EIM effort in docket ER14-1386-000. *Cal. Indep. Sys. Operator Corp.*, Docket No. ER14-1386-000, Motion for Leave to Intervene and Comments of the American Wind Energy Association, the California Wind Energy Association, the Center for Energy Efficiency and Renewable Technologies, and Renewable Northwest, Mar. 31, 2014.

⁶ *Cal. Indep. Sys. Operator Corp.*, Docket No. ER14-1386-000, Transmittal Letter at 15.

⁷ *PacifiCorp.*, Docket No. ER14-1578-000, Transmittal Letter at 1 ("PAC Transmittal Letter").

portfolio standard program, existing wind project owners, support contractors, turbine manufacturers, and others.

CEERT is a non-profit public benefit organization providing technical, economic, and regulatory analysis to shape the public policies necessary to expand clean energy investments in California. CEERT's members include environmental organizations and renewable energy developers, as well as utilities operating in California.

Renewable Northwest is a non-profit regional advocacy group that works to facilitate the expansion of responsibly developed renewable energy resources in the Northwest. Renewable Northwest's members include renewable energy project developers and manufacturers, public and consumer interest groups, academic institutions, and others. The common goal of Renewable Northwest's members is to promote the development of a cost-effective, reliable, and clean energy system for the betterment of the Northwest economy and environment.

IV. MOTION TO INTERVENE

Several of Intervenors' members are transmission customers of CAISO and/or PacifiCorp that own and/or operate generation in those BAAs. These generators could serve as both purchasers and suppliers of energy imbalance services under the proposed EIM. Moreover, Intervenors look to the EIM as a development that, among other benefits, could facilitate more efficient and cost-effective integration of Variable Energy Resources ("VERs"). As advocates for the development of clean energy resources and for the efficient and cost-effective integration of VERs into the grid, Intervenors have a direct, immediate and substantial interest in this proceeding. Intervenors' interests cannot be adequately represented by any other party, and Intervenors will be directly affected by Commission action in this proceeding. Accordingly, Intervenors move to intervene in this proceeding.

V. COMMENTS

As discussed below, Intervenors support the development of energy imbalance markets in the West (including CAISO's proposed EIM) because they offer a cost-effective approach to increasing grid flexibility, improving the reliable operation of the grid, and more efficiently integrating VERs into the grid—all while saving ratepayers money. Below, Intervenors call attention to certain aspects of PacifiCorp's proposal to participate in the CAISO EIM as an EIM Entity, including (1) providing economic dispatch and diversity benefits; (2) enhancing grid reliability; and (3) appropriately using as-available transmission for EIM dispatch. Intervenors consider PacifiCorp's proposed revisions to its Open Access Transmission Tariff ("OATT") to be a reasonable and helpful step toward facilitating more efficient and cost-effective integration of VERs. Accordingly, Intervenors support the Commission's timely approval of PacifiCorp's proposed tariff revisions to enable PacifiCorp to participate in the CAISO EIM as an EIM Entity.

1. PacifiCorp's Participation in the CAISO EIM Would Provide Substantial Economic Benefits to Ratepayers.

There are substantial economic benefits to ratepayers associated with energy imbalance markets generally, and with the proposed CAISO EIM. Indeed, several studies have found significant economic benefits associated with using energy imbalance markets to dispatch the least-cost balancing resource within a given scheduling period. For example, a CAISO-PacifiCorp study found that the benefits of the CAISO EIM proposal range between \$21 million and \$129 million per year.⁸ In the Pacific Northwest, the Northwest Power Pool ("NWPP") found that a Northwest EIM would save consumers between \$70 million and \$90 million per

⁸ Energy and Environmental Economics, Inc., PacifiCorp – ISO Energy Imbalance Market Benefits at 4, 8 (Mar. 13, 2013), available at <http://www.aiso.com/Documents/PacifiCorp-ISOEnergyImbalanceMarketBenefits.pdf>.

year.⁹ Other studies have found evidence of similar magnitudes of benefits across various analyzed footprints.¹⁰

Additional benefits will accrue from the netting effect of managing imbalances over larger geographic footprints and accessing the load and resource diversity across multiple BAAs. The diversity benefit associated with using energy imbalance markets decreases the amount of balancing reserves that need to be held in a given region, thereby increasing the utilization of existing resources and forestalling the need for new flexible generating plants.¹¹ Both the economic dispatch and diversity benefits save ratepayers real money, and we expect that PacifiCorp's transmission customers will benefit from the expanded pool of resources that will be available to provide imbalance service once the CAISO EIM is operational.

2. The CAISO-PacifiCorp EIM Would Increase Grid Reliability.

Underlying the economic dispatch capability of an energy imbalance market is the capability of BAAs to view the real-time transmission flows across multiple neighboring BAAs; this capability provides a significant reliability benefit to the participating BAAs and the region. The increased visibility of real-time transmission flows offered by energy imbalance markets, coupled with the ability to incorporate a broader and more diverse pool of resources into managing imbalances on the grid, will make the grid more resilient to disturbances. Indeed, as discussed in the Commission staff's 2011 Southwest Outage Report, a lack of real-time visibility

⁹ Pacific Northwest National Laboratory, Analysis of Benefits of an Energy Imbalance Market in the NWPP at Section 5.1 (Oct. 2013), available at http://www.pnnl.gov/main/publications/external/technical_reports/PNNL-22877.pdf.

¹⁰ See, e.g., National Renewable Energy Laboratory, Examination of Potential Benefits of an Energy Imbalance Market in the Western Interconnection (Mar. 2013), available at <http://www.nrel.gov/docs/fy13osti/57115.pdf>.

¹¹ For example, according to analysis conducted by the NWPP, "if the [Northwest] region were to operate as a single BA with no operating or transmission restrictions the total amount of deployed in-hour reserve was reduced by 59% from 1871 MW to 771 MW." NWPP Members' Market Assessment and Coordination Initiative, Final Phase 1 Report at 3-4 (Oct. 21, 2013), available at <http://www.nwpp.org/documents/MC-Public/MC-Initiative-Final-Phase-1-Report-Final-for-Posting.pdf>. There are 38 total BAAs in the Western Interconnection. Generally speaking, the more BAAs that participate in an energy imbalance market, the greater the economic dispatch and diversity benefits.

of transmission flows and a lack of situational awareness were underlying causes of the 2011 outage.¹² Energy imbalance markets provide their participants with capabilities that help avoid these sorts of outages and thereby increase the reliability of the grid.¹³

PacifiCorp's proposed tariff revisions would also improve visibility and situational awareness with respect to generation within PacifiCorp's BAAs. As set forth in Attachment T of PacifiCorp's OATT, PacifiCorp would require transmission customers to provide registration data, planned and forced outage information, and forecast data, among other information.¹⁴ It is reasonable for PacifiCorp to require this information in order to increase grid reliability and best optimize the EIM operation.

3. PacifiCorp's Proposal to Use As-Available Transmission for EIM Dispatch Is Appropriate and Does Not Constitute a Sale or Reassignment Under OATT Section 23.

Under PacifiCorp's proposal, PacifiCorp transmission customers have the ability to voluntarily make their reserved firm transmission capacity available for EIM Transfers; such an election would not constitute a sale or reassignment of transmission service under Section 23 of the OATT.¹⁵ Intervenors find that PacifiCorp's proposal is consistent with the Commission's open access requirements, allowing transmission customers to elect to use their transmission capacity in a manner that supports the most efficient use of the system through the EIM's optimized dispatch system.

¹² Federal Energy Regulatory Commission and North American Reliability Corporation Staff Report, Arizona-Southern California Outages on September 8, 2011: Causes and Recommendations at 5-7 (Apr. 2012), available at <https://www.ferc.gov/legal/staff-reports/04-27-2012-ferc-nerc-report.pdf>.

¹³ See, e.g., Federal Energy Regulatory Commission staff paper, Qualitative Assessment of Potential Reliability Benefits from a Western Energy Imbalance Market (Feb. 26, 2013), available at <http://www.aiso.com/Documents/QualitativeAssessment-PotentialReliabilityBenefits-WesternEnergyImbalanceMarket.pdf>.

¹⁴ PAC Transmittal Letter at 21, 27-28.

¹⁵ See, e.g., *id.* at 4, 65-66.

VI. CONCLUSION

As discussed herein and in our comments on CAISO's EIM filing, the Commission should approve PacifiCorp's proposed tariff revisions so that PacifiCorp can participate as an EIM Entity once the CAISO EIM is operational. CAISO and PacifiCorp have already conducted extensive modeling and a lengthy stakeholder process in connection with the EIM's development. Those efforts have helped to illuminate the economic and reliability benefits associated with participating in the CAISO EIM. PacifiCorp's proposed revisions to its OATT are reasonable and would help PacifiCorp facilitate the efficient and cost-effective integration of VERs, among other benefits. We encourage the Commission to approve PacifiCorp's proposed tariff revisions (and CAISO's proposed EIM) so that the region can begin enjoying the economic, environmental, and reliability benefits of the EIM.

Respectfully submitted,

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Dated: April 25, 2014

CERTIFICATE OF SERVICE

I hereby certify that I have this day served the foregoing document upon each person designated on the official service lists compiled by the Secretary in these proceedings.

Dated this April 25, 2014

By: /s/ Dina Dubson _____