

**BEFORE THE NEW MEXICO PUBLIC REGULATION COMMISSION**

IN THE MATTER OF A COMMISSION )  
INVESTIGATION INTO THE FEASIBILITY )  
OF PUBLIC SERVICE COMPANY OF NEW )  
MEXICO BECOMING A MEMBER OF THE )  
SOUTHWEST POWER POOL )  
\_\_\_\_\_ )

Case No. 17-00261-UT

**Comments of the California Independent System Operator Corporation**

The California Independent System Operator Corporation (ISO) respectfully submits these comments in the inquiry opened by the New Mexico Public Regulation Commission to investigate the feasibility, including an analysis of costs and benefits, of Public Service Company of New Mexico (PNM) becoming a member of the Southwest Power Pool (SPP), the western Energy Imbalance Market (western EIM), or another organization such as the Mountain West Transmission Group (MWTG). The ISO stands ready to provide assistance to the Commission and PNM as they evaluate all options for the benefit of New Mexico consumers.

Critical to any decision to participate in an organized market is the cost/benefit ratio of the model the transmission service provider elects. For example, the western EIM provides a model that offers the flexibility for a transmission service provider to receive imbalance services with the option to take additional services in the future. In contrast, electing to immediately join a regional transmission organization as a full participant may create costs for services a transmission service provider either does not need or cannot take without the development of costly transmission infrastructure. During a period of time in which proliferation of distributed energy resources is increasing throughout the West, transmission service providers should first look for opportunities to maximize the use of existing transmission.

**I. The ISO supports the development of organized markets in the West**

The ISO operates day-ahead and real-time wholesale energy and ancillary services markets to reliably manage the high-voltage transmission system in the West. Over 180 entities in the West participate in the ISO's markets and 17 entities have turned their transmission over to ISO operational control as full participating transmission owners. The ISO's energy markets have developed over time to meet changing conditions in the West, including more diverse resource portfolios, evolution of state policy, and more consumer choices. In recent years, the ISO has enhanced these markets to enable greater participation by solar and wind resources as well as distributed energy resources. The proliferation of renewable resources and distributed energy resources will likely continue throughout the West and it is critical to ensure market structures exist to integrate these resources in a cost effective and reliable manner.

**II. PNM is part of an interconnected electric grid in the West and can benefit from participation in western markets**

PNM is in a unique situation to take advantage of increased market opportunities in the West. Its generation portfolio adds diversity to the total resource mix. PNM's load also peaks earlier in the day than the majority of load in the West and its robust transmission interconnections with its neighbors in the West can provide a conduit to make market exchanges that are cost effective and bring benefit to consumers in New Mexico.

PNM's resource portfolio is a mix of conventional fossil resources, nuclear, and renewables. This portfolio, combined with its geographic location, offers attractive trade opportunities that can benefit its customers. For example, access to abundant

hydroelectric resources from the Pacific Northwest would offer PNM an effective balancing tool at certain times of the year. The rapid rise in solar resources coming onto the system in California and the Southwest has created a new operating paradigm, in which the system frequently has too much renewable energy, without adequate customer demand to use it. This is called “oversupply.” PNM can benefit from this oversupply condition to meet its peak load requirements in a cost effective manner. Conversely, the western EIM can also provide an opportunity for PNM to sell any excess wind or other supply in its footprint when other western EIM participants need it.

PNM can also realize the benefits of coordinated operations with transmission service providers in the Pacific Time Zone that have later peak load periods. For instance, the ISO’s peak “net load” (*i.e.* peak load that occurs after solar has ramped off the system) can be three hours later in the day than the time when PNM experiences its peak load. This means PNM can benefit from inexpensive, external supply when it must serve its peak load and make economic sales to other areas after it has met its daily peak.

The western EIM would allow PNM to leverage its strong transmission interconnections to meet its demand with inexpensive supply when prices are favorable to its loads and to sell excess supply in real-time when it is economic to do so. PNM is positioned to leverage its existing transmission assets to capture these benefits, which would defer consideration of new transmission projects that may be necessary to extract the full value from participation in other markets. Figure A below illustrates PNM’s connectivity to existing participants in the western EIM. PNM can use its available transmission capability over these interconnections to participate in the

western EIM and realize its significant benefits.



**Figure A: PNM has significant interconnections to the western EIM**

### **III. Participation in the western EIM has demonstrated benefits**

Building on its market success and regional relationships, the ISO began a process with stakeholders five years ago to offer its real-time market to entities outside the ISO. The goal was to offer a service based on voluntary participation that would

provide economic benefits while also giving participants better tools to manage their systems and take advantage of diverse resources available through a larger footprint. This service, the western EIM, has now produced over \$250 million in benefits since its start in November 2014 and has helped utilities reduce greenhouse gas emissions. To date, eleven entities have chosen to participate in the western EIM.<sup>1</sup> By 2020, the western EIM real-time market footprint will cover approximately two-thirds of load in the Western Interconnection.

The real-time market software balances fluctuations in supply and demand every five minutes by automatically finding lower-cost resources from across a larger region to meet immediate power needs. These five-minute transfers are in contrast to hourly block schedules that generally exist in bi-lateral energy markets today. The western EIM efficiently manages congestion on transmission lines to maintain grid reliability and to allow participants to share renewable energy when their individual systems cannot absorb this power. The western EIM emphasizes voluntary participation and local control. Participating entities are able to maintain control over their assets and retain responsibility for balancing requirements in their footprint. In addition, entities can chose not to bid into the market at any given time and leave the market at any time without exit fees. The western EIM also contributes to significant grid reliability by providing situational awareness and enhancing the ability of participating entities to respond to major contingencies.

---

<sup>1</sup> Current participants in the western EIM include PacifiCorp, NV Energy, Arizona Public Service, Puget Sound Energy, and Portland General Electric. Entities in the implementation phase include Salt River Project, Los Angeles Department of Water and Power, the Balancing Area of Northern California on behalf of the Sacramento Municipal Utility District, Idaho Power Company, and Powerex, which serves as the marketing entity for British Columbia Hydro.

The benefits of the western EIM are analyzed and reported each quarter and posted on the western EIM website.<sup>2</sup> Participants have seen actual benefits in excess of their studied benefits. In addition to showing over \$250 million in gross benefits for the western EIM to date, the quarterly reports also reflect benefits for each participant. Actual savings across the western EIM are consistent with pre-operational benefits studies conducted by each of those participants before they joined. PNM is currently conducting a cost/benefit analysis to determine if the western EIM is a good option for its customers.

Based on the ISO's experience with onboarding other participating entities, the costs of entering the western EIM are relatively small compared to the benefits that can be realized even in the first few years of market operation. Experience reflects that the pay-back period is rapid – often less than two years. Additionally, as stated above, the western EIM is voluntary, meaning that participants maintain operational control over their systems, can choose which resources will participate, and can cease to participate at any time with no exit fees. The administrative fee for participation in the western EIM footprint is significantly lower than the administrative fee to fully participate as an ISO/RTO member. This allows participants to gain valuable experience with the ISO markets and participate in stakeholder consideration of enhancements to provide additional benefits.

---

<sup>2</sup> See e.g. Western EIM Benefits Report Third Quarter 2017: [https://www.westerneim.com/Documents/ISO-EIMBenefitsReportQ3\\_2017.pdf](https://www.westerneim.com/Documents/ISO-EIMBenefitsReportQ3_2017.pdf).

Stakeholders throughout the West have fostered the development of this voluntary market and a governance structure that ensures robust participation from all interested parties. In 2016, the ISO's Governing Board delegated authority on rules specific to participation in the western EIM to a new EIM Governing Body comprised of independent representatives from across the country. The EIM Governing Body, selected through a stakeholder process, oversees the market's operation as well as enhancements that are made to its design. Regional stakeholders have direct access to the EIM Governing Body as well as two additional advisory forums created for western EIM stakeholders: the Body of State Regulators that includes a utility regulator from each state, and a Regional Issues Forum for stakeholders across the region.<sup>3</sup>

#### **IV. The western EIM will continue to evolve as participants pursue deeper levels of coordination**

With three years of operation, participants in the western EIM have created a robust level of coordination and operating relationships. Under the leadership of the EIM Governing Body, and with valuable input from stakeholders, the ISO has made several enhancements to the market and will continue to develop enhancements to benefit participants. For example, the ISO is currently in the early stages of developing an effort that would enhance its day-ahead market processes. These changes could dramatically increase the efficiency of the day-ahead market by accounting for fluctuations in variable energy resources. This effort will present an opportunity for participants in the western EIM to explore expansion into the day-ahead timeframe, which would increase coordination and cost savings significantly while maintaining

---

<sup>3</sup> Information about the EIM's Governing Body and its work is available on the following website: <https://www.westerneim.com/Pages/Governance/default.aspx>.

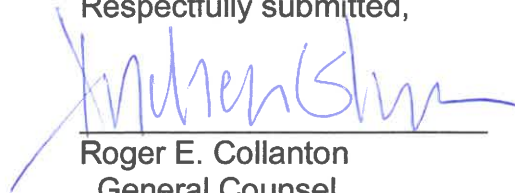
control of their transmission system. The ISO expects that the administration of these enhancements will be at a reduced cost, in comparison to the cost of full participation in the ISO.

## **V. Conclusion**

The success of the ISO's wholesale market comes mainly from the open and transparent stakeholder process that allows all interested parties to engage. It is this stakeholder participation that built the innovative, voluntary western EIM. With a short pay-back period, demonstrated benefits, and no exit fees, the western EIM represents a voluntary market that could benefit PNM and its customers. Additional service options may also provide value to PNM. The ISO stands ready to work with PNM and the Commission to help explore the range of options for participating in an organized wholesale electricity market and identify the costs and benefits of each model to meet PNM's individual needs.

Dated: November 21, 2017

Respectfully submitted,



Roger E. Collanton  
General Counsel

John C. Anders  
Assistant General Counsel  
Andrew Ulmer  
Director, Federal Regulatory Affairs  
California Independent System  
Operator Corporation  
250 Outcropping Way  
Folsom, CA 95630  
Tel: (916) 608-7209  
Fax: (916) 608-7222  
[aulmer@caiso.com](mailto:aulmer@caiso.com)



**BEFORE THE NEW MEXICO PUBLIC REGULATION COMMISSION**

IN THE MATTER OF A COMMISSION )  
INVESTIGATION INTO THE FEASIBILITY )  
OF PUBLIC SERVICE COMPANY OF NEW )  
MEXICO BECOMING A MEMBER OF THE )  
SOUTHWEST POWER POOL )

Case No. 17-00261-UT


**CERTIFICATE OF SERVICE**

**I HEREBY CERTIFY** that a true and correct copy of the foregoing **Comments of the California Independent System Operator Corporation**, was sent *via* electronic mail on Tuesday, November 21, 2017, to the parties listed below:

Stacey Goodwin	<a href="mailto:stacey.goodwin@pnmresources.com">stacey.goodwin@pnmresources.com</a>	Charles F. Noble	<a href="mailto:Noble.ccae@gmail.com">Noble.ccae@gmail.com</a>
Mark Fenton	<a href="mailto:mark.fenton@pnm.com">mark.fenton@pnm.com</a>	Ramona Blaber	<a href="mailto:Ramona.Blaber@sierraclub.org">Ramona.Blaber@sierraclub.org</a>
Carey Salaz	<a href="mailto:carey.salaz@pnm.com">carey.salaz@pnm.com</a>	Megan A. O'Reilly	<a href="mailto:arcresearchandanalysis@gmail.com">arcresearchandanalysis@gmail.com</a>
Ryan Jerman	<a href="mailto:ryan.jerman@pnmresources.com">ryan.jerman@pnmresources.com</a>	Adam Bickford	<a href="mailto:abickford@swenergy.org">abickford@swenergy.org</a>
Richard Alvidrez	<a href="mailto:mailto:ralvidrez@mstlaw.com">mailto:ralvidrez@mstlaw.com</a>	Don Hancock	<a href="mailto:sriedon@earthlink.net">sriedon@earthlink.net</a>
Robert Clark	<a href="mailto:rclark@mstlaw.com">rclark@mstlaw.com</a>	Noah Long	<a href="mailto:NLong@nrd.org">NLong@nrd.org</a>
Debrea Terwilliger	<a href="mailto:dterwilliger@wbklaw.com">dterwilliger@wbklaw.com</a>	Ralph Cavanagh	<a href="mailto:RCavanah@nrdc.org">RCavanah@nrdc.org</a>
Jennifer Hall	<a href="mailto:jhall@mstlaw.com">jhall@mstlaw.com</a>	Jason Marks	<a href="mailto:lawoffice@jasonmarks.com">lawoffice@jasonmarks.com</a>
Raymond L. Gifford	<a href="mailto:rgifford@wbklaw.com">rgifford@wbklaw.com</a>	Travis Ritchie	<a href="mailto:Travis.Ritchie@sierraclub.org">Travis.Ritchie@sierraclub.org</a>
Joseph Yar	<a href="mailto:Jyar@nmag.gov">Jyar@nmag.gov</a>	Jane Yee	<a href="mailto:JYee@cabq.gov">JYee@cabq.gov</a>
Alicia Armijo	<a href="mailto:aarmijo@nmag.gov">aarmijo@nmag.gov</a>	Tony A. Gurule	<a href="mailto:TGurule@cabq.gov">TGurule@cabq.gov</a>
Andrea Crane	<a href="mailto:Ctcolumbia@aol.com">Ctcolumbia@aol.com</a>	Nikki Joseph	<a href="mailto:NJoseph@cabq.gov">NJoseph@cabq.gov</a>
Peter J. Gould	<a href="mailto:Pgouldlaw@gmail.com">Pgouldlaw@gmail.com</a>	Justin Lesky	<a href="mailto:JLesky@leskylawoffice.com">JLesky@leskylawoffice.com</a>
Jeffrey H. Albright	<a href="mailto:JAAlbright@lrrc.com">JAAlbright@lrrc.com</a>	Mariel Nanasi	<a href="mailto:Mariel@seedsbeneaththesnow.com">Mariel@seedsbeneaththesnow.com</a>
Bobbie J. Collins	<a href="mailto:BCollins@lrrc.com">BCollins@lrrc.com</a>	David Van Winkle	<a href="mailto:david@vw77.com">david@vw77.com</a>
Michael I. Garcia	<a href="mailto:MikGarcia@bermco.gov">MikGarcia@bermco.gov</a>	Bruce Throne	<a href="mailto:bthroneatty@newmexico.com">bthroneatty@newmexico.com</a>
Amanda Edwards	<a href="mailto:AEdwards@lrrc.com">AEdwards@lrrc.com</a>	Richard C. Mertz	<a href="mailto:rcmertz7@outlook.com">rcmertz7@outlook.com</a>
Nann M. Winter	<a href="mailto:nwinter@stelznerlaw.com">nwinter@stelznerlaw.com</a>	James Dauphinais	<a href="mailto:jdauphinais@consultbai.com">jdauphinais@consultbai.com</a>
Peter Auh	<a href="mailto:Pauh@abcwua.org">Pauh@abcwua.org</a>	Thomas Domme	<a href="mailto:tdomme@tecoenergy.com">tdomme@tecoenergy.com</a>
Dahl Harris	<a href="mailto:DahlHarris@hotmail.com">DahlHarris@hotmail.com</a>	Rebecca Carter	<a href="mailto:racarter@tecoenergy.com">racarter@tecoenergy.com</a>
Jim Dittmer	<a href="mailto:jdittmer@utilitech.net">jdittmer@utilitech.net</a>	Clyde F. Worthen	<a href="mailto:cfw@keleher-law.com">cfw@keleher-law.com</a>
Joe Herz	<a href="mailto:Jahez@sawvel.com">Jahez@sawvel.com</a>	Jack Sidler	<a href="mailto:jack.sidler@state.nm.us">jack.sidler@state.nm.us</a>
Steven S. Michel	<a href="mailto:Smichel@westernresources.org">Smichel@westernresources.org</a>	Travis Blecha	<a href="mailto:Travis.Blecha@state.nm.us">Travis.Blecha@state.nm.us</a>
Gelinda Murphy	<a href="mailto:Gmurphv@westernresources.org">Gmurphv@westernresources.org</a>	Charles Gunter	<a href="mailto:Charles.Gunter@state.nm.us">Charles.Gunter@state.nm.us</a>
Dave Effross	<a href="mailto:Dave.Effross@westernresources.org">Dave.Effross@westernresources.org</a>	Cydney Beadles	<a href="mailto:Cydney.Beadles@state.nm.us">Cydney.Beadles@state.nm.us</a>
Kurt Boehm	<a href="mailto:Kboehm@BKLlawfirm.com">Kboehm@BKLlawfirm.com</a>	Sarah Becker	<a href="mailto:Sarah.Becker@state.nm.us">Sarah.Becker@state.nm.us</a>
Jody Kyler Cohn	<a href="mailto:Jkylercohn@BKLlawfirm.com">Jkylercohn@BKLlawfirm.com</a>	Milo Chavez	<a href="mailto:Milo.Chavez@state.nm.us">Milo.Chavez@state.nm.us</a>
Bill Templeman	<a href="mailto:wtempleman@cmtisantafa.com">wtempleman@cmtisantafa.com</a>	John Reynolds	<a href="mailto:John.Reynolds@state.nm.us">John.Reynolds@state.nm.us</a>
Kevin Higgins	<a href="mailto:khiggins@energystrat.com">khiggins@energystrat.com</a>	Vincent De Cesare	<a href="mailto:Vincent.DeCesare@state.nm.us">Vincent.DeCesare@state.nm.us</a>
Steve W. Chriss	<a href="mailto:Stephen.Chriss@Wal-Mart.com">Stephen.Chriss@Wal-Mart.com</a>	Heidi Pitts	<a href="mailto:Heidi.Pitts@state.nm.us">Heidi.Pitts@state.nm.us</a>
Lisa V. Perry	<a href="mailto:LPerry@rgn.com">LPerry@rgn.com</a>	Elisha Leyba-Tercero	<a href="mailto:Elisha.Leyba-Tercero@state.nm.us">Elisha.Leyba-Tercero@state.nm.us</a>
Shannon A. Parden	<a href="mailto:SParden@rmjfirm.com">SParden@rmjfirm.com</a>	Anthony Sisneros	<a href="mailto:Anthony.Sisneros@state.nm.us">Anthony.Sisneros@state.nm.us</a>
Grieta Gilchrist	<a href="mailto:GGilchrist@rmjfirm.com">GGilchrist@rmjfirm.com</a>	Ana Kippenbrock	<a href="mailto:Ana.Kippenbrock@state.nm.us">Ana.Kippenbrock@state.nm.us</a>
Nancy Long	<a href="mailto:email@longkomer.com">email@longkomer.com</a>	David Black	<a href="mailto:David.Black@state.nm.us">David.Black@state.nm.us</a>

Dated this 21<sup>st</sup> day of November, 2017, at Folsom, California.

California Independent System Operator Corporation

  
\_\_\_\_\_  
Grace Clark, Paralegal