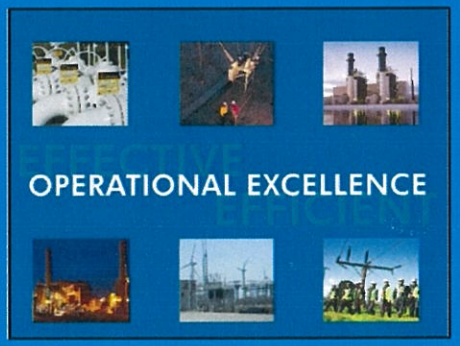
NVEnergy

NVE's Participation in the CAISO Energy Imbalance Market

INTERIM ENERGY COMMITTEE DECEMBER 8, 2015



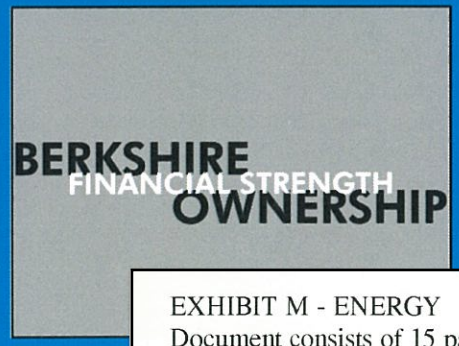


EXHIBIT M - ENERGY
Document consists of 15 pages.
Entire exhibit provided.
Meeting date: 12-08-15

NV Energy Overview

Headquartered in Las Vegas, Nevada

Statewide 2,444 employees

1.2m electricity and 0.2m gas customers

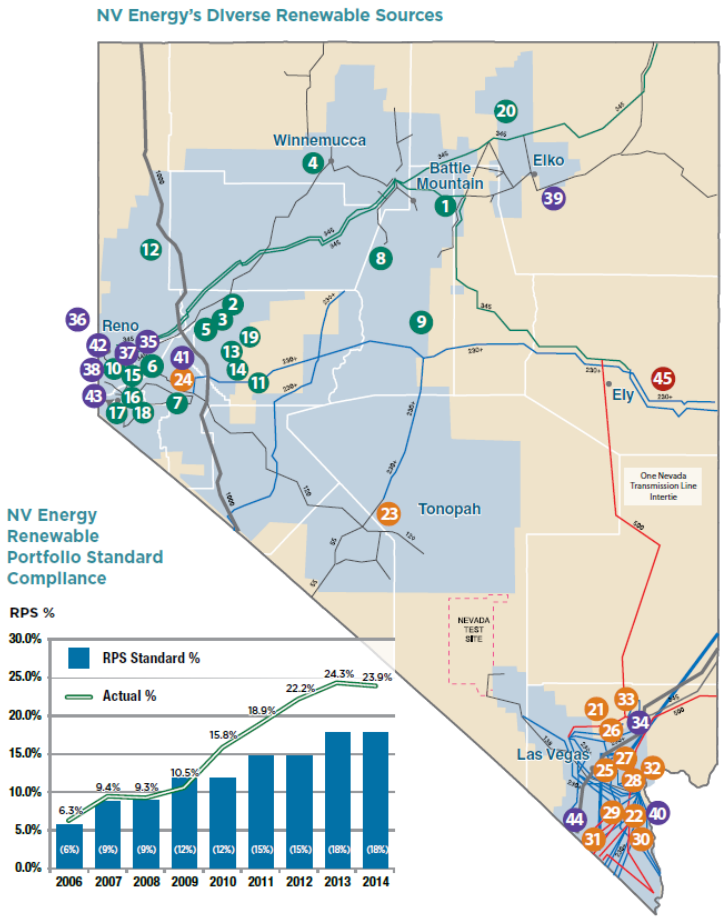
Over 4,000 miles of transmission assets and 200 substations

Provides service to approximately 90% of Nevada population, along with tourist population of 40 million annually

NVEnergy

Nevada Power	Sierra Pacific Power
• Provides electric services to Las Vegas and surrounding areas	• Provides electric and gas services to Reno and Northern Nevada
• 4,752 MW of owned generation	• 1,372 MW of owned generation

NV Energy Overview Continued - Renewable Projects



Renewable Energy Project List

● In construction
★ Pending regulatory approval

GEOTHERMAL

1. Beowawe Power 17.7 MW
2. Brady Geothermal Project 24.0 MW
3. Desert Peak Geothermal Project #2 25.0 MW
4. Faulkner 1 49.5 MW
5. Galena 2 13.0 MW
6. Galena 3 26.5 MW
7. Homestretch 5.6 MW
8. Jersey Valley Geothermal Project 22.5 MW
9. McGinness Hills 96.0 MW
10. Richard Burdette 26.0 MW
11. Salt Wells 23.6 MW
12. San Emidio 11.8 MW
13. Soda Lake I 3.6 MW
14. Soda Lake II 19.5 MW
15. Steamboat Hills 14.6 MW
16. Steamboat IA 2.0 MW
17. Steamboat II 13.4 MW
18. Steamboat III 13.4 MW
19. Stillwater 2 47.2 MW (Photovoltaic Addition 22.0 MW)
20. Tuscarora 32.0 MW

SOLAR

21. Apex Nevada Solar 20.0 MW
22. Boulder Solar ★ 100.0 MW
23. Crescent Dunes ● 110.0 MW
24. Fort Churchill Solar Array 19.5 MW
25. Las Vegas Valley Water District (Six Projects) 3.0 MW
26. Mountain View Solar 20.0 MW
27. Nellis AFB Solar Star 13.2 MW
28. Nellis Solar Array II ● 15.0 MW
29. Nevada Solar One 69.0 MW
30. Searchlight Solar LLC 17.5 MW
31. Silver State Solar North 52.0 MW
32. Spectrum Nevada Solar 30.0 MW
33. Switch Station ★ 100.0 MW

OTHER

BIOMASS

34. Apex Landfill Energy 12.0 MW
35. Lockwood Renewable Energy 3.2 MW
36. Sierra Pacific Industries 10.0 MW
37. Truckee Meadows Water Reclamation Facility 0.8 MW

HYDRO

38. Fleish 2.3 MW
39. Hooper 0.8 MW
40. Hoover Dam 235.2 MW*
41. Truckee Carson Irrigation District 5.0 MW
42. Verdi 2.2 MW
43. Washoe 2.2 MW

WASTE HEAT

44. Goodsprings Energy Recovery Station 7.5 MW

*Excluded from RPS

WIND

45. Spring Valley Wind 151.8 MW

NV Energy Entered EIM On 12/1/15

NVEnergy California ISO

News Release

For immediate release | December 1, 2015 Media Hotline | 888.516.6397

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NV Energy enters the western Energy Imbalance Market

ISO real-time market is now in seven states, saving millions of dollars for consumers

FOLSOM, Calif. – The California Independent System Operator Corporation (ISO) and NV Energy announced the Nevada-based utility successfully began participating in the western Energy Imbalance Market (EIM) on December 1.

"We welcome NV Energy's entry into the western EIM," said Steve Berberich, ISO President and CEO. "The real-time energy market is already generating significant cost savings, and NV Energy's participation is expected to add to those benefits while incorporating more clean energy into the grid."

The EIM is projected to result in more customer savings by using the lowest-cost energy while optimizing the use of clean energy sources, like solar and wind, to meet changes in demand. In its first 12 months of operation, the real-time market produced more than $33 million in cost savings for PacifiCorp, the first EIM participant, and the ISO. Those savings are projected to increase as more utilities join the EIM.

NV Energy President and CEO Paul Caudill said his company's participation in the EIM aligns with NV Energy's longstanding commitment to seek opportunities that provide greater value to customers and support renewable energy.

"I am very pleased with the hard work many of my colleagues at NV Energy have done in the past year," said Caudill. "I am also confident this work will be good for Nevada, as all resulting cost benefits will flow directly to our customers."

With the addition of NV Energy, the EIM expands into Nevada, where the utility serves 2.4 million customers. PacifiCorp's EIM participation serves customers in California, Washington, Oregon, Idaho, Wyoming and Utah. The newly expanded marketplace enables the ISO and participants to incorporate thousands of megawatts of variable generating resources, such as wind and solar, into the power grid while reducing greenhouse emissions, and improving grid resiliency and reliability.

The ISO and NV Energy have prepared for the utility to join the market for nearly a year, including extensive testing of operations and interfacing in the last two months. The ISO's state-of-the-art software analyzes western grid needs every five minutes and automatically finds the lowest-cost generation to meet demand.

An independent benefits study found that by participating in EIM, NV Energy could save from $6 million to $10 million per year by 2017, and nearly $12 million annually by 2022. Total additional benefits to other EIM participants range from $9 million to $18 million per year by 2017, and as much as $29 million annually by 2022. A 2013 study by the National Renewable Energy Laboratory found that an EIM with participation of all western states could cut electricity production costs by $1.3 billion a year.

Puget Sound Energy of Washington state and Arizona Public Service, based in Phoenix, Arizona, expect to begin participating in the EIM in October 2016. Portland General Electric is scheduled to begin participation in October 2017.

For more information on EIM, visit the ISO's EIM webpage here.

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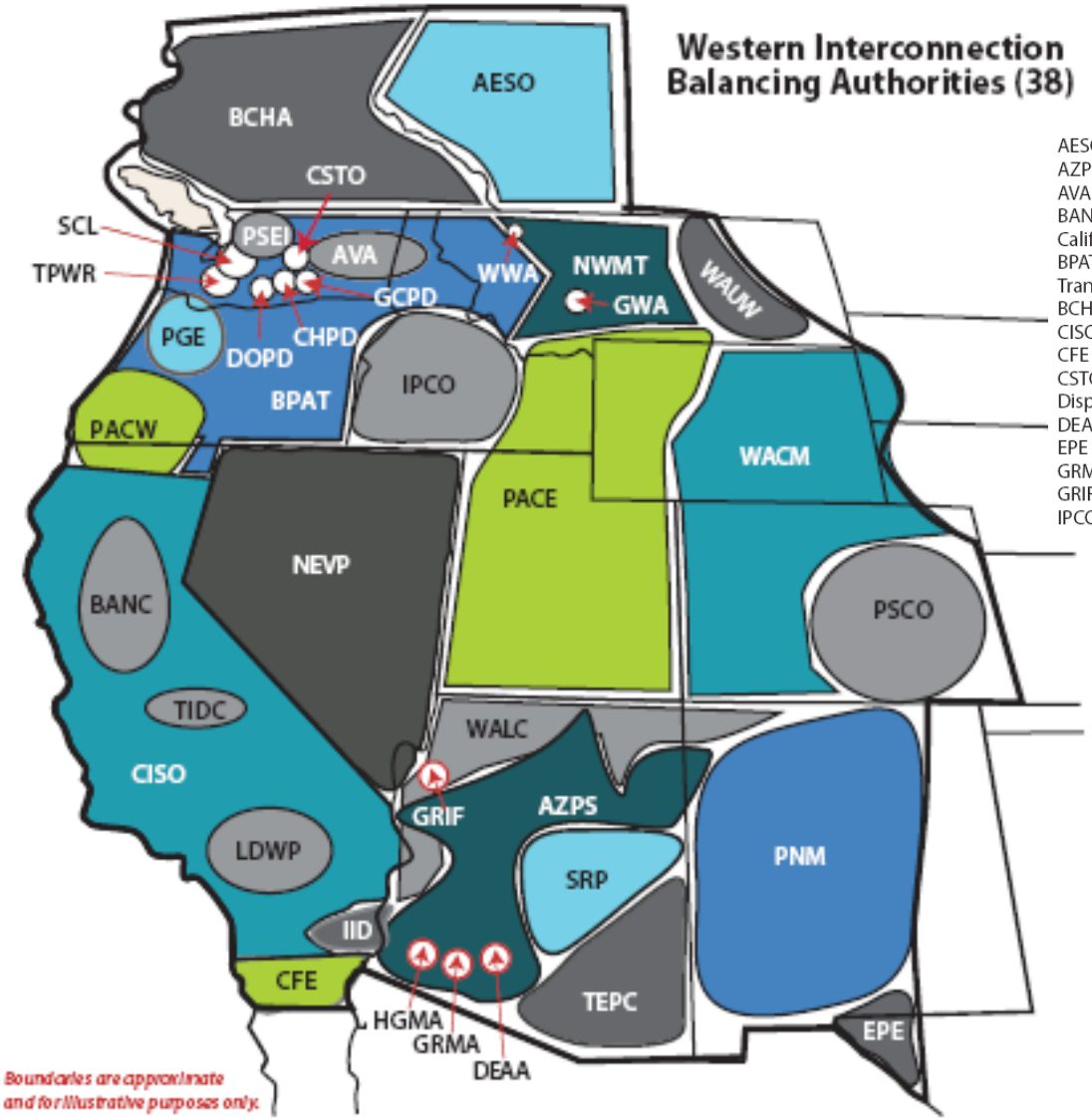
California ISO Media Hotline | 888.516.6397
250 Outcropping Way | Folsom, California 95630 | www.caiso.com

Thanks for re-posting!

The California ISO provides open and non-discriminatory access to one of the largest power grids in the world. The vast network of high-voltage transmission power lines is supported by a competitive energy market and comprehensive grid planning. Partnering with about a hundred clients, the nonprofit public benefit corporation is dedicated to the continual development and reliable operation of a modern grid that operates for the benefit of consumers. Recognizing the importance of the global climate challenge, the ISO is at the forefront of integrating renewable power and advanced technologies that will help meet a sustainable energy future efficiently and cleanly.

Western Interconnection Balancing Authorities



AESO - Alberta Electric System Operator
AZPS - Arizona Public Service Company
AVA - Avista Corporation
BANC - Balancing Authority of Northern California
BPAT - Bonneville Power Administration - Transmission
BCHA - British Columbia Hydro Authority
CISO - California Independent System Operator
CFE - Comision Federal de Electricidad
CSTO - Constellation Energy Control and Dispatch
DEAA - Arlington Valley, LLC
EPE - El Paso Electric Company
GRMA - Gila River Power, LP
GRIF - Griffith Energy, LLC
IPCO - Idaho Power Company
IID - Imperial Irrigation District
LDWP - Los Angeles Department of Water and Power
GWA - NaturEner Power Watch, LLC
NEVP - Nevada Power Company
HGMA - New Harquahala Generating Company, LLC
NWMT - NorthWestern Energy
PACE - PacifiCorp East
PACW - PacifiCorp West
PGE - Portland General Electric Company
PSCO - Public Service Company of Colorado
PNM - Public Service Company of New Mexico
CHPD - PUD No. 1 of Chelan County
DOPD - PUD No. 1 of Douglas County
GCPD - PUD No. 2 of Grant County
PSEI - Puget Sound Energy
SRP - Salt River Project
SCL - Seattle City Light
TPWR - City of Tacoma, Department of Public Utilities
TEPC - Tucson Electric Power Company
TIDC - Turlock Irrigation District
WACM - Western Area Power Administration, Colorado-Missouri Region
WALC - Western Area Power Administration, Lower Colorado Region
WAUW - Western Area Power Administration, Upper Great Plains West
WWA - NaturEnur Wind Watch, LLC

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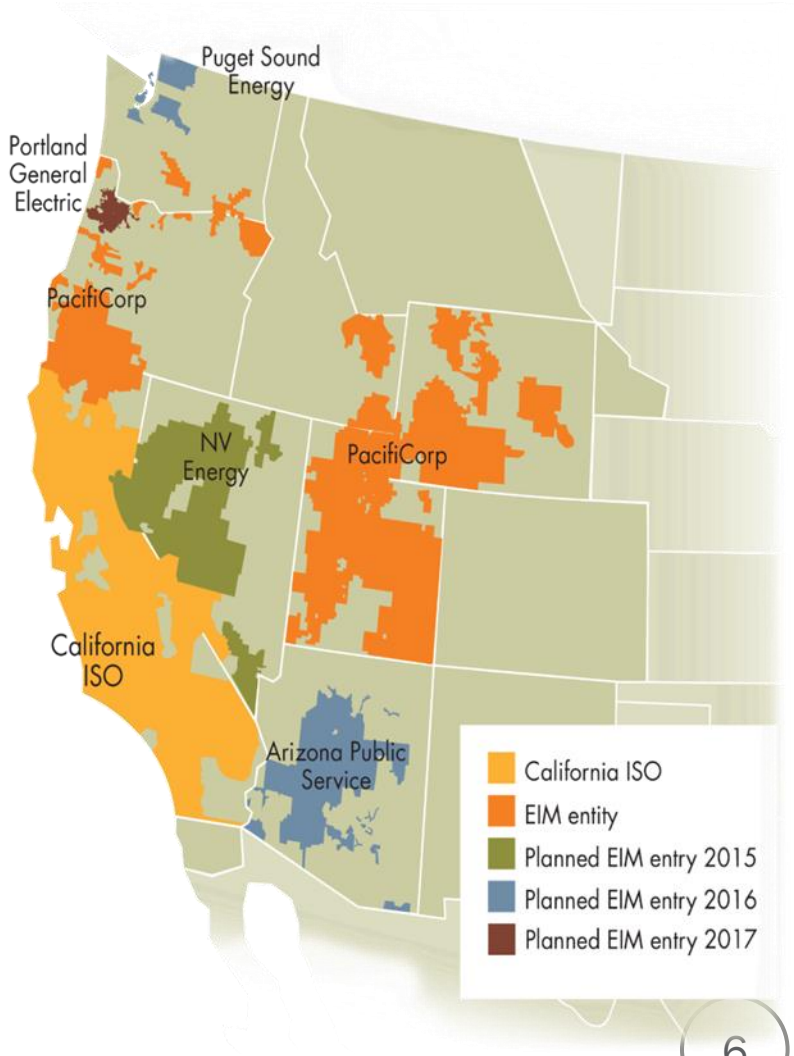
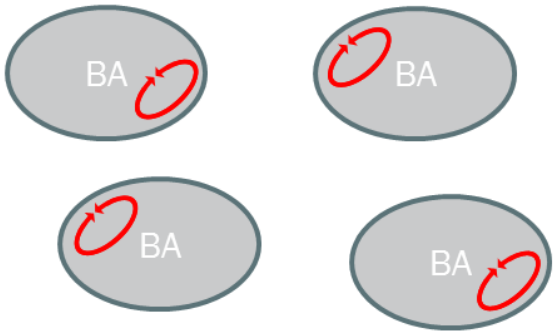
Energy Imbalance Market Benefits

- **Benefits**
  - Reduce costs with resource sharing over a larger area with diverse pool of generators and loads
  - Enhance reliability through increased information sharing and coordination
  - Improve renewable energy integration due to load and resource diversity
  - Estimated annual gross benefit to NV Energy customers
    - $6.0 to $10 million by 2017
    - $12.2 million by 2022



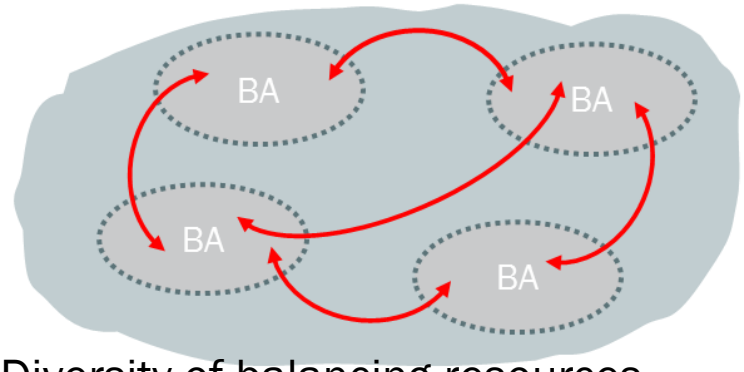
Energy Imbalance Market Increases Efficiency

Prior to EIM:
Each BA must balance loads and resources w/in its borders.



- Limited pool of balancing resources
- Inflexibility
- High levels of reserves
- Economic inefficiencies
- Increased costs to integrate wind/solar

In an EIM:
The market dispatches resources across BAs to balance energy



- Diversity of balancing resources
- Increased flexibility
- Reduces flexibility reserves
- More economically efficient
- Decreased integration costs
- Interregional and Intraregional dispatch savings
- Reduced renewable energy curtailments

Energy Imbalance Market History

- **August 2012: Investigation into participation initiated**
- **November 2013: NV Energy business plan developed**
  - Announcement to participate in the CAISO EIM
- **August 2014: Received Public Utilities Commission of Nevada (“PUCN”) approval**
- **November 2015: Received Federal Energy Regulatory Commission (“FERC”) approval**

Energy Imbalance Market

- **EIM Implementation 2015**
  - Functional testing, April through June
  - Integration testing, March through June
  - Unstructured market simulation, June and July
  - Structured market simulation, August
  - Parallel production (non-binding), September
  - FERC readiness criterion and attestation submitted for FERC approval, October
  - FERC approval, November 19

Energy Imbalance Market

- **Regulatory and Outreach**
  - Amendment to transmission tariff to participate in EIM
  - Stakeholder workshops and tariff comments - August 2014 through January 2015
  - Finalize tariff revisions and FERC pre-filing meetings, February 2015
  - File tariff revisions with the FERC, March 2015
  - Stakeholder training, July through September 2015
  - Bi-weekly regulatory updates through implementation

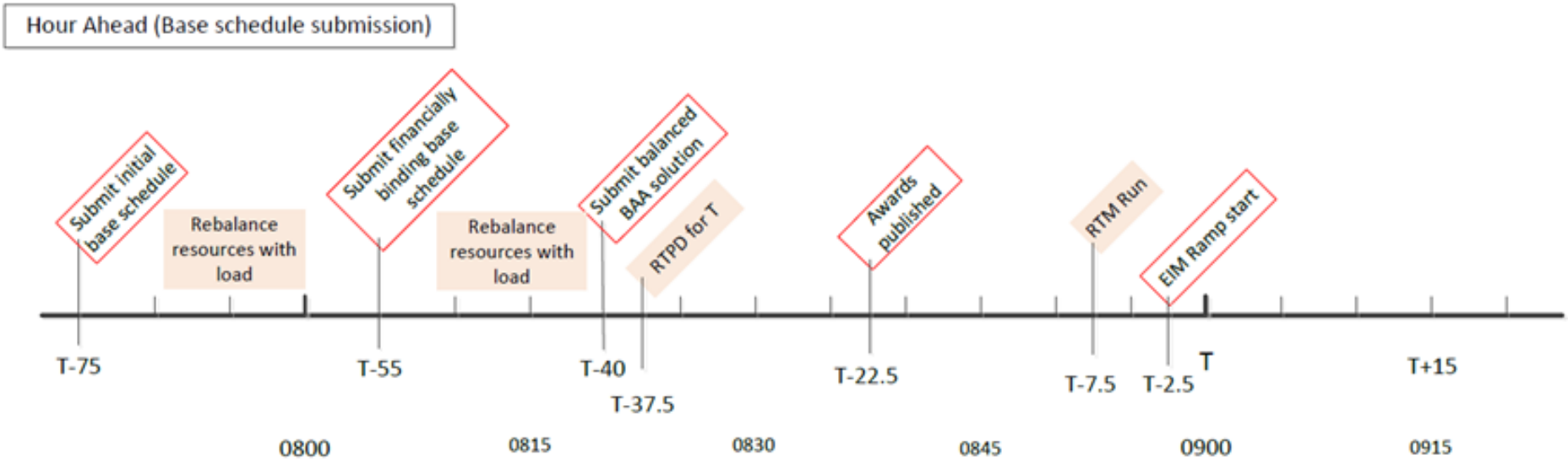
Energy Imbalance Market Participant

- **NV Energy retains all reliability responsibility**
- **NV Energy will insure adequate energy for it's system**
- **Under EIM, CAISO operates the market and publishes market results**
- **Under EIM, NV Energy will operate transmission, monitor generation, and process outages**

Energy Imbalance Market Participation

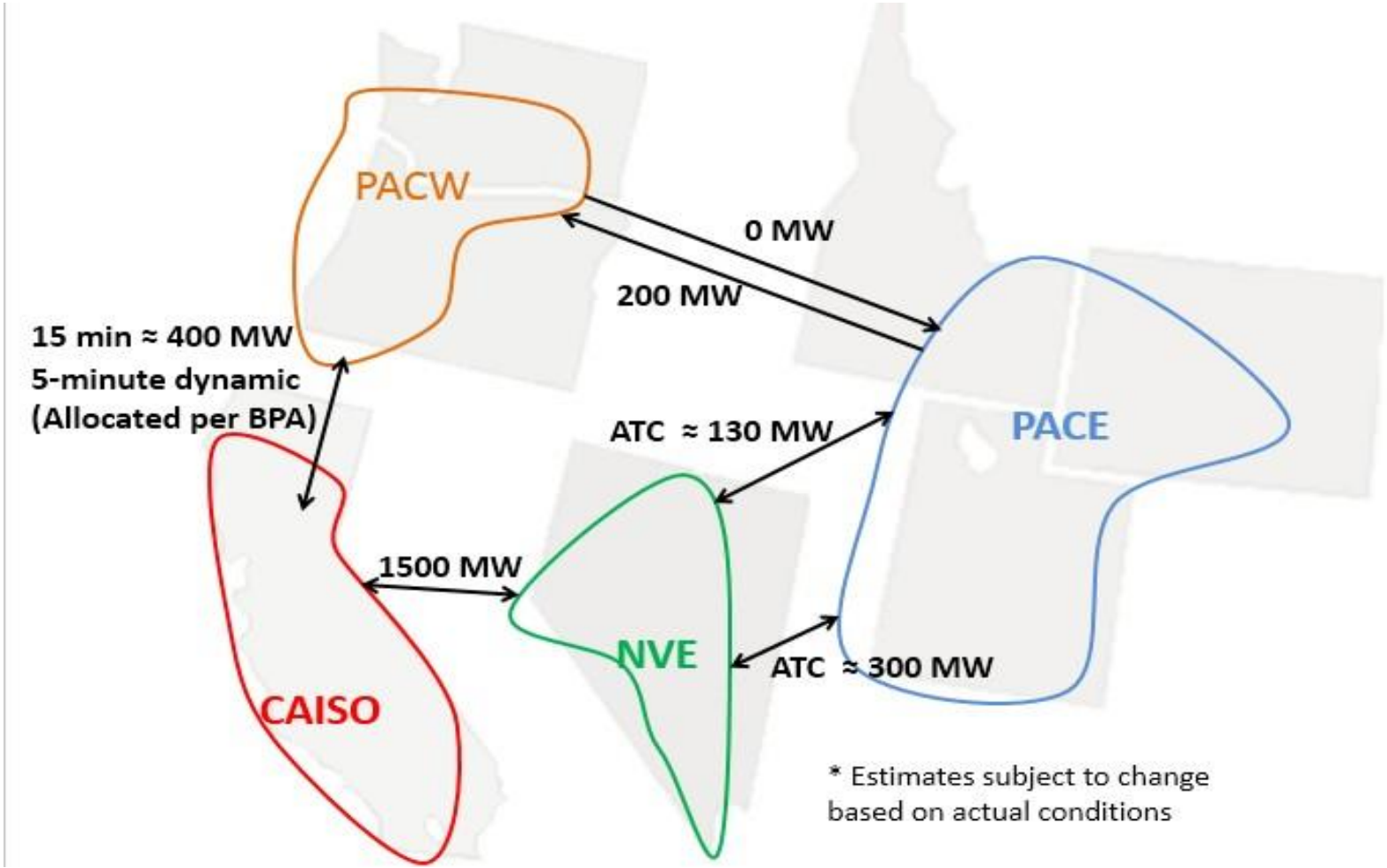
- **Participating resources**
  - The Market Operator (CAISO) will settle the deviations of EIM participating resources from their base schedules at the locational marginal price at the corresponding locations.
- **Non-participating resources**
  - The EIM Entity Scheduling Coordinator (NV Energy) will be responsible for the settlement of deviations from their base schedules for resources that do not participate in the EIM.

CAISO Energy Scheduling Timeline



This timeline shows the hour ahead EIM process. Beginning at T-75, base schedules and bids are submitted. Base schedules are updated until T-55. Any deviation between base schedules and CAISO load forecast must be corrected by T-40 by the EIM Entity. The Market Operator then runs the Real-Time Unit Commitment to determine the four 15 minute awards. At T-22.5 those awards are published to OASIS and CMRI. At T-7.5 the Real Time Dispatches are calculated for the first 5 minute perioed and the ramp begins at T-2.5 (and ends at T+2.5).

Energy Imbalance Market Estimated Transfer Capability



Initial Performance……

- **NV Energy entered the EIM on December 1 (last Tuesday)**
  - Seven days participating in the EIM
- **Findings so far……..**