

Energy Imbalance Market

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**BERKSHIRE** 

# Regulatory Approvals

- November 2013: NV Energy announced plan to join the California Independent System Operator's ("CAISO") Energy Imbalance Market ("EIM")
- August 2014: Received Public Utilities Commission of Nevada approval
- September 2014: Start tariff revision and stakeholder process
- March 6, 2015: Filed tariff revisions with the Federal Energy Regulatory Commission ("FERC")
- May 14, 2015: Received FERC order
- FERC compliance filings:
  - Tariff changes necessary to reflect the CAISO's proposed solution to manage price excursions within 30 days of CAISO's order
  - Petition for market-based rate authority for the purpose of EIM sales
     60 days before Go-Live (by July 31, 2015)
  - Certify readiness 30 days before Go-Live (by August 31, 2015)

# **Operational Readiness**

#### **Training**

- Operations personnel were recently hired and are completing training
  - EIM Entity Transmission Operations
  - Participating Resource Scheduling Coordinator Resource Optimization
  - Transmission Business Services (settlements)
  - Meter data management system
- CAISO training catalog:
  - Computer based training ("CBT")
  - Webinars
  - Classroom training
  - Table top sessions
- Vendor training classes
- Training and knowledge testing like NERC certified operations

# Operational Readiness

## **Integration Testing**

- 100 percent connected to CAISO systems
- June 18, 2015 CAISO loaded NV Energy's market data to a test environment and initial day-in-the-life testing started
  - Submitting base schedules
  - Balancing to forecast
  - June 23, 2015 initial end-to-end settlement statement published
- Structured market simulation scenarios in August 2015
- Parallel non-binding market in September 2015
- Overall project is on track for October 1, 2015 Go-Live

#### Generation Resources

- Participating resources
  - All participating resources are owned by NV Energy
  - 25 aggregated units
  - 6,250 megawatts of capacity
- Non-participating resources
  - Third-party owned generators
  - NV Energy Power Purchase Agreements
  - 48 aggregated units
  - 3,818 megawatts maximum capacity

# Meter, Telecommunication, and Generation Upgrades

## Participating resource upgrades

- Meter and telecommunication upgrades are required to provide five minute interval data
  - Newer installations require a short meter outage to replace meters programmed to collect the five minute interval data
  - Some older sites require unit outages to install new meter equipment
- Generation performance tests are being completed to confirm operating characteristics
- Automatic Generation Control logic changes are being implemented

# System Implementation - Vendor Support

- Upgrades to existing NV Energy software applications to participate in the EIM
  - Open Access Technology International, Inc. EIM Entity transmission functions including scheduling and billing
  - Power Costs, Inc. Participating resource scheduling coordinator market functions
  - Open Systems International, Inc. Energy management system upgrade
    - Cutover completed June 4, 2015
  - Coordinated Outage Management Planning and Scheduling System – Transmission network and Participating Resource outages
  - Variable Energy Forecast Five minute forecast data for approximately ten non-participating renewable resources

# **Questions**