FEATURED PRESENTATION – RELIABILITY THROUGH COLLABORATION

Mark Rothleder
Senior Vice President & Chief Operating Officer, California ISO
The September heat wave was extraordinary in duration and intensity
28 California cities broke or tied all-time records for maximum temperatures.
- Sacramento – 116
- San Jose – 109
- Livermore – 116

Across the West:
- 2,864 daily highest maximum temperature records tied or broken
- 2,074 daily high minimum records tied or broken
DEMAND RECORDS FOR SEPTEMBER 6, 2022

- ISO all-time record  
  **52,061 MW**

- Western Interconnection record  
  **167,500 MW**

- RC West record  
  **130,920 MW**
Demand trend

System demand, in megawatts, compared to the forecasted demand in 5-minute increments.

- 4pm Flex Alert in effect
- 5:17pm ISO declared EEA3
- 5:55 WEA text
- ~5pm RDRR dispatched

© 2022 California ISO
4-HOUR LITHIUM-ION BATTERY DISPATCH

SEPT 5

6:30 pm
3,359 MW

6:45 pm
2,558 MW

SEPT 6

6:40 pm
2,839 MW

SEPT 7
WESTERN ENERGY IMBALANCE MARKET (WEIM)

- Excellent performance during heat wave.
- Efficiently cycled energy between utility systems across the West and supported reliability during very stressed grid conditions.
- Demonstrated value of wide-area coordination across the Western US and highlighted potential additional reliability and cost-saving benefits of an Extended Day-Ahead Market (EDAM).
WHAT WENT WELL

• New clean energy capacity
• Improved communication and coordination
• Advance preparation and exercises
• Effective pre-emptive maintenance and outage coordination
• Excellent overall fleet performance
• Meaningful amount of DR

• West demonstrated ability to support each other
• Strong Western Energy Imbalance Market performance
• Geographic diversity of weather and good hydro
OPPORTUNITIES FOR IMPROVEMENT

• Strengthen resource adequacy and planning models
• Expedite construction of infrastructure
• Improve load flexibility capabilities
• Broaden system visibility and improve liquidity and reliability with EDAM
• Align storage market design with grid needs
• Establish strategic reserve resources for extreme events
• Strengthen communication and coordination
COLLABORATION ENABLES OPERATIONAL, ECONOMIC AND ENVIRONMENTAL BENEFITS

Real-time (WEIM)
- Optimized imbalance dispatch
- Reserve and flex sharing
- Emergency assistance
- Transmission utilization
- Curtailment avoidance
- Demand shaping
- GHG accounting

Day-ahead (EDAM)
- Optimized commitment
- Uncertainty management
- Sufficiency assessment
- Transmission provisioning
- Situational awareness/response
- Unlock supply & load diversity
- Enhanced GHG accounting

Year(s) ahead (other collaboration)
- Resource adequacy
- Resource planning
- Transmission planning
- Enable innovation