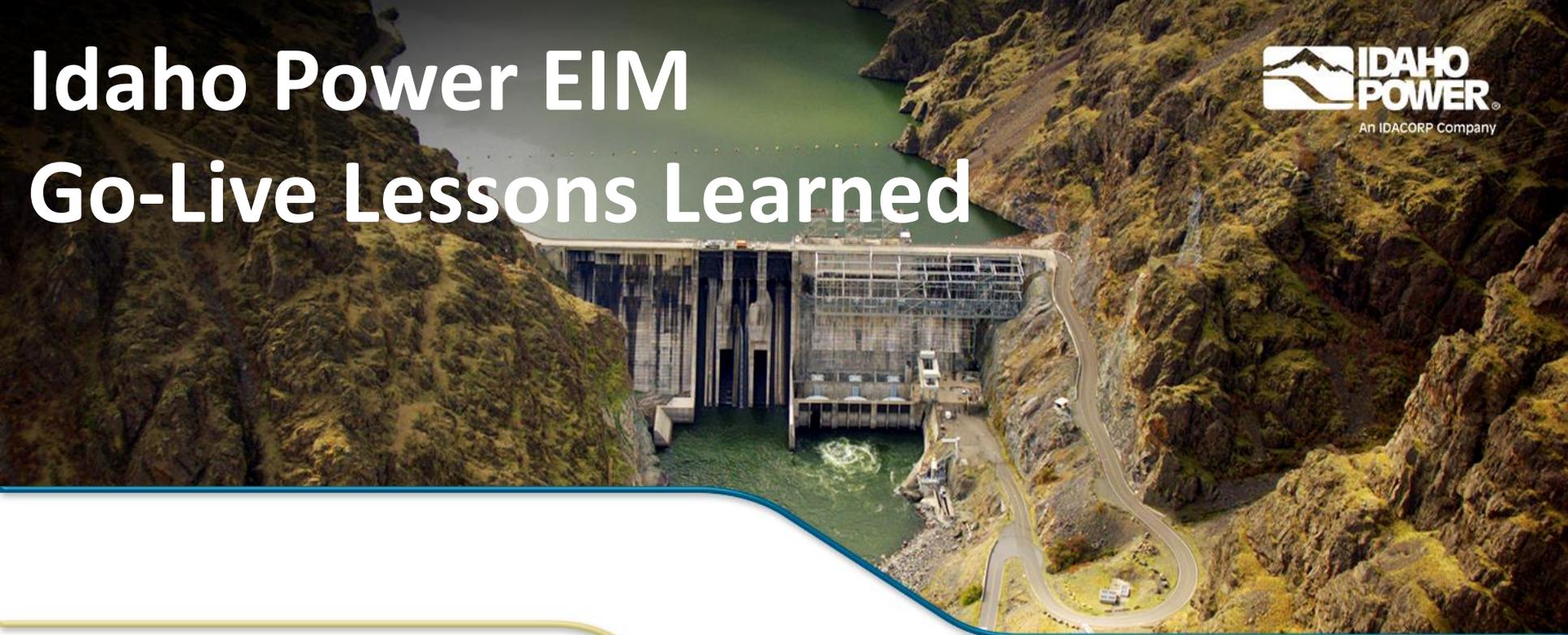


Idaho Power EIM Go-Live Lessons Learned



Kathy Anderson

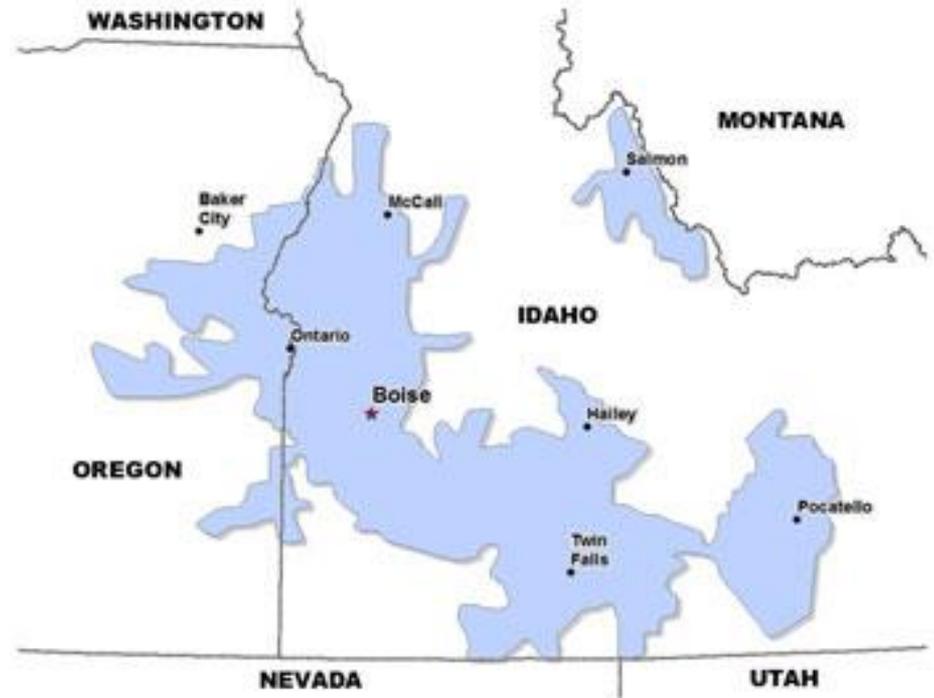
Transmission and Energy Scheduling Manager

RIF Meeting

June 6, 2018

Idaho Power

- Established in 1916
- Engaged in Generation, Transmission, Distribution, sale and purchase of electric energy.
- 535,000 customers in Southern Idaho and Eastern Oregon
- Summer Peaking – Over 3,400MW



EIM Project Statistics – Participating Resources

- Hydro Generation
 - 3 Plants
 - 12 separate generating units
 - 1020MW Maximum Generation Capacity
- Coal Generation
 - 1 Plant (4 separate units)
 - 708MW Maximum Generation Capacity
- Natural Gas Generation
 - 2 Simple Cycle Generators
 - 1 Multi-Stage Generator
 - 758MW Maximum Generation Capacity

Project Challenges

- Project Staffing
- Network Modeling Challenges
 - Accurately Modeling Joint Owned Participating Units
 - Best way to model Hydro
- New systems/integrations
- 5-minute VER forecast
- Metering Upgrades
- Hydro conditions during Parallel and at go-live



Operational Issues after Go-Live

- Stale Telemetry caused major issues with Load Forecast
- Telemetry polarity reversal during a transmission line maintenance caused issues when it returned on 4/6
- Hydro Operations during spring
- IPC and ISO working to reduce lag time on VER Forecast updates which are contributing to ACE issues
- Operator continued education on load conforming

VER and ACE Challenges

- 4/7/2018 at 10:00 AM - 261 MW of Wind and an ACE of +37.
- 4/7/2018 at 10:35 AM - 588 MW of Wind and an ACE of +141.
- 4/7/2018 at 10:52 AM - 365 MW of Wind and an ACE of -194.
- 4/7/2018 at 11:17 AM - 370 MW of Wind and an ACE of 0.
- ACE Change of 335 MW in 17 Minutes

EIM Experience to date

- Overall positive
- Don't under estimate the complexity of implementation
- Continued operator learning through various operating conditions
- Continue to look at the hydro DEB methodology.
- Thank you to CAISO staff

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Questions?