ENERGY IMBALANCE MARKET (EIM) PROGRAM BRIEF

Tacoma Public Utility Board
July 14, 2021
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• What is the Energy Imbalance Market
• Why is Tacoma Power joining the EIM
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WHAT DOES EIM STAND FOR?

E – Energy
I – Imbalance
M – Market

When Tacoma joins in March 2022, 82% of load in the Western interconnection will be served within the Western EIM.
WHAT IS EIM?

EIM is

- A centralized wholesale market (not bi-lateral)
- An energy market only (not ancillary services)
- A real-time, five-minute market (not hourly)

EIM is a real-time energy supply market that offers electricity generation and transmission services. It automatically balances demand every 15 minutes and dispatches power plants to meet demand every five minutes with the lowest cost energy.
WHY IS TACOMA JOINING EIM?

• Traditional bi-lateral partners are joining the EIM
• Flexible hydro can support grid as more renewables are integrated
• Forecast positive Net Present Value over 10 years
• Participation gets us a “seat at the table” re future market evolution
What does it take to join EIM?

- Legal agreements
- New systems
- Upgrades to current systems and infrastructure
- Significant IT architecture and interface work
- More than a year of training and testing
- Energy Control Center upgrades and more system operators
WHAT HAS BEEN DONE SO FAR?

Milestone 0: June 26, 2019
PUB Approved Joining the EIM

Milestone 1: Feb 27, 2020
EIM Implementation Agreement
Approved by the Federal Energy Regulatory Commission (FERC)

Milestone 2: May 15, 2021
Validated Integrated Full Network Model (FNIM)

Milestone 3: June 1, 2021
CAISO Promoted Tacoma Network Model

Milestone 4a: June 1, 2021
Joint Integration Testing Started with CAISO

Milestone 4b: Sept 1, 2021
Start Day-in-the-Life Testing

Milestone 4c: Oct 1, 2021
Start Market Simulation

Milestone 5: Dec 1, 2021
Start Parallel Operations

Milestone 6: Mar 2, 2022
Go-Live
WHAT IS LEFT TO DO?

2021
May
June

ETRM Go-Live
EMS Go-Live
CONNECTIVITY & TESTING
SYSTEM DEMOS
EIM ESSENTIALS
EIM PROCESS TRAINING
EIM PROCEDURE DEVELOPMENT & TRAINING

2022
Jan
Feb
Mar
Go-Live+

July
Aug
Sept
Oct
Nov
Dec

Day-in-the-Life
MARKET SIM
PARALLEL OPS
GO-LIVE

Market Simulation
Parallel Operations

ETRM: Energy Trading & Risk Management
EMS: Energy Management System
BUDGET BACKGROUND

• Original Estimate (2019) = $18 MM

• Revised Budget (2020) = $13.5 MM
EIM PROGRAM BUDGET

Total (Capital + O&M) Project Life Forecast
EIM PROGRAM STATUS

- Schedule
- Scope
- Budget