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# EnergyImbalanceMarket

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Puget Sound Energy  
July 20, 2016

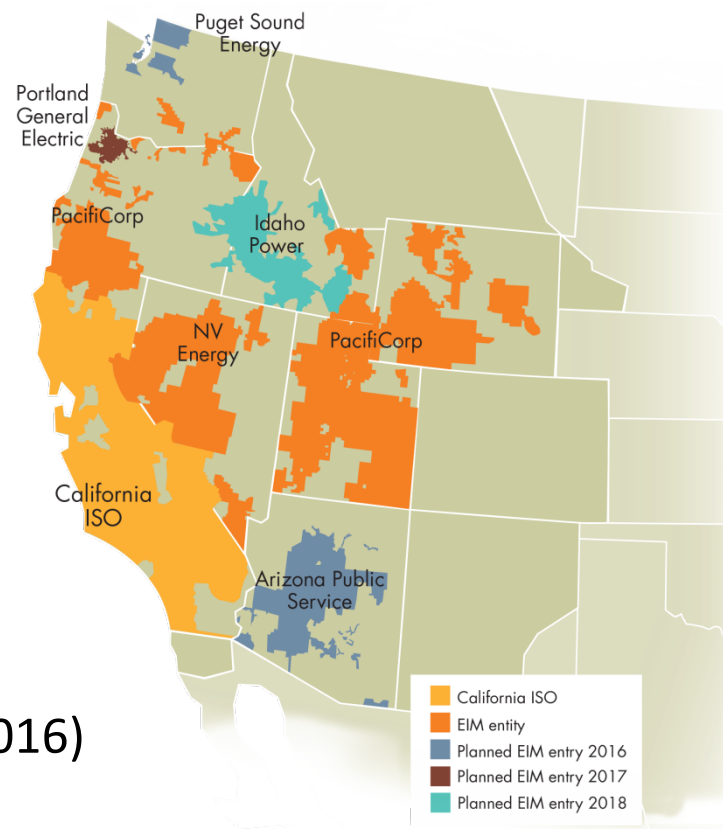
# Today's Presentation

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- Project Overview
- PSE Readiness: Training & Testing
- Customer Readiness & Outreach
- Regulatory Update

# Expansion and Performance

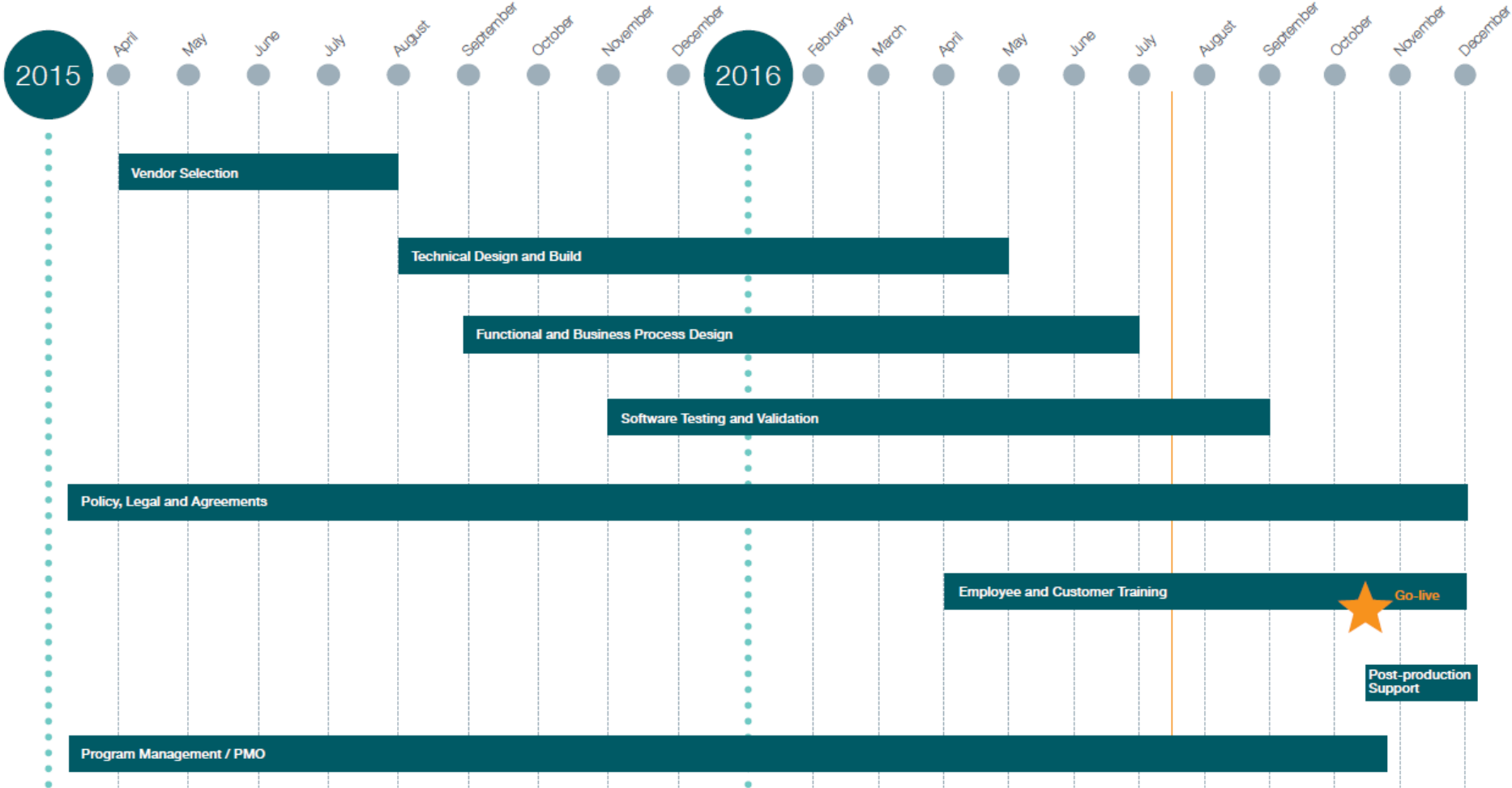
- EIM footprint is expanding
  - PacifiCorp
  - NV Energy
  - Puget Sound Energy
  - Arizona Public Service
  - Portland General Electric
  - Idaho Power
  - Next ?
- Market Performance
  - \$64.60 Million Total Benefit (March 2016)



# EIM Project Timeline

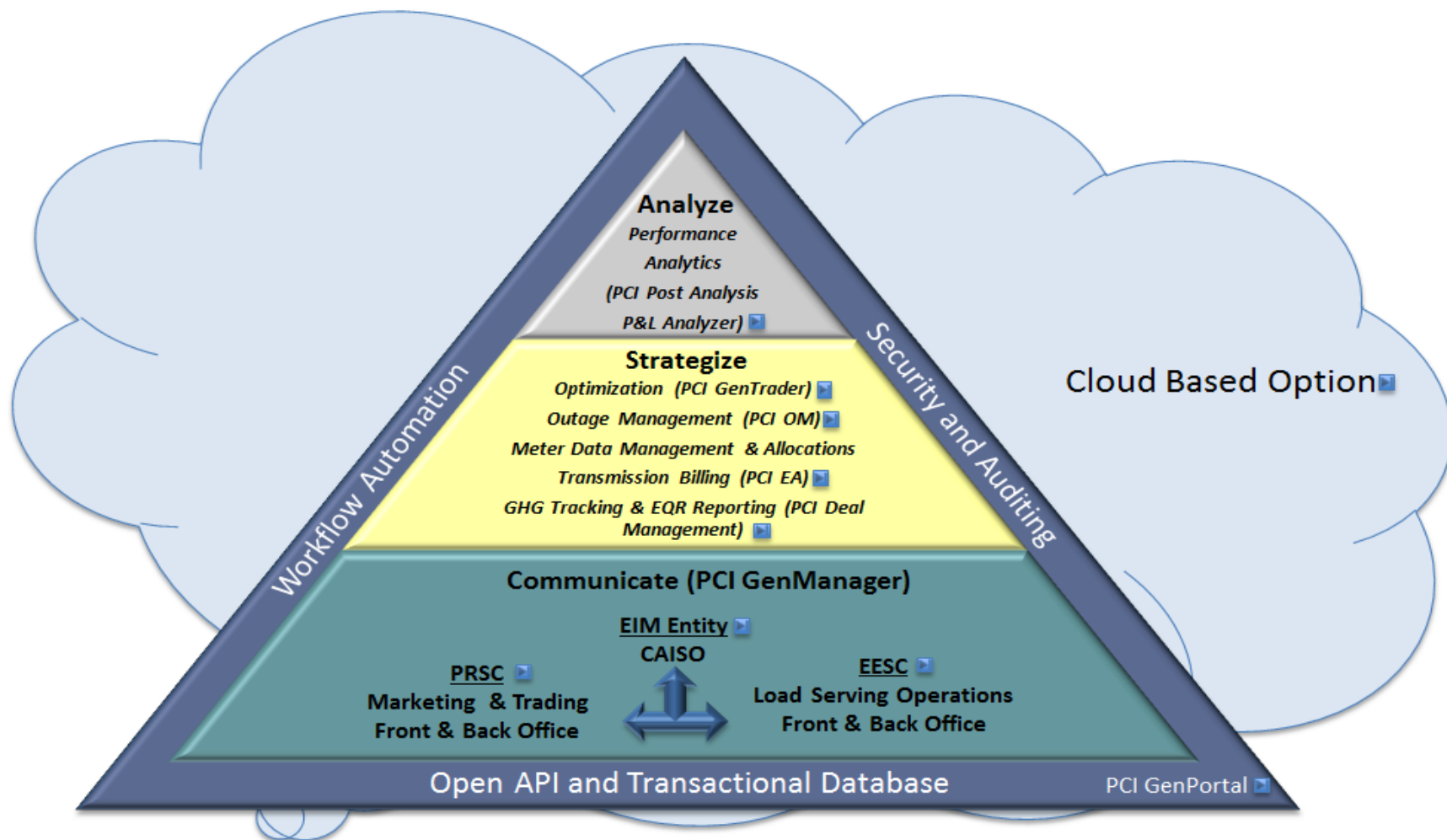
EnergyImbalanceMarket

Project implementation roadmap



# Bid to Bill Solution

## PCI – CAISO EIM Solution



# PSE's System Integration Activities

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## **Full Network Model**

- The full network model defines system parameters, price node and market scheduling limit mappings, and planned network model updates.
- PSE has successfully exported its network model to CAISO, and it is now integrated into the overall system model.

## **Master File**

- The master file sets up and maintains resource characteristics and scheduling coordinator assignments used in the market and systems to reliably operate the grid.

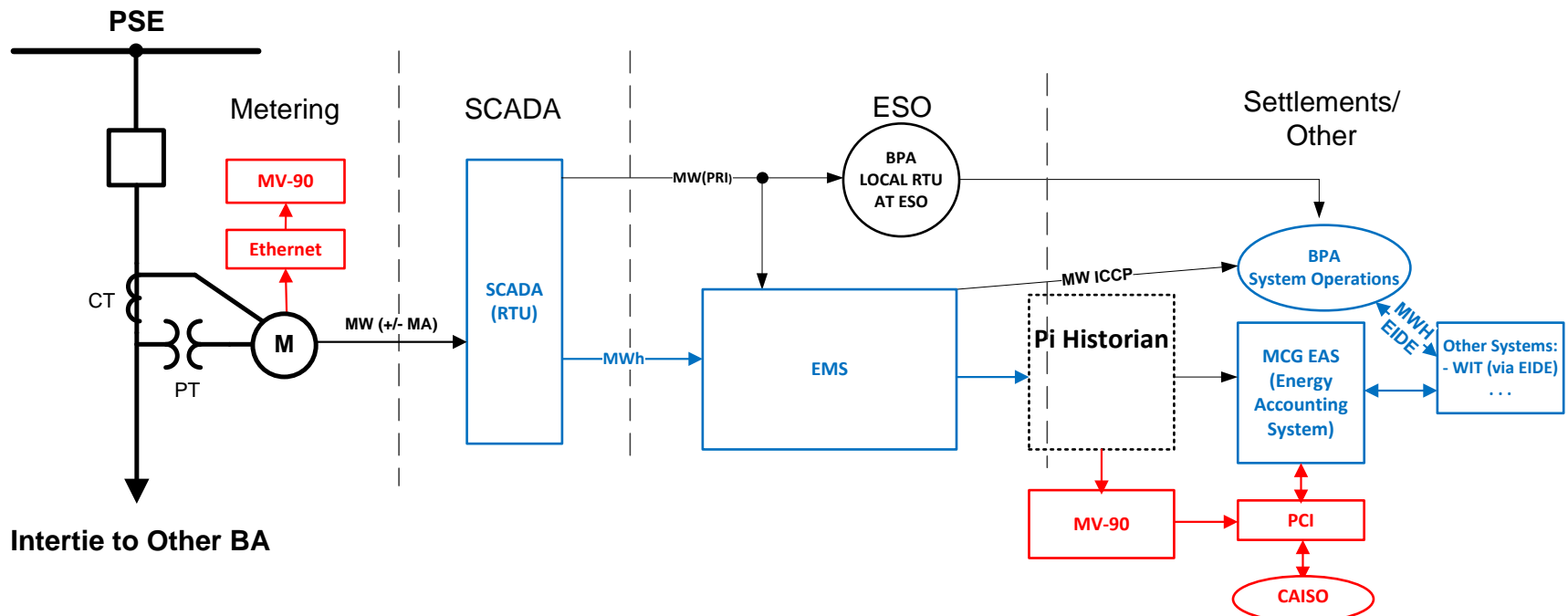
## **System Integration**

- Total PSE applications impacted ~28
- Total number of added/changed interfaces ~97

## **Metering**

- A significant number of intertie and generation meters have required programming and communications for the EIM in order for PSE's generation, resource and intertie meters to provide 5 minute data.

# Metering Case Study



- Generation/Intertie/Load meter data requirements
- Metered Entity Options: ISOME vs. SCME
- Settlement Quality Meter Data
- Meter data submittal timing
- For PSE 43 generation and 50 interchange meters impacted

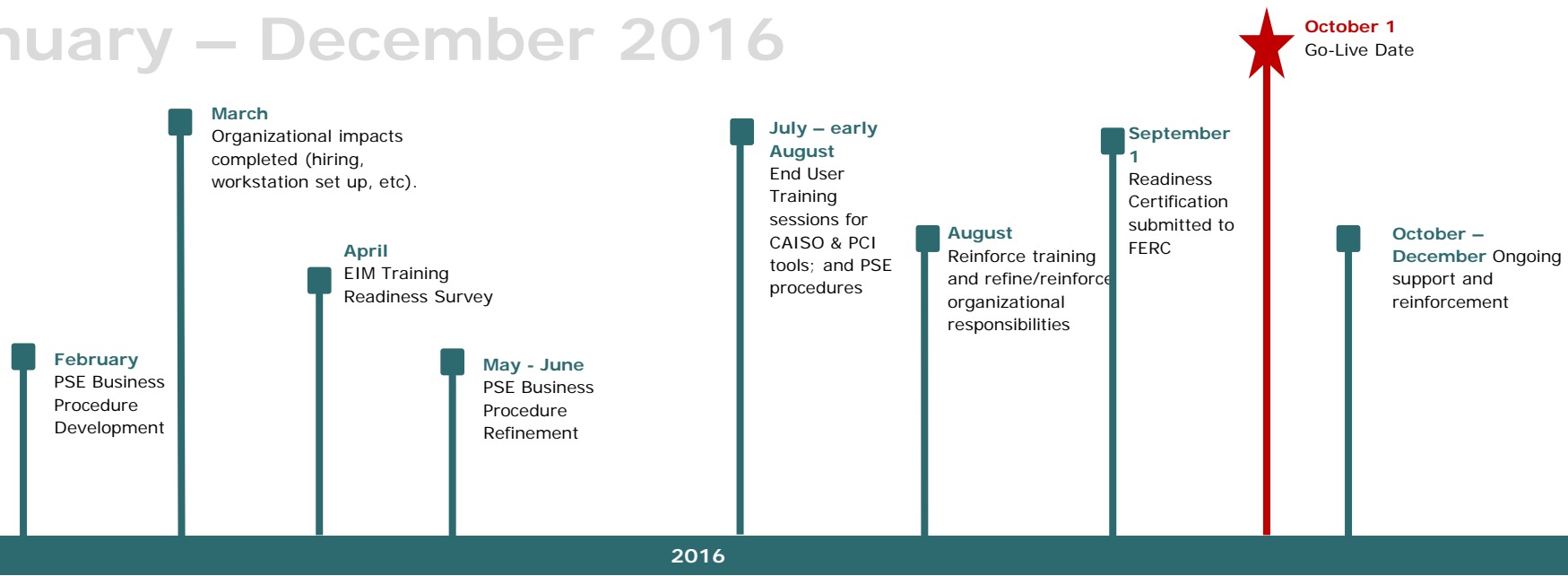
# PSE Project Milestones

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- Day in the Life: May 2 – June 30
- Market Simulation: July 1 – July 31**
- Parallel Operations: August 1 – September 30
- CAISO/PSE Certify Readiness to FERC: September 1
- Go Live (Financially Binding Operations): October 1



# January – December 2016



2016

January – April:  
IT Testing Phases &  
CAISO System Integration Testing

May – June:  
User Acceptance  
Testing

April - May  
CAISO Subject Matter  
Expert (SME) Training

June - July:  
CAISO End User Training

January - May:  
PCI Train the Trainer

June - July:  
PCI End User Training

May 2 – June 30:  
Day in the Life

July 1 - 31:  
Market  
Simulation

August 1 – September 30:  
Non-Financially Binding  
EIM Operations

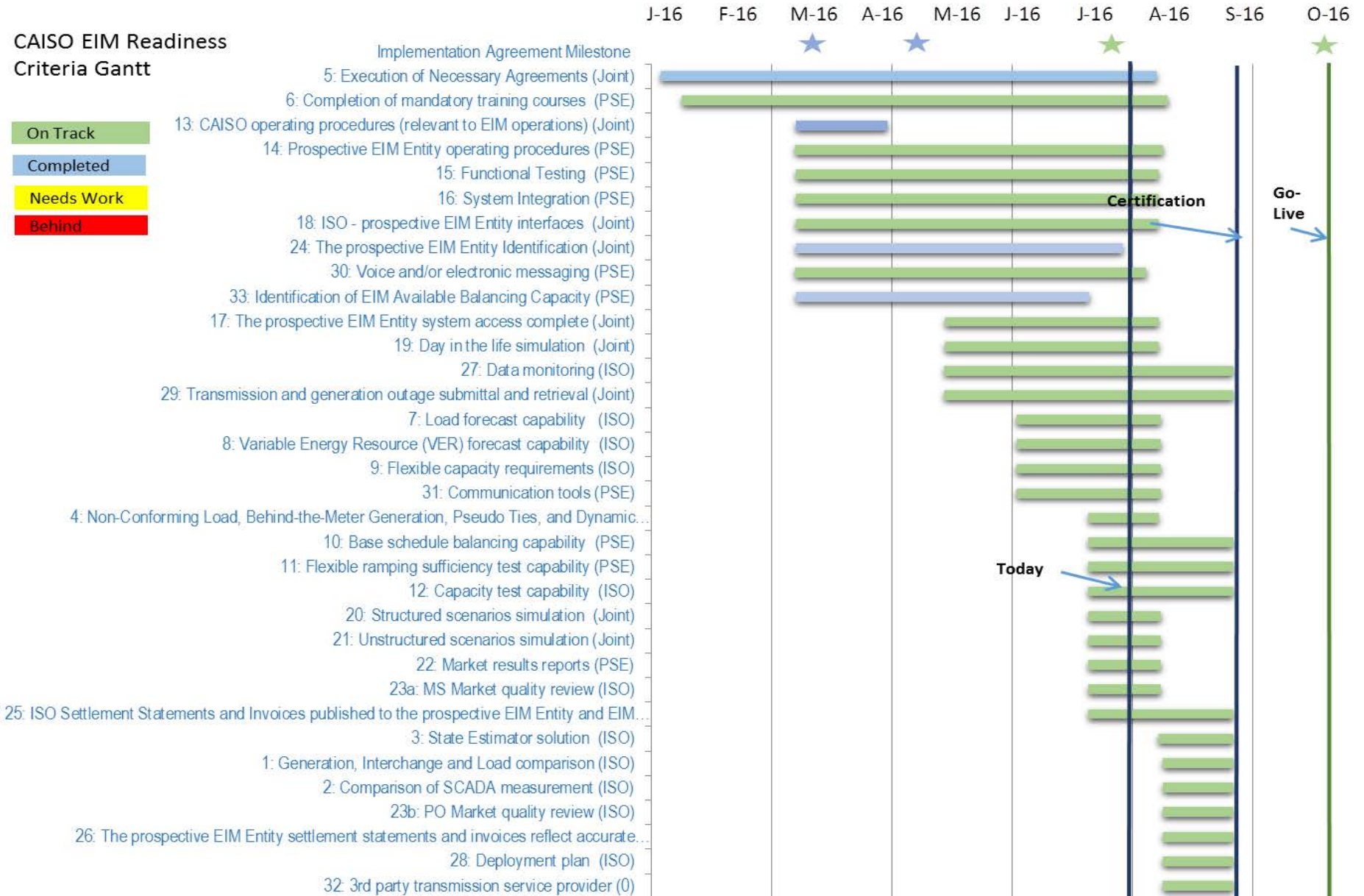
**Legend**

- = Testing Activities
- = CAISO Activities
- = PCI Activities
- = Simulation Activities

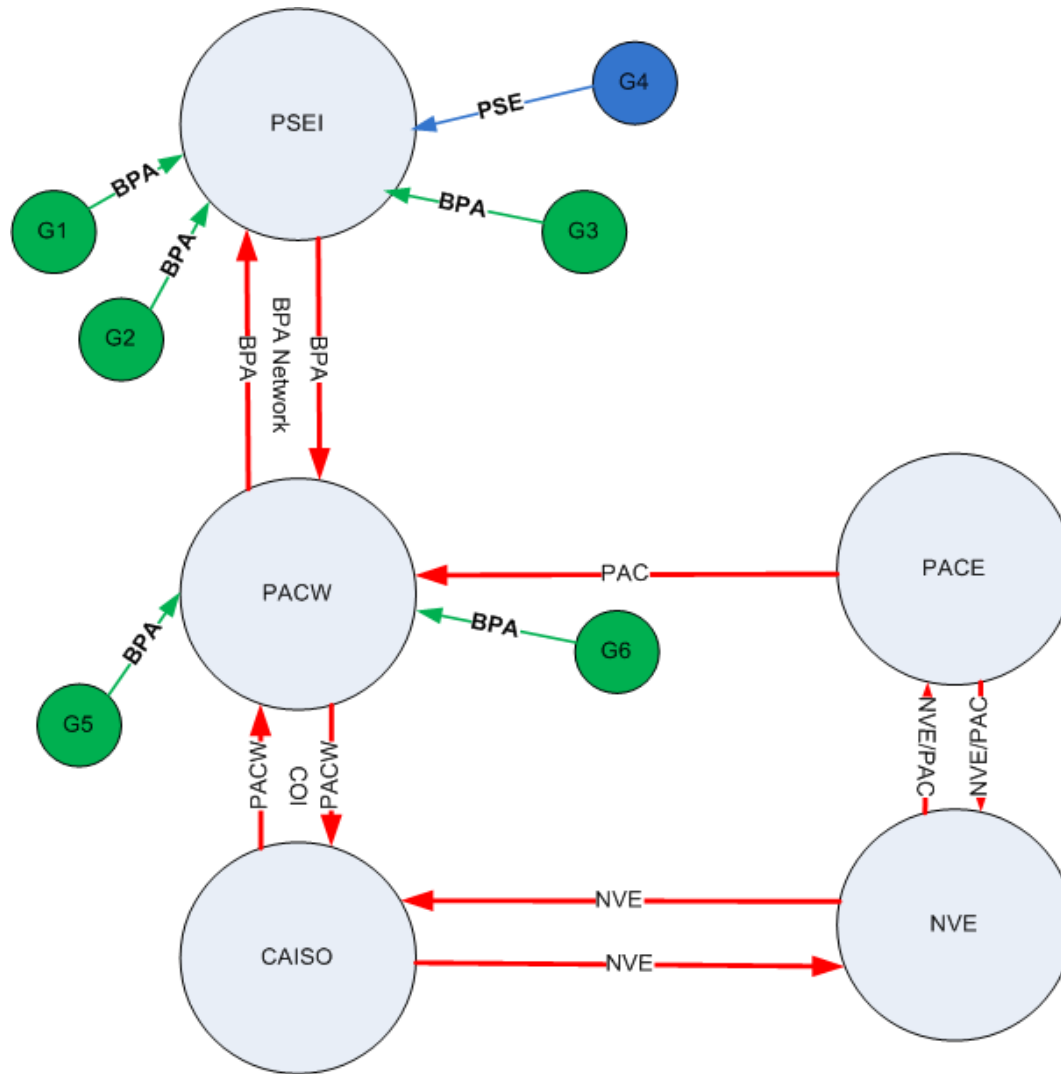
# EIM Readiness Criteria

## CAISO EIM Readiness Criteria Gantt

- On Track
- Completed
- Needs Work
- Behind



# Collaboration with BPA for use of transmission in the EIM



**PSEUDO-TIE** —BPA▶

Delivery of PSE generator the PSE BA over Firm BPA transmission via a PSEUDO-TIE tag. These tags and deliveries exist today for PSE's BA operation.

**LOCAL Resource** —PSE▶

Generation that is "local" to the PSE BA (i.e. it does not require BPA transmission to be delivered to PSE load).

**EIM TRANSFER** —BPA▶

EIM Transfers represent the net market dispatch among the EIM Entity BAAs. These transfers exist today for PAC, but PAC uses its own transmission for these transfers. They are tagged as system to system and use NORMAL tags for 15-Minute dispatches and DYNAMIC tags for 5-minute dispatches on the COI. DYNAMIC tags are currently used for other EIM Transfer paths.

# Customer Readiness & Outreach

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- **Update Business Practice Manual (BPM) - June 1, 2016 (Available [Here](#))**
- **Continued Customer Outreach and Training**

Date & Time	Activity
Tuesday, June 7, 2016 10:00 – 11:30 AM PST	EIM Update and Preparation Webinar
Tuesday, July 19, 2016 10:00 – 12:00 PM PST	EIM Outage Coordination, Scheduling, and Base Schedule Aggregation Portal (BSAP) Webinar
August 1, 2016	Parallel Operations Begins for PSE and Customers
September 13/14/15, 2016 10:00 – 11:30 AM PST	Settlements Training 101 Webinar(s) <i>(Note: Multiple sessions offered)</i>
October 1, 2016	“Go Live” for PSE and PSE customers
November 15/16/17, 2016 10:00 – 12:00 PM PST	“How to Read Your Bill” Webinar(s) <i>(Note: Multiple sessions offered)</i>

# Regulatory Update

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- **Washington Utilities and Transportation Commission**
  - May 27, 2016 updates to 448/449 Schedules approved
- **Federal Energy Regulatory Commission**
  - Open Access Transmission Tariff
    - February 10, 2016 Proposed EIM Tariff Amendments
    - April 28, 2016 Conditional Approval
    - May 27, 2016 Compliance Filing
  - Market Based Rate Tariff
    - March 9, 2016 Non-Material Change in Status for entry into EIM
  - Readiness Certification
    - September 1, 2016 CAISO/PSE Certification of Readiness to FERC

# Questions

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