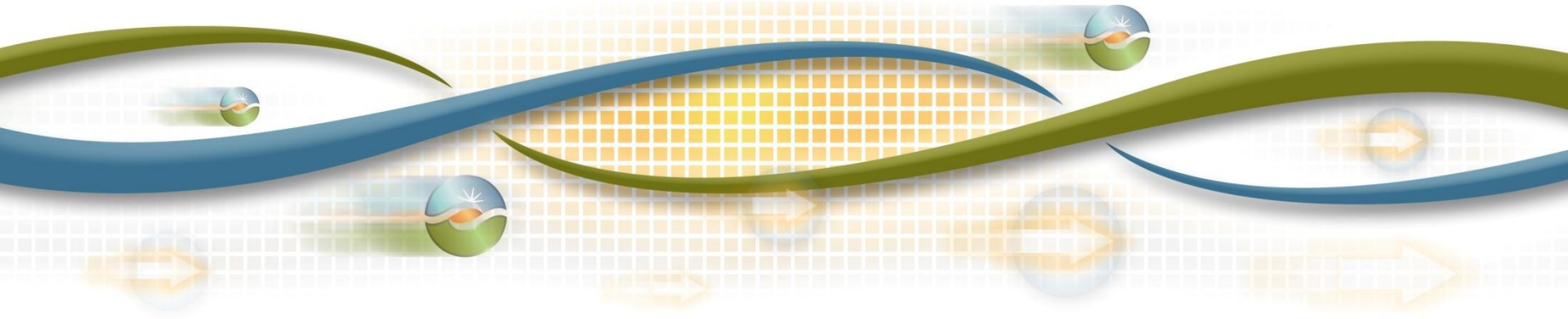


EIM Go-Live Enhancements

Eric Hildebrandt
Director, Market Monitoring

Don Tretheway
Lead Market Design and Policy Specialist

June 16, 2014



Agenda

Time	Topic	Presenter
1:00 – 1:10	Introduction	Mercy Parker Helget
1:10 – 1:20	EIM Go-Live Enhancements	Don Tretheway
1:20 – 2:20	Assessment of Potential Market Power in EIM	Eric Hildebrandt
2:20 – 2:50	Transition Costs for Non-Gas MSG Units	Don Tretheway
2:50 – 3:00	Wrap-up and Next Steps	Mercy Parker Helget

EIM Go-Live Enhancements

- In FERC filing, asked that ISO BOG be given authority to approve management recommendation for system level market power mitigation
 - Market power mitigation has been discussed at past two market surveillance commitment meetings
- No decision of flow entitlements until market simulation
- Need to add non-gas fuel source for MSG transition costs

Overview

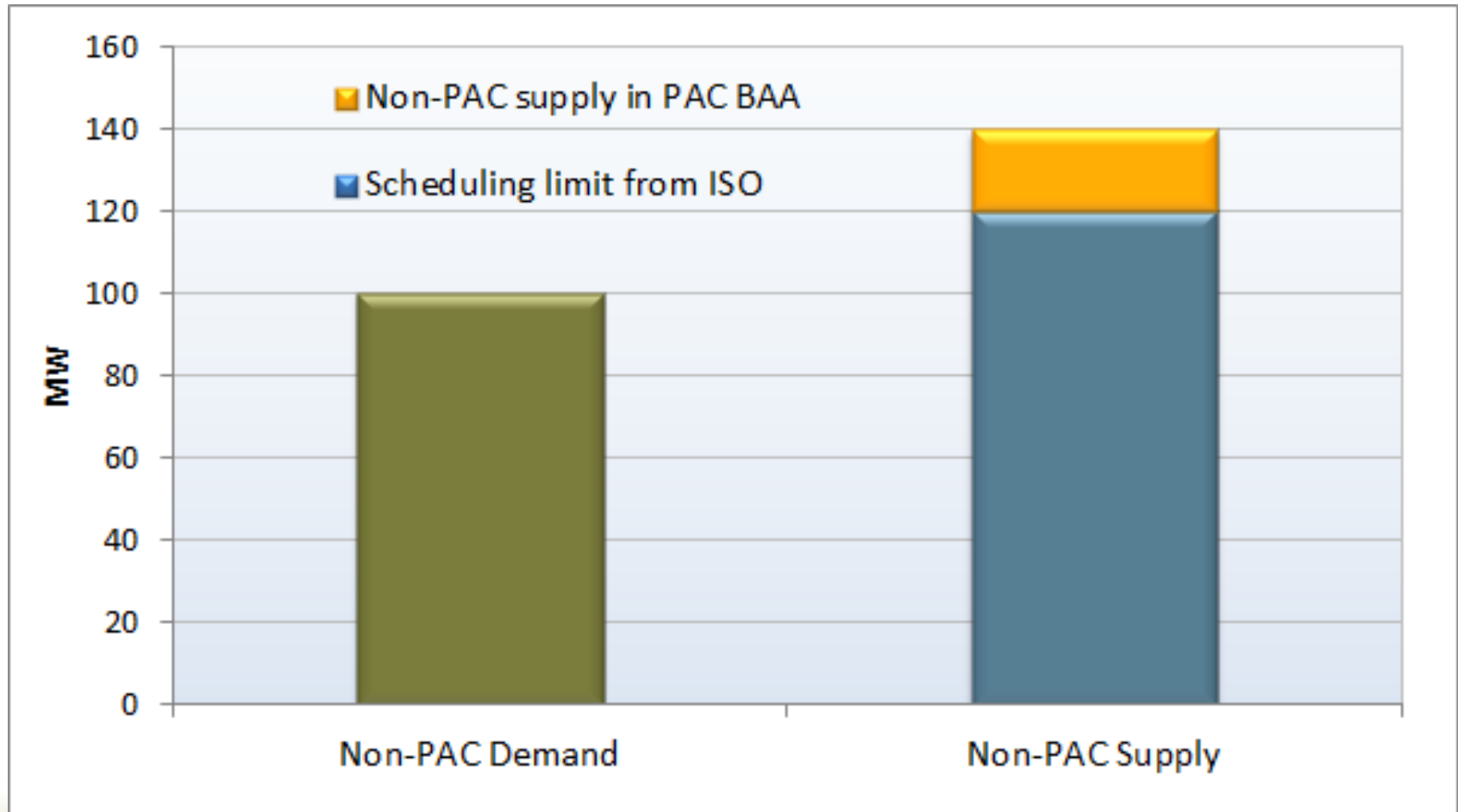
- ISO's initial EIM design applies local market power mitigation tests/procedures when congestion occurs on constraints within PacifiCorp BAAs.
- To mitigate potential structural market power on BAA-wide level, mitigation tests/procedures need to also be applied when EIM scheduling constraints into PacifiCorp BAAs from ISO become binding.
- Decision on expanded market power mitigation was deferred to July Board meeting to allow more time to assess potential structural market power on BAA-wide level.
- DMM study with updated information indicates need for expanded market power mitigation due to potential structural market power on BAA-wide level.

Market power mitigation procedures

- Only triggered when a constraint becomes binding (congested)
- Binding constraints tested for structural competitiveness:
 - Based on effective supply available to meet constraint
 - 3 pivotal supplier test
- If constraint is deemed *non-competitive*, only resources that effective at meeting constraint are subject to bid mitigation
- Bids may be lowered to maximum of:
 - Competitive system price
 - Default Energy Bid (DEB)

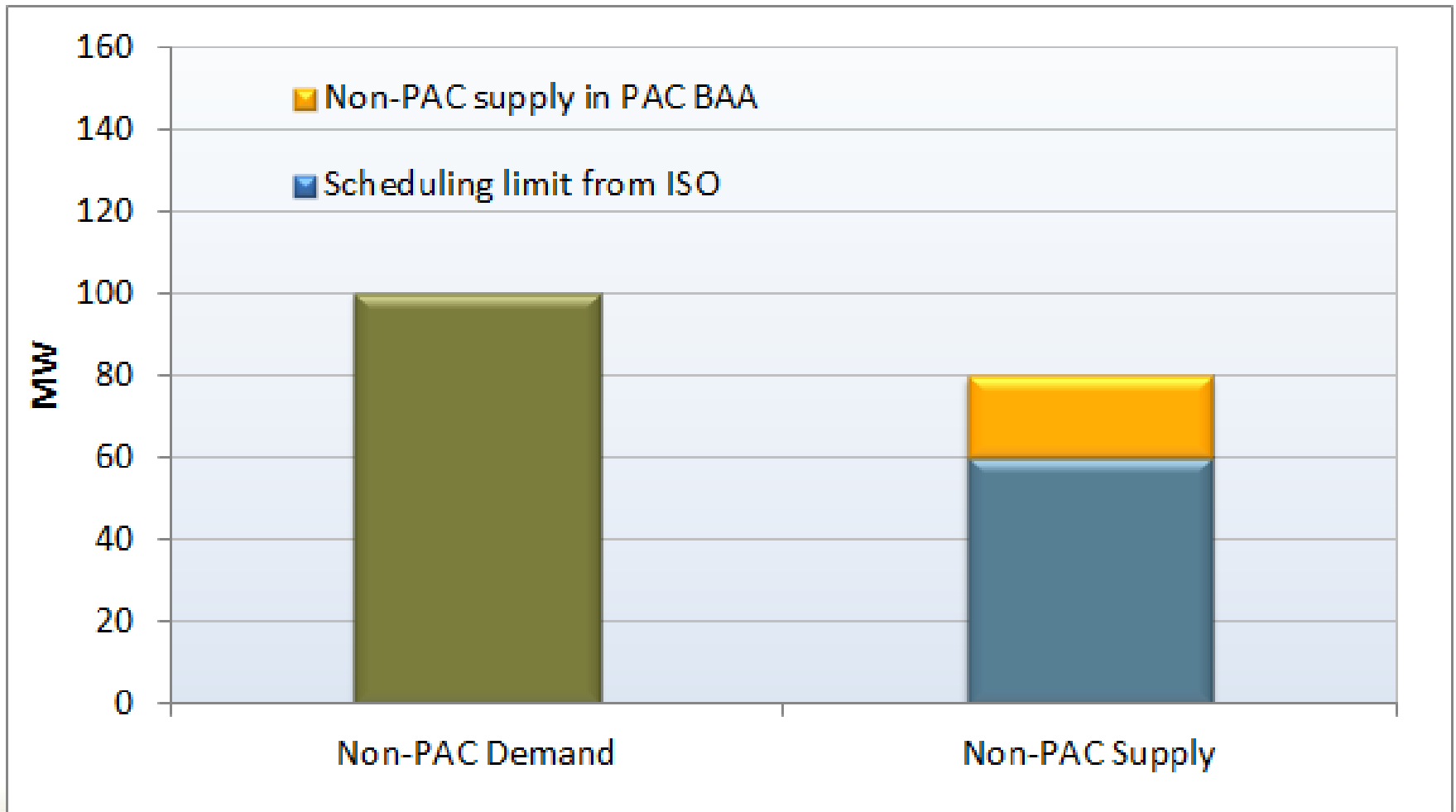
Single pivotal supplier analysis

Illustrative example of structurally competitive market

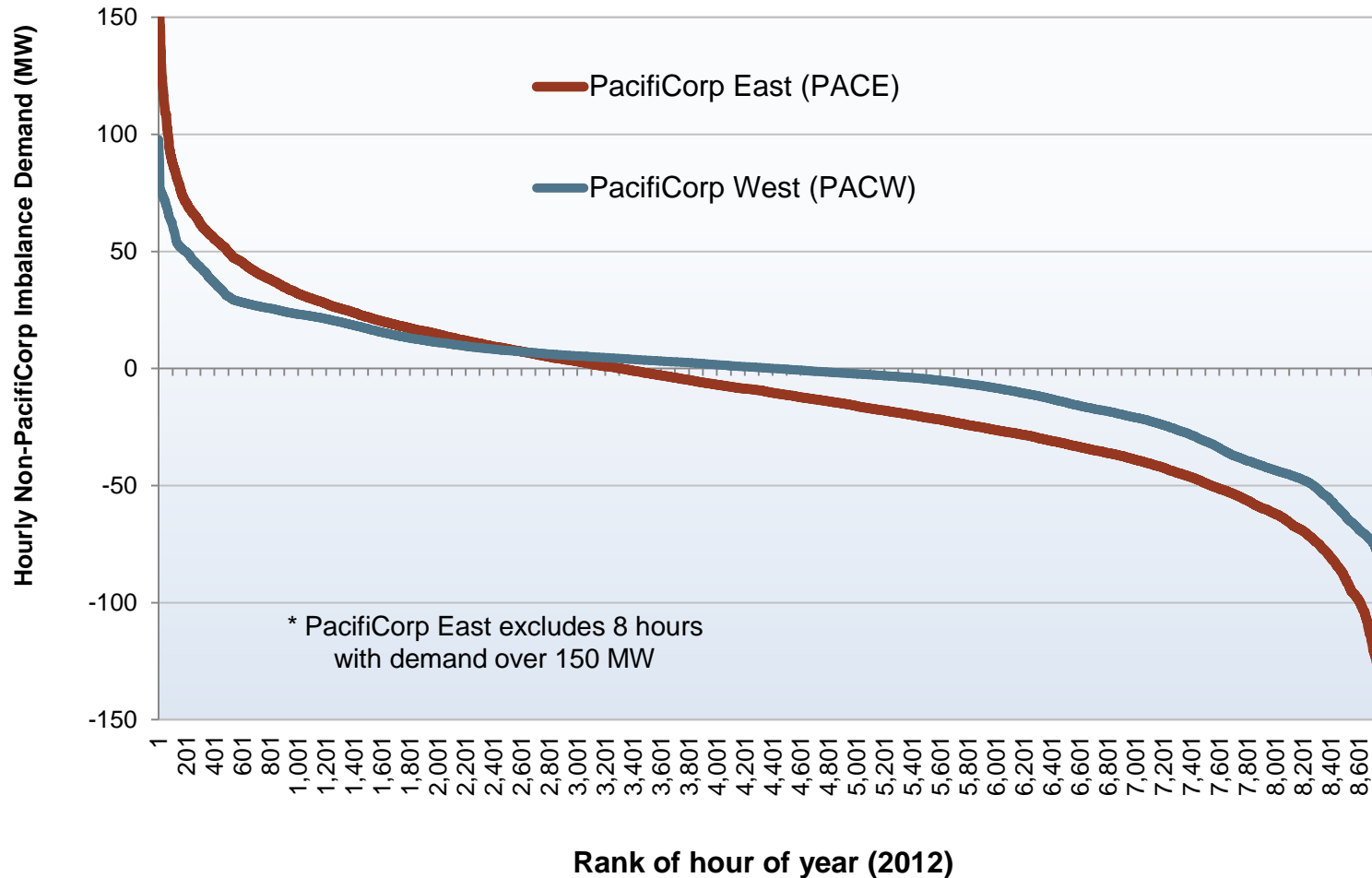


Single pivotal supplier analysis

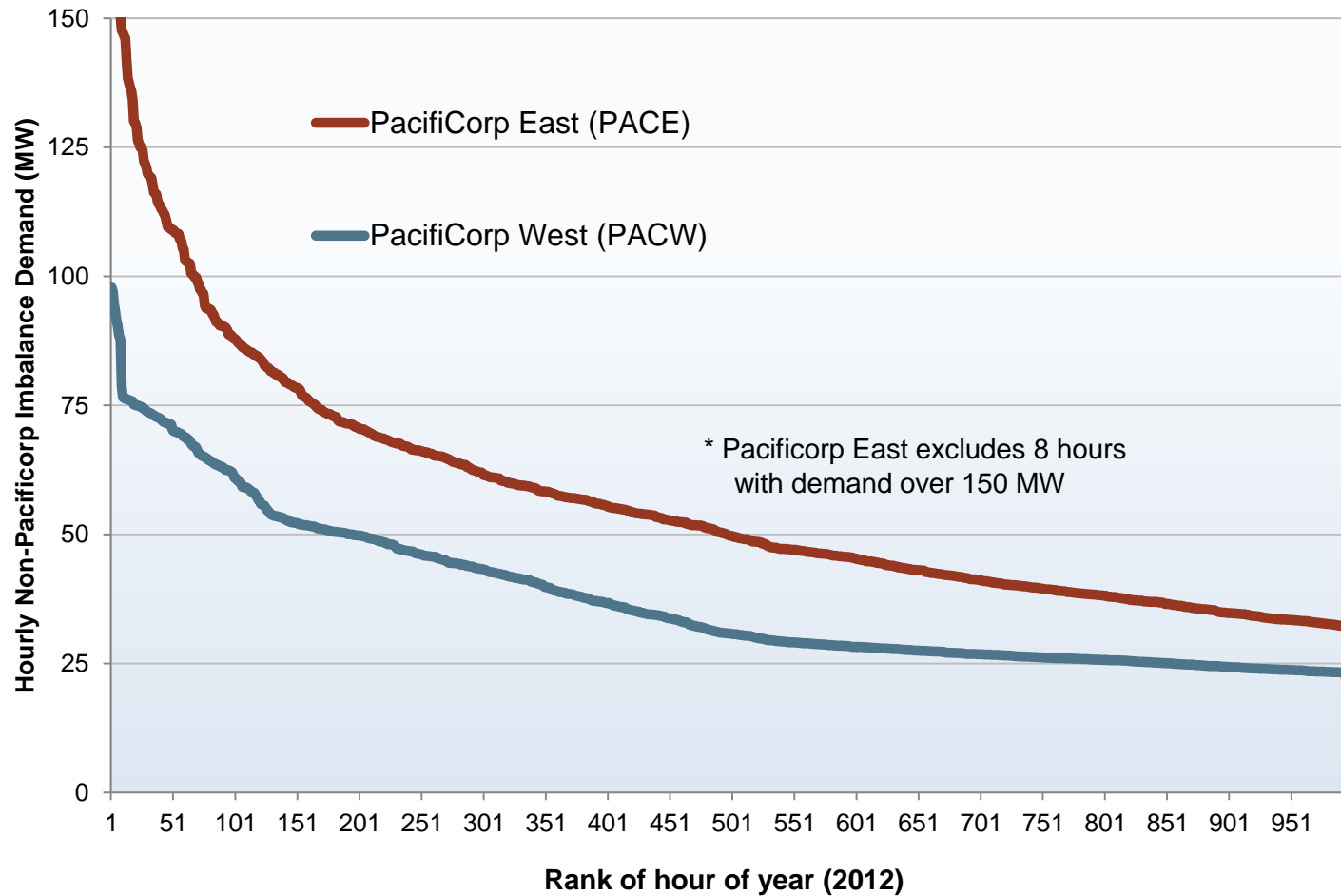
Illustrative example of structurally non-competitive market



Annual duration curve of non-PacifiCorp demand for imbalance energy (2012)

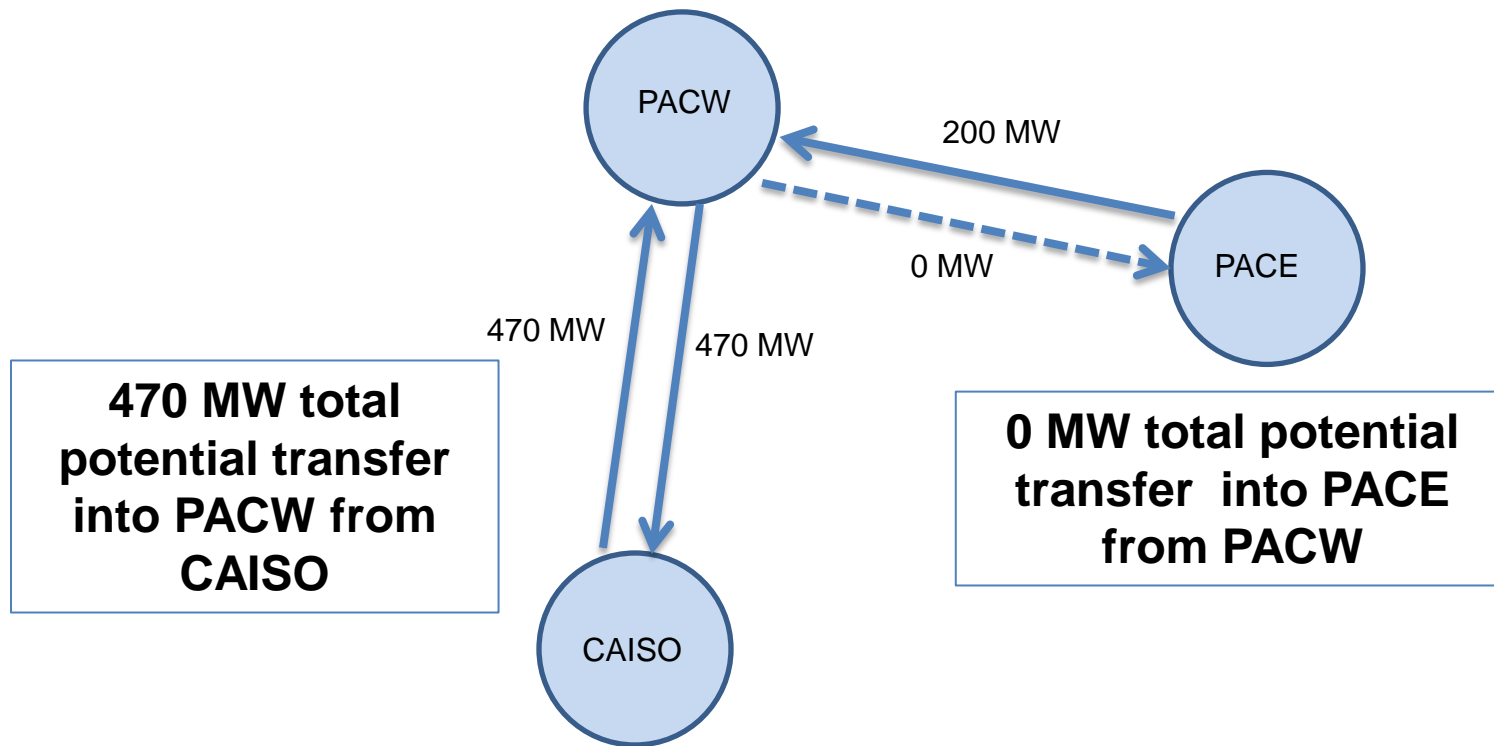


Duration curve of non-PacifiCorp demand for imbalance energy (highest 1,000 hours)



Potential EIM transfer constraint limits

(before considering dynamic base schedules using EIM transmission rights)



DMM conclusions and recommendations

- Apply automated market power mitigation tests/procedures to EIM scheduling constraints into PAC BAAs
 - PACE not likely to be structurally competitive during most hours.
 - PACW likely to be structurally competitive during most hours, but could be uncompetitive if scheduling limits from ISO reduced.
- Continue to pursue options for reducing unnecessary mitigation.
 - Reassess competitiveness based on first 12 months of actual EIM data.
 - Develop automated dynamic approach based on actual scheduling limits each time period (hour, 15-minute).

ISO will propose the following at the July BOG meeting

- Apply market mitigation procedures to EIM transfer constraints into EIM BAAs
 - In FERC filing, asked that ISO BOG be given authority to approve management recommendation
 - Assuming FERC approve on June 20, no tariff change needed
- Allow non-gas resources to utilize multi-stage generation functionality
 - Current tariff assumes MSG resources are gas
 - Need to allow negotiated rate for transition costs when fuel source is not natural gas
 - Immediately file tariff with effective date of the current EIM filing

Proposed tariff language for non-gas MSG transition costs

29.30 Bid and Self-Schedule Submission For CAISO Markets. The provisions of Section 30 that are applicable to the Real-Time Market shall apply to EIM Market Participants, except that EIM Participating Resources that are also Multi-Stage Generating Resources may negotiate a Transition Cost multiplier with the ISO, in consultation with Department of Market Monitoring, consistent with the procedures in section 39.7.1.3 in the event that the monthly Thousand British Thermal Units (MMBtu) Gas Price Index does not account for the fuel source of the Generating Unit.

Next Steps

Item	Date
Post Draft Final Proposal	June 9, 2014
Stakeholder Conference Call	June 16, 2014
Stakeholder Comments Due	June 23, 2014
Board of Governors Decision	July 17-18, 2014

Please submit comments to EIM@caiso.com by June 23