

Briefing on Energy Imbalance Market

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EIM Transitional Committee Meeting
General Session
August 25, 2015



Agenda

EIM operations update

- Q2 benefits summary
- Pricing performance
- Transfers
- Reduction in infeasibilities

EIM Regulatory Update

- Available capacity proposal
- Year-one enhancements
- Readiness criteria
- Transitional measure

Mark Rothleder, VP Market Quality and Renewable Integration

EIM OPERATIONS UPDATE

EIM Operations Update

- Benefits assessment for 2015-Q2 issued.
 - 2015-Q2 benefits based on 5-minute results
- Pricing discovery waiver update
 - FERC approved waiver to November 1, 2014
 - ISO filed tariff to recognize available capacity
- Transfers increased
- Frequency of infeasibilities drops below 1%

Gross EIM benefits increased in 2nd Quarter 2015

Millions of dollars

BAA	Nov – Dec 2014	Jan – Mar 2015	Apr – Jun 2015 ¹	Total
ISO	\$1.24 M	\$1.45 M	\$2.46 M	\$5.15 M
PACE	\$2.31 M	\$2.62 M	\$3.26 M	\$8.19 M
PACW	\$2.42 M	\$1.19 M	\$4.46 M	\$8.07M
Total	\$5.97 M	\$5.26 M	\$10.18 M	\$21.41

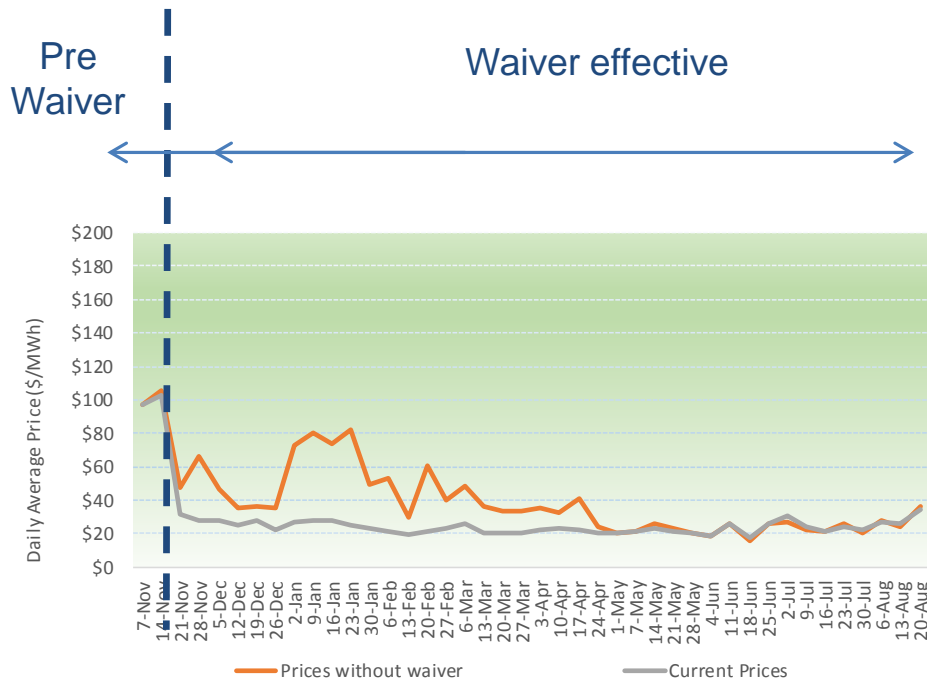
¹ Q2-2015 analysis based on 5-minute granularity.
Prior analysis was 15-minute granularity.

Report contains enhancements over the 2014 Q4 report:

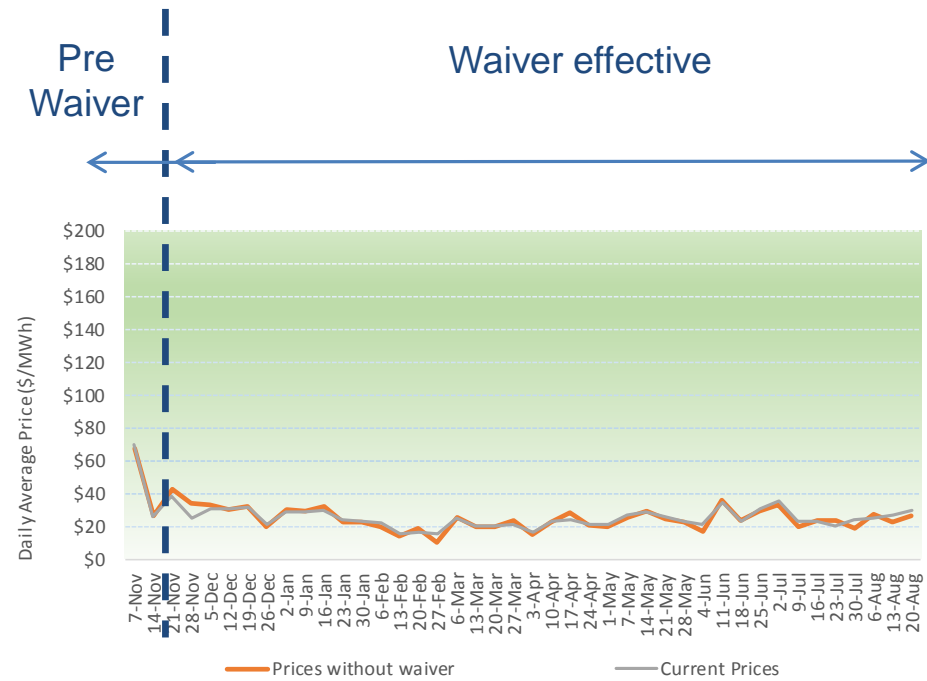
- Benefit calculations based on five minute market intervals
- Estimated 1,553 metric-tons CO2 avoided by reduced renewable curtailment

Pricing performance improvement continues

15-minute PACE Aggregate Price

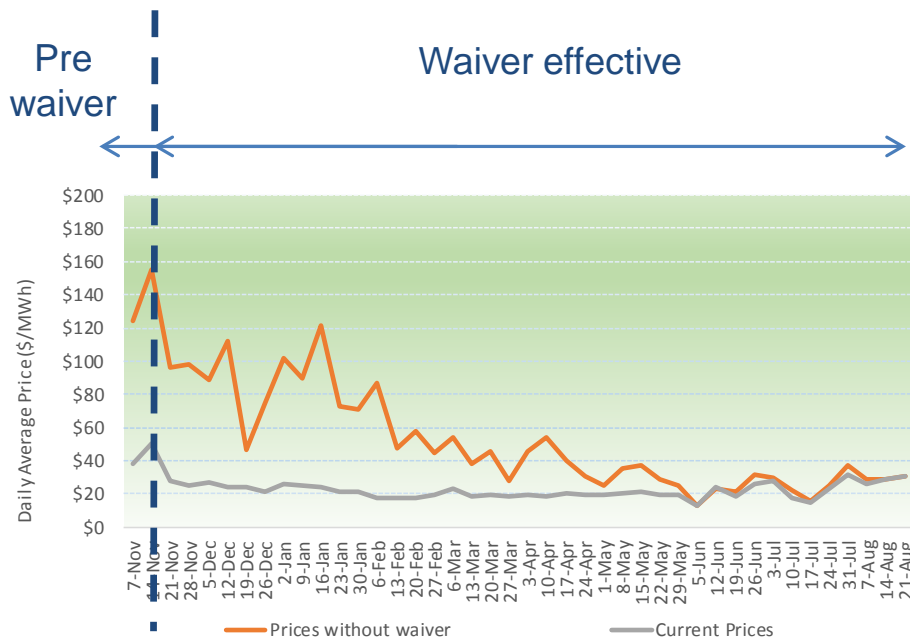


15-minute PACW Aggregate Price

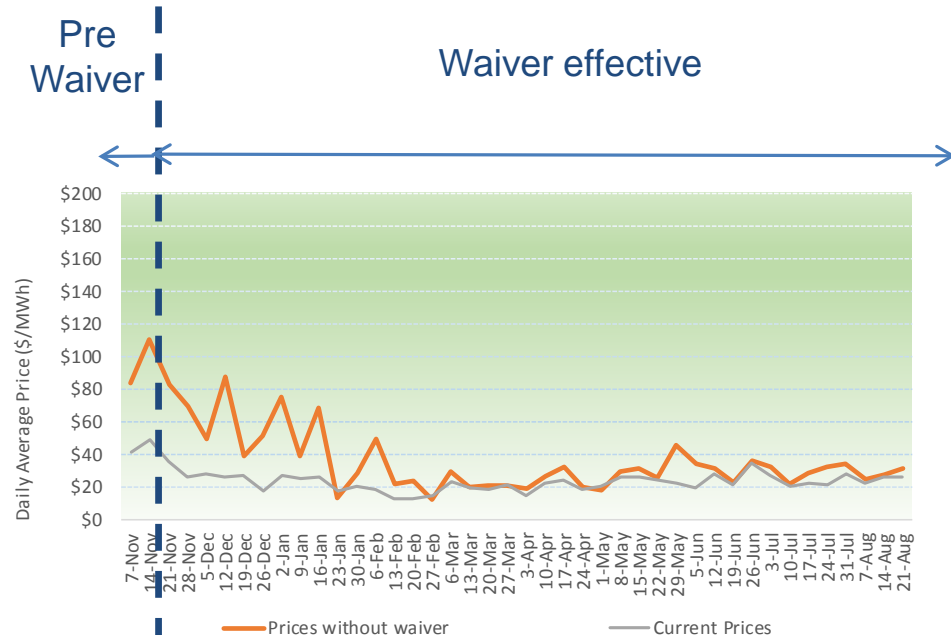


Pricing performance improvement continues

5-minute PACE Aggregate Price

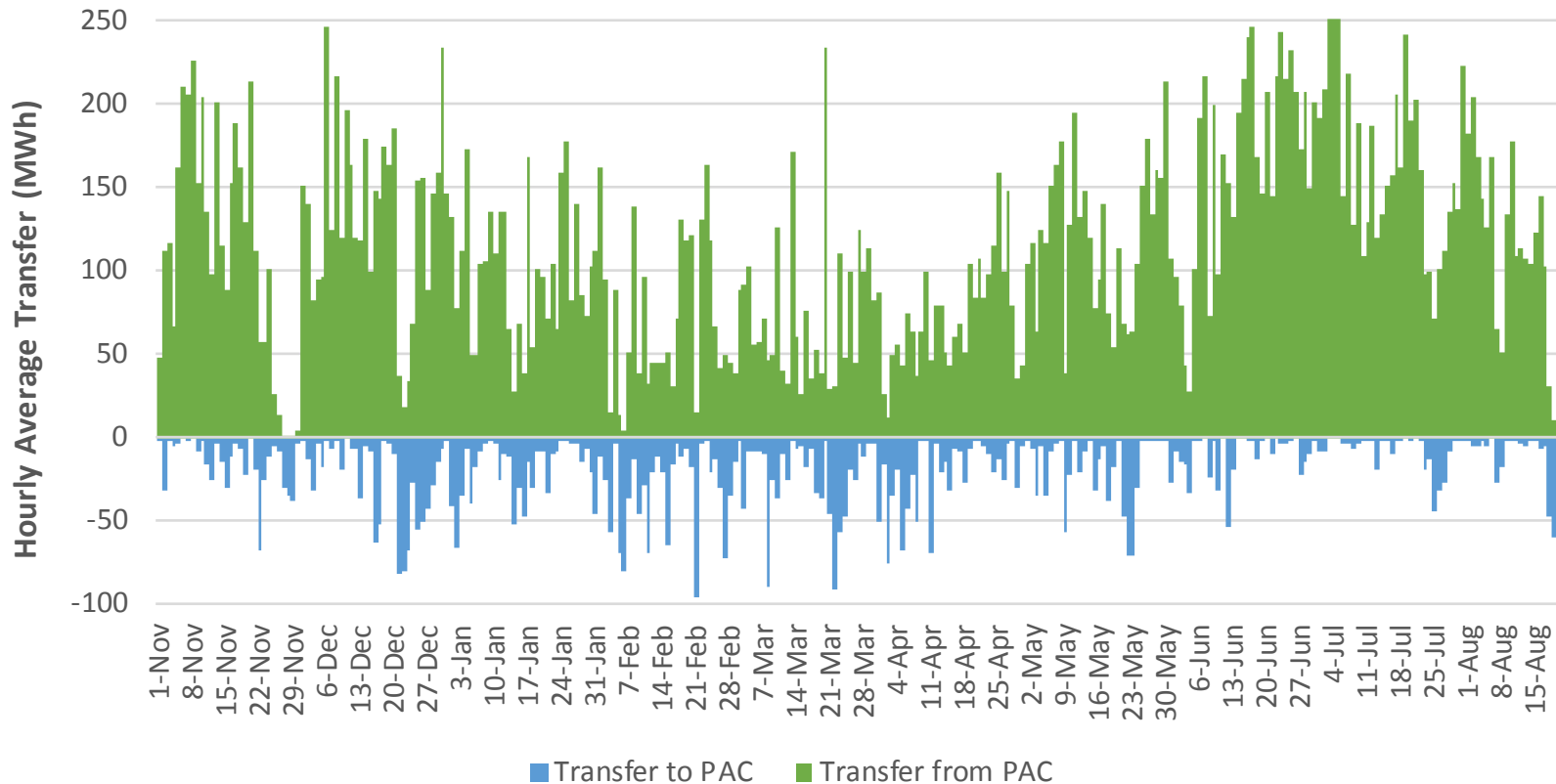


5-minute PACW Aggregate Price



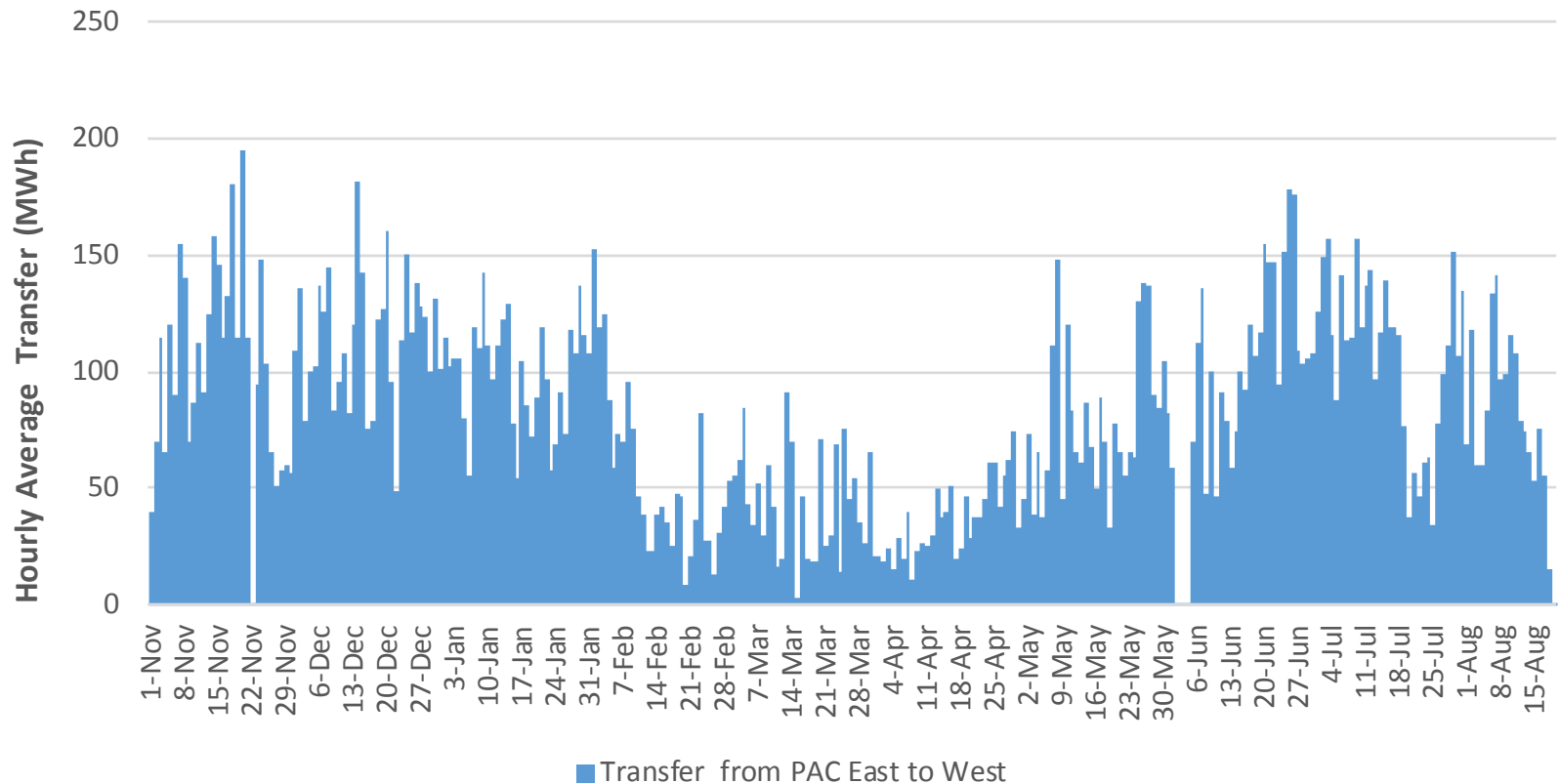
Hourly average transfer from PacifiCorp and ISO

(+) PacifiCorp to ISO / (-) ISO to PacifiCorp

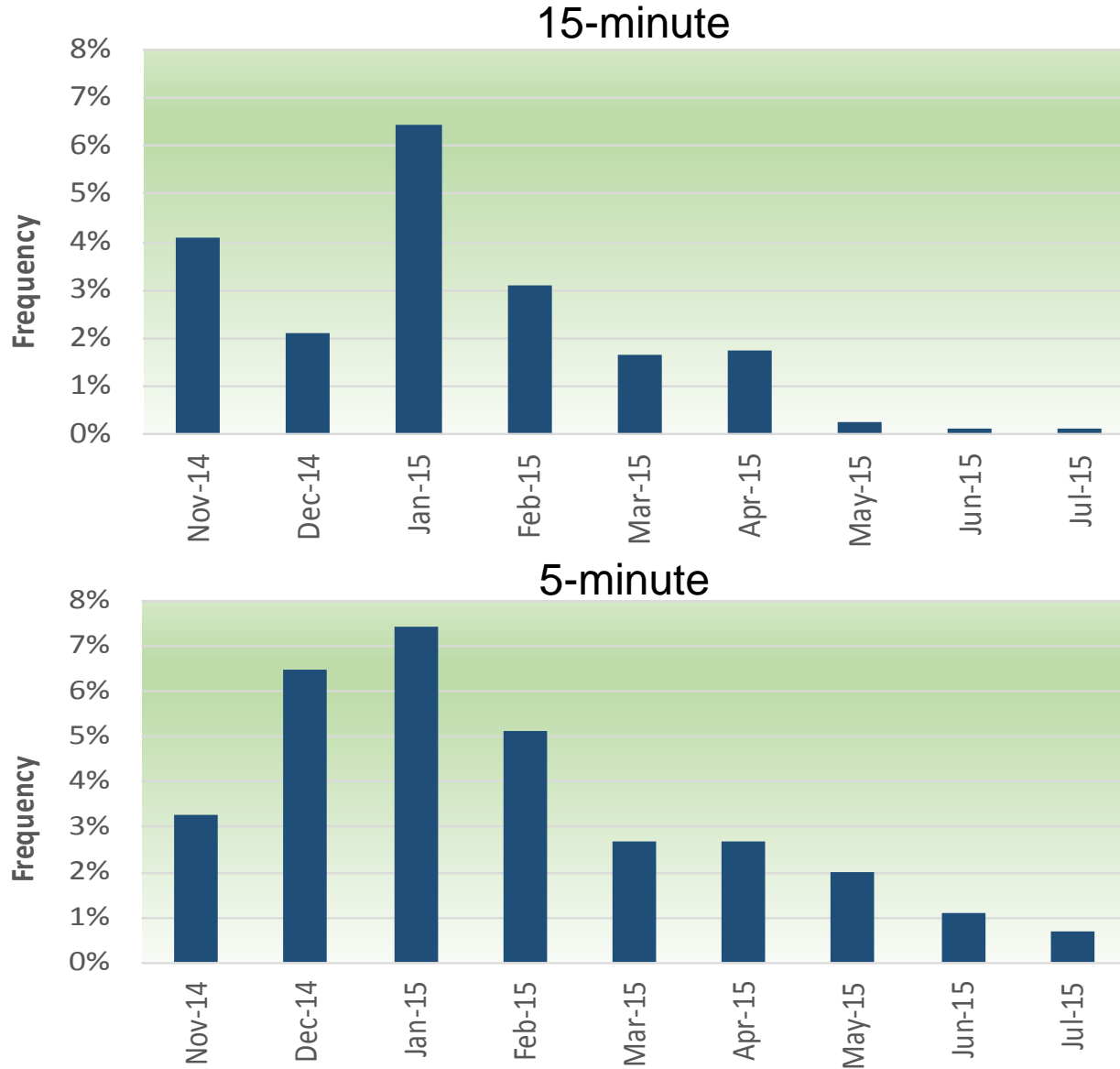


Hourly average transfers between PACE and PACW decreased in February

(+) PacifiCorp East to PacifiCorp West



Frequency of infeasibilities drops below 1%



John Anders, Lead Counsel

EIM REGULATORY UPDATE

Proposed tariff changes to implement available capacity proposal filed on August 19.

Date	Activity
March 16	FERC order initiated a 206 proceeding
April 9	Technical conference held
April 23	ISO proposal filed
July 20	FERC order directed the ISO to file tariff changes to implement its proposal
August 19	ISO proposal filed
	<ul style="list-style-type: none">• allows available balancing capacity to be dispatched by the market to solve a power balance violation
	<ul style="list-style-type: none">• recognizes EIM entity reserve management obligations and dispatches for their BAA needs
	<ul style="list-style-type: none">• respects economic merit order dispatch and settlement of the real-time market

Response to a request for more information on the year-one enhancements proposal was filed August 21.

Date	Activity
June 15	Year one-enhancements, phase 1, filed with FERC
July 30	FERC requested additional information <ul style="list-style-type: none">• EIM transfer costs• GHG bid adder
August 11	FERC conference to respond to questions
August 21	ISO filed written response <ul style="list-style-type: none">• caps EIM transfer costs at \$.01• establishes priorities for optimizing EIM transfer scheduling paths• describes circumstances that may require updates to the EIM transfer costs

EIM readiness criteria to be filed by August 28.

Date	Activity
August 16	FERC order directed the ISO to develop readiness requirements and criteria
May 6	Compliance filing submitted by ISO
July 21	FERC order directed a further compliance filing
July 31	ISO posted draft tariff changes
August 10	ISO hosted stakeholder call
August 19	Stakeholder comment matrix discussed <ul style="list-style-type: none">• Readiness criteria included in the tariff• Threshold measures included in the BPM• Some comments requested market design changes

Request for a 6 month transition period will be filed by the end of August.

- March 16 order allows a separate filing to address “learning curve” transitional issues
- ISO will propose a 6 month transitional period
 - would apply the price discovery feature currently implemented pursuant a waiver request
- Completes matters raised in the March 16 order
 - available capacity proposal
 - readiness requirements compliance filing

Questions