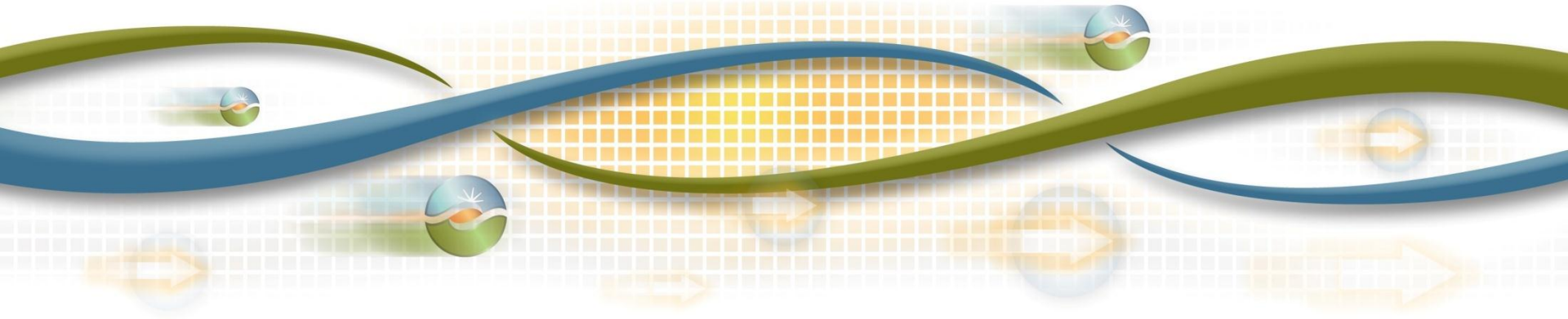


Local Market Power Mitigation in the EIM

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Outline

- Background and concerns
- Review of existing LMPM.
- Proposal for LMPM with EIM
- Unresolved questions and issues.

Background and issues

- Congestion in one BA will trigger mitigation in another BA although exercising local market power across BAs is not a concern.
 - Review proposal for separating LMPM by BA.
- EIM BA may rely on higher spot prices for fixed cost recovery absent a formal forward capacity reserve requirement.
 - Should EIM BA be able adopt different standard and process for default energy bids?
- Should some suppliers in EIM be classified as *net buyers* when applying pivotal supplier test used in LMPM? If so, how?

Existing LMPM

- Local market power is created by congestion that isolates some load and a limited pool of supply from the rest of the system.
- Identify local market power by applying a three pivotal supplier test to binding transmission constraints.
 - Remove effective supply and measure extent that remaining fringe supply can meet demand.
 - If fringe supply is insufficient, constraint is deemed uncompetitive.
- A resource has local market power if the (net) impact of **uncompetitive** constraints on the LMP is positive.
- Bids are mitigated to the higher of
 - (a) a calculated competitive price, or
 - (b) the min of Default Energy Bid or market bid.

Proposal for LMPM with EIM

(2 of 2)

- Separate identification of local market power and application of bid mitigation by BA.
- Limit test used to identify local market power to consider only supply and demand from within the BA where the binding transmission constraint resides.
- Limit impact of uncompetitive constraints on resource LMP to within the BA only.
- Existing LMPM framework will accommodate this with the addition of BA identifier for transmission constraints and supply resources.

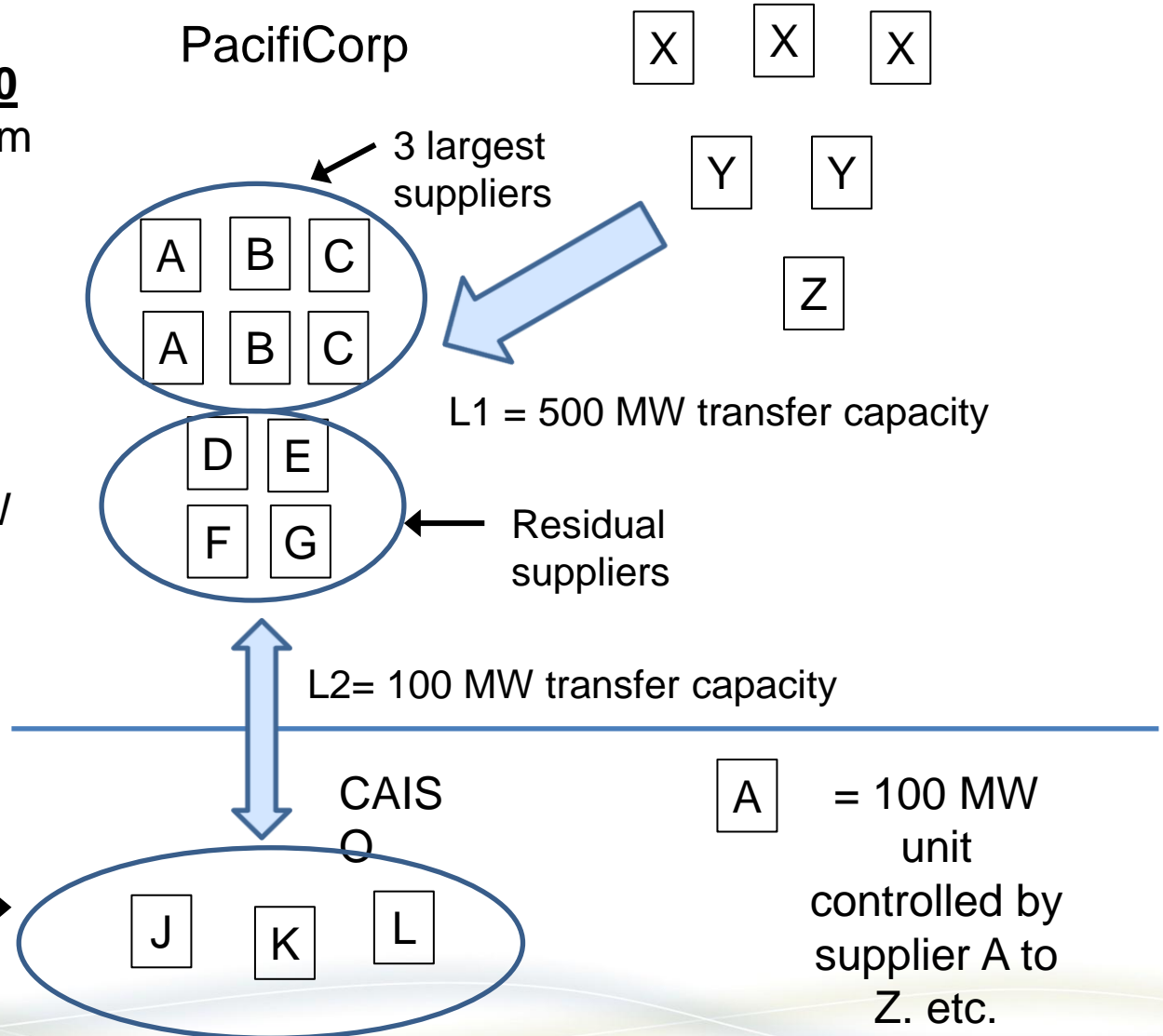
Other issues

- Implications of performing LMPM independently in each BA.
- Identification and treatment of net buyers in EIM.
- Identifying reference bus for LMP decomposition and mitigation trigger.
- Should alternatives to ISO DEBs be considered?
 - Use different standard (e.g. $DEB \leq X\%$ of marginal costs)

Scenario: dynamic path assessment

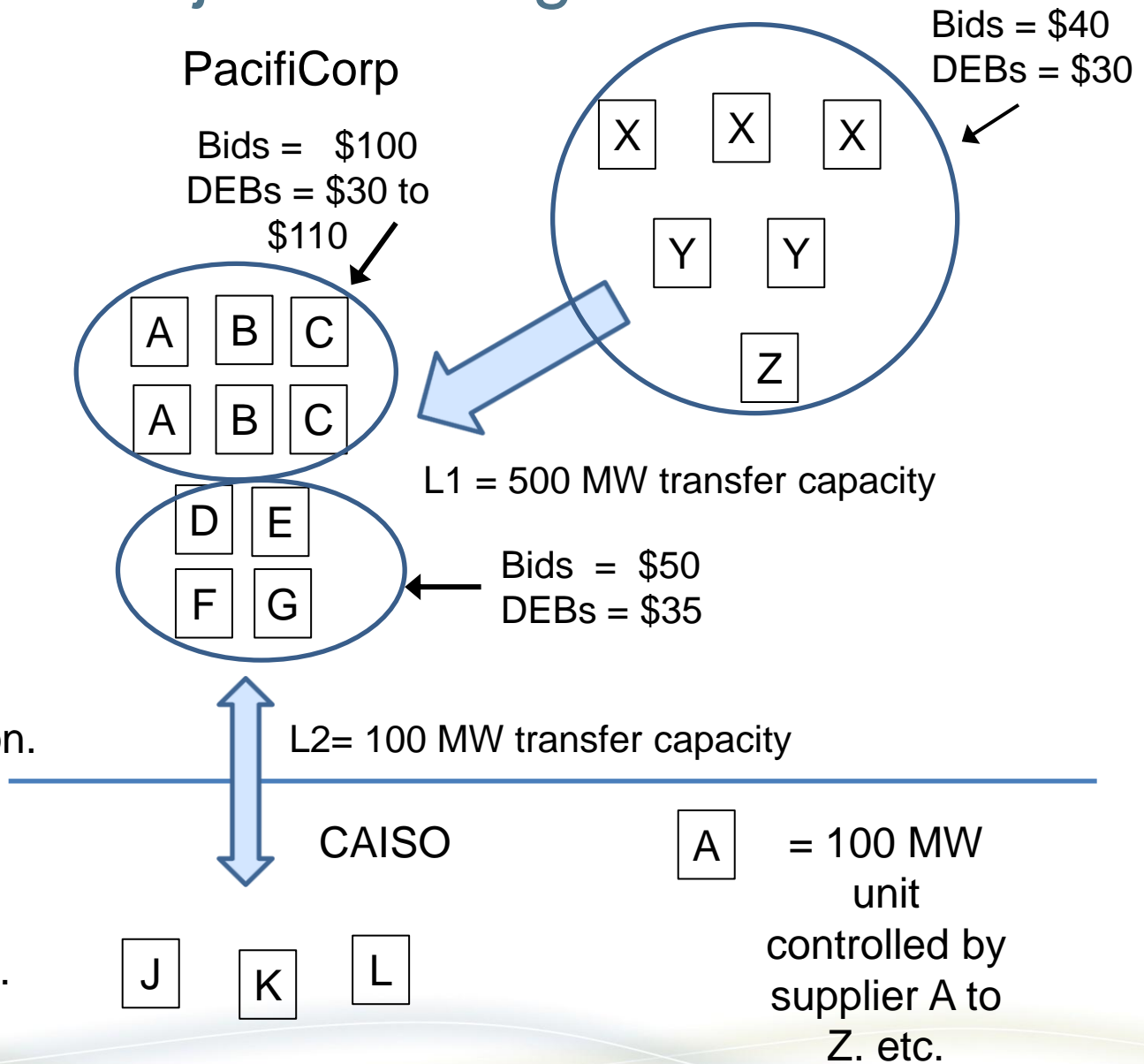
1. Pre-market run using market bids shows **500** MW of counterflow from suppliers A through G needed to relieve congestion on L1.
2. L1 deemed **uncompetitive** since residual supply of counterflow < 500 MW (D + E + F + G = 400)
3. Bid mitigation applied to suppliers A to G.

Potential supply of counterflow in CAISO not included in pivotal supplier test, but could be dispatched in real-time to mitigate congestion.



Scenario: Bids subject to mitigation

- Results of pre-market mitigation runs :
 - LMP on east side of L1 = \$40.
 - LMP on west side of L1 = \$100.
 - System marginal energy cost of \$40 with shadow price of \$60 on L1.
- Suppliers A through G subject to bid mitigation.
- \$40 SMEC set by suppliers X, Y and Z used as floor in mitigating A through G.



Scenario: Bid mitigation

	Supplier A	Supplier B	Supplier C	Suppliers D, E, F and G
Market bid	\$100	\$100	\$100	\$50
DEB	\$110	\$100	\$50	\$35
SMEC _{CC}	\$40	\$40	\$40	\$40
Mitigated bid	\$100	\$100	\$50	\$40

$$\text{Mitigated bid} = \text{Max}[\text{SMEC}_{\text{CC}}, \text{Min}(\text{DEB}, \text{Market bid})]$$