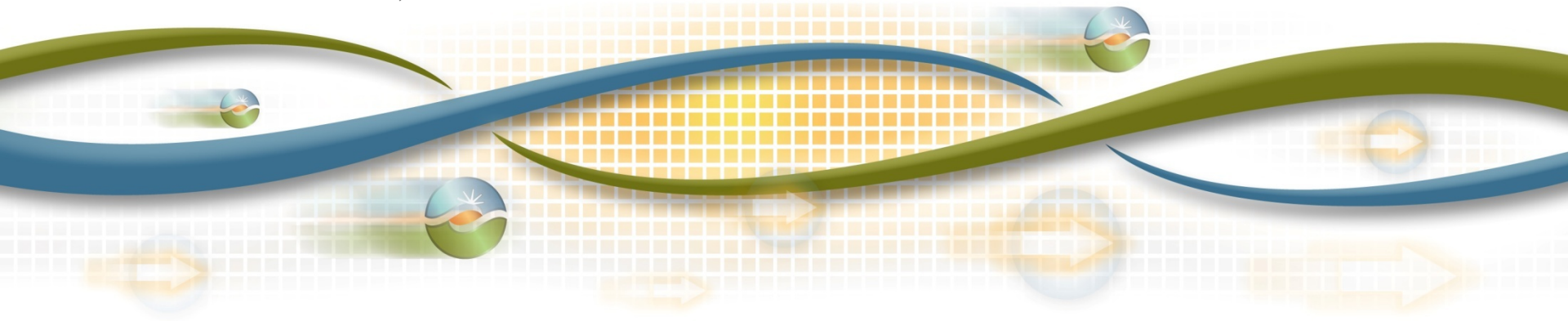




Market Monitoring Update: Addressing Barriers to Market-Based Rate Authority in the EIM

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EIM Governing Body Meeting
General Session
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FERC market based rate issues

- FERC has denied market-based rate (MBR) authority for:
 - PAC/NVE (Berkshire Hathaway Sellers)
 - APS
- Entities without MBR authority are required to submit market bids no greater than cost-based Default Energy Bids used by the ISO for local market power mitigation.
- FERC has clarified that:
 - Entities may re-apply for MBR based on 12-months of actual operational data (e.g. congestion)
 - All new EIM entities must file for market based rates for EIM.
- Puget received market based rate authority prior to October 1, 2016 start date.

FERC concerns in market based rate orders

- Physical withholding
 - Not bidding lower cost resources so higher cost resources set market price.
 - No *must-offer* requirement in EIM.
 - Requires ongoing monitoring.
- Economic withholding
 - Bidding in excess of marginal costs to elevate market price.
 - Addressed by ISO's automated bid mitigation procedures when supply into EIM area limited by congestion.
 - FERC concerned if constraints within EIM areas not enforced, mitigation cannot be triggered by congestion.

Uncertainty about available EIM transmission exacerbated FERC's concern about market competitiveness of EIM BAAs.

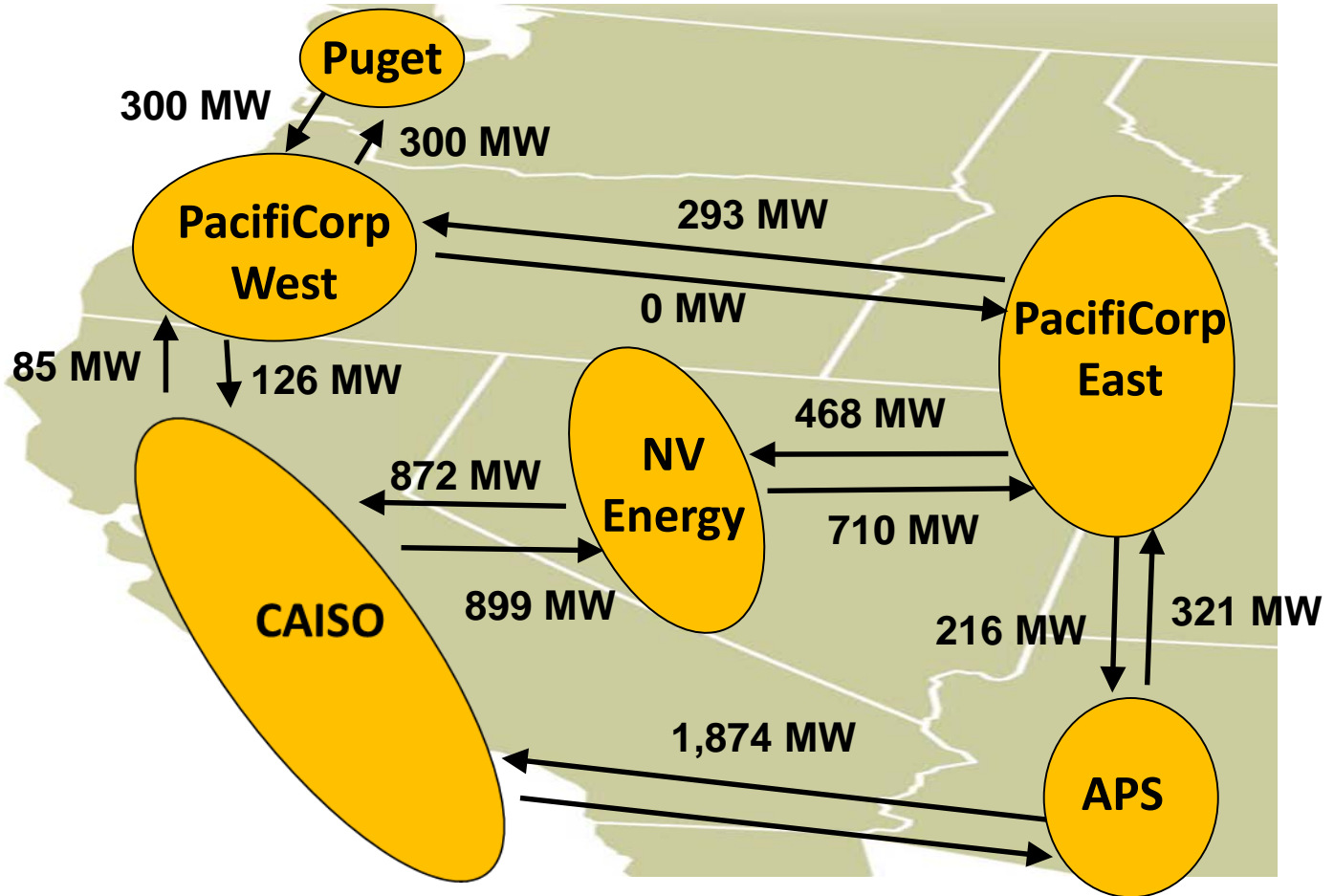
DMM actions and recommendations to address FERC concerns

- Physical withholding
 - Improve outage reporting rules and systems to limit and log when plant outages are submitted for *non-physical* reasons.
 - Eliminate need for some plant outages by incorporating constraints into network model (e.g., contractual transmission limits).
- Economic withholding
 - Enforce constraints within EIM areas and report to FERC.
 - Implement enhancements to automated bid mitigation procedures (15-minute and 5-minute markets).

Analysis by DMM shows that since the addition of NVE sufficient EIM transfer capacity has existed to ensure competitiveness of EIM BAAs in virtually all hours.

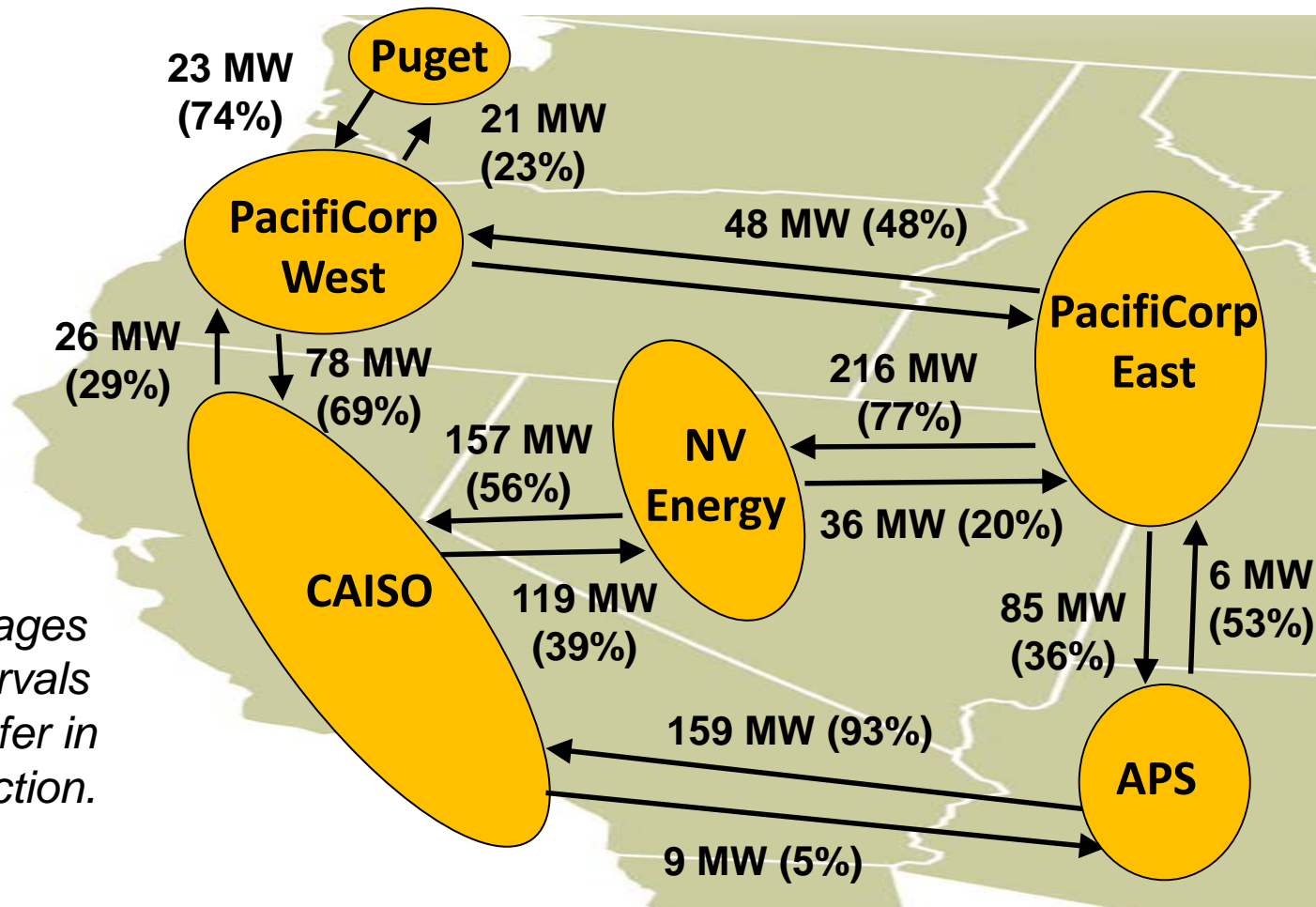
Growth in EIM transfer capacity significantly increases market competitiveness

Total average transfer capacity (May-Oct 2016)



EIM areas without market-based rates more often exporters of energy in EIM

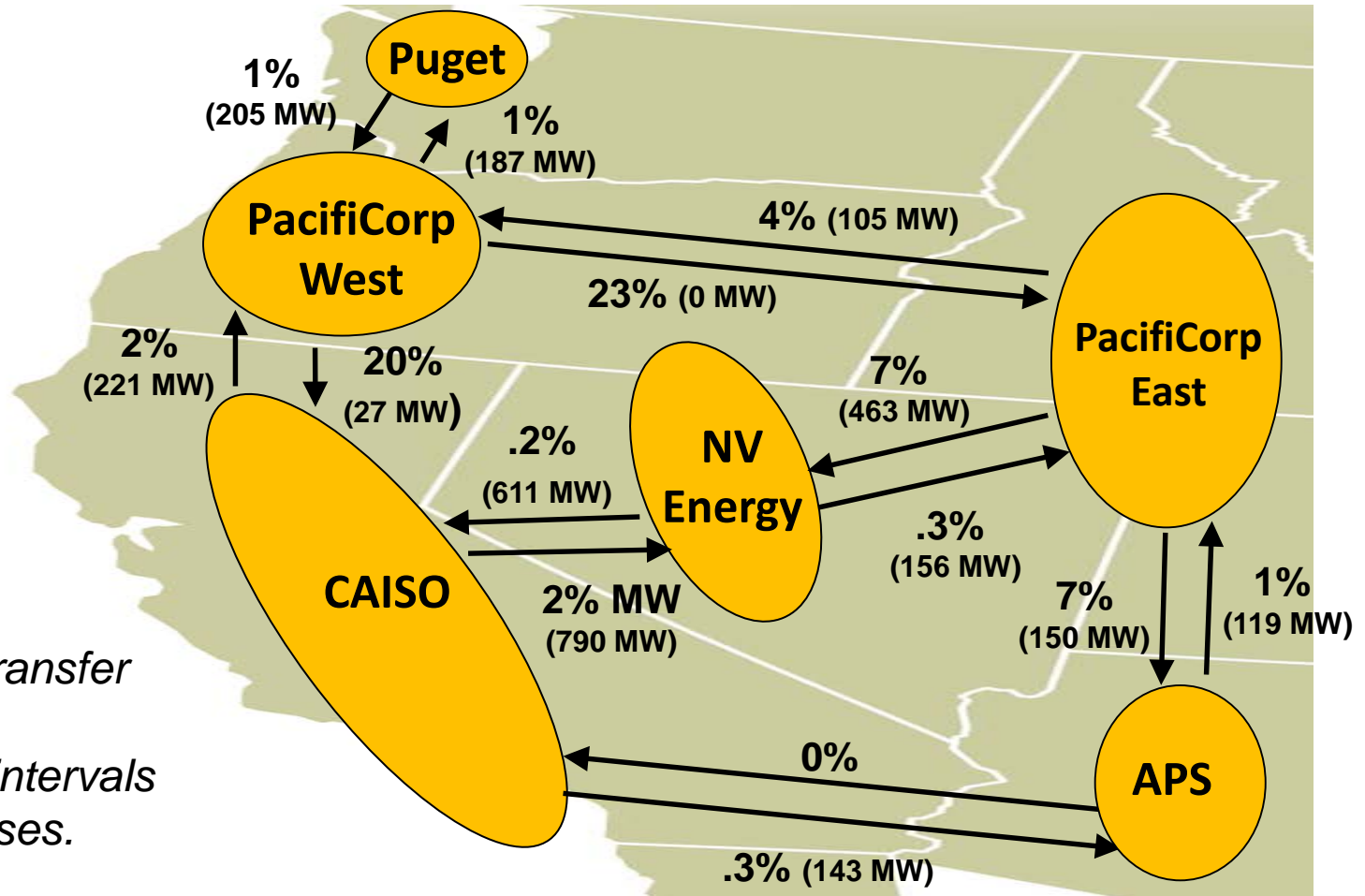
Average final EIM transfers (May-Oct 2016)*



* Percentages show intervals with transfer in each direction.

Congestion into EIM areas is very infrequent

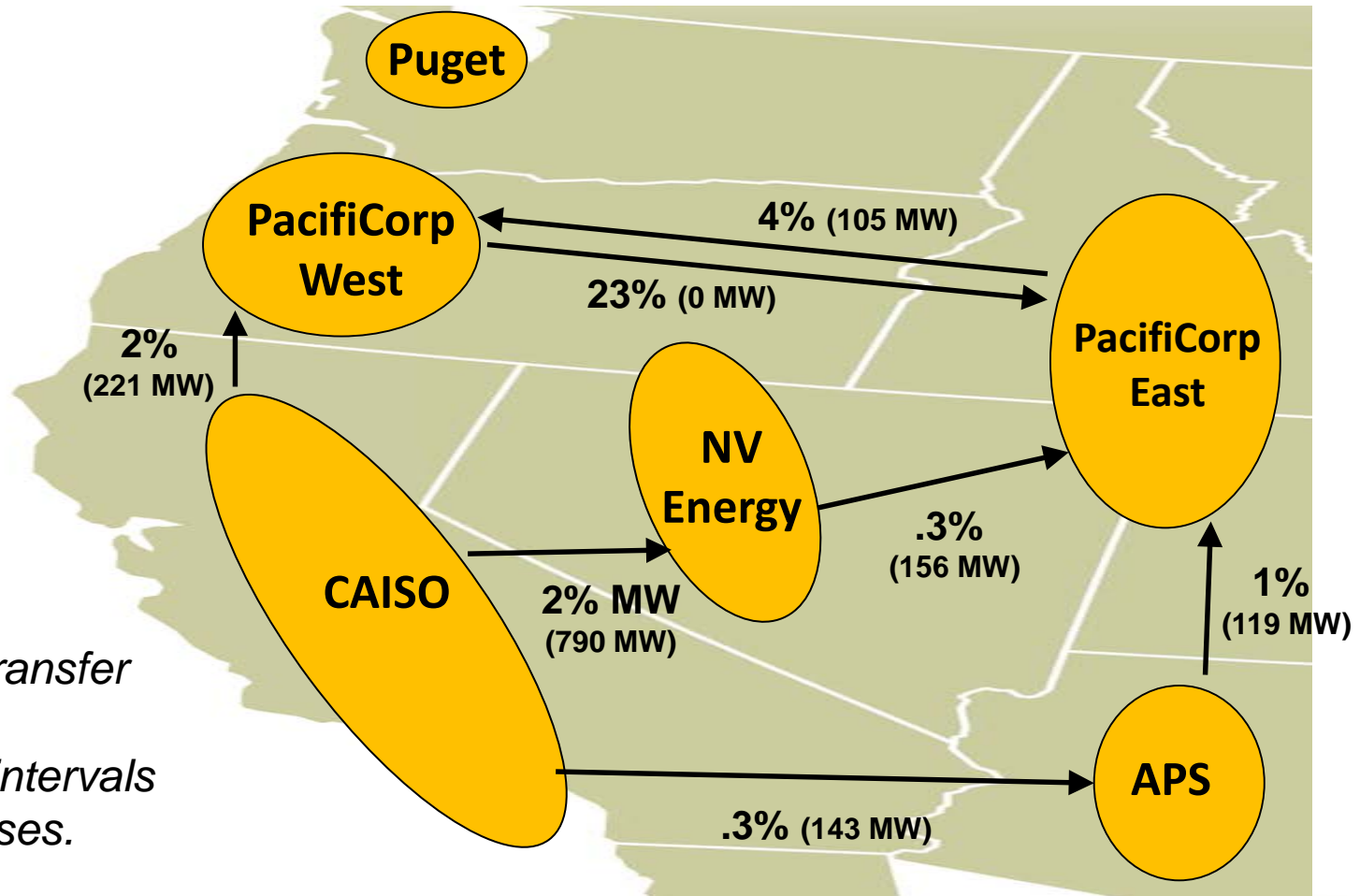
Frequency of congestion in 15-minute market (May-Oct 2016)*



* Average transfer MW during congested intervals in parentheses.

EIM areas rarely separated from CAISO by congestion

Frequency of congestion in 15-minute market (May-Oct 2016)*



* Average transfer MW during congested intervals in parentheses.

EIM areas separated from CAISO by congestion only 1-3% of intervals

EIM transfers and congestion (January – October 2016)

EIM area	<u>Net exporter</u>		<u>Net importer</u>		<u>Import congestion from ISO*</u>	
	Frequency	Average MW	Frequency	Average MW	15-minute	5-minute
California ISO	33%	378	67%	-343		
PacifiCorp East	80%	333	20%	-197	2%	2%
PacifiCorp West	55%	110	42%	-126	1%	3%
NV Energy	33%	154	67%	-286	2%	2%
Puget Sound Energy	46%	89	50%	-90	0%	1%
Arizona Public Service	70%	274	30%	-178	0%	0%

Going forward ...

- DMM will continue work to support market-based rate authority for EIM entities when appropriate by:
 - Continuing to work with ISO to ensure that enhancements needed to address FERC's concerns are implemented.
 - Working to clarify FERC's expectations regarding data and analysis needed for MBR filings.
 - Facilitating provision of data needed for MBR filings.
 - Submitting analysis/comments to FERC in MBR cases.
 - Helping to identify how new EIM entrants may receive MBR authority from start of EIM participation.