OVERVIEW OF USE OF BONNEVILLE POWER ADMINISTRATION ENGAGEMENT WITH THE CAISO ENERGY IMBALANCE MARKET

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Bonneville's Point's of Interaction with the CAISO EIM

- Bonneville's transmission system interconnects many of the transmission systems in the Northwest and the Northwest parties that have joined the California Independent System Operator Energy Imbalance Market (CAISO EIM) or are in the process of joining depend on Bonneville transmission to serve their loads.

- Thus a major focus of Bonneville's interaction with the CAISO EIM has been the establishment of rules and procedures for the EIM's use of Bonneville's transmission.

- However, there are two other essential areas in which Bonneville is engaged with CAISO EIM; Transfer Service and access to markets.

Bonneville Transfer Service within the EIM

- Service to more than half of Bonneville's preference customers requires the use of third-party transmission and the loads are located in the balancing authority of the third-party provider.
- Bonneville refers to these customers as transfer service customers and Bonneville holds the transmission contracts with the third-party transmission provider and rolls these costs into its power rates.
- Bonneville transfer service customers are located in the PacifiCorp, PGE, PSE, Idaho Power, and NVE balancing authority areas.
- Thus Bonneville has a long-term load service obligation within the existing and future EIM footprint and has a direct interest in the market rules and operations that impact this load service and ultimately any additional transfer service cost impact Bonneville's power rates.

Impacts of EIM on Transfer Service

- Bonneville participated in the PacifiCorp and PSE EIM stakeholder processes and will continue to work with EIM entities that are starting operations to ensure that transfer service loads are reliably served and that EIM cost remain reasonable.
- Since PacifiCorp joined the EIM the cost of Energy Imbalance has increase slightly, but overall service to Bonneville's transfer service loads has not changed dramatically.
- While the transition to the EIM has not had a material impact on transfer service loads, Bonneville believes there are significantly more load service questions involved in PacifiCorp's pending the transition to a Participating Transmission Owner in a Western Independent System Operator.

Access to Markets

- Currently participation in the EIM is limited to generators that are located in an EIM Entities balancing authority or that can be pseudo-tied into the balancing authority.

- Bonneville has a few resources located in the PacifiCorp balancing area, but these resources do not have flexibility attributes to bid into the EIM.

- As the EIM expands, Bonneville hopes to work with the CAISO and the EIM Entities to develop tariff modification that allow other generators to bid into the EIM, thus expanding the depth of this market.

BPA Focus for Use of its Transmission for the EIM

- Develop a risks and controls framework to assess risks to customers' existing and future transmission usage rights and evaluate the adequacy of existing BPA controls to protect those rights.

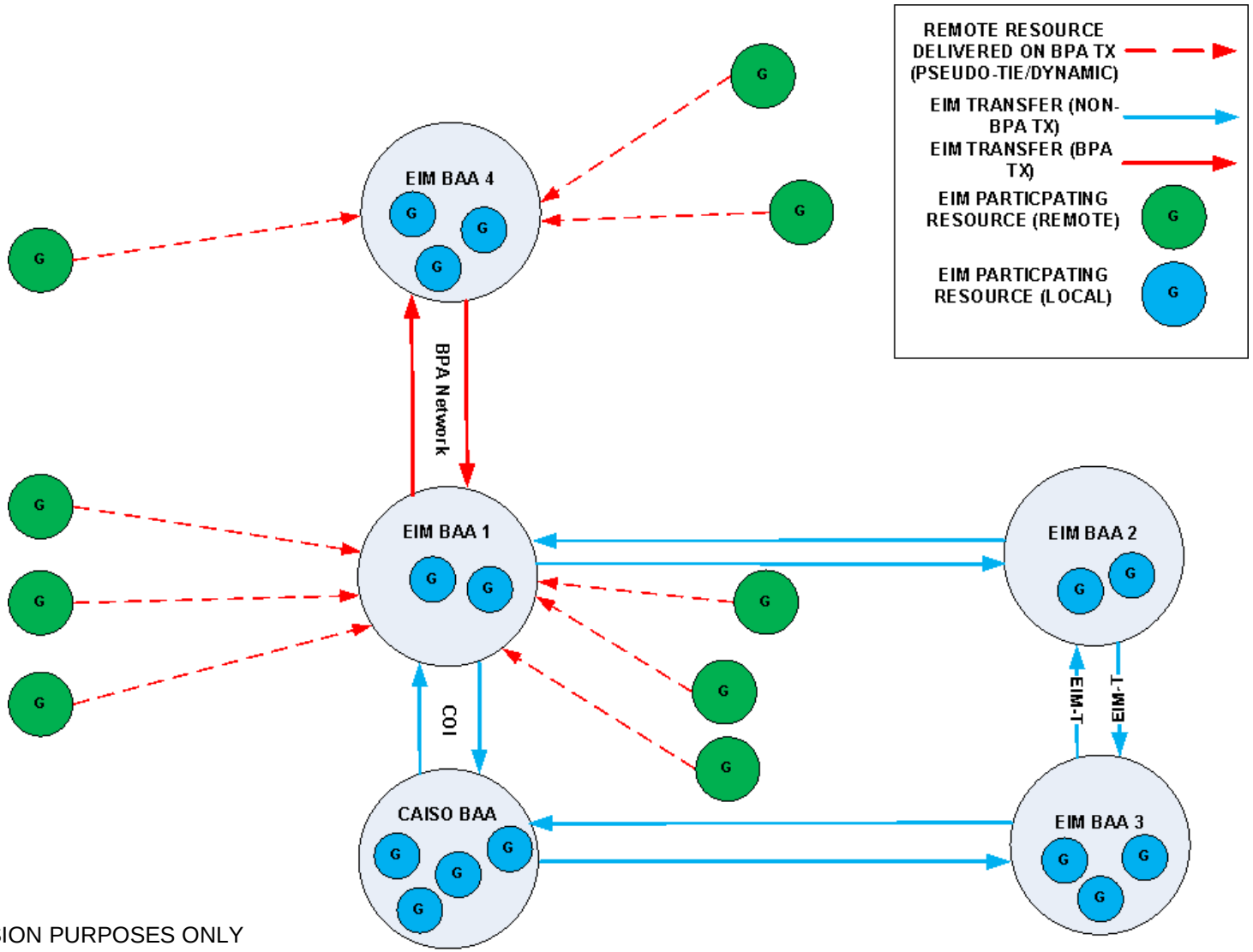
- Develop a risk mitigation and control framework that ensures BPA meets its obligations and protects customer rights.

- Provide information to aid EIM Entities seeking to understand how they might be able to use their transmission rights on the Federal Columbia River Transmission System (FCRTS) if they were to join the CAISO EIM.

Reason for BPA's EIM Transmission Focus

- BPA is NOT a participating Balancing Authority Area (BAA) in the CAISO EIM.
- Multiple EIM BAAs (existing and future) in the northwest rely on BPA transmission to operate their BAAs.
  - Currently and in an EIM context
- Thus it is important for BPA to understand and manage the use of its transmission when enabling these customers' participation in the market.

Overview of EIM Transmission use in the Northwest



BPA Controls for EIM Variable Transfers

- EIM Participants that use BPA's transmission typically wheel remote resources through pseudo-tie tags. These tags have pre-dated the EIM.
- The total energy delivered by an EIM BAA for the EIM and other uses is limited by the total contract demand less any curtailment action.
- BPA developed new controls to manage the potential for different patterns of variability within operating intervals.
- 5-minute market dispatches are limited based on BPA's Dynamic Transfer Limits: Operating Procedures for Use of Upper and Lower Transfer Limits on BPA's Transmission System Business Practice.
- BPA sets the Upper and Lower delta-flow limits.
- The limits are set based on empirically acceptable impacts.
- During a real-time curtailment the limits are automatically set to zero (via EIDE) for the duration of the event.

Upper and Lower Limit Overview