Arizona Public Service Company
Comments on CAISO 2017 Stakeholder Initiatives Catalog
September 29, 2016

Arizona Public Service Company ("APS") appreciates the opportunity to provide comments on California Independent System Operator's ("CAISO") 2017 Stakeholder Initiatives Catalog dated September 15, 2016 ("Catalog") and offers these limited comments in response. CAISO is seeking stakeholder comment on clarifications, newly proposed initiatives and proposed deletions. APS is primarily interested in seeking clarification on certain stakeholder initiatives that may impact participants in the Energy Imbalance Market ("EIM") or the real-time market. APS is also identifying additional issues that APS believes should be addressed by CAISO through a stakeholder process in order to bring improvements to the EIM.

Items for Clarification on Existing Initiative Proposals

There are several initiatives identified in the Catalog that appear to impact EIM which are not currently designated as having an EIM Governing Body (primary, advisory, hybrid primary, or hybrid advisory) role identified. It is important for stakeholders to understand the impacts of these initiatives, whether or not they apply to the EIM, and the EIM Governing Body's role in each.

APS requests that CAISO provide clarification 1) whether or not the initiatives listed below impact EIM and if not why, and 2) where applicable to EIM, identify the EIM Governing Body's advisory or authority role.

It appears the following initiatives will impact the EIM, but are not designated as such:

- 7.1 Multi-Stage Generator Bid Cost Recovery
- 7.2 Extended Pricing Mechanisms
- 9.1 Real-Time Market Enhancements
- 9.2 Hourly Bid Cost Recovery Reform
- 11.6 Flexible Ramping Product Enhancements

It is unclear whether or not the following initiatives will result in impacts to the EIM:

- 5.15 Full Network Model Enhancements – Phase 2
- 9.4 Exceptional Dispatch Decremental Settlement
- 11.5 Multi-Stage Generator Regulation Refinements

APS Proposed Initiatives

APS offers the following comments on proposed stakeholder initiatives involving multi-stage generators and EIM settlements. APS requests that CAISO should clarify whether CAISO will address this important issue through a new initiative or clarify whether or not these important issues can be addresses in an existing initiative.

Multi-Stage Generator Modeling in EIM – Currently the CAISO does not permit EIM Entities to model generators as multi-stage generators ("MSG") if they are outside of the EIM Entity's Balancing Authority Area ("BAA"), including tie-generators. Due to this APS has had to model certain combine cycle as simple cycle, where an MSG approach would be more appropriate. This has created operational issues where APS has to use bidding and outage management tools in an effort to resolve mismatches. APS believes CAISO should consider permitting these units to be modeled as MSGs so that the model would more accurately portray the unit capabilities, transition times, and actual costs. This enhancement would lead to better market optimization results, leading to more overall benefit for the EIM Entity and the EIM footprint at large.

Settlement of EIM to EIM transfers - The energy imbalance market does not settle imbalance between EIM entities except CAISO through transfer types identified as Mirrors. EIM Entities suballocate imbalance to transmission customers. Absent settlements at the ETSR, large suballocation settlements exist for customers imbalance on schedules that import or export to or from another EIM Entity. For customers whose transmission moves to a non-EIM Entity, the customer will have imbalance at an export with an offsetting imbalance at a resource or import – resulting in a settlement that is the price difference between the locations in similar volumes. When one settlement is not settled as is the case for EIM Entity to EIM Entity transfers, the settlement for the entity is large. Similar to the reasons and need to settle Mirrors, for CAISO, some form of Mirrors should exist for transfers between EIM Entities.

Unaccounted For Energy - The market rules for tie meter and load submittal create Unaccounted For Energy ("UFE"). The market rules are generally extensions of the existing CAISO markets with Load Serving Entities that differ from that of a Balancing Authority Area. The two primary deviations are related to (1) measurements of load boundaries ("ties") and (2) incorporation of losses within load measurements. Load is measured by reducing the measured generation by the net tie values.

Existing market rules have EIM Entities submit tie data based on actual meter data; however, industry practices for Balancing Authority Areas include checkout of tie values with neighboring entities. This checkout results in deviations from meter data to an agreed upon alternate value. The alternate value is used for load calculation. The market use of actual meter value creates a natural difference between the load value calculations settled as UFE. Tie data submittal for EIM Entities should match that of WECC practices which reflects the checkout process. This would resolve UFE settlements created by differences in meter submittal.

The load cut-plane for an EIM Entity captures transmission losses. The existing Market rules require that the EIM Entity to create a methodology for removing losses from their load submissions. CAISO then calculates a value for transmission losses and adds it into the submitted load value for UFE settlements. The difference between the actual transmission losses calculated by CAISO and the proxy of losses is settled as part of UFE. The difference is created by market rules to remove losses in the data submittal. EIM Entities should submit load values with losses in and CAISO can use its calculated losses to adjust the load for other impacted settlements. This practice would also align the accuracy of forecast data with submitted load – which may improve model training and thus reliability