Arizona Public Service Company ("APS") is a wholly-owned subsidiary of Pinnacle West Capital Corporation and is engaged in the business of generating, transmitting, and distributing electricity in eleven of Arizona's fifteen counties. APS serves more than one million retail electric customers in Arizona and participates in the wholesale energy market. APS purchases from and sells energy to the California Independent System Operator ("CAISO") in its Day Ahead Market and its Hour-Ahead Market when it is advantageous to APS' native-load customers to do so. APS does not own generation or serve retail or wholesale customers within the state of California.

APS supports CAISO in its attempt to transition the marketplace towards shorter trading intervals that allow for better variable energy resource ("VER") integration and wholesale market efficiency. In fact, APS participates on webExchange, was a member of the WECC Order 764 Task Force and currently has a 30-minute business practice posted to OASIS. This November, APS will also be updating its business practice to comply with Order 764. APS is supportive of market practices that aim to incentivize participants to utilize 15-minute scheduling as opposed to those that penalize participants who do not.

Moreover, APS appreciates the existing complementary nature of energy markets and enjoys the chance to improve economic and dispatch efficiency at monthly, daily and hourly time increments. As mentioned above, APS would like to see the addition of a liquid subhourly market. Therefore, APS submits these comments with the objective to recommend changes to CAISO's FERC Order 764 Market Changes Draft Final Proposal that would incentivize participants' usage of 15-minute scheduling without negatively impacting market liquidity and transactional pricing

APS understands that it is important to keep CAISO's needs in mind. CAISO is suggesting these changes with two objectives: better integration of VERs (addressed later in these comments) and what CAISO foresees as a decrease in uplift charges it currently passes through to its load serving entities ("LSEs"). As written, CAISO's FERC Order 764 Market Changes Proposal would have the following impacts:

## **Hour-Ahead Market Elimination**

The changes CAISO proposes would eliminate liquidity in the hour-ahead market without capturing the benefits of a true 15-minute market. The hourly market would be eliminated because:

- 1. Those entities that are not CAISO members would not be willing to become price-takers when other market opportunities exist.
- 2. Those entities that transact with third parties in bilateral markets would require stronger liquidated damage protection to guarantee firm hourly energy products, which would require the inclusion of risk premium costs, thus putting hour-ahead energy products out-of-the-money.

## Increased power costs would occur in the 15-minute market in order to cover volume-adjustment risks

The benefits that could be produced by adding a 15-minute market in addition to an hour-ahead market would be eliminated because those that bid into the 15-minute market would have to do

so by adding a risk premium to the price of their bids in order to account for potentially being awarded a subset of 15-minute blocks of an hour without the ability to adjust bid volumes or prices within the hour.

## Recommendations

If CAISO's goal is to better integrate VERs, allowing such resources the ability to adjust their schedules within the hour, as is proposed in its FERC Order 764 proposal, makes sense. By allowing importers this same opportunity, CAISO would be assisting other BAAs to better integrate VERs as well, which would expand CAISO's goal of better VER integration to the broader marketplace, thus better aligning with the intent of FERC Order 764.

Likewise, if CAISO wants to decrease uplift fees without creating operational and market risks that would drive up import prices and/or decrease market liquidity, APS proposes the following options for CAISO to revise its market change proposal:

- Offer all generators the ability to revise bids and schedules intrahour at the same intervals as the CAISO proposal would allow VERs to revise their schedules. This will help reduce the risk premiums associated with the current proposal of scheduling all 15 minute intervals at T-75.
- Offer BCR to those entities that participate in the 15-minute market. This would incentivize a shift for importers to utilize 15-minute scheduling while allowing for the CAISO and importers to determine costs and benefits.

Given the current proposal, APS would not participate in the proposed hourly market as a price taker. APS is not willing to take on the additional price risk, particularly when other means of buying and selling energy through traditional bilateral contracts across WECC exist.