**RTC Issues**

**ASDC Issues and proposals**

With Real-Time Co-Optimization quickly coming upon us, it is paramount that we have the correct incentives in place to achieve the desired market outcomes.

Desired market outcomes:

* Procure entire AS plan to achieve reliability objective.
* Properly value AS products under normal conditions.
* Properly value AS products under scarcity conditions.
* Properly value AS products during times of high congestions.

The current design of ASDC will result in the under-procurement and will under-value of AS, particularly ECRS and NSRS. This shortfall is due to the start of the curves being very low under certain procurement plans and for NSRS the tail is near $0 for most AS plans.

Required characteristics of the ASDC:

* Procures the entire AS plan under non-shortage conditions.
* The intersection of the minimum AS requirement levels and the ASDC curves is above the level a reasonable value.
* The beginning of all curves are near the cap to properly value each of the reserves during shortages.

The IMM blended proposal has similar characteristics to what TCPA presented in March of this year in that all products start at the CAP and all curves are downward sloping but still presents lower values at the end of ASDCs for ECRS and NSRS.

The PUC is deliberating what the AS plan should be to reflect conservative operations. The PUC by deciding the reliability goal of the AS plan, is deciding what the goal of ASDC would be This is because the AS plan would have to be achieved in its entirety through ASDC to achieve PUC’s another objective of not procuring reserves through out of market action like RUC. If ASDC doesn’t cover the full AS plan then, RTC RUC as designed will automatically RUC resources needed to get the reserves outside of the market. i.e. By PUC making the decision on the AS methodology to reflect conservative operations, PUC is making the decision of how much ORDC needs to be extended or shifted. Once PUC makes the decision on the AS plan that will meet conservative operations, then the decision can be made on how to change ORDC parameters to ensure that ASDC has meaning value at the AS plan level. This can be done by changing the input ORDC parameters like X, VOLL, Standard Deviation Multiplier or shifter and ORDC floor without a system change. i.e., system change is not needed to ensure that RTC SCED will be able procure the full AS plan under normal scenarios and hence the decision on ORDC changes doesn’t have to be made by January 2025.

The deadline of having approved the final ASDC curves before the market trials is too early as they won’t be used until open loop testing planned for July 7th. It would be advantageous to have the system changes implemented before July 7th but parameter changes do not benefit from similar level of system testing. Since rest of the submissions will not be 100% accurate during that time, there may not even be an argument to have the final parameters only to see the market impacts. If they are in the correct format for testing, it may even be worth continuing to refine the ASDCs throughout the process.

**Proxy Offer Curves**

Proxy offer curves should be designed for unoffered capacity to be put in the supply stack after other capacity from real, cost-based, offers and not before. Obviously, from reliability perspective, we should not go short on AS when there are qualified MWs out there that neglected to offer in but those offers should be put behind competitive market offers to ensure that the market doesn’t under value ancillary services under normal non scarcity condition. This also creates the incentive for resources to submit their market-based offers and not rely on the system to set a default offer for them.

Setting the proxy offers to $0/MW will move these resources to the front of the queue and lower the value of providing the product to other resources. Setting the proxy at the cap curve will make it so that they are never selected. The offer should be set on the ASDC curve based on the minimal AS procurement level intersection point so that ERCOT can ensure that the minimum AS is procured, market based competitive offers are considered and proxy offers don’t suppress prices. One option is to base it on values in the ASDC corresponding to 90% Reg & RRS, 75% ECRS and 50% NSRS while also ensuring that the proxy offer doesn’t go over AS offer cap and offer caps are in the following order Reg>RRS>ECRS>NSRS.

**AS Qualification**

The current ERCOT implementation allows AS to be awarded to any capacity that is SCED dispatchable irrespective of whether that capacity has the ability to provide the AS or not. Protocol requires that the resources should be able to sustain the AS awards for at least an hour. Not checking that in the current implementation creates a high probability of AS being awarded to curtailed renewables capacity which may or may not be available for an hour and is definitely hard to deliver due to it being behind constraints. This failure to take into consideration the duration requirement for those services drastically undervalues these services effectively changing it to 5 min duration products. The capacity and curtailment level of IRRs is not typically at their discretion. When units are curtailed by ERCOT or given a not to exceed level, that is done for the protection of the system. ERCOT has many GTCs which are binding in base case and trigger many curtailments. If AS is awarded to those curtailed MWs and that AS is deployed, then the transmission element overload which triggered the curtailment could get overloaded and ERCOT operators would either have to manually disable those resources from getting AS awards or might have to take out of market action to manage the constraint implying that those MWs are not truly available.

It is very difficult to predict with certainty wind outputs even an hour in advance and even solar is at the whim of intermittent cloud cover and Texas weather. AS should not be awarded to those MWs not only because of the unpredictable nature of the MW and capacity often being held behind constraints, but also to improve reliability and avoid operator manual actions. Additionally, this problem is greatly exacerbated if the units are not submitting offer curves and given low proxy offers.