**TAC Emergency Conditions List**

Action Item 44

*44 Ancillary Service Products: Review existing ancillary service products and determine if existing suite of products and amounts is adequate based on lessons learned from the February 2021 winter weather event.*

What about the ongoing ERCOT/consultant study of AS distribution (regional, technology type)? Study results not expected until Q1 2022. The results should be valuable in responding to this issue/question. Nitika will provide status on this study at September PDCWG.

Most PDCWG discussion under this topic revolves around ESRs so far.

Can ESR-RRS deployment and charging rules be improved (Shams)?

ROS questions from 7/8 were discussed – the questions directly relate to this topic/issue. It was explained in the 7/16 PDCWG that the PDCWG does not have any tools to assess AS sufficiency – ERCOT brings a summary of results of the Ancillary Service Methodology to PDCWG every fall for review and approval (before going to ROS & TAC), but the tools and analysis are all run by ERCOT.

PDCWG items to consider:

* Consider making RRS a purely frequency responsive service (Reg already is) – i.e. do not release RRS (and Reg) capacity to SCED (similar to treatment once ECRS is implemented).
* Consider procuring additional RRS as Contingency Reserve (until ECRS is implemented) to replenish frequency-deployed RRS and restore frequency. RRS is already held behind the HASL and is a 10-minute energy product (similar to ECRS). This additional RRS (ECRS-equivalent portion) could be released to SCED druing capacity scarcity situations.
* Consider a minimum duration limit on ESRs providing (non-FFR) RRS and NSRS. ERCOT does not have visibility into what the state of charge will be on ESRs in upcoming hours and thus does not know whether an ESR will provide RRS from a Gen or CLR side. (ESRs providing RRS switched between Gen and CLR during the Feb 15 frequency event.) Understanding this is crucial to planning how much load needs to be shed in an emergency to create headroom. For every 1 MW switching from Gen to CLR requuires an incremenal 1 MW of load shed during an emergency, in order to create headroom for the CLR to charge. With some load shed taking up to 30 minutes to perform, it is important to know this amount ahead of time. Combining a minimum duration with restricting manual deployments of RRS will ensure a higher confidence of reserves.