

TAP Resource Adequacy and Modeling Subgroup
07/12/2022

This feedback to HECO is based on HECO's slides and presentation on 07/12/2022.

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Sub-committee chair summary:

This call was a follow up to previous discussion with the full TAP, and focused on results obtained to date for a large number of different scenarios. Feedback was provided about how to present results given the wide range of sensitivities, including more details on aspects like what is being retired in each case. Also identified that it would be helpful to focus comparisons on buildouts of the system that meet reliability requirements to understand different ways to do so – for example comparing how much firm vs variable and storage capacity is needed to meet reliability needs. Discussion on aspects like long duration storage modeling, how to project load.

There was also discussion about what a satisfactory reliability criteria would be, and ensuring that is laid out at the start of the study and then system built to meet those. This would allow for comparison across different renewable levels, from low to high, and identifying how much firm resource is needed for each. If the concern is not getting sufficient renewables, then responses to RFPs can help. Some discussion on whether taking approach of least regrets for new generation, where solar plus storage may build out more than higher than expected and can then retire additional generation, is lower regrets than right sizing firm capacity. HECO/TAP want to focus on right sizing firm capacity, and can do this by looking at different levels of wind/solar and seeing firm needs under different load/retirement futures.

TAP feedback and comments are divided into three categories:

1. Informational, no action needed
2. Action required, expected in coming months
3. Concern or suggestion, for future discussion or consideration
4. Clarification needed

TAP Comments During the Meeting and HECO Responses

- Results
 - Table on slide 10 – instead of different scenarios, can you look at how much firm is needed to get back to targets for certain variable, or how much variable for certain firm
 - Also need to consider costs
 - 2021 case used actual outage rates from 2021 but with random draws (probabilistic approach)
- Long duration storage
 - Might want to look at different step sizes and other factors in the optimization, realizing that at 12-hour it might not make much difference
 - May want to add paired solar to LDES to provide energy
- Sensitivities
 - High load is important factor for this
 - Would be good to understand how near term S1/2 projects impact reliability – how much capacity can be retired before you need new resources? And should retirement then be replaced by firm vs variable/storage
 - Could potentially look at case 5 to solve what total firm need would be
 - Might want to look at how much firm is needed when 400 MW OSW is added?

- Add retirement assumptions to summary slides
 - Also add how much solar + storage needed
- What is considered satisfactory reliability level? And how is this translated back to RESOLVE?
 - HECO: EUE, LOLE, etc., are all looked at
 - Might want to look at setting a more specific criteria, and EUE seems best placed, though might still want to examine others
 - When investing in capacity, the standards to be met should be specific and well chosen, then the system should be designed to meet them
- HDC assumptions for thermal
 - With higher ERM, needs to build more thermal and therefore builds less PV
 - ERM does change renewable:firm ratio – doesn't change type of renewables but does change how much renewable and firm built
 - HDC assumptions for PV mean you're assuming very low PV output
- HECO request – any further thoughts on different generation needs (solar + storage and firm) as HECO put RFPs out
 - Worth looking at different renewable levels (from low to very high) and then see how much firm capacity (or BESS?) is needed to meet a satisfactory reliability level; then look at cost of those different “just reliable enough” scenarios – can support case for thermal
 - Stakeholders probably won't support new investments in thermal capacity if it seems like HECO hasn't considered the cost and energy independence of other options, like using more renewables instead
 - If HECO are concerned that they may not be able to procure as much renewables as RESOLVE calls for, then that is a knowledge gap. Stakeholders may not support procuring more thermal capacity to cover this knowledge gap. It would be better to fill the gap instead, e.g., put out large renewable RFPs and see what comes available.
 - HECO says, if they get higher solar plus storage, might then be able to retire other resources, but want to look at least regrets amount of new firm generation needed as key focus.
 - Comment that not sure this is best approach as you are overshooting reliability and then retiring capacity that isn't currently planned for retirement, rather than right sizing new firm capacity
 - Focus on new thermal and paired solar and show costs for different levels of paired solar with just enough new thermal to meet the reliability requirements. Doesn't need to be a lot of scenarios.