DPS/NYSERDA Staff Feedback on GE Study & NYISO Proposal

Possible Paths Forwards

Immediate Next Steps

- At minimum there needs to be time to look at different assumptions and run other scenarios, but there needs to be additional time to review the GE analysis. It produced very different results than some of the other studies performed in other regions and everyone needs to understand why. The GE Study seems to be the outlier among various related studies.
- It may be that another study that doesn't have the limitations that GE-MARS does is warranted (i.e. block scheduling).

1. **Remove the GE study and related market changes from DER market design and examined on a separate track.**
    - There is too much implicated in the potential changes, i.e. energy storage, DER, Renewables, Demand Response, even potential changes to IRM process, end user costs, and payments to existing generators, and there is a significant amount of work that needs to be done. This is a major capacity market redesign. The NYISO should advance the DER Roadmap with a placeholder, using existing rules, for capacity issues tied to the GE Study.

    - There are some threshold issues/discussions that need to be vetted including the concept of developing payments for energy limited resources through modeling rather than through actual performance (like traditional generators), whether the IRM process is set up in the right way, and whether this "value" should be tied to the IRM. If the answer is yes to the last piece, then should we be determining the value for all resources in a similar fashion including generators who may have limited fuel availability, have start-up times that render them useless in an LOLE event that occurs due to an outage, etc.

    - There is a huge disconnect between compensating energy limited resources based on their "expected" performance based on the system at criteria vs. traditional generators receiving compensation based on actual performance in a system with a large excess. That proposition is completely discriminatory and imbalanced. Again- this is really a completely new way of approaching the capacity market and a complete market redesign.

2. **In the alternative if it is not removed- we need to slow down the process from this artificial February deadline, even if it means delaying implementation**
    - There is too much at stake here to rush this. There should be ample time to still implement in 2021 if the necessary time is taken on this issue.

- If not and a delay occurs, then that is a better option than rushing to make a flawed capacity market redesign in 3 months. **Any delay in implementation should be no longer than (and hopefully shorter than) the delay in submitting the DER filing beyond February 2019.**

Specific concerns with the GE Study

- **Whether system should be as is vs at criteria**. While the IRM is set to criteria, traditional generators are valued based on their ability to fulfill their day-ahead commitment and SRE calls. There is obviously a direct correlation to the amount of times resources might be called, based on the amount of capacity *that actually exists* in the market. The shorter, or closer to criteria that we become, the more generators are "needed" and the more opportunity they are unavailable.
    - Should the study be more future looking? At a minimum we should do a scenario with a more future looking (as-is) system, including more renewables. The IRM sets the requirement for the immediate year but obviously doesn't consider anything that is future looking. While we are re-examining the capacity market in these proposed changes and looking to value resources in a completely new way- we should think about the best way to value them to attract the type of units we want. The IRM, being only an annual requirement, doesn't contemplate anything forward-looking.
- **Treating resources like fixed blocks is completely inconsistent with how flexible resources like energy storage could respond.** This item is one of the most obvious flaws with how GE's post-processing is done. A large part of what makes energy storage valuable, for example, is its ability to respond quickly and in a flexible manner. Treating these resources like fixed duration, block loaded resources runs counter to how these resources should be analyzed.
    - Simple example if there is a longer but small event, storage could derate to perform longer at less capacity
    - Placing block in middle of event when violation is worst may force you to need three or more resources for an event that two could address
- **We should run an ELCC model and analyze results as well**. This seems to be another widely accepted method of capturing the capacity "value" of resources.
- **1,000MW and 2,000MW blocks (supposedly "demand response") are meaningless as those resources don't need to be dispatched in a block.**
    - While our current demand response program is structured in a way to dispatch all or nothing (zonally) at the same time, there is nothing that says these resources must be called in this manner. And this is certainly not indicative of these individual resources. The "block" is a current SCR market design function rather than an accurate representation of these resources' characteristics.
    - 50MW block should be one "bookend" with 5-10MW blocks analyzed as other "bookend".
- **Questions about starting from IRM Base case-**
    - "At criteria" vs system as is
    - Is load curtailed added back in for load shape?

        - If so, this "flattens" the peak and may not be reflective of what actual conditions would have been. Flattening the peak will diminish the value of shorter duration resources.
    - There was no consideration of startup time in ability to solve LOLE event. It doesn't make sense to "value" a resource based on its ability to solve a LOLE event, without considering if it could even be started in time. Anticipated weather-related events can be addressed by starting up generators with long lead times, but our understanding is weather only plays one part of the LOLE events. Unexpected outages is another factor, and having resources that can respond to those events quickly have a value not recognized or contemplated in any way under the initial GE analysis or NYISO proposal.
    - The IRM analysis does not provide compensation for traditional generators based on performance. Again, we need to look at this holistically.
- **Revisit how much ELR capacity is assumed when setting initial value**. The Storage Roadmap only calls for 500 MW of storage on bulk system and the SCR program will likely shrink. Also, SCRs are already in the IRM Base Case.
- **Some inability to solve event is based on size of resource.** GE stated some of the events the resources were unable to address were large, short events. Traditional generators are not paid less in proportion to their size. A MW is a MW, and a 500MW generator receives 10x more revenue than a 50MW generator assuming the same outage rate.
- **Removing "perfect capacity" as opposed to comparing to traditional generator**. Some scenarios should be run that show how much "value" traditional generators have. In other words, generators are only penalized for actual unavailability- not expected unavailability

Other concerns

- **Changing performance obligation and payments every 4 years is problematic**- Who would ever make an investment decision based on only 3 years of revenues? We acknowledge that the landscape is changing and we need to adapt. But does this really make sense? Realistically, what type of a price signal are we sending when we are designing a process that potentially completely erases capacity revenues in 4 years? Grandfathering should be one of many compromises to be considered. Looking forward, one would expect that inflexible, long lead time generators will become less valuable. Is the NYISO proposing a comparable re-evaluation of their capacity value?

- **No analysis was done to actually mimic the characteristics and potential performance of these resources.** The proposed change in Demand Response may force many resources to re-evaluate their participation. Furthermore, we need to think about making such drastic changes to the SCR program. We acknowledge these resources aren't available every day, but they are available on the days that we need them most. Potentially eliminating the one program that focuses on demand (or the other side of the equation) is an issue that needs further discussion and consideration.

- **Not enough analysis at all to make any changes on Renewables-** Expanding the windows that these resources are evaluated on needs to be discussed and have additional analysis done including when the "peak" actually occurs, contributions during those hours, etc.

- **Too much of the work that GE does is in a black box without any transparency.** There is a growing sentiment among market participants that too much of the work that GE produces is a black box. With the recognition that GE may have concerns with sharing some aspects of their program with others, there needs to be more transparency in the entire GE MARS process and data. Without complete full-disclosure and the ability for interested experts to access the full body of results, it becomes even more important that other work is done.