



GE Enhanced Combined Model Design Update

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- PJM and MISO have been working with GE to develop a base design of the Enhanced Combined Cycle (ECC) model included in nGEMS.
- The base design will not include some of the requests in the PJM Design Requirements Document. There are also some minor differences.
 - <https://pjm.com/-/media/committees-groups/task-forces/mgstf/2020/20200109/20200109-stakeholder-requirements.ashx>
- Many of the items not included were already identified as customizations for PJM

- Most of the items not included are related to Transitions. The ECC will have just one transition matrix with the ability to model time, cost, and ramp/MWh profile for each transition. It will not have:
 - Fuel type switching, fuel source switching, firm/non-firm transportation, or commercial contracts
 - Ability to model synchronized reserves or regulation during transition
 - Dynamic transitions due to ambient temperature (Transition Sequence Optimizer).

- Other items not included are related to Start-up. The ECC will model one set of hot, warm, and cold start-ups at the configuration level. They will be very similar to transitions with a time, cost, and ramp/MWh profile. Soak Time will be included in Start-up. It will not have:
 - The ability to model start times for different fuels

- PJM customization items still under development. The intent is for nGEMs to provide all the current functionality.
 - Multiple Configuration Schedules – e.g. Price, Price-based PLS, and Cost
 - Soak Time?
 - Price Based Transitions?