Update on modeling issues in the ADS PCM

August 4, 2020

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Reserves (AS) with considering BTM

- Spinning Reserve calculation to consider BTM generators that are modeled on the supply side

  spinning reserve = 1.5% of load + 1.5% of transmission connected generation - 1.5% of BTM generation

  - ABB will modify the code to accommodate the above change
  - In the generator table in the ADS PCM, the Column "BTM" need to set to 1 for all BTM generators (DG-BTM, EE, DR, etc..)
- Regulation and Load Following calculation need to consider the impact of BTM forecast error
  - May embedded in (net) load forecast error
  - Or consider BTM forecast error separately

Multiple days schedule for storage

- Set Column "PS3-multiple days schedule" to 1 for all storage, including pumped storage and battery
  - GridView will pre-calculated multiple days schedule for all storage
    - In PS3 mode, dispatch will follow the schedule
    - In PS4 mode, dispatch will change but the start and the end status will be the same as the scheduled start and end levels, respectively
  - Almost no impact on simulation time
  - Improve storage dispatch

Emission Group assignment

- Each generator can be assigned to multiple emission groups

Emission Group	Ratio
System CO2	1
CA CO2	1

- GridView calculates emission cost as
  - CO2 cost = System CO2 price * System CO2 ratio/(System CO2 ratio + CA CO2 ratio) + CA CO2 price* CA CO2 ratio/(System CO2 ratio + CA CO2 ratio)
- If hope to assign to a local CO2 group only, need to explicitly set System CO2 ratio to 0

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