IRP – Forecasting, Fuels, and Reliability Sub-Group

In advance of our next meeting, please spend some time fleshing out narratives for the following 4 scenarios, which were compiled based on the feedback that received to date. If we can all arrive at the meeting with some of these futures described, rather than starting from scratch, I think we have a better chance of coming up with a finalized description for each scenario.

Thank you to Sam Gomberg, Laura Mikulan, James Clift, and the UP subgroup for your comments on this matter. I have attached your comments to the meeting invite for review.

1. Business as Usual / Reference

- a. This scenario depicts a future in which there are no significant changes to energy policy/markets for the foreseeable future... (Add additional characterization)
 - i. Other items to address in narrative:
 - 1. Economic Indicators (GDP, Capital cost escalation)
 - 2. Fuel prices and sensitivities
 - 3. Availability of non-traditional market options
 - 4. EWR / DR / Renewable Standards
 - 5. Transmission Options
 - 6. Sensitivities

2. Reduced Carbon / Low Emissions

- a. This scenario depicts a future in which there is significant change in environmental policy in the future, such as CO2 Regulation, water use restrictions, etc. (Add additional characterization)
 - i. Other items to address in narrative:
 - 1. Economic Indicators (GDP, Capital cost escalation)
 - 2. Fuel prices and sensitivities
 - 3. Availability of non-traditional market options
 - 4. EWR / DR / Renewable Standards
 - 5. Transmission Options
 - 6. Sensitivities

3. <u>Distributed / Emerging Technologies</u>

- a. This scenario depicts a future in which the availability of utility-scale (or customer-scale) options for DG/Self-generation are affordable and are put in place (up to a certain % of utility load?). The cost and viability of emerging technologies allow them to successfully compete with more traditional baseload type resource options. (Add additional characterization)
 - i. Other items to address in narrative:
 - 1. Economic Indicators (GDP, Capital cost escalation)
 - 2. Fuel prices and sensitivities
 - 3. Availability of non-traditional market options
 - 4. EWR / DR / Renewable Standards
 - 5. Transmission Options

6. Sensitivities

4. Low Fuel Risk / Stable Prices

- a. While similar to the Distributed / Emerging Technologies future, the Low Fuel Risk / Stable Prices scenario depicts a future in which limits are placed on certain options (such as the use of coal and natural gas generation) and allow the model to fully explore the impact of greater penetration of EWR, DR, and grid efficiency. Differs from the Distributed / Emerging Technologies future in the amount and type of new or emerging technologies that would be economically feasible to meet demand requirements. Instead, relies on a more traditional set of non-fuel-intensive resources to meet requirements.
 - i. Other items to address in narrative:
 - 1. Economic Indicators (GDP, Capital cost escalation)
 - 2. Fuel prices and sensitivities
 - 3. Availability of non-traditional market options
 - 4. EWR / DR / Renewable Standards
 - 5. Transmission Options
 - 6. Sensitivities