The EIPC's Modeling Work Group offers the following observations about the EIPC process:

The EIPC's objectives included the following:

1. Creating a single working power flow model ("Roll-up") and analysis of approved regional plans throughout the Eastern Interconnection (which includes 39 states, the District of Columbia, and large portions of Canada);

2. Development of possible future interregional expansion scenarios to be studied; and

3. Development of detailed generation expansion, and interregional transmission expansion, to reliably accomplish the goals of three future interregional expansion scenarios.

These goals were accomplished. We should be happy with the results that came from the EIPC process, while recognizing its limitations. No other study has ever tried to model such a technological, geographic, and time scope in such detail.

Some observations:

- Major policy goals were met in the three final scenarios. However, this was essentially a single pass through and first steps. The nature of the models out there (capacity expansion, transmission build-out analysis, production costing) require internal feedback to improve the final results. Issues revealed in later models can require fixes in earlier models, or re-running of earlier models using different inputs or assumptions. For example, the production cost modeling results suggested that, at least for Scenario 1, a different generation mix/placement and/or transmission build out could be more appropriate to support the goals of that future –to analyze this would require re-running some of the earlier models to try and optimize the results.
- The base case results for the GE MAPS production cost modeling runs for Scenario 1 (Combined Federal Climate and Energy Policy) showed large levels of wind curtailment (i.e., available wind energy was not dispatched to the grid). While some curtailment would be expected using an hourly security-constrained economic dispatch model such as GE MAPS, the level of curtailment was much larger than expected from an economic perspective. The effect of the curtailment was to significantly lower average annual capacity factors on aggregate wind production in key high-wind regions of the Eastern Interconnection. Thus, there still appear to be issues regarding whether (i) the generation mix was optimal (or should have been located in different areas) to support the Scenario; (ii) whether a different transmission build out would better support the wind generation built in Scenario 1; and/or (iii) whether too much wind was built than needed to support Scenario 1. These are questions for another day.
- Future studies may wish to determine what is an acceptable level of wind curtailment for a region. Is it 5% of annual installed wind energy potential, or

some other number? Future studies may wish to try and iterate the various modeling runs to try and optimize the generation and transmission build out to try and match the target curtailment rate.

- Scenario 1 curtailments have gained significant attention. However, since the EIPC study is not iterative or optimized, the results of S1 may be a reasonable first pass. Scenario 1 shows aggressive decarbonization by 2030 of the Eastern Interconnect even with massive wind curtailments.
- Future interconnection wide studies may wish to consider a more iterative analysis between production cost models and reliability models for wind integration issues.
- Future interconnection wide studies analyzing wind integration issues may wish to consider other load blocks in addition to the peak load and less than peak load blocks that were studied in EIPC's power flow modeling.
- When the system as a whole has a curtailment of x%, it could be that marginal additions will have a much higher curtailment (or that it will steal sales from other wind producers so the losses get spread depending on a number of factors.) That's where modeling an incremental growth in the wind over time can be important. Thus, future studies may wish to look at smaller jumps in time – i.e., look ahead 5, 10, 15 and 20 years instead of jumping ahead 20 years all at once in the modeling.