



Eastern Interconnection Planning Collaborative



SSC Meeting by Webinar

March 6, 2012

2:00 - 3:30 p.m. ET/1:00 - 2:30 p.m. CT

SSC Members in Attendance (by sector)

End Users: Ryan Kind, Brenda Harris

Generation Owners: Michael Goggin, Mark Volpe, Steve Gaw

NGOs: Andy Oliver, Beth Soholt, Samir Succar (alt. for Mark Brownstein)

Public Power/TDUs: Ed Tatum (alt. for Paul Malone), Tim Noeldner, Maryam Sharif

States: Eric Callisto, Garry Brown, Jim Volz, David Boyd, Kevin Gunn, Elana Wills, Marya White and Bob Pauley (proxies for Doug Nazarian, Ed Finley, Jon McKinney, and Lib Fleming)

Transmission Owners: Stuart Nachmias

Other Suppliers: none

Canada: Rob Sinclair

Ex Officio: David Meyer, Alicia Dalton-Tingler

Chairs: Roy Thilly, Kevin Gunn

EIPC: David Whiteley, John Buechler

1. Overview and Status of Phase II Tasks

Dave Whiteley gave a brief presentation that provided an overview of Phase II and the current status of the Phase II tasks. Key points from his presentation and the group's discussion included:

- Phase I is complete. The main goal during Phase I was to develop the three scenarios to be analyzed from a transmission perspective for Phase II.
- Phase II, the transmission scenario analysis, is underway, with the key tasks being accomplished by the Planning Authorities (PAs) and the Transmission Options Task Force (TOTF).
- The first major step of this phase of the project is to develop the load flow models for the three scenarios. After developing the three transmission scenarios/topologies and testing them for reliability, production cost modeling will be conducted and cost estimates will be developed for all three scenarios.
- There are a number of process documents as well as a week-by-week schedule and a step-by-step outline posted at eipconline.com. According to these documents, the project is currently in Week 9 of Phase II, and has completed steps 1-9. Steps 10-11 are underway.

- In the process of building the load flow models for the three scenarios, the PAs will be mapping the overloaded facilities. They are working to determine the best way to visually show information relating to contingencies and limiting elements for all scenarios.
- There will be a TOTF webinar meeting March 15 and an in-person TOTF meeting March 28-29. During this in-person meeting, Day 1 will be a work session for CEII-cleared individuals only (no webinar access), whereas Day 2 will be open to the entire TOTF and public and will be broadcast via webinar.
- During the SSC meeting in April there will be further discussion of the project status and tasks, and the TOTF and PAs will seek the SSC's feedback on the work that has been completed to that point.
- The data that is currently being used for the development of the transmission scenarios was derived from the Phase I NEEM analysis of the three scenarios. For instance, in Scenario 1, NEEM showed significant coal deactivations and the addition of combined cycle and wind capacity in its place. The job of the PAs is to take the aggregate combined cycle/wind capacity added by NEEM and translate that into individual units, and then locate them on the transmission network in reasonable and relevant sizes and locations (often, in the case of combined cycle, units would be placed in the same location as a deactivated coal unit).
- There will be a map showing the location of deactivations and capacity additions.
- If new facilities are interconnected in the system, PAs are performing local screening processes to ensure those facilities aren't constrained, and will apply any necessary transmission fixes at the local level. For example, in its region Southern Company had to add a new nuclear unit in a remote location, and had to add new transmission to connect it and ensure that the unit's full capacity could be delivered.

2. Development of Load Flow Data and Update on Analysis

Jared Moll of Southern Company, one of the PAs, provided an update on the status of the development of the load flow models for the three scenarios. Key points from his presentation and the group's discussion included:

- Load flow models must satisfy basic equation – generation = load+losses+interchange, and they include all of those components plus the actual transmission system topology.
- The Steady-State Load Flow Modeling Work Group (SSLFMWG) creating these load flow models began with the stakeholder-specified infrastructure (SSI) and updated it slightly to reflect the addition of new facilities that are under construction or in service today that weren't originally included (there are very few of these, so far) and removal of facilities that are no longer in the PAs' regional transmission plans (for example, the PJM PATH project).
- Key components of the load flow model are derived from the NEEM modeling from Phase I, including the constraints between NEEM regions, load, interchange and deactivations and additions.

- The group calculated the losses in SSI model and applied the same percentage of loss across the three load flow models. This loss percentage is a one-time assumption that will remain constant, despite fluctuations in actual losses that may result from additions/deactivations applied. The exact impact of this assumption is currently unknown, but so far the PAs do not seem to be observing atypical results.
- The PAs first applied the deactivations – in some cases, determining exact units and in other cases, applying a more generic scaling method. Then they applied the additions, adding capacity in locations where units were deactivated, where possible.
- The total list of deactivations and additions is being compiled and will be distributed.
- There will be load flow models developed for load blocks 1 & 13 in Scenario 1 and Scenario 2, and Block 1 only for Scenario 3. Block 1 represents peak load and Block 13 represents an off-peak period when wind generation may be higher than peak periods.
- Block 1 and 13 will be considered together to determine the needed transmission. The assumption is that Block 1 and Block 13 are, essentially, different times during the same day, therefore the same transmission will exist in the models of both load blocks for any given scenario. In other words, the transmission will be selected to support maximum loading, whether that occurs in Block 1 or Block 13.
- There was some discussion about the concept of “optimization,” whether it will be a part of the Phase II analysis, and what it means. EIPC provided clarification:
 - This process will not “optimize” the transmission topology in an economic sense – meaning, it will not involve judgments about the retention of some congestion in the system in order to create the most cost-effective transmission system.
 - This being said, the scenarios were being taken directly from the Phase I NEEM model, which did have some built-in congestion due to the limitations of pipe sizes and interregional flows.
 - While Phase I did focus on “optimizing” the capacity addition mix based on all of the SSC-approved inputs and parameters, driven by costs; it did not “co-optimize” transmission and generation, rather it optimized the generation mix, based on generation costs.
 - Phase II is focused on taking the three scenarios and determining the transmission needed to support them.
 - The sort of analysis that determines the optimal levels of transmission needed and the amounts of congestion to retain, and includes market and cost considerations, would ultimately be conducted by future regional transmission planning processes.
- The SSLFMWG is taking a tiered approach with the completion of the load flow models. The first of the load flow models – Scenario 1, Block 1 & Scenario 1, Block 13 – should be finished and distributed soon. Scenario 2, Block 1 & Scenario 2, Block 13 will be started soon, and then Scenario 3 will be developed thereafter.
- The group is currently reviewing the Scenario 1 load flow model thus far for correctness and getting ready for local and interregional/HVDC analysis. After performing single contingency analysis of the regions, they will develop final interchange and dispatch data. This iterative approach, which works somewhat gradually toward final dispatch

and interchange, should be able to capture all necessary transmission without over- or under-building.

- The SSLFMWG will work together to coordinate any interregional transmission and to develop the best solutions. In the TOTF meetings in March, the TOTF members will have an opportunity to review the results and provide feedback.
- The NGO sector would like to have a discussion about the best ways to model demand response in the load flow models. Their experts have developed some proposals. This issue and the proposals would be a good topic for discussion and review at the in-person TOTF meeting in late March.

3. Next Steps

- The next TOTF webinar will take place March 15.
- TOTF members should register for the in-person TOTF meeting March 28-29 if they haven't already done so. Stakeholder should remember that the 28th will be a working session and only those with CEII clearance will be admitted. The 29th will be open to all TOTF members and broadcast to the public.
- The next in-person SSC meeting will be held April 18-19 in Omaha, NE. A logistics memo will be distributed soon. This is expected to be a substantive meeting, with a significant amount of material to cover, so SSC members should do their best to be in attendance
- All meeting information can be found at www.eipconline.com.