



Eastern Interconnection Planning Collaborative

**SSC Meeting Summary
May 18-19, 2011
Charlotte, NC**

This meeting summary highlights SSC decisions, key discussion items, and next steps from the May 18-19 meeting of the EIPC Stakeholder Steering Committee.

Meeting Objectives:

- Review Remaining BAU Sensitivities Results
- Review Other MRN-NEEM Results
- Finalize outstanding Sensitivities
- Overview of High-Level Transmission Analysis
- Overview of Phase II
- Begin discussion of process & objectives for Selecting Scenarios

Action Items:

- Finalize model inputs for all Futures & Sensitivities
- Develop a plan on process for selection of three Scenarios

99 individuals were in attendance (77 in person, 22 via webinar). New SSC members, Brenda Harris (End Users), Rob Berntsen (States-Iowa), and Ed Finley (States-NC) were introduced. A full list of attendees is attached. The meeting agenda and presentations are available in their entirety at http://www.eipconline.com/SSC_Meetings.html.

1. Review of Memo from Chairs

Roy Thilly and Kevin Gunn reviewed the key points from the memo circulated prior to the meeting.

- There were no objections to the notion that the CRA modeling results should be used solely for the purpose of informing the SSC's decisions on the three scenarios for which detailed transmission planning analyses will be done (not to develop or test specific possible energy policies).

2. BAU Sensitivities Modeling Results

Ralph Luciani of CRA gave a brief presentation on the modeling results from the BAU sensitivities, and stakeholders discussed these results and their implications. Key points from the discussion included:

- Greater build-out of wind in SPP South compared to SPP North may be attributed to the decision to include SPP South as part of the RPS-eligible area.

- Futures and/or sensitivities that include a carbon price will arrive at a carbon price to achieve the desired GHG emission levels by running iterations of the carbon price in the base case through the MRN model. CRA recommends that the price arrived at through the iteration of the F2 base case be used for all other NEEM runs, including the soft constraints and for Future 3. Total GHG emissions will change with each sensitivity, so holding the carbon price constant makes it easier to see the effect of the sensitivity (e.g. higher load). To the extent that GHG reductions are significantly over or under the target, CRA may be able to make an adjustment in the price.
- Other than capital cost, data on generation (e.g., GWH of generation, fuel use and O&M costs) reported in each study year (e.g. 2015, 2020, 2025 and 2030) represent a snapshot in time for the entire generation portfolio in existence in that year. Capital costs reported in each study year represent a snapshot in time of the levelized capital costs associated with all new generation builds through that year (i.e., capital costs for existing generation are not included). Other data (load levels, interregional transmission flows, etc.) also represent a snapshot in time.

1. Remaining sensitivities inputs – Small Modular Nuclear (SMR) costs and amount & distribution of offshore wind

- Erin Hogan of the Modeling Working Group presented the group’s recommendations on the amount and distribution of offshore wind which has been reviewed and approved by PJM.
- Jeff Kaman presented the States’ recommendation on the SMR costs to be used in a sensitivity featuring this technology.
 - The SSC recognizes that the cost estimates are uncertain given the state of the technology. They have been proposed by EISPC based on proprietary information not available to the SSC.
- The SSC agreed to adopt the recommendations on both of these items.

2. Transmission limits hardening methodology

Tyler Ruthven of the NEEM/Transmission subteam presented three approaches for translating the NEEM soft constraint sensitivity results into fixed transfer limits for the relevant Futures.

- The three approaches included the following:
 - NGO proposal – focused on Flow Duration Curve and the fraction of time that the “pipe” is fully utilized (i.e. a target capacity factor)
 - Ruthven/Hadley/Chattopadhyay (RHC) Proposal – focused on “pipe” capacity factors and shadow prices.
 - Johnson proposal – focused on total energy flow and base line utilization.
- The subteam agreed that none of the approaches had fatal flaws, but it was unclear how the three methods might look under a more expansive transmission outlook like Future 2, and therefore, the subteam did not reach consensus on which approach is preferable.

- The discussion highlighted the fact that the choice between the Baseline Infrastructure, the 25% or the 75% soft constraints will have a more significant impact on the final inter-regional transfer limits than the selection of the method for hardening the constraints.
- The SSC decided to tentatively agree on using an average of these three results; however, the decision on the approach would be finalized after the SSC sees the results from the transmission sensitivities in Future
 - For the NGO methodology, the 20% threshold will be used for both the OL25 and OL75 runs.
 - After the Future 2 base case and transmission sensitivities are run, the subteam will report on the averaging approach as well as the individual approaches, and examine the results for anomalies. Data from the application of alternative parameters (high and low) for each methodology will be available for stakeholders
 - The subteam will make a recommendation to the SSC about what methodology and parameters should be used, and how anomalies should be addressed.
 - After reviewing Future 2 (and Future 3) in this manner, the methodology will be set for subsequent Futures, subject to the subteam's review of anomalies and other issues of interest to the SSC.
 - More information will be sought before deciding the methodology for combining the results – mean or median.
 - The subteam will also discuss and recommend the best approach to allow for bi-directional flows on the transfer pipes.

3. High-level Transmission Analysis Overview

- Joe Payne from Entergy delivered a presentation on EIPC's proposed approach to provide high-level analysis of the transmission overlay needed for one run of each of the 8 Futures. He affirmed that none of the information obtained in this stage would affect the transmission build-out analysis to be completed during Phase II. The full presentation can be found [here](#).
- An EISPC representative emphasized the importance of "thinking outside the box" in this exercise, and would like the SSC to be involved in the transmission analysis process.
- TOs agreed to report back to the SSC on the characterization of the bi-directional transfer between NYISO J&K and PJM Eastern/MAAC after consulting with the PAs.
- Comments from stakeholders on EIPC's approach should be sent to [Dave Whiteley](#) by Fri., May 27th.

4. Remaining sensitivities decisions

Roy Thilly and Kevin Gunn, SSC Chairs, asked the SSC to finalize the list of sensitivities that would be run. The sensitivities that were added and removed included:

- ADD: *Two* extra low renewables capital costs (F2 & F3); *four* re-runs of base case with hardened transfer limits (F2, F3, F5 & F6); *one* 50% reduction in hurdle rates (F6); and *two* to be held back for re-running NEEM for scenario development.
- DELETE: *One* high load growth (F4); *three* low load growth (F5, F6 & F7).
- The full list of sensitivities is attached.
- Some stakeholders indicated that as the modeling progresses, it may become clear that some sensitivities are less useful than originally anticipated. If this turns out to be the case, it was suggested that the SSC may want to propose alternate uses for those sensitivity “slots,” such as a third re-run of NEEM, or another sensitivity of the SSC’s choosing.

5. Scenario selection process

Roy Thilly and Kevin Gunn, SSC Chairs, discussed their proposal for selecting the transmission build-out Scenarios to be studied in Phase II. The SSC agreed to the following:

- The SSC will appoint a task force to lead the effort to develop recommendations for the SSC related to the three scenarios.
 - Each sector will name one person to serve as their sector’s designee to the task force, except EISPC, which will have three. These individuals will represent their sectors in any decision-making undertaken by the task force. (EIPC will also have a liaison to the task force.)
 - All recommendations made by the task force will be subject to approval by the entire SSC.
 - Roy Thilly requested that the sectors’ designees be SSC members or alternates, but indicated that sectors could also select a representative who was a non-SSC member if he or she has been highly engaged in the process thus far.
 - Each sector should notify Keystone of the names of their task force representatives by Friday, May 27.
 - Task force calls and meetings will be open to the participation of all interested SSC members and other stakeholders.
- The group’s key tasks and basic timeline are as follows:
 - July SSC meeting: Present recommendations on objectives and criteria for Scenario selection
 - September SSC meeting: Present preliminary recommendations on Scenarios to be studied, based on the criteria and objectives approved by the SSC and the results from the MRN-NEEM analyses.
 - November (or final SSC meeting of 2011) – Present final recommendation on the three Scenario and additional NEEM runs that may be needed
 - Dave Whiteley confirmed that final characterization of the three Scenarios (generation resources and location, etc.) can be completed after Nov. but before the beginning of Phase II.
- Discussion of objectives and criteria for Scenario selection

- David Whiteley said the PAs will use the information from the Scenario analyses to inform the regional planning process and the structure of the system.
- David Meyer pointed out that the Scenario development and analysis process should have the same level of transparency as the futures. He thought an important opportunity would be missed if the Scenarios did not push the envelope to tell us things we might not otherwise see. David noted one approach the SSC may want to consider, that is, looking at how the Futures cluster to inform the selection of Scenarios. In addition to a transmission intensive Scenario, the SSC may want to look at minimal transmission build-out and new transmission technology that marries HVDC with the underlying AC system.
- Generation owners/developers want to see one Scenario with significant build out and long-distance transfer to access domestic resources.
- End Users would like to see bookends of expansive transmission build-out and better use of the existing system with little build-out.
- Canada expressed an interest in considering the policies that drive the outcomes. If policies vary widely but the transmission outcomes are similar, we can use that information to tell the story about the Scenarios.
- Public Power/TDUs want to see bookend Scenarios to answer the question “what is to be gained by using Eastern Interconnection wide planning versus planning as usual or planning at the Super-region level?”
- Transmission owners/developers agreed with other sectors on the need for bookend Scenarios and regional versus National outlooks.
- States agreed that bookends are good but they also want to see transmission build-outs that are robust and serve many needs.
- Other suppliers noted that the sectors seemed to be coalescing around the concept of clustering Futures to develop bookends and to try to detach from any specific sensitivity as the basis.
- NGOs were in agreement with other sectors.

6. EIPC Phase II Overview

Dan Fredrickson of EIPC gave a presentation on the key tasks involved in Phase II. The presentation can be found [here](#). Key discussion items included:

- EIPC confirmed that Phase II detailed transmission build-out will be an iterative process with the SSC. The production cost analyses will be run on the three final detailed transmission build-outs.
- EISPC requested that EIPC consider involving a limited number of SSC-appointed technical experts to be involved directly in the Task 7 transmission build-out work.
- The SSC discussed the possibility of getting a production cost analysis of the BAU (Future 1) if it is not selected as one of the Scenarios. There was general agreement that the information would be useful but differences of opinion on whether the information was important enough to occupy one of the three Scenario positions.

7. Report on Phase I

- David Whiteley shared the Project Management report and said the outline for the Phase I report would be shared with the SSC in the near future for input.

NEXT MEETING: July 28-29; Cleveland Sheraton at the Airport

Attendance Report, SSC Meeting, May 18-19, 2011

Name	Organization/Company	Sector	Role
Roy Thilly	N/A	N/A	SSC Vice-Chair
Rob Sinclair	OPA	Canadian Provincial Representatives	SSC Member
Brenda Harris	Occidental Chemical Company	End Users	SSC Member
Ryan Kind	Missouri Public Counsel	End Users	SSC Member
Sonny Popowsky	PA Office of Consumer Advocate	End Users	SSC Member
Steve Gaw	Wind Coalition	Generation Owners and Developers	SSC Member
Jim Howell	Southern Power Company	Generation Owners and Developers	SSC Member (Alternate for Mark Volpe)
Andy Oliver	Land Trust Alliance	NGOs	SSC Member
Beth Soholt	Wind on the Wires	NGOs	SSC Member
Wil Burns		NGOs	SSC Member (Alternate for Mark Brownstein)
Herb Healy	EnerNOC, Inc	Other Suppliers	SSC Member
Lauren Azar	PSC of Wisconsin	State Representatives	SSC Member
Diane Barney	New York State Dept of Public Svc	State Representatives	SSC Member (Alternate for Garry Brown)
Rob Berntsen	Iowa Utilities Board	State Representatives	SSC Member
Edward Finley	NCUC	State Representatives	SSC Member
Lib Fleming	EISPC	State Representatives	SSC Member
Kevin Gunn	MO Public Service Commission	State Representatives	SSC Member/ SSC Chair
Doug Nazarian	Maryland PSC	State Representatives	SSC Member
Bob Pauley	EISPC	State Representatives	SSC Member (Alternate for Jon McKinney)
James Volz	Vermont Public Service Board	State Representatives	SSC Member
Marya White	EISPC	State Representatives	SSC Member (Alternate for Colette Honorable)
Tim Noeldner	WPPI Energy	TDU/Public Power	SSC Member
Paul	NRECA	TDU/Public Power	SSC Member (Alternate for Paul Malone)
Maryam Sharif	NYPA	TDU/Public Power	SSC Member
Will Kaul	Great River Energy	Transmission Owners and Developers	SSC Member
Tamara Linde	PSEG	Transmission Owners and Developers	SSC Member
Stuart Nachmias	Con Edison	Transmission Owners and Developers	SSC Member
Garrett Bissell	Couch White, LLP	End Users	Table Representative
Erin Hogan	NYSERDA	End Users	Table Representative
Terry Black	NRDC-FERC Project	NGOs	Table Representative
Bob Fagan	Synapse Energy Economics - NGOs	NGOs	Table Representative
Amy Hansen	New Jersey Conservation	NGOs	Table Representative

	Foundation		
Katherine Kennedy	NRDC	NGOs	Table Representative
John Moore	Environmental Law & Policy Center	NGO	Table Representative
Keith Daniel	Georgia Transmission Corporation	TDU/Public Power	Table Representative
Barry Huddleston	Clean Line Energy Partners	Transmission Owners and Developers	Table Representative
Lloyd Linke	Western Area Power Administration	Transmission Owners and Developers	Table Representative
Marty Mennes	FPL	Transmission Owners and Developers	Table Representative
Steven Naumann	Exelon	Transmission Owners and Developers	Table Representative
Mary Ellen Paravalos	National Grid	Transmission Owners and Developers	Table Representative
Mark Wehlage	Xcel Energy	Transmission Owners and Developers	Table Representative
Clay Young	SCE&G	Transmission Owners and Developers	Table Representative
Bob Fagan	Synapse Energy Economics - NGOs	NGOs	Table Representative
Erin Stojan Ruccolo	Fresh Energy	NGOs	Table Representative
Bob Fagan	Synapse Energy Economics - NGOs	NGOs	Table Representative
Erin Stojan Ruccolo	Fresh Energy	NGOs	Table Representative
Jeff Bentz	NESCOE	State Representatives	Other
John Buechler	NYISO	Other/don't know	Other
Jim Busbin	Southern Company Transmission	Other/don't know	Other
Alicia Dalton-Tingler	Department of Energy/NETL	Other/don't know	Other
Samrat Datta	Energy	Other/don't know	Other
Dan Fredrickson	MAPPCOR	Other/don't know	Other
Stanton Hadley	Oak Ridge National Laboratory	Other/don't know	Other
Vladimir Koritarov	Argonne National Laboratory	Other/don't know	Other
Ralph Luciani	CRA	Other/don't know	Other
Larry Mansueti	U.S. Department of Energy	Other/don't know	Other
David Meyer	US Department of Energy	Other/don't know	Other
Eric Runge	Day Pitney LLP for NEPOOL	Other/don't know	Other
Tom Schneider	NREL - National Renewable Energy Laboratory	Other/don't know	Other
Nano Sierra	FERC	Other/don't know	Other
David Till	TVA	Other/don't know	Other
Jeff Webb	MISO	Other/don't know	Other

David Whiteley	EIPC	Other/don't know	Other
Keith Yocum	LG&E/KU	Other/don't know	Other
James Calore	PSE&G	Transmission Owners and Developers	Other
Kenneth Copp	American Transmission Company	Transmission Owners and Developers	Other
Chris Hagman	American Transmission Company	Transmission Owners and Developers	Other
Randell Johnson	Northeast Utilities	Transmission Owners and Developers	Other
Jeffrey McKinney	NYSEG and RG&E	Transmission Owners and Developers	Other
Nina McLaurin	Progress Energy	Transmission Owners and Developers	Other
Joseph Payne	Entergy Services	Transmission Owners and Developers	Other
Robert Pierce	Duke Energy	Transmission Owners and Developers	Other
Gregory Smith	PPL	Transmission Owners and Developers	Other
Doug Bowman	SPP	Transmission Owners and Developers	Other
Don Gates	ISO NE	Transmission Owners and Developers	Other
Chuck Liebold	PJM	Transmission Owners and Developers	Other

Webinar Participants

King Look	Con Edison
Tami Anderson	Mappcor
Hisham Choueiki	Ohio PUC
Chris Lyons	Constellation Energy
Leonard Tillman	
Matt Lacey	GRE
Michael Goggin	AWEA
Greg Watkins	
Ken Lotterhos	LIPA
Jonathan Forward	New York State Department of Public Service
James Calore	PSE&G
Mike Steckelberg	Great River Energy
Samir Succar	NRDC
Jeffery Kitsemel	Public Service Commission of Wisconsin
Denis Bergeron	
Tom Bramschreiber	
Andy Tunnell	Balch & Bingham LLP
Alan Myers	ITC Great Plains
Mark Hershfield	
Amy Hansen	
John Zarzycki	NJBPU
Emily Fisher	