



**Southwest Power Pool**  
**TRANSMISSION WORKING GROUP**  
**December 2, 2011**  
**TWG Teleconference**  
**• M I N U T E S •**

**Agenda Item 1 – Administrative Items**

TWG Vice Chair Travis Hyde called the meeting to order at 10:05 a.m. The following members and stakeholders were in attendance:

**TWG Members**

Mo Awad, Westar Energy, Inc.  
John Chamberlin, City Utilities of Springfield  
Jason Fortik, Lincoln Electric System  
Ronnie Frizzell, Arkansas Electric Cooperative Corp.  
John Fulton, Southwestern Public Service Company  
Joe Fultz, Grand River Dam Authority  
Travis Hyde, Oklahoma Gas & Electric  
Dan Lenihan, Omaha Public Power District  
Randy Lindstrom, Nebraska Public Power District  
Jim McAvoy, Oklahoma Municipal Power Authority  
Matt McGee, American Electric Power  
Nathan McNeil, Midwest Energy  
Nate Morris, Empire District Electric  
Jason Shook, GDS Associates representing ETEC  
Noman Williams, Sunflower Electric Power Corp.  
Harold Wyble, Kansas City Power & Light

**Other Stakeholders and Staff**

Roy Boyer, Southwestern Public Service Company  
Terri Gallup, American Electric Power  
Kirk Hall, SPP Staff  
Jody Holland, SPP Staff  
Rachel Hulett, SPP Staff  
Vladimir Kapur, Wind Coalition  
Lloyd Kolb, Golden Spread Electric Coop, Inc.  
Bob Lux, SPP Staff  
Dave Macey, City of Independence, MO  
Rhonda Redden, Oklahoma Gas & Electric  
Kristen Rodriguez, Wind Coalition  
Greg Sorensen, SPP RE  
Al Tamimi, Sunflower Electric Power Corp.

**Agenda Item 2 – Finalization of the 2012 ITPNT Report**

Rachel Hulett, SPP Staff, presented the highlights of the report noting it contains \$230 million of new NTC candidates as well as \$185 million of withdrawal candidates for Board approval. It also has one candidate project seeking an ATP approval. Travis Hyde asked the members for any comments on the 2012 ITPNT report. The members discussed the report. Based on discussion, SPP Staff noted that Appendix I upgrade costs may not reflect the SCERTs submitted to staff; staff will work to incorporate these costs



and update the report, which will cause charts and graphs in the report to change as well. Members asked for the report to include a paragraph on the ATP concepts, as this is the first year this was being utilized. Members provided updated information for Appendix 3. TWG asked for staff to incorporate their changes into the report and bring it back to TWG for approval on December 19. Staff noted any missing SCERT information not received in the next few days would not be included in the 2012 ITPNT report for TWG approval on December 19. They did ask for all SCERTs to be provided to staff by the end of the year to assure inclusion in the report for the MOPC and Board.

### **Agenda Item 3 – Review 2012 ITP10 Transmission Plans**

Rachel Hulett gave a synopsis of the recommended 2012 ITP10 transmission plan and asked the group for comments. Randy Lindstrom, Nebraska Public Power District, asked if the Holt – Neligh 345 kV upgrade was included in the final plan. Staff responded this upgrade was not included, although the 2012 ITP10 report maps show otherwise; the project did not provide enough economic benefits to be included. There was discussion on costs not updated with SCERT information and missing SCERT information. Staff asked for SCERTs to be provided by the end of the year. Staff also highlighted the decision making process of how projects were included in the final 2012 ITP10 plan. Rachel noted the agenda for the joint TWG/ESWG teleconference on December 9, 2011 will be finalization of this report.

### **Agenda Item 4 – Discuss 2013 ITPNT Scope**

Rachel Hulett then began discussion on the 2013 ITPNT Scope. Member submitted comments were incorporated in the scope and were discussed. Through discussion, TWG agreed the MDWG should have a formal review of the 2013 ITPNT models. Members discussed the models, including seasons, to use for the analysis. They also discussed using CBA and non-CBA dispatch, treatment of transmission service, demand response, and N-1-1 analysis (Attachment 1 – 2013 ITPNT Scope).

### **Agenda Item 5 – Closing**

The next meeting is a joint call with ESWG on December 9, 8-10 a.m. The meeting adjourned at 12:12 p.m.

Respectfully Submitted,

Rachel Hulett,  
TWG Secretary



# Draft 2013 ITPNT Scope

November 29, 2011  
Pending TWG Approval

Engineering



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## **Overview**

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This document presents the scope and schedule of work for the 2013 Integrated Transmission Planning (ITP) Near-Term (NT) Assessment. This document was reviewed by the Transmission Working Group (TWG) in December 2011.

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## **Objective**

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The third phase of the ITP process is the Near-Term Assessment (ITPNT). The main objectives of ITPNT are to evaluate the reliability and robustness of the SPP transmission system in the near-term planning horizon, collaborate on the development of improvements with stakeholders, and identify necessary upgrades for approval and construction. The ITPNT's primary focus is identifying solutions required to meet the reliability criteria defined in OATT Attachment O Section III.6 but also considers policy and economic components such as EPA policy and demand response. The process will also include coordination of transmission plans with the ITP20, ITP10, Aggregate Study, and Generation Interconnection processes.

The Near-Term Assessment will create an effective near-term plan for the SPP footprint which identifies problems for normal conditions (no contingency) and (N-1) scenarios using applicable planning standards. The process will coordinate the development of appropriate mitigation plans to meet the needs of the SPP region. The study will assess the SPP transmission system to ensure SPP has mitigation plans for the following requirements:

- NERC Reliability Standards TPL-001 and TPL-002
- SPP Criteria
- Local planning criteria as submitted by Transmission Owners (TO)
- Public policy objectives
- Consideration of identified economic projects

The ITPNT study horizon will include modeling of the transmission system for loads out for six years (i.e. 2018). This will provide enough lead time requirements such that NTC letters can be issued and project owners can begin work in a timely fashion to enable the completion of the more complex projects by the identified need date.

The process is open and transparent, allowing for stakeholder input. Study results are coordinated with other entities and regions responsible for transmission assessment and planning. TWG will review and vet components of the ITPNT process, which includes but is not limited to the following items: model development, reliability analysis, stability analysis, transmission plan development, seams impacts, and ITPNT Report. The ESWG will review and vet the economic components of the ITPNT, which includes the ITP10 consideration.

## **Study Process**

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1. The resource additions and retirements, load profiles, and transmission service inclusion processes will be developed through stakeholder reviews.
2. The TWG/MDWG will oversee the development of the models that incorporate the assumptions developed in step #1 above, including review of data and results. [A discrete model review step will be added for MDWG to verify the models before analysis proceeds.](#)
3. Staff will perform an initial steady state analysis using applicable planning standards on power flow models that represent the applicable load profiles and generation dispatch per year and season. The assessments will be for the horizon years 1-6. Within SPP all facilities 60 kV and above in the models will be monitored and within the first-tier for all facilities 100 kV and above will be monitored in this analysis as a means to determine 60 kV and above solutions for SPP to the problems identified.
4. Staff will identify with input from stakeholders 60 kV and above solutions to potential criteria violations. Staff will coordinate solutions with the AG and GI Study processes for the SPP transmission system footprint.
  - a. Since Transmission Operating Guides (TOG) are tools used to mitigate violations in the daily management of the transmission grid, TOGs may be used as alternatives to planned projects and are tested annually to determine effectiveness in mitigating violations. For the purpose of this study, 2013 ITPNT will identify all solutions where the use of TOG is deemed not effective.
5. A check will be performed to determine if projects identified in the ITP20 or ITP10 assessments will eliminate or defer any projects identified in the ITPNT.
6. A follow-up analysis will be performed by Staff repeating the steps above on the identified solutions to validate the solutions and check for potential violations that may have been created.

## Data inputs

Since SPP will implement a day-ahead market with a consolidated balancing authority (CBA) in 2014, which is in the timeframe for this study, SPP will consider both power flow models with individual Balancing Authorities and power flow models with a CBA using market dispatch under non-coincident summer peak and spring April minimum off-peak conditions. SPP will use 2013, 2014, and 2018 models in the 2013 ITPNT. The modeling assumptions are detailed in sections below.

- Deleted: prior to March 2014
- Deleted: for March 2014 and beyond
- Comment [rah1]: John Fulton: We should use MDWG Build 2 models as a basis.
- Comment [rah2]: Staff Response: Waiting for Build 2 models impacts schedule adversely. Staff recommends using Build 1.

### A. Load

The load density and distribution for the steady state analysis will be provided through the MDWG model building process. Resource obligations will be determined for the footprint taking into consideration what load is industrial, non-scalable type loads and which load grows over time.

### B. Generation Resources

Existing generating resources will be represented in the power flow models taking into account planned retirements and retirements based on EPA's 2011 Cross-State Air Pollution Rule (CSAPR). New generating resources included in the power flow models will be limited to resources with a FERC filed Interconnection Agreement not on suspension or resources with an executed Service Agreement. Exceptions to these qualifications are addressed in the ITP Manual.

### C. Model Topology

The topology used to account for the transmission system excluding generation will be the current transmission system and the following transmission upgrades: SPP approved for construction upgrades, SPP Transmission Owners' planned (zonal sponsored) upgrades, and first tier entities' planned upgrades (AECL, Entergy, MEC, and WAPA). The model development processes for SPP MDWG and SERC account for long-term transmission line outages as forecasted by each process's member transmission owners.

- Deleted: from
- Deleted: 's 2012 Construction Plan
- Deleted: 's planned upgrades, MEC's planned and AECL's planned upgrades

### D. Transmission Service

For single BAs (non-CBA) dispatch models, to account for the confirmed long-term transmission service SPP creates two scenario models: the first scenario contains projected transmission transfers and generation dispatch on the system; the second scenario contains all confirmed long-term firm transmission service with its necessary generation dispatch.

For CBA dispatch models, the dispatch within SPP will be determined by economic factors instead of transmission service commitments except as listed in Section F.

### E. Demand Response

Demand response will be incorporated into the models through lower load and capacity forecasts as described in Subsection A above.

- Comment [rah3]: John Fulton suggests adding: When needed to resolve a found violation, interruptible loads may be taken out of service for that particular violation. TLR events for the past 24 months in a TO's area may be used as an indication of network response to reliability limit violations and will be incorporated into the study results.
- Comment [rah4]: TWG discussed and did not have a strong opinion on this comment item.

Southwest Power Pool, Inc.

**F. SPP Exports/Imports for CBA models**

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For DC ties, sold firm transmission service will be used as a basis for modeling those flow levels. Staff will evaluate whether historical DC flows are consistent with the service agreements. If there is no sold firm transmission service on DC ties, TWG will consider how to model the DC ties.

The exports/imports between SPP and AC systems will be determined by the interchange in the MDWG models.

**G. CBA Dispatch**

The ITPNT will utilize a CBA dispatch. The load forecasts used in the models will be non-coincident peak, etc. Staff along with the appropriate responsible entities will develop a security constrained block CBA generation dispatch order for the SPP region. IF APPLICABLE: The economic inputs and constraints for the dispatch will be reviewed by stakeholders.

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DRAFT

## Analysis

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### ***A. Steady state assessment***

The steady state assessment will use the following models: 2013 spring and summer peaks; 2014, 2018 summer and off-peaks using a market dispatch. An N-1 contingency analysis will be conducted for the peak and off-peak cases for facilities 60 kV and above in SPP and facilities 100 kV above in first-tier. All facilities 60 kV and above in SPP and 100 kV and above in first-tier will be monitored for this analysis in consideration of 60 kV and above solutions to the problems identified.

**Comment [rah5]:** SPS Comment:  
An N-1-1 analysis should also be done but ONLY on the off peak cases, when lines can be taken out for maintenance.

### ***B. Solution development***

SPP will use a pool of possible solutions to evaluate upgrades used to create the ITPNT plan. This pool of solutions will come from SPP transmission service studies, generation interconnection studies, ITP studies, and stakeholder input.

**Comment [rah6]:** TWG discussed but did not have a strong opinion on this comment.

### ***C. ITP10 Consideration***

Staff is developing this process with plans to take this to ESGW for review.

**Comment [rah7]:** This is a placeholder for a new process staff will develop to help the ITP10 projects move from the ATP phase to the NTC phase

### ***D. Final reliability assessment***

After all upgrades have been identified and inserted into the power flow models, a steady state N-1 contingency analysis will be conducted to identify any remaining outstanding issues.

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## Seams

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In the development of ITPNT, Staff will review expansion plans of neighboring utilities and Regional Transmission Organizations (RTOs) and include first-tier party's planned projects in the ITPNT models. Based upon that review, Staff may take into account other external plans.

Potential impacts of the ITPNT on neighboring systems will be considered. Coordination is done in accordance with existing Seams agreements. For those without an explicit agreement, those neighbors will be contacted in order to discuss the potential impacts of the ITP on their systems.

## **Timeline**

**Comment [rah8]:** Staff will try to include a more detailed schedule of TWG milestones in Dec

The study will begin in January 2012 with final results complete by January 2013. The estimated study timeline is as follows:

- Scoping: November 2011 – December 2011
- Model development: Jan 2012 – April 2012
- Reliability assessment: April 2012 – May 2012
- Solution development: June 2012 – August 2012
- Stability analysis: August 2012 – September 2012
- ITP10 Consideration: August 2012 – September 2012
- Final reliability assessment: September 2012
- Draft report: October 2012
- Refinements: November 2012 – December 2012

Staff plans to hold stakeholder workshops at least twice during 2012 but may hold more as appropriate.

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## **Deliverables**

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The results from the ITPNT, which define a set of transmission upgrades needed to meet the near-term needs of the system, will be compiled into a report detailing the findings and recommendations of SPP Staff.