



TAG Meeting

June 10, 2013

Teleconference Meeting



TAG Meeting Agenda

- 1. Administrative Items – Rich Wodyka**
- 2. FERC Order No. 1000 - Rule on Transmission Planning – Sam Waters**
- 3. 2013 Study Activities – Mark Byrd**
- 4. 2013 NC / SC Joint Wind Study Scope – Orvane Piper**
- 5. Regional Studies Update – Bob Pierce and Sam Waters**
- 6. 2013 TAG Work Plan – Rich Wodyka**
- 7. TAG Open Forum – Rich Wodyka**



**FERC Order No. 1000 Rule on
Transmission Planning and
Cost Allocation
Compliance Update**

Sam Waters – Duke Energy
on behalf of the North Carolina Transmission
Planning Collaborative
For the 6/10/13 TAG Meeting



Regional Compliance Update

- **Duke Energy Carolinas and Progress Energy Carolinas submitted the Order No. 1000 regional compliance filing on October 11, 2012.**
- **FERC issued an order on February 21, 2013 finding that due to the merger of Duke and Progress, Duke and Progress are no longer separate transmission providers for purposes of Order No. 1000 compliance and therefore the NCTPC no longer qualified as an Order No. 1000 transmission planning region.**



Regional Compliance Update (cont.)

- **Duke-Progress submitted a request for rehearing/clarification of the FERC order.**
 - **Rehearing request – Requested that FERC reconsider their finding and find that Duke and Progress are separate transmission providers.**
 - **Clarification request – If FERC does not find that Duke and Progress are separate transmission providers then FERC should clarify that Duke and Progress have a single footprint for Order No. 1000 purposes.**



Regional Compliance Update (cont.)

- **On May 22, Duke and Progress filed their revised compliance plan with FERC under protest, proposing to join the SERTP.**
- **Duke's revised regional compliance proposal included the following:**
 - **Preservation of the NCTPC as a local transmission planning process**
 - **Use of the SERTP as the regional transmission planning process**
- **FERC response will likely be when SERTP ruling is issued.**



Interregional Compliance Update

- **SERTP is continuing to work with their non-RTO and RTO transmission planning regions in the development of the Order 1000 interregional tariff language**
 - **Draft SERTP to non-RTO seams draft tariff language is posted on the SERTP website.**

http://www.southeasternrtp.com/general_documents.asp

- **SERTP plans to post SERTP to RTO seams draft language on the SERTP website the week of June 10th.**
- **Order 1000 interregional filings are due on July 10th.**



Questions ?





NCTPC 2013 Study Activities and Study Scope

**Mark Byrd
Duke Energy Progress**



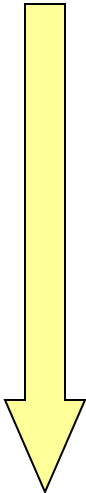
Purpose of Study

- **Assess DEC and DEP transmission systems' reliability and develop a single Collaborative Transmission Plan**



Steps and Status of the Study Process

- 1. Assumptions Selected**
- 2. Study Criteria Established**
- 3. Study Methodologies Selected**
- 4. Models and Cases Developed**
- 5. Technical Analysis Performed**
- 6. Problems Identified and Solutions Developed**
- 7. Collaborative Plan Projects Selected**
- 8. Study Report Prepared**





Study Assumptions Selected

- **Study Years for reliability analyses:**
 - Near-term: 2018 Summer, 2018/2019 Winter
 - Longer-term: 2023 Summer
- **LSEs provided:**
 - Input for load forecasts and resource supply assumptions
 - Dispatch order for their resources
- **Interchange coordinated between Participants and neighboring systems**



Base Case Models Development

- **Started with 2012 series MMWG cases**
- **Detailed models for DEC and DEP systems**
- **Adjustments are being made based on additional coordination with PJM**
- **2 of 3 cases have been received from PJM**
- **Planned transmission additions from updated 2012 Plan will be included in models**



Resource Supply Options Selected

- **Last year**
 - Hypothetical new base load generation
 - NCTPC-PJM inter-regional wind study
- **This year**
 - Hypothetical import/export scenarios (16 total)
 - Coordination with PJM for modeling transfers (7 of 16 scenarios)



2023 Hypothetical Import / Export

Resource From	Sink	Test Level (MW)
NORTH – PJM	Duke	1,000
SOUTH – SOCO	Duke	1,000
SOUTH – SCEG	Duke	1,000
SOUTH – SCPSA	Duke	1,000
EAST – Progress (CPLE)	Duke	1,000
WEST – TVA	Duke	1,000



2023 Hypothetical Import / Export

Resource From	Sink	Test Level (MW)
NORTH – PJM	Progress (CPL)	1,000
SOUTH – SCEG	Progress (CPL)	1,000
SOUTH – SCPSA	Progress (CPL)	1,000
WEST – Duke	Progress (CPL)	1,000
WEST – Duke	SOCO	1,000



2023 Hypothetical Import / Export

Resource From	Sink	Test Level (MW)
NORTH – PJM	Duke / Progress (CPLE)	1,000 / 1,000
WEST – Duke / Progress (CPLE)	PJM	1,000 / 1,000
EAST – Progress (CPLE)	PJM	1,000
WEST – Duke	PJM	1,000
SOUTH – SOCO *	PJM	1,000



Technical Analysis

- **Conduct thermal screenings of the 2018 and 2023 base cases**
- **Conduct thermal screenings of the 2023 hypothetical transfer scenarios and coordinate with PJM**



Problems Identified and Solutions Developed

- **Identify limitations and develop potential alternative solutions for further testing and evaluation**
- **Estimate project costs and schedule**



Collaborative Plan Projects Selected

- **Compare all alternatives and select preferred solutions**

Study Report Prepared

- **Prepare draft report and distribute to TAG for review and comment**



Questions ?





2013 NC/SC Joint Wind Study

**Orvane Piper
Duke Energy**



Study Assumptions

- **Study year 2024**
 - Summer peak
 - Winter peak
 - Shoulder peak
- **Three scenarios for each season that vary:**
 - MWs at injection sites
 - MWs sinking in Duke, Progress, SCEG, SCPSA



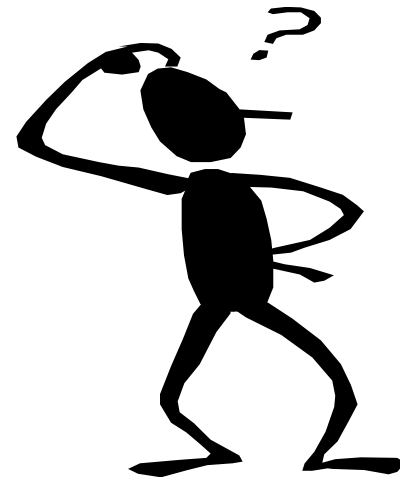
Scenarios

Location	Scenario #1	Scenario #2	Scenario #3
	MWs by Injection Point		
Wilmington, NC	1,000	2,000	0
Myrtle Beach, SC	1,000	0	2,000
	MWs* by Sink Location		
Duke	600	940	940
Progress	400	620	620
SCEG	500	220	220
SCPSA	500	220	220

**Assumes 100% capacity factor at each of the injection sites.*



Questions ?





Regional Studies Reports

Bob Pierce and Sam Waters
Duke Energy



Introduction to EIPC Studies 2013-2014

NCTPC TAG Meeting

June 10, 2013

Live Meeting



Outline

- EIPC Background and History
- EIPC Scope of Activities (non-grant)
- EIPC Work Plan 2013-2014 (non-grant)
- Stakeholder Process Overview
- Stakeholder Role and Expectations
- Questions for Discussion
- Schedule for 2013
- 2018 and 2023 Roll-up Cases
- Discussion of Potential Scenarios to be Studied



About the EIPC

- Eastern Interconnection Planning Collaborative (EIPC)
- 25 Planning Authority (Planning Coordinator) members including ISOs/RTOs, non-ISO regions, municipals, cooperatives, ...
- Members are from the U.S. and Canada
- Approximately 95% of the Eastern Interconnection customers covered
- Formed in the Spring of 2009



Planning Authority Members of EIPC

- Alcoa Power Generating
- American Transmission Co.
- Duke Energy Carolinas
- Electric Energy Inc.
- Entergy *
- Florida Power & Light
- Georgia Transmission Corp.
- IESO *
- International Transmission Co.
- ISO-New England *
- JEA
- LG&E/KU
- MAPPCOR *
- Midwest ISO *
- Municipal Electric Authority of Georgia
- New York ISO *
- PJM Interconnection *
- PowerSouth Energy Coop.
- Progress Energy – Carolinas
- Progress Energy – Florida
- South Carolina Electric & Gas
- Santee Cooper
- Southern Company *
- Southwest Power Pool
- Tennessee Valley Authority *

*Primary participants on portions of the DOE funded project.



EIPC Activities

1. DOE Interconnection Studies Grant
 - ARRA funded
 - EIPC selected in fall of 2009
 - Study continues into 2015
2. **EIPC Model Development and Analysis (non-grant)**
 - **Funded by EIPC members**



DOE Interconnection Studies Grant

- Study of stakeholder-specified futures
- Two Phase Process:
 - Phase I
 - Developed base case starting point for expansion analyses
 - Macroeconomic study of resource needs under different policy and economic growth futures then determine three scenarios for further analysis
 - Phase II
 - Detailed transmission buildouts for three scenarios, production cost analysis, and costs estimated for generation and transmission development in three scenarios
 - Draft report sent to DOE and posted 4Q 2012
- DOE Guidance on Gas-Electric System Interface Study



Gas-Electric System Interface Study

- Phase I assumption that natural gas delivery can keep pace with electric generation development with no impact on gas price
- Recent interest in Gas-Electric interface by DOE, FERC, states, etc.
- EIPC working with DOE to study the issue:
 - Base line of existing electric and gas system analysis
 - Future gas adequacy assessment
 - Detailed modeling under gas contingency conditions, and impact on electric system operations
 - Dual fuel evaluation



EIPC Activities

1. DOE Interconnection Studies Grant
 - ARRA funded
 - EIPC selected in fall of 2009
 - Study continues through 2014
- 2. EIPC Model Development and Analysis (non-grant) - funded by EIPC members**

Remainder of presentation focuses on activity #2



EIPC Scope of Activities (non-grant)

- Initial EIPC Scope of Activities adopted 12/22/09
- Non-grant work in 2013-2014:
 - Roll-up analysis of the PA's plans to find possible changes that will improve their efficiency and effectiveness
 - Result of this analysis available for consideration in regional and inter-regional planning processes
 - Perform a defined number of scenarios/sensitivities against the rolled-up model



EIPC Work Plan 2013-2014

- 2013 – Model roll-up and evaluation by Planning Authorities – during Q1, Q2, and Q3
- 2013 – Develop and put in place a new stakeholder process
 - Develop process
 - Poll states and other stakeholders for input and comment
 - Finalize and implement new stakeholder process
 - Hold initial open stakeholder webinars



EIPC Work Plan 2013-2014 (cont'd)

➤ Late 2013 through 2014

- Provide results of updated roll-up analysis to stakeholders
- With stakeholder input, develop resource expansion scenarios to be studied in 2014 on 2013 roll-up models
- Perform inter-regional transmission analysis to support selected scenarios
- Provide cost estimate for incremental transmission improvements and build-out required to support selected scenarios
- Discuss interim results with Stakeholders and receive feedback
- Revise analysis as appropriate
- Hold Stakeholder meeting(s) to present final results of analysis
- Publish results
- In 2014, develop a new work plan for 2015 and beyond



EIPC Work Plan 2013-2014 (cont'd)

➤ Supporting Activities

- CELL: Continue to make EIPC models available to those who have completed the EIPC CELL process (based on regional clearance)
- Website: www.eipconline.com
 - Continue to host the EIPC website
 - Review current EIPC website and recommend modifications as appropriate
 - Post material from both grant and non-grant EIPC activities



Stakeholder Process Overview

- Note difference between the DOE-funded Gas-Electric System Interface Study and EIPC Roll-up (not funded by DOE)
- **Stakeholder groups created for other purposes such as compliance with FERC Orders 890 and 1000 will be used to facilitate stakeholder input**
- Ensure a regional focus:
 - Present roll-up models and results
 - Receive stakeholder feedback, input, comments and suggestions on specific scenarios to be studied
 - Present the results of scenario studies
 - Seek stakeholder feedback on reports that are created



Stakeholder Process Overview (cont'd)

- EIPC plans to hold two to three interconnection-wide stakeholder webinars each year
- These webinars provide transparency and coordination between the regions and to seek additional stakeholder input
- Webinars will be open to all stakeholders including federal and state (EISPC) representatives
- If necessary, interconnection-wide in-person stakeholder meetings could be held in place of or in addition to the webinars



Planning Authority Responsibility

- Ensure appropriate communication with regional stakeholder processes
- Coordinate with EISPC to ensure they have the opportunity to provide input and feedback
- Develop potential scenarios to be presented to stakeholders for input
- Solicit, organize, and review input from stakeholders



Planning Authority Responsibility (cont'd)

- Work with stakeholders through webinars (and meetings, if necessary) to provide transparency and resolve disagreements if possible
- Determine which scenarios will be studied based on input from stakeholders and guidance from the EIPC Executive Committee
- Post chosen scenarios and explanations for why those scenarios were chosen
- Report back to each region on interim and final study results



Stakeholder Role and Expectation

- Participate in regional processes and meetings
- Provide input on the roll-up models and results
- Provide input on potential scenarios developed by the PAs
- Suggest other scenarios of interest that should be considered
- Work with other stakeholders in determining which scenarios would be of most value
- Participate in interconnection-wide webinars (and meetings, if necessary) to provide input on the interim results, draft conclusions, and recommendations



Questions for Discussion

- When and how would stakeholders like to hear from the EIPC on the status of EIPC work?
- Do stakeholders want a separate set of EI-wide calls/webexes?
- What is the best use of EI-wide web meetings?
- How often would stakeholders like to be updated on EIPC work?
- Would stakeholders want the capability to provide input via an EIPC “mail box” in addition to input via their regional process?
- What would you like to get from EIPC studies?
- How much time do folks need to be able to provide comments once material is shared with them in – 2 days, 2 weeks, 1 month?



Schedule for 2013

- Regional Meetings: June through August
 - Background on non-grant work
 - Stakeholder process
 - 2018 and 2023 roll-up base cases
 - General discussion on potential scenarios to be studied

- Stakeholder Comments and Input on Stakeholder Process, Roll-up, and Scenarios Due – 9/3/13
 - Comments on stakeholder process
 - Roll-up work
 - Input on scenarios to be studied



Schedule for 2013 (cont'd)

- EIPC Consideration of Comments Received on Stakeholder Process: August and September
 - Finalize any recommended changes to stakeholder process – 9/19/13
- Regional Meetings: Mid-September – October
 - Results of roll-up case contingency and transfer testing
 - List of potential scenarios to be studied in 2014
 - Stakeholder feedback on which potential scenarios to select
- Eastern Interconnection-Wide Webinar – November
- EIPC Develops 2014 Study Schedule – October to December
 - Consider PA manpower requirements
 - Final selection of scenarios – 12/19/13
 - Post/notify stakeholders final scenarios to be studied in 2014



2018 and 2023 Roll-Up Cases

- History of development
- Description of cases
- Etc.



Discussion of Potential Scenarios to be Studied

- Principles
- Guidelines
- Example
- General discussion on ideas to be studied, possible scenarios, etc.



Principles for Scenario Development

- All scenarios will be run as changes to a Base Plan created by the EIPC ...
- Scenarios will be identified for the purpose of developing high-level transmission buildouts ...
- Scenarios should not be duplicative of any other local or regional planning efforts ...
- The assumptions defining a scenario should be provided by the stakeholder sponsors ...
- Changes to the base plan resulting from the scenario assumptions will be determined by the EIPC members ...



Guidelines for Scenario Definition

- A general narrative description of the scenario, including the overall objective should be provided ...
- For transfer studies, the source and sink of power transferred should be identified ...
- The addition or removal of resources must be identified ...
- Scenarios that include storage technologies must identify on-peak contribution and off-peak demand ...
- Changes to the peak demand forecast should be specified as a change to the aggregate demand in the Base Plan ...



Example Scenario Definition

- A
- B
- C



General Discussion on Ideas to be Studied

- Stakeholder discussion



Questions?





2013 TAG Work Plan

Rich Wodyka
ITP



2013 NCTPC Overview Schedule

Reliability Planning Process

- Evaluate current reliability problems and transmission upgrade plans
 - Perform analysis, identify problems, and develop solutions
 - Review Reliability Study Results

Enhanced Access Planning Process

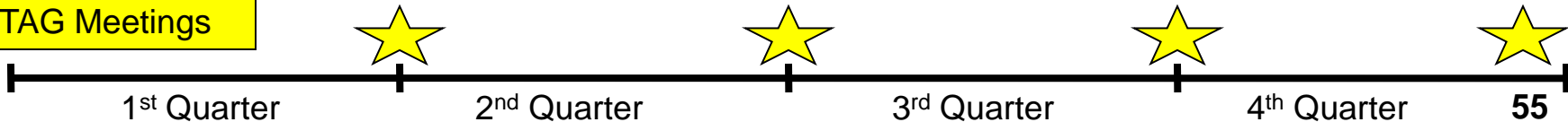
- Propose and select enhanced access scenarios and interface
 - Perform analysis, identify problems, and develop solutions
 - Review Enhanced Access Study Results

Coordinated Plan Development

- Combine Reliability and Enhanced Results
 - OSC publishes DRAFT Plan
 - TAG review and comment

FERC Order 1000 Updates

TAG Meetings





2013 TAG Work Plan

January – February

- **2013 Study – Finalize Study Scope of Work**
 - ✓ **Receive final 2013 Reliability Study Scope for comment**
 - ✓ **Review and provide comments to the OSC on the final 2013 Study Scope**
 - ✓ **Receive request from OSC to provide input on proposed Enhanced Transmission Access scenarios and interfaces for study**
 - ✓ **Provide input to the OSC on proposed Enhanced Transmission Access scenarios and interfaces for study**



March 14th changed to *April 16th*

TAG Meeting

➤ **2013 Study Update**

- ✓ **Receive a progress report on the Reliability Planning study activities and preliminary results**

➤ **Order 1000 Update**

- ✓ **Receive report on the direction that the NCTPC is heading on the Order 1000 regional compliance**
- ✓ **Receive an update on the overall Compliance Timeline highlighting when continued stakeholder involvement in the process will occur**



April - May - June

- **2013 Study - Technical Analysis, Problem Identification, and Solution Development**
 - **TAG will be requested to provide input to the OSC and PWG on the technical analysis performed, the problems identified as well as proposing alternative solutions to the problems identified**
 - **TAG will be requested to provide input to the OSC and PWG on any proposed alternative solutions to the problems identified through the technical analysis**



April - May - June

TAG Meeting scheduled for June 10th - Teleconference

➤ 2013 Study Update

- ✓ Receive a progress report on the Reliability Planning study activities
- Receive update status of the upgrades in the 2012 Collaborative Plan

➤ Order 1000 Update

- ✓ Receive an update on the Order 1000 regional compliance work and the discuss changes that will be coming in the regional compliance documents
- Receive an update on the overall Compliance Timeline highlighting when continued stakeholder involvement in the process will occur



July - August - September

- **2013 Study - Technical Analysis, Problem Identification, and Solution Development**
 - TAG will be requested to provide input to the OSC and PWG on the technical analysis performed, the problems identified as well as proposing alternative solutions to the problems identified
 - TAG will be requested to provide input to the OSC and PWG on any proposed alternative solutions to the problems identified through the technical analysis



July - August - September

TAG Meeting

➤ 2013 Study Update

- Receive a progress report on the Reliability Planning study activities and preliminary results

➤ 2013 Selection of Solutions

- TAG will receive feedback from the OSC on any alternative solutions that were proposed by TAG members

➤ Order 1000 Update

- Receive an update on the Order 1000 regional compliance work and discuss the proposed changes that will be coming in the regional compliance documents
- Receive an update on the overall Compliance Timeline highlighting when continued stakeholder involvement in the process will occur



October - November - December

➤ 2013 Study Update

- Receive and comment on final draft of the 2013 Collaborative Transmission Plan report**
- Discuss potential study scope for 2014 studies**



October - November - December

TAG Meeting

➤ 2013 Study Update

- Receive presentation on the draft report of 2013 Collaborative Transmission Plan**
- Discuss potential study scope for 2014 studies**

➤ Order 1000 Update

- Receive an update on the Order 1000 regional compliance work**



Questions ?





TAG
Open Forum Discussion

Comments or Questions?