



# **TAG Meeting June 8, 2015**

**Teleconference / Webinar  
FINAL**



# **TAG Meeting Agenda**

- 1. Administrative Items – Rich Wodyka**
- 2. 2015 Study Activities Update – Orvane Piper**
- 3. NCTPC 2014 Collaborative Transmission Plan Mid-year Update – Mark Byrd**
- 4. Operations Reliability Coordination Agreement (ORCA) Report – Bob Pierce**
- 5. Regional Studies Update – Bob Pierce**
- 6. 2015 TAG Work Plan Update – Rich Wodyka**
- 7. TAG Open Forum – Rich Wodyka**



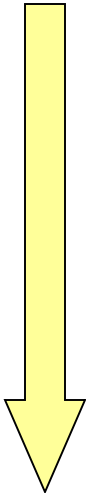
# **2015 Study Activities Update**

**Orvane Piper  
Duke Energy Carolinas**



# 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**





# Studies for 2015

- **Annual Reliability Study**
  - **Assess DEC and DEP transmission systems' reliability and develop a single Collaborative Transmission Plan**
- **Resource Supply Scenarios**
  - **Assess DEC and DEP interface with neighboring systems by modeling hypothetical transfers**
- **Local Economic Study Scenarios**
  - **Assess scenarios submitted by stakeholders**



# 2025 Hypothetical Import / Export

<b>Resource From</b>	<b>Sink</b>	<b>Test Level (MW)</b>
PJM	DUK <sup>1</sup>	1,000
SOCO	DUK	1,000
SCEG	DUK	1,000
SCPSA	DUK	1,000
CPLE <sup>2</sup>	DUK	1,000
TVA	DUK	1,000

1 – DUK is the Balancing Area for DEC

2 – CPLE is the eastern Balancing Area for DEP



# 2025 Hypothetical Import / Export

<b>Resource From</b>	<b>Sink</b>	<b>Test Level (MW)</b>
PJM	CPLE	1,000
SCEG	CPLE	1,000
SCPSA	CPLE	1,000
DUK	CPLE	1,000
DUK	SOCO	1,000



# 2025 Hypothetical Import / Export

<b>Resource From</b>	<b>Sink</b>	<b>Test Level (MW)</b>
PJM	DUK / CPLE	1,000 / 1,000
DUK / CPLE	PJM	1,000 / 1,000
CPLE	PJM	1,000
DUK	PJM	1,000
SOCO <sup>3</sup>	PJM	1,000

3 – This hypothetical transfer is intended to evaluate the impact of a 1000 MW Southern Co transaction through the DEC/DEP transmission systems into PJM.





## **Local Economic Study Requests**

- **661 MW transfer from TVA's Shelby 500 kV Sub to DEC/DEP control areas**
  - Requested by Clean Line Energy
  - Study year 2020 Summer
  - Allocated to DEC and DEP based on share of combined load



# Local Economic Study Requests

- **Forced outage(s) of multiple nuclear units on DEC and DEP systems**
  - Requested by NCEMC
  - Study year 2020 Summer
  - DEC's McGuire Units (1 & 2) and Catawba Units (1 & 2) and DEP's Harris Unit 1
  - Capacity replacement internally first and then equally from Southern Company and PJM Market.



# Base Case Model Development

- **Start with 2014 series MMWG cases**
- **Latest updates to detailed models for DEC and DEP systems will be included**
- **Adjustments may be made based on additional coordination with neighboring transmission systems**
- **Planned transmission additions from updated 2014 Plan will be included in models**



## **Technical Analysis**

- **Conduct thermal screenings of the 2020 and 2025 base cases**
- **Conduct thermal screenings of 2025 hypothetical transfer scenarios**
- **Conduct thermal screenings of both 2020 Local Economic Study requests**



# **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 ?





# **NCTPC 2014 Collaborative Transmission Plan Update**

**Mark Byrd**  
**Duke Energy Progress**





## 2015 Mid-Year Update to the 2014 Collaborative Transmission Plan

- **Two DEP projects added as cost estimates exceeded \$10 million**
- **One DEP project cost estimate increased**
- **One DEP project delayed**
- **Total Reliability Project Cost estimates changed from \$209M to \$239M**



<b>Reliability Projects in 2014 Plan</b>		
<b>Reliability Project</b>	<b>TO</b>	<b>Planned I/S Date</b>
<b>Harris Plant-RTP 230 kV Line, Establish a new 230 kV line by utilizing the Amberly 230 kV Tap, converting existing Green Level 115 kV Feeder to 230 kV operation, construction of new 230 kV line, remove 230/115 kV transformation and connection at Apex US1</b>	<b>DEP</b>	<b>5/23/2014</b>
<b>Brunswick #1 – Jacksonville 230 kV Line Loop-In to Folkstone 230 kV substation</b>	<b>DEP</b>	<b>Removed</b>
<b>Greenville - Kinston DuPont 230 KV Line Construct line</b>	<b>DEP</b>	<b>5/12/2014</b>



<b>Reliability Projects in 2014 Plan (continued)</b>		
<b>Reliability Project</b>	<b>TO</b>	<b>Planned I/S Date</b>
<b>Raeford 230 kV substation, loop-in Richmond-Ft Bragg Woodruff St 230 kV Line and add 3rd bank</b>	<b>DEP</b>	<b>June 2018</b>
<b>Durham-RTP 230kV Line, Reconductor</b>	<b>DEP</b>	<b>June 2024</b>
<b>Reconductor Caesar 230 kV Lines (Pisgah Tie - Shiloh Switching Station #1 &amp; #2)</b>	<b>DEC</b>	<b>12/3/2013</b>
<b>Reconductor London Creek 230 kV Lines (Peach Valley Tie - Riverview Switching Station #1 &amp; #2)</b>	<b>DEC</b>	<b>Removed</b>
<b>Jacksonville-Grant's Creek 230 kV Line and Grant's Creek 230/115 kV Substation</b>	<b>DEP</b>	<b>June 2020</b>



<b>Reliability Projects in 2014 Plan</b>		
<b>Reliability Project</b>	<b>TO</b>	<b>Planned I/S Date</b>
<b>Newport-Harlowe 230 kV Line, Newport SS and Harlowe 230/115 kV Substation</b>	<b>DEP</b>	<b>June 2020</b>
<b>Fort Bragg Woodruff St 230 kV Sub, Replace 150 MVA 230/115 kV transformer with two 300 MVA banks &amp; reconductor Manchester 115 kV feeder</b>	<b>DEP</b>	<b>December 2016</b>
<b>Sutton-Castle Hayne 115 kV North line Rebuild</b>	<b>DEP</b>	<b>June 2018</b>



## Projects to be Added to the 2015 Collaborative Transmission Plan

- **One DEP project added (re-instated) as a result of on-going internal DEP studies**
- **Two DEP projects added in response to CPLE-CPLW OATT Transmission Service Request**
- **Three DEC projects added in response to CPLE-CPLW OATT Transmission Service Request**



### Reliability Projects to be Added to 2015 Plan

<b>Reliability Project</b>	<b>TO</b>	<b>Planned I/S Date</b>
<b>Brunswick #1 – Jacksonville 230 kV Line Loop-In to Folkstone 230 kV substation</b>	<b>DEP</b>	<b>June 2024</b>
<b>Asheville Plant, Replace 2-300 MVA 230/115 kV banks with 2-400 MVA banks and reconductor 115 kV ties to switchyard</b>	<b>DEP</b>	<b>December 2019</b>
<b>Craggy-Enka 230 kV Line, Construct</b>	<b>DEP</b>	<b>December 2019</b>
<b>Foothills 500/230 kV Substation, Construct</b>	<b>DEC</b>	<b>December 2019</b>
<b>Asheville Plant(DEP)-Foothills(DEC) B&amp;W 230 kV Lines, Construct</b>	<b>DEC</b>	<b>December 2019</b>
<b>Davidson River 100 kV Lines, Partial Rebuild</b>	<b>DEC</b>	<b>December 2019</b>



# *Questions?*





**MISO/Entergy Integration  
Operations Reliability Coordination  
Agreement (ORCA)**

**Bob Pierce  
Duke Energy Carolinas**





# MISO/Entergy Integration

- No news on ORCA or settlement meetings
- Southern filed complaint at FERC regarding Entergy Region becoming a “toll gate” through which Southwestern wind energy must pass in order to be delivered to major load centers in the Southeast.



# *Questions ?*





# Regional Studies Reports

**Bob Pierce**  
**Duke Energy Carolinas**



# **SERC Long Term Study Group Update**



# **SERC Long Term Study Group**

- Building 2015 series of MMWG cases
- Updating 2014 series 2015 Winter MMWG model for ERAG study
- Will begin study of 2020 Summer



# Eastern Interconnection Planning Collaborative (EIPC)



# EIPC

## Planning Activities

- Working on building 2025 Summer and Winter models
- Will screen models later in year
- Considering developing production cost analysis capability



<http://www.eipconline.com/>





# SERTP



## SERTP

- Completed development of 2015 series of models through 2025 Winter
- Updated Transmission Expansion Plan
- Stakeholder meeting June 25<sup>th</sup> in Charlotte



<http://www.southeasternrtp.com/>



# NERC Reliability Standards Update



- CIP-014 Physical Security
- TPL-001-4 and CAN



# *Questions?*





# 2015 TAG Work Plan

**Rich Wodyka**  
**Administrator**



## 2015 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

### Local Economic Planning Process

- Propose and select Local Economic Study scenarios and interface
  - Perform analysis, identify problems, and develop solutions
  - Review Local Economic Study Results

### Coordinated Plan Development

- Combine Reliability and Local Economic Study Results
  - OSC publishes DRAFT Plan
- TAG review and comment

TAG Meetings







## ***2015 TAG Work Plan***

### **January – February**

- **2015 Study – Finalize Study Scope of Work**
  - ✓ **Receive final 2015 Reliability Study Scope for comment**
  - ✓ **Review and provide comments to the OSC on the final 2015 Study Scope**
  - ✓ **Receive request from OSC to provide input on proposed Economic Study scenarios and interfaces for study**
  - ✓ **Provide input to the OSC on proposed Local Economic Study scenarios and interfaces for study**



## **March**

### **TAG Meeting – March 10<sup>th</sup>**

#### **➤ 2015 Study Update**

- ✓ **Receive a progress report on the Reliability Planning study activities**
- ✓ **Receive a report on the Local Economic Study scope**

#### **➤ Operations Reliability Coordination Agreement (ORCA)**

- ✓ **Receive an update on the ORCA activities**



## **April - May - June**

### **TAG Meeting – June 8<sup>th</sup>**

- **2015 Study Update**
  - ✓ **Receive a progress report on the Reliability and Local Economic Planning study activities**
  - ✓ **Receive update status of the upgrades in the 2014 Collaborative Plan**
  
- **Operations Reliability Coordination Agreement (ORCA)**
  - ✓ **Receive an update on the ORCA activities**



## **July - August - September**

### **➤ 2015 Study Update**

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

### **➤ 2015 Selection of Solutions**

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



## **July - August - September**

### **TAG Meeting – September TBD**

#### **➤ 2015 Study Update**

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

#### **➤ Operations Reliability Coordination Agreement (ORCA)**

- Receive an update on the ORCA activities**



## **October - November - December**

### **➤ 2015 Study Update**

- Receive and comment on final draft of the 2015 Collaborative Transmission Plan report**
- Discuss potential study scope for 2016 studies**



## **October - November - December**

### **TAG Meeting – December TBD**

#### **➤ 2015 Study Update**

- Receive presentation on the draft report of 2015 Collaborative Transmission Plan**
- Discuss potential study scope for 2016 studies**

#### **➤ Operations Reliability Coordination Agreement (ORCA)**

- Receive an update on the ORCA activities**



# Questions ?







**TAG**  
**Open Forum Discussion**

*Comments or Questions?*