TAG Meeting
June 22, 2020

Webinar

TAG Meeting Agenda

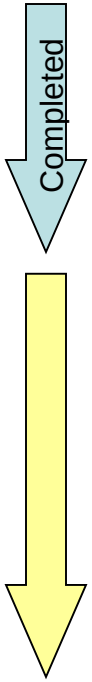
1. Administrative Items – Rich Wodyka
2. 2020 Study Activities Update – Orvane Piper
3. NCTPC 2019 Collaborative Transmission Plan Mid-year Update – Mark Byrd
4. Regional Studies Update – Lee Adams
5. 2020 TAG Work Plan – Rich Wodyka
6. TAG Open Forum – Rich Wodyka

2020 Study Activities and Study Scope

Orvane Piper

Duke Energy Carolinas

Study Process Steps



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

Assumptions Selected

- **Study Year's for reliability analyses:**
  - **Near-term: 2025 Summer, 2025/2026 Winter**
  - **Longer-term: 2030 Summer**

Assumptions Selected

Company	Generation Facility	2025S	2025/2026W	2030S
DEC	Lincoln County CT (525 MW)	Included	Included	Included
DEC	Apex PV (30 MW)	Included	Included	Included
DEC	Broad River PV (50 MW)	Included	Included	Included
DEC	Cool Springs PV (80 MW)	Included	Included	Included
DEC	Gaston PV (25 MW)	Included	Included	Included
DEC	High Shoals PV (16 MW)	Included	Included	Included
DEC	Lancaster PV (10 MW)	Included	Included	Included
DEC	Lick Creek PV (50 MW)	Included	Included	Included
DEC	Maiden Creek PV (69.3 MW)	Included	Included	Included
DEC	Oakboro PV (40 MW)	Included	Included	Included

Assumptions Selected

Company	Generation Facility	2025S	2025/2026W	2030S
DEC	Partin PV (50 MW)	Included	Included	Included
DEC	Pelham PV (32 MW)	Included	Included	Included
DEC	Pinson PV (20 MW)	Included	Included	Included
DEC	Ruff PV (22 MW)	Included	Included	Included
DEC	Speedway PV (22.6 MW)	Included	Included	Included
DEC	Stanly PV (50 MW)	Included	Included	Included
DEC	Stony Knoll PV (22.6 MW)	Included	Included	Included
DEC	Sugar PV (60 MW)	Included	Included	Included
DEC	Thinking Tree (35 MW)	Included	Included	Included
DEC	Two Hearted PV (22 MW)	Included	Included	Included

Assumptions Selected

Company	Generation Facility	2025S	2025/2026W	2030S
DEC	West River PV (40 MW)	Included	Included	Included
DEC	Westminster PV (75 MW)	Included	Included	Included
DEP	Asheville CC (560 MW)	Included	Included	Included
DEP	Crooked Run Solar (70.1 MW)	Included	Included	Included
DEP	Bay Tree Solar (70.1 MW)	Included	Included	Included

Assumptions Selected

Company	Generation Facility	2025S	2025/2026W	2030S
DEC	Allen 1-3 (617 MW)	Retired	Retired	Retired
DEC	Allen 4-5 (564 MW)	Not retired	Not retired	Retired
DEP	Asheville 1-2 (384 MW)	Retired	Retired	Retired
DEP	Darlington Co 1,2,3,4,6,7,8,10 (514 MW)	Retired	Retired	Retired
DEP	Blewett CTs 1-4 and Weatherspoon CTs 1-4 (232 MW)	Retired	Retired	Retired
DEP	Roxboro Units 1-2 (1053 MW)	Not retired	Not retired	Retired

Study Criteria Established

- **NERC Reliability Standards**
  - **Current standards for base study screening**
  - **Current SERC Requirements**
- **Individual company criteria**

Study Methodologies Selected

- **Thermal Power Flow Analysis**
- **Each system (DEC and DEP) will be tested for impact of other system's contingencies**

Models and Cases Developed

- **Annual Reliability Study**
  - **Near-term: 2025 Summer, 2025/2026 Winter**
  - **Longer-term: 2030 Summer**
- **Local Economic Study**
  - **Assess the rapid high load growth for the Union/Cabarrus County load area.**
- **Public Policy Study**
  - **Assess off-shore wind development and the impact on the NC transmission system.**

Technical Analysis

- Conduct thermal screenings of the 2025S, 2025/26W and 2030S base cases
- Conduct thermal screenings for high load growth scenario
- Conduct thermal screenings for off-shore wind scenarios

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 2019 Collaborative Transmission Plan Update

Mark Byrd

Duke Energy Progress

2020 Mid-Year Update to the 2019 Collaborative Transmission Plan

- **Two DEP projects and two DEC projects were completed**
- **Two DEP project cost estimates changed: 1 up, 1 down**
- **Five DEC project cost estimates changed: 3 up, 2 down**
- **Two DEP projects were delayed**
- **Two DEC projects were delayed and one accelerated**
- **Total Reliability Project Cost estimates changed from $591M to $632M**

Reliability Projects in 2019 Plan		
Reliability Project	**TO**	**Planned I/S Date**
Durham-RTP 230kV Line, Reconductor	**DEP**	**TBD**
Brunswick #1 – Jacksonville 230 kV Line, Loop-In to Folkstone 230 kV Substation	**DEP**	**June 2024**
Jacksonville-Grant's Creek 230 kV Line and Grant's Creek 230/115 kV Substation, Construct	**DEP**	**Completed June 2020**

Reliability Projects in 2019 Plan (continued)		
Reliability Project	**TO**	**Planned I/S Date**
Newport-Harlowe 230 kV Line, Newport SS and Harlowe 230/115 kV Substation, Construct	**DEP**	**Completed June 2020**
Sutton-Castle Hayne 115 kV North line, Rebuild	**DEP**	**June 2021**
Cane River 230 kV Substation, Construct 150 MVAR SVC and 4 CB 230 kV Ring Bus	**DEP**	**Completed October 2019**
Asheboro-Asheboro East 115 kV North Line, Reconductor	**DEP**	**June 2022**

Reliability Projects in 2019 Plan (continued)		
Reliability Project	**TO**	**Planned I/S Date**
Rural Hall 100 kV, Install SVC	**DEC**	**Completed March 2020**
Orchard Tie 230/100 kV Tie Station, Construct	**DEC**	**December 2020**
Windmere 100 kV Line, (Dan River-Sadler), Construct	**DEC**	**December 2022**

Reliability Projects in 2019 Plan (continued)		
Reliability Project	**TO**	**Planned I/S Date**
Wilkes 230/100 kV Tie Station, Construct	**DEC**	**June 2024**
Ballantyne 100 kV Switching Station, Construct	**DEC**	**Completed December 2019**
Craggy-Enka 230 kV Line, Construct	**DEP**	**December 2026**
Cokesbury 100 kV Line (Coronaca-Hodges), Upgrade	**DEC**	**June 2025**

Questions ?

Regional Studies Reports

Lee Adams

Duke Progress

SERC Long Term Working Group Update

SERC Long Term Working Group

- Completed work on 2020 series of LTWG cases
- Beginning 2025 Summer Study
- Building 2020 series MMWG cases
- FRCC integration - On July 1, 2019, FRCC ended its Regional Entity functions. FRCC continues its traditional member functions and coordinating roles, which include its work as a Reliability Coordinator and Planning Authority. SERC is now the new Compliance Enforcement Authority for all NERC registered entities in FRCC.

SERTP

SERTP

- 1st Quarter Meeting (WebEx) was held on March 25th
- 2nd Quarter Meeting (WebEx) will be June 25th
- 2020 Economic Planning Studies

SERTP

1) MISO North Region to LGEE Generation – 200 MW

Year: 2022

- Load Level: Summer Peak
- Type of Transfer: Generation to Generation
- Source: Generation within MISO North
- Sink: Generation within LGEE

SERTP

2) PJM to LGEE Generation – 200 MW

Year: 2022

- Load Level: Summer Peak
- Type of Transfer: Generation to Generation
- Source: Generation within PJM
- Sink: Generation within LGEE

http://www.southeasternrtp.com/

Questions ?

2020 TAG Work Plan

Rich Wodyka

Administrator

2020 NCTPC Overview Schedule

Reliability Planning Process

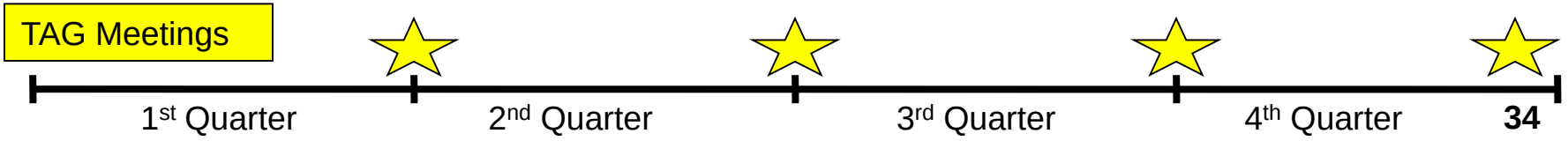
- Evaluate current reliability problems and transmission upgrade plans
- Perform analysis, identify problems, and develop solutions
- Review Reliability Study Results

Local Economic Planning Process

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

Coordinated Plan Development

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



January - February – March

- **2020 Study – Finalize Study Scope of Work**
  - ✓ **Receive request from OSC to provide input on proposed Local Economic Study scenarios and interfaces for study**
    - *TAG provide input to the OSC on proposed Local Economic Study scenarios and interfaces for study – No TAG requests received*
  - ✓ **Receive request from OSC to provide input in identifying any public policies that are driving the need for local transmission**
    - *TAG provide input to the OSC in identifying any public policies that are driving the need for local transmission for study - Request from Southeastern Wind Coalition received*
  - ✓ **Receive final 2020 Reliability Study Scope for comment**
    - *TAG review and provide comments to the OSC on the final 2020 Study Scope*

January - February – March

First Quarter TAG Meeting – March 23rd

- **2020 Study Update**
  - ✓ **Receive a report on the Local Economic Study scope and any Public Policy scenarios that are driving the need for local transmission for study**
  - ✓ **Receive a progress report on the Reliability Planning study activities and the final draft of the 2020 Study Scope**

April - May – June

Second Quarter TAG Meeting – June 22nd

- **2020 Study Update**
  - ✓ **Receive a progress report on study activities**
  - ✓ **Receive update status of the upgrades in the 2019 Collaborative Plan**

July - August – September

Third Quarter TAG Meeting – TBD

- **2020 Study Update**
  - **Receive a progress report on the study activities and preliminary results**
  - **TAG is requested to provide feedback to the OSC on the technical analysis performed, the problems identified as well as proposing alternative solutions to the problems identified**

October - November - December

Fourth Quarter TAG Meeting – TBD

- **2020 Selection of Solutions**
  - **TAG will receive feedback from the OSC on any alternative solutions that were proposed by TAG members**
- **2020 Study Update**
  - **Receive and discuss final draft of the 2020 Collaborative Transmission Plan Report**
  - **Discuss potential study scope for 2021 studies**

Questions ?

TAG
Open Forum Discussion

Comments or Questions ?