North Carolina Transmission Planning Collaborative Oversight / Steering Committee (OSC) Meeting Highlights October 15, 2019 Teleconference Meeting 10:00 AM - 11:15 AM ET

Mark Byrd, Chairman Tyler Harriett Bob Pierce Orvane Piper Bill Quaintance Marty Berland Rich Wodyka Duke Energy Progress NCEMC Duke Energy Carolinas Duke Energy Carolinas Duke Energy Progress ElectriCities Consultant Administrator

Administrative

OSC Meeting Minutes and Highlights

• The September 16, 2019 OSC Meeting Minutes and Highlights were reviewed and approved.

Treasurer Report

• Bob Pierce reported that the invoices for the replenishment of the NCTPC account have been sent out. He will check and report back whether the funds have been received by Duke Energy.

Other Items

- Bob Pierce also discussed the payment of the GO DADDY annual fee (\$480/ YR) for the NCTPC website. He confirmed that Duke Energy has been paying the fee not the NCTPC. He will continue to follow up on this matter and report back to the OSC.
- Mark Byrd reported on his recent discussion with GO DADDY regarding the NCTPC website storage issue. He stated that the NCTPC could increase the website storage from 40GB to 60GB for an additional \$10 / month. The monthly payment would increase from \$40 / month to \$50 / month. The alternative would be to delete a large number of current files from the website

to create additional space to post new documents. After discussion, the OSC agreed to increase the website storage to 60GB for an additional \$10 / month. Mark will contact GO DADDY to upgrade the NCTPC website storage.

TAG Meeting Presentations

• Rich Wodyka led the OSC review and discussion of the proposed TAG meeting draft presentations. Rich identified the stakeholders that have registered to participate in the TAG meeting.

2019 Study Activities Update Presentation

- Orvane Piper led the OSC review and discussion of the 2019 study activities update presentation. Orvane noted that the 2019 study analysis includes our standard reliability analysis for 2024 summer, 2024 2025 winter along with the 2029 summer. Orvane reported that Duke and Progress have completed the analysis for the various study scenarios related to the annual reliability study as well as the resource supply scenarios identified in the approved 2019 study scope of work.
- Orvane reviewed and highlighted the preliminary reliability study results. The results indicated that one new project will be included in the 2019 Collaborative Transmission Plan. This new project is an upgrade of the Cokesabury 100kV line with an estimated cost of \$20 Million.
- Orvane highlighted the 2019 preliminary study results that examined the impacts of 14 different hypothetical transfers into, out of and through the DEC and DEP systems. There were two issues identified. For the PJM-SCEG transfer, an upgrade of Newberry 115 kV lines would be required with an estimated cost of \$17 Million. For the CPLE-DUK, PJM-DUK, PJM-DUK/CPLE, SOCO-CPLE, SOCO-DUK, and the TVA-DUK transfers, an upgrade of the Clark Hill 115 kV line would be required with an estimated cost of \$66 Million. For all the other transfers, there were no major issues identified that were not already previously identified for the base reliability studies.
- Orvane highlighted the local economic studies, cases that examined the impacts of 2 hypothetical generation sites in the DEC footprint. The first case was a hypothetical resource supply option scenario, using both a 2024 Summer and 2024/2025 Winter study cases, that evaluated a hypothetical 10 MW solar + 20 MWh / 10 MW battery storage system in Davidson County connected to DEC's 100 kV Buck to Beckerdite line. There were no additional projects identified beyond what was identified in base reliability results for 2024 Summer and 2024/2025 Winter. The only cost would be to interconnect the

facility via tap to 100 kV line with an estimated cost of \$3 Million. The second case was a resource supply option scenario, using a 2029 Summer study case, that evaluated a hypothetical 2,200 MW Combined Cycle 2x1 (H/ J-class) resource supply option located in Davidson County connected to DEC's 230 kV Buck to Beckerdite line. There were numerous new and upgraded facilities required with an estimated cost of \$184 Million.

• Rich Wodyka noted that the TAG members will be requested to provide any feedback and / or propose alternative solutions to the OSC on the preliminary study results by October 29, 2019.

Regional Studies Report Presentation

• Bob Pierce led the OSC review and discussion of the presentation on the various regional study activities.

SERC LTWG Update

• Bob reported that the SERC LTWG has recently completed their work on 2019 series MMWG cases. Also they are finished the 2024 summer study and are preparing the study report.

SERTP Activities

- Bob reported that the SERTP 3rd Quarter Meeting was held on September 26th and the SERTP 4th Quarter Meeting will be on December 12th in Atlanta.
- Bob highlighted the SERTP 2019 Economic Planning Studies preliminary results which evaluated the following transfers:
 - 1. Southern BAA to Santee Cooper Border 500 MW (2020 Summer Peak)
 - Duke Energy Carolinas to Santee Cooper Border 500 MW (2020 Summer Peak)
 - 3. Southern BAA to Santee Cooper Border 800 MW (2020 Summer Peak)
 - 4. Duke Energy Carolinas to Santee Cooper Border 500 MW (2024 Winter Peak)
 - 5. Southern BAA to Santee Cooper Border 1000 MW (2024 Winter Peak)
- Bob noted that there were a number of transmission upgrades required in DEC and DEP for the various SERTP hypothetical transfer scenarios. He highlighted the various upgrades and the estimated costs for those potential upgrades.

UK Blackout on August 9, 2019

- Bob Pierce reported on the UK blackout that occurred at on August 9, 2019. He noted that approximately 1 million UK customers lost power as a result of a series of events on the electricity system. These events caused significant disruption to many people in their homes and businesses, and to commuters on a Friday evening with some rail services in and around London being particularly badly affected due to the protection systems on some trains not operating as expected.
- Bob provided a summary of the events and impacts to consumers. He also summarized the conclusions, lessons learned, changes implemented and additional recommendations being considered which resulted from the comprehensive internal analysis of the events by the UK Electricity System Operator.

2019 TAG Work Plan Presentation

- Rich Wodyka reviewed and discussed the updated TAG work plan for the 2019 TAG activities. He highlighted the TAG activities to date and reviewed the upcoming activities including the date for the 4th quarter TAG meeting which is planned for December 12th.
- Rich also noted that the TAG members will be requested to provide any feedback and / or propose alternative solutions to the OSC on the preliminary study results by October 29, 2019.

Regional Studies Reports

SERTP Activities Update

• Bob Pierce reported on the SERTP activities as part of his TAG presentation review. No additional discussion.

PWG Items

SERC LTWG Update

• Bob Pierce reported on the SERC LTWG activities as part of his TAG presentation review. No additional discussion.

CTCA Studies Update

• No report on CTCA studies.

EIPC Update

• Mark Byrd reported that the EIPC Transmission Analysis Working Group has completed its 2019 ten year study and the study report is now posted for stakeholder review. He also reported that the Production Cost TF and the Transmission Analysis WG have initiated an analysis using the 2028 study cases to evaluate renewable supply options.

NERC Activities Update

• Bob Pierce reported that the MMWG has completed the 2019 series of models.

PWG Minutes

• There were no comments or questions on the last PWG meeting minutes distributed by Lee Adams.

Future OSC Meeting Schedule

• The OSC agreed on the meeting date and times listed below.

Date	Time	Location
November 19, 2019	9:00 am - 11:00 am	Webinar Conference Call
December 12, 2019 OSC / TAG Meeting	10 am - 3 pm	ElectriCities Office