

**North Carolina Transmission Planning Collaborative
Oversight / Steering Committee (OSC)
Meeting Highlights
June 19, 2018
Webinar / Teleconference Meeting
10:00 AM -11:15 AM ET**

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|------------------------------|---------------------------------|
| John Lemire, Chairman | NCEMC |
| Luis Fondacci | NCEMC |
| James Manning | NCEMC |
| Edgar Bell | Duke Energy Carolinas |
| Bob Pierce | Duke Energy Carolinas |
| Orvane Piper | Duke Energy Carolinas |
| Bill Quaintance | Duke Energy Progress |
| Mark Byrd | Duke Energy Progress |
| Marty Berland | Electricities |
| Rich Wodyka | Consultant Administrator |

Administrative

OSC Meeting Minutes and Highlights

- The May 22, 2018 OSC Meeting Minutes and Highlights were reviewed and approved.

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.

2018 Study Activities Update

- Orvane Piper led the OSC discussion on the review of the 2018 studies activities presentation. Orvane noted that the 2018 study analysis includes our standard reliability analysis for 2023 summer, 2023 - 2024 winter along with the 2028 - 2029 winter. In addition to the reliability analysis, Orvane highlighted that the NCTPC will assess serving 300 MW hypothetical load at 6 potential economic development sites that would have a choice of Electric Provider. He identified the 6 sites chosen and the criteria used for the selection of the sites.

- Orvane also noted that there were no requests received from NCTPC stakeholders for Public Policy Studies, therefore the 2018 NCTPC Study Scope will not include those particular evaluations.
- Orvane highlighted that the base cases for the reliability analysis have been developed and the cases for the 6 economic development sites were still being developed. Overall the study analysis is proceeding on schedule.

2017 Collaborative Transmission Plan Update

- Mark Byrd and Orvane Piper reviewed the 2018 mid-year update to the 2017 Collaborative Transmission Plan. They highlighted the following changes: one DEP project was completed in June 2018; two DEP and one DEC project cost estimates increased; two DEC projects were removed; two DEC projects and three DEP projects were accelerated; two DEP projects were delayed; and total reliability project cost estimates changed from \$426M to \$459M. The OSC reviewed and discussed the specific schedule changes and cost estimates.

Regional Studies Reports

Bob Pierce reported on the following regional studies activities:

SERC LTSG Update

- Bob Pierce reported that the SERC Long Term Study Group (LTSG) has completed building their 2018 LTSG series of cases and the study analysis has begun. LTSG has also started building their 2018 series of MMWG cases.

SERTP

- Bob Pierce reported on the SERTP activities. The SERTP group 1st Quarter Meeting was held on March 29th. He highlighted the SERTP 2018 Economic Planning Studies. These studies include the following economic transfer studies for this year:
 - Southern Company Balancing Authority Area 1000 MW transfer to Santee Cooper Border
 - Santee Cooper Border 1000 MW transfer to Duke Energy Carolinas and Duke Energy Progress
 - Duke Energy Carolinas and Duke Energy Progress 1000 MW transfer to Santee Cooper Border

NERC Alert Update

- Bob Pierce highlighted on the initial NERC report involving the California PV Resource Interruption. He highlighted the triggering events (the loss of 2 500kV transmission lines) and the significant impacts (loss of more than 1,00MWs of solar generation). He noted that NERC issued the initial Alert / Recommendation to the industry on June 20, 2017. It required the industry to work with the investor manufactures to ensure no erroneous frequency trappings and if momentary cessation is used that it restore output in more more than 5 seconds. He also noted that this report is getting a lot of attention from the industry to understand the impact of the inverters used in these solar operations and their corresponding capabilities, as well as to determine how to properly assess their impact on grid reliability.
- Bob Pierce highlighted the second CA incident - the Canyon Fire Disturbance that occurred on October 9, 2017. He noted that the key findings from this event concluded that there were no erroneous frequency tripping but there remains an issue associated with momentary cessation. As a result of this incident NERC issued a second NERC Alert on May 18, 2018. This NERC Alert pertains specifically to the Bulk Electric System (BES) solar PV resources. He noted that the same issues likely exist for non-BES solar resources therefore the owners of those facilities are encouraged to consult with the inverter manufactures to implement the recommendations associated with this NERC Alert.

TAG 2018 Work Plan

- Rich Wodyka reviewed the updated work plan for the 2018 TAG activities. He highlighted the status of the current study schedule activities. Rich noted that the tentative date for the third quarter TAG meeting is September 25th.

PWG Items

2017 Collaborative Transmission Plan Update

- Following up on the previous discussion of the 2017 Collaborative Transmission Plan mid-year update as part of the TAG presentations the OSC reviewed the associated mid-year report. After discussion, the OSC approved the report and instructed Rich Wodyka to post and distribute the mid-year update report to the TAG stakeholders for their review and comment.

2018 Study Activities

- Following up on the previous discussion of the 2018 Study Activities as part of the TAG presentations, John Lemire requested additional clarification the OSC reviewed the associated mid-year report. Mark Byrd reported that Duke and Progress were still determining the number of study cases for the six development sites. Once the number of study cases for the six development sites is determined those details will be reviewed by the PWG and approved by the OSC before the studies analysis is performed.

EIPC Update

- Mark Byrd reported that NERC has postponed the discussions on transferring the MMWG development work to the Eastern Interconnection Reliability Assessment Group (ERAG). A decision on this activity has been delayed until 2019.

SERC LTSG Update

- Orvane Piper reported on the SERC Committee restructuring activities that are planned for this summer. One related item is that SERC is moving from 5 sub-regions to 6 sub-regions to align with the updated NERC structure.

CTCA Update

- Nothing to report on at this time.

NERC Update

- John Lemire reported on the NERC Standards Efficiency Review process that is evaluating various standards that may no longer be applicable or necessary. John noted that this review process is something that could impact the companies so he encourage the group to monitor this process.

PWG Minutes

- No questions or comments on the PWG minutes.

Challenges and Opportunities Discussion

Changing Mix of Generation

- John Lemire and Edgar Bell reported on the status of activities related to the draft scope of work related to the changing mix of generation. Edgar Bell reported that Duke developing a document to coordinate information exchange as a first step regarding affected systems. Once this initial draft is completed then additional work will be done regarding monitoring and modeling over the next couple of months. Also plan to address the inclusion of storage and energy management requirements. Discussion on this item will be continued at the next OSC meeting.

Future OSC Meeting Schedule

- After review, the OSC approved the meeting dates and times listed below.

| Date | Time | Location |
|--------------------|---|-----------------|
| July 17, 2018 | 10:00 am - 12:00 pm | Teleconference |
| August 29, 2018 | 10:00 am - 12:00 pm | Teleconference |
| September 25, 2018 | OSC 10 am - noon TAG 1:30 pm - 3:00 pm | TBD |