

Van Portfliet and Meghan Schultz. The Applicant also filed a registration statement pursuant to Commission Rule R8-66, seeking registration of the Facility as a new renewable energy facility.

2. On October 16, 2018, the Public Staff filed a Notice of Completeness pursuant to Commissioner Rule R8-63(d). The Public Staff stated that it had reviewed the application and considered it to be complete, and requested that the Commission issue a procedural order setting the application for hearing, requiring public notice pursuant to N.C.G.S. § 62-82, and addressing other procedural matters.

3. On November 8, 2018, the Commission issued an Order Scheduling Hearing, Requiring Testimony, Establishing Procedural Guidelines and Requiring Public Notice (Scheduling Order). Among other things, the Scheduling Order scheduled hearings for the purpose of receiving public and expert witness testimony regarding the application.

4. On December 28, 2018, the State Clearinghouse filed comments requesting that the Applicant provide additional information requested by the North Carolina Department of Cultural Resources.

5. On December 31, 2018, the Public Staff filed the Affidavit of Evan D. Lawrence. Based on his review of the application and supporting documentation, Mr. Lawrence recommended that the Commission issue a CPCN to the Applicant and accept the registration of the Facility as a new renewable energy facility subject to three conditions, including that the Applicant not commence construction

of the Facility until the State Clearinghouse files comments indicating that no further review action by the Commission is required for compliance with the North Carolina Environmental Policy Act.

6. On January 2, 2019, the Commission issued an order cancelling the public hearing as no complaints had been filed in the docket. An order granting the Applicant's motion to cancel the expert hearing was issued by the Commission on January 8, 2019.

7. On November 19, 2019, the Applicant filed a Motion for Limited Construction Authority to construct pile installations and erosion control measures related to four SOC Inverters located outside of areas still being studied by the Department of Cultural Resources State Historic Preservation Office.

8. On December 2, 2019, the Commission issued an Order Allowing Limited Construction with Conditions.

9. The Public Staff recently learned that Duke Energy Progress, LLC (DEP), has conducted an affected system interconnection study for PJM Interconnection Cluster AC1 (AC1 Cluster), which the Facility is a part of. The May 6, 2020 study, a copy of which is included with this motion as Attachment A, has not previously been filed in the docket. Through the study, DEP determined that the Facility, together with the other projects included in the AC1 Cluster, would cause an overloading issue that would require a full reconductor/rebuild of DEP's Rocky Mount-Battleboro 115 kV Line. The study estimated the cost to DEP of these improvements to be approximately \$23 million.

10. The new information described in the AC1 Cluster study regarding the transmission upgrade costs associated with the Facility was not available to the Public Staff when Mr. Lawrence filed his affidavit recommending that the Commission grant the Applicant the applied for CPCN. The new information raises questions as to whether public convenience and necessity requires that the CPCN be granted.

11. The Public Staff contends that it is in the public interest that the Commission's decision whether to grant the CPCN for the Facility take into account the most current and accurate information regarding affected system costs. For these reasons, the Public Staff respectfully requests that the Commission require the Applicant to file supplemental testimony addressing affected system costs and grant the Public Staff and any other interested parties leave to file additional testimony in response. The Public Staff further request that the Commission refrain from issuing an order regarding the Applicant's application for a CPCN and registration statement until after supplemental and additional testimony has been filed.

WHEREFORE, the Public Staff moves:

1. That the Commission order the Applicant to file supplemental testimony addressing the affected system costs detailed in DEP's Generator Interconnection Affected System Study Report for PJM Interconnection Cluster AC1 submitted with this motion as Attachment A. The supplemental testimony should include (1) the levelized cost of transmission (LCOT) analysis for the study consistent with the Commission's Order Denying Certificate of Public Convenience

and Necessity for Merchant Generating Facility issued in Docket No. EMP-105, Sub 0, on June 11, 2020, and (2) a discussion of the other projects included in the AC1 Cluster discussed in the study and the Applicant's LCOT analysis, (3) updated testimony concerning the continued need for the Facility in light of the additional transmission costs discussed in the affected system interconnection study.

2. That the Commission afford the Public Staff and any other interested parties the opportunity to file additional testimony in response to the supplemental testimony filed by the Applicant.

3. That the Commission refrain from issuing an order regarding the Applicant's application for a CPCN and registration statement until after supplemental and additional testimony has been filed.

4. For such other and further relief as the Commission may deem just and proper.

This the 29th day of July, 2020.

PUBLIC STAFF
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Electronically submitted
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CERTIFICATE OF SERVICE

I certify that I have served a copy of the foregoing Motion on all parties of record in accordance with Commission Rule R1-39, by United States mail, postage prepaid, first class; by hand delivery; or by means of facsimile or electronic delivery upon agreement of the receiving party.

This the 29th day of July, 2020.

Electronically submitted
/s/ Megan Jost

Generator Interconnection Affected System Study Report

PJM Interconnection Cluster AC1



**May 6, 2020
Duke Energy Progress
Transmission Department**

PURPOSE

The purpose of this study was to determine under what conditions the DEP transmission system can accommodate PJM's interconnection cluster AC1. Cluster AC1 includes generation throughout the PJM interconnection, but only those with an impact on the DEP system were included in this study. The size and in-service dates of the projects vary. The following PJM queue requests are included in this analysis:

AC1-034
AC1-086
AC1-098/099
AC1-189
AC1-208

ASSUMPTIONS

The following affected system study results are from a PJM power-flow model that reflects specific conditions of the system at points in time consistent with the generator interconnection requests being evaluated. The cases include the most recent information for load, generation additions, transmission additions, interchange, and other pertinent data necessary for analysis. Future years may include transmission, generation, and interchange modifications that are not budgeted for and for which no firm commitments have been made. Further, DEP retains the right to make modifications to power-flow cases as needed if additional information is available or if specific scenarios necessitate changes. For the systems surrounding the study area, data is based on the ERAG MMWG model. The suitability of the model for use by others is the sole responsibility of the user. Prior queued generator interconnection requests were considered in this analysis.

The results of this analysis are based on the Interconnection Customer's queue requests including generation equipment data provided. If the facilities' technical data or interconnection points to the transmission system change, the results of this analysis may need to be reevaluated.

RESULTS

Power Flow Analysis Results

Facilities that may require upgrade within the first three to five years following the in-service date are identified. Based on projected load growth on the DEP transmission system, facilities of concern are those with post-contingency loadings of 95% or greater of their thermal rating and low voltage of 0.92 pu and below, for the requested in-service year. The identification of these facilities is crucial due to the construction lead times necessary for certain system upgrades. This process will ensure that appropriate focus is given to these problem areas to investigate whether construction of upgrade projects is achievable to accommodate the requested interconnection service.

Contingency analysis study results show that interconnection of these generation facilities result in the following thermal issue on the DEP system. Based on study results for 2020 summer, Table 1 shows thermal facility loadings:

Table 1: Power Flow Thermal Results

Transmission Facility	Loading %	Contingency
Rocky Mount – Battleboro (DVP) 115 kV Line	160	Rocky Mount-Hathaway (DVP) Double Circuit 230 kV Lines

Estimate of Resolutions for Power Flow Impacts

The DEP Rocky Mount-Battleboro 115 kV Line will need to be reconducted with 1590 ACSR conductor or equivalent. All ancillary equipment, including any breakers, wave traps, and CT ratios at both ends of the line will need to be uprated to 2000A or greater.

Reconductor

Description: Reconductor/rebuild 8.5 miles of the DEP Rocky Mount-Battleboro 115 kV Line to 1590 ACSR conductor or equivalent
Estimated Cost: \$21,980,250 (DEP cost only)

Line Equipment upgrades

Description: Upgrade any ancillary line equipment at both the DEP and DVP ends of the line to 2000A or greater to enable the full conductor rating.
Estimated Cost: \$658,377 (DEP cost only)

NC Utility Tax(2.5%): \$565,966

Total Power-flow Cost Estimate: **\$23,204,593 (DEP cost only)**

Estimated Schedule: 12/31/2022

SUMMARY

This Generator Interconnection Affected System Study assessed the impact on the Duke Energy Progress system of new generation facilities interconnecting to the Dominion transmission system as part of the PJM AC1 cluster. Power flow analysis found an overloading issue that must be mitigated. A full reconductor/rebuild of the Rocky Mount-Battleboro 115 kV Line will be necessary. Estimates are that the Rocky Mount-Battleboro 115 kV Line can be upgraded by December 31, 2022 if a written agreement to proceed is obtained by July 4, 2020.

Power-flow	\$23,204,593
Stability	\$0
Short Circuit	\$0
<u>Interconnection</u>	<u>\$0</u>
Total Estimate	\$23,204,593

Study Completed by: William Quaintance
Bill Quaintance, PE, Duke Energy Progress

Reviewed by: Mark Byrd
Mark Byrd, PE, Duke Energy Progress