



**NORTH CAROLINA
PUBLIC STAFF
UTILITIES COMMISSION**

February 11, 2022

Ms. A. Shonta Dunston, Interim Chief Clerk
North Carolina Utilities Commission
4325 Mail Service Center
Raleigh, North Carolina 27699-4300

Re: Docket No. EMP-116, Sub 0 – In the Matter of Application of Juno Solar, LLC, for a Certificate of Public Convenience and Necessity to Construct a 275-MW Solar Facility in Richmond County, North Carolina

Dear Ms. Dunston:

Attached for filing is the public version of the Public Staff's Proposed Order in the above-referenced docket. Confidential information on pages 25, 28, and 33 has been redacted. An electronic copy is being emailed to briefs@ncuc.net.

By copy of this letter, I am forwarding a copy to all parties of record by electronic delivery.

Sincerely,

Electronically submitted
s/ Layla Cummings
Staff Attorney
layla.cummings@psncuc.nc.gov

Attachment

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STATE OF NORTH CAROLINA
UTILITIES COMMISSION
RALEIGH

DOCKET NO. EMP-116, SUB 0

BEFORE THE NORTH CAROLINA UTILITIES COMMISSION

DOCKET NO. EMP-116, SUB 0)
)
In the Matter of)
Application of Juno Solar, LLC, for a)
Certificate of Public Convenience and)
Necessity to Construct a 275-MW Solar)
Facility in Richmond County, North Carolina)

**PUBLIC STAFF'S PROPOSED
ORDER DENYING CERTIFICATE
OF PUBLIC CONVENIENCE AND
NECESSITY**

HEARD: Tuesday, November 30, 2021 at 10:00 a.m., Commission Hearing
Room 2115, Dobbs Building, 430 North Salisbury Street, Raleigh,
North Carolina

BEFORE: Commissioner Kimberly W. Duffley, presiding, Chair Charlotte A.
Mitchell, and Commissioner Daniel G. Clodfelter

APPEARANCES:

For Juno Solar, LLC

Karen M. Kemerait
Benjamin L. Snowden
Fox Rothschild LLP
434 South Fayetteville Street, Suite 2800
Raleigh, NC 27601

For the Using and Consuming Public:

Layla Cummings, Staff Attorney
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4326 Mail Service Center
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BY THE COMMISSION: On July 12, 2021, Juno Solar, LLC (Juno or Applicant) filed an application for a certificate of public convenience and necessity (CPCN) to construct a 275-megawatt (MW) solar photovoltaic (PV) electric generating facility to be located in Richmond County (Facility) pursuant to N.C. Gen. Stat. § 62-110.1 and Commission Rule R8-63 (Application). With its Application, Juno additionally filed the direct testimony and exhibits of Piper Miller.

On July 26, 2021, Juno filed revised direct testimony of Piper Miller and a revised site plan.

On July 27, 2021, Juno filed supplemental information and the Utilities Commission – Public Staff (Public Staff) filed a Notice of Completeness and Motion to Stay.

On August 20, 2021, Juno filed its Response to Public Staff's Notice of Completeness and Motion to Stay.

On August 30, 2021, The Commission filed an Order Scheduling Hearings, Filing Testimony, Establishing Procedural Guidelines, and Requiring Public Notice (Procedural Order). The Procedural Order: (1) denied the Public Staff's Motion to Stay; (2) scheduled a public witness hearing to be held via Webex on November 3, 2021; (3) scheduled the expert witness hearing for November 30, 2021; (4) required Juno to file additional testimony and exhibits addressing the questions set forth in the Order; (5) established the deadline for intervention in the docket as October 12, 2021; and (6) required Juno to publish the Public Notice attached to the Procedural

Order in a newspaper having general circulation in Richmond County once a week for four successive weeks beginning at least 30 days prior to October 7, 2021. Also on August 30, 2021, the staff of the Commission's Chief Clerk's Office filed a copy of the letter sent to the State Clearinghouse, notifying the Clearinghouse of the Application.

On September 14, 2021, the Applicant filed the supplemental direct testimony of Piper Miller.

On October 4, 2021, the State Clearinghouse filed comments, stating that due to the nature of the comments it was determined that no further State Clearinghouse review action was needed for compliance with the North Carolina Environmental Policy Act.

On October 5, 2021, Benjamin L. Snowden filed a Notice of Appearance, notifying the Commission and parties that he would be appearing as co-counsel on behalf of Juno.

On October 7, 2021, the Public Staff filed a Motion for Extension of Time to file testimony and exhibits.

On October 12, 2021, Duke Energy Carolinas, LLC (DEC) and Duke Energy Progress, LLC (DEP, collectively Duke) filed a Petition to Intervene.

On October 13, 2021, the Commission issued an Order Granting Motion for Extensions of Deadlines, extending the deadline for testimony and exhibits of the

Public Staff and other intervenors to October 26, 2021 and the Applicant's rebuttal testimony and exhibits to November 9, 2021.

On October 15, 2021, the State Clearinghouse filed Additional Comments requesting additional information to be submitted to the Clearinghouse for further review and comment.

On October 18, 2021, Juno filed an Affidavit of Publication, stating the public notice was published in accordance with the Procedural Order. Also on October 18, Juno filed its Consent to a Remote Public Witness Hearing.

On October 19, 2021, Juno filed an updated Exhibit 3 to their Application titled Statement of Need. It was originally filed as confidential but then filed as public.

On October 20, 2021, the Public Staff filed its Consent to a Remote Public Hearing.

On October 26, 2021, the Commission issued an Order granting Duke's Motion to Intervene. Also on October 26, the Public Staff filed the direct testimony of Dustin R. Metz.

On October 28, 2021, the Public Staff filed a Motion to Cancel the Public Hearing, stating that the Public Staff had received no complaints regarding the proposed facility and no complaints had been filed in the docket. The Public Staff also stated that no other parties to the docket objected to the motion.

On October 29, 2021, the Commission issued an Order Canceling Public Witness Hearing.

On October 9, 2021, Juno filed the rebuttal testimony of Steven J. Levitas and Piper Miller.

On November 30, 2021, the matter came on for evidentiary hearing as ordered to take into evidence the expert witness testimony. The Applicant presented the direct, revised direct, supplemental, and rebuttal testimony of Piper Miller and the rebuttal testimony of Steven J. Levitas. The Public Staff presented the direct testimony of Dustin R. Metz.

On December 2, 2021, the Public Staff filed is Late-filed Exhibit No.1, an analysis of potential revenue from wheeling charges.

On January 28, 2022, the Commission issued an Order Scheduling Hearing scheduling an additional hearing for April 4, 2022 for the purpose of asking questions of the Applicant, the Public Staff, and Duke about Phase 1 of the Transitional Cluster Study (TCS) process.

On February 4, 2022, Juno filed a Motion to Modify the Hearing Schedule. On February 8, 2022, the Commission issued an Order Rescheduling Hearing that rescheduled the additional Hearing for March 2, 2022 to align with the issuance of the Phase 1 report. The Commission further directed that the parties may submit any revised briefs and proposed orders by March 7, 2022.

Based upon consideration of the pleadings, testimony, and exhibits received into evidence, the items upon which the Commission takes judicial notice, and the record as a whole, the Commission makes the following:

FINDINGS OF FACT

1. Juno is a limited liability company registered to do business in the State of North Carolina. Juno is wholly owned by Birch Creek Development, LLC (Birch Creek) and operated in collaboration with Pine Gate Renewables (Pine Gate).

2. Juno's Application for a CPCN authorizing the construction of a 275-MW solar PV electric generating facility to be located on approximately 2,586 acres located along McFarland Road and Green Chapel Church Road in Marks Creek Township, Richmond County, North Carolina was filed in compliance with N.C.G.S. § 62-110.1 and Commission Rule R8-63.

3. The Facility will be a 275-MW_{AC} PV array with single axis tracking that is direct current (DC)-coupled with an energy storage system. The Facility will consist of a maximum DC output of approximately 385 MW DC. The energy storage system will have an aggregate capacity of 68.75 MW AC and 275 MWh (4-hour duration).

4. Construction of the Facility is anticipated to begin in the second quarter of 2023 and the expected commercial operation date for the Facility is the third quarter of 2024.

5. The Application has met all requirements for publication of notice.
6. The State Clearinghouse has requested additional information regarding the Facility, and further action is needed before the facility can start construction.
7. Juno is participating in the DEP TCS and has not received the results of any interconnection or affected systems studies as of the date of filing of proposed orders in this docket.
8. The Applicant has failed to demonstrate that the proposed levelized cost of transmission (LCOT) cap of \$4.00/MWh will adequately protect ratepayers from unknown and potentially burdensome network upgrade costs.
9. It is premature for the Commission consider the reasonableness of the network upgrade costs, as required by N.C.G.S. § 62-110.1(e), before the Facility is studied in the TCS by DEP and cost estimates to interconnect the Facility are available.
10. Juno has failed to show that only minimal system upgrades will be needed to interconnect the Facility to the DEP system based on a preliminary injection analysis.
11. Juno has not proven its contention that a “catch-22” is inherent for participants in the TCS because the Commission may deny the CPCN after Juno has made certain financial commitments. The Commission finds that the Facility

can advance through the TCS without a CPCN and it is reasonable for the project developer to assume the business risk that the Facility may trigger significant network upgrades based on information it will receive at the end of Phase 1 of the TCS.

12. Juno failed to demonstrate that its potential withdrawal from the TCS will harm the Queue Reform process. The Queue Reform process will be evaluated after the TCS and the first annual Definitive Interconnection System Impact Study (DISIS) Cluster to assess whether it is providing an interconnection process that is efficient and fair.

13. While the Facility would be located in DEP service territory, the output from the Facility could either be wheeled by DEP to PJM to an off-taker in PJM pursuant to a power purchase agreement (PPA) or sold to DEP.

14. Juno has not shown a need based on the projected demand in the PJM Region or in DEP's service territory.

15. Juno has failed to show by greater weight of the evidence that ratepayers are likely to benefit from the revenue from wheeling charges paid to DEP.

16. Juno has failed to show by greater weight of the evidence that the issuance of a conditional CPCN will assist Duke Energy in achieving the goals of Session Law 2021-165 (House Bill 951 or HB 951).

EVIDENCE AND CONCLUSIONS FOR FINDINGS OF FACT NOS. 1-5

These findings of fact are essentially informational, procedural, and jurisdictional in nature and are not in dispute.

EVIDENCE AND CONCLUSIONS FOR FINDING OF FACT NO. 6

The evidence supporting this finding of fact is located in the State Clearinghouse Comments filed in this Docket, the testimony of Public Staff witness Metz, and the rebuttal testimony of Juno witness Miller.

The State Clearinghouse filed comments on October 4 and 15, 2021. Witness Metz testified that, in the last set of comments, the Department of Natural and Cultural Resources (DNCR) requested additional information. DNCR noted that it has sent a previous letter about this project on November 22, 2016, recommending a comprehensive archaeological assessment. DNCR states that it still recommends such an assessment and there are areas of high probability for archaeological sites. DNCR made an additional recommendation to have a cemetery on-site mapped by a licensed surveyor. Tr. vol. 3, 14-15. Witness Miller, in rebuttal testimony, responded that Juno has executed a proposal for the completion of the archaeological survey and the results are expected within three to four months (February to March of 2022). Tr. vol. 1, 79.

The Commission finds that Juno should file the results of the archaeological study with the Commission as soon as they are available, including a description of any measures that need to be taken to mitigate potential impacts to the project site.

EVIDENCE AND CONCLUSIONS FOR FINDINGS OF FACT NOS. 7-9

The evidence supporting these findings of fact is found in the direct and supplemental testimony of Juno witness Miller, the direct testimony of Public Staff witness Metz, and the rebuttal testimony of Juno witnesses Miller and Levitas.

Public Staff witness Metz testified that Juno proposes to interconnect to the DEP system in a constrained area and may potentially trigger substantial network upgrade costs on the DEP system and, potentially on affected systems as well. Tr. vol. 3, 9. Exhibits 1 and 2 to witness Metz's direct testimony show the constrained areas in DEP and DEC and the specifically constrained transmission lines, including the line to which the Facility will interconnect to, the Richmond-Laurel Hill 230 kV transmission line. *Id.* at 16; Tr. vol. 4, Official Exhibits, 24-31. DEP has not studied the Facility for interconnection, as Juno has entered DEP's first cluster study process after approval of queue reform by the Federal Energy Regulatory Commission (FERC) on August 6, 2021. Tr. vol. 3, 9.

In direct testimony, Juno witness Miller stated that Juno intends to enter the TCS in which it will be studied with other interconnection customers and

share any required system upgrade costs. Tr. vol. 1, 32. Subsequent to the filing of its Application, Juno entered the TCS after the application period opened. Public Staff Miller Cross-Examination Exhibit No. 1, Tr. vol. 2, Official Exhibits 264, 270 (see List of DEP Transitional Cluster Projects). At the time of the hearing, November 30, 2021, the Phase I study had not yet begun. Duke indicated that the Phase I study's power flow analysis will commence December 1, 2021 and end February 28, 2022. *Id.* at 276.

At the end of the Phase 1 study, Juno and other interconnection customers in the TCS will elect whether to proceed to Phase 2 and provide security for Phase 2. Juno witness Miller stated that if the Commission were to "deny or revoke Juno Solar's CPCN after it enters Phase 2 of the study, Juno Solar would be required to forfeit millions of dollars." Tr. vol. 1 Errata, 62. Because Juno cannot determine the amount of its network upgrade costs and its LCOT without first completing the study process, Juno witnesses Miller and Levitas advocated for a conditional CPCN before the facility enters Phase 2 based on a pre-determined LCOT value of \$4.00 /MWh. *Id.* at 63, 134.

Public Staff witness Metz recommended that the Commission deny the CPCN at this time and reconsider the CPCN when the results of the Facilities Study are available to calculate the most accurate LCOT and to ensure there are no other adverse impacts to the transmission system or DEP ratepayers that would not be known until the TCS is complete. According to witness Metz, the Facilities Study Report will be complete by February 24, 2023, assuming no

Phase 3 restudy is needed and the TCS timeline proceeds as anticipated. Tr. vol. 3, 39, fn. 29.

Juno witness Miller argued that a \$4.00/MWh cap on the LCOT will adequately protect ratepayers from unreasonably high network upgrade costs and “is appropriate to allow for just and reasonable network upgrade costs” and that “Birch Creek believes that a \$4.00/MWh LCOT cap is appropriate to allow for just and reasonable network upgrade costs.” Tr. vol. 1 Errata, 101, 114. To ensure there will be no unreasonable harm or risk to the ratepayers, witness Miller stated that the following conditions would apply to the CPCN:

(1) the LCOT for any required network upgrades assigned to Juno Solar will be no greater than \$4.00 per megawatt hour; (2) the Conditional CPCN will automatically terminate if the LCOT for any required network upgrades is greater than \$4.00 per megawatt hour; (3) Juno Solar will agree not seek to reimbursement for any Duke Energy Affected System upgrade costs that may be incurred; and (4) Juno Solar's CPCN will automatically terminate if Juno Solar does not either contract for the sale of energy or the sale of the facility during the life of the CPCN.

Tr. vol. 1 Errata, 136.

In rebuttal testimony, Juno witness Levitas stated that the Commission should approve the conditional CPCN to ensure that “ratepayers will not be subject to reimbursement for unreasonable network upgrade and affected system costs, while at the same time not subjecting Juno Solar to enormous financial penalties in the event of the denial of a CPCN application in the future.” *Id.* at 143. When asked at the hearing whether Juno would withdraw from the TCS should its Phase 1 report result in network upgrade cost estimates that equate to

an LCOT in excess of \$3.20/MWh (an amount that equals \$4.00/MWh if costs increase by 25% in Phase 2 from Phase 1 estimates), witness Levitas indicated “there is a high likelihood of withdrawal.” *Id.* at 179.

Public Staff witness Metz calculated that the \$4.00/MWh cap represents a total of \$51.7 million in network upgrades that will be reimbursed by DEP ratepayers. He further noted that Juno witness Miller did not provide any analysis for the total impact a \$4.00/MWh cap would have on ratepayers if applied to other merchant plant CPCN applications for facilities in the TCS. Tr. vol. 3, 23.

Discussion and Conclusions

The Commission has previously found that the LCOT provides a benchmark when evaluating the reasonableness of the transmission network upgrade costs associated with interconnecting a proposed new generating facility. (See Order Denying Certificate of Public Convenience and Necessity for Merchant Generating Facility, Docket No. EMP-105, Sub 0 (June 11, 2020) (Friesian Order), at 6. The proposed \$4.00/MWh LCOT value to be placed on the CPCN as a condition is not based on any evidence in the record showing that the benefit to DEP ratepayers from the Facility would be proportionate to the magnitude of the costs imposed on them. In fact, it does not seem that the proposed value is based on any number in particular; it is far above the Applicant’s own estimate of \$1.00 to \$1.30/MWh based on a third-party engineering firm injection analysis, and it is also above the average LCOTs identified in the 2019 Lawrence Berkeley National Laboratory Interconnection

Cost Study (LBNL Study) in MISO (\$1.56/MWh) and PJM (\$3.22/MWh), or more broadly by the Energy Information Administration (EIA) (\$2.21/MWh). See Friesian Order at 15.

The plain language of N.C.G.S. § 62-110.1 authorizes the Commission to consider all costs associated with the construction of the proposed generating facility. Specifically, the statute provides that, “[a]s a condition for receiving a certificate, the applicant shall file an estimate of construction costs in such detail as the Commission may require . . . and no certificate shall be granted unless the Commission has approved the estimated construction costs and made a finding that construction will be consistent with the Commission’s plan for expansion of electric generating capacity.” N.C.G.S. § 62-110.1(e); *see also* Friesian Order, at 16. At this time, the Facility has yet to be studied for interconnection and a cost estimate to interconnect the Facility cannot be provided by the Applicant. And while it is true that the Commission can consider all costs, they must be costs supported by competent evidence, not just any costs.

Due to the current position of the Facility in the TCS process, the Commission finds that it is premature to determine an appropriate LCOT value that would be reasonable to utilize as a cost estimate for interconnection of the Facility. Even once the Facility has received its Phase 1 results, it is possible that the costs could increase significantly in later phases of the study. In response to a data request, Juno concedes that it is not unusual for cost estimates to double between System Impact Study and Facilities Study. Tr. vol. 3, 26. The

Commission has seen examples of the volatility of these estimates. In the Friesian docket, for example, the initial cost estimate for the same network upgrades increased from \$116 million to \$224.4 million due to updated labor and environmental cost estimates. *Id.* at 27. Furthermore, it is unknown at this time if any affected systems will be impacted and how those costs will be studied within the TCS process and timeline.¹

As the Applicant noted, Facilities Study results are not expected until the first quarter of 2023, and currently there are upward pressures on transmission rates in general. Tr. vol. 1 Errata, 94. Witness Miller testified that those pressures include (1) increasing materials and labor costs, and (2) the tendency of these costs to increase with increased solar penetration on the system. *Id.* At the hearing, witness Levitas also stated that it appears transmission network upgrade costs are increasing. *Id.* at 181.

For all of these reasons, the Commission finds that it is inappropriate to consider the CPCN application more than a year in advance of when the later phases of the study costs estimates will be available. The Commission has relied upon the 2019 LBNL study in past merchant plant proceedings, but acknowledges that the benchmarks will evolve with time. The Commission finds it appropriate to consider merchant plant LCOTs on a case-by-case basis at a

¹ Juno states that it will assume cost responsibility for any affected system network upgrade costs. It is unclear at this time whether an Affected System Operating Agreement that assigns cost responsibility to the interconnection customer is permitted by FERC. See FERC's Order Rejecting Affected System Operator Agreement and Notice of Denial of Rehearing by Operation of Law and Providing for Further Consideration, FERC Docket ER21-1955, currently on appeal to the D.C. Circuit Court, DEP Petition filed Dec. 27. 2021.

point in time closer to the anticipated date a generating facility will begin construction with the best information available at that time. This timeline will become more predictable for generators with the annual DISIS Cluster studies.

EVIDENCE AND CONCLUSIONS FOR FINDING OF FACT NO. 10

The evidence supporting this finding of fact is found in the direct and supplemental testimony of Juno witness Miller, the direct testimony of Public Staff witness Metz, and the rebuttal testimony of Juno witnesses Miller.

In lieu of interconnection results from Duke, Juno witness Miller testified that Birch Creek conducted its own injection study seeking to replicate Duke's study methodology. Tr. vol. 1 Errata, 102. Juno witness Miller testified that "minimal System Upgrades are needed to interconnect the project" based on a "robust injection analysis" done in conjunction with a third-party engineering firm. *Id.* at 88. Witness Miller stated that the results of the study indicated a \$13 million upgrade with a worst-case scenario of \$16.84 million. *Id.* at 111. Public Staff witness Metz testified that the results of the Applicant's analysis equated to an LCOT of \$1.00 /MWh to \$1.30 /MWh. Tr. vol. 3, 23. When asked about the timing of the Applicant's power flow analysis at the hearing, Juno witness Miller conceded that it was completed prior to the close of the TCS. Tr. vol. 1 Errata, 209.

Public Staff Witness Metz stated that he reviewed the Applicant's Power Flow analysis and asked several questions in discovery. He concluded that the

Applicant cannot provide a useful or accurate analysis without knowing what other projects will enter the TCS or remain in the TCS after Phase 2. Witness Metz also noted that the Applicant only completed a summer peak flow analysis, and given the battery storage included in the site design, a winter study should have been completed as well. Tr. vol. 3, 18.

In rebuttal testimony, witness Miller stated that Birch Creek “acknowledges that this study is not fully conclusive without knowing the composition of the Transitional Cluster” and the study was performed with conservative assumptions and the best information Birch Creek had available at the time. In response to witness Metz’s observation regarding a winter study, Birch Creek performed a winter peak screening and did not identify any new constraints. Tr. vol. 1 Errata, 114-15.

Discussion and Conclusions

The power flow study performed by the Applicant and a third-party engineering firm, who did not participate as an expert witness in this proceeding, does not include the specific projects in the TCS. The Commission finds persuasive the Public Staff’s testimony that the results of such a study cannot be accurate or useful given that it did not, and cannot at this time, model the composition of the TCS. Thus, the Commission gives no weight to the power flow analysis or the preliminary resulting network upgrade estimates provided by the Applicant prior to being studied in the TCS.

EVIDENCE AND CONCLUSIONS FOR FINDINGS OF FACT NOS. 11-12

The evidence supporting these findings of fact is found in the direct and supplemental testimony of Juno witness Miller, the direct testimony of Public Staff witness Metz, and the rebuttal testimony of Juno witnesses Miller and Levitas.

In direct testimony, Juno Witness Miller stated that there is significant, and increasing, financial security required for both “ready” and “non-ready” Interconnection Customers progressing through Phases 1 and 2 of the TCS. The total security if the project that is “non-ready” is 1 times the study deposit to enter Phase 1, and \$5 million to enter Phase 2. Witness Miller testified that if the Interconnection Customer withdraws prior to Phase 2 of the TCS, no withdrawal penalty is imposed. If the Interconnection Customer withdraws after entering Phase 2 and prior to executing a Large Generator Interconnection Agreement (LGIA), Duke will use the security as payment for (1) the final invoice for study costs and (2) the withdrawal penalty, with any remaining amount of security returned to the Interconnection Customer. At this time, witness Miller stated that Juno is a “non-ready” project. However, it could demonstrate readiness by providing an executed term sheet related to a PPA or evidence that it has been included in a utility’s resource plan or resource solicitation process. Tr. vol. 1 Errata, 84-87; *see also* Public Staff Levitas Cross Examination Exhibit No. 1, Attachment J to the Open Access Transmission Tariff (OATT), DEP Large

Generator Interconnection Procedures (LGIP) (DEP Revised LGIP), §§ 7.2.1 through 7.2.3, 40; Tr. vol. 2, Official Exhibits, 107.

Juno witness Miller argued in direct testimony that if Juno is not granted a conditional CPCN prior to Phase 2 it creates a “patently unfair and unreasonable situation” that results in a “catch-22” for the Applicant. Tr. vol. 1 Errata, 87. However, Public Staff witness Metz disputed the Applicant’s characterization of its position in the TCS as a “catch-22”. Witness Metz stated that the construct of the TCS occurred through a stakeholder process, which determined the phases, milestone payments, withdrawal penalties, and timing requirements, and the agreement was approved by this Commission, the South Carolina Public Service Commission (PSC), and FERC after a robust stakeholder process that reached consensus on many issues.² Tr. vol. 3, 22. He stated that the Applicant is not in a “catch-22”, but rather is seeking to shift risk from itself to DEP ratepayers. In addition, witness Metz testified, that a conditional CPCN would not solve the purported “catch-22” as the Applicant would still be at risk of losing its CPCN, and subject to significant withdrawal penalties, if the network upgrades result in an LCOT over \$4.00/MWh. Tr. vol. 3, 10-11.

² Duke began engaging with stakeholders on March 28, 2019. The meetings were open to all interested stakeholders since March 2020, and all materials were posted publicly on OASIS. A timeline of all meetings and filings related to Queue Reform leading up to the filing at FERC is found in Public Staff Levitas Cross-Exhibit 2, the Duke Revisions to Attachment J (Large Generator Interconnection Procedures) to Joint OATT, FERC Docket ER21-1579-000 filed on April 1, 2021 (Duke FERC Queue Reform Application), at 15-20, Tr. vol. 2, Official Exhibits 9, 23-28.

In rebuttal testimony, witness Levitas characterized the “catch-22” as follows:

(i) Duke cannot provide the finalized network upgrade costs of a FERC-jurisdictional project in the Transitional Cluster Study until after completion of the Phase 2 study, but (ii) if the Commission's CPCN decision for the project is not made until after those costs have been determined in Phase 2 study (and the remainder of the study process) and the Commission denies the CPCN because it deems such costs to be unreasonable, the customer runs the risk of having to pay a withdrawal penalty equal to nine times its study costs, which is likely to be \$1 to \$2 million.

Tr. vol. 1 Errata, 145.

At the hearing, Juno witness Levitas stated that Juno may be subject to up to \$2.25 million in withdrawal costs, which is nine times the actual study costs, that Duke estimates may be as much as \$250,000.³ Tr. vol. 1 Errata, 212; Tr. vol. 2, 27; Public Staff Levitas Cross Examination Exhibit No. 1, DEP Revised LGIP, § 7.2.6, 42; T vol. 2, Official Exhibits, 108. Witness Levitas stated that such penalties would likely discourage FERC-jurisdictional Interconnection Customers from participating in TCS or DISIS. Tr. vol. 1 Errata, 145.

Witness Levitas also disagreed with Public Staff witness Metz that the conditional CPCN does not solve the purported “catch-22” because Juno will likely withdraw at Phase 1 if an increase of 25% in the network upgrade costs identified in Phase 1 causes its LCOT to exceed the proposed \$4.00/MWh cap.

³ This is an estimate for the entire study process and would likely be less if the project withdraws prior to Facilities Study.

Tr. vol. 1 Errata, 147. Witness Levitas asserts that “Juno Solar has proposed a reasonable solution that presents absolutely no risk to ratepayers.” *Id.* at 157.

Discussion and Conclusions

The Commission agrees with witness Metz that the financial security requirements to enter TCS Phase 2 and the potential withdrawal penalties were negotiated by all parties, including representatives of the developers involved in this CPCN Application, during a lengthy and robust stakeholder process that spanned over two years and received approval from this Commission, the South Carolina PSC, and FERC. The revisions to the LGIP approved by FERC, and that apply to merchant plant facilities, only require an Interconnection Customer to pay the actual study costs if it withdraws after it receives the Phase 1 Study report. The withdrawal penalties are imposed only if the Interconnection Customer proceeds to Phase 2 of the TCS. The TCS has much higher withdrawal penalties than subsequent DISIS clusters, because it is designed to incent only projects that are ready to proceed.

Juno asserted that the fact that it must commit to significant financial security requirements and potential withdrawal penalties of the TCS without certainty from this Commission regarding the certification of the Facility results in an unfair and unreasonable “catch-22” for the Facility. The Commission notes that at no time prior to this CPCN application did Juno, Pine Gate, Birch Creek, Carolinas Clean Energy Business Association (CCEBA), or any other stakeholder in the Queue Reform Stakeholder process make the Commission

aware of the need to obtain a CPCN as a condition of supporting Queue Reform or to otherwise make the TCS or DISIS successful. Juno witness Levitas stated that he was extensively involved in the stakeholder process on behalf of CCEBA and made the Public Staff and Duke aware of the concerns and need for a conditional CPCN for merchant plant facilities. Tr. vol. 1 Errata, 142. However, Pine Gate was supportive of the changes Duke proposed to the LGIP filed at FERC, as evidenced by its filing in support of Duke's Queue Reform Application signed by Witness Levitas. Those comments make no qualification of the need for this Commission to grant merchant plant CPCNs as a condition of its support of the revised LGIP. See Public Staff Levitas Cross- Examination Exhibit 4. Tr. vol. 2, Official Exhibits, 218.

In seeking approval of its Queue Reform Application, Duke filed testimony at FERC in April of 2021 stating that the TCS process was designed to incent speculative projects to withdraw after the Phase 1 report before the utility undertakes the more detailed and time intensive Phase 2 study process. Tr. vol. 2, Official Exhibits, 61.⁴ The Commission finds that the current TCS is designed

⁴ Public Staff Levitas Cross Examination Exhibit No. 2 is the Duke FERC Queue Reform Application. With regard to the payments and security required of in the TCS, Duke states, at 53:

These are reasonable and meaningful readiness requirements that the Duke Transmission Providers believe will incent only ready or near-ready projects to enter the Transition Cluster. However, similar to DISIS, the Duke Transmission Providers also desire to ensure that any speculative projects that enter Transitional Cluster to obtain information about their potential network upgrade costs within the Cluster are also incented to withdraw prior to the Duke Transmission Providers commencing the more detailed and time-intensive Phase 2 study process.

T. vol. 2, Official Exhibits, 61.

to incent ready and near ready projects to move forward and speculative projects to withdraw prior to Phase 2. Thus, the Phase 1 study report will provide Juno with details on contingent projects and network upgrades. As the cluster study process was designed, this information will provide a sufficient basis for the Applicant to decide whether good business practice supports its continued participation in the TCS.

Juno witnesses argued that the potential for millions of dollars in withdrawal fees represents an unacceptable level of risk for the Applicant to commit to entering Phase 2 of the TCS. The Commission notes, however, should Juno elect to proceed to Phase 2, there are other protections in place to shield the amount of risk of paying withdrawal penalties due to the risk of substantial network upgrade cost estimates resulting from Phase 2. The TCS process contains an off-ramp in Phase 2 with regard to any increases in network upgrade costs. Should the costs rise 125% over the Phase 1 estimate, the project can exit TCS without having to pay the withdrawal penalty. DEP Revised LGIP at § 4.7.1. This provision was negotiated as part of Queue Reform and was designed to mitigate the level of risk the Facility will incur proceeding into Phase 2 and beyond. The Commission finds that the Phase 1 report plus the off-ramps provides the Applicant the information needed to determine if it should proceed in the TCS process without a CPCN. The DEP revised LGIP, § 4.7.1, provides:

An Interconnection Customer shall be subject to a Withdrawal Penalty if it withdraws its Interconnection Request from the Queue or the Generating Facility does not otherwise reach Commercial Operation unless the Transmission Provider determines consistent

with Good Utility Practice that (1) the withdrawal does not negatively affect the timing or cost of equal or lower queued projects; (2) the cost responsibility identified for that Interconnection Customer in the current study report associated with new Network Upgrades to the Transmission Provider's System increased by more than twenty-five percent (25%) compared to the costs identified in the previous report; or (3) if the customer withdraws after the Interconnection Facilities Study report is published and before providing M5, and the cost responsibility for that Interconnection Customer identified in the Interconnection Facilities Study report increases by more than one hundred percent (100%) compared to the Phase 2 report.

Public Staff Levitas Cross Examination Exhibit No. 1, DEP Revised LGIP, Section 4.7.1, 27; Tr. vol. 2, Official Exhibits, 27.

Juno witness Miller conceded that it is possible to complete the study process without a CPCN "but the question of whether that is considered good business practice based on the risk exposé is a different question." Tr. vol. 1 Errata, 216. The Commission notes that the level of risk exposure that is acceptable to the Applicant or is considered good business practice is within the discretion of the project developer. The Commission is not obligated to ensure that merchant plant development is financeable or that commercial risk is mitigated. Nor is the Commission obligated to ensure a level of financial profitability to developers of third party projects that seek to shift risk to captive customers. The Commission finds that the Applicant is not subject to an unfair "catch-22" but rather faces a negotiated level of financial risk to participate in the TCS similar to other interconnection customers. Furthermore, if the TCS withdrawal penalties are too risky, projects have the option of participating in DISIS, where the withdrawal penalty after entering Phase 2 is three times the

study costs, much less than that in TCS of nine times the study costs. DEP Revised LGIP, § 4.7.1.1; Tr. vol. 2, Official Exhibits, 93-94.

Juno witness Levitas also argued that there is a risk that many projects will drop out after Phase 1, ultimately leading the TCS process to “implode” as the costs to resolve known transmission constraints will not be spread among projects that can absorb the costs, which was a goal of Queue Reform. Tr. Vol 2, 15-16. The Commission disagrees with this characterization of the purpose of Queue Reform and the TCS specifically. The purpose of Queue Reform is not simply to allocate the costs of network upgrades to resolve transmission constraints that currently exist in DEP, but it is also to clear the backlog of serial projects that are speculative and causing lengthy delays, so that projects that are ready to proceed to interconnection can move forward. Duke Queue Reform Application, Public Staff Levitas Cross-Examination Exhibit No. 2, 16-17; Tr. vol. 2, Official Exhibits, 24-25.

The Commission is hopeful that Queue Reform can resolve transmission constraints and equitably allocate costs among many projects. If, however, it is unsuccessful in resolving the constraints on the DEP system in the southeastern region of the State, the constraints can be addressed by making further changes to the LGIP, the North Carolina Interconnection Procedures, or through consideration of the Carbon Plan pursuant to HB 951 if the Commission determines transmission upgrades are needed to achieve carbon reduction goals.

The Commission finds that it is premature to assume that the TCS is at risk of “implosion” and that it is appropriate to proceed under the Queue Reform as approved by FERC, the SC PSC, and this Commission. In testimony filed before FERC, Duke witness Kenneth Jennings testified:

Duke proposes an evaluation of the revised LGIP after two years of experience, in order to determine whether the proposed tariff revisions are achieving the goals of providing an interconnection process that is efficient and fair. Duke makes this commitment to [FERC] as part of its effort to achieve stakeholder consensus in light of various comments made during the stakeholder process. Importantly, this will allow Duke to identify lessons learned through both the Transition Process as well as the initial annual DISIS Cluster. Duke also plans to undertake a similar assessment in North Carolina and to report to the NCUC.

Public Staff Levitas Cross-Examination Exhibit No. 3, Testimony of Kenneth Jennings in support of FERC Queue Reform Filing, FERC Docket No. ER21-1579-000, 24; T vol. 2, Official Exhibits, 164.

If the TCS and DISIS do not resolve transmission constraints that must be overcome to interconnect facilities needed by DEP ratepayers, those constraints will be addressed in a future proceeding that Duke has committed to before FERC and this Commission.

EVIDENCE AND CONCLUSIONS FOR FINDINGS OF FACT NOS. 13-17

The evidence supporting these findings of fact is found in the supplemental testimony of Juno witness Miller, the testimony of Public Staff witness Metz, and the rebuttal testimony of Juno witnesses Miller and Levitas.

Juno witness Miller testified to the need for the Facility by offering several options Juno could pursue to sell the energy generated. Witness Miller stated in

her direct testimony that [BEGIN CONFIDENTIAL] [REDACTED]

[REDACTED] [END

CONFIDENTIAL] Witness Miller added that as a FERC-jurisdictional project, Juno could contract for its output with DEP or reserve transmission capacity to deliver the power to an adjacent balancing authority including PJM. She stated that both DEP and PJM have demonstrated a need for renewable energy and flexible battery storage capacity in the coming years. Tr. vol. 1, 79-80. Witness Miller also stated that DEP's 2020 Integrated Resource Plan (IRP) included six different planning scenarios, all of which required increased solar and storage capacity on the DEP system during the planning period with some of the scenarios calling for substantially more solar than others. She also stated that Commercial and Industrial (C&I) demand for clean energy in PJM continues to grow. Tr. vol. 1, 81.

In her rebuttal testimony, witness Miller stated that the passage of HB 951 created a substantial need for new non-carbon emitting generation on the Duke Energy system both in the short-term and in the long-term. While she admitted that the exact amount of solar additions would be determined in the carbon reduction plan developed by the Commission, she stated that it is highly likely that Duke will be adding 1-1.5 gigawatts (GW) of solar capacity per year throughout the next decade and that 55 percent of that amount will be owned by Duke and procured through facility purchases from third-parties or by self-development. She stated that because of the transmission and other

development constraints, it is very likely that Juno would be one of the most cost-effective options for Duke to achieve compliance with HB 951. Tr. vol. 1 Errata, 87-88.

Witness Metz testified that through discovery, the Applicant stated that there is a need in PJM for the output of the facility due to PJM's expected load growth and that the Applicant anticipates that Juno will wheel the majority of its output to PJM. Tr. vol. 3, 30-31. Public Staff witness Metz stated that HB 951 requires the Commission to develop a carbon plan to take all reasonable steps to reduce 2005 emissions by 70% by 2030, but it is premature to assume that the Facility would be needed to assist in meeting those goals. Tr. vol. 3, 32. While witness Metz agreed that PJM has a need for new energy and capacity, he stated that PJM would need to evaluate the current interconnection queues and the historical PJM capacity markets to identify if there is a shortfall of new projects to meet its needs. He testified that the current PJM interconnection queue, inclusive of North Carolina and Virginia, has voluminous amounts of generation, particularly carbon free generation, seeking to interconnect and he doubted that PJM's ability to meet its energy and capacity needs is dependent on Juno. Therefore, witness Metz did not find that Juno had demonstrated a need for the Facility. Tr. vol. 3, 32-33. He stated that the need for power in the State and the region must also be balanced against the cost and long-term planning for the State. Tr. Vol 3, 24.

Witness Miller testified in rebuttal that the Public Staff did not acknowledge the benefits that North Carolina customers would receive if Juno were to wheel its output from its location in DEP territory to PJM. In order to wheel the energy from the Facility to PJM territory, Juno would have to procure point-to-point transmission service across the DEP system. This procurement would require Juno to pay DEP a firm point-to-point transmission rate that is currently, according to witness Miller, \$1,738 per MW-month, equating to approximately \$5.2 million per year in new point-to-point transmission revenues to DEP, totaling \$275 million over the life of the project. Witness Miller stated that these payments far exceed the cost of the network upgrades for DEP's ratepayers, even if the LCOT for the Facility was near the \$4.00/MW LCOT cap and should sufficiently alleviate any concerns over ratepayer exposure to interconnection and affected system costs. Tr. vol. 1, 73-74. Further, witness Miller stated that Juno had executed a term sheet from a wholesale energy provider in PJM and provided the PPA Term Sheet as a confidential exhibit to her rebuttal testimony. She stated that in Birch Creek's view, the term sheet shows that the Applicant has met an equal or greater burden of proof than met in the course of recently approved CPCN dockets, including Fern Solar, LLC (Docket No. EMP-104, Sub 0), Halifax Solar, LLC (Docket No. EMP-107, Sub 0), American Beech Solar, LLC (Docket No. EMP-108, Sub 0), and Shawboro Solar, LLC (Docket No. EMP-117, Sub 0). Tr. vol. 1 Errata, 86-87.

At the hearing, witness Miller conceded that **[BEGIN CONFIDENTIAL]** [REDACTED]

[REDACTED]

[REDACTED]
[REDACTED]
[REDACTED] **[END CONFIDENTIAL]** Witness Miller also stated that DEP would have to conduct an additional transmission study in order to determine how the energy would be wheeled from Juno to PJM and while Juno has had initial discussions on those studies, DEP had not performed them at the time of the hearing. She further stated that if the study of the point-to-point transmission showed the need for any upgrades, those upgrades would be included in the \$4.00/MWh LCOT. Tr. vol. 2, 50. Witness Miller also stated that the majority of the C&I demand for renewable energy in PJM was in Virginia and Pennsylvania. Tr. vol. 2, 66.

Witnesses Miller and Levitas both stated that constructing the Facility and any associated transmission upgrades would be critical to unlocking the logjam of projects in the southeastern portion of the State where transmission capacity is needed to interconnect solar facilities that could help meet the goals of HB 951. Tr. vol. 2, 76.

On cross-examination, Public Staff witness Metz stated that Juno is different than facilities sited within the PJM footprint that are not subject to the same regulations as Juno due to its proposed interconnection to the DEP transmission system. Tr. vol. 3, 57-58. Witness Metz also stated that the point-to-point transmission charges that witness Miller stated would be paid to DEP for wheeling the energy to PJM were overstated. First, witness Metz stated that the

net present value of payments for 175 MW of firm point-to-point transmission over 40 years would only be \$88 million. Further, Witness Metz testified there are many unknowns and assumptions with the calculation such as whether the point-to-point transmission contract was firm or non-firm, how much energy would be transferred, and the time period of the transmission contract. Tr. vol. 3, 65-67. Witness Metz stated that he was skeptical because Juno's witnesses stated that the project could be sold to Duke for HB 951 compliance which would create different benefits because ratepayers would no longer be receiving the wheeling revenue to potentially offset the transmission construction costs. Tr. vol. 3, 69.

Lastly, witness Metz distinguished his conclusion that Juno did not sufficiently show a need for the facility from the Public Staff's recommendation to approve a CPCN for Timbermill Wind, LLC (Timbermill Wind) in Docket No. EMP-118, Sub 0. While the Public Staff believed Timbermill Wind's showing need for energy in PJM was enough to establish need, Timbermill Wind had already completed the interconnection review process and was not assigned any in-system or affected system upgrades that would be borne by ratepayers. Therefore, witness Metz stated that the review of the CPCN application for Juno requires a higher demonstration of need because adverse impacts to ratepayers are more likely. Tr. vol. 3, 26, 29-30.

Discussion and Conclusions

N.C.G.S. § 62-110.1(e) states "no certificate shall be granted unless the Commission has approved the estimated construction costs and made a finding

that the construction will be consistent with the Commission's plan for expansion of electric generating capacity." Commission Rule R8-63(b)(3) also requires a merchant plant application to include a description of the need for the facility in the "state and/or region." This requirement is the result of the 1991 Empire Power Company case in Docket No. SP-91, Sub 0, which requires an independent power producer (IPP), such as Juno, to obtain a contract or a written commitment from a utility to demonstrate need. In 2001, the Commission initiated a proceeding in Docket No. E-100, Sub 85, to consider changes in the certification requirements for merchant plants. As impetus for its Empire Order, the Commission cited the Energy Policy Act of 1992, which encouraged independent power production and competition in the wholesale power market through the creation of exempt wholesale generators and the ability of the FERC to issue wheeling orders requiring utilities to allow access to their transmission grids for wholesale power transactions.⁵ Further, the Commission cited FERC Order 2000 as "encouraging the formation of regional transmission organizations which would operate interconnected transmission systems, reduce the cost of transmitting power to more distant markets, and further enhance wholesale competition."⁶ In the E-100, Sub 85, Order, the Commission ordered the Public Staff to file a proposal for certification requirements for merchant plants.⁷ In its proposal, the Public Staff recommended that the Commission address how the

⁵ Order Initiating Further Proceedings, Docket E-100, Sub 85, at 3 (issued on February 7, 2001).

⁶ *Id.*

⁷ *Id.*

public convenience and necessity for an IPP would be demonstrated “when the facility is intended in whole or in part to serve:

...

b. Load outside of North Carolina, on varying bases and for varying duration.”⁸

In its Order adopting the certification rule, the Commission stated “[i]t is the Commission’s intent to facilitate, and not to frustrate, merchant plant development. Given the present statutory framework, the Commission is not in a position to abandon any showing of need or to create a presumption of need. However, the Commission believes that a flexible standard for the showing of need is appropriate.”⁹

The Commission has also found in previous merchant plant dockets that “it is appropriate for the Commission to consider the total construction costs of a facility, including the cost to interconnect and to construct any necessary transmission network upgrades, when determining the public convenience and necessity of a proposed new generating facility.”¹⁰ This consideration was recently upheld by the North Carolina Court of Appeals, stating, “[the court] cannot find, any precedent precluding a state from considering the cost of

⁸ Public Staff’s Initial Comments, Docket No. E-100, Sub 85, at 8 (January 10, 2000).

⁹ Order Adopting Rule, Docket No. E-100, Sub 85, at 7 (issued May 21, 2001).

¹⁰ See Friesian Order, at 6.

required network upgrades in a siting determination.”¹¹ Further, the court held that “nothing in the FPA [Federal Power Act] precludes states from considering the cost of network upgrades in the preliminary determination of the most cost-effective location for a generating facility or whether energy generation is in the public convenience and need for its residents.”¹² The Commission stated in the Friesian Order, “the very reason the CPCN statute was enacted was to stop the costly overexpansion of facilities to serve areas that did not need them.”¹³ Lastly, the Commission found that N.C.G.S. § 62-2 contains several policies that show the “legislature intends the Commission to encourage cost-efficient siting of generation facilities, and thus that the Commission has the authority to consider all costs borne as a result of that siting decision.”¹⁴

As the history of Commission Rule R8-63(b)(3) described above makes clear, the statement of need requirement is a “flexible standard” which is consistent with the Commission’s Order Adopting Rule in Docket No. E-100, Sub 85 issued on May 21, 2001. When considering the demonstration of need, the Commission must consider all costs created by the Facility, the extent those costs may be borne by ratepayers, and the benefits provided.

Based on the foregoing, the Commission concludes that the interconnection costs associated with the Facility cannot be determined at this

¹¹ *State ex re. Utils. Comm’n v. Friesian Holding, LLC*, 2022-NCCOA-32, 15 (2022).

¹² *Id.* at 16.

¹³ *Id.* at 17. See also *High Rock Lake Ass’n*, 97 N.C. Ap at 140-41, 245 S.E.2d at 790; *State ex rel. Utils. Comm’n v. Empire Power*, 112 N.C. Ap 265, 280, 435 S.E.2d 553, 561 (1994).

¹⁴ *Id.* at 17-18.

time. Also, the Commission cannot determine the need for the Facility because the evidence presented by the Applicant does not provide enough information to compare the benefits of the Facility and its output to the undetermined costs of the Facility and related transmission upgrades. **[BEGIN CONFIDENTIAL]** [REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

[REDACTED] **[END CONFIDENTIAL]**

These factors create more uncertainty regarding the costs and benefits of the Facility. With regard to the potential for the Facility to help meet the goals of HB 951, the Commission finds that it is premature to determine whether the Facility is needed for that purpose before the Carbon Plan is adopted in Docket No. E-100, Sub 179 at the end of December 2022.

The Applicant stated that it had two different potential options for the future of the Facility, and either option provides a very different set of potential benefits to DEP ratepayers. Therefore, the Applicant has not demonstrated a

need for the Facility because the costs and benefits are too speculative to be given significant weight at this time.

CONCLUSION

The Commission has carefully considered and weighed all evidence and arguments presented in this proceeding and finds that Juno has failed to show that the issuance of the conditional CPCN is in the public interest as required by N.C.G.S. § 62-110.1. The Commission further finds that the issuance of a CPCN conditioned on a predetermined LCOT cap is not warranted at this time.

IT IS THEREFORE, ORDERED as follows:

That Juno's application for a CPCN is denied without prejudice and it may re-file its Application after it has received the results of its Facilities Study and any Affected System Studies, if applicable.

ISSUED BY ORDER OF THE COMMISSION.

This the ____ day of _____, 2022.

NORTH CAROLINA UTILITIES COMMISSION

Joann R. Snyder, Deputy Clerk