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October 19, 2022

VIA ELECTRONIC FILING
Ms. Shonta Dunston, Chief Clerk
North Carolina Utilities Commission
430 North Salisbury Street
Raleigh, NC 27603

RE: *Application of Macadamia Solar LLC for Certificate of Public Convenience and Necessity to Construct a 484-MW Solar Facility in Washington County, North Carolina, and for a Certificate of Environmental Compatibility and Public Convenience and Necessity to Construct a 6.53-mile 230 kV Transmission line in Washington County, North Carolina; Consolidated Docket Nos. EMP-119, Subs 0 and 1*

Dear Ms. Dunston:

On behalf of Macadamia Solar, LLC, and in accordance with the Commission's September 8, 2022, Order Accepting Testimony and Requiring Proposed Orders, attached herewith is Macadamia's Proposed Order Issuing Certificate for Merchant Generating Facility and Transmission Line for filing in the above referenced consolidated dockets.

The Proposed Order in native format is also being filed at Briefs@ncuc.net.

Please let me know if you have any questions about this filing. Thank you.

Sincerely,

A handwritten signature in blue ink that reads 'Benjamin L. Snowden'.

Benjamin L. Snowden

A Pennsylvania Limited Liability Partnership

California Colorado Delaware District of Columbia Florida Georgia Illinois Minnesota
Nevada New Jersey New York North Carolina Pennsylvania South Carolina Texas Washington



Fox Rothschild LLP
ATTORNEYS AT LAW

Shonta Dunston, Chief Clerk
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Attachment

Copy to: Parties and Counsel of Record
NC Public Staff

OFFICIAL COPY

Oct 19 2022

STATE OF NORTH CAROLINA
UTILITIES COMMISSION
RALEIGH

DOCKET NO. EMP-119, SUB 0
DOCKET NO. EMP-119, SUB 1

BEFORE THE NORTH CAROLINA UTILITIES COMMISSION

In the Matter of
Application of Macadamia Solar,)
LLC for a Certificate of Public)
Convenience and Necessity to)
Construct a 484 MW Solar Facility)
in Washington County, North)
Carolina)

PROPOSED ORDER ISSUING
CERTIFICATE FOR MERCHANT
GENERATING FACILITY AND
TRANSMISSION LINE

In the Matter of)
Application of Macadamia Solar,)
LLC for a Certificate of)
Environmental Compatibility and)
Public Convenience and Necessity)
to Construct a 6.53-mile 230 kV)
Transmission Line in Washington)
County, North Carolina)

BY THE CHAIR: On August 30, 2021, Macadamia Solar, LLC (Macadamia or Applicant), filed an application pursuant to N.C. Gen. Stat. § 62-110.1 and Commission Rule R8-63 for a certificate of public convenience and necessity (CPCN) to construct a solar photovoltaic facility with a capacity up to 484 MW_{AC} in Washington County, North Carolina (Facility). The Commission opened Docket No. EMP-119, Sub 0 for the purpose of adjudicating the CPCN application (Docket No. Sub 0).

In support of its CPCN application, Macadamia filed in Docket No. Sub 0 the direct testimony of Kara Price and Donna Robichaud. As described in the Application and testimony, the Facility is proposed to be located on over 4,000 acres of privately-owned, adjacent and non-adjacent parcels, about five miles south of the town of Plymouth, North Carolina. The Facility is intended to be operated as a merchant generating facility. Applicant plans to interconnect the Facility to the transmission system owned and operated by Virginia Electric and Power Company, d/b/a Dominion Energy North Carolina (DENC) and will sell generated electricity to the organized wholesale market administered by PJM Interconnection, LLC (PJM).

Ms. Robichaud discussed the need for the Facility, noting opportunities for offtake in the PJM competitive wholesale market, ancillary services under PJM tariffs, and agreements with retail corporate buyers hungry for clean power alternatives. Ms. Robichaud also discussed the status of interconnection studies for the Facility, which was studied in PJM's AD1 cluster, along with two other solar projects that are under development by Geenex Solar LLC (Geenex), which owns and is developing the Applicant's facility: Sumac Solar, LLC and Sweetleaf Solar, LLC (Related Projects). Initial interconnection studies estimated \$256 million in costs for PJM Network Upgrades and Duke Energy Progress, LLC (DEP) Affected System Network Upgrades for the AD1 cluster, as a whole. The DEP Affected System Network Upgrades included reconductoring approximately 2 miles of DEP's Everetts-Greenville 230 kV line, which is the DEP-owned portion of the tie line connecting the DEP and PJM systems. Finally, Ms. Robichaud provided calculations of the Facility's Levelized Cost of Transmission (LCOT) for Upgrades required for the Facility, based on estimates available at the time.

On September 9, 2021, the Public Staff filed a Notice of Completeness stating that the Public Staff reviewed the CPCN application as required by Commission Rule R8-63(d) and that the Public Staff considered the application to be complete. In addition, the Public Staff 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 any other procedural matters.

On September 13, 2021, Macadamia filed an application pursuant to N.C.G.S. §§ 62-101, 62-102, and 62-104 and Commission Rule R8-62 for a certificate of environmental compatibility and public convenience and necessity (CEPCN) to construct an approximately 6.53-mile 230kV transmission line connecting the proposed Facility to DENC's transmission system. The Commission opened Docket No. EMP-119, Sub 1 for the purpose of adjudicating the CEPCN application (Docket No. Sub 1, together with Docket No. Sub 0, the Dockets).

In support of its CEPCN application, Macadamia filed the direct testimony of Amanda Corll, Kara Price, Donna Robichaud and Robert Turnbull, discussing Applicant's proposed new transmission line (Macadamia Line). In summary, the Macadamia Line will permit interconnection of the Facility to DENC's transmission grid via an existing 230kV/115kV Trowbridge Substation operated by DENC; will be constructed with H-frame structures at the Facility site; and will be supported by steel monopoles outside of the site. The transmission corridor will be 100 feet wide. As required by N.C. Gen. Stat. § 62-102(c), the application included a proposed Public Notice summarizing the application.

On September 15, 2021, the Commission issued an order in Docket No. Sub 1 scheduling a public hearing and requiring public notice and State Clearinghouse review (September 15 Order). The public witness hearing for the CEPCN application was scheduled to take place remotely via Webex on Tuesday, November 2, 2021, at 7:00 p.m., for the purpose of receiving public

witness testimony. The September 15 Order noted the public witness hearing may be cancelled if no significant protests are filed with the Commission after the publication of the Public Notice.

The same day, the Commission also issued a letter to the Clerk of Superior Court for Plymouth, North Carolina, requesting confirmation of the Commission's reservation of the Washington County Courthouse located at 120 Adams Street, Plymouth, North Carolina, for purposes of the public witness hearing in Docket Sub 0.

On September 15 and 16, 2021, the Commission filed letters in Docket No. Sub 1 notifying the State Clearinghouse of the CECPCN application.

On September 24, 2021, the Commission issued an Order Consolidating Dockets, Scheduling Hearings, Requiring Filing of Testimony, and Establishing Procedural Guidelines and Requiring Public Notice in the Dockets (September 24 Order). The September 24 Order, noting the overlapping nature of the CPCN and CECPCN applications, consolidated the Dockets; scheduled the public witness hearing in Docket No. Sub 0 to occur contemporaneously with the scheduled public witness hearing in Docket No. Sub 1; scheduled to be held remotely via WebEx at 7:00 p.m. on Tuesday, November 2, 2021, and scheduled an expert witness hearing to occur in the Dockets on January 25, 2022, at 10:00 a.m. in the Commission Hearing Room 2115, Dobbs Building, 430 North Salisbury Street, Raleigh, North Carolina for the purpose of considering the CPCN and CECPCN applications; and required the parties to file additional testimony responding to specific inquiry from the Commission. Unless otherwise noted, all filings discussed below in this Order were filed in the consolidated Dockets.

On September 27, 2021, the Commission filed in Docket No. Sub 0 a letter notifying the State Clearinghouse of Macadamia's CPCN application.

On October 14, 2021 the Commission issued an Order Amending Public Notice requiring Applicant to publish an amended notice of the public witness hearing.

On October 19, 2021, Applicant filed a letter notifying the Commission that Applicant and Public Staff agreed to extend certain deadlines in the September 24 Order.

On October 20, 2021, Applicant filed the supplemental direct testimony of Donna Robichaud. Ms. Robichaud clarified that the previously identified DEP Affected System upgrade—a \$25 million cost allocation for reconductoring the Rocky Mt.-Hathaway 230 kV line—was no longer required for the AD1 cluster, and DEP removed the cost previously allocated to Applicant. Ms. Robichaud also clarified that the \$10 million DEP Affected System Upgrade to mitigate the Everetts-Greenville 230 kV overload may be allocated to Applicant (DEP Upgrade).

On October 21, 2021, State Clearinghouse filed comments in Docket No. EMP-119, Sub 1. The comments discuss that the North Carolina Department of Environmental Quality (NCDEQ) identified a contaminated site within one mile of the Facility. The comments make the following recommendations, among others: that Applicant conduct an archaeological survey; that construction minimize impacts to wetlands; that Applicant maintain certain forested buffers along waterways and wetlands; that sediment and erosion control measures be installed prior to any land clearing or construction; and that existing out-of-use petroleum storage tanks be removed. The comments also identified certain permits that may be required, including those associated with open burning, demolition of structures with asbestos, an erosion and sedimentation control plan, stormwater runoff, and discharge into navigable waters. Finally, the comments discussed that a Floodplain Development Permit would be required by Washington County, North Carolina.

On October 18, 2021, and October 25, 2021, the Applicant filed Affidavits of Publication certifying that Notices had been published in accordance with the Commission's orders. Notice was published in the Roanoke Beacon, a newspaper having general circulation in Washington County, on September 22, September 29, October 6, October 13, and October 20, 2021. The last publication date of the amended Public Notice was October 20, 2021.

On October 27, 2021, Applicant filed a Motion to Cancel Hearing with the consent of Public Staff, requesting that the Commission cancel the public witness hearing scheduled for November 2, 2021, on ground the Commission had not received any complaints regarding the CPCN or CECPCN applications.

On October 29, 2021, the Commission issued an Order Canceling Public Witness Hearing, finding good cause to cancel the remote public witness hearing scheduled for Tuesday, November 2, 2021, at 7:00 p.m.

On November 1, 2021, the State Clearinghouse filed comments in Docket No. Sub 0. The comments noted that four parcels upon which the Facility would be constructed are subject to certain voluntary conservation easements, and that the corresponding landowners would have to withdraw those parcels from the voluntary program prior to development. The comments made recommendations including: that Applicant conduct an archaeological survey; that construction minimize impacts to wetlands; that Applicant maintain certain forested buffers along waterways and wetlands; that sediment and erosion control measures be installed prior to any land clearing or construction; and that existing out-of-use petroleum storage tanks be removed. The comments also identified certain permits that may be required, including those associated with open burning, demolition of structures with asbestos, an erosion and sedimentation control plan, stormwater runoff, and discharge into navigable waters.

On November 23, 2021, Public Staff filed the testimony of Jay B. Lucas. Mr. Lucas discussed concerns regarding the potential that Applicant or the Related Projects might receiving reimbursement for DEP's Affected System Network Upgrades. Given uncertainty regarding PJM's interconnection process, Mr. Lucas recommended that the Commission hold the record in the Dockets open until after PJM's release of a retooled study of the AD1 cluster and DEP's completion of a revised Affected System study; require the Applicant to file supplemental testimony after receipt of those studies, and allow the Public Staff to file supplemental responsive testimony. In the alternative, Mr. Lucas recommended that the Commission approve the CPCN subject to certain conditions. Mr. Lucas further recommended that the Commission require the Applicant to revise its CPCN application and file supplemental testimony after the route for the transmission line had been finalized and all necessary easements had been obtained for that route.

On December 3, 2021, Applicant filed a Motion for Extension of Time to File Rebuttal Testimony and Exhibits, stating that the parties had agreed to provide additional time for discovery requests and responses, including an extension of the Public Staff's deadline for responses to data requests, until December 7, 2021. Applicant requested an extension of time to file rebuttal testimony and exhibits until December 10, 2021.

On December 6, 2021, the Commission issued an Order Granting Motion for Extension of Time to File Rebuttal Testimony and Exhibits, permitting Applicant to file rebuttal testimony and exhibits until December 10, 2021.

On December 10, 2021, Applicant filed the rebuttal testimony of Amanda Corll, Donna Robichaud, and Sami Abdulsalam.

On January 4, 2022, the Applicant filed a Consent Motion to Continue Hearing. The Applicant requested a continuance of the expert witness hearing pending receipt of additional interconnection studies and the issuance of a revised procedural order in the above-captioned dockets. Applicant also stated it believes it would be appropriate to delay the expert witness hearing to allow time to receive revised interconnection studies from PJM and DEP, and for the parties to provide supplemental testimony if necessary. The Public Staff did not object to the continuance.

On January 5, 2022 the Commission issued an Order Granting Consent Motion to Continue Hearing, finding good cause continue the expert witness hearing pending receipt of the interconnection studies appropriate revision of the procedural schedule.

On May 25, 2022, the Applicant filed supplemental prefiled testimony and exhibits of witnesses Amanda Corll and Donna Robichaud. Ms. Corll testified that Applicant had settled on a final route for the proposed transmission corridor and that Applicant continued to negotiate final terms for easements with two landowners to complete site control. Ms. Robichaud testified that the Applicant

had received a revised PJM SIS report, which decreased allocated Network Upgrade costs to approximately \$98 million. While clarifying that PJM Upgrade costs would not be reimbursed by ratepayers, Ms. Robichaud calculated a revised LCOT for these costs of \$3.76/MWh.

With respect to the DEP Upgrade, Ms. Robichaud testified that DEP had assigned \$10 million in costs to reconductor the 230 kV Everetts-Greenville line to one of the Related Projects, but that Macadamia Solar was seeking to enter into an Affected System Operating Agreement (ASOA) for the DEP Upgrade that would not provide reimbursement for the cost of the Upgrade. Ms. Robichaud provided revised LCOT calculations for Affected System Upgrade costs of \$0.28/MWh, if the output of all the projects in the AD1 cluster are included (*i.e.*, Applicant and the Related Projects), and \$0.38/MWh, if only the Facility is considered.

On June 1, 2022, Applicant filed a Consent Motion for Procedural Schedule, stating that the Public Staff did not oppose the proposed schedule, and asserting that it would be appropriate to proceed with an expert witness hearing on the Application.

On June 14, 2022, the Commission issued an Order Scheduling Hearing and the Filing of Testimony (June 14 Order). The June 14 Order scheduled a hearing in the Dockets for Tuesday, September 6, 2022, at 1:00 p.m. in Commission Hearing Room 2115, Dobbs Building, 430 North Salisbury Street, Raleigh, North Carolina for the purpose of receiving expert witness testimony regarding Macadamia's applications for a CPCN and a CECPCN.

On June 29, 2022, the Public Staff filed supplemental testimony of Jay B. Lucas. Mr. Lucas stated that an Affected System Study report relative to the DEP Upgrade was released during June 2022 (June 2022 Affected System Study), shortly after Applicant filed its May 25, 2022 testimony. DEP determined that the 230 kV Everetts-Greenville line needed to be replaced due to reliability issues, given its age and condition. As a result, DEP revised the Affected System Network Upgrade costs to \$350,000—representing incremental reconductoring costs of the DEP Upgrade (Revised DEP Upgrade)—and attributed those costs to an Affiliated Project, not Applicant. Given that the Facility would not be responsible for any costs associated with the Revised DEP Upgrade, Public Staff recommended the Commission approve Macadamia's CPCN and CECPCN applications upon certain conditions.

On July 6, 2022, State Clearinghouse filed its comments in Docket Sub 1. The comments discussed that Applicant provided an architectural survey report. Based on the report, the North Carolina Department of Natural and Cultural Resources determined that no historic above-ground properties or structures are implicated by the Facility or the Macadamia Line. The comments concluded no further action is required on the Commission's part for compliance with the North Carolina Environmental Policy Act.

On July 13, 2022, Applicant filed the second supplemental reply testimony of Donna Robichaud. Mr. Robichaud discussed that PJM issued a revised SIS report shortly after Applicant filed its May 25, 2022 supplemental prefiled testimony and exhibits (June 2022 SIS Report). The June 2022 SIS Report reduced the total cost of PJM Network Upgrades assigned to the Facility by about \$26.3 million, to \$71.5 million. Given this change in costs, and the significantly lower cost of the Revised DEP Upgrade (estimated, at that time, to be \$350,000), Robichaud recalculated LCOT values as follows: \$2.75/MWh for the PJM Network Upgrade costs and \$0.010/MWh for the Revised DEP Upgrade—if all Related Projects are considered—or \$0.013/MWh, if just the Facility is considered. Ms. Robichaud noted that these LCOT figures compared favorably to the benchmark LCOT figures cited by the Public Staff and relied on by the Commission in prior decisions.

On July 25, 2022, the Public Staff filed a Consent Motion for Procedural Order in these dockets and in Docket Nos. EMP-110, Sub 0 and EMP-111, Sub 0, which the Commission is considering CPCN applications for the Related Projects. In its motion, the Public Staff noted that all three projects referenced in its motion: (1) are in the PJM AD1 cluster; (2) trigger the (same) Revised DEP Upgrade; and (3) are owned by or being developed by Geenex, which owns and is developing the Macadamia Solar project. The Public Staff further noted that there was overlap of expert witnesses filing testimony in all three CPCN dockets. For these reasons, the Public Staff moved to hold all three CPCN hearings and the CECPCN hearing on the September 6, 2022. The Public Staff also proposed a schedule for the filing of supplemental direct testimony and reply testimony.

On August 15, 2022, Applicant filed a letter providing an update on developments related to a potential ASOA with DEP pursuant to which DEP would perform the DEP Upgrade. DEP had provided Applicant an executable ASOA that further reduced the cost of the Revised DEP Upgrade from \$350,000 to \$150,000, and placed the in-service date of the DEP Upgrade during 2026 or 2027. Applicant stated that, because an in-service date of 2026 or later would adversely impact the Facility and the Related Projects, Applicant was negotiating an ASOA with DEP that would expedite completion of the DEP Upgrade to 2025. The cost for expediting the work would be approximately \$1.6 million (Expediting Costs). The letter stated that the executable ASOA (which would have to be approved by FERC) did not provide for reimbursement for the Revised DEP Upgrade or the Expediting Costs, and therefore would not result in any costs being imposed on DEP ratepayers. Applicant provided updated LCOT calculations for the Revised DEP Upgrade, together with the Expediting Costs, as follows: \$0.05/MWh if the capacity of the Facility and Related Projects are considered, and \$0.07/MWh if only the Facility is considered.

On August 18, 2022, Macadamia filed a Consent Motion to Excuse Witnesses Amanda Corll and Sami Abdulsalam pursuant to Commission Rule R1-7. Macadamia requested that the Commission excuse Applicant witnesses Amanda Corll and Sami Abdulsalam from the expert witness hearing and requested the Commission to accept their prefiled testimony into the record.

On August 24, 2022, the Commission issued an Order Excusing Witnesses from Expert Witness Hearing granting Macadamia's motion as to witnesses Corll and Abdulsalam.

On August 30, 2022, the Public Staff filed in Docket Sub 0 a Motion for Leave to File Joint Supplemental Testimony and the Joint Supplemental Testimony of Public Staff witnesses Jay B. Lucas and Evan D. Lawrence. Witnesses Lucas and Lawrence testified that if FERC were to reject the ASOA between Macadamia and DEP because it did not provide for reimbursement, then DEP's ratepayers would ultimately pay for the Revised DEP Upgrade and the Expediting Costs. The Public Staff highlighted its concern relative to ratepayers covering the Expediting Costs, since expediting is not necessary for interconnection. The Public Staff recommended the Commission not issue CPCNs for the Facility and the Related Projects (collectively, CPCNs) until FERC decided whether to approve the ASOA, and that the Commission ultimately deny the CPCNs, in the event FERC allowed reimbursement for the Expediting Costs. Alternatively, the Public Staff continued to recommend approval of the CPCNs if Applicant withdrew its request to expedite the DEP Upgrade, subject to certain conditions.

On September 2, 2022, the Commission issued an Order (September 2 Order) accepting the joint supplemental testimony of Public Staff witnesses Lucas and Lawrence into each respective docket. The Commission also directed the Applicants and the Public Staff to produce witnesses at the hearings on September 6, 2022, to provide testimony in each respective docket addressing specific questions that were listed in the Order.

On September 2, 2022, the Public Staff filed a letter in Docket Sub 0 stating that the parties had resolved the Public Staff's concerns raised in the August 30, 2022 joint supplemental testimony of Public Staff witnesses Jay B. Lucas and Evan D. Lawrence. As indicated in the letter, Applicant and the owners of the Related Projects had committed not to seek expedited construction of the DEP Upgrade (and had provided to the Public Staff affidavits attesting to that commitment). In light of that fact, the Public Staff recommended that the Commission approve the Macadamia CPCN and CECPCN Applications (as well as the CPCN Applications for the Related Projects), consistent with the Public Staff's recommendations. The Public Staff further recommended the Commission forego any conditions that might prevent Macadamia and DEP from executing an ASOA providing for reimbursement of the estimated \$150,000 cost of the Revised DEP Upgrade.

On September 6, 2022, the Commission convened the evidentiary hearing for the Dockets in the Commission Hearing Room 2115 at 1:00 p.m., as scheduled (Evidentiary Hearing). The Chair noted that the parties waived cross-examination of each other's witnesses and that the witnesses were being presented solely for the purpose of answering the questions posed by the Commission in its September 2 Order. Because the issues to be addressed by those questions are common among the three CPCN dockets, the Commission found good cause to consolidate the proceedings in the Dockets and Docket Nos. EMP-110, Sub 0 and EMP-111,

Sub 0, solely to receive testimony on the Commission questions. The Commission noted that a copy of the transcript of the consolidated hearing would be placed in all three dockets and that the Commission would issue a subsequent order in each respective docket accepting into the record the testimony and exhibits of the parties' witnesses filed in each docket.

At the Evidentiary Hearing, that Applicant presented witnesses Kara Price, Amanda Mack, and Donna Robichaud; and the Public Staff presented witnesses Jay Lucas and Evan Lawrence, all for the limited purpose of offering testimony addressing the Commission's questions posed in the September 2 Order. In addition, Macadamia solar requested and was granted leave to present additional direct testimony from Donna Robichaud on issues raised in the Commission's September 2 Order.

At the Evidentiary Hearing, Ms. Robichaud testified that Macadamia Solar had sought to expedite the Revised DEP Upgrade because an additional one to two year delay in achieving commercial operation would increase project risk related to site control, zoning approvals, inflation, and changes in marketability. Ms. Robichaud also provided testimony relating to the Applicant's efforts to engage with FERC staff regarding DEP's calculation of Expediting Costs, as well as the potential for approval of an ASOA that would not provide for reimbursement of Affected System costs or Expediting Costs. Ms. Robichaud testified that even if FERC were to accept an ASOA that did not provide for reimbursement of these costs, the approval or acceptance of the ASOA could be significantly delayed solely because FERC could disapprove of or have questions regarding Duke's calculation of Expediting Costs.

Ms. Robichaud further testified that continued uncertainty about the CPCN for the Macadamia Project would make it difficult to obtain funding for significant interconnection obligations due in the fall. Macadamia had withdrawn its request to expedite the Revised DEP Upgrade in order to resolve the Public Staff's concerns about the Expediting Costs, so that the CPCN could (subject to approval by the Commission) be issued in advance of those obligations coming due.

Finally, Ms. Robichaud testified that because the Expediting Costs would no longer be included in the ASOA, Sumac Solar, not Macadamia, would most likely sign the ASOA. Sumac Solar had been assigned responsibility for the DEP Upgrade, but Macadamia Solar (due to its size) was economically better able to bear the increased costs associated with expediting the upgrade. Without Expediting Costs, Sumac is more easily able to absorb the cost of the Revised DEP Upgrade and will most likely execute the ASOA. On September 8, 2022, Public Staff filed a letter with the Commission attaching Public Staff Late-Filed Exhibit No. 1. The exhibit included an e-mail exchange between Public Staff and DEP and various attachments. In the e-mail, DEP's counsel responded to questions posed by the Commission to Public Staff during the Evidentiary Hearing. DEP stated that it had discovered an overload on the Greenville-Everetts 230 kV transmission line (referring to the DEP Upgrade) approximately two years before

DEP first discussed the existence of the overload in its Affected System study report of the PJM AD1 cluster, published during April 2021. DEP further stated that the overload has not yet been presented to the North Carolina Transmission Planning Cooperative (NCTPC) or its Transmission Advisory Group; however, discussion of the DEP Upgrade will be included in the next NCTPC plan, after the related ASOA is approved by FERC.

On September 8, 2022, the Commission issued an Order Accepting Testimony and Requiring Proposed Orders, finding good cause to receive all witnesses' prefiled testimony, exhibits, and affidavits into the record to the extent they had not already been received, and requiring that the parties file proposed orders, or a joint proposed order, on or before 30 days from notice of the transcript of the consolidated hearing held on September 6, 2022, and briefs by the same date.

On September 19, 2022, the transcript of the September 6, 2022 hearing was filed in the Dockets.

On October 17, 2022, DEP filed the final, unexecuted ASOA between Sumac Solar LLC and DEP in docket no. E-100, Sub 170. DEP filed the ASOA with FERC the same day. In Consistent with evidence and testimony previously provided in the above-referenced dockets, the ASOA provides for the construction of the Revised DEP Upgrade at an estimated cost of \$150,000, and does not provide for the upgrade to be expedited. Applicants filed the ASOA in docket no. EMP-119, sub 0, EMP-110, sub 0, and EMP-111, sub 0 on October 19.¹

On October 19, 2022, Applicant and the Public Staff filed proposed orders for the Commission's consideration.

After careful consideration and noting Public Staff's recommendation that a CPCN be issued for the Facility and that CECPCN be issued for the Macadamia Line, the Commission finds good cause to approve these applications and issue the requested CPCN and CECPCN, consistent with the foregoing.

¹ Although the ASOA was filed in docket no. EMP-119, sub 0 after the record was closed, the Commission takes judicial notice of the October 17 filing in docket no. E-100, sub 170.

CPCN for the Facility

The Commission finds that the uncontested evidence demonstrates that there is a need for the Facility in the region, in accord with the provisions of Commission Rule R8-63(b)(3). Supporting this finding is Applicant's verified application and the testimony of Applicant's witness Donna Robichaud, which speaks to the significant need for solar developments to serve wholesale and retail buyers taking electrical service in PJM territory.

The Commission also reviewed this application in light of its mandate under N.C.G.S. § 62-110.1(c) to analyze and plan for the long-range need for generating resources in North Carolina and to evaluate CPCN applications for new generating facilities in North Carolina in light of such analysis and plan. Based upon the evidence of record the Commission finds that due to the Applicant's plans for the sale of energy and capacity from the Facility to an out-of-state customer or, alternatively, into the PJM market, it does not appear that the Facility will have any material impact on the long-range balance of demand for electricity and the generation resources available to meet that demand in North Carolina. In addition, the Commission notes that, based on the evidence of record, the Facility will not affect the projections of load or the identification of needed generating resources set forth in the integrated resource plans for any public utility subject to the Commission's jurisdiction.

Further, consistent with the plain language of N.C.G.S. § 62-110.1(e), the Commission has considered the construction costs associated with the construction of the 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). The Commission evaluated the construction costs for the Facility, including the cost of the generating plant, as well as the Network Upgrade costs on the PJM system and on the DEP system.

Ms. Robichaud's July 13, 2022 testimony indicates that Applicant will be required to fund approximately \$71.5 million in PJM Network Upgrade costs. Ms. Robichaud confirmed this figure during the Evidentiary Hearing. (See Tr. 16:24-17:2.) Ms. Robichaud further testified on December 10, 2021 and on May 25, 2022 that the costs of those upgrades will not be imposed on North Carolina ratepayers. The Public Staff does not dispute or raise any concerns regarding these costs of the Facility. The Commission finds that these costs are reasonable and will not negatively impact ratepayers. With respect to Affected System Upgrades, the Commission concludes that while some Affected System Costs related to the Applicant's project and the Related Projects may ultimately be allocated to North Carolina ratepayers, those costs are reasonable in relation to the amount of generation they will facilitate, and will not unduly burden North Carolina

Ratepayers.² The related evidence is discussed below.

As witness Lucas testified, DEP has concluded that it is necessary to replace the Everetts-Greenville 230 kV line for reliability reasons due to the age of the line. As determined by DEP, the only cost triggered by Macadamia and the Related Projects in the AD1 cluster is the incremental cost of using a higher rated conductor in that line replacement project. Although Sumac Solar ultimately executed the ASOA, the Commission finds it appropriate to discuss those costs here, given that all three Related Projects in the AD1 cluster are reliant on the Revised DEP Upgrade, and that those Projects are all under development by Geenex Solar. The Commission also finds it appropriate, in considering the LCOT of that Upgrade, to consider the output of all three facilities in the AD1 cluster – Macadamia, Sumac, and Sweetleaf Solar – that are reliant on the construction of that upgrade.

In the June 2022 Affected System Study, DEP estimated the cost of the Revised DEP Upgrade to be \$350,000. Based on that estimated cost and the total capacity of the three Related Projects, Ms. Robichaud calculated an LCOT for this upgrade of \$0.010/MWh.³ Although the total incremental cost of the Revised DEP Upgrade is now estimated to be \$150,000, no party provided an LCOT for the Revised System Upgrade based on that cost estimate, but without also including Expediting Costs (which are now off the table).

However, given that LCOT calculations based on this figure would be even lower than the already-low LCOT numbers based on the \$350,000 cost estimate, the Commission concludes that it is reasonable under the circumstances to base its decision on the \$350,000 cost estimate. This also has the benefit of accommodating for the possibility that actual cost of the Revised DEP Upgrade may exceed the current estimate of \$150,000.

The Commission stated in the Friesian Order that it is appropriate to use LCOT as a benchmark as to the reasonableness of the transmission network upgrade costs associated with interconnecting a new generating facility. LCOT allows for a comparison of the relative magnitude of transmission investments required to interconnect generation facilities.

Based on the LCOT calculations for PJM Network Upgrades and Affected System Upgrades in the record and provided by the Applicant in Ms. Robichaud's July 13, 2022 testimony, the Commission determines that the Facility's transmission costs are consistent with and in line with the 2019 Lawrence Berkeley

² In any event, as discussed below Macadamia Solar is unlikely to bear any Affected System Upgrade costs, because Sumac Solar, not Macadamia, has executed the ASOA.

³ As discussed above, neither Macadamia Solar, Sumac Solar, nor Sweetleaf Solar will seek to expedite the upgrade (as evidenced by Ms. Robichaud's hearing testimony, the affidavits provided by representatives of Applicant and the Related Projects, and the final ASOA). Consequently, Expediting Costs need not be considered.

National Laboratory interconnection cost study (LBNL Study), on which the Commission has relied to consider LCOT calculations in perspective with data from other balancing authorities. The Public Staff does not dispute or raise any concerns regarding these costs of the Facility. These facts favor granting Applicant's request for a CPCN for the Facility.

In view of the total cost of the Facility, the Commission concludes that the siting of the Applicant's facility in this area is not inconsistent with the Commission's obligation under N.C. Gen. Stat. § 62-110.1(d) for the provisions of "reliable, efficient and economical service" in the state.

In summary, the Commission finds and concludes that the Facility is for the public convenience and necessity as required by N.C.G.S. § 62-110.1. The Commission concludes due to the siting of the Facility, the Facility is consistent with an orderly expansion of electricity generating capacity in the region, presents no risk of service degradation or any financial impact on North Carolina's electricity generation, transmission and distribution infrastructure and no risk of overbuilding of generation facilities in this region of North Carolina. Further, the Commission is of the opinion that the conditions proposed by the Public Staff are appropriate and should be imposed on the certificate.

CEPCN for the proposed Transmission Line

The Macadamia Line described in the CEPCN application will be used to interconnect the Facility to DENC's transmission grid via the existing 230kV/115kV Trowbridge Substation operated by DENC. The Commission finds the CEPCN for the Macadamia Line meets the requirements of N.C.G.S. § 62-102. Applicant carried its burden of proof under N.C.G.S. § 62-105(a) through substantial, competent evidence showing that:

- a) the proposed transmission line is necessary to satisfy the reasonable needs of the public for an adequate and reliable supply of electricity;
- b) when compared with reasonable alternative courses of action, construction of the transmission line in the proposed location is reasonable, preferred, and in the public interest;
- c) the costs associated with the proposed transmission line are reasonable;
- d) the impact that the proposed transmission line will have on the environment is justified considering the state of available technology, the nature and economics of the alternatives, and other material considerations;
- and e) the environmental compatibility, public convenience and necessity require the construction of the transmission line.

For all the reasons explained in this Order and because it is necessary to connect the Facility to the electric system, and subject to the conditions imposed herein, the construction of the Macadamia Line is in the public interest and justified by the environmental compatibility, public convenience, and necessity as required

by N.C.G.S. § 62-101 et. seq. The Commission notes that the Public Staff recommends approval of the CECPCN.

North Carolina law requires that the summary of a transmission line CECPCN application be published within 10 days of the filing of the application. N.C.G.S. § 62-102(c). Applicant's Affidavits of Publication, filed on October 18, 2021 and October 25, 2021, evidence that the Public Notices were published in accordance with N.C.G.S. § 62-102(c) and the Commission's October 14, 2021 Order Amending Public Notice (scheduling the CPCN public hearing to occur contemporaneously with the previously scheduled CECPCN public hearing). The Commission determines the public enjoyed notice to enable its participation in the proceedings, but the public elected not to participate, presumably, because the public did not object. The Commission also notes testimony of Applicant witness Amanda Corll stating neither the Public Staff nor any other party or person, including landowners, objected to any of the proposed routes for the Macadamia Line.

IT IS, THEREFORE, ORDERED as follows:

1. That a certificate of public convenience and necessity shall be, and is hereby, issued to Applicant for the construction of a 484-MW_{AC} solar photovoltaic generating facility to be located in Washington County, North Carolina, and to be operated as a merchant generating facility. This certificate is subject to the following conditions:

(a) Applicant will construct and operate the generating facility in strict accordance with applicable laws and regulations, including any local zoning and environmental permitting requirements;

(b) The certificate is subject to Commission Rule R8-63 and all orders, rules, regulations and conditions as are now or may hereafter be lawfully made by the Commission;

(c) Applicant shall file with the Commission in this docket a progress report on the construction of the Facility on an annual basis; and

(d) Applicant shall file with the Commission in this docket any revisions in the cost estimates for the construction of the Facility or the construction of any Network Upgrades within 30 days of becoming aware of such revisions.

(e) Applicant shall inform the commission within 30 days if it becomes aware that the estimated or actual costs of the Revised DEP Upgrade will exceed \$350,000.

2. That Appendix A hereto shall constitute the certificate of public convenience and necessity issued for the Facility;

3. That pursuant to N.C.G.S. §§ 62-101, 62-102, and 62-104, a certificate of environmental compatibility and public convenience and necessity to construct approximately 6.53 miles of new 230 kV transmission line in Washington County, North Carolina, as described in Macadamia's application, is hereby issued to Macadamia;

4. The certificate of environmental compatibility and public convenience and necessity shall be subject to Commission Rule R8-63(e) and (f) and all orders, rules, and regulations as are now or may hereafter be lawfully made by the Commission; and

5. That Appendix B hereto shall constitute the certificate of environmental compatibility and public convenience and necessity.

ISSUED BY ORDER OF THE COMMISSION.

This the ____ day of _____ 2022.

NORTH CAROLINA UTILITIES COMMISSION

Erica N. Green, Deputy Clerk

**STATE OF NORTH CAROLINA
UTILITIES COMMISSION
RALEIGH**

DOCKET NO. EMP-119, SUB 0

Macadamia Solar, LLC
7804-C Fairview Rd #257
Charlotte, NC 28226-4945

is hereby issued this

**CERTIFICATE OF PUBLIC CONVENIENCE AND NECESSITY
PURSUANT TO N.C. GEN. STAT. § 62-110.1**

for a 484-MW_{AC} solar photovoltaic electric generating facility

located

on over 4,000 acres of privately-owned, adjacent and non-adjacent parcels,
about five miles south of the town of Plymouth, North Carolina in Washington
County

subject to all orders, rules, regulations and conditions as are now or may
hereafter be lawfully made by the North Carolina Utilities Commission.

ISSUED BY ORDER OF THE COMMISSION.

This the ____ day of _____ 2022.

NORTH CAROLINA UTILITIES COMMISSION

Erica N. Green, Deputy Clerk

**STATE OF NORTH CAROLINA
UTILITIES COMMISSION
RALEIGH**

DOCKET NO. EMP-119, SUB 1

Know All People by These Presents, That

Macadamia Solar, LLC

is hereby issued this

**CERTIFICATE OF ENVIRONMENTAL COMPATIBILITY AND PUBLIC
CONVENIENCE AND NECESSITY PURSUANT TO N.C. GEN. STAT. § 62-102**

to construct a new 6.53-mile 230 kV transmission line to connect

Macadamia Solar, LLC's 484-MW_{AC} solar photovoltaic electric generating facility
(located about five miles south of the town of Plymouth, North Carolina in
Washington County) to the existing 230kV/115kV Trowbridge Substation owned
and operated by Virginia Electric and Power Company, d/b/a Dominion Energy
North Carolina

subject to all orders, rules, regulations and conditions as are now or may
hereafter be lawfully made by the North Carolina Utilities Commission.

ISSUED BY ORDER OF THE COMMISSION.

This the ____ day of _____ 2022.

NORTH CAROLINA UTILITIES COMMISSION

Erica N. Green, Deputy Clerk