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VIA ELECTRONIC FILING

Kimberley Campbell
Chief Clerk
North Carolina Utilities Commission
430 North Salisbury Street
Raleigh, N.C. 27603

Re: **Docket No. EMP-114, Sub 0**

Pre-filed Rebuttal Testimony of Frank Bristol in Support of Oak Trail Solar, LLC's Application for a Certificate of Public Convenience and Necessity for a Merchant Plant

Dear Clerk Campbell:

Enclosed for filing is the pre-filed rebuttal testimony of Frank Bristol incorporating and supporting Oak Trail Solar, LLC's Application for a Certificate of Public Convenience and Necessity for a Merchant Plant and Rebuttal Exhibits A, B, and C in the above-referenced docket.

Thank you for your assistance. Please contact me if you have any questions.

Sincerely,

/s/ E. Merrick Parrott

Enclosures

cc: Parties of Record

PPAB 6284358v1.doc

49 **Q. ARE THE PJM NETWORK UPGRADES FOR THE OAK TRAIL**
50 **FACILITY KNOWN?**

51 A. Yes. The System Impact and Facilities Studies for AD2-160 and
52 AE2-253¹ identified no network upgrades other than those related to building and
53 integrating the new Point of Interconnection (“POI”) substation and no Affected
54 System Upgrades on the DEP System.

55 **Q. ARE THE FINAL PJM NETWORK UPGRADE COSTS**
56 **IDENTIFIED FOR THE FACILITY?**

57 A. Yes. Oak Trail is a party to the fully executed Interconnection
58 Service Agreement (“ISA”) among PJM Interconnection, LLC (“PJM”), Oak Trail,
59 and Virginia Electric and Power Company (“Dominion”) dated March 3, 2021.²
60 **Bristol Rebuttal Exhibit A.** As shown in the ISA, Oak Trail is responsible for
61 \$10,002,252 in interconnection costs, comprised of Attachment Facilities, Direct
62 Connection Network Upgrades and Non-Direct Connection Network Upgrades
63 (“PJM Interconnection Costs”). All of these charges are related to building and
64 integrating the POI substation and will be borne by the Oak Trail, not ratepayers.

65 **Q. ARE THE PJM INTERCONNECTION COSTS IDENTIFIED IN THE**
66 **ISA SUBJECT TO MODIFICATION?**

67 A. No. These are the final PJM Interconnection costs for the Facility
68 as outlined in the ISA.

¹ Oak Trail provided the System Impact Studies for both its AD2 and AE2 queue positions on September 17, 2020 as *Confidential* Application Addenda 5 and 6, and provided the Facilities Study Report on February 22, 2021 as *Confidential* Supplemental Application Addendum 1.

² This FERC-jurisdictional ISA was filed with FERC in docket ER21-1578-000 on April 1, 2021. The deadline for comments and interventions was April 22, 2021, and there were no comments or interventions in the docket.

69 **Q. IF GENERATORS FROM PREVIOUS PJM CLUSTERS DO NOT**
70 **COME TO FRUITION, CAN THOSE PLANNED UPGRADES BE PUSHED TO**
71 **OAK TRAIL?**

72 A. No. If any of the planned upgrades assigned to earlier queued
73 generators in the PJM queue were considered contingent to Oak Trail, they
74 would have been identified as a contingent upgrade in Section 3(d) of the ISA.
75 No such contingent upgrades related to earlier queued projects were identified in
76 the ISA.

77 **Q. WILL THE PJM INTERCONNECTION COSTS BE SUBJECT TO**
78 **REIMBURSEMENT?**

79 A. No. Per the ISA, Oak Trail is responsible for the PJM
80 Interconnection Costs and per PJM's Open Access Transmission Tariff
81 ("OATT")³, the PJM Interconnection Costs identified in the Oak Trail ISA are not
82 subject to reimbursement. As previously stated on page 3 of the prefiled
83 supplemental testimony of Matt Crook filed on February 22, 2021 in this docket,
84 the "entire cost of the network upgrades will be borne by [Oak Trail] and not
85 reimbursed."

86 **Q. DOES THE ISA ALTER THE FACILITY'S LCOT PREVIOUSLY**
87 **IDENTIFIED IN THIS DOCKET?**

88 A. No. The PJM Interconnection Costs identified in the ISA are
89 identical to the costs identified in the Facilities Study Report provided as
90 ***Confidential*** Supplemental Application Addendum 1 on February 22, 2021. As
91 such, the Facility's LCOT of \$1.94 described in previous docket filings has

92 remained consistent throughout Oak Trail's CPCN application filings. Public Staff
93 stated that it did not disagree with the LCOT calculation "but, because of the
94 tentative nature of projects in the queue, costs can be shifted from one cluster to
95 another." However, as discussed above, the parties have executed the ISA and
96 therefore these costs are final and not subject to modification, so the LCOT will
97 not change for the Facility.

98 **DEP Affected Systems Costs**

99 **Q. DO YOU AGREE WITH PUBLIC STAFF'S STATEMENTS THAT**
100 **OAK TRAIL'S AFFECTED SYSTEMS COSTS ARE SUBJECT TO CHANGE?**

101 A. No. Public Staff witness Lawrence states the following in his
102 testimony:

103 The Applicant is not aware of any impacts to affected
104 systems at this time. The completed interconnection studies
105 also do not reflect the need for affected system studies or
106 upgrades. However, Duke Energy Progress, LLC (DEP),
107 has recently completed an affected system study for the AC1
108 PJM interconnection cluster. The Facility is part of PJM's
109 AD2 and AE2 interconnection clusters. If any network
110 upgrades for four to six other clusters (AB2, AC1, AC2, AD1,
111 AD2, and AE1) are necessary or need alteration, they may
112 need to be completed before the Facility can begin full
113 operation. If generator projects from these previous clusters
114 do not come to fruition, the planned upgrades could be
115 pushed to later clusters. If projects from these previous
116 clusters do come to fruition, additional upgrades may be
117 needed for AD2 and AE2 that cannot be studied until there is
118 more certainty regarding the size and placement of the
119 interconnected generators.

120 Public Staff witness Lawrence states that Oak Trail was not aware of any
121 impacts to affected systems "at this time," but this is not accurate. Oak Trail is
122 aware of impacts to affected systems assigned to the Facility, and it has been

³ The PJM OATT can be found here: <https://agreements.pjm.com/oatt/3897>

123 determined that there are no, i.e. \$0, affected systems impacts assigned to the
124 Facility.

125 As part of the CPCN application filed on September 17, 2020, Oak Trail
126 provided the PJM System Impact Studies for both its AD2 and AE2 queue
127 positions as ***Confidential*** Application Addenda 5 and 6. Both studies included a
128 section related to affected systems, and both reported that no impacts to DEP
129 were identified.⁴

130 In addition, Affected Systems Costs, if any, would be identified in the ISA,
131 but there are none for Oak Trail.⁵

132 **Q. ARE ANY OF THE DEP AFFECTED SYSTEMS STUDIES**
133 **AVAILABLE FOR THE PJM CLUSTERS LISTED BY PUBLIC STAFF**
134 **WITNESS LAWRENCE?**

⁴ As a contrast, in the June, 2019 PJM System Impact Study for AD2-033 (which is a queue position identified in DEP’s AD2 affected system study), the Affected Systems section states: “Enter into an Affected System Facilities Study agreement with Duke / Progress Energy (DEP) to determine how to mitigate the Line #45 GW King Tap – Kerr Dam 115 kV overload. The upgrade will likely be a complete reconductor, probably replacing some structures. The estimated cost is \$40 million and is anticipated to require 48 months to complete.” If affected systems impacts for Oak Trail had been identified, similar language would have appeared in Oak Trail’s System Impact Studies. The AD2-033 SIS can be found here: ftp://ftp.pjm.com/planning/project-queues/impact_studies/ae2033_imp.pdf

⁵ As a contrast, in the April 2, 2020 Interconnection Service Agreement among PJM, Alton Post Office Solar, LLC (“Alton”), and Dominion filed in FERC docket no. ER20-2348-000, Schedule F identifies “Required Affected System Upgrades and states: “In order to maintain system reliability, the Customer Facility under this ISA cannot come in service prior to the completion of the Duke Energy Progress upgrade system protection at the Person substation to accommodate the new AC1-221 substation. The work at Person substation is not part of the scope of the Facility Study for this AC1-221/AD1-058 Interconnection Request and the costs for that work are not represented in this Agreement. This work will occur under a separate agreement between Duke Energy Progress and the Interconnection Customer.” The Alton ISA can be found here: https://elibrary.ferc.gov/eLibrary/filelist?document_id=14875643&accessionnumber=20200708-5123

135 A. Yes. On the DEP OASIS website, Generator Interconnection
136 Affected System Study Reports for the following PJM clusters have been
137 published: (1) AB2, dated December 22, 2016; (2) AC1, dated May 6, 2020; (3)
138 AD1, dated April 5, 2021; and (4) AD2, dated April 5, 2021.⁶

139 **Q. IS OAK TRAIL PART OF ANY OF THESE PJM CLUSTERS?**

140 A. Yes. As referenced by Public Staff witness Lawrence, Oak Trail is
141 part of PJM's AD2 and AE2 interconnection clusters. As such, if Oak Trail's AD2
142 queue position caused any affected systems impact on DEP's system, the April
143 5, 2021 DEP Generator Interconnection Affected System Study Report for PJM
144 Interconnection Cluster AD2 ("AD2 DEP Affected System Study Report") would
145 identify Oak Trail in the report. The AD2 DEP Affected System Study Report is
146 provided as **Bristol Rebuttal Exhibit B**.

147 **Q. DOES THE AD2 DEP AFFECTED SYSTEM STUDY REPORT**
148 **IDENTIFY OAK TRAIL AS HAVING AN IMPACT ON DEP'S SYSTEM?**

149 A. No. The AD2 DEP Affected System Study Report states: "Cluster
150 AD2 includes generation throughout the PJM interconnection, but only those with
151 an impact on the DEP system were included in this study." The only four AD2
152 queue positions identified were AD2-033, AD2-046, AD2-051, and AD2-063⁷.
153 Oak Trail's queue position (AD2-160) was not included in the study, confirming
154 that it does not have an impact on the DEP system.

⁶ Oak Trail notes that the front page of the AD2 report references April 5, 2020, but the footers of the rest of the report reference April 5, 2021. According to the OASIS website timestamp, the report was uploaded on April 20, 2021, the same date that the April 5, 2021 AD1 report was uploaded. As such, Oak Trail believes the 2020 date on the first page is a clerical error and that the report is dated April 5, 2021.

⁷ Unlike Oak Trail, none of these four AD2 queue positions have progressed in the PJM study process past the System Impact Study phase, despite having a higher queue priority.

155 **Q. HAS DEP PUBLISHED A GENERATOR INTERCONNECTION**
156 **AFFECTED SYSTEM STUDY REPORT FOR THE AE2 PJM CLUSTER?**

157 A. DEP’s affected system study report for the AE2 PJM cluster has not
158 yet been published on DEP’s OASIS website, but PJM’s Oak Trail System
159 Impact Studies indicate that there are no Affected System Upgrades assigned to
160 Oak Trail and Oak Trail’s fully executed ISA has no Affected System Upgrades.

161 **Q. DOES THE PJM OATT ADDRESS REQUIRED COORDINATION**
162 **BETWEEN PJM AND AFFECTED SYSTEMS?**

163 A. Yes. PJM’s OATT requires PJM to coordinate with any identified
164 affected systems operators during the study phase and include the results, if
165 available, in the system impact study or the facilities study. PJM OATT § 202.
166 On April 28, 2021, PJM confirmed that “DEP reviewed the two queue positions
167 for [Oak Trail] during the study process and determined there were no impacts to
168 their system. No further DEP study is required.” **Bristol Rebuttal Exhibit C.** In
169 addition, as discussed above, no affected systems were identified in any of Oak
170 Trail’s interconnection studies and Oak Trail has a fully executed ISA with no
171 Affected System Upgrades identified.

172 **Q. ARE YOU FAMILIAR WITH THE NCUC DOCKET E-100, SUB 170**
173 **PROCEEDING THAT PUBLIC STAFF WITNESS LAWRENCE REFERENCED**
174 **IN HIS TESTIMONY?**

175 A. I am generally familiar with the E-100 Sub 170 docket (“Sub 170
176 Docket”).

177 **Q. IS THERE INFORMATION IN THE SUB 170 DOCKET THAT**
178 **SUPPORTS THAT OAK TRAIL DOES NOT IMPACT DEP’S TRANSMISSION**
179 **SYSTEM OR DEP’S CUSTOMERS?**

180 A. Yes. On page 3 of DEP’s comments regarding the affected system
181 study process and cost allocation filed in the Sub 170 Docket on October 7,
182 2020, DEP stated that:

183 Historically, interconnection customers that were assigned
184 affected system network upgrades in DEP/DEC/DEF were
185 reimbursed after the applicable projects achieved
186 commercial operation pursuant to the terms of the affected
187 system operating agreement. However, DEP and DEC
188 (along with Duke Energy Florida, LLC) implemented a
189 change to its standard affected system operating agreement
190 effective October 1, 2020 that eliminated the reimbursement.

191 On page 8 of Public Staff witness Lawrence’s testimony, Mr. Lawrence
192 references this reimbursement elimination and states “The Public Staff agrees
193 with this change. . . . In short, if there are no cost impacts to the customers of
194 electric public utilities, the Public Staff takes no issue with the application.” As
195 detailed above, there are no affected systems costs assigned to Oak Trail. As
196 the advocate for the using and consuming public, DEP’s reimbursement
197 elimination should be sufficient to alleviate Public Staff’s concern that there would
198 be cost impacts to customers such that the Public Staff should “take no issue
199 with the application.”

200 In addition, the location of the Facility explains why there are no affected
201 system impacts to DEP’s transmission system. On page 3 of DEP’s reply
202 comments filed in the Sub 170 Docket on December 16, 2020, DEP states:

203 Finally, it is important to note that the affected system study
204 process [. . .] only impacts a relatively small slice of

205 interconnection customers that are seeking to interconnect
206 near the “seam” between the transmission assets of two
207 separate transmission owners. Thus, for instance, as it
208 relates to Scenario #2—“Other Transmission Owner as the
209 Affected System,” very few of the thousands of
210 interconnection customers that have sought or are seeking
211 interconnection to Duke’s system are impacted by affected
212 system issues.

213 The Facility is located in Currituck County, which is the furthest northeast
214 county in North Carolina. As such, the Facility is a great distance away from
215 DEP’s system and, thus, nowhere near the “seam” between the transmission
216 assets of two separate transmission owners.

217 **Proposed Alternate Conditions on the CPCN**

218 **Q. DOES OAK TRAIL HAVE CONCERNS ABOUT THE**
219 **RECOMMENDED CONDITIONS LISTED IN PUBLIC STAFF WITNESS**
220 **LAWRENCE’S TESTIMONY?**

221 A. Yes. Oak Trail is a late-stage project with a fully executed ISA and
222 a fully executed PPA⁸, and it has various upcoming contractual deadlines it must
223 meet. As outlined above, the interconnection costs, including network upgrade
224 and affected systems costs, have been studied and are final. Oak Trail is
225 concerned that Public Staff’s recommended conditions are not narrowly tailored
226 to Oak Trail because they suggest that these costs are not final. As a result, the
227 recommended conditions could cause confusion and delay the ability of Oak Trail
228 to obtain financing partners. Such delays would cause significant financial
229 impacts to Oak Trail.

⁸ Oak Trail provided the fully executed PPA on February 22, 2021 as *Confidential* Supplemental Application Addendum 3.

230 **Q. ARE THERE DIFFERENT CONDITIONS THAT OAK TRAIL**
231 **WOULD CONSENT TO THE COMMISSION ATTACHING TO THE CPCN?**

232 A. Yes. Oak Trail is in a substantially similar position to the position
233 Camden Solar LLC (“Camden”) was in when the Commission issued Camden’s
234 CPCN on September 14, 2020 in docket EMP-109 Sub 0.⁹ Oak Trail believes
235 the conditions placed on the Camden CPCN are more appropriate given the
236 factual similarities between the projects and would consent to the four conditions
237 attached to Camden CPCN. For convenience, Oak Trail’s proposed conditions
238 to its CPCN are as follows:

239 (a) Oak Trail Solar, LLC will construct and operate the
240 Facility in strict accordance with applicable laws and
241 regulations, including any local zoning and environmental
242 permitting requirements;

243 (b) Oak Trail Solar, LLC will not assert that the issuance
244 of the certificate in any way constitutes authority to exercise
245 any power of eminent domain, and it will abstain from
246 attempting to exercise such power;

247 (c) Oak Trail Solar, LLC will comply with all orders, rules,
248 regulations and conditions as are now or may hereafter be
249 lawfully made by the Commission; and

250 (d) Oak Trail Solar, LLC shall file with the Commission in
251 this docket any revisions in the cost estimates for the

⁹ For example, Camden also had a fully executed ISA, a fully executed Renewable Energy Purchase Agreement, and did not have any affected systems costs assigned to its facility.

252 interconnection facilities, network upgrades (including
253 network upgrades on affected systems), or any other
254 significant change in costs within 30 days of becoming
255 aware of such revisions.^{10 11}

256 **Q. DOES THIS CONCLUDE YOUR TESTIMONY?**

257 **A. Yes.**

¹⁰ Oak Trail notes that condition (d) has been revised from the Camden precedent to remove the obligation to file revisions in the cost estimates for the “construction of the Facility.” This language is broad and could be read to require Oak Trail to notify the Commission any time construction costs change at all, and construction costs for any development change frequently. In addition, Rule R8-63(f) requires merchant plant applicants to “submit annual progress reports and any revisions in cost estimates, as required by G.S. 62-110.1(f) until construction is completed.” As such, that rule already obligates Oak Trail to file annual updates to cost estimates for the construction of the Facility and more frequent updates are unnecessarily burdensome. In addition, in settlement discussions between Oak Trail and the Public Staff, the Public Staff agreed to removal of “construction of the Facility” from the similar recommended condition in Public Staff witness Lawrence’s testimony.

¹¹ As stated throughout this testimony, the interconnection and affected system costs for Oak Trail are final. However, in an effort to bridge the gap with the Public Staff’s recommended conditions, Oak Trail consents to this condition which is substantially similar to recommended condition (iii) listed in Public Staff witness Lawrence’s testimony.