

STATE OF NORTH CAROLINA  
UTILITIES COMMISSION  
RALEIGH

DOCKET NO. EMP-105, SUB 0

BEFORE THE NORTH CAROLINA UTILITIES COMMISSION

In the Matter of  
Application of Friesian Holdings, LLC for a ) POST-HEARING BRIEF  
Certificate of Convenience and ) OF FRIESIAN HOLDINGS, LLC  
Necessity to Construct a 70-MW Solar )  
Facility in Scotland County, North Carolina )

FRIESIAN HOLDINGS, LLC'S POST-HEARING BRIEF

TABLE OF CONTENTS

I. Introduction .....3  
II. Procedural Background .....5  
    A. Previous issuance of CPCN to Friesian in SP-8746, Sub O in 2016 .....5  
    B. Motion to amend Friesian's CPCN to change the site layout .....6  
    C. Friesian's current CPCN application filed pursuant to Rule R8-63  
        in Docket No. EMP-105, Sub 0 .....7  
III. Argument: Friesian is Entitled to Issuance of the CPCN .....11  
    A. The Friesian CPCN application meets all requirements of  
        Commission Rule R8-63 .....12  
    B. The Facility meets the necessity prong of N.C. Gen. Stat. § 62-110.1 ....18  
        1. Purchase Power Agreement between Friesian and NCEMC .....18  
        2. Viability of the Facility .....19  
        3. Commission orders and precedent regarding element of need .... 20  
            a. Rule R8-63 was specifically adopted to eliminate  
                the requirement that an executed PPA is needed  
                in order for a merchant pant to demonstrate need.....22  
            b. The Commission and the Public Staff have  
                consistently found that an executed PPA is

	sufficient to establish the need for a merchant plant facility .....	23
C.	The Facility meets the public convenience prong of the public convenience and necessity requirement of N.C. Gen. Stat. § 62-110.1 .....	24
1.	Duke believes that there will be significant benefits if the Network Upgrades are constructed .....	28
2.	The Network Upgrades are required in order for any new generation resources to be constructed in southeastern North Carolina .....	31
3.	The Network Upgrades are necessary to achieve Duke’s and the Governor’s carbon reduction goals .....	39
4.	The addition of significant solar and solar plus storage resources made possible by the Network Upgrades will result in savings for ratepayers that far exceed their share of the Network Upgrade Costs .....	42
5.	The benefits of the Friesian Upgrades are not “speculative” .....	44
6.	Construction of the Friesian Upgrades should not be deferred .....	45
IV.	Conclusion .....	47

NOW COMES Friesian Holdings, LLC (“Friesian” or the “Applicant”), by and through the undersigned attorneys, and submits this Post-Hearing Brief to the North Carolina Utilities Commission (“Commission”) in the above-captioned docket. This Post-Hearing Brief will demonstrate that Friesian has met all requirements of N.C. Gen. Stat. § 62-110.1 and Commission Rule R8-63, including establishing that construction of the Friesian 70-MWAC solar photovoltaic (“PV”) electric generation facility (“Facility”) and associated upgrades to the Duke Energy Progress (“DEP”) transmission system (“Network Upgrades”) serves the public convenience and necessity. Friesian has presented substantial evidence of the need for the Facility and of the numerous important public benefits to the State of North Carolina and to ratepayers that will be provided by the Facility and the Network Upgrades. Friesian therefore submits that it is entitled to the issuance of the requested certificate of public convenience and necessity (“CPCN”) for the Facility and requests that the Commission issue the CPCN no later than March 10, 2020.<sup>1</sup>

## **I. INTRODUCTION**

Although this case nominally concerns a CPCN for a single merchant power plant, what is actually at stake in this proceeding is North Carolina’s energy future. Recognizing the importance of the state participating aggressively in global efforts to combat climate change – arguably the most urgent problem of our time, and one that threatens our state with untold billions of dollars of potential damage – Governor Cooper has called for 70% decarbonization of

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<sup>1</sup> Pursuant to the interconnection payments that Friesian is required to make per Appendix B of the Large Generator Interconnection Agreement (the “LGIA”), the next payment date is within ten business days of DEP’s delivery of the Class III estimate, which means that payment in the amount of \$45,501,400 is due on April 1, 2020. The significance of Friesian’s request that the Commission issue a decision by March 10, 2020 is that \$11 million in postings have been made to date. DEP has ordered equipment for the Friesian Network Upgrades, and the date that the equipment orders will “go hard” and Friesian will start incurring hefty cancellation penalties is March 10, 2020. Therefore, Friesian submits that there is urgency to receiving a decision from the Commission, and respectfully requests that a decision be issued by March 10, 2020.

the state's electricity sector by 2030. Similarly, Duke Energy ("Duke") has committed to 50% decarbonization by 2030 and is considering more aggressive scenarios. The evidence in this case is uncontroverted (1) that these goals cannot be achieved without major additions of renewable resources (the majority of which will be solar) to Duke's portfolio; (2) that the addition of solar (or any other) generation resources in fifteen counties in southeastern North Carolina is not possible without the Network Upgrades; (3) that these counties are the best portion of the state for solar development and that the necessary solar additions are therefore not likely to be possible without the Network Upgrades;<sup>2</sup> (4) that in addition to the decarbonization benefits that will result from the solar development enabled by the Network Upgrades, North Carolina ratepayers and citizens will realize billions of dollars of cost savings and health benefits from a solar-plus-storage energy future; and (5) that if construction of the Network Upgrades is not pursued now, their costs will increase substantially, and necessary solar additions will be delayed for many years.

The Public Staff, which undertook no independent analysis of the benefits of the Network Upgrades,<sup>3</sup> put on no evidence to contradict any of foregoing facts established by Friesian through qualified experts and Duke's supporting comments. Rather, it urges the Commission to deny the Friesian CPCN solely because it asserts, without consideration of the benefits, that the cost of the Network Upgrades that will ultimately be borne by North Carolina retail customers is

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<sup>2</sup> There is no evidence in the record of the possibility of an alternative solar development scenario that does not require the Network Upgrades, or network upgrades of equal or greater cost.

<sup>3</sup> The Public Staff's refusal to consider the public benefits of the Friesian Facility is contrary to the Public Staff's stated position that it must consider and determine the benefits of a project to the using and consuming public. Public Staff Witness Jay Lucas testified in the Interconnection Docket that the Public Staff "must also determine the benefits to the Using and Consuming Public." T. Vol. 4, pp. 39-40. That has not happened here.

too high.<sup>4</sup> The Public Staff would have the Commission kill construction of the Network Upgrades now, in the unsubstantiated hope that the state's energy future can somehow be realized at lower cost. This is a risky bet given the lack of evidence of alternatives and the likelihood that delaying the Network Upgrades will not only significantly reduce the state's ability to achieve a key energy policy goal but will impose tens if not hundreds of millions of dollars of increased costs on ratepayers (both from the increased cost of the Network Upgrades and from the deferred benefit of additional solar deployment). It is a gamble with North Carolina's future that this Commission should not make. Friesian has met the applicable statutory and regulatory requirements and requests that the Commission approve its CPCN application.

## **II. PROCEDURAL BACKGROUND**

### **A. Previous issuance of CPCN to Friesian in SP-8467, Sub 0 in 2016**

On September 9, 2016, Friesian filed an application pursuant to N.C. Gen. Stat. § 62-110.1 and Commission Rule R8-64 for a CPCN for construction of a 75-MWAC solar photovoltaic electric generation facility to be located on Leisure Road near Academy Road, Laurinburg, Scotland County, North Carolina.<sup>5</sup>

On September 16, 2016, the Commission issued an Order requiring publication of notice.

On October 10, 2016, Friesian filed an affidavit of publication from The Laurinburg Exchange stating that publication of notice was completed on October 8, 2016. The Commission

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<sup>4</sup> The cost of the Network Upgrades is estimated to be \$223 million. Under the DEP's Open Access Transmission Tariff ("OATT"), 60% of the costs, or approximately \$135 million, would be recovered from DEP North Carolina retail customers. T. Vol. 2, p. 98; Vol. 3, p. 122.

<sup>5</sup> See Application for Certificate of Public Convenience and Necessity, filed on September 9, 2016 in Docket No. SP-8467, Sub 0.

thereafter reported that no complaints about the application had been made to the Commission.<sup>6</sup> On November 1, 2016, the State Clearinghouse filed comments and indicated that no further State Clearinghouse review action was required for compliance with the North Carolina Environmental Policy Act.<sup>7</sup>

On November 7, 2016, the Commission issued the CPCN to Friesian for the 75-MWAC facility.<sup>8</sup>

**B. Motion to amend Friesian's CPCN to change the site layout**

Thereafter, on August 2, 2018, Friesian filed a motion to amend its CPCN in order to change the layout of the site due to an amendment to the City of Laurinburg's ordinance that prohibits the construction of new solar arrays within one mile of an existing or previously permitted solar array within the City's corporate limits or extraterritorial jurisdiction. Friesian stated that because the planned location of the facility is within the extraterritorial limits of the City of Laurinburg, and within one mile of an existing solar facility, the amended ordinance prohibits Laurinburg from issuing the required zoning permit to Friesian. In order to comply with Laurinburg's amended ordinance, Friesian proposed shifting the footprint of the facility slightly to the west, and adding two new parcels of land to the facility site.<sup>9</sup>

On September 7, 2018, the Public Staff filed a response to Friesian's motion to amend its CPCN. The Public Staff stated that publication of notice of the amendment was not required,

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<sup>6</sup> *Order Issuing Certificate and Accepting Registration of New Renewable Energy Facility*, issued on November 7, 2016 in Docket No. SP-8467, Sub 0.

<sup>7</sup> *Id.*

<sup>8</sup> *See Order Issuing Certificate and Accepting Registration of New Renewable Facility*, issued on November 7, 2016 in Docket No. SP-8467, Sub 0.

<sup>9</sup> Friesian's Motion to Amend CPCN Application, filed on August 2, 2018 in Docket No. SP-8467, Sub 0.

recommended resubmission of the application to the State Clearinghouse, and requested that Friesian file a revised site plan.

On September 11, 2018, the Commission issued an Amended Order requiring publication of notice, filing of revised site plan, and further review by the State Clearinghouse.

On May 15, 2019, in Docket No. SP-8467, Sub 0 (and in Docket No. EMP-105, Sub 0), Friesian filed a statement requesting that it be allowed to withdraw the CPCN amendment application in Docket No. SP-8467, Sub 0.<sup>10</sup> Friesian also requested that the Commission consider the new application for a CPCN filed in Docket No. EMP-105, Sub 0 as a merchant plant application pursuant to Commission Rule R8-63.

On June 14, 2019, the Commission allowed Friesian's request to withdraw its motion to amend its CPCN and canceled the CPCN and closed Docket No. SP-8467, Sub 0.

**C. Friesian's current CPCN application filed pursuant to Rule R8-63 in Docket No. EMP-105, Sub 0**

On May 15, 2019, Friesian filed an application pursuant to N.C. Gen. Stat. § 62-110.1 and Commission Rule R8-63 for a CPCN to construct a 70-MWAC solar photovoltaic (PV) electric generating facility located in Scotland County, North Carolina (the "Application" or "CPCN Application").

On May 31, 2019, the Public Staff filed a Notice of Completeness stating that the

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<sup>10</sup> When Friesian filed its initial CPCN application on May 15, 2016, Friesian proposed to sell the facility's output to DEP pursuant to the mandatory purchase obligation under the Public Utility Regulatory Policies Act of 1978 ("PURPA") and to interconnect to DEP's system pursuant to the North Carolina interconnection process for PURPA sales. Thereafter, however, Friesian transitioned the facility from the state-jurisdictional interconnection process (see *Order Approving Revised Interconnection Standard* issued on May 15, 2015 in Docket No. E-100, Sub 101) to a FERC-jurisdictional interconnection process so that it could sell its output exclusively at wholesale to the North Carolina Electric Membership Corporation, Inc. ("NCEMC"), as discussed herein. Therefore, when the motion to amend the CPCN was filed on August 2, 2018, the motion was mistakenly filed pursuant to Rule R8-64 in Docket No. SP-8467, Sub 0, rather than as a merchant plant application under Rule R8-63. When the mistake was brought to the attention of Friesian, Friesian requested permission from the Commission to withdraw the motion to amend the CPCN and file a new CPCN application pursuant to Rule R8-63 in Docket No. EMP-105, Sub 0.

Public Staff had reviewed the 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. Gen. Stat. § 62-82, and addressing other procedural matters.

On June 13, 2019, the Commission issued an Order that, among other things, scheduled hearings in this proceeding, established a procedural schedule for the filing of petitions to intervene and of testimony, and directed Friesian to publish notice of the public hearing once a week for four consecutive weeks, beginning at least 30 days prior to July 26, 2019.

On June 21, 2019, the North Carolina Electric Membership Corporation (“NCEMC”) filed a petition to intervene in the docket, which was granted pursuant to Commission Order on July 2, 2019.

On July 18, 2019, NCEMC filed Initial Comments. In its Initial Comments, NCEMC stated:

As a [generation and transmission] cooperative, NCEMC continuously strives to supply power to its members that is affordable, reliable, and safe. Beginning a decade ago, NCEMC also began assisting its members with their compliance obligations under the North Carolina Renewable Energy and Energy Efficiency Portfolio Standard (“REPS”). This assistance frequently took the form of purchasing renewable energy certificates from utility-scale solar facilities. More recently, NCEMC developed and began to pursue strategic business objectives under an initiative it christened “*A Brighter Energy Future*” (“BEF”), which entails supplying power that is not only affordable, reliable, and safe, but also increasingly low carbon . . . . Once constructed, the [Friesian] Project – specifically, the parties’ execution of the Project PPA – will simultaneously advance NCEMC’s pursuit of BEF and further its ability to achieve REPS compliance. *For the foregoing reasons, NCEMC supports issuance of a CPCN for the Project.*<sup>11</sup>

On July 23, 2019, Duke Energy Progress, LLC (“DEP”) filed a petition to intervene, which was granted pursuant to Commission Order dated August 2, 2019.

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<sup>11</sup> See *Initial Comments* filed by NCEMC on July 18, 2019 in Docket No. EMP-105, Sub 0 (emphasis added).

On July 29, 2019, the North Carolina Sustainable Energy Association (“NCSEA”) filed a petition to intervene, which was granted by the Commission on August 20, 2019.

On August 1, 2019 (about one year after the Public Staff first became aware of Friesian’s request to amend its CPCN), the Public Staff filed a Motion for the Establishment of Due Dates for Pre-Hearing Briefs and Suspension of Evidentiary Hearing. The Public Staff stated that it has identified the following issues that are legal in nature that should be addressed in pre-hearing briefs:

1. The appropriate standard of review for the Commission to apply in determining the public convenience and necessity for a certificate to construct a merchant generating facility pursuant to N.C. Gen. Stat. § 62-110.1 and Commission Rule R8-63;
2. Whether the Commission has authority under state and federal law to consider as part of its review of the CPCN application the costs associated with transmission network upgrades and interconnection facilities necessary to accommodate the [Federal Energy Regulatory Commission (“FERC”)]-jurisdictional interconnection of the merchant generating facility, and the resulting impact of those network costs on retail rates in North Carolina; and
3. Whether the allocation of costs associated with interconnecting the Facility and any resulting additional capacity made available that is then utilized by State-jurisdictional interconnection projects is consistent with the Commission’s guidance in its June 14, 2019 *Order Approving Revised Interconnection Standard and Requiring Reports and Testimony* in which the Commission directed the utilities as follows: “to the greatest extent possible, to continue to seek to recover from Interconnection Customers all expenses ... associated with supporting the generator interconnection process under the NC Interconnections Standard.”<sup>12</sup>

Also in the motion, the Public Staff requested that the Commission suspend the evidentiary hearing and allow Friesian and the other parties to file pre-hearing briefs and reply briefs.

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<sup>12</sup> Friesian notes that the question of whether State-jurisdictional facilities should be allowed to benefit from Network Upgrades whose costs, pursuant to federal law, have been borne in part by North Carolina retail customers is a separate policy question for this Commission (or the General Assembly) that has nothing to do with the merits of Friesian’s CPCN application.

On August 5, 2019, the North Carolina Clean Energy Business Alliance (“NCCEBA”) filed a petition to intervene, which was granted by the Commission on August 16, 2019.

On August 5, 2019, the Commission issued an Order that suspended the procedural schedule previously established in this proceeding and allowed the filing of pre-hearing briefs and reply briefs.

On August 6, 2019, the Commission issued an Order cancelling the public hearing because the Commission had not received any written complaints regarding the Application.

On August 26, 2019, Friesian, DEP, the Public Staff, and NCCEBA filed briefs. Thereafter, on September 9, 2019, Friesian, DEP, the Public Staff, NCCEBA, and NCSEA filed reply briefs.

On October 3, 2019, the Commission issued an Order scheduling oral arguments for the purposes of receiving arguments from the parties addressing the issues noted in the Commission’s August 5, 2019 Order, and, additionally, the questions of whether and, if so, how the July 14, 2017 decision of the U.S. Court of Appeals for the D.C. Circuit in *Orangeburg v. FERC*, 862 F.3d 1071 (2017), applies to the issues noted in the Commission’s August 5, 2019 Order.

On October 21, 2019, oral argument before the Commission was conducted (the “Oral Argument”).

On October 25, 2019, the Commission issued an *Interlocutory Order on Legal Issues, Scheduling Hearing, Allowing the Filing of Testimony, and Establishing Discovery Guidelines* (the “Interlocutory Order”). In the Interlocutory Order, the Commission stated that the Commission may consider the costs for future Network Upgrades that are required to accommodate a proposed electric generating facility when considering a CPCN pursuant to N.C. Gen. Stat. § 62-110.1 and

Commission Rule R8-63.<sup>13</sup> The Commission further stated that the Commission's final order on the merits of the CPCN Application will include the Commission's full discussion and findings of fact and ultimate decision to either issue or deny the CPCN. The Commission also scheduled a hearing for the purpose of receiving expert witness testimony for December 18, 2019.

On December 6, 2019, Stephen De May, Duke's North Carolina President, filed North Carolina President Letter Regarding Friesian CPCN Application ("Duke President Letter"), and Duke's attorney filed DEP Letter Regarding Friesian CPCN Application ("Duke Attorney Letter").

Statements of position were filed in the docket by Helen Livingston on December 4, 2019, the Solar Energy Industries Association ("SEIA") on December 13, 2019, the Town of Maxton, North Carolina on December 16, 2019, and the Robeson County Board of Commissioners on December 16, 2019.

The expert witness hearing was held on December 18 and 19, 2019.

### **III. ARGUMENT: FRIESIAN IS ENTITLED TO ISSUANCE OF THE CPCN.**

The only opposition to the CPCN Application is from the Public Staff.<sup>14</sup> The sole reason for the Public Staff's opposition is its objection to North Carolina retail customers ultimately

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<sup>13</sup> The Commission did not expressly opine on the question whether federal law allows it to consider the amount and allocation of FERC-jurisdictional Network Upgrade costs in deciding whether to grant a CPCN based on the cost of FERC-jurisdictional Network Upgrade costs. For this reason, and because the Commission's order was interlocutory in nature and did not include detailed analysis, and for the reasons previously advanced by Friesian in briefing and at oral argument, it urges the Commission to reconsider this decision and conclude that federal law does not allow it to deny a CPCN solely because of FERC-jurisdictional Network Upgrade costs. It bears reiterating here that FERC has never ruled that states have the authority to prevent the construction of FERC-jurisdictional Network Upgrades solely because of their cost.

<sup>14</sup> There is substantial support for the CPCN Application. The Scotland County Board of Commissioners unanimously approved the Conditional Use Permit for the Facility and provided a statement of consumer interest in support of the CPCN. NCEMC filed Initial Comments in support of the Application on July 18, 2019, the Duke President Letter and the Duke Attorney Letter were filed on December 6, 2019, and statements of position in support of the Application were filed in December 2019. Not a single customer complaint was filed in the docket, and the various state and federal agencies that reviewed Friesian's CPCN Application through the State Clearinghouse determined that the project is in compliance with the North Carolina Environmental Policy Act. T. Vol. 4, pp. 14, 76.

being required to bear a portion of the cost of the Network Upgrades.<sup>15</sup> However, there is overwhelming, uncontroverted evidence that those upgrades will provide substantial benefits to North Carolina retail customers and the public at large that more than justify the portion of their costs that FERC has allocated to those customers. The Commission should therefore grant the CPCN.

**A. The Friesian CPCN application meets all requirements of Commission Rule R8-63.**

The parties agree that Friesian's CPCN Application addresses each and every requirement for a merchant plant application contained in Commission Rule R8-63. In compliance with the requirements of Commission Rule R8-63, Friesian filed comprehensive information and documentation in its Application, including the direct testimony of Brian C. Bednar, the chief executive of Birdseye Renewable Energy, LLC ("Birdseye"),<sup>16</sup> and a number of exhibits.<sup>17</sup> (After submission of the Application, Friesian presented additional testimony and documents as further evidence that the Application meets the requirements of Commission Rule R8-63 and N.C. Gen. Stat. § 62-110.1.) The information in Friesian's Application includes the following:

- Detailed information about Friesian.<sup>18</sup>

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<sup>15</sup> At the evidentiary hearing, the following exchange occurred between Commissioner Brown-Bland and Public Staff witness Metz:

Q. And as opposed to other merchant plant CPCN dockets where the Public Staff didn't take issue and found there to be a need, even when the sales were more than likely going elsewhere or off the Duke system, and found there to be a benefit or that the public was in the public convenience, is it – as opposed to those, is it the network upgrades that causes you to find either of the prong, two prongs not met?

A. In this particular case, yes . . . .

<sup>16</sup> Until recently, Birdseye was the parent company of Friesian and it remains under contract to develop the Facility. T. Vol. 2, p. 14.

<sup>17</sup> See Friesian CPCN Application.

<sup>18</sup> See CPCN Application and Bednar Direct Testimony, pp. 2-4.

- Balance sheet and income statement of Birdseye, the parent company of Friesian.<sup>19</sup>
- Information about the generating facilities in the Southeastern Electric Reliability Council region which Birdseye, Friesian's parent company, has the ability to control through leases or contracts.<sup>20</sup>
- Detailed information about the 70-MWAC solar electric generating facility.  
Construction of the Facility is anticipated to begin in the summer of 2023, the expected commercial operation date is in December 2023, the expected service life of the Facility is thirty-five or more years, and the anticipated construction cost of the generating facility is approximately One Hundred Million Dollars.<sup>21</sup>
- A color map of the Facility.<sup>22</sup>
- Description of all major equipment of the Facility. Friesian is a 70-MW PV array, and the source of its power is solar energy. The Facility will consist of a single-axis tracking, ground mounted solar photovoltaic system, and it will be comprised of approximately 290,000 PV solar modules affixed to ground mounted racks supported on driven piles that will utilize thirty (30) 2500 Kw inverters, generator step-up ("GSU") transformers, racking, posts, wiring, utility poles, communication poles, security camera, collector station, and accessories.<sup>23</sup>

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<sup>19</sup> See Confidential Application Exhibit 2 of CPCN Application.

<sup>20</sup> See Confidential Exhibit 3 of CPCN Application and Bednar Direct Testimony, p. 5.

<sup>21</sup> See CPCN Application and Bednar Direct Testimony, pp. 5-6.

<sup>22</sup> See Exhibit 4 of CPCN Application and Bednar Direct Testimony, pp. 5-6.

<sup>23</sup> See Exhibit 4 of CPCN Application and Bednar Direct Testimony, pp. 6-7; T. Vol. 2, p. 6.

- E911 address for the Facility. Scotland County has assigned the following E911 street address to the Facility: the address for the main entrance is 8960 Leisure Road, Laurinburg, North Carolina 28352, and the secondary address is 10061 Leisure Road, Laurinburg, North Carolina 28352.
- Land use. The parcels for the project are currently being used for agricultural purposes. Friesian will lease 543.71 acres of the parent parcels (that total 965.89 acres) that are currently being used for agricultural purposes. The area not included in the leased area will continue to be used for agricultural purposes.<sup>24</sup>
- Local land use permit. On June 5, 2018, the Scotland County Board of Commissioners voted unanimously to approve Friesian's Conditional Use Permit application and issued the Conditional Use Permit on that date.<sup>25</sup>
- List of all needed federal, state, and local permits. In addition to the Conditional Use Permit granted by the Scotland County Board of Commissioners, the following permits have been obtained or are required permits for the Facility: a building permit and an electrical permit are required from Scotland County; a driveway permit is required from the North Carolina Department of Transportation; approval of an erosion and sedimentation control plan is required from the NC Department of Environmental Quality ("NCDEQ"); a Phase I Environmental Site Assessment was conducted for the project on January 11, 2019; a Limited NEPA Assessment was performed on May 30, 2018; and on May

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<sup>24</sup> T. Vol. 2, p. 19.

<sup>25</sup> See CPCN Application and Bednar Direct Testimony, pp. 6, 9-10.

23, 2018, the US Army Corps of Engineers (“USACE”) verified the wetland delineation for the entire site.<sup>26</sup>

- The Facility’s interconnection to DEP’s FERC-jurisdictional transmission grid.

DEP studied the potential impacts on the Facility’s proposed interconnection to the DEP transmission system pursuant to DEP’s Large Generator Interconnection Procedures (“LGIP”), which are included as Attachment J to DEP’s FERC-jurisdictional Open Access Transmission Tariff (“OATT”).<sup>27</sup> The DEP LGIP establishes the detailed process by which DEP studies a proposed project’s interconnection with its FERC-jurisdictional transmission system, with the study costs paid for by the interconnection customer. The LGIP produces cost estimates for a proposed generating interconnection including which party – either the interconnecting utility (the “Transmission Provider,” in this case DEP) or the developer (the “Interconnection Customer,” in this case Friesian) – is responsible for such costs. Pursuant to the LGIP, DEP and Friesian executed a Standard Large Generator Interconnection Agreement on June 6, 2019 (the “LGIA”). A form of the LGIA is also provided in the LGIP which, as noted above, is part of DEP’s FERC-jurisdictional OATT. Pursuant to the LGIA, the interconnection facilities necessary to interconnect the Facility to the DEP grid will consist of a new 230 kV breaker station connected to the Bennettsville SS – Laurinburg 230 kV transmission line. DEP will tap the Bennettsville SS – Laurinburg 230 kV

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<sup>26</sup> See Exhibits 6(a), 6(b), and 6(c) of CPCN Application and Bednar Direct Testimony, pp. 9-10; T. Vol. 2, pp. 9-10, 22-23.

<sup>27</sup> *Joint Open Access Transmission Tariff of Duke Energy Carolinas, LLC, Duke Energy Florida, LLC and Duke Energy Progress LLC* (available at [http://www.ferc.duke-energy.com/Tariffs/Joint\\_OATT.pdf](http://www.ferc.duke-energy.com/Tariffs/Joint_OATT.pdf)).

line and construct a short tap to New Breaker Station adjacent to DEP's right-of-way (the "Interconnection Facilities").<sup>28</sup>

- Need for the Facility. Friesian will sell the full output of energy, capacity, and solar renewable energy certificates ("RECs") from the Facility to NCEMC pursuant to a purchase power agreement ("PPA") that was executed on May 31, 2019. Under North Carolina's Renewable Energy and Energy Efficiency Portfolio Standard ("REPS"), by 2018 and thereafter, electric membership corporations and municipalities are required to meet a minimum of ten percent (10%) of their retail sales through renewable energy resources or energy efficiency measures.<sup>29</sup> The REPS includes solar electric as an eligible renewable energy resource. The Facility will provide a significant amount of RECs for use by NCEMC for compliance with the REPS requirement, and will further NCEMC's goal of creating a low-carbon emissions environment through sustainability and continued investment in low- and zero-emissions resources.<sup>30</sup>
- Public Convenience of the Facility. As described in the Application, the Friesian Facility will bring a variety of benefits to Scotland County and the surrounding community.<sup>31</sup> Friesian anticipates that the County will realize property and real estate tax revenues. The site's landowners will receive revenue in the form of lease payments each year for the life of the facility, and this revenue will assist

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<sup>28</sup> See Bednar Direct Testimony, pp. 6-7; T. Vol. 2, pp. 19-20.

<sup>29</sup> See N.C. Gen. Stat. § 62-133.8(c).

<sup>30</sup> See NCEMC's Initial Comments with "A Brighter Energy Future", filed on July 18, 2019 in Docket No. EMP-105, Sub 0.

<sup>31</sup> T. Vol. 2, pp. 23-24.

them in maintaining agricultural operations on their land. In addition to these financial benefits, the Friesian Facility will create community benefits. Friesian will enhance the County's reputation as an attractive and friendly environment for advanced manufacturing, technology, and related jobs. Local contractors and businesses, such as installation, fencing, landscaping, and machine rental companies, will receive sales opportunities from the Facility construction and operations. During the approximately year-long construction process, the Facility will offer full-time construction jobs. Increased economic activity in the area is also expected to increase revenue for local hotels, restaurants, service stores, and other vendors.<sup>32</sup>

As previously noted, on May 31, 2019, the Public Staff filed a Notice of Completeness stating that the Public Staff has reviewed the Application as required by Commission Rule R8-63(d) and that the Public Staff considers the Application to be complete.<sup>33</sup> The Public Staff

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<sup>32</sup> T. Vol. 2, pp. 23-24. Subsequent to the Application and in connection with the evidentiary hearing, Friesian presented extensive evidence of substantial additional benefits of its proposed facility and associated Network Upgrades to the public, including North Carolina retail customers. *See* T. Vol. 2, pp. 14-182; T. Vol. 3, pp. 8-105.

<sup>33</sup> Friesian requests that the Commission determine that no further Clearinghouse review is needed to determine compliance with the North Carolina Environmental Policy Act. Friesian had filed an amended site plan with its motion to amend its CPCN on August 2, 2018 in Docket No. SP-8467, Sub 0. In that docket on November 29, 2018, the Clearing Coordinator of the Office of Policy and Planning of the Department of Administration filed comments with the Commission concerning the amended application. The Clearing Coordinator stated that because of the nature of the comments, no further review is needed by the Commission to determine compliance with the North Carolina Environmental Policy Act. On May 15, 2019, in this docket (Docket No. EMP-105, Sub 0), Friesian filed an application pursuant to G.S. 62-110.1 and Commission Rule R8-63 for a CPCN to construct the 70-MWAC Facility. The application includes the same site plan that had been previously reviewed by State Clearinghouse. In regard to that site plan, the Clearing Coordinator had stated that no further review is needed by the Commission to determine compliance with the North Carolina Environmental Policy Act. The Public Staff agrees that no further review by the State Clearinghouse is needed in this docket since the site plan filed with the application in this docket is the same site plan that the Clearinghouse had determined was in compliance with the North Carolina Environmental Policy Act in Docket No. SP-8467, Sub 0. T. Vol. 4, pp. 12-13.

confirmed in its Joint Testimony that Friesian has fully complied with the Commission's filing requirements.<sup>34</sup>

**B. The Facility meets the necessity prong of N.C. Gen. Stat. § 62-110.1.**

Section 62-110.1 of the North Carolina General Statutes provides that “no public utility or other person shall begin the construction of any steam, water, or other facility for the generation of electricity to be directly or indirectly used for the furnishing of public utility service . . . without first obtaining from the Commission a certificate that public convenience and necessity requires, or will require, such construction.”<sup>35</sup> The General Assembly used the term “public convenience and necessity” to define the standard to be applied by the Commission to proposed facilities, and it is based on an “element of need for the proposed service.”<sup>36</sup> Friesian has provided ample evidence of the need for the Friesian Facility pursuant to N.C. Gen. Stat. § 62-110.1. In fact, Friesian's showing of need is in excess of the showing required by N.C. Gen. Stat. § 62-110.1 and Commission precedent and practice.

**1. Purchase Power Agreement between Friesian and NCEMC**

Friesian established the need for the Facility with the PPA entered into by Friesian and NCEMC.<sup>37</sup> Friesian and NCEMC entered into a PPA for Friesian to sell the full output of energy, capacity, and RECs from the Facility to NCEMC.<sup>38</sup> Under North Carolina's Renewable Energy and Energy Efficiency Portfolio Standard (“REPS”), by 2018 and thereafter, electric membership corporations and municipalities are required to meet a minimum of ten percent of

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<sup>34</sup> T. Vol. 3, p. 110.

<sup>35</sup> N.C. Gen. Stat. § 62-110.1.

<sup>36</sup> *Id.*

<sup>37</sup> T. Vol. 2, pp. 21, 40-41.

<sup>38</sup> *Id.*

their retail sales through renewable energy resources or energy efficiency measures.<sup>39</sup> The REPS includes solar electric as an eligible renewable energy resource. The Facility will provide a significant amount of RECs for use by NCEMC to assist it with REPS compliance.<sup>40</sup> The Facility will further NCEMC's goal of creating a low-carbon emissions environment through sustainability and continued investment in low- and zero-emissions resources.<sup>41</sup> NCEMC emphasized the need for the Facility in its Initial Comments filed on July 18, 2019:

As a [generation and transmission] cooperative, NCEMC continuously strives to supply power to its members that is affordable, reliable, and safe. Beginning a decade ago, NCEMC also began assisting its members with their compliance obligations under the North Carolina Renewable Energy and Energy Efficiency Portfolio Standard ("REPS"). This assistance frequently took the form of purchasing renewable energy certificates from utility-scale solar facilities. More recently, NCEMC developed and began to pursue strategic business objectives under an initiative it christened "*A Brighter Future*" ("BEF"), which entails supplying power that is not only affordable, reliable, and safe, but also increasingly low carbon . . . . Once constructed, the [Friesian] Project – specifically, the parties' execution of the Project PPA – will simultaneously advance NCEMC's pursuit of BEF and further its ability to achieve REPS compliance. For the foregoing reasons, NCEMC supports issuance of a CPCN for the Project.<sup>42</sup>

## 2. Viability of the Facility

The Public Staff recognizes that the Friesian PPA demonstrates, at least in part, the viability of the Facility.<sup>43</sup> In addition to the existence of the PPA that shows the Facility's viability, Friesian has secured financing for all aspects of the project.<sup>44</sup> After conducting a

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<sup>39</sup> See N.C. Gen. Stat. § 62-133.8(c); see also T. Vol. 2, pp. 21-22.

<sup>40</sup> T. Vol. 2, p. 22.

<sup>41</sup> See *NCEMC Initial Comments* with "A Brighter Energy Future", filed by NCEMC on July 18, 2019.

<sup>42</sup> T. Vol. 2, pp. 40-41; see *NCEMC Initial Comments* filed by NCEMC on July 18, 2019.

<sup>43</sup> T. Vol. 4, pp. 56-57. In response to the Public Staff's attorney's question, "[H]as Friesian, do you believe, established a need?", Public Staff Witness Metz responded: "Partially."

<sup>44</sup> T. Vol. 2, p. 28.

robust process to identify the financing provider who could offer Friesian the most attractive economics while ensuring best-in-class execution and the highest level of transaction certainty, Birdseye selected Kayne Solutions Fund, LP (“Kayne”). To date, Kayne has provided \$11 million in payments to Duke on behalf of Friesian under the LGIA, including a \$1.5 million payment on May 31, 2019, a \$1.5 million payment on July 26, 2019, a \$7 million payment on December 2, 2019, and a \$1 million dollar payment on January 6, 2020. Kayne is poised to continue funding all subsequent security postings and related interconnection payments to Duke per Appendix B of the Friesian LGIA.<sup>45</sup>

In addition to providing access to the initial capital funding needs under the LGIA, Kayne will be providing 100% construction financing for the Facility following issuance of the Facility’s notice to proceed, which is estimated to occur in the fourth quarter of 2022 to align with completion of the Network Upgrades in December 2023. This construction financing commitment will ensure the full \$100 million in construction capital is available to Friesian leading up to commercial operation in December 2023 when the permanent capital structure will be put in place.<sup>46</sup>

### **3. Commission orders and precedent regarding the element of need**

The Public Staff has provided a number of conflicting statements about its (unsubstantiated) opinion that Friesian might not have demonstrated a need for the Facility. (While the Public Staff makes it clear that it is not saying that there is *not* a need for the Friesian Facility, the Public Staff states that Friesian might not have submitted evidence of need.<sup>47</sup>)

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<sup>45</sup> T. Vol. 2, p. 28.

<sup>46</sup> T. Vol. 2, p. 28.

<sup>47</sup> T. Vol. 3, p. 153.

Initially, the Public Staff's attorney informed the Commission in the Public Staff's Reply Brief that "the Public Staff does not take issue with the need for the generating capacity demonstrated by Friesian and that the facility will not necessarily result in over-building of generation capacity."<sup>48</sup> After the Public Staff's attorney's filed his legal opinion that Friesian had established a need for the Facility, Public Staff witnesses then contradicted their attorney's confirmation that need for the Facility had been established. For example, Public Staff Witness Lawrence testified at the evidentiary hearing: "Our position is that at this time, Friesian has not fully demonstrated a need for the facility. It's demonstrated many goals that it would be used to facilitate and many goals that are, quite frankly, just goals at this point, so we haven't seen anything that Friesian has demonstrated to date."<sup>49</sup> Public Staff Witness Lawrence then attempted to clarify the Public Staff's position by stating: "We're not taking the position in this case that it is not needed. We're taking the position that Friesian has not demonstrated the need."<sup>50</sup>

The Public Staff's conflicting and confusing statements aside, there can be no question that Friesian has demonstrated a need for the Facility under Commission rules and precedent. The Public Staff's suggestion that the PPA between Friesian and NCEMC might not be sufficient to demonstrate the need for the Facility would frustrate, rather than facilitate, merchant plant development in direct contradiction of the Commission's *Order Adopting Rule* issued in Docket No. E-100, Sub 85 and discussed herein. In that Order, the Commission stated: "It is the Commission's intent to facilitate, and not to frustrate merchant plant development."<sup>51</sup>

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<sup>48</sup> See Public Staff Reply Brief, filed on September 9, 2019.

<sup>49</sup> T. Vol. 3, p. 153.

<sup>50</sup> T. Vol. 3, p. 173-74.

<sup>51</sup> *Order Adopting Rule*, issued in Docket No. E-100, Sub 85 on May 21, 2001.

**a. Rule R8-63 was specifically adopted to eliminate the requirement that an executed PPA is needed in order for a merchant plant to demonstrate need.**

The Commission adopted Rule R8-63<sup>52</sup> in the wake of its April 23, 1992 decision regarding Empire Power Company's ("Empire Power") merchant plant application,<sup>53</sup> which was affirmed by the North Carolina Court of Appeals.<sup>54</sup> In that docket, the Commission dismissed Empire Power's CPCN application for a 600-MW combustion turbine electric generating facility in Rockingham County because Empire Power did not have a contract or agreement with the utility and therefore did not have a buyer of its power. The Commission stated that as a minimum filing requirement "an IPP proposing to sell its electricity to a North Carolina utility must first obtain and allege as part of its certificate application either a contract or a written commitment from the utility."<sup>55</sup>

Having rethought the wisdom of that requirement, the Commission initiated a rule-making proceeding for merchant plants in Docket No. E-100, Sub 85. In the merchant plant rule-making proceeding, the Public Staff proposed that Rule R8-63(b)(1) should require the following with respect to a showing of need: "A description of the need for the facility in the state and/or region, with supporting documentation. This documentation shall include as appropriate, either (i) contracts or preliminary agreements for the output of the facility, or (ii) information that there is a need for the applicant's power in its intended market." In the Commission's February 7, 2001 Order, the Commission recognized that the environment in

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<sup>52</sup> See *Order Adopting Rule*, issued in Docket No. E-100, Sub 85.

<sup>53</sup> See *Order on Motion to Dismiss*, issued on April 23, 1992 in Docket No. SP-91.

<sup>54</sup> *State ex rel. Utilities Commission v. Empire Power Company*, 112 N.C. App 265, 435 S.E.2d 553 (1993).

<sup>55</sup> *Id.*

which the Empire Power decision was made had changed in many crucial ways. The Commission stated that “Empire is not a decision whose reasoning the Commission would follow per se today because the reasoning behind it does not reflect the situation of the industry today.” The Commission expressly declined to adopt the Public Staff’s recommendation that a contract is needed to show the need for a proposed merchant plant, and stated:

It is the Commission’s intent to facilitate, and not to frustrate, merchant plant development. Given the present 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. The Commission adopts the first sentence of the Public Staff’s recommendation but will not adopt the second sentence. The Commission agrees with Duke that the reference to “contracts or preliminary agreements” in the second sentence brings to mind the old Empire requirement and might raise doubts as to whether the Commission has truly abandoned the requirement. The Commission has abandoned the contract requirement as inappropriate in today’s environment.<sup>56</sup>

Here Friesian has met the more stringent test for a showing of need – an executed agreement for the sale of its output – that the Commission specifically found was not necessary to satisfy the requirements of the rule.

**b. The Commission and the Public Staff have consistently found that an executed PPA is sufficient to establish the need for a merchant plant facility.**

Prior to this proceeding, the Public Staff had never suggested that an executed PPA was not sufficient to demonstrate the need for the generating facility.<sup>57</sup> In response to questions about the Public Staff’s long-standing practice prior to the Friesian Application, the Public Staff testified:

Q. To your knowledge, has the Public Staff ever taken a position in a prior proceeding that a merchant plant facility that has entered into a PPA with a wholesale customer was not needed within the meaning of the General Statutes?

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<sup>56</sup> *Order Adopting Rule*, issued in Docket No. E-100, Sub 85 on May 21, 2001.

<sup>57</sup> T. Vol. 3, pp. 173-75.

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A. (Public Staff Witness Lawrence) I'm not immediately aware of one, no.<sup>58</sup>

In fact, in the recent NTE Carolinas II, LLC ("NTE") merchant plant application for a 500-MW natural gas-fired generating facility in Rockingham County filed on July 29, 2016 in Docket No. EMP-92, Sub 0, the Public Staff found that NTE had established the need for the facility even though NTE did not have a PPA and there were only wholesale customers who *might* be interested in purchasing the facility's output.<sup>59</sup> Public Staff Witness Metz filed testimony in the NTE docket on October 18, 2016. In Public Staff Witness Metz's testimony, Mr. Metz testified that there was a need for the NTE merchant plant even though there was not a PPA, he did not address whether construction of the facility was in the public convenience, and he recommended approval of the application.<sup>60</sup>

In response to questions from the Commission, the Public Staff acknowledged that the Public Staff and the Commission have always considered the existence of a PPA sufficient to satisfy the need prong of the public convenience and necessity for merchant plant applications.

Q. (Commissioner Brown-Bland) Isn't it ordinarily the case though that if there is a known buyer and a known place for that generation to go that that has been viewed by the Public Staff as well as the Commission as satisfying a need prong?

A. (Public Staff Witness Metz) Yes. Under the facts and circumstances of this case, yes.

Q. And in this docket has any – has there been any public objection to the project itself or the siting?

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<sup>58</sup> T. Vol. 3, pp. 173-74.

<sup>59</sup> T. Vol. 3, pp. 162-64; *see Order Granting Certificate with Conditions*, Finding of Fact 13, issued on January 19, 2017 in Docket No. EMP-92, Sub 0.

<sup>60</sup> *See* Testimony of Public Staff Witness Dustin R. Metz, filed on October 18, 2016 in Docket No. EMP-92, Sub 0.

A. (Public Staff Witness Lawrence) No, not in this docket. I don't believe in the SP docket that it was originally filed in either.

A. (Public Staff Witness Metz) Subject to check, we don't believe there was anything filed.

Q. And so the only objection we have or request to deny comes from the Public Staff. Is that square with your knowledge?

A. (Public Staff Witness Lawrence) Yes.

A. (Public Staff Witness Metz) Yes, it is.

Q. And as opposed to other merchant plant CPCN dockets where the Public Staff didn't take issue and found there to be a need, even when the sales were more likely going elsewhere or off the Duke system, and found there to be a benefit or that the project was in the public convenience, is it – as opposed to those, is it the network upgrades that causes you to find either of the prong, two prongs not met?

A. In this particular case, yes . . . .<sup>61</sup>

In fact, until this case, the Public Staff had never taken the position in any other merchant plant docket that an executed PPA is not sufficient to demonstrate the need for the merchant plant. Friesian has clearly met the necessity prong of N.C. Gen. Stat. § 62-110.1 and Commission Rule R8-63, and the Public Staff's self-contradictory suggestion otherwise should be rejected.

C. **The Facility meets the public convenience prong of the public convenience and necessity requirement of N.C. Gen. Stat. § 62-110.1.**

There has been no suggestion by the Public Staff or any other party that *the Friesian generation facility* does not serve the public convenience. In addition to the fact that the Facility will provide needed renewable energy to an important wholesale customer at an attractive price and at no cost to DEP's ratepayers, there are no

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<sup>61</sup> T. Vol. 4, pp. 75-77.

environmental, land use, or other similar concerns about the project. On the contrary, as discussed above, the Facility will provide important benefits to, and is strongly supported by, the local community.<sup>62</sup> Rather, as previously explained, the Public Staff argues that the CPCN is not in the public interest because North Carolina retail customers would be required to bear a portion of the significant Network Upgrade costs if the Facility is placed in service. However, the Public Staff totally failed to consider – and Friesian provided substantial evidence of – the many valuable benefits of the Network Upgrades in relation to their costs, many of which were confirmed by Duke.<sup>63</sup>

In *State of North Carolina ex rel. Utilities Commission v. Casey*, our Supreme Court stated that the public convenience standard is a “relative or elastic theory rather than an abstract or absolute rule” and that “[n]o set rule can be used a yardstick and applied to all cases alike.”<sup>64</sup> The Supreme Court instructed that the facts in each case must be separately considered, and from those facts it must be determined whether the public convenience has been met.<sup>65</sup> In addition, the Court of Appeals has instructed that the “public convenience and necessity” standard should be read “*in pari materia* with N.C.G.S. § 62-2, which contains ten [now twelve] specific policies . . . .”<sup>66</sup> That is, whether the public convenience is served is a function of whether the state energy policies established by the General Assembly are advanced.<sup>67</sup>

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<sup>62</sup> Consumer Statements of Position in support of the Friesian project from the Town of Maxton, the Robeson County Board of Commissioners, Helen Livingston, and the SEIA were filed in the docket.

<sup>63</sup> See Duke President Letter and Duke Attorney Letter.

<sup>64</sup> *State of North Carolina ex rel. Utilities Commission v. Casey*, 245 N.C. 297, 95 S.E.2d 8 (1957).

<sup>65</sup> *Id.*

<sup>66</sup> *Empire Power*, 112 N.C. App. at 274.

<sup>67</sup> These include:

(5) To encourage and promote harmony between public utilities, their users and the environment;

This case involves a “unique and complex set of circumstances”<sup>68</sup> in which substantial Network Upgrade costs will be borne by ratepayers, but substantial benefits will flow to them as well. The Public Staff has elected to focus entirely on the costs, and it conducted no meaningful analysis of the potential benefits or whether the state energy policies would be advanced by the Network Upgrades. Friesian introduced substantial evidence demonstrating that construction of the Facility and the Network Upgrades will result in numerous and significant public benefits that far exceed the cost of the Network Upgrades. The Public Staff did little to challenge or contradict these alleged benefits and relies almost entirely on the assertion that they are too speculative to be considered. Those important public benefits include: (1) addressing the highly problematic, disruptive, and destabilizing congestion in DEP’s transmission system in the southeastern portion of the state in a timely and cost-effective manner; (2) allowing for the interconnection of a substantial amount of renewable resources and non-renewable resources, including DEP’s proposed 1235-MW Combined Cycle Plant (Q399) that is interdependent on the Friesian project; (3) enabling the state to achieve greenhouse gas emissions reductions (and associated health benefits) in compliance with Duke’s climate strategy and the Governor’s Clean Energy Plan; (4) providing long-term cost savings to the ratepayers; and (5) minimizing challenges with Duke’s transition to queue reform.

**1. Duke believes that there will be significant benefits if the Network Upgrades are constructed.**

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(6) To foster the continued service of public utilities on a well-planned and coordinated basis that is consistent with the level of energy needed for the protection of public health and safety and for the promotion of the general welfare as expressed in the State energy policy. N.C. Gen. Stat. 62-2.

<sup>68</sup> See Duke North Carolina President Letter.

Before discussing Friesian's evidence regarding the public benefits of the Network Upgrades, it is important to note that Duke has spelled out many of those important benefits to the Commission. Duke took the unusual step of filing letters from its North Carolina President, Stephen DeMay, and from Duke's regulatory attorney to explain the benefits of the Network Upgrades. In the Duke President Letter, Mr. DeMay stated:

On behalf of Duke Energy Progress, LLC ("DEP" or the "Company" and together with Duke Energy Carolinas, LLC, the "Duke Utilities"), I would like to take this opportunity to summarize certain benefits that would result from the Network Upgrades that will be constructed at this time should the North Carolina Utilities Commission ("Commission") elect to grant a certificate of public convenience and necessity to Friesian Holdings, LLC ("Friesian") for its proposed 70-MW AC solar photovoltaic facility in Scotland County, North Carolina.

The decision facing the Commission in this proceeding presents a unique and complex set of circumstances, and the Company appreciates the uncharted nature of this decision and the significance of the costs at issue. Such decision, however, is properly viewed as the product of substantial success, as it arises due to the enormous amount of effort invested to achieve nation-leading amounts of interconnected solar resources in North Carolina. This success has now and will likely in the future introduce complex policy questions that require substantial regulatory and policy engagement. In this particular case and during this pivotal time of transition in North Carolina's energy policy, the Company believes that the Commission should consider the benefits of the Network Upgrades in rendering its decision in this proceeding. Such benefits, which are summarized in more detail in a separate letter being filed in parallel by counsel for DEP, include the following: (1) allowing for the interconnection of a substantial amount of renewable resources in the southeast portion of DEP's service territory, (2) avoiding queue paralysis and substantial delays in interconnection of certain projects, (3) and minimizing certain short-term challenges associated with the Duke Utilities' queue reform plans. . . .

Construction of the Network Upgrades in question at this time will result in benefits that will, in turn, smooth the road on the journey in the future.<sup>69</sup>

In conjunction with the Duke President Letter, Duke's regulatory attorney provided further explanation of the importance of the Friesian Network Upgrades.<sup>70</sup> While Duke's

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<sup>69</sup> Duke President Letter.

<sup>70</sup> Duke Attorney Letter.

attorney acknowledged that the cost of the Friesian Network Upgrades is significant, he requested that the Commission consider the multiple benefits that will arise from the project. He listed a number of important benefits, including:

1. Interconnection of Additional Renewable Generating Resources. The comprehensive planning process for the Duke Utilities 2018 IRP and 2019 IRP Updates demonstrates that a combination of renewable resources, demand-side management and energy efficiency programs, and additional base load, intermediate and peaking generation are required over the next fifteen years to reliably meet customer demand. Additionally, in mid-September 2019, Duke Energy Corporation announced its new, enterprise-wide climate strategy, including updating its CO<sub>2</sub> reduction goals to at least 50% by 2013 (from 2005 levels) and achieving net-zero for electricity generation by 2050. The recently released North Carolina Clean Energy Plan from the North Carolina Department of Environmental Quality establishes a goal of 70% greenhouse gas emissions (“GHG”) reductions by 2030 and carbon neutrality by 2050. Regardless of the precise GHG emissions target, substantial new renewable resources will be needed. For instance, the base case from the 2019 IRP Update – which achieves a 51% CO<sub>2</sub> reduction by 2030 – requires 3,000+ MW of additional solar resources over current amounts. Substantial Network Upgrades will undoubtedly be needed to accommodate the addition of a substantial amount of new grid resources. While the Company’s analysis to date has not attempted to identify what specific Network Upgrades will be needed, the Friesian Network Upgrades

are representative of the types of Network Upgrades that may be required in the future to achieve CO<sub>2</sub> reduction targets. The additional solar resources accommodated by the Friesian Network Upgrades will move the Duke Utilities close to the various targets.

2. Avoidance of Interconnection Queue Paralysis. If the Friesian CPCN is not granted, the need for the Friesian Network Upgrades will not go away. Under the current serial process, Duke will be required to assign the Friesian Network Upgrades to the next project in the interconnection queue, and it is highly unlikely that any single project will be able to absorb the cost of the Friesian Network Upgrades. Therefore, the most likely outcome would be a cascading series of withdrawals resulting in complete queue paralysis of the interconnection queue in this portion of DEP's service territory.
3. Timing Issues. If the Friesian Network Upgrades are not constructed at this time, there will be further delay in the interconnection of any additional generating facilities (including non-renewable resources) in this area of DEP.
4. Queue Reform Transition. If the Friesian Network Upgrades are not constructed at this time, the transition to a cluster study process will be much more complex and the transition process may be delayed.

Duke's attorney "believes that the Commission should, in this case and given the unique circumstances, consider the broader benefits associated with the Friesian Network Upgrades."<sup>71</sup>

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<sup>71</sup> Duke Attorney Letter.

**2. The Network Upgrades are required in order for any new solar or other generation resources to be constructed in southeastern North Carolina.<sup>72</sup>**

Duke Energy's 2018 Integrated Resource Plan ("IRP") and 2019 IRP Update indicate that additional generation is required to support load growth and resource portfolio improvements in southeastern North Carolina.<sup>73</sup> DEP's 2019 IRP Update calls for load growth of 0.9% per year overall.<sup>74</sup> Whether that new generation comes from renewable energy or other generation resources in eastern North Carolina, it cannot occur without the Network Upgrades or other major improvements to DEP's transmission system. In addition, DEP has provided information that substantial Network Upgrades will be needed to accommodate the addition of a substantial amount of new grid resources, including Duke Energy's 1235 Combined Cycle Plant that is interdependent on the Network Upgrades.<sup>75</sup> Thus, the Network Upgrades are the type of Network Upgrades that will help to accommodate the interconnection of a significant amount of additional renewable and other resources.<sup>76</sup>

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<sup>72</sup> In a case cited by Duke in its Reply Brief, the Public Service Commission of Wisconsin granted a CPCN for the construction of FERC-jurisdictional transmission facilities in significant part because of their necessity to facilitate renewable energy development. *Joint Application of American Transmission Company LLC, ITC Midwest LLC, and Dairyland Power Cooperative, for Authority to Construct and Operate a New 345 kV Transmission Line from the Existing Hickory Creek Substation in Dubuque County, Iowa, to the Existing Cardinal Substation in Dane County, Wisconsin, to be Known as the Cardinal-Hickory Creek Project*, Docket No. 5-CE-146, Final Decision (Sept. 26, 2019) ("The Commission finds that the project represents an important step in moving towards a future with increased renewable generation. . . . The Commission finds there is substantial evidence that supports the applicants' finding that the project will support the interconnection of an additional 8.4 gigawatts (GW) of new renewable generation located both in Wisconsin and to the west of the state. . . . The Commission further recognizes that while there certainly is, and will continue to be, some renewable development occurring in Wisconsin (as evidenced by recently proposed or approved projects), it is not going to be enough for utilities to achieve the renewable or carbon-free goals they and the state of Wisconsin have set. . . . [T]he project is needed to relieve congestion that is likely to increase as a result of the substantial amount of renewables planned to come online over the course of the life of the project, and the economic analysis shows that as this renewable development increases, the economic benefits of the project are likely to increase.")

<sup>73</sup> T. Vol. 2, pp. 75-77.

<sup>74</sup> T. Vol. 2, p. 75.

<sup>75</sup> T. Vol. 2, pp. 87-88.

<sup>76</sup> Duke Attorney Letter.

Even if Friesian had not submitted its CPCN Application, the Network Upgrades are required for DEP's transmission system.<sup>77</sup> Duke explains that the "addition of transmission capacity is 'lumpy,' meaning that the next increment of transmission capacity added typically exceeds the amount needed to accommodate the particular generating facility."<sup>78</sup> Here, the transmission improvements needed for the Facility are "lumpy" and will benefit DEP's transmission system over a large geographic area of the state.<sup>79</sup> The need to improve DEP's transmission system will not go away if the Facility is not constructed.<sup>80</sup>

There is no dispute that any new generation (additional renewable generation, Duke's Q398 and Q399 natural gas plants, and other generation resources) will not be able to be connected to DEP's transmission system in southeastern North Carolina without triggering substantial and costly Network Upgrades. There is also no dispute that it is not possible to add any additional generation in southeastern North Carolina without construction of substantial Network Upgrades to DEP's transmission system.<sup>81</sup> Brian Bednar, the CEO of Birdseye, and Charles Askey, the Senior Project Manager in the Power Engineering & System Planning Group at Timmons Group and a registered Professional Engineer,<sup>82</sup> testified that the Network Upgrades are needed to address

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<sup>77</sup> T. Vol. 3, pp. 121-22; Duke Attorney Letter.

<sup>78</sup> Duke Attorney Letter.

<sup>79</sup> T. Vol. 2, p. 177.

<sup>80</sup> T. Vol. 2, p. 43.

<sup>81</sup> T. Vol. 2, p. 30; T. Vol. 3, pp. 121-22.

<sup>82</sup> Mr. Askey has over thirty years of experience in Power System Planning and System Operations and twenty-seven years of utility experience in Power System Planning and Systems Operations. His consulting background includes work with Investor Owned Utilities, Electric Membership Cooperatives, Municipal Utilities, Merchant Generation Developers, and EPC Contractors. He has conducted numerous studies and client engagements regarding electrical system studies and NERC compliance, and his client work with generation developers includes performing preliminary system impact assessments to identify acceptable Points of Interconnection and the determination of maximum transfer capability from a potential project to the power system. He has performed these generation impact assessments on transmission systems throughout the country, and he has interfaced with most of

substantial congestion in DEP's transmission system in the southeastern portion of the state.<sup>83</sup> Over fifty percent of DEP's service territory is currently designated as a transmission constrained area and is unavailable for additional generation resources.<sup>84</sup> The congestion in DEP's transmission system in the southeastern portion of the state prevents any new generation resources – both renewable resources and non-renewable resources -- from being added to the system without triggering substantial Network Upgrades (in excess of \$200 million).<sup>85</sup> The Public Staff acknowledges that there are 108 projects behind Friesian in the interconnection queue that have been identified by DEP as directly interdependent on the Friesian Network Upgrades to interconnect.<sup>86</sup>

As early as 2018, DEP had advised the Commission that substantial Network Upgrades are necessary in order to interconnect any new generation to DEP's electric grid in the general area where Friesian is proposed to be constructed. DEP Witness Gary Freeman testified on November 18, 2018 in Docket No. E-100, Sub 101:

DEP has determined that significant transmission network upgrades will be need to interconnect additional generation in the southeastern North Carolina area of DEP East. These upgrades have been triggered by the cumulative amount of generation located in southeastern North Carolina, where the need for the increased generation to flow northwest toward the large load centers, such as Wake County, has caused several transmission line segments to now reach their power flow limits. This congested area in DEP East has over 100 in-service or under construction solar generating facilities totaling 1,347 MW. This includes 16 transmission-connected projects totaling 898 MW and 99 distribution-connected solar projects totaling 449

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the Regional Transmission Organizations (RTOs) and NERC regions. Additionally, he has supported clients in the following areas: power supply contracts, transmission contracts, scheduling, operations, transmission billings, regulatory issues, facility planning and siting, and NERC Audit preparation.

<sup>83</sup> T. Vol. 2, pp. 29-30, 66.

<sup>84</sup> T. Vol. 2, p. 30.

<sup>85</sup> T. Vol 2. pp. 29-30; T. Vol. 3, pp. 121-22.

<sup>86</sup> T. Vol. 3, p. 141.

MW. Notably, there are over 3,500 MW of additional generating facilities in the queue that are seeking to interconnect in this congested area.<sup>87</sup>

Mr. Freeman identified transmission upgrades on five specific transmission lines that are needed to support the interconnection of additional generating resources, including the re-conductoring of over 63 miles of transmission lines to increase capacity. Mr. Freeman indicated in 2018 that these upgrades would cost in excess of \$200 million.<sup>88</sup>

Consistent with Mr. Freeman's testimony in 2018, Friesian Witness Askey testified that under contingency study, when DEP's interconnection queue is dispatched including Friesian (referred to as Q380), several transmission facilities in the Fayetteville, North Carolina area are loaded in excess of 95 percent or 100 percent of their contingency ratings.<sup>89</sup> In light of these loading levels, DEP has identified multiple system upgrades -- including the re-conductoring of about 72 miles of several transmission lines -- that need to be constructed prior to allowing Friesian to interconnect to the system (*i.e.*, the Friesian Network Upgrades).<sup>90</sup>

Even if the Friesian CPCN is not granted and the Facility is therefore not constructed, Duke has stated that the need for Upgrades to DEP's transmission "will not go away".<sup>91</sup> Duke has verified that substantial Network Upgrades are required in the southeastern portion of the state and that "the Friesian Network Upgrades are representative of the types of Network Upgrades that may be required."<sup>92</sup> The Public Staff agrees that "without the Friesian upgrades, future generation

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<sup>87</sup> T. Vol. 3, pp. 121-22.

<sup>88</sup> *Id.*

<sup>89</sup> T. Vol. 2, pp. 69, -70.

<sup>90</sup> T. Vol. 2, pp. 66-67. The transmission lines that are required to be re-conductored are the Erwin-Fayetteville 230 kV line, the Fayetteville -Fayetteville Dupont 115 kV line, the Cape Fear - West End 230 kV line, the Sanford Deep River Tap - Sanford Horner Blvd. 230 kV line, and the Rockingham - West End 230 kV line.

<sup>91</sup> Duke Attorney Letter.

<sup>92</sup> Duke Letters Regarding Friesian CPCN Application.

resources seeking to interconnect in this part of the DEP system will be assigned substantial upgrade costs.”<sup>93</sup> The Network Upgrades are the upgrades that will be required for any new generation (again, both renewable and non-renewable resources) to be added to DEP’s transmission system.<sup>94</sup> Without the Network Upgrades, it is clear that no new generation – even projects as small as 5 megawatts – will be able to be connected to DEP’s system. In fact, as noted by Duke, if Friesian’s CPCN Application is denied and the Network Upgrades are not constructed, the most likely outcome will be a “cascading series of withdrawals resulting in complete paralysis of the interconnection queue in the [southeastern] portion of DEP’s service territory.”<sup>95</sup>

The Public Staff points out that there are other areas in the state for projects to interconnect without the need for Upgrades to be constructed. However, as the Public Staff acknowledges, these areas are getting smaller and smaller and will soon be gone:

Q. So we have -- I've heard testimony in this proceeding that the particular region of the state that we're focusing on in this case, the southeastern region, is facing transmission constraints. There's congestion in this area and that's likely to occur in the near term in other areas of the state. Do you understand that correctly?

A. (Public Staff Witness Metz) Yes.<sup>96</sup>

At which point, Network Upgrades will be needed to relieve constraints in other areas.<sup>97</sup>

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<sup>93</sup> T. Vol. 3, p. 132.

<sup>94</sup> T. Vol. 2, pp. 71-72; Duke Letters Regarding Friesian CPCN Application.

<sup>95</sup> T. Vol. 4, pp. 25-26; Duke’s Attorney’s Letter Regarding Friesian CPCN Application.

<sup>96</sup> T. Vol. 4, p 101.

<sup>97</sup> Indeed, given the volume of new generation called for in the coming decade (which will be even greater if additional accelerated coal plant retirements are required), there is no reason to think that substantial Network Upgrades costs will not be required regardless where such generation is built. To the extent that such new generation is self-built by Duke, there is no question that ratepayers will bear the associated Network Upgrade costs.

Friesian Witness Bednar testified as to why the southeastern part of the state is essential to the state's energy future. The region has the state's best insolation rates and ample low-cost, flat land in large tracts that is currently used for farming and that can easily be converted into efficient solar farms.<sup>98</sup> These factors combine to make solar in the southeastern part of North Carolina far more cost-competitive than in any other part of the state. The Public Staff's claim that the benefits of the Network Upgrades are speculative ignores the high likelihood that significant new solar capacity will be built in southeastern North Carolina if the current congestion is eliminated. This is precisely where cost-competitive solar energy projects have been built and will continue to be built if enabled by the Network Upgrades.

DEP has completed an assessment for interconnection requests received through September 30, 2017, and determined that there are 108 interconnection requests totaling 1,561 MW that are interdependent on the Network Upgrades assigned to Friesian.<sup>99</sup> In addition to the projects specifically identified to date by DEP as interdependent on the Friesian upgrades, DEP stated that there are likely many additional later-queued projects that are also technically interdependent on the Friesian Upgrades.<sup>100</sup> Consistent with DEP's analysis, Birdseye's analysis of the current DEP queue shows that 3,898 MW of proposed solar resources are in the constrained area, and the Timmons Group's analysis of DEP's transmission system in southeastern North Carolina finds that the system is currently at full capacity.<sup>101</sup> According to DEP, it is undoubtedly the case that the Network Upgrades will alleviate the interdependency of at least 1,561 MW of additional solar resources and provide a path forward for such projects to interconnect in a safe

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<sup>98</sup> T. Vol. 2, pp. 32-33.

<sup>99</sup> T. Vol. 2, pp. 65-66.

<sup>100</sup> *Id.*

<sup>101</sup> T. Vol. 2, pp. 29, 30-31, 69-70.

and reliable manner. Therefore, Duke has confirmed that the Network Upgrades will at least partially facilitate the interconnection of about 1,561 MW of additional solar generation and other generation resources.<sup>102</sup>

In addition to the 1,561 MW of renewable resources that are interdependent upon the Friesian Network Upgrades, DEP has two planned 1235-MW natural gas projects (Q398 and Q399) which will add significantly to most, if not all, of the line loadings absent any other upgrades.<sup>103</sup> While DEP has determined that its first Combined Cycle Plant (Q398) is not dependent upon the Network Upgrades at issue here, Q398 would require substantial Network Upgrades of its own. However, DEP's second Combined Cycle Plant (Q399) is interdependent upon Friesian's Upgrades.<sup>104</sup> If the Facility and the Network Upgrades are not constructed now, Duke Energy's Q399 natural gas project cannot be added to the system without the construction of virtually identical Network Upgrades to the Friesian Upgrades, and the Upgrades for Q399 **will be paid for entirely by the North Carolina ratepayers.**<sup>105</sup> (It is important to note the Public Staff's testimony that if the Friesian Upgrades are not constructed and Duke's natural gas plant (Q399) is constructed, the Network Upgrades for Q399 would be rate based.)<sup>106</sup> While the Public Staff correctly notes that the construction of Q399 is not a certainty, there is a reasonable likelihood that it will in fact be built, in which case, due to significant year-over-year increases in construction

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<sup>102</sup> T. Vol. 2, pp. 87-88.

<sup>103</sup> T. Vol. 2, pp. 70-71.

<sup>104</sup> T. Vol. 2, pp. 71, 87.

<sup>105</sup> T. Vol. 2, p. 88; T. Vol. 3, pp. 214-15.

<sup>106</sup> T. Vol. 3, pp. 213-14.

costs, the cost to DEP customers will be significantly greater than if those Network Upgrades are built now.<sup>107</sup>

Construction of the Network Upgrades will enable necessary improvements to DEP's transmission system in a timely and cost-effective manner.<sup>108</sup> The Friesian project is the most efficient way for upgrades to DEP's transmission system to be accomplished, as the Network Upgrades will be completed by the end of 2023. Without the Friesian project, it is unlikely that the improvements to DEP's transmission system could be completed before 2027, at the earliest.<sup>109</sup> Also, DEP has already performed a full study of the transmission options available to solve the transmission constraints in southeastern North Carolina, and DEP's solution is for the construction of the Network Upgrades. Those Upgrades comprise the lowest cost solution to DEP's constrained transmission problem.<sup>110</sup> And if the Network Upgrades are not constructed now, time-consuming and expensive restudy will likely be required in the future.<sup>111</sup>

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<sup>107</sup> T. Vol. 2, p. 43

<sup>108</sup> T. Vol. 2, pp. 31, 57-58.

<sup>109</sup> T. Vol. 2, pp. 57-58.

<sup>110</sup> T. Vol. 2, p. 82.

<sup>111</sup> The cost for the Friesian Network Upgrades has substantially increased, but it is undisputed that the increase in cost has nothing to do with Friesian's in-service date. DEP's Initial Facilities Study report to Friesian dated October 17, 2017, identified upgrades to six separate transmission lines totaling approximately 73 miles, with an estimated Network Upgrade cost of \$116 million. T. Vol. 3, p. 122. Friesian and DEP entered into an Interconnection Agreement on June 21, 2019, and while the scope of work did not change, the estimated cost of the Network Upgrades increased to \$223 million. *Id.* The Public Staff had suggested that the reason for the increase in cost was due to additional costs to "ensure that the requested December 2023 in-service date can be met." T. Vol. 3, pp. 122-23. The Public Staff's statement is factually incorrect. During the evidentiary hearing, Birdseye Witness Bednar testified that Friesian's in-service date is in no way related to the cost increase. T. Vol. 3, pp. 37-43, 91-95. DEP filed a Late Filed Exhibit on January 8, 2020 that explains the reasons for the increase of the estimated cost of the Friesian Network Upgrades from \$116 million ("Initial Estimate") to \$224.4 million ("IA Estimate"). DEP's Late Filed Exhibit makes it clear that Friesian's in-service date is not one of the reasons for the cost increase from the Initial Estimate to the IA Estimate. Instead, the reasons for the cost increase include more detailed scoping, increased labor costs, increased environmental costs, and a \$35.5 million contingency amount.

Additionally, it is important to note that projects as small as 5 MW in the DEP constrained area will not be able to interconnect without triggering substantial and costly network upgrades.<sup>112</sup> Also, smaller utilities that receive transmission service from Duke, like municipal and cooperative entities, that are located in the constrained area are unable to connect any solar generators without construction of the Friesian Network Upgrades.<sup>113</sup>

**3. The Network Upgrades are necessary to achieve Duke’s and the Governor’s carbon reduction goals.**

The Friesian Upgrades are necessary to achieve Duke Energy’s and the Governor’s stated goals for carbon reduction.<sup>114</sup> Governor Cooper signed Executive Order 80 on October 29, 2019 that states that North Carolina will strive to reduce state-wide greenhouse gas emissions to 40% below 2005 levels by 2025. Executive Order 80 further requires NCDEQ to develop a North Carolina Clean Energy Plan (“Clean Energy Plan”) that “fosters and encourages the utilization of clean energy resources.” The Governor’s Clean Energy Plan establishes a goal of 70% greenhouse gas emissions reductions by 2030 and carbon neutrality by 2050.<sup>115</sup> Also, in mid-September 2019, Duke Energy Corporation announced its new, enterprise-wide climate strategy, including updating its CO<sub>2</sub> reduction goals to at least 50% by 2030 (from 2005 levels) and achieving net-zero for electricity generation by 2050.<sup>116</sup> Achieving the Governor’s and Duke’s carbon reductions goals will also further the state’s policies of promoting harmony between Duke and the environment and promoting the public health and safety.

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<sup>112</sup> T. Vol. 3, pp. 95-96.

<sup>113</sup> T. Vo. 4, pp. 127-28.

<sup>114</sup> T. Vol. 3, pp. 133-34.

<sup>115</sup> *Id.*

<sup>116</sup> Duke Attorney Letter.

The Governor's 70% and Duke Energy's 50% targets for carbon reduction will require significant acceleration of solar integration.<sup>117</sup> Both the Governor and Duke consider lower carbon generation to be important and beneficial for the citizens of North Carolina, shareholders of Duke Energy, and the future of the state.<sup>118</sup> The Network Upgrades will provide Duke with access to the optimal region for solar in North Carolina starting in 2024. Without the Network Upgrades, solar investment is not likely to occur in the region before 2027, at the earliest, given the lead time required to study, plan, fund, and construct the Network Upgrades needed to connect any new generation.<sup>119</sup>

According to information provided by Duke, a 51% CO<sub>2</sub> reduction by 2030 will require 3,000+ MW of new solar resources over current amounts.<sup>120</sup> Duke states that an additional 13% of CO<sub>2</sub> reduction to 64% by 2030 will require an additional 2,769 MW of solar for a total incremental increase of 5,769 MW by 2030. Synapse's study calls for an even greater amount -- 10,300 MW -- by 2030.<sup>121</sup>

Friesian Witness Bednar presented his uncontroverted expert opinion that this level of additional solar penetration cannot be achieved if southeastern North Carolina is off limits to new generation. Mr. Bednar testified that for many reasons it is preferable to locate solar facilities in the southeastern portion of North Carolina.<sup>122</sup> For example, southeastern North Carolina offers abundant large, open sites. Developing large solar projects outside of eastern

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<sup>117</sup> T. Vol. 2, pp. 35-36.

<sup>118</sup> *Id.*

<sup>119</sup> *Id.*

<sup>120</sup> Duke Attorney Letter.

<sup>121</sup> T. Vol. 2, p. 36.

<sup>122</sup> T. Vol. 2, pp. 32-35.

North Carolina almost always requires clearing of trees and much more extensive erosion and storm water measures to protect streams and wetlands due to significantly greater topography. Also, the southeastern area of North Carolina has capitalized on solar resources as a growth industry in a region with limited opportunities for growing the tax base, training workers, and providing jobs to both skilled and unskilled labor. Income from solar in the constrained area of North Carolina is serving as a hedge for family farms and agricultural interests against increasing economic pressure from natural disasters, volatile commodity prices, the end to tobacco buyouts, and limited alternatives for income. Thus, the constrained southeastern area of North Carolina has the most abundant sites, lowest cost of construction, highest energy production, and largest seasoned workforce.<sup>123</sup>

The Network Upgrades required for the Friesian project are needed now; but if Friesian is not constructed, they will continue to be triggered over and over by all generation resources in the region (according to DEP, resulting in a “cascading series of withdrawals”).<sup>124</sup> Without Friesian, there will be no progress to prepare the transmission system for the upcoming transition to meet Duke Energy’s and the Governor’s clean emission reduction goal.<sup>125</sup>

**4. The addition of significant solar and solar plus storage resources made possible by the Network Upgrades will result in savings for ratepayers that far exceed their share of the Network Upgrade Costs.**

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<sup>123</sup> The Public Staff has taken issue with siting additional solar resources in the southeastern portion of North Carolina, and has suggested that that solar resources can, or perhaps should, be located in other areas of the state. The Public Staff’s suggestion lacks any factual justification, and the Public Staff witnesses acknowledge that they have no experience in siting solar facilities. In contrast to the Public Staff’s lack of siting experience, Birdseye has developed 424 MWDC of completed and operating utility-scale solar assets, the vast majority of which have been in North Carolina, and has experience in the siting of cost-effective solar facilities. T. Vol. 2, p. 15.

<sup>124</sup> Duke Attorney Letter.

<sup>125</sup> T. Vol. 2, p. 37.

Rachel Wilson, who is the Principal Associate at Synapse Energy Economic in Cambridge, Massachusetts,<sup>126</sup> provided *uncontroverted testimony* that the least expensive long-term resource plan for North Carolina ratepayers is one that adds increasing amounts of solar and storage resources over the next fifteen years.<sup>127</sup> According to Ms. Wilson, ratepayers will realize billions of dollars in savings under this resource portfolio relative to Duke Energy's proposed natural gas-dominated Integrated Resource Plans, even when the likely long-term transmission investment costs necessary to incorporate increased penetrations of solar are included.<sup>128</sup> Thus, to the extent that the Network Upgrades facilitate the addition of new solar and storage resources, they will result in significant net cost savings to ratepayers.<sup>129</sup>

Ms. Wilson was the principal author of the study entitled *North Carolina's Clean Energy Future: An Alternative to Duke's Integrated Resource Plan*, which was previously filed with the Commission.<sup>130</sup> This was a rigorous, scenario-based analysis of an alternative clean energy future compared to the more traditional fossil-fueled resource portfolio included in the Duke Energy 2018 IRPs. This report compares two scenarios. The first is the Duke IRP scenario, which reflects the anticipated gas resource additions described in the 2018 IRPs. The second is an optimized Clean Energy scenario. In the second scenario, renewable resources were offered to an optimized electric sector model for selection of the most cost-effective future resource build to meet capacity and

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<sup>126</sup> Ms. Wilson has more than a decade of experience with utility integrated resource planning and am the author of the widely-cited industry document *Best Practices in Electric Utility Integrated Resource Planning*. She performs modeling analyses of electric power systems, is proficient in the use of spreadsheet analysis tools, and has direct experience running a number of optimization and electricity dispatch models to conduct analyses of utility service territories and regional energy markets.

<sup>127</sup> T. Vol. 2, p. 118.

<sup>128</sup> T. Vol. 2, pp. 118-19.

<sup>129</sup> T. Vol. 2, p. 119.

<sup>130</sup> *Id.*

energy need.<sup>131</sup> The results show that renewable energy additions, in lieu of gas capacity, is the more economic choice for ratepayers.<sup>132</sup> The Clean Energy scenario adds substantial amounts of solar and battery storage resources, both stand-alone and paired solar-plus-storage, through the duration of the study period for the combined Duke Energy service territory in North and South Carolina.<sup>133</sup> By 2033, there are 14 gigawatts (“GW”) of solar capacity and almost 6 GW of battery capacity in the Duke Energy service territory.<sup>134</sup>

The Clean Energy scenario provides many benefits to North Carolina. Ratepayers save an average of \$584 million each year. This represents a savings of almost \$8 billion in terms of the net present value of revenue requirements over the duration of the 15-year analysis period. Carbon dioxide emissions are 59 percent less in 2030 under the Clean Energy scenario than in the Duke IRP scenario. Health benefits range from \$195 to \$440 million in 2025 due to avoided emissions of sulfur dioxide, oxides of nitrogen, and particulate matter.<sup>135</sup>

The Network Upgrades would support the addition of other solar projects that are behind Friesian in the interconnection queue, as well as other solar and solar + storage facilities that may be developed in southeastern North Carolina. Without the Network Upgrades, Duke’s ability to add new solar resources will be limited which will deprive ratepayers of cost savings, lower CO2 emissions, and human health benefits demonstrated in the Clean Energy scenario.<sup>136</sup>

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<sup>131</sup> *Id.*

<sup>132</sup> T. Vol. 2, pp. 119-20.

<sup>133</sup> T. Vol. 2, p. 120.

<sup>134</sup> *Id.*

<sup>135</sup> T. Vol. 2, pp. 120-21.

<sup>136</sup> *Id.*

A clean energy future that relies on a substantial buildout of renewable solar and battery storage resources is in the public interest for North Carolina ratepayers.<sup>137</sup> This type of generating resource portfolio is not only least-cost, saving ratepayer money, but also has benefits in the form of reduced air emissions and improved public health. Investments in solar projects in the near term, like the one proposed by Friesian and those that are dependent on the Network Upgrades, are an essential part of realizing the sort of portfolio described in the Clean Energy scenario. The public benefits of constructing the Friesian Upgrades and thereby allowing the Friesian project and other solar project development in southeastern North Carolina to move forward exceed the \$223 million cost of the Network Upgrades by a wide margin.<sup>138</sup>

**5. The benefits of the Friesian Upgrades are not “speculative.”**

The Public Staff has argued that the benefits of the Friesian Network Upgrades are “speculative” because (1) DEP has not yet filed a CPCN application for the proposed natural gas plant (Q399) that is interdependent on Friesian Upgrades and that plant may not provide to be in the public interest;<sup>139</sup> and (2) it is has not been established that planned solar additions in southeastern North Carolina are in fact needed and in the public interest.<sup>140</sup> The fact that the Public Staff cannot state with certainty whether Q399 will be constructed and which projects in the interconnection queue will ultimately be connected to DEP’s system in no way makes necessary improvements to DEP’s transmission system “speculative.” The Public Staff’s assertion overlooks the fact that DEP has plans for two new natural gas plants in the southeastern portion of the state

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<sup>137</sup> T. Vol. 2, pp. 123-24.

<sup>138</sup> *Id.*

<sup>139</sup> T. Vol. 3, pp. 132-33, 201.

<sup>140</sup> T. Vol. 3, p. 133.

and that there is about 3,898 MW of proposed renewable resources in the constrained area.<sup>141</sup> DEP's natural gas plant (Q399) and about 1,561 MW of additional solar resources are interdependent on the Friesian Upgrades. In addition to those generation projects behind Friesian in the interconnection queue, DEP has directly stated that substantial Network Upgrades will be needed to accommodate the addition of a substantial amount of new grid resources (not limited to solar resources).<sup>142</sup> DEP has made it clear that the Network Upgrades are the type of requisite Network Upgrades that will help to accommodate the interconnection of a substantial amount of additional renewable and other resources, including Duke Energy's 1235-MW Combined Cycle Plant that is interdependent on the Friesian Upgrades.<sup>143</sup> Even if some of the generation shown in Duke's 2018 IRP and 2019 IRP Updates is not ultimately constructed, the Network Upgrades are required to connect new generation resources in this area of the state. If the Friesian Network Upgrades are not constructed, additional generation in the area will not be "speculative" – as opposed to being "speculative," there will be no new generation added to DEP's system until Duke invests in excess of \$200 million to re-conductor multiple transmission lines.

**6. Construction of the Friesian Upgrades should not be deferred.**

The Public Staff "strongly agrees that major infrastructure upgrades will most likely be needed to incorporate new technology and additional clean energy from distributed energy resources," but has presented no evidence of how North Carolina's energy future can be achieved without the Network Upgrades and recommends that construction of the Network Upgrades be deferred until comprehensive system planning has been conducted.<sup>144</sup> Thus, despite

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<sup>141</sup> T. Vol. 2, pp. 31, 87-88.

<sup>142</sup> Duke Attorney Letter.

<sup>143</sup> Duke Attorney Letter; T. Vol. 2, 86-89.

<sup>144</sup> T. Vol. 3, p. 139.

Friesian's evidence, and Duke's concurrence, that the Network Upgrades are essential to that future, the Public Staff asks this Commission to block those Upgrades from being made now and expose ratepayers to the risk of significantly increased costs and delays from re-studying and constructing the Upgrades at a later point in time.

The Public Staff's recommendation is ill-advised for several reasons.<sup>145</sup> First, given the certainty that significant amounts of new generation will be needed in eastern North Carolina in the coming decade and the importance of the Network Upgrades to the development of such additional generation (as discussed in the Duke President Letter and the Duke Attorney Letter), it is inevitable that the Network Upgrades will be required, and very likely that they will be paid for by ratepayers. Delaying the inevitable improvement to DEP's transmission system will accomplish nothing except to delay DEP's ability to add new generation and to increase the cost of Network Upgrades to ratepayers. In particular, the timing of the IRP and the Integrated Systems Operations Planning (ISOP) create risk of delays in bringing new generation online, will result in additional costs for restudy, and will increase the costs for the Network Upgrades if they constructed at a later date.<sup>146</sup> The transmission system planning to support Governor Cooper's Clean Energy Plan may not begin until 2021. Similarly, the ISOP will not be approved until the 2021 IRP process and will not go into effect until the start of 2022.<sup>147</sup> As Duke describes in the Duke Attorney Letter, it is evident to Duke and Friesian that the "need for the Friesian Network Upgrades will not go away" and "if the Friesian Network Upgrades are not constructed at this

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<sup>145</sup> T. Vol. 2, pp. 43-44.

<sup>146</sup> *Id.*

<sup>147</sup> *Id.*

time, there will be a further substantial delay in the interconnection of any additional generating facilities in this area of DEP.”<sup>148</sup>

**IV. CONCLUSION**

For all of the reasons set forth above, Friesian respectfully requests that the Commission approve Friesian Holdings, LLC’s CPCN Application.

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<sup>148</sup> Duke Attorney Letter.

Respectfully submitted this the 10th day of February, 2020.



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CERTIFICATE OF SERVICE

This is to certify that the undersigned has this day served the foregoing Post-Hearing Brief of Friesian Holdings, LLC upon all parties of record by electronic mail.

This 10th day of February, 2020.



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Karen M. Kemerait

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