



**NORTH CAROLINA  
PUBLIC STAFF  
UTILITIES COMMISSION**

April 15, 2020

Ms. Kimberley A. Campbell, Chief Clerk  
North Carolina Utilities Commission  
4325 Mail Service Center  
Raleigh, North Carolina 27699-4300

Re: Docket No. EMP-108, Sub 0 – Application for a Certificate of Public Convenience and Necessity for a 110-MW Solar Facility in Halifax County, North Carolina

Dear Ms. Campbell:

In connection with the above-referenced docket, we transmit herewith for filing on behalf of the Public Staff the testimony of Jay B. Lucas, Utilities Engineer, Electric Division.

By copy of this letter, we are forwarding a copy of the redacted version to all parties of record by electronic delivery. The confidential version will be provided to those parties that have entered into a confidentiality agreement.

Sincerely,

/s/ Nadia L. Luhr  
Staff Attorney  
[nadia.luhr@psncuc.nc.gov](mailto:nadia.luhr@psncuc.nc.gov)

Attachment(s)

<b>Executive Director</b> (919) 733-2435	<b>Communications</b> (919) 733-5610	<b>Economic Research</b> (919) 733-2267	<b>Legal</b> (919) 733-6110	<b>Transportation</b> (919) 733-7766
<b>Accounting</b> (919) 733-4279	<b>Consumer Services</b> (919) 733-9277	<b>Electric</b> (919) 733-2267	<b>Natural Gas</b> (919) 733-4326	<b>Water</b> (919) 733-5610

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Apr 15 2020

BEFORE THE NORTH CAROLINA UTILITIES COMMISSION

DOCKET NO. EMP-108, SUB 0

In the Matter of	)	
Application of American Beech Solar	)	TESTIMONY OF
LLC for a Certificate of Public	)	JAY B. LUCAS
Convenience and Necessity to	)	PUBLIC STAFF – NORTH
Construct a 110-MW Solar Facility in	)	CAROLINA UTILITIES
Halifax County, North Carolina	)	COMMISSION

**BEFORE THE NORTH CAROLINA UTILITIES COMMISSION  
DOCKET NO. EMP-108, SUB 0**

**Testimony of Jay B. Lucas  
On Behalf of the Public Staff  
North Carolina Utilities Commission**

**April 16, 2020**

1 **Q. PLEASE STATE YOUR NAME, BUSINESS ADDRESS, AND PRESENT**  
2 **POSITION.**

3 A. My name is Jay B. Lucas. My business address is 430 North Salisbury  
4 Street, Dobbs Building, Raleigh, North Carolina. I am an engineer with the  
5 Electric Division of the Public Staff – North Carolina Utilities Commission.

6 **Q. BRIEFLY STATE YOUR QUALIFICATIONS AND DUTIES.**

7 A. My qualifications and duties are included in Appendix A.

8 **Q. WHAT IS THE PURPOSE OF YOUR TESTIMONY?**

9 A. The purpose of my testimony is to make recommendations to the  
10 Commission on the request for a Certificate of Public Convenience and  
11 Necessity (CPCN) filed on January 28, 2020, by American Beech Solar LLC  
12 (Applicant), to construct a 110-megawatt AC ( $MW_{AC}$ ) solar photovoltaic (PV)  
13 merchant electric generating facility in Halifax County, North Carolina (the  
14 Facility). My testimony also provides the Public Staff's position on the  
15 estimated cost of network upgrades that would be necessary for the Facility  
16 to interconnect to the grid.

1 **Q. PLEASE BRIEFLY DESCRIBE THE GENERATION FACILITY**  
2 **PROPOSED TO BE CONSTRUCTED BY THE APPLICANT.**

3 A. The Applicant proposes to construct a 110-MW<sub>AC</sub> solar PV electric  
4 generating facility in Halifax County, North Carolina. The Facility's inverters  
5 will provide alternating current at 34,500 volts (34.5 kV) which will be  
6 stepped up to 115 kV in order to connect to an existing Dominion Energy  
7 North Carolina (DENC) transmission line. The yearly generation is  
8 anticipated to be approximately 267,000 MWh. Solar is an intermittent  
9 energy source; therefore, the maximum dependable capacity of the Facility  
10 is 0 MW. The expected life of the Facility is a minimum of 20 years.

11 **Q. HAS THE APPLICANT SHOWN A NEED FOR ITS PROPOSED**  
12 **FACILITY?**

13 A. Yes. The Facility will interconnect with the transmission system of DENC,  
14 which is a member of PJM. The Applicant stated it is actively negotiating  
15 power purchase agreements (PPAs) with a group of investment-grade off-  
16 takers for all of the Facility's output and is expecting the PPAs to be  
17 executed in the first quarter of 2020.

18 The Applicant anticipates contracting the sale of energy, capacity, and  
19 renewable energy certificates from the Facility within the PJM market. The  
20 Applicant provided a chart in Schedule 4 produced by the Business

1 Renewables Center<sup>1</sup> that projects corporate demand for renewable energy  
2 and RECs in PJM to be strong over the next few years.

3 In addition, on August 29, 2019, DENC filed an update to its Integrated  
4 Resource Plan (IRP) that indicates it is planning for the development of  
5 5,400 MW of solar generation by 2044. Appendix 2H of the update indicates  
6 that summer peak demand will increase through 2034. Appendix 2I  
7 indicates that energy consumption will increase through 2034 as well.

8 **Q. HAS THE APPLICANT COMPLIED WITH THE COMMISSION'S FILING**  
9 **REQUIREMENTS?**

10 A. Yes. The Public Staff reviewed the application and the direct testimony of  
11 the Applicant's witness, Whitney Rubin, and determined that the application  
12 is complete.

13 On February 6, 2020, the Public Staff filed a Notice of Completeness and  
14 requested that the Commission issue a procedural order setting the  
15 application for hearing.

16 On March 12, 2020, the Commission issued an Order Scheduling Hearing,  
17 Requiring Filing of Testimony, Establishing Procedural Guidelines, and  
18 Requiring Public Notice (Scheduling Order).

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<sup>1</sup> The Business Renewables Center is a member-based platform that streamlines and accelerates corporate purchasing of off-site, large-scale wind and solar energy. It was founded in 2014 in coordination with the Rocky Mountain Institute (RMI), corporations, project developers, and intermediaries. <https://businessrenewables.org/>

1 **Q. HAS THE APPLICANT PROVIDED ANY TESTIMONY REGARDING**  
2 **NETWORK UPGRADES?**

3 A. Yes. The direct testimony of Ms. Rubin stated that the Facility would require  
4 network upgrades at an estimated cost of **[BEGIN CONFIDENTIAL]**  
5 **[REDACTED]** **[END CONFIDENTIAL]**. Ms. Rubin further indicated that the  
6 Applicant will be funding the entire cost of these upgrades and does not  
7 expect to receive reimbursement of those costs from PJM, DENC, or  
8 DENC's ratepayers.

9 **Q. DOES THE PUBLIC STAFF HAVE ANY CONCERNS REGARDING THE**  
10 **APPLICANT'S TESTIMONY ON NETWORK UPGRADES?**

11 A. Not at this time. The Applicant has allayed the Public Staff's concerns  
12 regarding the potential for significant network upgrade costs that could be  
13 borne by the using and consuming public. However, if this potential arises  
14 in the future, the Public Staff would re-evaluate its position on this issue.

15 **Q. HAS THE STATE CLEARINGHOUSE PROJECTED A FILING DATE FOR**  
16 **COMPLETION OF ITS REVIEW?**

17 A. Yes. On March 18, 2020, the State Clearinghouse notified the Commission  
18 that the review of the project should be completed on April 16, 2020.

19 **Q. WHAT IS THE PUBLIC STAFF'S RECOMMENDATION ON THE**  
20 **APPLICATION FOR A CPCN?**

21 A. The Public Staff recommends that the application be approved subject to  
22 the following conditions:

- 1           1.     The Applicant shall construct and operate the Facility in strict  
2                     accordance with applicable laws and regulations, including any local  
3                     zoning and environmental permitting requirements;
- 4           2.     The Applicant shall not begin construction until the State  
5                     Clearinghouse files comments indicating that no further review action  
6                     by the Commission is required for compliance with the North Carolina  
7                     Environmental Policy Act;
- 8           3.     The CPCN shall be subject to Commission Rule  
9                     R8-63(e) and all orders, rules and regulations as are now or may  
10                    hereafter be lawfully made by the Commission; and
- 11          4.     The Applicant shall file with the Commission in this docket a progress  
12                     report and any revisions in the cost estimates for the construction of  
13                     the Facility on an annual basis, including any costs for network  
14                     upgrades.

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

16   A.     Yes, it does.

**QUALIFICATIONS AND EXPERIENCE**

JAY B. LUCAS

I graduated from the Virginia Military Institute in 1985, earning a Bachelor of Science Degree in Civil Engineering. Afterwards, I served for four years as an engineer in the Air Force performing many civil and environmental engineering tasks. I left the Air Force in 1989 and attended the Virginia Polytechnic Institute and State University (Virginia Tech), earning a Master of Science degree in Environmental Engineering. After completing my graduate degree, I worked for an engineering consulting firm and worked for the North Carolina Department of Environmental Quality in its water quality programs. Since joining the Public Staff in January 2000, I have worked on utility cost recovery, renewable energy program management, customer complaints, and other aspects of utility regulation. I am a licensed Professional Engineer in North Carolina.