



**NORTH CAROLINA  
PUBLIC STAFF  
UTILITIES COMMISSION**

October 25, 2019

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

Re: Docket No. EMP-107, Sub 0 – Application for CPCN to Construct an  
80-MW Electric Merchant Plant in Halifax County, North Carolina

Dear Ms. Campbell:

In connection with the above-referenced docket, I 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 copies to all parties of record.

Sincerely,

/s/ Megan Jost  
Staff Attorney  
[megan.jost@psncuc.nc.gov](mailto:megan.jost@psncuc.nc.gov)

MJ/cia

Attachment

<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

4326 Mail Service Center • Raleigh, North Carolina 27699-4300  
An Equal Opportunity / Affirmative Action Employer

OFFICIAL COPY

Oct 25 2019

BEFORE THE NORTH CAROLINA UTILITIES COMMISSION

DOCKET NO. EMP-107, SUB 0

In the Matter of	)	
Application of Halifax County Solar LLC	)	TESTIMONY OF
for a Certificate of Public Convenience	)	JAY B. LUCAS
and Necessity to Construct an 80-MW	)	PUBLIC STAFF – NORTH
Solar Facility in Halifax County, North	)	CAROLINA UTILITIES
Carolina	)	COMMISSION

**BEFORE THE NORTH CAROLINA UTILITIES COMMISSION  
DOCKET NO. EMP-107, SUB 0**

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

**October 25, 2019**

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 August 30, 2019, by Halifax County Solar LLC  
12 (Applicant), to construct an 80-megawatt AC (MW<sub>AC</sub>) 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 potential 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 an 80-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 190,000 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 a  
15 power purchase agreement (PPA) with an out-of-state corporate buyer for  
16 all of the Facility's output and is expecting the PPA to be executed in the  
17 fourth quarter of 2019. The renewable energy certificates (RECs) will be  
18 bundled with the energy and capacity of the Facility and sold as part of the  
19 PPA.

20 The Applicant also believes it can secure offtake from the Facility within the  
21 PJM market. It provided a chart produced by the Business Renewables

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

3 In addition, on August 30, 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, Christopher Killenberg, and determined that the  
12 application is complete.

13 On September 16, 2019, the Public Staff filed a Notice of Completeness  
14 and requested that the Commission issue a procedural order setting the  
15 application for hearing.

16 On September 25, 2019, the Commission issued an Order Scheduling  
17 Hearing, Requiring Filing Testimony, Establishing Procedural Guidelines,  
18 and Requiring Public Notice (Scheduling Order). Among other things, the

---

<sup>1</sup> The Business Renewables Center (BRC) 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 Scheduling Order directed the Applicant to file additional testimony  
2 addressing the extent to which network upgrades might be required on the  
3 DENC transmission system to accommodate the operation of the Facility.

4 **Q. HAS THE APPLICANT COMPLIED WITH THE PORTION OF THE**  
5 **COMMISSION'S ORDER DATED SEPTEMBER 25, 2019, REGARDING**  
6 **NETWORK UPGRADES?**

7 A. Yes. On October 18, 2019, the Applicant filed the supplemental direct  
8 testimony of Mr. Killenberg, as required by the Commission's Scheduling  
9 Order. Mr. Killenberg stated that the initial System Impact Study for the  
10 Facility revealed it would require network upgrades at a cost of  
11 \$32,778,412. However, a number of prior-queued projects subsequently  
12 withdrew from the PJM queue which resulted in the Facility either not  
13 requiring the network upgrades or not being the first facility to cause the  
14 need for such upgrades. Mr. Killenberg further stated that a major re-  
15 conductoring project for which the Applicant was initially allocated a portion  
16 of the cost was recently approved by PJM as a baseline project that will be  
17 funded by PJM. Therefore, the Applicant does not expect to incur any cost  
18 responsibility for network upgrades. Mr. Killenberg also stated that network  
19 upgrade costs allocated by and paid to PJM by the Applicant would not be  
20 eligible for reimbursement, consistent with the terms of the PJM Open

1 Access Transmission Tariff.<sup>2</sup> Mr. Killenberg included a footnote on page two  
2 of his supplemental testimony that stated, “It is unclear at present whether  
3 the Project will trigger Upgrades on Affected Systems, the cost of which may  
4 be eligible for reimbursement. No Affected Systems Study has been  
5 conducted at this time.”

6 **Q. DOES THE PUBLIC STAFF HAVE ANY CONCERNS REGARDING THE**  
7 **APPLICANT’S TESTIMONY ON NETWORK UPGRADES?**

8 A. Not at this time. The Applicant has allayed the Public Staff’s concerns  
9 regarding the potential for significant network upgrades that could be borne  
10 by the using and consuming public. However, if this potential arises in the  
11 future, the Public Staff would re-evaluate its position on this issue.  
12 Regarding the footnote quoted above, the Public Staff believes that the  
13 possibility of the Facility triggering upgrades on affected systems is very  
14 remote because the Applicant is constructing a new substation on the 115  
15 kV transmission line that is solely for use by the Facility.

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

---

<sup>2</sup> The PJM Interconnection, LLC, Open Access Transmission Tariff can be found here:  
<https://www.pjm.com/directory/etariff/FercDockets/1/20100917-er10-2710-000.pdf>

1 A. Yes. On October 11, 2019, the State Clearinghouse notified the  
2 Commission that the review of the project should be completed on October  
3 31, 2019.

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

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

8 1. The Applicant shall construct and operate the Facility in strict  
9 accordance with applicable laws and regulations, including any local  
10 zoning and environmental permitting requirements;

11 2. The Applicant shall not begin construction until the State  
12 Clearinghouse files comments indicating that no further review action  
13 by the Commission is required for compliance with the North Carolina  
14 Environmental Policy Act;

15 3. The CPCN shall be subject to Commission Rule  
16 R8-63(e) and all orders, rules and regulations as are now or may  
17 hereafter be lawfully made by the Commission; and

18 4. The Applicant shall file with the Commission in this docket a progress  
19 report and any revisions in the cost estimates for the construction of  
20 the Facility on an annual basis, including any costs for network  
21 upgrades.



- 1 Q. DOES THIS CONCLUDE YOUR TESTIMONY?
- 2 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.