

PRE-FILED DIRECT TESTIMONY OF
KARA PRICE
ON BEHALF OF SUMAC SOLAR LLC
NCUC DOCKET NO. EMP-110, SUB 0

INTRODUCTION

Q. PLEASE STATE YOUR NAME, TITLE, AND BUSINESS ADDRESS.

A. My name is Kara Price. I am senior vice president of permitting and development for Geenex Solar, LLC (“Geenex Solar”) based in Charlotte, North Carolina. The company’s address is 1930 Abbott Street, Suite 402, Charlotte, NC 28203.

Q. PLEASE DESCRIBE YOUR EDUCATION AND PROFESSIONAL EXPERIENCE.

A. I have more than eight (8) years of experience in the solar development industry. I have been personally involved in the development and permitting of more than 1,000 MW of solar projects in the southeastern United States. I have been employed with Geenex Solar for three (3) and a half years and have been actively engaged in the oversight of permitting and project development of Geenex Solar-initiated projects since August 2016. Prior to joining the solar industry, the majority of my career was spent in business development and project management. I earned a Bachelor of Arts in Journalism from the University of North Carolina at Chapel Hill.

Q. PLEASE DESCRIBE YOUR RELATIONSHIP WITH THE APPLICANT IN THIS DOCKET AND YOUR EMPLOYMENT RESPONSIBILITIES.

A. Geenex Solar is the owner and developer of Sumac Solar LLC (“Sumac Solar” or “Applicant”) for the Sumac Solar Project (hereinafter, the “Project” or “Sumac Solar Project”). Sumac Solar LLC is a North Carolina limited liability company. As the owner and developer, Geenex Solar is currently responsible for all stages of development for the project including site identification, land acquisition, environmental reviews, local land use permitting, and state

1 permitting. In my current role for Geenex Solar and Sumac Solar, I manage the due diligence
2 process to ensure that Sumac Solar adheres to all regulations and obtains all permits necessary for
3 solar facility development construction and operation.

4 My current responsibilities in my role at Geenex Solar include obtaining all local land use
5 permits for utility-scale solar projects. This oversight includes understanding all zoning and
6 comprehensive plan guidelines for each jurisdiction, submitting permit applications and all
7 required studies/documentation, coordinating expert witnesses, engaging with local officials and
8 the community, and managing legal processes relating to permit approval. These responsibilities
9 listed here are my primary focus in directing development activity for the Sumac Solar Project.

10 Geenex Solar develops high-quality solar projects ultimately for sale to its partners and
11 investors. Geenex Solar is skilled in all aspects of a solar project's development including site
12 evaluation, real estate procurement, facility and interconnection engineering, environmental
13 analysis, power purchase agreements, as well as federal, state, and local permitting processes.

14 **Q. HAVE YOU PREVIOUSLY TESTIFIED BEFORE THIS COMMISSION?**

15 A. I have previously testified before the North Carolina Utilities Commission on
16 behalf of Fern Solar LLC in its application for a Certificate of Public Convenience and Necessity
17 in NCUC Docket No. EMP-104 Sub 0.

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

19 A. The purpose of my testimony is to provide the Commission with background
20 information about the Sumac Solar Project and its development process. The information I am
21 providing will serve to expand on topics in Sumac Solar's application, including the regulatory
22 and permitting process for the Project, community engagement related to the Project, and its
23 current permitting status.

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COMPANY BACKGROUND AND PROJECT FINANCE

Q. PLEASE DESCRIBE THE COMPANY’S TECHNICAL EXPERIENCE AND FINANCIAL CAPABILITIES TO OWN AND OPERATE THE PROJECT.

A. As described in the application, Geenex Solar is a Delaware Limited Liability Company formed on July 18, 2013 with its principal place of business in Charlotte, North Carolina. Sumac Solar LLC was formed on August 12, 2016, as a North Carolina limited liability company. Sumac Solar and Geenex Solar are wholly-owned subsidiaries of the same parent company, Geenex Holding LLC (“Geenex Holding”).

Geenex Solar has proven experience to prepare a site for development as a solar facility. Its experts serve to lead important aspects of the development process including land acquisition, site analysis, environmental assessments, facility permitting, utility interconnection, and power purchase agreements. Our partners and investors understand that our projects will be developed on-time, on-budget, and in accordance with all local, state and federal permitting requirements. As mentioned in this application, Geenex Solar has developed or is developing 28 solar facilities throughout the United States including projects in Kentucky, Virginia, Ohio, Indiana, and North Carolina. With the completion of these additional projects and the Project, Geenex Solar expects to develop approximately 4 gigawatts (“GW”) of capacity across the United States. Geenex Solar’s business model is ultimately to sell its solar projects to its collaborating partners for construction and operation of the facilities.

Geenex Solar also has the financial capacity to build and operate the Project. The development of the Project is funded by Geenex Solar through available readily available funds and a credit facility provided by a specialty lender. Geenex has a proven track record of partnering

1 with large reputable investors and renewable energy firms to take permitted projects through
2 construction to commercial operation. Geenex has achieved this through a network of ongoing
3 relationship and partnerships with specialty lenders, financial institutions and funds, utilities and
4 national and international renewable energy firms. Looking only at large transmission connected
5 projects, there are currently three (3) Geenex developed projects totaling 230 MW in operation (all
6 in NC), and a further five (5) projects totaling 340 MW under construction (one in NC). The most
7 recent consolidated financial statements of Geenex Solar for 2018 are provided as Schedule 3 to
8 the Application.

9 **Q. HOW WILL THE PROJECT BE FINANCED?**

10 A. The development of the Project is funded through readily available funds and a
11 credit facility provided by a specialty lender. During the CPCN approval process, and prior to the
12 purchasing of major equipment and commencing construction, Geenex will execute a partnership
13 agreement with a financial partner. Together we will obtain a construction loan from a third-party
14 lender, likely a commercial bank. About 80% of project cost can be financed through a loan.
15 During construction, Geenex will work with our chosen partner to raise tax equity, additional cash
16 equity, and long term debt. The loan will be retired when the project goes operational with proceeds
17 from term debt and tax equity.

18 **Q. WHAT IS THE CONSTRUCTION TIMELINE FOR THE FACILITY?**

19 A. As discussed in the Application Exhibit 2, Construction for the project is expected
20 to proceed to begin construction in the second quarter of 2021 with an estimated date of
21 commercial operation date in the fourth quarter of 2022.

22 **Q. DESCRIBE GEENEX'S EXPERIENCE WITH RAISING PROJECT**
23 **FINANCING.**

1 bus switching station that connects on the Cashie-Trowbridge 230kV line after a new step-up
2 transformer.

3 Sumac Solar expects to enter into an Interconnection Service Agreement with Dominion,
4 and PJM Interconnection LLC by Q2 2021. This Interconnection Service Agreement will provide
5 the terms and conditions under which the Project will interconnect.

6 **Q. DOES THE APPLICANT HAVE PLANS TO INCORPORATE ENERGY**
7 **STORAGE AT THE FACILITY?**

8 A. At this time the Applicant has no plans to include energy storage at the Facility.

9 **Q. WHAT IS THE PROJECT'S ANTICIPATED ELECTRICITY**
10 **PRODUCTION CAPABILITY?**

11 A. The nameplate generating capacity of the Project is 120 MW (AC) with anticipated
12 generation of 270 GWh of electricity per year. Because solar power is subject to intermittent solar
13 irradiance, Sumac Solar's maximum dependable capacity is projected to be 0 MW during some
14 hours of the day.

15 **Q. PLEASE DESCRIBE THE BASIC COMPONENTS OF THE FACILITY.**

16 A. For the Sumac Solar project, 120 MW of mono- or poly-crystalline photovoltaic
17 solar modules will be installed on single-axis trackers. These trackers are installed on a north-south
18 axis tilting in an east-west direction to enable the modules to follow the sun throughout the day.
19 Trackers consist of galvanized steel and are anchored on H-shaped steel posts that are driven about
20 6 feet into the ground. The trackers do not have a concrete foundation. The total number of modules
21 will be roughly 395,720 for these 3.2 MW inverters.

22 Forty (40) inverters will transform DC power generated by the solar modules into 120 MW
23 of AC capacity. Forty transformers will step the voltage of generated power up from 550 – 600V

1 at the inverters to 34.5kV. Power from these 40 step-up transformers will be collected at the main
2 power transformer, which will further increase voltage to 230kV, so as to align with the voltage at
3 the switching station which will be built for the project. The switching station will connect to the
4 existing 230kV transmission lines crossing the project site. Note that this electrical configuration
5 may change prior to construction due to factors such as changes in component characteristics and
6 availability, as well as site engineering issues.

7 The project is located on a number of adjacent and non-adjacent parcels of land. The
8 individual blocks of trackers with solar modules will be connected through medium-voltage cable
9 runs between the parcels. These connections will be using either overhead poles or buried cable
10 installed in culverts or via directional boring. Where projects parcels are not adjacent, easements
11 with neighboring landowners have been secured to allow for installation of power lines.

12 There are currently no plans to include energy storage with the project.

13 **Q. PLEASE EXPLAIN THE NEED FOR THE FACILITY.**

14 A. Sumac Solar Project is expected to generate about 270 GWh per year, which will
15 be injected into the existing power grid.

16 The Project will interconnect with the Dominion Energy transmission grid, affording it
17 access to the PJM Interconnection (“PJM”), a Regional Transmission Organization (“RTO”) in
18 which Dominion participates. PJM coordinates the movement of electricity through all or parts of
19 Delaware, Illinois, Indiana, Kentucky, Maryland, Michigan, New Jersey, North Carolina, Ohio,
20 Pennsylvania, Tennessee, Virginia, West Virginia, and the District of Columbia.

21 As discussed in Exhibit 3 of the Application, projections for corporate purchase of energy
22 and renewable energy credits (“RECs”) from solar facilities in the southeast market of PJM is

1 expected to increase over the next few years. Sumac Solar believes that healthy market conditions
2 will create sustainable offtake for its production.

3 Demand for renewable power is expected to increase in the Southeast over the expected
4 lifetime of the Project. Dominion Energy has committed to increasing its use of renewable power
5 to generate 5,000 MW of electricity by 2028. As noted in Exhibit 1 and on Schedule 4 to the
6 Application, the Business Renewables Center, a non-profit initiative that is the leading industry
7 convener between corporate renewable energy buyers and renewable energy developers, predicts
8 that the demand for renewable energy in the PJM market, described below, will increase over the
9 next year as shared in a chart with its members in April 2018. Projections from PJM indicate that
10 the demand for power, particularly in the Southeast, will increase as described below.

11 Dominion's commitment is consistent with state-level policy set by the Virginia General
12 Assembly, which affirmed the growing importance of renewable energy generation in passing the
13 Grid Transformation and Security Act of 2018 (the "GTSA"), signed into law by Governor Ralph
14 Northam on March 9, 2018. The GTSA finds that up to an additional 5,000 MW of utility-scale
15 electric generating facilities powered by solar and wind energy is in the public interest, along with
16 up to an additional 500 MW of non-utility scale solar or wind generating facilities, including
17 rooftop solar installations.

18 Sumac Solar anticipates contracting the sale of energy, capacity, and Renewable Energy
19 Credits ("RECs") through PJM. Load growth for the PJM RTO as a whole, and more specifically
20 for the Dominion Virginia power zone, which serves parts of Eastern North Carolina and Virginia,
21 is expected to increase over the next ten to fifteen years as described below for both winter and
22 summer months.

1 Summer peak load in PJM is expected to grow by 0.3% per year over the next ten years,
2 and by 0.3% over the next 15 years.¹ For the Dominion Virginia Power zone, summer peak load
3 growth is expected to grow by 0.9% per year over the next ten years, and 0.8% per year over the
4 next fifteen years.² The anticipated ten year summer peak load growth in the Dominion Virginia
5 Power zone represents 1.4% growth over the January 2018 load forecast report.³

6 Winter peak load growth in PJM is projected to average 0.4% per year over the next 10-
7 year period, and 0.4% over the next 15-years.⁴ Winter peak load growth for the Dominion Virginia
8 Power zone is expected to grow by 0.9% per year over the ten years, and 0.9% per year over the
9 next nine to fifteen years.⁵ The anticipated ten year winter peak load growth in the Dominion
10 Virginia Power zone represents 1.4% growth over the January 2018 load forecast report.⁶

11 The PJM service area of North Carolina has slightly higher projected load growth than
12 Virginia. North Carolina is expected to average between 0.9 and 1.1% per year over the next 10
13 years versus the PJM RTO load growth projections to average between 0.3% and 0.4% over the
14 next ten years.⁷

15 **Q. DESCRIBE THE OFFTAKE PLANS FOR THE PROJECT.**

16 A. Geenex Solar has substantial experience with solar power development and offtake
17 in the PJM market and the expectations for power purchase from the PJM market in the southeast

¹ 2019 PJM Load Forecast Report (Mar. 2019 – RPM Update), available at <https://www.pjm.com/-/media/library/reports-notices/load-forecast/2019-rpm-load-forecast.ashx?la=en>, at 43-44.

² *Id.*

³ *Id.* at 40.

⁴ *Id.* at 47-48.

⁵ *Id.*

⁶ *Id.*

⁷ PJM, 2018 North Carolina State Infrastructure Report (January 1, 2018 – December 31, 2018), May 2019, 21, available at <https://www.pjm.com/-/media/library/reports-notices/state-specific-reports/2018/2018-north-carolina-state-data.ashx?la=en>.

1 United States are strong. Geenex Solar has previously secured and is actively negotiating for over
2 3.25 GW of offtake within the PJM market, and is using this experience to secure offtake for
3 Sumac Solar.

4 The Sumac Solar Project will interconnect with the Dominion Energy transmission grid,
5 affording it access to the PJM Interconnection (“PJM”), a Regional Transmission Organization
6 (“RTO”) in which Dominion participates. As discussed in Exhibit 3 to the Application, the Project
7 is poised to take advantage of several offtake opportunities in the PJM market, and the long-term
8 offtake prospects for renewable energy, renewable energy credits, and ancillary services generated
9 by the Project are very favorable.

10 Sumac Solar is in active negotiations with a renewable energy developer/investor who will
11 own, operate, and secure the power purchase agreements for the off-take of the 120 MW
12 facility. The final owner/operator will be secured by 4th quarter of 2020 if not sooner.

13 **Q. WHAT ARE THE LONG-TERM PLANS FOR OWNERSHIP OF THE**
14 **PROJECT?**

15 A. Sumac Solar currently has a number of interested development partners seeking to
16 own and operate the project. These investors are all highly experienced in marketing, owning, and
17 operating renewable energy assets. Geenex Solar will continue to lead the project through
18 development up until notice-to-proceed for construction at which point the final owner/operator
19 will take over.

1 been conducted, but no final preliminary jurisdictional determination has been made by the Corps
2 at this time.

3 The facility may apply for Market-Based Rate Authorization from the Federal Energy
4 Regulatory Commission (“FERC”), pursuant to Sections 205 and 206 of the Federal Power Act,
5 and may seek to self-certify with FERC as an Exempt Wholesale Generator pursuant to the Public
6 Utility Holding Company Act of 2005.

7 **Q. DOES BERTIE COUNTY HAVE A SOLAR ENERGY ORDINANCE?**

8 A. No, Bertie County does not have a zoning ordinance that relates to solar facilities.
9 The County has other solar facilities in operation. Bertie County Commissioners and County
10 Administration have expressed their desire to continue to allow for solar facilities in the future
11 without the application of any particular zoning requirements.

12 Despite the lack of particular zoning requirements, the site is buffered from view from most
13 roadways by natural vegetative buffering and continuing farm operations, and significant setbacks
14 and buffering consideration has been given to neighboring landowners. The decommissioning
15 plan that is part of each Landowner’s agreement is attached as Schedule 7 to the Application. The
16 decommissioning plan provides that at the end of the Facility’s useful life, the Site will be
17 stabilized and restored in such a manner to ensure it is clean, safe, and environmentally stable.
18 Environmentally conscious practices are developing so that solar photovoltaic (“PV”) panels can
19 be collected and recycled at the end of their useful life rather than deposited in a landfill.⁸

20 **COMMUNITY ENGAGEMENT AND BENEFITS**

⁸ NC Clean Energy Technology Center, “Health and Safety Impacts of Solar Photovoltaics” (May 2017), available at https://nccleantech.ncsu.edu/wp-content/uploads/2018/10/Health-and-Safety-Impacts-of-Solar-Photovoltaics-2017_white-paper.pdf.

1 **Q. PLEASE DESCRIBE THE ANTICIPATED BENEFITS OF THE PROJECT**
2 **TO THE LOCAL COMMUNITY.**

3 A. Sumac Solar expects to generate a significant amount of property taxes for Bertie
4 County. First, by leasing land, with purchase options to acquire the site on which the Facility is
5 located, Sumac Solar estimates approximately \$3,276,000 of real property tax revenue over the
6 thirty-five (35) year project life for Bertie County.⁹ “Rollback taxes” or the amount owed for three
7 year agriculture deferral will amount to approximately \$26,752 and business property taxes are
8 estimated to reach \$4,623,091 over the life of the project. Totaling these property taxes, the
9 estimated property tax revenue resulting from the project is \$8,000,000.

10 The Applicant also anticipates that the proposed Project will require the hiring of 150 to
11 200 local positions during construction. In addition to local hires, there will be a demand for
12 locally-sourced contractors (fencing, landscaping, etc.) as well as construction materials.
13 Contractors and employees traveling from outside Bertie County to assist with the Project will
14 require the services of local accommodation providers and local restaurants/grocery stores. The
15 cumulative spending in the area from the development and construction process is estimated to be
16 between \$100 million and \$120 million.

17 The proposed Project will not meaningfully increase demand for County services. It will
18 have no adverse impact on schools, law enforcement, or fire and rescue. Construction of the
19 Project will not necessitate any new or expanded public infrastructure and/or improvements. Once
20 operational, the Project will not substantially change the character of the area.

21 Lastly, the Project’s site control arrangements allow landowners involved in the Project to
22 keep their land under family control while ensuring them a long-term and stable income source

⁹ Assumed value after solar of \$8,000 per acre.

1 through long-term solar lease agreements. Many of our landowners will use this income to
2 continue agricultural operations on other land in the area.

3 **Q. WHAT ARE THE EXPECTED ENVIRONMENTAL IMPACTS OF THE**
4 **FACILITY?**

5 A. By design and by its nature as a solar PV facility, the Facility will provide clean
6 renewable power with minimal environmental impacts. The Facility will create no air or water
7 emissions or other environmental contamination, nor will it create any noise impacts outside the
8 fence line. Minimal reflectivity or glare will be created, as the panels are designed to absorb as
9 much sunlight as possible. At the end of the Facility's useful life, materials can be recycled or
10 sold for scrap, and the land can be returned to agricultural use, in accordance with the
11 Decommissioning Plan discussed previously.

12 **Q. HOW HAVE THE APPLICANTS ENGAGED THE LOCAL COMMUNITY**
13 **IN RELATION TO THE PROJECT?**

14 A. Sumac Solar and its developer Geenex Solar have been actively engaged with
15 Bertie County, North Carolina since early 2019. Sumac Solar has met with the County Manager
16 and the County Economic Development Director to discuss the project and its benefits to the Bertie
17 County community. Sumac Solar held a community information meeting at the Windsor
18 Elementary School on October 17th, 2019. Neighboring landowners within 300 feet of the
19 Project's boundary were notified by mail about this event. Development professionals associated
20 with the Project, along with industry experts, were on hand to answer questions and review Project
21 details. The Center for Energy Education was also on hand to discuss its renewable energy
22 programs.

1 Attendees at the meeting included a Bertie County Commissioner, local educators, and
2 eight other nearby landowners. Ahead of the meeting, Geenex Solar fielded approximately two
3 phone calls/emails asking for more information about the Project or inquiring if Geenex Solar
4 needed more land for the Project.

5 Sumac Solar had planned to present the project to the entire Board of County
6 Commissioners at a regular meeting. However, these meetings are not currently being held due to
7 COVID-19 restrictions. Once the County is conducting public meetings again, Sumac Solar will
8 again request an audience with the Board. In addition, the Project is negotiating an economic
9 development agreement with the County to provide financial support to County programs and
10 services as well as local nonprofits. These funds will specifically support economic development
11 efforts, as well as educational and workforce development programs.

12 Within the past year, the Center for Energy Education has hosted more than 150 Bertie
13 County students on education field trips and approximately 35 Bertie County teachers have
14 participated in training and received materials to help teach their students about renewable
15 energy. The Center for Energy Education currently plans to provide summer camps for students
16 and additional training programs during the summer of 2020 (although those plans may need to be
17 adjusted in accordance with public health concerns and state and local measures implemented to
18 combat the COVID-19 pandemic).

19 In March 2020, The Center for Energy Education also reached out to support the Bertie
20 County School System with an online educational portal and virtual classes to assist with remote
21 learning due to the COVID-19 crisis. In addition, Geenex Solar provided a financial donation in
22 April 2020 to the local school system to help support their programs and their students during the
23 transition to online classes.

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

2 A. Yes.