

**STATE OF VERMONT
PUBLIC UTILITY COMMISSION**

Case No. ____

Petition of Essex A North Lot Solar, LLC for a
certificate of public good pursuant to
30 V.S.A. § 248 for a 3.5 MW
ground-mounted solar array located off
Robinson Parkway in Essex Junction, Vermont

**PREFILED TESTIMONY AND DECLARATION OF
JAKE CLARK
ON BEHALF OF
ESSEX A NORTH LOT SOLAR, LLC**

This document and supporting exhibits have been filed ePUC

Summary of Testimony

Mr. Clark's testimony provides an overview of the Petitioner's plans to install and operate a 3.50 MW solar electric generation facility located off Robinson Parkway in Essex Junction, Vermont (Project). It also describes the proposed Project's relationship to certain criteria set forth in 30 V.S.A. § 248: orderly development of the region (§ 248(b)(1)); need (§ 248(b)(2)); system stability and reliability (§ 248(b)(3)); economic benefit to the State and its citizens (§ 248(b)(4)); public health and safety, air pollution, use of natural resources, greenhouse gas impacts (§ 248(b)(5)); transportation systems (10 V.S.A. § 6086(a)(5)); educational services (10 V.S.A. § 6086(a)(6)); municipal services (10 V.S.A. § 6086(a)(7)); historic sites (10 V.S.A. § 6086(a)(8)); development affecting public investments (10 V.S.A. § 6086(a)(9)(K)); integrated resource plan (§ 248(b)(6)); compliance with electric energy plan (§ 248(b)(7)); impact on Vermont utilities and customers (§ 248(b)(10)); setbacks (§ 248(s)); and decommissioning plan and fund (Public Utility Commission Rule 5.900). As required by Rule 5.403, Mr. Clark also provides a summary of all community outreach efforts, a summary of comments received in the 45-day advance notice period as described in section 5.402(C)(4), including written comments and oral comments made at any public hearings and the Petitioner's response to any such comments, and addresses the Commission's declaratory judgment decision regarding proposed generation projects.

Introduction

Q1. Please state your name, current employer, business address, and position.

A1. My name is Jake Clark, and I am currently the Vice President of Development at Encore Renewable Energy (Encore). My business address is 50 Lakeside Avenue, Suite 110, Burlington, VT 05401. As a certified B-Corp, Encore is a leading integrated clean energy project development company with a focus on commercial, industrial, and community-scale solar PV systems for Vermont towns, schools, businesses, and landowners. We also assist a variety of clients in navigating complex technical, financial, and regulatory matters through various stages of development. Encore is assisting Essex A North Lot Solar, LLC (“EANL Solar” or “Petitioner”) with these proposed Projects.

Q2. Please describe your educational background and work experience.

A2. I have worked at Encore since 2019. Prior to this role, I was special counsel at the Vermont Department of Public Service where I worked on a variety of certificate of public good matters. Before working for the Department of Public Service, I worked for several years as a contract attorney in the energy regulatory sector. My undergraduate degree is in mechanical engineering, and I worked in construction management on large scale (\$70MM - \$250MM) projects before earning my law degree. My resume is attached as Exhibit EANL-JC-1.

1 Q3. Who is the Petitioner and what is their address?

2 A3. As stated above, the Petitioner is Essex A North Lot Solar, LLC. The Petitioner's mailing
3 address is 50 Lakeside Avenue, Suite 110, Burlington, VT 05401. The Petitioner is a
4 Vermont limited liability company in good standing.

5
6 Q4. Have you testified previously before the Public Utility Commission ("Commission" or
7 "PUC")?

8 A4. Yes. I have provided testimony in several closed cases before the Commission. These
9 include approved solar generation projects, Case No. 22-1644-PET, Case No. 22-3427-
10 PET, Case No. 22-2628-PET and Case No. 20-1219-PET. I have also provided testimony
11 in Case No. 21-2114-PET and 21-3022-PET, approved battery energy storage projects.

12
13 Q5. What is the purpose of your testimony?

14 A5. My testimony supports EANL Solar's Petition for a Certificate of Public Good (CPG)
15 pursuant to 30 V.S.A § 248 with respect to the Petitioner's proposal to install and operate
16 a 3.50 MW ground mounted solar electric generation facility known as the Essex A North
17 Lot Solar Project located off 3000 Robinson Parkway in Essex Junction, Vermont (the
18 "Project"). I provide a Project overview and specifically address the following Section 248
19 criteria: orderly development of the region (§ 248(b)(1)); need (§ 248(b)(2)); system
20 stability and reliability (§ 248(b)(3)); economic benefit to the State and its citizens (. §
21 248(b)(4)); public health and safety, air pollution, use of natural resources, greenhouse gas
22 impacts (§ 248(b)(5)); transportation systems (10 V.S.A. § 6086(a)(5)); educational

1 services (10 V.S.A. § 6086(a)(6)); municipal services (10 V.S.A. § 6086(a)(7)); historic
2 sites (10 V.S.A. § 6086(a)(8)); development affecting public investments (10 V.S.A. §
3 6086(a)(9)(K)); integrated resource plan (§ 248(b)(6)); compliance with electric energy
4 plan (§ 248(b)(7)); impact on Vermont utilities and customers (§ 248(b)(10)); setbacks (§
5 248(s)); and decommissioning plan and fund (Public Utility Commission Rule 5.900). As
6 required by Rule 5.403, I also provide a summary of all community outreach efforts, a
7 summary of comments received in the 45-day advance notice period as described in Rule
8 5.402(C)(4), including written comments and oral comments made at any public hearings
9 and the Petitioner's response to any such comments, and address the Commission's
10 declaratory judgment decision regarding proposed generation projects.

11
12 Witness Stephanie Wyman will address 30 V.S.A. § 248(b)(5), 10 V.S.A. § 6086(a)(1)(B)
13 waste disposal; 10 V.S.A. § 6086(a)(4) soil erosion; and 10 V.S.A. § 6086(a)(9)(B) primary
14 agricultural soils.

15
16 Witness Adam Crary will address: 30 V.S.A. § 248(b)(8) and 10 V.S.A. § 1424a(d)
17 outstanding resource waters; 30 V.S.A. § 248(b)(5) natural environment; 10 V.S.A. §
18 6086(a)(1) water and air pollution; 10 V.S.A. § 6086(a)(1)(A) headwaters; 10 V.S.A. §
19 6086(a)(1)(D) floodways; 10 V.S.A. § 6086(a)(1)(E) streams; 10 V.S.A. § 6086(a)(1)(F)
20 shorelines; 10 V.S.A. § 6086(a)(1)(G) wetlands; and 10 V.S.A. § 6086(a)(8) rare and
21 irreplaceable natural areas, necessary wildlife habitat, endangered species.

1 Witness Jeremy Owens will address 30 V.S.A. § 248(b)(1) (orderly development and
2 municipal screening) and (5) (aesthetics) and 10 V.S.A. § 6086(a)(8) aesthetics and
3 landscape mitigation pursuant to PUC Rule 5.800.

4
5 As set forth below, the Project will require Green Mountain Power (GMP) to upgrade a
6 portion of an existing electric distribution line. The Petitioner takes responsibility for
7 ensuring that GMP constructs the interconnection upgrades consistent with the proposed
8 plans attached to my testimony and recommended best practices identified in the prefiled
9 testimony of Stephanie Wyman and the associated exhibits and the prefiled testimony of
10 Adam Crary and the associated exhibits.

11 **Project Description and Overview**

12 Q6. Please generally describe the proposed Project.

13 A6. EANL Solar proposes to install and operate the Project on approximately 13 acres of a 228-
14 acre parcel of land located off 3000 Robinson Parkway in Essex Junction, Vermont (the
15 “Property”), on tax parcel ID 1002008000. The Project is located within an abandoned
16 parking area and two existing fields. The site was selected as the result of an extensive
17 analysis of potential alternative sites which considered feasibility factors including the
18 following: interconnection feasibility, aesthetic impacts, environmental impacts, land
19 use/community impacts, presence of potential environmental contamination, subsurface

1 geotechnical characteristics, and potential alternative productive use of sites by the owner.

2 The Petitioner has rights to lease the portions of the host Property necessary for the Project.

3
4 The Project was initiated and designed with the intent of providing GlobalFoundries (GF),
5 the sole customer of Commission-regulated electric utility GF Power LLC (GF Power),
6 with a source of local solar energy generation to help it achieve its renewable energy goals.
7 GF Power is a relatively new Commission -regulated electric utility serving a single
8 industrial customer, GF. GF is a world leader in feature-rich semiconductor manufacturing
9 with a strong commitment to sustainable and environmentally efficient operations.
10 Semiconductor manufacturing is an electric energy intensive industry and GF's Journey to
11 Zero Carbon Emissions program is multi-faceted focusing on improving energy efficiency,
12 sourcing renewable and low-carbon energy and enhancing manufacturing emissions
13 controls. On an annual basis, GF uses more electricity than the entire City of Burlington.
14 As a result, GF Power has the third largest utility load among Vermont distribution
15 utilities.¹

16
17 This Project allows GF to make substantial progress by adding cost-effective new
18 renewables in Vermont while locating generation projects as close as possible to the load,
19 thereby reducing power grid impacts within Vermont. The use of onsite renewable energy

¹ *Petition of GlobalFoundries U.S. 2 LLC requesting a certificate of public good, pursuant to 30 V.S.A. § 231, for a newly created, wholly owned subsidiary of GlobalFoundries, GF Power, to operate as a public service company, under regulation appropriate to its function, 21-1107-PET, Order of 10/21/22 (the "GlobalFoundries Order").* Pursuant to 3 V.S.A. § 810, the Commission may take judicial notice of findings in its prior orders.

1 has significant advantages including the stabilization of energy costs and meeting the
2 growing expectations of GF customers to produce products using renewable energy.

3
4 The Project is also being undertaken to help GF Power comply with Vermont's Renewable
5 Energy Standard (RES), 30 V.S.A. §§ 8004-8005, including requirements for the utility to
6 purchase distributed renewable energy from plants 5MW or less in an amount equal to a
7 specified percentage of GF Power's load.² Specifically, the RES requires GF Power to
8 comply with the so-called Tier II requirements under which a utility must obtain 10% of
9 its energy from "distributed renewable generation," as defined in 30 V.S.A. § 8005, by
10 2032.³ This Project is one of several that GF Power has contracted with Encore to have
11 designed, permitted, and constructed for the purpose of complying with its RES Tier II
12 obligations.⁴

13
14 The Project is structured so that the Petitioner plans to sell the output of the Project to GF
15 Power under a Power Purchase Agreement (PPA) at a competitive rate of \$0.06830/kwh.

16 The PPA is on file with the Commission in Case No. 23-4155 PPA, which has been closed

² For further discussion please see *Petition of Encore Renewable Energy for a declaratory ruling regarding whether several potential solar projects are separate plants and qualify as Tier II resources under Rule 4.400 and 30 V.S.A. § 8005* Case No. 23-3974-PET, Declaratory Ruling Regarding the Applicability of the Definition of Tier II Resources Under Vermont's Renewable Energy Standard to Certain Potential Solar Facilities (Jan. 26, 2024) ("Dec Action Order"). Please note that H.289, which became law on June 17, 2024 and has an effective date of July 1, 2024, includes new Tier 2 in-state renewable energy requirements for GF that requires 20% by 2035.

³ Dec. Action Order at finding 3.

⁴ Dec. Action Order at finding 4. For location, size, and interconnection information related to other planned projects, please see Exhibit WFMV-JC-5.

1 after no comments on the PPA were received by the Commission during the Rule 5.200
2 ninety-day notice period.

3
4 The power is both generated and interconnected into the GF facilities, but it is transferred
5 via the GMP distribution infrastructure on the GF Campus, so GF will pay a wheeling
6 charge to GMP to compensate for this use of its infrastructure. This structure will
7 contribute to GF Power's RES compliance activities, help its sole customer—GF—to
8 advance its sustainability initiatives, and allow GMP to help facilitate accomplishment of
9 these objectives without any negative impact on GMP's ratepayers.

10
11 Q7. Was the Project identified as "potential solar facility" in the Commission's Declaratory
12 Ruling in Case No. 23-3974⁵?

13 A7. Yes, the Project that is the subject of this Petition was identified as Project A in the
14 Commission's Declaratory Ruling.

15
16 Q8. Are the Project plans as submitted in the Petition for this case identical to the plans
17 submitted in Case No. 23-3974 with respect to the factors that define a single plant?

18 A8. Yes, the plans are identical with respect to the factors that define a single plant as
19 interpreted and applied to the evidence presented in Case No. 23-3974. There is one change
20 that is not material to the Commission's single-plant analysis: in case no. 23-3974-PET,

⁵ Id.

1 Project A was identified as being “approximately 4.95 MW.” In this Petition, the Project
2 seeks a CPG to generate up to 3.50 MW.

3
4 Q9 Who will retain ownership of the environmental attributes?

5 A9. The Petitioner will transfer the RECs associated with this Project to GF Power pursuant to
6 the PPA between Petitioner and GF Power.

7
8 Q10. Please generally describe the site plan and specific Project equipment.

9 A10. The Project consists of approximately 7,488 non-reflective photovoltaic modules installed
10 on fixed tilt ground mounted racking units within in a fenced area spread across the
11 approximate 13-acre Project area. The array is separated into three sections of racking, with
12 two sections having 9 rows of panels, and the third section having 20 rows of panels. Please
13 see Exhibit EANL-JC-2 for a site plan. The approximate 38 rows of panels comprising the
14 solar array range in length and run generally east-west, are oriented predominantly to the
15 south, and are fixed at around 25 degrees. Racking systems will be approximately 3.5 feet
16 tall on the low side and 15 feet tall on the high side and installed on driven post foundations,
17 generally without the use of concrete. Please refer to Exhibit EANL-JC-3 for typical
18 equipment specifications for the Project. The final site design and equipment selection will
19 occur post-permit issuance, however such design will be substantially the same as shown
20 in Exhibit EANL-JC-2.

1 Electricity will run from the panels in direct current to a network of string inverters, which
2 are UL1741-SA compliant, dispersed among the array, before being converted to
3 alternating current. Cabling will then run in protective conduit to a switchgear, which will
4 include the data acquisition system and other auxiliary equipment. Electricity will then run
5 underground to one 4,200 kVA pad-mounted transformer with secondary oil containment.

6
7 From the transformer, the electricity will run north, 390 feet underground, to a proposed
8 riser pole. From the riser pole, the electricity will run north approximately 360 feet on new
9 overhead 3-phase lines, which will require 5 new poles (1 riser pole, and 4 more poles to
10 get to the existing GMP owned pole) to convey electricity to the point of interconnection
11 with an existing GMP-owned pole on the east side of the Police Department access
12 road. The 5 new wooden poles will be approximately 40 feet high. At the point where the
13 new overhead lines connect with the existing GMP owned pole on the east side of the
14 Police Station access road, the Project will interconnect with GMP's existing distribution
15 network. Petitioner will own the transformer, whereas GMP will own the above referenced
16 overhead line extension and new poles. Please see Exhibit EANL-JC-2 and Exhibit
17 EANL-JC-7 for a one- line diagram.

18
19 Q11. How will Petitioner and other authorized personnel access the Project?

20 A11. The Petitioner will access the Property via a new access drive that will provide connectivity
21 to an existing drive to the west. The new access drive will be approximately 480 feet long,
22 12 feet wide, and made of crushed stone gravel. The Petitioner will construct this

1 permanent access drive with a minimum of 18” of gravel material over geotextile fabric.

2 The Petitioner will install two short-term staging areas for deliveries and temporary storage
3 of equipment. One short-term staging area would be located at the end of the access drive,
4 and the second would be north of the entrance to the Project area. Additional details are
5 shown on Exhibit EANL-JC-2.

6
7 Q12. Will the Project involve any tree work?

8 A12. Yes. The Petitioner is proposing to clear and/or top certain areas of trees on the site for
9 Project installation and to avoid shading of the array. Petitioner anticipates that in total, the
10 Project will require approximately 2.7 acres of tree clearing (including grubbing).
11 Additional details are shown on Exhibit EANL-JC-2.

12
13 Q13. Does the Petitioner propose to install a fence? If so, please describe the fence.

14 A13. Yes. The Petitioner proposes to install an approximate 7-8’ high agricultural style wire-
15 knot perimeter fence affixed to driven fence posts. The perimeter fencing would restrict
16 access to and from the Project to secure the Project and prevent the public from entering
17 the array. The Petitioner will install a secured gate where the fence meets the access drive.
18 GMP and first responders will be provided with access through the gate. Exhibit EANL-
19 JC-3 includes a representative fence specification sheet.

20

1 Q14. Is the Petitioner proposing a lighting plan for the Project?

2 A14. No, the Petitioner does not require lighting for any aspect of the Project and thus does not
3 propose a lighting plan for the Project.

4
5 Q15. Will the Project require grading?

6 A15. Yes. Minimal earthwork will be involved for the installation of the access drive, underground
7 conduit, necessary equipment pads for the transformer, and associated stormwater
8 treatment improvements. Limited grading may be necessary in areas of the site where the
9 uneven terrain would not be compatible with the racking installations which are proposed.
10 These areas would be identified in the stormwater permitting process, which is moving
11 forward with the Agency of Natural Resources (ANR) stormwater program in parallel with
12 the CPG proceeding.

13
14 Q16. Will the Project require installation of any components containing oil?

15 A16. Yes. The Project includes one 4,200 kVA pad mount transformer that uses a biodegradable
16 dielectric fluid. The Site Plan (Exhibit EANL-JC-2) shows the location of the proposed
17 transformer and Exhibit EANL-JC-3 includes transformer specifications. The Petitioner
18 also proposes to install a secondary oil containment system sufficient to hold a minimum
19 of 110% of the transformer coolant volume plus five inches of free board for each of the
20 three transformers. For more information, please see the testimony of Stephanie Wyman
21 regarding waste disposal.

22

1 Q17. Please explain the proposed construction process and schedule.

2 A17. The Petitioner, and GF Power are planning to have the Project in service by September of
3 2026. To meet this date, procurement would need to begin by June of 2025, which cannot
4 occur until the CPG is issued, and construction would commence by August 2025.
5 Construction activities, which will span over a 4–7-month duration, primarily include: (1)
6 preparation of the site and installation of the staging area, (2) installation of racking and
7 panels, (3) installation of inverters, and (4) installation of the transformer and network
8 upgrades. Many of these tasks can be performed concurrently over the 4–7-month
9 schedule, however they are dependent on weather among other variables.

10
11 Construction activities and related deliveries will be limited to 7:00 A.M. - 6:00 P.M. on
12 weekdays; 8:00 A.M. - 5:00 P.M. on Saturdays and no construction on Sundays or state or
13 federal holidays.

14
15 Q18. What are the Project's operation and maintenance activities?

16 A18. Once the Project is fully commissioned, operations and maintenance activities will be
17 minimal. The Petitioner will perform routine system performance two to four times per
18 year, which will consist of vegetation management, and mechanical and electrical
19 inspections. The Petitioner will remotely monitor operations, and in the event of a system
20 malfunction, personnel will visit the site for troubleshooting or repairs.

21
22
23
24

Section 248 Criteria

Orderly Development of the Region
(30 V.S.A. § 248(b)(1))

Q19. Please identify what portion of this criterion you address.

A19. I address the recommendations provided by the municipal legislative bodies, and regional and local planning commissions. Witness Jeremy Owens addresses the applicable city and regional plans and whether municipal screening ordinances apply.

Q20. Please describe any public outreach efforts, and address the substantive written comments related to the Section 248(b) criteria that the Petitioner received within 45-days of submitting the advance notice as required by Section 248(f)(2)?

A20. The Petitioner provided the Chittenden County Regional Planning Commission (CCRPC), and the City of Essex Junction Planning Commission and City Council with 45-day advance notice packages under Rule 5.402(A) on August 1, 2023. Exhibit EANL-JC-4 (45-day notice). The Petitioner also provided the 45-day notice to the entities identified in PUC Rule 5.402(A)(1), (3)-(9). The Petitioner did not send it to the adjoining landowners because when it submitted the 45-day notice, the version of Rule 5.400 in effect at that time did not require service of the advanced notice on adjoining landowners.

The Petitioner has been actively engaged with the City, the CCRPC, and the adjoining landowners whose viewshed would potentially be affected by the Project. Earlier on in the development process, after submitting the 45 day advance notice, the Petitioner consulted

1 with the City and CCRPC to solicit feedback, which initiated a series of meetings with the
2 City Planning Commission and the City Council. These meetings are summarized below.

3
4 [08/23/2023] – Encore attended a meeting with the Essex Junction City Council to present
5 the Project and solicit questions and feedback.

- 6 • [09/14/2023] – Encore attended a meeting with the Essex Junction Planning Commission
7 to present the Project and solicit questions and feedback. The Planning Commission had
8 several questions regarding the Project, but they did not have any specific concerns
9 regarding the Project’s compliance with the City Plan.

10
11 Subsequent to Encore’s September 14, 2023 meeting with the Essex Junction Planning
12 Commission, on September 29, 2023, the Essex Junction Planning Commission filed
13 written comments with the Commission in Case No. 23-2606-AN. The comments
14 addressed the Project’s compliance with the 2019 Essex Community Enhanced Energy
15 Plan and with the 2019 Essex Junction Comprehensive Plan, and stated that the “City finds
16 that this project meets the intent of the Renewable Energy Generation Goal of the Enhanced
17 Energy Plan . . .” There was one comment requesting that the Petitioner accounts for the
18 following constraint in the development of the Project: “further impacts to the agricultural
19 soils be minimized in accordance with the recommendations of the Vermont Agency of
20 Agriculture, Food and Markets.” Please see Stephanie Wyman’s testimony regarding waste
21 disposal for discussion on how the Project accordingly minimizes impacts to the
22 agricultural soils on site.

1

2 Q21. Has the CCRPC developed an opinion on the Project? Please describe any interactions the
3 Applicant has had with the CCPRC.

4 A21. The Petitioner has engaged in informal discussions with the CCRPC regarding the site
5 selected for the Project. On Friday, September 1, 2023, the Petitioner engaged with the
6 CCRPC through an extensive conversation regarding the Project. The CCRPC
7 representatives who participated in the call advised the Petitioner that the CCRPC had no
8 concerns with the Project's compliance with the Regional Plan, so long as the Petitioner
9 secures the necessary permits. The CCRPC also advised that they would review the full
10 CPG petition package when filed and submit any questions or comments to the
11 Commission at that time.

12 **Need for Present and Future Demand for Service**
13 (30 V.S.A. § 248 (b)(2))
14

15 Q22. What need for present and future demand for service does this Project?

16 A22. Please refer to my earlier testimony in A6.
17

18 Q23. Is the Project required to meet the need for present and future demand for service which
19 could not otherwise be provided in a more cost-effective manner through energy
20 conservation programs and energy efficiency measures and load management?

21 A23. Yes. The Project is being implemented specifically to comply with GF Power's RES Tier
22 II obligations. Vermont law requires these obligations to be met through "new renewable

1 energy” with a plant capacity of five MW or less and a direct connection to the distribution
2 or subtransmission system of a Vermont utility.⁶ The Project qualifies as “new renewable
3 energy” and thus satisfies GF Power’s need for more Tier-II qualified new renewable
4 energy.

5
6 Moreover, regarding GF Power’s sole customer, semiconductor manufacturing is an
7 electric energy intensive industry and GF’s Journey to Zero Carbon Emissions program is
8 multi-faceted focusing on improving energy efficiency, sourcing renewable and low-
9 carbon energy and enhancing manufacturing emissions controls. This Project allows GF to
10 make substantial progress by adding cost-effective new renewables in Vermont while
11 locating generation projects as close as possible to the load, thereby reducing power grid
12 impacts within Vermont.

13
14 **System Stability and Reliability**
15 (30 V.S.A. § 248(b)(3))
16

17 Q24. Will the Project adversely affect system stability and reliability?

18 A24. No. The Petitioner filed a complete application for interconnection pursuant to
19 Commission Rule 5.500 on January 19, 2024. GMP commissioned a Feasibility Study to
20 evaluate potential impacts of the Project to the grid and subsequently performed the
21 Facilities Study. It then issued a Facilities Report. As shown in Exhibit EANL-JC-6, the
22 Facilities Report concluded the Project would not result in adverse impacts to the system
23 provided the following measures are implemented prior to the Project’s interconnection.

⁶ 30 V.S.A. § 8005(a)(2).

- 1) Installation of a line extension from Tag 103095 to the location of the point of common coupling recloser. This line extension will include a pole mounted disconnect switch at or near Tag 103095.
- 2) Installation of a three-phase, pad-mounted, 15 kV Viper S recloser to be located at the point of common coupling (PCC). An existing pole-mounted transformer will supply power to the recloser and associated communications equipment.
- 3) Installation, testing, and commissioning of a supervisory control and data acquisition system, and interface this system with the PCC recloser.
- 4) Installation of a three-phase, four-wire, 12 kV-class bi-directional pad-mounted metering package to be located at the PCC.
- 5) Installation of a single (1) phase voltage transformer on the line side of the 19G4 distribution feeder.
- 6) Programming, testing and commissioning settings and logic changes to the 19G4 breaker protection relay.

The Petitioner will pay for these upgrades and will work with GMP to ensure their completion prior to interconnection, and the Petitioner will enter into an interconnection agreement with GMP prior to construction.

Economic Benefit to the State and Its Residents
(30 V.S.A. § 248(b)(4))

Q25. In what ways will the Project provide economic benefit to the State of Vermont and its residents?

A25. The Project will pay annual local and municipal property taxes to the City as required under 32 V.S.A § 3481. Using the discounted cash flow methodology prescribed in 32 V.S.A § 3481(1)(D), along with guidance provided by the Department of Taxes, and current property tax rates, the Petitioner estimates that the local property taxes due from the Project in the first year will be approximately \$21,396. Over a 25-year period, the Petitioner estimates the that the Project will result in approximately \$545,591in local property taxes.

Q26. Will the Project provide direct economic revenue to the State?

1 A26. Yes. The Project will pay an annual Uniform Capacity Tax as required under 32 V.S.A §
2 8701. The revenue generated by this tax will go into the statewide education fund. With
3 the proposed AC capacity of the Project at 3,500 kW, and the current Uniform Capacity
4 Tax rate of \$4.00 per kW AC, the Project will pay approximately \$14,000 per year into the
5 statewide education fund. Over a 25-year term, the Petitioner estimates that the Project will
6 pay approximately \$350,700 in Uniform Capacity Tax to the statewide education fund.

7
8 Q27. Will the Project provide positive contributions to the State and its workforce?

9 A27. Yes. During the design and development phases, the Petitioner has hired many Vermont
10 and regional firms to work on the environmental, aesthetics, legal, engineering, and
11 permitting Project components. Additional electricians and workers will be needed during
12 Project construction, as well as during the ongoing maintenance and operation of the
13 Project. The Project's construction phase will also likely contribute to local economic
14 activity via lodging, meals, and other ancillary purchases made by contractors.

15
16 Q28. Does the Project result in any other economic benefits?

17
18 A28. Yes. GF continues to compete in an industry where the average selling price of products is
19 an important determinant in sales. One of the major factors affecting the selling price is the
20 cost of electricity. Therefore, managing electricity costs is a significant strategic focus for
21 GF to help it maintain its competitiveness and continue to operate in Vermont. This is one
22 of the core reasons GF petitioned the Commission to operate its own utility. Further, due
23 to the Project's location on the GF campus and the ability to help serve on-site load, we
24 expect this to provide a benefit to the entire transmission grid because it will not require

1 significant upgrades and leaves transmission capacity and space for other projects in the
2 region.

3
4 In addition, GF customers are increasingly seeking products manufactured with new and
5 low-carbon energy. Renewable projects like the one proposed in this Petition deliver that
6 additional benefit. Also, as Vermont's largest private employer, providing strong
7 environmental sustainability practices has an advantage in acquiring and retaining talented
8 employees who then extend environmental initiatives beyond the workplace.

9
10 **Public Health and Safety**
11 (30 V.S.A. § 248(b)(5))

12 Q29. Will the Project have any adverse effects on the health, safety, or welfare of the public or
13 adjoining landowners?

14 A29. No. The Project will not adversely impact the public health and safety for the following
15 reasons: (1) all work will be performed in accordance with the National Electrical Safety
16 Code and the National Electric Code; (2) an existing perimeter fence around the site will
17 ensure security with appropriate electrical warning signs; (3) the Project will use anti-
18 reflective coating on panels to reduce the potential for glare; and (4) the Project will not
19 exceed acceptable sound thresholds at nearby residences.

20 **Air Pollution**
21 (30 V.S.A. § 248(b)(5))

22 Q30. Will this Project result in undue adverse effect on air quality?

23 A30. No, the Project will not involve any industrial/manufacturing emissions, excessive dust and
24 smoke during construction, dust or noise from blasting, odors or excessive noise from

1 construction activity. Moreover, the proposed Project will help reduce the need for carbon-
2 based sources of electric energy, contributing to improved air quality.

3
4 Q31. Please explain any potential noise impacts from the Project.

5 A31. Petitioner has hired consulting engineers Krebs & Lansing (K&L) to estimate sound
6 emissions from the electrical equipment anticipated to produce audible sounds, and to
7 model sound propagation to assess levels at the closest residences and property lines.
8 Please see K&L's acoustic analysis at Exhibit EANL-JC-8. K&L concluded that the
9 Project's highest modeled sound pressure level at the closest residence to the sound
10 producing equipment (approximately 559 feet from the nearest edge of the Project's
11 panels) is 30 dBA (exterior) (daytime) with lower levels during the evening.

12
13 Q32. Will the sound produced by the proposed Project create an undue adverse effect?

14 A32. No, the sound levels calculated at the nearest residence will be below the maximum limits
15 of 45 dBA (exterior) as required by the Commission.

16 **Use of Natural Resources**
17 (30 V.S.A. § 248(b)(5))

18 Q33. Will the Project require use of natural resources?

19 A33. Yes. The Project will require a limited amount of natural resources of gravel and crushed
20 stone for the surface of the equipment area and for the surface of the 480 foot long access
21 drive to the Project site. The Project may use a minimal amount of gravel to improve
22 portions of the access drive.

Greenhouse Gas Impacts
(30 V.S.A. § 248(b)(5))

Q34. Will Project construction or Project operation produce any undue air pollution or greenhouse gas impacts?

A34. No. Other than minor temporary emissions during construction, the Project will not emit greenhouse gases. In fact, this Project will enable Vermont to reduce its reliance on greenhouse gas-emitting generation. ANR will require the Petitioner to agree to greenhouse gas reporting requirements and thus the Petitioner commits to these terms as set forth below:

a. The Petitioner shall provide ANR with the following Project “as-built” information within 60 days of the commissioning date of the Project to assist the Agency with compiling and analyzing greenhouse gas impacts:

- i. Solar panel manufacturer and model;
- ii. Solar panel cell technology (e.g. mono-Si, multi-Si, CdTe, etc.);
- iii. Rated solar panel output (in watts);
- iv. Number of solar panels installed;
- v. Array mounting type (fixed, 1-axis tracking, 2-axis tracking, ground, roof, other);
- vi. For fixed or 1-axis tracking, panel orientation and mounting angle;
- vii. Rack system manufacturer and model;
- viii. Rack system components, including the number of aluminum rails, steel mounting posts, etc.;
- ix. Number and type of any other mounting components (e.g. concrete ballasts and foundation blocks);
- x. Manufacturer, model and number of inverters;
- xi. Manufacturer, model and number of transformers;
- xii. Mass of concrete used (for ballasts, foundations, mounting pads, etc.);
- xiii. Percent of Portland cement composition of concrete;
- xiv. Description, quantity and source of any recycled materials used (e.g., recycled content concrete, recycled aluminum racking, etc.);
- xv. Amount (length) and gauge of wiring used for project;

- xvi. Components for connection to grid (circuit boxes, circuit breaker panels, metering equipment, etc.);
- xvii. Distance (e.g., truck miles traveled) for transport of system components to site; and
- xviii. Distance to grid connection.

(b) By January 30 of each year, ANR may request that Petitioner provide an annual report for the previous calendar year of operations. The annual report shall contain the information set out below, which will be used to assist ANR with compiling and analyzing greenhouse gas impacts. Petitioner will have 60 days from the date of ANR's request to supply the information, excepting the Renewable Energy Credit information, which may be submitted by July 31, of each year. Should ANR not request the information set out below by January 30, Petitioner will not have any obligation to provide an annual report from the previous year of operations. The information to be provided includes the following:

- i. Electric generation in kWh for the prior year, broken down by month and the sale of any Renewable Energy Credits associated with generation; and
- ii. Any information about the replacement of PV panels, inverters, transformers, or a complete racking system. In instances of failure and replacement of equipment (e.g. PV panels, inverters, etc.), Petitioner shall provide descriptions of both the failed and replacement components at the same level of detail as required by the "as-built" reporting requirements of condition (a), above. This provision does not require Petitioner to provide information about de minimis replacement of system components (e.g., replacement of racking system hardware), or information regarding regular maintenance activities.

(c) Should ANR not request the information in (a), above, in any two consecutive years after Project commissioning, Petitioner's reporting obligations for all subsequent years shall automatically cease.

1 (d) ANR and Petitioner, by mutual agreement, may cancel or amend Petitioner's reporting
2 obligations set out at (a) at any time.

3 (e) ANR shall not use the information provided by Petitioner in (a) above to make any
4 claims or report of benefits (including, but not limited to, benefits related to the
5 renewable attributes of the Project's electric generation and greenhouse gas reductions
6 associated with the Project) accruing to Vermont, or any other entity, resulting from
7 the Project generating electricity from photovoltaic generation.

8 **Transportation Systems / Traffic**
9 (10 V.S.A. § 6086(a)(5))

10 Q35. Will the Project cause unreasonable congestion or unsafe conditions with respect to use of
11 the highways, waterways, railways, airports or airways, and other means of transportation
12 existing or proposed?

13 A35. No. The Petitioner proposes to deliver materials to the Project site through the
14 GlobalFoundries campus, so there will be no traffic impacts on Route 117. The Project is
15 not expected to require oversize or overweight deliveries. The Project will not require road
16 closures or lane shutdowns for extended periods of time. No other long-term interruptions
17 or impacts to highways or local roads are anticipated.

18 **Educational Services**
19 (10 V.S.A. § 6086(a)(6))

20 Q36. What impact will the Project have on educational and services?

21 A36. The Project will not have any impact on educational services.

22
23
24
25

Municipal Services
(10 V.S.A. § 6086(a)(7))

Q37. Will the Project need municipal services, including any special police, fire, or rescue services, place an unreasonable burden on the ability of the local government to provide municipal or governmental services, or would training be required?

A37. No. The Project will not require any municipal water or sewer services, new roadway acceptance or maintenance by the City nor require any fire or police services beyond those typically required of other businesses.

Q38. Will the first responders have access to the Project site in the event of an emergency?

A38. Yes, the Petitioner will provide first responders access to the Project site in the event of an emergency. A lockable disconnect switch will allow shutdown of the Project in case of fire or another emergency.

Historical and Archeological Sites
(30 V.S.A. § 248(b)(5) 10 V.S.A. § 6086(a)(8))

Q39. Will this Project have an undue adverse effect on below ground or above ground historic sites?

A39. No. No above ground historic sites will be adversely impacted by the Project. The Petitioner consulted with T.J. Boyle Associates (TJBA) who conducted a historic structures review for the Project using data from the Vermont Division for Historic Preservation's (VTDHP) Online Resource Center, which includes the Essex Historic Survey (which is inclusive of Essex Junction), and the State Register Nomination Forms. Neither of these sources identified any potentially historic buildings or structures with potential visibility

1 of the Project. TJBA also conducted a field review, which did not identify any obvious
2 historic buildings or structures with potential visibility of the Project. Please see Exhibit
3 EANL-JO-3 for more information.

4
5 Regarding below ground historic sites, based on the historic aerial photos and plans, the
6 Petitioner's consultant from the UVM Consulting Archeology Program (UVM CAP)—
7 John Crock— has advised us that historic ground disturbance is very likely to have
8 occurred and thus any below ground historic sites that might have existed are no longer
9 intact or present. Pursuant to this advisement, the Petitioner engaged with the UVM CAP
10 to perform an Archaeological Resources Assessment (ARA) of the Project site, which
11 would document these disturbances. I expect that the ARA will be completed in June 2024.
12 Following the completion of the UVM CAP ARA, Petitioner will file the ARA with
13 VTDHP and the Commission in this Case.

14
15 As this Petition is being submitted to the Commission in advance of the completed UVM
16 CAP ARA, the Petitioner provides the following proposed conditions to be included within
17 the CPG to ensure no undue adverse impact on below ground historic sites if the VTDHP
18 believes that a Phase I SIS is required and if such Phase I indicates the presence of such
19 resources:

- 20 • Prior to the completion of all relevant archaeological investigations, the
21 Petitioner, in consultation with the Vermont Division for Historic Preservation
22 (VDHP), shall identify the Project area as a not-to-be-disturbed archaeological

1 buffer zone.

- 2 • Topsoil removal, grading, scraping, cutting, filling, stockpiling, logging or any
3 other type of ground disturbance is prohibited within the archaeological buffer
4 zone prior to conducting all appropriate archeological studies.
- 5 • Archaeological studies to identify or evaluate sites will be carried out by a
6 qualified consulting archaeologist focused within the areas proposed for
7 installation of the underground electrical connections within overall array. The
8 archaeological studies will be scheduled accordingly so that mitigation measures
9 that may be necessary can be satisfactorily planned and accomplished prior to
10 construction.
- 11 • All archaeological studies and assessments must be conducted by a qualified
12 consulting archaeologist and must follow the VDHP Guidelines for Conducting
13 Archaeological Studies in Vermont. The Petitioner's archaeological consultant
14 must submit any scope of work to the VDHP for review and approval before
15 commencing the work.
- 16 • Archaeological sites within the Project area will not be impacted until any
17 necessary mitigation measures have been completed. Mitigation may include
18 but is not limited to further site evaluation, data recovery, redesign of one or
19 more proposed project components, or modification of the buffer zone
20 boundaries or the specific conditions that refer to the same, subject to further
21 review and approval by the PUC.
- 22 • Proposed mitigation measures will be discussed with and approved by the

1 VDHP prior to implementation, and a copy of all mitigation proposals will be
2 filed with the PUC and automatically incorporated as conditions of the Project's
3 CPG. The archaeological studies will result in one or more reports, as
4 appropriate, that meet the VDHP Guidelines for Conducting Archeological
5 Studies in Vermont. A digital copy of the final report will be submitted to the
6 VDHP and to the PUC.

7 **Development Affecting Public Investments**
8 (10 V.S.A. § 6086(a)(9)(K))

9 Q40. Will the Project unnecessarily or unreasonably endanger any public or quasi-public
10 investment in nearby facilities, services, or lands, or materially jeopardize or interfere with
11 the function, efficiency, or safety of, or the public's use or enjoyment of or access to nearby
12 facilities, service or lands?

13 A40. No. The nearby existing public investments are Route 117 and the Essex Police Station,
14 and the Project will not interfere with the public's use of them.

15 **Compliance with Integrated Resource Plan**
16 (30 V.S.A. § 248(b)(6))
17

18 Q41. Is the Project consistent with GF Power's least cost Integrated Resource Plan (IRP)?

19 A41. The Commission has not required non-utilities to have a least-cost integrated resource
20 plan.⁷ Nonetheless, it is Petitioner's understanding that GF Power has not completed an
21 IRP and is not required to submit its first such plan to the Commission until July 1, 2026.
22 Based on Petitioner's understanding of the needs of GF Power's sole customer and the

⁷ Case No. 22-3427, *Petition of ER Danyow Road Solar, LLC for a certificate of public good, pursuant to 30 V.S.A. § 248, for a 5 MW ground-mounted solar array located in Sheldon, Vermont*, Final Order (4.24.23).

1 utility's planning to meet those needs through contracting for substantial amounts of
2 renewable energy via competitively priced PPAs and on customer-owned sites close to
3 customer load, thereby avoiding substantial costs and environmental impacts related to
4 transmission, it is anticipated that this Project will be consistent with GF Power's
5 forthcoming IRP.

6 **Compliance with Vermont Electric Energy Plan**
7 (30 V.S.A. § 248(b)(7))
8

9 Q42. Is the Project consistent with the 2022 Comprehensive Energy Plan (CEP)?

10 A42. Yes. The Project will contribute to meeting the state's long-term renewable energy goals
11 because it is a proposed solar project that is located near load. Specifically, the Project
12 furthers the key objectives in the CEP, which calls for meeting Vermont's long-term energy
13 needs largely with renewable resources as embodied in the high-level goals set in the 2011
14 and 2016 CEPs, and reaffirmed in the 2022 CEP (page 2): "Meet 25% of energy needs
15 from renewable sources by 2025, 45% by 2035, and 90% by 2050." The Project is
16 consistent with CEP thematic goals including affordability, in- state generation, diversity
17 of supply, grid resiliency, and low emissions. Moreover, as the Project is being built close
18 to load on GF's facilities, it furthers the CEP's "goal of a secure and affordable electric
19 grid that can efficiently integrate, use, and optimize high penetrations of distributed energy
20 resources to enhance the state's resilience and reduce greenhouse gas emissions." CEP
21 2022, page 13. The Petitioner has asked the Department for a determination under 30
22 V.S.A. § 202(f) that the Project is consistent with the CEP.

Impact on Vermont Utilities and Customers
(30 V.S.A. § 248(b)(10))

Q43. Can existing or planned transmission facilities serve the Project without creating an undue adverse effect on Vermont utilities, customers, or existing transmission facilities?

A43. Yes. The existing transmission infrastructure has already been mitigated against potential Transmission Ground Fault Over-Voltage and the Project is not sited within the Sheffield-Highgate Export Interface.

Setbacks
(30 V.S.A. § 248(s))

Q44. Does the Project comply with minimum setbacks established under 30 V.S.A. § 248(S)?

A44. Yes. The Project will be set back more than 100 feet from Route 117 to the north, and more than 50 feet from other property boundary lines. Please refer to Exhibit EANL-JC-2 for the detailed site plan.

PUC Rule 5.900 Decommissioning Plan and Fund

Q45. Will the Project be decommissioned at the end of its useful life, with various system components disposed of?

A45. Yes. At the end of the Project's useful life, the Petitioner will assess whether: (1) it is financially viable to continue to operate the Project as is; or (2) any changes could be made to the Project to allow its continued operation, and appropriate amendment to its CPG be sought; or (3) the Project should be decommissioned. In any event, the Petitioner will remove the Project once it is no longer in service and restore the site to its condition prior to installation of the Project to the greatest extent practicable as required under PUC Rule

1 5.904(B). The Petitioner has developed a Decommissioning Plan that would apply when
2 the Petitioner decommissions the Project. Please see Exhibit EANL-JC-9 for the Project's
3 decommissioning plan.

4
5 Q46. Has the Petitioner proposed a decommissioning fund?

6 A46. Yes, the Petitioner has proposed a funding mechanism based upon an estimate of the
7 Project's decommissioning costs that does not account for equipment salvage. As required
8 by Commission Rule 5.904(B), the decommissioning cost estimate is in present-day dollars
9 and addresses the elements in that rule. The Petitioner relied on its team's decades of
10 collective experience in the solar development, construction, and maintenance industry to
11 develop the estimate of the Project's decommissioning costs. The decommissioning fund
12 will be in place at the time construction begins and will be funded by an irrevocable standby
13 letter of credit that includes an automatic renewal provision (evergreen clause). Please see
14 Exhibit ERDR-JC-9 for details on the proposed decommissioning fund with supporting
15 documents and a draft letter of credit. Prior to commencing Project construction, the
16 Petitioner shall file and receive Commission approval of an executed letter of credit.

17 **Comments Received by Petitioner in Response to 45-day Notice and Public Outreach (30**
18 **V.S.A. § 248(f); Rule 5.403)**
19

20 Q47. Please summarize the community outreach efforts undertaken by the Petitioner in
21 advance of filing its petition.

22 A47. My discussion under the orderly development of the region summarizes the Petitioner's
23 outreach to the state agencies, Town, and Regional Planning Commission, and adjoining
24 landowners.

1

2 Q48. Please identify the substantive comments the Petitioner received in response to the 45-day
3 notice and other public outreach efforts.

4 A48. The Agency of Agriculture, Food and Markets requested that the petition include certain
5 information regarding primary agricultural soils. The prefiled testimony of Stephanie
6 Wyman and the associated exhibit WFMV-SW-3 responds to AAFM's requests.

7 My testimony above under the orderly development of the region summarizes the
8 Petitioner's conversations with the Town, and Regional Planning Commission. The
9 Petitioner received no other comments.

10

11 Q49. Does this conclude your testimony at this time?

12 A49. Yes.

13

EXHIBIT LIST

Exhibit EANL-JC-1	Resume
Exhibit EANL-JC-2	Site Plan and USGS Map
Exhibit EANL-JC-3	Equipment Specifications
Exhibit EANL-JC-4	45 Day Notice and Comments Received in Response
Exhibit EANL-JC-5	Other Planned GF Projects
Exhibit EANL-JC-6	Facilities Report and Study
Exhibit EANL-JC-7	One Line Diagram
Exhibit EANL-JC-8	Acoustic Analysis
Exhibit EANL-JC-9	Decommissioning Plan and Fund

WITNESS DECLARATION

I, Jake Clark, being over 18 years of age, and competent to testify on these matters declare that on behalf of Petitioner, I prepared my prefiled testimony and exhibits in the above captioned matter and I have the necessary expertise to testify to the same information. I declare that my testimony and exhibits that I have sponsored are true and accurate to the best of my knowledge and belief and were prepared by me or under by direct supervision. I understand that if the above statement is false, I may be subject to sanctions by the Commission pursuant to 30 V.S.A. § 30.

Dated at Burlington, Vermont, this 19th day of June, 2024.

/s/ Jake Clark
Jake Clark
Vice President of Development
jake@encore.eco
50 Lakeside Ave #110, Burlington, VT 05401