

***Generation Interconnection
Combined Feasibility/System Impact
Study Report***

For

***PJM Generation Interconnection Request
Queue Position V4-069***

Frenchtown 12.5kV

July 2010

Preface

The intent of the Combined Feasibility/System Impact Study is to determine a plan, with approximate cost and construction time estimates, to connect the subject generation interconnection project to the PJM network at a location specified by the Interconnection Customer. As a requirement for interconnection, the Interconnection Customer may be responsible for the cost of constructing: Network Upgrades, which are facility additions, or upgrades to existing facilities, that are needed to maintain the reliability of the PJM system. All facilities required for interconnection of a generation interconnection project must be designed to meet the technical specifications (on PJM web site) for the appropriate transmission owner.

In some instances an Interconnection Customer may not be responsible for 100% of the identified network upgrade cost because other transmission network uses, e.g. another generation interconnection or merchant transmission upgrade, may also contribute to the need for the same network reinforcement. The possibility of sharing the reinforcement costs with other projects may be identified in the Feasibility Study, but the actual allocation, if any, is included in the System Impact Study.

The Study estimates do not include the feasibility, cost, or time required to obtain property rights and permits for construction of the required facilities. The project developer is responsible for the right of way, real estate, and construction permit issues. For properties currently owned by Transmission Owners, the costs associated with them will be addressed when seeking an Interconnection Agreement as outlined below. . Developer will also be responsible for providing and installing metering equipment in compliance with applicable PJM and Transmission Owner standards.

General

Flemington Solar, LLC, the Interconnection Customer (IC), has proposed a 3.0 MW (1.14 MW capacity) solar generating facility. The facility will be located at 1038 Rt. 12 East in Frenchtown, New Jersey.

Attachment facilities and local upgrades (if required) along with terms and conditions to interconnect V4-069 will be specified in a separate two party Interconnection Agreement (IA) between the Transmission Owner and the Interconnection Customer as this project is considered FERC non-jurisdictional per the PJM Open Access Transmission Tariff (OATT). From the transmission system perspective, no network impacts were identified as detailed below.

Point of Interconnection

V4-069 will interconnect with the Jersey Central Power & Light distribution system fed from the W. Flemington 34.5kV substation.

Network Impacts

The queue V4-069 project was studied as a 3MW (1.14 MW capacity) injection into JCPL's system at the W FLM TP 34.5kV substation. The project was studied on a combined feasibility-

impact basis which utilizes an AC analysis, and incorporates all contingency types. Project V4-069 was evaluated for compliance with reliability criteria for summer peak conditions in 2014.

Potential network impacts were as follows:

Generator Deliverability

(Single or N-1 contingencies for the Capacity portion only of the interconnection)

No problems identified.

Multiple Facility Contingency

(Double Circuit Tower Line, Line with Failed Breaker and, Bus Fault contingencies for the Full energy output.

No problems identified.

Contribution to Previously Identified Overloads

(This project contributes to the following contingency overloads, i.e. “Network Impacts”, identified for earlier generation or transmission interconnection projects in the PJM Queue)

No problems identified.

New System Reinforcements

(Upgrades required to mitigate reliability criteria violations, i.e. “Network Impacts,” initially caused by the addition of this project’s generation)

None.

Contribution to Previously Identified System Reinforcements

(Overloads initially caused by prior Queue positions with additional contribution to overloading by this project.

None.

Potential Congestion due to Local Energy Deliverability

(PJM also studied the delivery of the energy portion of the surrounding generation. . Any potential problems identified below are likely to result in operational restrictions to the project under study. . The developer can proceed with Network Upgrades to eliminate the operational restriction at their discretion by submitting a Transmission Interconnection Request. . Note: Only the most severely overloaded conditions are listed below. There is no guarantee of full deliverability for this project by fixing only the conditions listed in this section. With a

Transmission Interconnection Request, a subsequent analysis will be performed which analyzes all overload conditions associated with the identified overloaded element(s). . As a result of the aggregate energy resources in the area, the following violations were identified:

No problems identified.

Short Circuit

Not required.

Stability Analysis

Not required.

Attachment 1
Results of First Energy Feasibility Study

FE Feasibility/Impact Study

34.5 kV Transmission Connection

for

Flemington Solar, L.L.C.

Frenchtown (V4-069) Generation Project

May, 2010

Prepared by

FirstEnergy Corp

Energy Delivery, Planning and Protection Department

and

Jersey Central Power & Light

Northern New Jersey Regional Engineering Department



FirstEnergy Feasibility/Impact Study **Frenchtown (V4-069) Generation Project**

Introduction

This Feasibility/Impact Study report provides the documentation of a system assessment performed by FirstEnergy (FE) in response to a request made by Flemington Solar, L.L.C. for the connection of a solar power project with a total capability of 3 MW to the Jersey Central Transmission network. This assessment was accomplished by: 1. Evaluating the reliability impact of the proposed facilities and connection on the interconnected transmission system by the performance of a power flow study; 2. Ensuring compliance with the NERC, ReliabilityFirst, PJM and FE Reliability Standards by identifying the system reinforcements that will need to be installed for an interconnection of the proposed project; 3. Coordinating and cooperating with the PJM staff and Flemington Solar, L.L.C. by conducting meetings and issuing this report as a part of the RTEP study process; 4. Performing a Steady State, Short-Circuit and Dynamics Study as necessary; 5. Conducting all studies in accordance with the PJM Manuals and the "FE Requirements for Transmission Connected Facilities" documents to assure that the assessment performed incorporates study assumptions, follows the documented system performance procedures, considers alternative connection and reinforcement plans, and jointly coordinates the study recommendations.

Connection Facilities

In compliance with the Regional Transmission Expansion Planning (RTEP) protocol, Flemington Solar, L.L.C. has submitted a "Form of Generation Interconnection Feasibility/Impact Study Agreement" to PJM (see Attachment 6) that identifies its plan to construct a Frenchtown (V4-069) Generation Project comprised of photovoltaic solar panels and inverters on a plot of land along Route 12 southeast of Frenchtown, New Jersey. The installed facilities will have a total capability of 3 MW with 1.14 MW of this output being recognized by PJM as capacity. The proposed in-service date for this Frenchtown (V4-069) Project is December 1, 2010.

As defined by the Flemington Solar, L.L.C. and shown on Attachment 1, the proposed tapped connection point for the Frenchtown (V4-069) Project will be located about 1.5 miles northwest of the Baptistown 34.5/12.5 kV substation on the south side of Route 12. It is also about two miles from the proposed Flemington Solar L.L.C. Baptistown (V3-071) and Slacktown Road (V4-070) Projects that are southeast of the Baptistown substation. Based on a study performed by the Jersey Central Regional staff, it has been determined that the Frenchtown (V4-069) project must be connected to the 34.5 kV transmission system. The reason is that the 4800 volt distribution line that passes adjacent to the Frenchtown (V4-069) Project site does not have a sufficient capacity to provide the requested service. Therefore, the Frenchtown (V4-069) Project is being studied as a tapped connection to the 34.5 kV transmission system at a location at or near the point defined on Attachment 2.

Attachment 3 shows a conceptual one-line diagram of the Direct Connection facilities that will be required for the Frenchtown (V4-069) Project. As indicated, it will be studied as an 3.0 MW injection between pole numbers NJ53KD and NJ54KD of the East Flemington - Frenchtown (A729) 34.5 kV path. Both line and radial disconnect switches and a fuse will be needed at the point of attachment in addition to a circuit breaker and switch on the system side of the generator step-up transformer. Flemington Solar, L.L.C. will be responsible for constructing all of the facilities on its side of the point of interconnection including the attachment line. A summary of the FE facilities required for the Frenchtown (V4-069) Project Direct Connection and their cost estimate is shown on Attachment 4.

Power Flow Analysis

A Power Flow study was conducted to determine the reliability impact of the proposed Frenchtown (V4-069) Project on the FE Transmission System. This study was completed using a 2014 summer peak load power flow that contains a detailed representation of the Jersey Central transmission networks in the area of the proposed Frenchtown (V4-069) Project. The findings and the recommendations from this analysis are based on a contingency review that was performed to identify the facility loadings and/or voltage conditions that violate the ReliabilityFirst, PJM or FE Planning Criteria and are attributable to this project.

The results of the FE analysis show that there are no network upgrades required for the deliverability of the Frenchtown (V4-069) Project generation to the Jersey Central transmission system. There also are no reinforcements defined for previous projects for which this project will have an impact.

Short Circuit and Dynamics Analysis

A short circuit analysis was conducted by PJM and confirmed by the FE Protection staff. This analysis showed that no FE circuit breaker will exceed its interrupting capability with the implementation of the Frenchtown (V4-069) Project. Therefore no reinforcements will be required.

Note that stability studies will be conducted by the PJM staff should this project proceed to the Facilities Study stage of the RTEP process.

System Protection Analysis

An analysis was conducted to assess the impact of the Frenchtown (V4-069) Project on the system protection requirements in the area. The results of this review have identified the following:

Under the assumption that the Frenchtown (V4-069) Project generation will not supply fault current to the Jersey Central transmission system, there will be no protection upgrades needed for the East Flemington - Frenchtown (A729) 34.5 kV line path. However, the Frenchtown (V4-069) Project will be required to have two independent high-speed zones of protection to sense and clear faults on the interconnection transformer.

Fault current on the radial attachment line 1.23 miles from the Baptistown 34.5 kV substation toward Frenchtown are listed below:

Three phase : 2,468 amperes
Line-to Ground: 1,279 amperes

These values are for the current system configuration. Any system changes in the area could have a significant impact on these values. It will be a Flemington Solar, L.L.C. responsibility to make any protection upgrades required should this occur.

Based on the information provided, an S&C SMD-1A, 50E fuse, either standard or slow speed, will be required.

The cost estimate for the required FE system protection facilities is included on Attachment 4.

Metering

Flemington Solar, L.L.C. will be required to comply with all FE Revenue Metering Requirements for Generation Interconnection Customers. These FE requirements are detailed on Attachment 5 to this report.

Compliance Issues

Flemington Solar, L.L.C. will be responsible for meeting all FE criteria as defined in the FE Requirements for Transmission Connected Facilities document. This includes the provision of a reactive power capability sufficient to maintain a composite power delivery for the facility at the interconnection point at a power factor between .95 leading (absorbing MVARs) and .90 lagging (producing MVARs). If this capability cannot be provided, a 1.5 MVAR capacitor must be installed at the Frenchtown (V4-069) Project substation at Flemington Solar, L.L.C. cost.

Flemington Solar, L.L.C. will also be required to meet all PJM, ReliabilityFirst and NERC reliability criteria and operating procedures for standards compliance. For example, the Developer will need to properly locate and report the over and under-voltage and over and under-frequency system protection elements for its units as well as the submission of the generator model and protection data required to satisfy the PJM and ReliabilityFirst audits. Failure to comply with these requirements may result in a disconnection of service if the violation is found to compromise the reliability of the FE system.

FE Facility Upgrades and Costs

The results of the FE analysis shows that no planning criteria violations are attributable to the addition of the Frenchtown (V4-069) Project for the conditions studied. Therefore the conclusion is that no transmission or distribution reinforcements will be required to provide the requested service.

Flemington Solar, L.L.C. Requirements

In addition to the FE facilities, Flemington Solar, L.L.C. will also be responsible for meeting all criteria as specified in the applicable sections of the "FE Requirements for Transmission Connected Facilities" document including:

1. The purchase and installation of the minimum required FE generation interconnection relaying and control facilities. This includes over/under voltage protection, over/under frequency protection, and zero sequence voltage protection relays.
2. The purchase and installation of a 34.5 kV interconnection metering instrument transformer. FE will provide the ratio and accuracy specifications based on the customer load and generation levels.
3. The purchase and installation of a revenue class meter for the Frenchtown (V4-069) interconnection to measure the power delivered in compliance with the FE standards.
4. A compliance with the FE and PJM generator power factor and voltage control requirements. However, the generators will need to supply their output at a unity power factor at the point of interconnection during normal conditions.
5. The execution of a back-up service agreement to serve the customer load supplied from the Frenchtown 34.5 kV substation when the units are out-of-service. This assumes the intent of Flemington Solar, L.L.C. is to net the generation with the station load.
6. Any complaints from other customers (e.g. flicker complaints) will have to be corrected by Flemington Solar, L.L.C. Correction may include changing operation, reducing generation, disconnecting the generators from the Jersey Central system, or other measures.
7. The purchase and installation of supervisory control and data acquisition (SCADA) equipment to provide information in a compatible format to the FE Transmission System Control Center. The RTU, the communications channel and all related equipment will be furnished and maintained by the Flemington Solar, L.L.C. The RTU must communicate with the FirstEnergy EMS via DNP 3.0 protocol.
8. The following status and metering points will be required:
 - a. Interconnection breaker position.
 - b. Generator real and reactive power output measured at the high-side of the generator step-up transformer.
 - c. Generator voltage at the point of interconnection.
9. An installation of two independent high-speed zones of protection to sense and clear faults on the interconnection transformer.

The above requirements are in addition to any metering or other requirements imposed by PJM.

Note that an assumption of this study is that the Frenchtown (V4-069) Project generation will automatically be disconnected whenever the local area network is islanded. If this assumption is not correct, a direct transfer trip scheme will need to be implemented for such situations at the Flemington Solar, L.L.C. cost.

Summary

The connection of the Frenchtown (V4-069) Project to the FE transmission system will require no network upgrades. Therefore Flemington Solar, L.L.C. will only have a cost responsibility for the Direct Connection of the Frenchtown (V4-069) Project to the Jersey Central transmission system. As shown on Attachment 4, the estimated cost of these facilities is \$183,000.

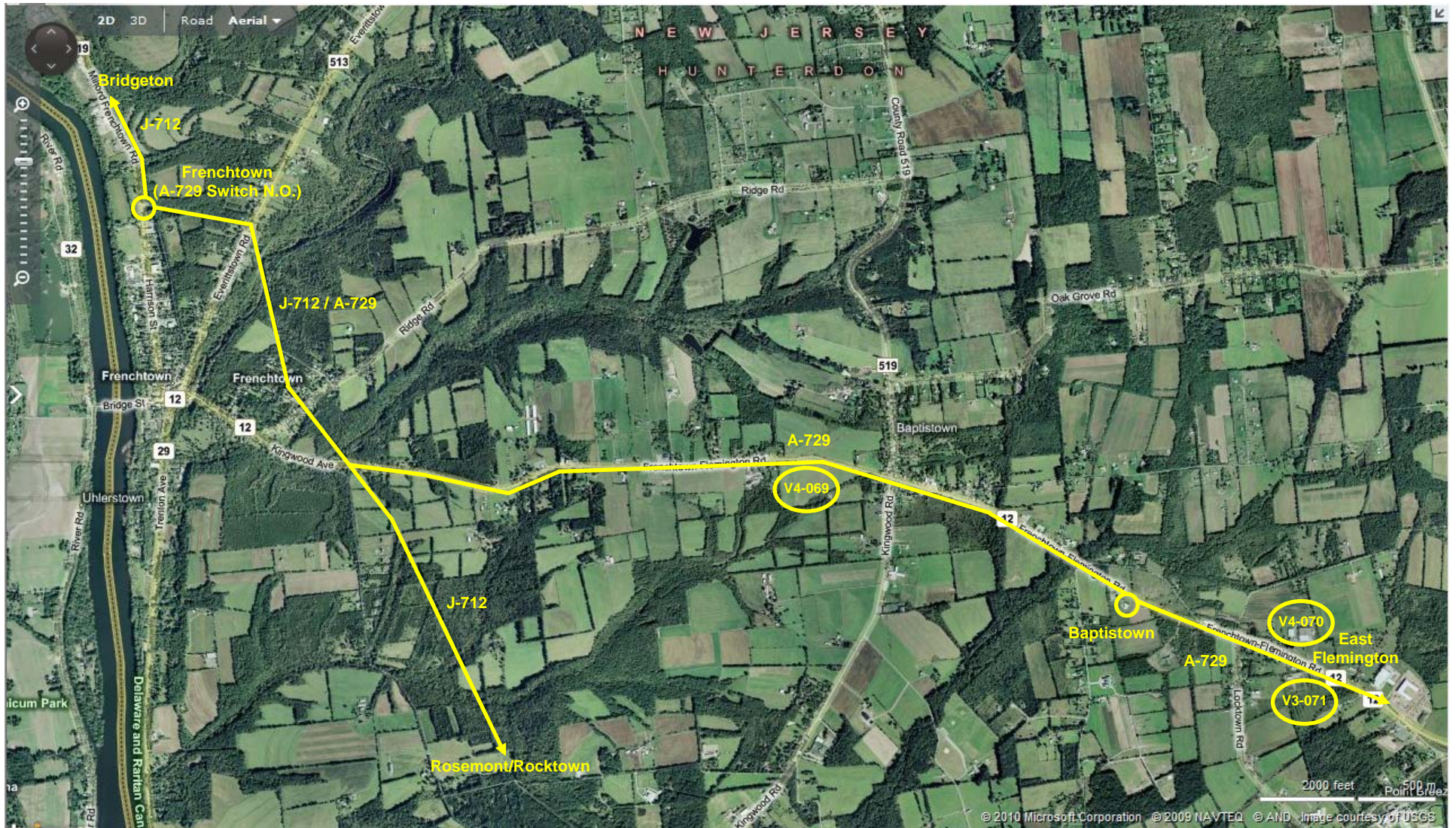
Based on the extent of the FE direct connection and system upgrades required to support this project, it is estimated that it will take one (1) year from the date of a fully executed Interconnection Construction Service Agreement to complete the upgrades required for the Frenchtown (V4-069) Project. This includes the requirement for Flemington Solar, L.L.C. to make a preliminary payment to FE that funds the first three months of engineering design that is related to the construction of the Direct Connection facilities. It further assumes that Flemington Solar, L.L.C. will provide the property and right of way for the attachment facilities that will be needed. A further assumption is that there will be no environmental issues with any of the new properties associated with this project, that there will be no delays in acquiring the necessary permits for implementing the defined direct connection and network upgrades, and that PJM will allow all 34.5 kV transmission system outages when requested.

Note that the FE findings were made from a conceptual review of this project. A more detailed review of the connection facilities and their cost will be identified in the Facilities Study. Further note that the cost estimate data contained in this document should be considered as only ballpark since it was produced without a detailed engineering review. The applicant will be responsible for the actual cost of construction. FE herein reserves the right to return to any issues in this document and, upon appropriate justification, request additional monies to complete any connections to the transmission system.

Attachment 1 Flemington Solar, LLC Solar – Frenchtown (V4-069) RTEP Project

Aerial View

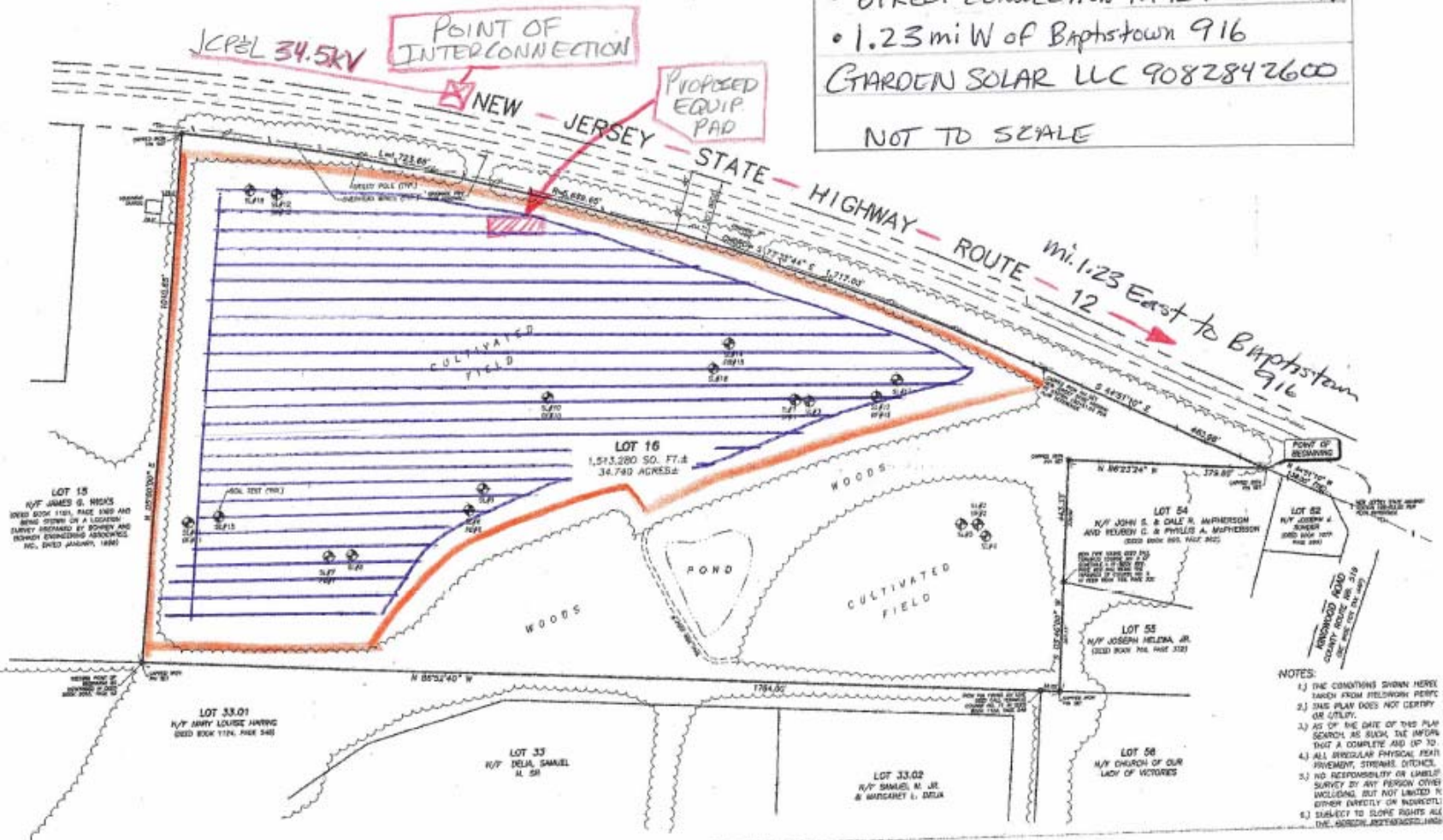
1038 Route 12 West, Frenchtown, NJ (3.0 MW)



Attachment 2 Flemington Solar, LLC Solar – Frenchtown (V4-069) RTEP Project

1038 Route 12 West, Frenchtown, NJ (3.0 MW)

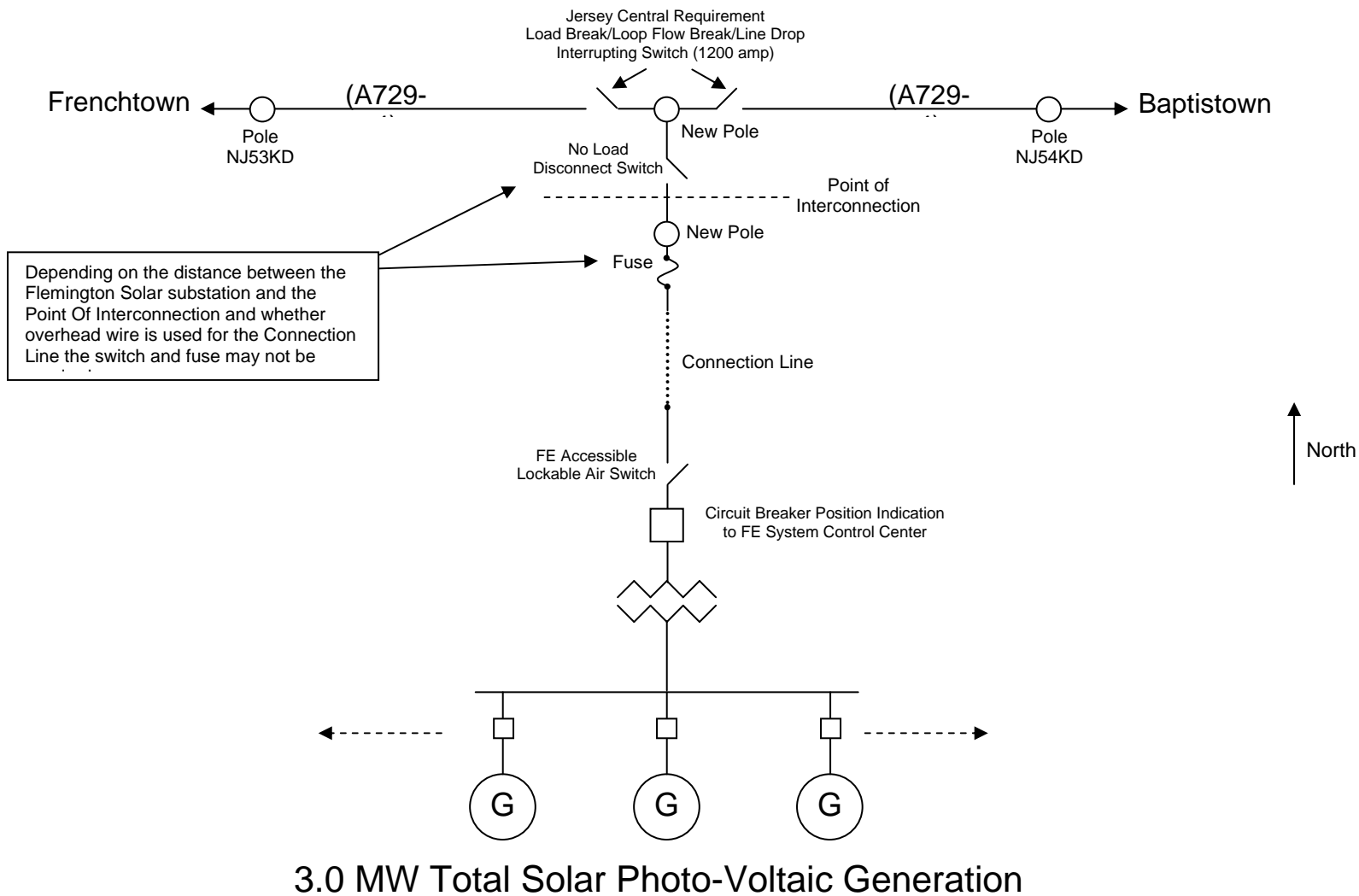
1038 STATE HWY 12 Frenchtown NJ 08825
 • BLK 12 LOT 16 & 16.01
 • ARRAY SIZE 3 MW
 • DIRECT CONNECTION RT12W 34.5KV
 • 1.23 mi W of Baptistown 916
 GARDEN SOLAR LLC 9082842600
 NOT TO SCALE



- NOTES:
- 1) THE CONDITIONS SHOWN HEREIN TAKEN FROM FIELDWORK PERTAIN TO THIS DATE.
 - 2) THIS PLAN DOES NOT CERTIFY OR GUARANTEE.
 - 3) AS OF THE DATE OF THIS PLAN SEARCH AS SUCH, THE INFORMATION IS COMPLETE AND UP TO DATE.
 - 4) ALL IRREGULAR PHYSICAL FEAT. (STREAMS, DITCHES, ETC.)
 - 5) NO RESPONSIBILITY OR LIABILITY FOR ANY PERSON OTHER THAN THE SURVEYOR.
 - 6) SUBJECT TO SLOPE RIGHTS ALL THE ABOVE ARE SUBJECT TO THE RECORDS.

Attachment 3

Flemington Solar, LLC – Frenchtown (V4-069) RTEP Project Connection



Attachment 4

Flemington Solar, LLC – Frenchtown (V4-069) RTEP Project Direct Connection Facilities

Item	Connection Facilities
1	Construct approximately 300 feet of new 34.5kV line from a point between poles NJ53KD and NJ54KD on the A729-4 34.5kV line (Baptistown - Frenchtown) west of the Baptistown substation.
2	Installation will include a new tap pole, switch pole on tap (single blade disconnects included in estimate), load break switches on poles NJ53KD and NJ54KD, necessary guying, etc., and a span of wire to a customer-owned meter pole beyond the switch pole
3	Review of environmental maps shows no need for environmental permitting at the preliminary service point indicated on the Garden Solar, LLC submitted sketch. If permitting is needed, an additional \$50,000 will be added to estimate.
4	Estimate includes \$20,000 for metering to be mounted on a customer-owned pole.
5	Miscellaneous Protection, Fuses, Metering, RTU, SCADA
Total Estimated Cost: \$183,000	

Attachment 5

FirstEnergy Revenue Metering Requirements for Generation Interconnection Customer

Interconnection Customer shall install, own, operate, test and maintain the necessary revenue quality Metering Equipment. This includes current transformers, voltage transformers, mounting structures, wiring, meters, communication circuits, and associated devices. The Metering Equipment must meet the specifications listed in the FirstEnergy and regional transmission organization (RTO) connection documents. The FirstEnergy "Requirements for Transmission Connected Facilities" are located at: <http://www.firstenergycorp.com/feconnect>

The Metering Equipment shall be located at the generation facility on the high voltage side of the generator step-up transformers or facility main step-up transformer and/or station service power transformers. Power flows to and from the facility shall be compensated to the Point of Interconnection.

FirstEnergy will provide revenue quality Metering Equipment for a station service power supply at a generation facility if the supply is from the local FirstEnergy distribution system.

The revenue quality Metering Equipment shall be capable of collecting and storing bidirectional billing data. The billing data shall be stored in intervals specified by FirstEnergy, typically fifteen minutes or thirty minutes. The Interconnection Customer must provide FirstEnergy with remote access to the billing data in the Metering Equipment via a dedicated voice-grade analog telephone circuit. The Interconnection Customer shall provide FirstEnergy with contact information for the person or persons responsible for meter programming and Metering Equipment maintenance.

The Interconnection Customer shall consult with FirstEnergy regarding the revenue quality metering system design and provide the following information:

- Facility one line and revenue metering installation drawings (schematics, wiring diagrams, etc.)
- Estimated power flows to and from the facility at all revenue metering points
- Current transformer and voltage transformer specifications, including manufacturer, type, nameplate drawings, and certified accuracy test reports
- Revenue meter specifications including manufacturer, type, model number, and accuracy
- Revenue meter program information including but not limited to billing data recorder channel assignments, recorder pulse weights (Ke), and read-only password for access to interval data by the FirstEnergy billing data collection system (MV-90)
- Revenue meter telephone number
- Revenue meter loss compensation data (if applicable)

The Interconnection Customer shall provide FirstEnergy with prior notification of any modifications at the facility that will affect the revenue meter measurements, including substation reconfigurations and meter program changes.

The revenue metering system at each location shall be tested for accuracy by the Interconnection Customer once every two years. The Interconnection Customer shall give reasonable notice to FirstEnergy of the time when the testing is scheduled so that FirstEnergy may have representatives present. FirstEnergy and the RTO shall have the right to audit the revenue metering equipment and/or related documents. The Interconnection Customer shall be given a reasonable period of time to comply with any requests associated with an audit.

Attachment 6

FORM OF
Generation Interconnection Feasibility Study Agreement
FROM ATTACHMENT H OF THE PJM TARIFF

RECITALS

1. This Generation Interconnection Feasibility Study Agreement, dated as of January 28, 2010, is entered into, by and between Garden Solar, LLC ("Interconnection Customer") and PJM Interconnection, L.L.C. ("Transmission Provider") pursuant to Part IV and Part VI of the PJM Interconnection, L.L.C. Open Access Transmission Tariff ("PJM Tariff"). Capitalized terms used in this agreement, unless otherwise indicated, shall have the meanings ascribed to them in the PJM Tariff.
2. Pursuant to Section 36.1.01, 110.1, or 111.1, of the PJM Tariff, the Interconnection Customer has submitted an Interconnection Request and has paid the applicable initial deposit to the Transmission Provider and the applicable non-refundable base deposit for a proposed interconnection of a generation facility over 20 MW; or the applicable initial deposit and the applicable non-refundable base deposit for a proposed interconnection of a generation facility 20 MW or less but greater than 2 MW, as applicable, to the Transmission Provider.
3. Interconnection Customer requests interconnection to the Transmission System of a generating project with the following specifications.
- a. Location of generating unit site:
#1038 Rt 12 East
Frenchtown, NJ 08825
- b. Identification of evidence of ownership interest in, or right to acquire or control, the generating site:
Contingent Purchase
Attached in Email to J.
Mittan and via hardcopy
- c. Size in megawatts of generating unit or increase in capacity of existing generating unit:
- A. Maximum Facility Output (as defined in section 1.58A.03 of the PJM Tariff) of the generating unit:
3.0 MW
- B. If Interconnection Request is for an increase in capacity of existing generating unit, specify size in megawatts of the increase in capacity of existing generating unit:
NA
- C. Specify any portion of the facility's capacity that you wish to be a Capacity Resource or Energy Resource.
3.0 1.14 MW Capacity Resource *[Signature]*
3.0 MW Energy Resource
- PLEASE NOTE: THE CAPACITY INDICATED IN YOUR RESPONSE TO PART C OF THIS ITEM MAY BE REDUCED, BUT MAY NOT BE INCREASED, WITH RESPECT TO THIS INTERCONNECTION REQUEST FOR THIS PROJECT.
- D. Identify the fuel type of the generating unit.
PV Solar
- d. Description of the equipment configuration:
See attached one line
diagram email to J.
Mittan and via hardcopy
- e. Planned date the generating unit or increase in capacity will be in service:
12/01/10
- f. Is the generating unit to be evaluated as a Capacity Resource?
 Yes
 No
If yes, check here to be evaluated also as an Energy Resource:
- g. Is the generating unit Behind The Meter Generation?
 Yes
 No
If Yes:
A. Specify any portion of the facility's capacity that you wish to be a Capacity Resource or Energy Resource.

Handwritten: C/E 2/12

Handwritten: [Signature]
8 Feb 10'

Attachment 6 (Continued)

3.0 MW

PLEASE NOTE: THE CAPACITY INDICATED IN YOUR RESPONSE IS PART A OF THIS PDS MAY BE REQUIRED, BUT MAY NOT BE INCREASED, WITH RESPECT TO THIS INTERCONNECTION REQUEST FOR THIS PROJECT.

- B. Identify the type and size of the load located (or to be located) at the site of such generation.

17kW (on site lighting,
security, inverter
controls and misc.)

- C. Describe the electrical connections between the generation facility and the load.

Max. load fed via 3 phase
CPT 480-208v at DF
Substation

- D. Other information:

n/a

***Generation Interconnection
Feasibility Impact
Study Report***

For

***PJM Generation Interconnection Request
Queue Position V4-069***

Frenchtown 12.5kV

April 2010

Preface

The intent of the feasibility study is to determine a plan, with ballpark cost and construction time estimates, to connect the subject generation to the PJM network at a location specified by the Interconnection Customer. The Interconnection Customer may request the interconnection of generation as a capacity resource or as an energy-only resource. As a requirement for interconnection, the Interconnection Customer may be responsible for the cost of constructing: (1) Direct Connections, which are new facilities and/or facilities upgrades needed to connect the generator to the PJM network, and (2) Network Upgrades, which are facility additions, or upgrades to existing facilities, that are needed to maintain the reliability of the PJM system.

In some instances a generator interconnection may not be responsible for 100% of the identified network upgrade cost because other transmission network uses, e.g. another generation interconnection, may also contribute to the need for the same network reinforcement. The possibility of sharing the reinforcement costs with other projects may be identified in the feasibility study, but the actual allocation will be deferred until the impact study is performed.

The Feasibility Study estimates do not include the feasibility, cost, or time required to obtain property rights and permits for construction of the required facilities. The project developer is responsible for the right of way, real estate, and construction permit issues. For properties currently owned by Transmission Owners, the costs may be included in the study.

General

The Interconnection Customer (IC), has proposed a 3.0 MW (1.14 MW capacity) solar generating facility. The facility will be located at 1038 Rt. 12 East in Frenchtown, New Jersey.

Point of Interconnection

V4-069 will interconnect with the Jersey Central Power & Light distribution system fed from the W. Flemington 34.5kV substation.

Network Impacts

The queue V4-069 project was studied as a 3MW (1.14 MW capacity) injection into JCPL's system at the W FLM TP 34.5kV substation. The project was studied on a combined feasibility-impact basis which utilizes an AC analysis, and incorporates all contingency types. Project V4-069 was evaluated for compliance with reliability criteria for summer peak conditions in 2014.

Potential network impacts were as follows:

Generator Deliverability

(Single or N-1 contingencies for the Capacity portion only of the interconnection)

No problems identified.

Multiple Facility Contingency

(Double Circuit Tower Line, Line with Failed Breaker and, Bus Fault contingencies for the Full energy output.

No problems identified.

Contribution to Previously Identified Overloads

(This project contributes to the following contingency overloads, i.e. “Network Impacts”, identified for earlier generation or transmission interconnection projects in the PJM Queue)

No problems identified.

Short Circuit

Not required.

New System Reinforcements

(Upgrades required to mitigate reliability criteria violations, i.e. “Network Impacts,” initially caused by the addition of this project’s generation)

None.

Contribution to Previously Identified System Reinforcements

(Overloads initially caused by prior Queue positions with additional contribution to overloading by this project.

None.

Potential Congestion due to Local Energy Deliverability

(PJM also studied the delivery of the energy portion of the surrounding generation. . Any potential problems identified below are likely to result in operational restrictions to the project under study. . The developer can proceed with Network Upgrades to eliminate the operational restriction at their discretion by submitting a Transmission Interconnection Request. . Note: Only the most severely overloaded conditions are listed below. There is no guarantee of full deliverability for this project by fixing only the conditions listed in this section. With a Transmission Interconnection Request, a subsequent analysis will be performed which analyzes all overload conditions associated with the identified overloaded element(s). . As a result of the aggregate energy resources in the area, the following violations were identified:

No problems identified.