Facilities Report

For the interconnection of

Essex A North Lot Solar, 3,500 kW Solar Project
3000 Robinson Parkway, Essex Junction, Vermont 05452

April 2024

Please note that the price estimates are for an underground linex as originally planned. If project ends up doing an overhead linex, GMP expects the price to be less.

Essex A North Lot Solar is proposing to interconnect 3,500 kW of photovoltaic generation, to be located at 3000 Robinson Parkway in Essex Junction, Vermont (the Project). The Project will interconnect to the GMP 19G4 circuit in the vicinity of tag 103095. In order to interconnect this Project in a safe and reliable manner, the steps listed in this Facilities Report must be completed.

1) **Distribution Line Extension, Disconnect Switch, PCC Recloser, Metering: ($144,637)**
(Per Oracle project cost)
    a. Material and installation costs for a line extension, from tag 103095 to the location of the point of common coupling (PCC) recloser and metering location. This line extension will include a pole mounted disconnect switch at or near tag 103095.
    b. Material and installation costs for a three-phase, pad-mounted, 15kV Viper S recloser to be located at the PCC. An existing pole-mounted transformer will supply power to the recloser and associated communications equipment.
    c. The costs to install, test, and commission a supervisory control and data acquisition (SCADA) system and to interface this system with the PCC recloser.
    d. Material and installation costs for a three-phase, four-wire, 12 kV-class bi-directional pad mounted metering package to be located at the PCC. The installation costs include line crew and meter department labor estimates. Per metering agreement, the Project contributes 100% toward the installed cost of the meter, voltage and current transformers, socket, and metering material. GMP retains ownership of these items.

2) **Substation live line block reclosing scheme ($29,983)**

    a. Material and installation costs to install a single (1) phase voltage transformer (VT) on the line side of the 19G4 distribution feeder.

b. Engineering and Relay technician time to program, test and commission settings and logic changes to the 19G4 breaker protection relay.

3) Customer Responsibilities
(Includes costs not specified above)

a. Provide GMP a Certificate of Insurance prior to beginning any construction activities. The certificate can be mailed to *Green Mountain Power, Attn: Ryan Jarvis, 163 Acorn Lane, Colchester, VT 05446*.
b. The Project must provide certified transformer test reports from the manufacturer to GMP. This report is required at least one month before interconnection.
c. The Project must provide copies of the factory inverter test reports at least one month prior to interconnection.
d. The Project is responsible for providing all conduits, associated trenching, and for all equipment located beyond the point of common coupling including installation in accordance with the Vermont Electric Service Requirements Manual.
e. The Project is responsible to provide road access to all interconnection equipment, including the PCC recloser and primary metering.
f. The above estimate does not include any necessary tree trimming or removal costs.

All costs listed are estimates; payment of the full estimate is required prior to the ordering of materials and scheduling of an interconnection date. The longest lead-time material for the GMP portion of this project is approximately forty-six (46) weeks. The majority of this project appears to be exempt from the Contribution In Aid of Construction (CIAC) tax, however if the IRS determines otherwise the Project will be responsible for the additional tax. The cost estimates contained in this Facilities Study are valid at the time the Study was performed and are subject to change. The Project will be trued up to actual cost after construction is complete. Based on the results of the true up, any excess funds will be refunded to the Project; likewise, any shortage will be billed. This estimate does not include any possible charges from communication providers or others.

4) Summary of Cost Estimates

1)	Distribution Line Extension, Disconnect switch, PCC Recloser, Metering:	$144,637
2)	Substation live line block reclosing:	$29,983
	Total:	**$174,620**

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FOR INTERNAL GMP USE AT TIME OF CONSTRUCTION:

Substation Operations **$29,938**_____ **Project #** __**191975**_____

Distribution Upgrades
& Line Extension **$144,637**_____ **Project #** _____

TGFOV Charge **$**___**N/A**_____ **GL ACCT#** _____

Feasibility Study for
Essex A North Lot Solar LLC
3,500 kW Solar Project
GMP CID 89550 QP-700

Located at 3000 Robinson Parkway, Essex Junction, VT 05452
Connected to the GMP 19G4 Circuit at 103095

Twarog, Cam

March 2024

Document Revision No.	Date	Author	Comments
0	01/29/2024	Cam Twarog	Creation of the document
1	6/3/2024	Cam Twarog	Update transformer and inverter information

This document provides Green Mountain Power's results of its Feasibility analysis for the proposed Project. This Feasibility analysis complies with the Vermont Public Utility Commission's Rule 5.505 (B) Fast Track Screening Criteria. If the proposed Project fails a given criterion, supplemental analysis has been included. To the extent that the supplemental analysis confirms that the Project may have adverse impacts on safety or reliability, further study will be required.

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SECTION 1

Project Description and Notes

Project and Distribution System Description

Essex A North Lot Solar, LLC propose to install a 3,500 kW-AC Solar (the Project) in Essex Junction, Vermont. The project will use 10x CPS SCH275-KTL-DO-US-800 and 3X CPS SCH250-KTL-DO-US-800 inverters and 1x 4,200 kVA 12.47/7.2kV grounded-Y to 800/462V grounded-Y with 6% impedance. The Project requests to interconnect to Green Mountain Power (GMP) on the GMP 19G4 distribution circuit in the vicinity of tag 103095 (the Point of Interconnection or POI). This circuit has a 7.2/12.47 kV grounded-wye configuration and is supplied by the GMP Essex #19 substation. This substation serves the 19G3 and 19G4 circuits via the No. 2 power transformer and serves the 19G5, 19G6 and 19G7 circuits via the No. 4 power transformer. The Project would be located approximately 1.48 circuit miles from the substation. The power transformer at the substation has a base/top nameplate rating of 10/14 MVA whose voltage is regulated via three 668-amp bus regulators connected one per phase.

As of January 18, 2024, the application date for the Project, the total of installed and proposed distributed energy resources (DER) on the Essex #19 substation was 13,430 kW, including the Project. The total DER on the No. 2 power transformer was 13,430 kW, including the Project. The total DER on the 19G4 was 4,143 kW, including the Project. There are no rotating machine generators on the 19G4 circuit.

The existing installed and proposed projects shall be included in the analysis as part of the total or aggregate distributed resources as necessary.

Substation/Circuit Protection and Loading

Location	Equipment and Control Type	Maximum Loading (kW)[1]	Minimum Loading (kW)[1]	Total DER Proposed and Connected (kW)
Essex #19 No. 2 Power Transformer	High Side Breaker With SEL 751 Relay	5,710 08/07/2022 18:00	1,987 04/29/2023 08:00	13,430
19G4 Circuit	12.47 kV Breaker with electronic relays	3,364 08/07/2022 18:00	1,190 04/29/2023 8:00	4,143

[1] Circuit level loads are two full years plus current year SCADA and AMI data, prior to application date. The amount of distributed generation on-line at the time of the peak was estimated and is included in these figures. Line loads are based on CymDIST load flow calculations.

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Relevant Studies

There are no studies relevant to this Project.

Modeling Assumptions:

- The Project is proposing to interconnect a three-phase DER to a three-phase line. The following analysis will assume that the existing three-phase line from taglet 103095 to the Project's POI will be upgraded to three-phase 1/0 (approximately 700 feet).
- This Project has been studied as being served from its normal supply, in this case the 19G4. There are alternate supplies to this location; and in the event of a resupply situation the Project may need to be taken off line for the duration of the resupply.
- The minimum daytime load was determined by analyzing the minimum loads during "daylight" hours between 8:00am and 4:00pm. This date generally falls within the spring and fall months of April, May, September, or October. Otherwise, a conservative estimate of 30% of the peak load will be noted and used.
- The modeling for this analysis utilizes the electrical one-line diagram submitted for the Project. The Project proposes to install 1 pad mounted 4,200 kVA, 12,470/7,200 volt grounded-wye to 800/462 volt grounded-wye transformers. The impedance of this transformer is assumed to be 6%.
- Unless otherwise specified, the power factor for PV projects is assumed to be 100% and the power factor for synchronous and induction generators is assumed to be +/-98%, and +/-93%, respectively.
- The short circuit contribution from the Project is assumed to be 150% of the Project's AC capacity.
- The inverter connection type is a three phase, no or low impedance continuous bond to the GMP neutral, also known as an ineffectively grounded connection.
- The inverters shall be required to operate with a total demand distortion (TDD) that complies with IEEE 1547 which references IEEE 519 specifically for harmonic contribution limits.
- Regarding voltage flicker for inverter based PV systems; GMP finds that inrush current is not a significant indicator of sudden voltage drop as it would be for rotating machine generators. To measure the sudden change in voltage, GMP's voltage flicker test for inverter based PV systems shall be used to test the impact of the Project to the distribution circuit. The voltage flicker test will consider the cloud shading effects on the PV modules. The cloud shading effect will consider the output drop of 70% for the PV system being studied, i.e. a drop in output from the nameplate ratings to 30% of the nameplate ratings before any voltage regulation can react to the change of voltage. If other PV systems are located within close proximity to the Project being studied, these systems may be included in the voltage flicker test. The percent difference in voltage readings at the Project's POI, and at any point in the distribution circuit, shall be validated using the GE flicker table. If the cloud shading results in less than a 1.8% change in primary voltage at any point on the distribution circuit, the Project passes the voltage flicker test.
- GMP Protection Criteria:
    - Non-fault currents shall not exceed 83% of the phase pickup of an electronic recloser under the conditions of minimum load and 100% generation.
    - For reach, the pick-up level shall not be less than 3.0 for bolted LLL and LG faults.

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- GMP Thermal Criteria:
    - The aggregate proposed and installed DER on the feeder under study, including the Project, with generation output at 100% and minimum load, shall not exceed:
        - 90% of a conductor's ampacity rating (both overhead and underground conductor);
        - 100% of a sectionalizing fuse's continuous rating;
        - 100% of a sectionalizer's continuous rating;
        - 100% of a switch's continuous rating;
        - 100% of a load tap changer's continuous rating;
        - 100% of a recloser's continuous rating; and
        - 100% of a regulator's continuous rating, without load bonus.
    - The aggregate proposed and installed DER on the feeder under study, including the Project, with generation output at 100% and *no load*, shall not exceed:
        - 100% of the power transformer's top nameplate on a per-winding basis.
- Further information on GMP assumptions and requirements can be found in the Green Mountain Power Interconnection Guidelines for Distributed Energy Resources at https://greenmountainpower.com/wp-content/uploads/2017/01/Final-2021-DER-Guidelines-2-2021-03-19.pdf

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SECTION 2

Rule 5.505 (B) Criteria and Fast Track Review

Criteria that are not passed will be colored in red**.**

1) **The Interconnection Requester's proposed Generation Resource meets the applicable codes and standards of Section 5.510 of Vermont Public Utility Commission's Rule 5.500 or is certified equipment package under Section 5.511.**

   The inverters proposed for this project are 10x CPS SCH275-KTL-DO-US-800 + 3X CPS SCH250-KTL-DO-US-800 which are compliant with GMP required UL1741 and IEEE 1547 standards. If another type of inverter is substituted, GMP shall be made aware of this proposed change.

2) **The proposed interconnection point is not at transmission voltage (i.e. not over 23 kV line to line or 11.38 line to neutral).**

   The Project proposes to interconnect to GMP's 19G4 distribution circuit, which has a voltage level of 12.47/7.2 kV and a four-wire, grounded-wye line configuration. This distribution circuit is not a transmission line.

3) **For interconnection to a Radial Feeder, the aggregated generation, including the proposed Generation Resource, on the circuit will not exceed 15% of the line section annual peak load as most recently measured at the substation. A line section is that portion of a distribution system connected to a customer bounded by Automatic Disconnect Devices or the end of the distribution line.**

   The 19G4 circuit peak demand is approximately 3,364 kW. Including the proposed Project, there would be approximately 4,143 kW of existing and proposed DG on this circuit. 4,143 kW / 3,364 kW = 123%.

   The Project fails this criterion.

4) **The aggregated generation, including the proposed Generation Resource, on a distribution circuit will not contribute more than 10% to the distribution circuit's maximum fault current at the point on the high voltage (primary) level nearest the proposed interconnection point.**

   The maximum available fault current at the POI, without distributed generation, is calculated as 3,097 amps (three-phase fault). With all distributed generation on-line, the maximum fault current at the POI increases to 3,314 amps (three-phase fault). The aggregate generation contributes 6.8% of the circuit's maximum fault current at the POI.

5) **The aggregated generation, including the proposed Generation Resources, on a distribution circuit will not cause any distribution protective devices and equipment (including, but not limited to, substation breakers,**

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fuse cutouts, and line reclosers), or customer equipment on the system to exceed 85% of the short-circuit interrupting capability; nor is the Generation Resource proposed for a circuit that already exceeds 85% of the short-circuit interrupting capability.

The maximum fault current contribution from the aggregate generation does not exceed 85% of the short-circuit interrupting capability of any existing protective device or equipment.

6) **For interconnection of a proposed single-phase or effectively-grounded three-phase Generation Resource where the primary distribution System is three-phase, four-wire, the Generation Resource will be connected line-to-neutral. For interconnection of a proposed single-phase or three-phase Generation Resource where the primary distribution system is three-phase, three-wire, the Generation Resource will be connected line-to-line.**

This circuit is a three phase, four wire multi-grounded neutral system, otherwise known as "grounded wye". The proposed Project will be connected through a grounded wye-grounded wye transformer. This Project connection is considered as ineffectively grounded with three phase inverter based sources.

The Project can proceed with interconnection provided the following are met:

- *Due to its size, the Project is required to install a PCC recloser.*

- *GMP also requires the inverters used for this project to comply with the Inverter Source Requirement Document of ISO New England (ISO-NE SRD). As part of the ISO-NE SRD requirements, GMP requires the Project to enter "momentary cessation" for over voltage conditions while operating in the "Permissive Operation" mode (Table III: Inverters Voltage Ride-through Capability and Operational Requirements). GMP requires the inverters to enter "Permissive Operation with Momentary Cessation" with a Maximum Response of 0.1s. If the proposed inverters are not capable of this Maximum Response Time, a Category III inverter shall be used instead which can comply with this requirement (IEEE 2018 6.4.2 Table 16). Inverter responses to under voltages while operating in the Permissive Operation mode are specified in the ISO-NE SRD at footnotes a and b.*

7) **Voltage drop due to starting the proposed generator is within acceptable limits, meaning that inrush current, due to starting the proposed Generation Resource up to once per hour, is not greater than 3% of the available fault current. Voltage drop due to starting the proposed Generation Resource more than once per hour meets a tighter inrush-current tolerance, to be determined by the Interconnecting Utility.**

The test for voltage drop is discussed above in Section 1 under Modeling Assumptions. There is another solar project, with a capacity of 50 kW, that is adjacent to the Project. Because this other solar project is within one-quarter mile of the Project, GMP considers it to be in close proximity and has included it in the cloud shading analysis. For cloud shading, the maximum voltage change at the Project's POI is 0.677%, which is acceptable.

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8) **For any single Generation Resource, the available utility short circuit current at the Point of Interconnection divided by the rated output current of the Generation Resource is no less than:**
   a) **50 for Generation Resource of less than 100 kW;**
   b) **40 for Generation Resources from 100 kW to less than 500 kW; and**
   c) **20 for Generation Resources equal to or greater than 500 kW.**

   The maximum available fault current at the POI is calculated as 3,314 amps three-phase. The rated output current of the Project is 162.24 amps. The ratio of fault current to Project output current is 20.43, which is greater than the required 20 for generation resources equal than or greater than 500 kW.

9) **Aggregate generation, including the Generation Resource, on a circuit will not exceed 2 MVA in an area where there are known or posted transient stability limitations to generating units located in the general electrical vicinity (e.g. three or four busses from the point of interconnection).**

   GMP is not aware of transient stability limitations in this area.

10) **No System Upgrades, in excess of limited preparation that do not necessitate a Facilities Study, are required to facilitate the interconnection of the Generation Resource.**

    This criterion cannot be determined by Section 2 alone. See the Supplemental Review (Section 3) and the Conclusion (Section 4).

11) **For interconnection of the proposed Generation Resource to the load side of spot network protectors, the proposed Generation Resource utilizes inverter-based equipment and aggregate generation, including proposed Generation Resource, will not exceed the smaller of 5% of a spot network's maximum load or 50 kW. Synchronous generators cannot be connected to a secondary network.**

    There are no spot networks on the GMP system.

12) **If the Generation Resource is to be connected on a shared, single-phase secondary, aggregate generation capacity on the shared secondary, including the proposed generation, will not exceed 20 kVA.**

    Not Applicable. The Project is three-phase.

13) **If the Generation Resource is single-phased and is to be interconnected on a center tap neutral of a 240 volts service, its addition will not create an imbalance between the two side of the 240 volt service of more than 20% of the service transformer nameplate.**

    Not Applicable. The Project is three-phase.

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SECTION 3

Supplemental Review

This section assesses whether failed criteria identified in Section 2 can be addressed, to ensure safe and reliable interconnection of the Project, using known solutions that would not require a System Impact Study. This supplemental review may also address potential issues that are not covered in the existing fast track criteria, such as islanding, transmission impacts, steady state voltages, and protection.

Fast Track Summary

The Project did not pass the following criteria:

Criterion 3: Temporary Over Voltage (TOV), Protection Device Loading & Coordination, Reverse Flow, Transmission, Voltage, Thermal Loading, Islanding, and Impact to other Utilities.
Criterion 6: Effective Grounding, Temporary Over Voltage (TOV)
Criterion 10: System Upgrades, Facilities Study

Further analysis is described below.

Protection Device Loading & Coordination: Pass

This test considers whether the total generation beyond a protective device can cause enough current flow that would erroneously cause the protective device to operate. This test considers a worst-case scenario of no load with generation at 100%; if that screen fails, a less conservative scenario of *minimum* load with generation at 100% is then considered. The results are presented below:

- Station high-side breaker: The high-side breaker at the Essex substation is set at 284.8 amps per phase pick-up. GMP sets the continuous current limit through this breaker at 284.8/1.2 or 237 amps. Under the conditions described above, there would be a maximum current flow of 225 amps through this breaker.
- 19G4 substation breaker: The 19G4 circuit breaker is set at 400 amps per phase pick-up. GMP sets the continuous current limit through this breaker at 400/1.2 or 333 amps. Under the conditions described above, there would be a maximum current flow of 190 amps through this breaker.

The existing protective devices on the 19G4 were reviewed to ensure proper coordination with the additional generation. The addition of the Project does not result in mis-coordination.

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Thermal Loading: Pass

This test considers whether current flow due to generation can result in thermal overloads on equipment including, but not necessarily limited to, overhead conductors, cables, switches, regulators, and, reactors. Refer to Section 1-Modeling Assumptions for GMP thermal criteria.

After review, GMP found no thermal overload issues resulting from this interconnection.

Substation and Transmission Capacity: Pass

This test considers whether current flow due to generation can overload the substation transformer, high-side fusing (or breaker) or, the transmission line entering the substation. When all feeders connected to the station are considered, a total of 13,430 KW of reverse flow would occur if the load was at 0% while the generation was at 100%. The top nameplate rating of the substation transformer is 10/14 MVA. After review, GMP found no overloads.

System Voltages: Conditional Pass

Steady state voltage: Pass

This test considers whether there could be reverse power flow on any regulators, and if so, whether they are capable of proper regulation in the reverse direction. This test also considers whether there are any other steady state voltage issues (i.e. voltages that fall outside of the limits specified by ANSI C84.1)

- **Reverse flow controls:** Pass – The only regulators on the 19G4 circuit between the Project and the substation transformer are the Essex #19 substation bus regulators. At minimum load and maximum generation, there would be reverse flow through these regulators. The controls for these regulators are capable of, and have been set for, reverse flow.
- **Voltage levels:** Pass – In the most conservative case of peak generation and no load, steady state voltages are found to be inside ANSI limits.
- **Voltage imbalance:** Pass – The imbalance in all sections of the three-phase line serving three-phase or two-phase load is less than 3% both before and after this Project.

Ground Fault Over Voltage (GFOV): Pass

- **GFOV on the distribution system**: Pass - The possibility of GFOV on the distribution system (DGFOV) is of concern when the minimum load to generation ratio is less than 2. After review, the minimum load to aggregate generation ratio on the circuit is less than 2.

  DGFOV will be addressed by the required PCC recloser.

- **GFOV on the subtransmission**: Pass - The possibility of ground fault over voltage on the transmission system (TGFOV) is a concern when there is a reverse flow of power onto the transmission system that cannot be dampened during line-to-ground faults on the transmission**.** TGFOV can also occur with no reverse flow when the minimum load-to-generation ratio for the section of the transmission system at

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issue is less than 2. The minimum load-to-generation ratio on the 3320 34.5 kV subtransmission supply is less than 2. TGFOV is mitigated through a transformer/low side bus differential scheme.

- **GFOV beyond a stepdown**: Pass - There are no transformers, stepdown or otherwise, between the Project and the station bus excluding the Project's local GSU.

Flicker Voltage Fluctuation: Conditional Pass

- **Natural transients** (fast moving cloud cover): Pass - This test considers whether voltage fluctuation due to rapidly moving clouds is within limits. This issue was covered under Section 2, Criterion 7. Voltage fluctuation due to rapidly moving clouds is within limits.

- **Generator Reconnection:** Conditional Pass – Traditionally, inverter-based distributed generation is assumed to reconnect to a system, following the operation of a protective device that caused the generation to go off-line, five minutes after healthy grid voltage is detected. GMP is concerned, however, that simultaneous reconnection of substantial amounts of distributed generation can result in temporary high voltages and excessive voltage regulator operation. Given the large amount of distributed generation on this circuit, GMP requires that the Project reconnect at six minutes following the detection of healthy voltage.

- **Generator Synchronization:** Pass – This generation connects to GMP via an inverter which complies with IEEE & UL standards.

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Unintentional Islanding: Pass

GMP considers whether the proposed Project, along with other distributed energy resources (DER) on the Affected System, is capable of supporting an unintentional island. To test for the possibility of unintentional islanding, GMP employs the following test:[2]

- First, GMP ensures that the Project's inverters meet applicable standards for anti-islanding.

  After review, GMP finds that the Project's inverters are compliant with GMP required UL1741 and IEEE 1547 standards

- Second, GMP considers the size of the Project, and for each line segment upstream of the Project, considers the aggregate amount of DER on that line segment, the percentage of this DER that is rotating machine or non-certified, and the line segment's minimum load.

  After review, GMP finds that each line segment upstream of the Project shall be equipped with a reclose block protection strategy. The only line segment upstream of the Project is denoted by the substation 19G4 breaker and the PCC recloser. The substation 19G4 breaker is not presently equipped with reclose block. Thus, a reclose block strategy will need to be implemented on the 19G4 breaker.

Monitoring and Control: Pass

Based on the Project's size, GMP requires the ability to monitor the Project's status and output. This requirement shall be met by the installation of a GMP PCC recloser. The Project will be responsible for the recurring monthly cost of the SCADA communications to the PCC recloser.

Impact to Other Utilities: Fail

Because the Project's capacity exceeds 1,000 kW, GMP is required to submit a generator notification form to ISO-NE per ISO-NE Planning Procedure 5-1. ISO may determine that a Proposed Plan Application (PPA) is required which may result in additional study, consistent with ISO Study and Performance Requirements in Planning Procedures 5-6 and 5-3. GMP will keep the project apprised of any updates regarding the ISO-NE review.

[2] GMP recognizes that, even if a project passes its anti-islanding test, it is theoretically possible for an unintentional island to form. Specifically, an unintentional island could form in the very rare instance that: 1) a circuit switching device is opened in a *non-fault* situation; 2) at the moment of switching, downstream of this device, there is a near-perfect match between real power generation and load; and 3) at the moment of switching, downstream of this device, there is a near-perfect match between reactive power generation and load. GMP notes that from a worker and public safety perspective, this situation is analogous to that of a customer's back-up generator inadvertently feeding back onto a part of the distribution system that may otherwise be considered to be de-energized. As a result, and to maximize safety, GMP relies on its existing operational practices to protect the public and its workers. Among these is the practice that, at all times, lines are considered to be energized until a qualified GMP employee is on site to verify that the line has in fact been de-energized and is safe to be approached.

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SECTION 4

Conclusion

The Project can move forward, without a System Impact Study. However, a Facilities Study will be required to develop the costs of the required measures listed below:

1) Construction of a three-phase line extension approximately 700 feet in length including the installation a single phase 15 kVA 7,200 volt grounded-wye to 120/240 V Grounded Wye pad-mounted transformer for the PCC recloser control provided by the project, a primary metering package, and disconnect switch/es. The GMP facilities need to be accessible by GMP trucks and the exact location of the take-off pole and line extension poles to be determined by site visit with the Distribution Designer.
2) Installation of a Viper-S PCC recloser. The Project will be responsible for the recurring monthly cost of the SCADA communications to the PCC recloser.
3) A reclose block scheme will need to be implemented on the 19G4 substation feeder breaker.
4) GMP requires that the inverters used for this project comply with the Inverter Source Requirement Document of ISO New England (ISO-NE SRD). As part of the ISO-NE SRD requirements, GMP requires the Project to enter "momentary cessation" for over voltage conditions while operating in the "Permissive Operation" mode (Table III: Inverters Voltage Ride-through Capability and Operational Requirements). GMP requires the inverters to enter "Permissive Operation with Momentary Cessation" with a Maximum Response of 0.1s. If the proposed inverters are not capable of this Maximum Response Time, a Category III inverter shall be used instead which can comply with this requirement (IEEE 2018 6.4.2 Table 16). Inverter responses to under voltages while operating in the Permissive Operation mode are specified in the ISO-NE SRD at footnotes a and b.
5) GMP requires the Project's inverters reconnect using a Soft-Start Ramp rate of 2% of maximum current output per second with a modified reconnection time of six minutes.
6) The Project is required to execute a Project Notice to Proceed with the appropriate GMP distribution designer when the Project is physically ready for interconnection to GMP's system.
7) Approval of generation notification form with ISO-NE.

Upgrades not resulting from the Project but are required before interconnection (GMP or other project's responsibility):

1) None.

Note that at the time of this report, the longest lead-time material for the GMP distribution portion of this Project is approximately forty-six (46) weeks. Lead times for all materials required for this Project are subject to change based upon manufacturer availability and delivery times. GMP will order materials for this Project when the customer provides payment. GMP cannot guarantee the availability of materials out of its stock.