Cable Schedule

Circuit Id	Voltage Rating	Conductor Quantity, Size and Material	Wire Type	Quantity of Conduits	Size of Conduits	Conduit Type	Notes
A	15kV	(3) #4/0 AWG AL, (1) #4/0 AWG AL N	Covered ACSR	-	-	-	MV Overhead
B	15kV	(3) #350 KCMIL AL Jacketed Concentric Neutral	MV-105	1	5"	PVC	MV Underground TR-XLP/133%
C	-	Flexible Busbar Connection	-	-	-	-	Switchgear (Typ.) to Transformer
D	600V	(3) 500 KCMIL AL, (1) #1 AWG AL G	XHHW-2	1	3.5"	PVC	String Inverter Feeder to Switchgear (Typ.)
E	-	(1) CAT 6 or (1) Fiber Optic	-	1	1"	PVC	Communications

Inverter Protection Settings

Inverter Protective Function	Enabled	Pickup	Unit	Total Clearing Time Cyc. (Seconds)	Description
27-1	Y	50%	V (L-L)	66 (1.1)	Under Voltage
27-2	Y	88%	V (L-L)	180 (3)	
27-3	N	-	-	-	
59-1	Y	110%	V (L-L)	120 (2)	Over Voltage
59-2	Y	120%	V (L-L)	9.6 (0.16)	
59-I	N	-	-	-	
81U-1	Y	56.5	Hz	9.6 (0.16)	Under Frequency
81U-2	Y	58.5	Hz	18000 (300)	
81O-1	Y	61.2	Hz	18000 (300)	Over Frequency
81O-2	Y	62	Hz	9.6 (0.16)	
Block Close	Y	95%	V (L-L)	18000 (300)	Under Voltage
Block Close	Y	105%	V (L-L)	18000 (300)	Over Voltage
Block Close	Y	59.5	Hz	18000 (300)	Under Frequency
Block Close	Y	60.5	Hz	18000 (300)	Over Frequency
Voltage setting values are L-L					
Settings are based on IEEE-1547, UL 1741 SB, and utility requirements					

Relay Protection Settings

Relay Protective Functions	Trip Output	Enabled (Relay Designation)	Voltage Settings (Sec.) Pri (P.U.)	Frequency Setting (Hz)	Total Clearing Time Cyc. (Sec.)	Current Setting Sec (PRI)	Relay Setting Time Cyc. (Seconds)
27P1 - Fast Undervoltage	X	Y (Relay.01)	(60) 3810.5 (0.5)	-	66 (1.1)	-	-
27P2 - Undervoltage	X	Y (Relay.01)	(105.6) 6706.5 (0.88)	-	180 (3)	-	-
27P3 - Undervoltage	-	N	-	-	-	-	-
59P1 - Overvoltage	X	Y (Relay.01)	(132) 8383.1 (1.1)	-	120 (2)	-	-
59P2 - Fast Overvoltage	X	Y (Relay.01)	(144) 9145.2 (1.2)	-	9.6 (0.16)	-	-
59N - Neutral Voltage Displacement	X	Y (Relay.01)	(12) 762.1 (0.1)	-	80 (1.33)	-	-
81UP1 - Underfrequency	X	Y (Relay.01)	-	56.5	9.6 (0.16)	-	-
81UP2 - Underfrequency	X	Y (Relay.01)	-	58.5	18000 (300)	-	-
81OP1 - Overfrequency	X	Y (Relay.01)	-	61.2	18000 (300)	-	-
81OP2 - Overfrequency	X	Y (Relay.01)	-	62	9.6 (0.16)	-	-
51 - Overcurrent	X	Y (Relay.01)	-	-	CURVE: U4 TD: 2.0	0.68 (136.7A)	-
50 - Instantaneous Overcurrent	X	Y	-	-	5 (0.083)	6.56 (1312.2A)	-
67 - Directional Overcurrent	-	N	-	-	-	-	-
50G - Instantaneous Ground Overcurrent	X	Y	-	-	5 (0.083)	3.28 (656.1A)	-
51G - Ground Overcurrent	X	Y (Relay.01)	-	-	CURVE: U4 TD: 1.0	0.23 (45.6A)	-
Block Close	-	Y (Relay.01)	(114) 7240 (0.95) ≤ V ≤ (126) 8002.1 (1.05)	59.5 ≤ f ≤ 60.5	18000 (300)	-	-
32F - Directional Power	-	N	-	-	-	-	-
32R - Reverse Power	-	N	-	-	-	-	-
Relay Fail Alarm	X	Y (Relay.01)	-	-	3 (0.05)	-	-
Primary voltage setting values are L-N							
Time delay shown is total clear time, which includes mechanical operation time of 3 cycles (0.05 sec)							
Autorestoration is enabled following voltage and frequency trips only. The relay will lockout for any overcurrent trips							

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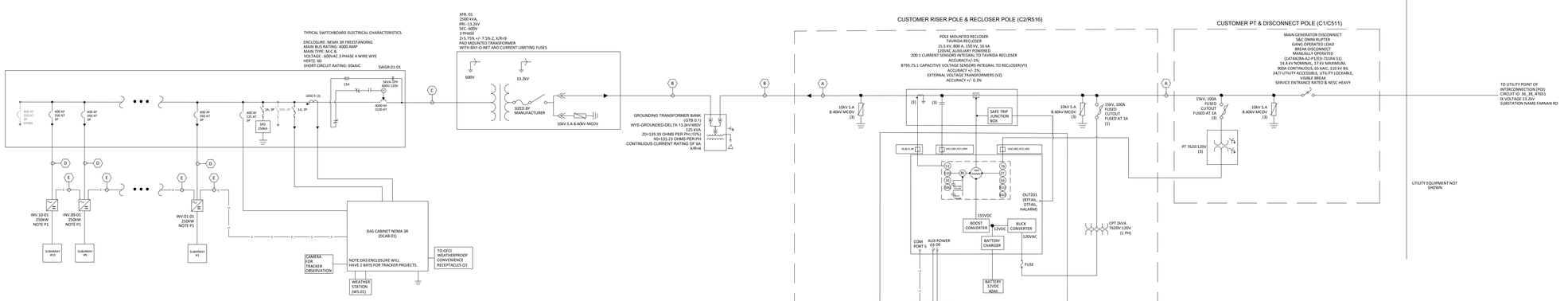

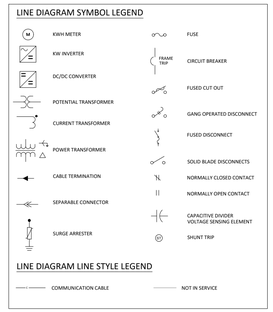

NOTES:

GENERAL & LEGAL:
G1. INFORMATION CONTAINED IN THIS DRAWING IS PROPRIETARY AND CONFIDENTIAL BELONGING TO NEXAMP OF BOSTON, MA.
G2. USE OF THIS INFORMATION SHALL BE LIMITED TO THE SPECIFIC PROJECT IT WAS DEVELOPED FOR AND SHALL NOT BE REPRODUCED WITHOUT CONSENT FROM NEXAMP, INC.
G3. ALL WORK SHALL BE INSTALLED IN A NEAT MANNER AND IN ACCORDANCE WITH THE APPLICABLE VERSION OF THE NATIONAL ELECTRICAL CODE(NEC) AND ALL OTHER LAWS AND STANDARDS.
G4. CONTRACTOR SHALL ENSURE THAT PHASE CONDUCTORS HAVE ENOUGH SLACK TO BE RELOCATED TO ANY PHASE BUSHING AS NEEDED TO ACCOMMODATE UTILITY PHASE ROTATION.

UTILITY & TESTING:
U1. EQUIPMENT ON THE UTILITY-SIDE ARE ASSUMED. ACTUAL EQUIPMENT AND CONFIGURATION SHALL BE VERIFIED BY THE UTILITY. UTILITY'S STANDARDS FOR INTERCONNECTION WILL BE FOLLOWED.
U2. THE GANG OPERATED DISCONNECT IS A VISIBLE BREAK AND IS ACCESSIBLE TO THE UTILITY 24/7.
U3. UTILITY-OWNED EQUIPMENT IS PROVIDED FOR REFERENCE ONLY AND MUST NOT BE USED FOR CONSTRUCTION PURPOSES. ALL SUCH EQUIPMENT REMAINS SUBJECT TO MODIFICATION AT THE SOLE DISCRETION OF THE UTILITY. FINAL APPROVAL BY THE UTILITY IS REQUIRED PRIOR TO COMMENCEMENT OF ANY CONSTRUCTION ACTIVITIES INVOLVING OR ADJACENT TO SAID EQUIPMENT.
U4. ALL CONSTRUCTION WORK WILL ABIDE BY THE ESB 750 & ESB 756. INSTALLATIONS WILL NOT INCLUDE ANY KIND OF TAPS, METER COLLARS OR ADAPTERS INSIDE METER SOCKETS, METER CABINETS OR ANYWHERE THERE ARE UN-METERED CONDUCTORS. ANY METERING AND DISCONNECTS WILL NEED TO BE GROUPED, POTENTIALLY LOCATED OUTSIDE AND 24/7 LOCKABLE AND ACCESSIBLE, IN ACCORDANCE WITH ESB 7.1.1. ANY JUNCTION BOX OR TROUGH FOR LINE SIDE TAP WILL NEED TO BE 24/7 LOCKABLE AND ACCESSIBLE. ALL EQUIPMENT & FINAL EQUIPMENT LOCATIONS WILL NEED TO BE APPROVED BY NATIONAL GRID PRIOR TO INSTALLATION.

PROJECT & EQUIPMENT DETAILS:
P1. (10) SOLECTRIA XGI 1500 250 (250 kW / kVA) STRING INVERTERS ARE USED. EACH INVERTER IS UL LISTED 1741 AND IEEE 1547 COMPLIANT.
P2. (5850) CSG 2-66HB (620-645) (630W) MODULES ARE USED.
P3. THE SIZE OF THE PROJECT IS 3685.50 kWDC/2500 kWAC.

GRIT APPROVAL
Reviewed By: S Dudek
Date: 08/05/2026

Approved
WillMoore 08/06/2026

NOTE: NOT FOR CONSTRUCTION. FOR UTILITY INTERCONNECTION APPLICATION PURPOSES ONLY.

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Rev	Issued For	Date	Init
A	UIA	07/03/2020	--
B	UIA	11/25/2020	--
C	UIA	07/03/2025	AS
D	UIA	03/24/2026	AY
E	UIA	08/05/2026	AK

P.E. seal/Consultant:

Project:
17408 - Top Hat Energy PV
2-6 Electric Drive,
Moreau, NY, 12828
43.2877, -73.6001

Drawing Title:
AC Single Line Diagram

Drawn by: A. Khan
Scale: N.T.S

Dwg No: E-601
Size: D
Sheet Rev: E

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