

MEMO

To: Ching Wah Chin, Chairman, and the Town of Ossining Planning Board
From: Julia Magliozzo, Ecogy Energy Operations Manager
Project: Maryknoll 75 Ryder Road Solar Project
Date: August 28, 2020
CC: Valerie Monastra, AICP
Kathy Zalantis, Esq., Town of Ossining Planning Board Attorney
John Hamilton, Town of Ossining Building Inspector
Dan Ciarcia, PE, Town of Ossining Planning Board Engineer

Ecogy New York II LLC (Ecogy) respectfully submits this Memo in response to the Memo issued by Valeria Monastra to the Town of Ossining Planning Board dated August 17, 2020 and to comments received by Ecogy from the Town of Ossining Planning Board during the meeting held on August 19, 2020.

Below, Ecogy identifies the comments from both the Memo dated August 17, 2020, and the meeting with the Planning Board. Ecogy would like to provide the below statements as well as additional supporting documents as noted in response to such comments.

Evaluation of Zoning Text Change to Allow 25 ft Height for Canopy Solar Systems

When evaluating the zoning text change to Chapter 200-31.3 Table 3 to increase the maximum height to 25 feet for a canopy system that is placed exclusively over impervious surfaces or surfaces without vegetation that are used as parking lots, Ecogy hopes the Planning Board will consider other parking lot areas in Ossining that could host solar projects similar to that proposed here. By allowing canopy solar systems over parking lots to be 25 feet tall, Ossining will benefit from the possibility of additional solar development with favorable land use choices.

In addition, allowing canopies up to a height of 25 feet will maintain the safety and usability of parking lots for all vehicles, including emergency vehicles. According to the Ossining Fire Department, the dimensions of the ladder trucks for the Town are approximately 12 feet tall. Additional vehicles of the Ossining Fire Department do not exceed 10 feet in height. Given that the solar canopy design allocates driving aisles without solar panels and the minimum height of the canopy is 13 feet 6 inches, the ladder trucks and other vehicles will have sufficient space to maneuver throughout the lot. The height of the canopies ensures the parking lot is safely usable by all manners of vehicles.

Finally, allowing a taller height limit for canopy solar systems over parking lots promotes the development of preferred system types at other locations, which contributes to the clean energy transition that is a goal for NY State. By adding solar canopies over a parking lot, Ecogy and Maryknoll are bringing a safe, clean, green initiative to Ossining that will benefit the community and could be the start of additional favorable solar development in the Town.

Tree Removal

Ecogy respects the intent of the Town to preserve trees as much as possible, particularly at a site such as Maryknoll Fathers and Brothers where the trees are well kept, older, and quite beautiful. For this reason, Ecogy contacted Con Edison regarding the overhead wires and two poles originally proposed on the site plan. Ecogy and Con Edison were able to come to an agreement that eliminates one of the proposed poles and will prevent any tree removal along the driveway on the northern end of the parking lot. The new site plan showing one pole and the new underground line is included with this submission. Tree removal should not be required to accommodate the utility lines as proposed in the new site plan and will be verified on site.

Public Hearing

Ecogy requests the Planning Board issue notice for a Public Hearing to be held at the regularly scheduled meeting on September 16, 2020.

Zoning Map Floating Zone

Per the Memo dated August 17, 2020, “an amendment to the zoning map as outlined in Article XII of the Zoning Code requires the Town Board to refer a proposed amendment to the Zoning Code to the Planning Board for a report.” Ecogy had previously presented this solar project to the Town Board and received a favorable response to the designation of tax lot 90.06-1-1 with an address of 75 Ryder Road as a floating zone for solar and to amend the zoning map accordingly. We hope the Planning Board will issue a report in favor of the same.

Unlisted Action Under SEQR

Ecogy recognizes that zoning text changes and rezoning are considered Unlisted Actions under SEQR, which results in the proposed solar project being an Unlisted Action. Ecogy believes the proposed solar project has no significant adverse impacts per SEQR criteria. Ecogy is happy to provide any additional information as requested to support this assertion.

Visual Impacts of the Solar Project

Ecogy believes the proposed solar project is sufficiently screened by the existing vegetation on site and is located far enough from the road so as to not be visible from adjacent properties. As stated in the Memo dated August 17, 2020, the Site Plan for the proposed

project supports this belief, thus, additional screening measures are not necessary. Furthermore, Ecogy will not be submitting a vegetation management plan as the existing vegetation is well-maintained by the owner of the property.

To help the Planning Board in visualizing the site of the proposed project, Ecogy will provide a video in digital format taken on site during a recent visit of the Town Board. The photos included below also provide a view from Ryder Road of the parking lots on which the solar canopy system will be located. If the photos and video are not sufficient, please notify Ecogy and we will be happy to schedule a site visit for members of the Planning Board.

Additional Documents Required

Ecogy is including with this Memo a three-line electrical diagram of the proposed solar energy system, equipment specification sheets for solar modules, inverters, optimizers, and canopy structures, and an Operation and Maintenance Plan for the project. As expressed during the Planning Board meeting on August 19, 2020, Ecogy does not plan to submit an Erosion and Sediment Control or Stormwater Management Plans given that the proposed project is being installed over an impervious surface and does not impact erosion or stormwater.

Ecogy thanks the Planning Board for its consideration of the solar project at 75 Ryder Road and hopes to receive final approval for the project. Please contact us should you have any further questions or require additional documentation.

Attachments

Photos

Specification Sheets

Operation and Maintenance Plan

Site Plan

Three-line Electrical Diagram

Supporting Photos for Ecogy Maryknoll 75 Ryder Road Solar Project

Maryknoll Fathers and Brothers site as viewed from Ryder Road.





Ecogy Maryknoll 75 Ryder Road Solar Project Equipment Specification Sheets

The equipment specification sheets for the Ecogy Maryknoll Solar Project are included on the subsequent pages. The equipment list is as follows:

Solar Panels:

Talesun BIPRO TD6G72M 400, 400W solar modules

Inverters:

Six (6) SolarEdge SE100K-US Inverters, Two (2) Solaredge SE33.3K-US Inverters

Optimizers:

SolarEdge P860 Power Optimizer

Canopy Structure:

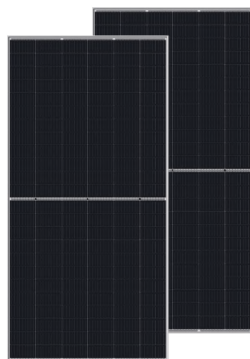
Quest 7.5 degree Canopies



BIPRO

TD6G72M 144-cell

385 ~ 410W
bifacial dual glass
9BB half-cut mono perc



KEY FEATURES



9BB half-cut cell technology

New circuit design, lower internal current, lower Rs loss



Industry leading high yield

Bifacial PERC cell technology,
5%-25% more yield depends on different conditions



Excellent Anti-PID performance

2 times of industry standard Anti-PID test by TUV SUD



Wider application

No water-permeability and high wear-resistance,
can be widely used in high-humid, windy and dusty area



IP68 junction box

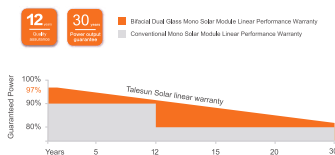
High waterproof level

SYSTEM & PRODUCT CERTIFICATES

- IEC 61215 / IEC 61730 / UL 1703
- ISO 9001 : 2015 Quality Management System
- ISO 14001 : 2015 Environment Management System
- ISO 45001 : 2018 Occupational Health and Safety Management Systems



PERFORMANCE WARRANTY



ELECTRICAL PARAMETERS

Performance at STC (Power Tolerance 0 - +3%)

| | | | | | |
|------------------------------|-------|-------|-------|-------|-------|
| Maximum Power(Pmax/W) | 390 | 395 | 400 | 405 | 410 |
| Operating Voltage(Vmpp/V) | 40,2 | 40,5 | 40,8 | 41,1 | 41,4 |
| Operating Current(Imp/A) | 9,71 | 9,76 | 9,81 | 9,86 | 9,91 |
| Open-Circuit Voltage(Voc/V) | 48,5 | 48,7 | 48,9 | 49,1 | 49,3 |
| Short-Circuit Current(Isc/A) | 10,25 | 10,29 | 10,33 | 10,37 | 10,41 |
| Module Efficiency ηm(%) | 19,0 | 19,2 | 19,5 | 19,7 | 20,0 |

Performance at NMOT

| | | | | | |
|------------------------------|------|------|------|------|------|
| Maximum Power(Pmax/W) | 295 | 299 | 302 | 306 | 310 |
| Operating Voltage(Vmpp/V) | 37,7 | 38,0 | 38,3 | 38,6 | 38,9 |
| Operating Current(Imp/A) | 7,82 | 7,86 | 7,90 | 7,93 | 7,97 |
| Open-Circuit Voltage(Voc/V) | 45,7 | 45,9 | 46,1 | 46,3 | 46,5 |
| Short-Circuit Current(Isc/A) | 8,26 | 8,29 | 8,33 | 8,36 | 8,39 |

STC: Irradiance 1000W/m², Cell Temperature 25°C, Air Mass AM1.5 NMOT: Irradiance at 800W/m², Ambient Temperature 20°C, Air Mass AM1.5, Wind Speed 1m/s

Electrical characteristics with different rear side power gain (reference to 400W front)

| | Pmax gain | Pmax/W | Vmpp/V | Imp/A | Voc/V | Isc/A |
|-----|-----------|--------|--------|-------|-------|-------|
| 5% | | 420 | 40,8 | 10,30 | 48,9 | 10,84 |
| 10% | | 440 | 40,8 | 10,79 | 48,9 | 11,36 |
| 15% | | 460 | 40,8 | 11,28 | 48,9 | 11,87 |
| 20% | | 480 | 40,8 | 11,77 | 48,9 | 12,39 |
| 25% | | 500 | 40,8 | 12,26 | 48,9 | 12,91 |

MECHANICAL SPECIFICATION

| | |
|--------------------------|---|
| Cell Type | Half-cell 9 busbar |
| Cell Dimensions | 158,75*158,75mm(6inches) |
| Cell Arrangement | 144 (6*24) |
| Weight | 26.8kg |
| Module Dimensions | 2031*1011*30mm |
| Cable Length | 500/500mm (19,69/19,69inches) |
| Cable Cross Section Size | 4mm²(0,006inches²) |
| Front Glass | 2.0mm (0.08inches) AR Coated Heat Strengthened Glass |
| Back Glass | 2.0mm (0.08inches)Heat Strengthened Glass (White Grid Glass) |
| No.of Bypass Diodes | 3/6 |
| Packing Configuration | A: 32pcs/Pallet, 704 pcs/40hq |
| Frame | 30 mm (1.18 inches) Anodized Aluminium Alloy |
| Junction Box | IP68 |

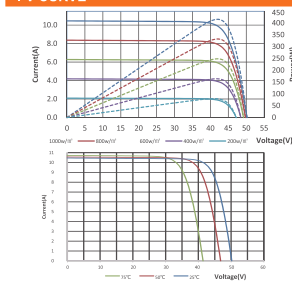
OPERATING CONDITIONS

| | |
|--|----------------|
| Maximum System Voltage | 1500V(DC)(IEC) |
| Operating Temp | -40°C~+85°C |
| Maximum Series Fuse | 20A |
| Static Loading | 5400pa |
| Conductivity at Ground | ≤ 0.1Ω |
| Safety Class | II |
| Resistance | ≥100MΩ |
| Connector | MC4 Compatible |
| Backside Output Ratio* | >75% |
| *Under STC: Backside Output Ratio = Pmax(rear) / Pmax(front) | |

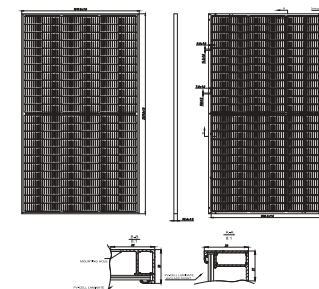
TEMPERATURE COEFFICIENT

| | |
|------------------------------|-----------|
| Temperature Coefficient Pmax | -0,35%/°C |
| Temperature Coefficient Voc | -0,25%/°C |
| Temperature Coefficient Isc | +0,04%/°C |
| NMOT | 41±3°C |

I-V CURVE



TECHNICAL DRAWINGS



marketing.hq@talesun.com

Annual Module Capacity Globally : 8 GW
China : 7 GW
Thailand : 1 GW

Talesun Solar is one of the world's largest integrated clean energy providers, who develops, manufactures and delivers highly reliable and cost-effective solar modules and integrated PV energy solutions for every application and market, for homes, businesses and utility power plants. It was ranked as one of the top 10 module suppliers in 2018, and was also listed as global TIER1 module supplier by BNEF since 2015.

20191218EN The specification and any features described in this document may deviate slightly and are not guaranteed. Due to ongoing innovation, BNEF environment. Since Talesun Solar Technology Co., Ltd. reserves the right to make any adjustment to the information described herein at any time without notice. Please direct all the inquiries to the sales department of the relevant sales office for all to recommend the best product made by the parties governing the transactions related to the purchase and sale of the products described herein.

TALESUN
www.taileun.com

Three Phase Inverter with Synergy Technology

for the 277/480V Grid for North America

SE66.6KUS / SE100KUS



INVERTERS

Specifically designed to work with power optimizers

- Easy two-person installation – each unit mounted separately, equipped with cables for simple connection between units
- Balance of System and labor reduction compared to using multiple smaller string inverters
- Independent operation of each unit enables higher uptime and easy serviceability
- No wasted ground area: wall/rail mounted, or horizontally mounted under the modules (10° inclination)
- Integrated arc fault protection and rapid shutdown for NEC 2014 and 2017, per article 690.11 and 690.12
- Built-in module-level monitoring with Ethernet or cellular GSM
- Fixed voltage inverter for superior efficiency (98.5%) and longer strings
- Integrated DC Safety Switch and optional surge protection
- Built-in RS485 Surge Protection, to better withstand lightning events

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Three Phase Inverter with Synergy Technology for the 277/480V Grid for North America

SE66.6KUS / SE100KUS

| | SE66.6KUS | SE100KUS | |
|--|---|------------------------------|---------|
| OUTPUT | | | |
| Rated AC Power Output | 66600 | 100000 | VA |
| Maximum AC Power Output | 66600 | 100000 | VA |
| AC Output Line Connections | 4-wire WYE (L1-L2-L3-N) plus PE | | |
| AC Output Voltage Minimum-Nominal-Maximum ⁽¹⁾ (L-N) | 244 - 277 - 305 | | Vac |
| AC Output Voltage Minimum-Nominal-Maximum ⁽¹⁾ (L-L) | 422.5 - 480 - 529 | | Vac |
| AC Frequency Min-Nom-Max ⁽¹⁾ | 59.3 - 60 - 60.5 | | Hz |
| Maximum Continuous Output Current (per Phase) @277V | 80 | 120 | A |
| GFDI Threshold | 1 | | A |
| Utility Monitoring, Islanding Protection, Configurable Power Factor, Country Configurable Thresholds | Yes | | |
| INPUT | | | |
| Maximum DC Power (Module STC) / Unit | 90000 / 45000 | 135000 / 45000 | W |
| Transformer-less, Ungrounded | Yes | | |
| Maximum Input Voltage DC to Gnd | 500 | | Vdc |
| Maximum Input Voltage DC+ to DC- | 1000 | | Vdc |
| Nominal Input Voltage DC to Gnd | 425 | | Vdc |
| Nominal Input Voltage DC+ to DC- | 850 | | Vdc |
| Maximum Input Current | 80 | 120 | Adc |
| Maximum Input Short Circuit Current | 120 | | Adc |
| Reverse-Polarity Protection | Yes | | |
| Ground-Fault Isolation Detection | 350kΩ Sensitivity per Unit | | |
| CEC Weighted Efficiency | 98.5 | | % |
| Nighttime Power Consumption | < 12 | | W |
| ADDITIONAL FEATURES | | | |
| Supported Communication Interfaces | RS485, Ethernet, Cellular GSM (optional) | | |
| Rapid Shutdown | NEC2014 and NEC2017 compliant/certified, upon AC Grid Disconnect | | |
| RS485 Surge Protection | Built-in | | |
| DC SAFETY SWITCH | | | |
| DC Disconnect | 1000V / 2 x 40A | 1000V / 3 x 40A | |
| DC Surge Protection | Optional, Type II, field replaceable | | |
| STANDARD COMPLIANCE | | | |
| Safety | UL1741, UL1741 SA, UL1699B, UL1998, CSA 2.22 | | |
| Grid Connection Standards | IEEE 1547, Rule 21, Rule 14 (H) | | |
| Emissions | FCC part15 class A | | |
| INSTALLATION SPECIFICATIONS | | | |
| Number of units | 2 | 3 | |
| AC Output Conduit Size / Max AWG / Max PE AWG | 1.5" / 2/0 / 6 | 2" / 4/0 / 4 | |
| DC Output Conduit Size / Terminal Block AWG Range / Number of Strings ⁽²⁾ | 2 x 1.25" / 6-14 / 6 strings | 2 x 1.25" / 6-14 / 9 strings | |
| Dimensions (H x W x D) | Primary Unit: 37 x 12.5 x 10.5 / 940 x 315 x 260; Secondary Unit: 21 x 12.5 x 10.5 / 540 x 315 x 260 | | in / mm |
| Weight | Primary Unit: 105.8 / 48; Secondary Unit 99.2 / 45 | | lb / kg |
| Operating Temperature Range | -40 to +140 / -40 to +60 ⁽³⁾ | | °F / °C |
| Cooling | Fan (user replaceable) | | |
| Noise | < 60 | | dBA |
| Protection Rating | NEMA 3R | | |
| Bracket Mounted (Brackets Provided) | | | |

⁽¹⁾ For other regional settings please contact SolarEdge support

⁽²⁾ Single input option per unit (up to 3AWG) available

⁽³⁾ De-rating from 50°C

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CE RoHS

Three Phase Inverters for the 277/480V Grid for North America

SE20KUS / SE30KUS / SE33.3KUS



12-20
YEAR
WARRANTY

INVERTERS

The best choice for SolarEdge enabled systems

- Quick and easy inverter commissioning directly from a smartphone using the SolarEdge SetApp
- Specifically designed to work with power optimizers
- Superior efficiency (98%)
- Fixed voltage inverter for longer strings
- Integrated Safety Switch
- UL1741 SA certified, for CPUC Rule 21 grid compliance
- Integrated arc fault protection and rapid shutdown for NEC 2014 and 2017, per article 690.11 and 690.12
- Built-in module-level monitoring
- Internet connection through Ethernet or Wireless
- Small, lightweight, and easy to install outdoors or indoors on provided bracket
- Supplied with RS485 Surge Protection Device, to better withstand lightning events

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Three Phase Inverters for the 277/480V Grid⁽¹⁾ for North America

SE20KUS / SE30KUS / SE33.3KUS

| MODEL NUMBER | SE20KUS | SE30KUS | SE33.3KUS | |
|---|---|----------------------------------|-----------|---------|
| APPLICABLE TO INVERTERS WITH PART NUMBER | | SEXXX-XXXXBXX4 | | |
| OUTPUT | | | | |
| Rated AC Power Output | 20000 | 30000 | 33300 | VA |
| Maximum AC Power Output | 20000 | 30000 | 33300 | VA |
| Output Line Connections | 3 phase, 4-wire / PE (L1-L2-L3-N), TN, TT | | | |
| AC Output Voltage Minimum-Nominal-Maximum ⁽²⁾ (L-N) | 244-277-305 | | | Vac |
| AC Output Voltage Minimum-Nominal-Maximum ⁽²⁾ (L-L) | 422.5-480-529 | | | Vac |
| AC Frequency Min-Nom-Max ⁽²⁾ | 59.3 - 60 - 60.5 | | | |
| Maximum Continuous Output Current (per Phase) | 24 | 36.5 | 40 | A |
| GFDI Threshold | 1 | | | A |
| Utility Monitoring, Islanding Protection, Country Configurable Set Points | Yes | | | |
| THD | ≤ 3 | | | % |
| INPUT | | | | |
| Maximum DC Power (Module STC) | 27000 | 40500 | 45000 | W |
| Transformer-less, Ungrounded | Yes | | | |
| Maximum Input Voltage DC to Gnd | 490 | | | |
| Maximum Input Voltage DC+ to DC- | 1000 | | | |
| Nominal Input Voltage DC to Gnd | 420 | | | |
| Nominal Input Voltage DC+ to DC- | 840 | | | |
| Maximum Input Current | 26.5 | 39 | 40 | Adc |
| Maximum Input Short Circuit Current | 45 | | | |
| Reverse-Polarity Protection | Yes | | | |
| Ground-Fault Isolation Detection | 1MΩ Sensitivity | 350kΩ Sensitivity ⁽³⁾ | | |
| CEC Weighted Efficiency | 98 | 98.5 | | |
| Night-time Power Consumption | < 3 | < 4 | | |
| ADDITIONAL FEATURES | | | | |
| Supported Communication Interfaces | RS485, Ethernet, Built-in Cellular (optional) | | | |
| Inverter Commissioning | With the SetApp mobile application using built-in access point for local connection | | | |
| Rapid Shutdown – NEC 2014 and 2017 690.12 | Automatic Rapid Shutdown upon AC Grid Disconnect | | | |
| RS485 Surge Protection Plug-in | Supplied with the inverter | | | |
| Smart Energy Management | Export Limitation | | | |
| STANDARD COMPLIANCE | | | | |
| Safety | UL1741, UL1741 SA, UL1699B, CSA C22.2, Canadian AFCI according to T.I.L. M-07 | | | |
| Grid Connection Standards | IEEE1547, Rule 21, Rule 14 (H) | | | |
| Emissions | FCC part15 class B | | | |
| INSTALLATION SPECIFICATIONS | | | | |
| AC output conduit size / AWG range | 3/4" minimum / 12-6 AWG | 3/4" minimum / 8-4 AWG | | |
| DC input conduit size / AWG range | 3/4" minimum / 12-6 AWG | | | |
| Number of DC inputs | 2 pairs | 3 pairs ⁽⁴⁾ | | |
| Dimensions (H x W x D) | 21 x 12.5 x 10.5 / 540 x 315 x 260 | | | in / mm |
| Dimensions with Safety Switch (H x W x D) | 30.5 x 12.5 x 10.5 / 775 x 315 x 260 | | | in / mm |
| Weight | 67.6 / 30.7 | 99.5 / 45 | | |
| Weight with Safety Switch | 74.2 / 33.7 | 106 / 48 | | |
| Cooling | Fans (user replaceable) | | | |
| Noise | < 50 | < 55 | | |
| Operating Temperature Range | -40 to +140 / -40 to +60 ⁽⁵⁾ | | | °F / °C |
| Protection Rating | NEMA 3R | | | |

⁽¹⁾ For 120/208V Inverters refer to: <https://www.solaredge.com/sites/default/files/se-three-phase-us-inverter-208V-setapp-datasheet.pdf>
⁽²⁾ For other regional settings please contact SolarEdge support
⁽³⁾ Where permitted by local regulations
⁽⁴⁾ Field replacement kit for 1 pair of inputs P/N DCD-3PH-1TBK. Field replacement kit for 3 pairs of fuses and holders P/N DCD-3PH-6FHK-S1
⁽⁵⁾ For power de-rating information refer to: <https://www.solaredge.com/sites/default/files/se-temperature-derating-note-na.pdf>

Power Optimizer For North America

P860



POWER OPTIMIZER

PV power optimization at the module-level The most cost effective solution for commercial and large field installations

- Specifically designed to work with SolarEdge inverters
- Up to 25% more energy
- Superior efficiency (99.5%)
- Balance of System cost reduction; 50% less cables, fuses and combiner boxes, over 2x longer string lengths possible
- Fast installation with a single bolt
- Advanced maintenance with module-level monitoring
- Module-level voltage shutdown for installer and firefighter safety
- Meets NEC requirements for arc fault protection (AFCI) and Photovoltaic Rapid Shutdown System (PVRSS)
- Use with two PV modules connected in parallel

solaredge.com

solaredge

Power Optimizer For North America P860

| Optimizer Model (Typical Module Compatibility) | P860 (for 2 x 72 cell modules) | |
|---|--|---------|
| INPUT | | |
| Rated Input DC Power ⁽¹⁾ | 860 | W |
| Connection type | Dual input for independently connected modules | |
| Absolute Maximum Input Voltage (Voc at lowest temperature) | 60 | Vdc |
| MPPT Operating Range | 12.5 - 60 | Vdc |
| Maximum Short Circuit Current (IsC) | 22 | Adc |
| Maximum Short Circuit Current per input (IsC) | 11 | Adc |
| Maximum Efficiency | 99.5 | % |
| Weighted Efficiency | 98.6 | % |
| Overvoltage Category | II | |
| OUTPUT DURING OPERATION (POWER OPTIMIZER CONNECTED TO OPERATING SOLAREGE INVERTER) | | |
| Maximum Output Current | 18 | Adc |
| Maximum Output Voltage | 85 | Vdc |
| OUTPUT DURING STANDBY (POWER OPTIMIZER DISCONNECTED FROM SOLAREGE INVERTER OR SOLAREGE INVERTER OFF) | | |
| Safety Output Voltage per Power Optimizer | 1 ± 0.1 | Vdc |
| STANDARD COMPLIANCE | | |
| Photovoltaic Rapid Shutdown System | Compliant with NEC 2014, 2017 ⁽²⁾ | |
| EMC | FCC Part15 Class B, IEC61000-6-2, IEC61000-6-3 | |
| Safety | IEC62109-1 (class II safety), UL1741 | |
| Material | UL-94 (5-VA), UV Resistant | |
| RoHS | Yes | |
| INSTALLATION SPECIFICATIONS | | |
| Compatible SolarEdge Inverters | Three phase inverters | |
| Maximum Allowed System Voltage | 1000 | Vdc |
| Dimensions (W x L x H) | 128 x 168 x 59 / 5 x 6.61 x 2.32 | mm / in |
| Weight (including cables) | 1064 / 2.34 | gr / lb |
| Input Connector | MC4 Dual Input ⁽³⁾ | |
| Output Wire Type / Connector | Double Insulated; MC4 | |
| Output Wire Length | 6.9 / 2.1 | ft / m |
| Operating Temperature Range ⁽⁴⁾ | -40 - +85 / -40 - +185 | °C / °F |
| Protection Rating | IP68 / NEMA6P | |
| Relative Humidity | 0 - 100 | % |

⁽¹⁾ Rated STC power of the module. Module of up to +5% power tolerance allowed.

⁽²⁾ NEC 2017 requires max combined input voltage be not more than 80V.

⁽³⁾ In a case of odd number of PV modules in one string, it is allowed to install one P860 power optimizer connected to one PV module. When connecting a single module to P860, seal the unused input connectors with the supplied pair of seals.

⁽⁴⁾ For ambient temperature above +70°C / +158°F power de-rating is applied. Refer to Power Optimizers Temperature De-Rating Application Note for more details.

| PV System Design Using a SolarEdge Inverter ⁽³⁾ | | Three Phase 208V ⁽⁴⁾ | Three Phase 480V | |
|--|------------------|---------------------------------|------------------|---|
| Minimum String Length | Power Optimizers | 8 | 13 | |
| | PV Modules | 16 | 26 | |
| Maximum String Length | Power Optimizers | 30 | | |
| | PV Modules | 60 | | |
| Maximum Power per String | | 7200 | 15300 | W |
| Parallel Strings of Different Lengths or Orientations | | Yes | | |

⁽³⁾ It is not allowed to mix P860 with P730/P800p/P850 in one string or to mix with P300/P320/P400/P405 in one string.

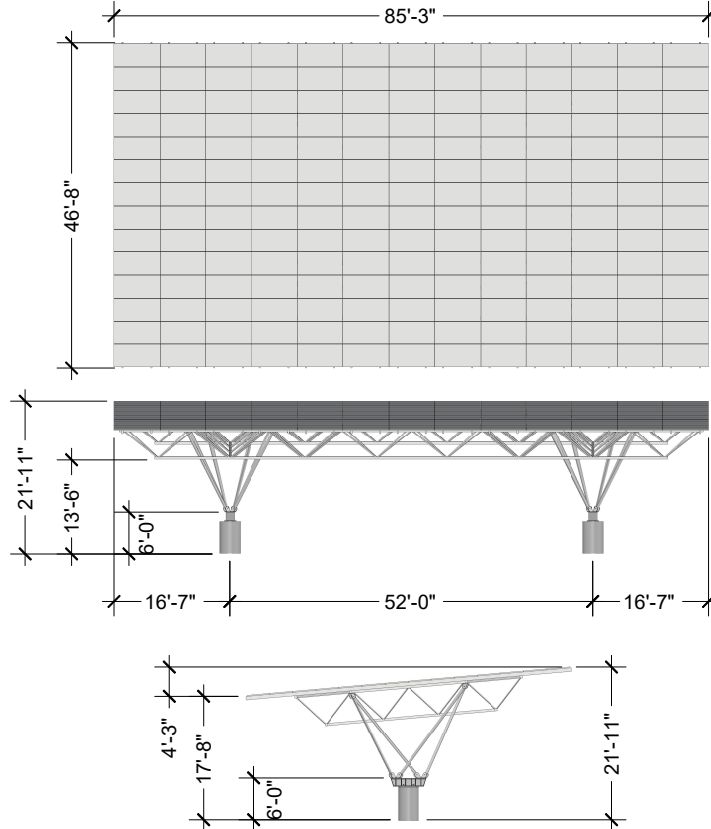
⁽⁴⁾ P860 design with three phase 208V inverters is limited. Use the SolarEdge Designer for verification.

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CE RoHS

CONFIG 1 - 14 x 13

QUEST RENEWABLES
Ecogy Energy 55 Ryder Rd. - Maryknoll
Project# : J023-01



QUEST RENEWABLES
75 5th Street Suite 2150
Atlanta, Georgia 30308

Quad Pod: 3d Truss
Racking & Mounting System

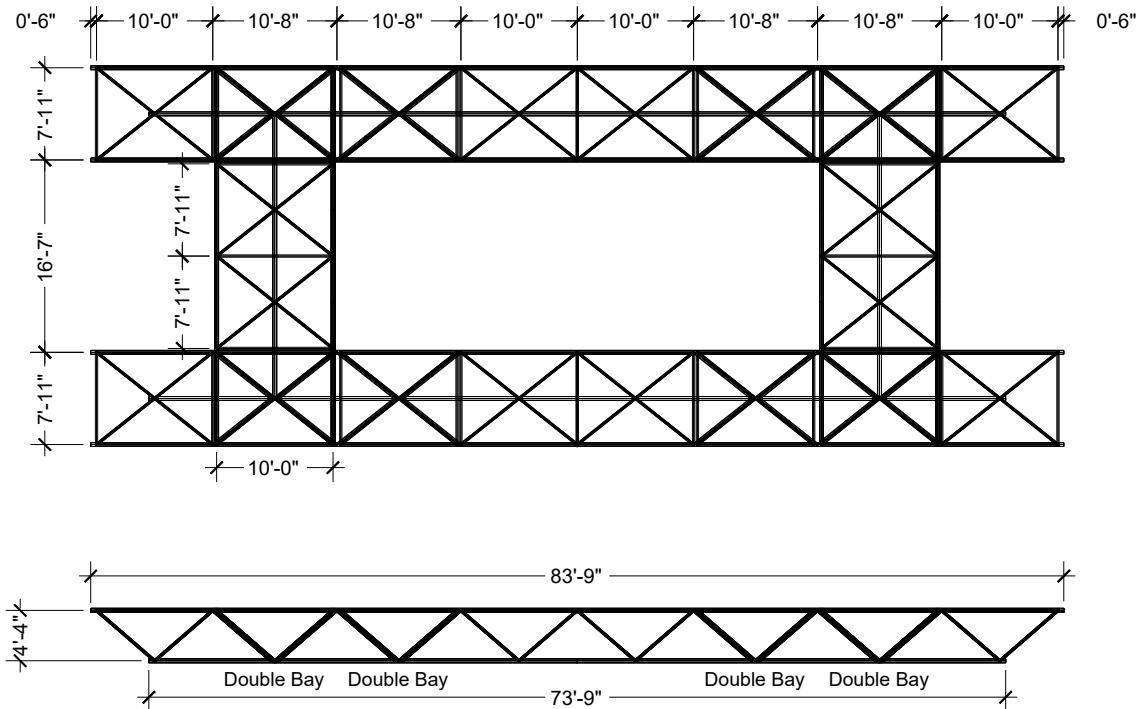
ARRAY LAYOUT
INITIAL ENGINEERING INFO

Proprietary and Confidential

DATE: 12/12/2019
DRAWN BY: jkeane3
CHECKED BY: W. A.

CONFIG 1 - Truss Details

QUEST RENEWABLES
Ecogy Energy 55 Ryder Rd. - Maryknoll
Project# : J023-01



QUEST RENEWABLES
75 5th Street Suite 2150
Atlanta, Georgia 30308

Quad Pod: 3d Truss
Racking & Mounting System

ARRAY LAYOUT
INITIAL ENGINEERING INFO

Proprietary and Confidential

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DRAWN BY: jkeane3
CHECKED BY: W. A.

Ecogy Maryknoll 75 Ryder Road Solar Project Operation and Maintenance Plan

Ecogy Energy will partner with a dedicated Operations and Maintenance provider (“Contractor”) for the below services throughout the life of the solar canopies. Ecogy can submit information about the Operations and Maintenance Contractor to the Town for the record once a contract has been signed with a provider.

Description of System Services that Contractor will provide on a MONTHLY basis:

- I. Performance Monitoring:
 - A. Contractor shall monitor System production beginning on Commencement Date continuously throughout the Term and shall provide a System performance report on a monthly basis, detailing the following:
 1. Actual vs. expected performance of the System for the prior period expressed in kWh
 2. Any shortfall in System production resulting in less than 85% of expected performance

Description of System Services that Contractor will provide on a SEMI-ANNUAL basis:

- I. Site and System Inspection:
 - A. Contractor shall perform Site and System inspection on or around a mutually agreed upon date no later than six months after Commencement Date and then on a semi-annual basis thereafter. Results of inspection will be provided to Customer within five business days of inspection and shall include:
 1. Array Inspection
 - a) Inspect PV modules for damage, discoloration or delamination
 - b) Inspect mounting system for damage or corrosion
 2. Site Conditions
 - a) Inspect drainage conditions
 - b) Inspect system site for array shading which may diminish efficiency of the System (i.e. vegetation, construction, etc.)
 - c) Inspect System for fire hazards
 - d) Inspect safety conditions and proper signage
 3. Maintenance Reporting
 - a) Record results of all inspections
 - b) Take photographs of any damage or defects identified
 - c) Inform Customer and warranty providers of all deficiencies identified
 - d) Provide Customer with recommendations for corrective actions

- e) Take photographs of the System and Site, dated within 30 days of end of semi-annual period

Description of System Services that Contractor will provide on an ANNUAL basis:

- I. Performance Monitoring:
 - A. Contractor will provide, on or around the first anniversary of the Contract and annually thereafter, an annual operations and maintenance report, such report to include:
 - 1. Actual vs. expected production of solar energy by System for the previous year and on a cumulative basis to date, expressed in kWh
 - 2. System Availability percentage
 - 3. Performance Index Measure
 - 4. Operation and Maintenance Records
 - 5. Safety, Accidents and Environmental Reporting
 - 6. Proposal of Recommended Actions
 - 7. Photographs of the System and Premises, dated within 30 days of anniversary period.
 - B. Preventative Maintenance, Inspections & Testing:
 - 1. Array
 - a) Inspect PV modules for damage, discoloration or delamination
 - b) Inspect mounting system for damage or corrosion
 - 2. Inverter
 - a) Torque checks on critical electrical terminations
 - b) Clean all filters and fans
 - c) Inspect inverter pad and container
 - 3. Electrical Balance of System (BOS)
 - a) Inspect ground braids, electrodes and conductors for damage
 - b) Perform thermo-graphic analysis of combiner boxes, inverters, transformers, and conductor connections to buses, breakers or disconnects
 - 4. Premises Conditions
 - a) Inspect drainage conditions
 - b) Inspect site for array shading which may diminish efficiency of the System (i.e. vegetation, construction, etc.)
 - c) Inspect System for fire hazards
 - d) Inspect safety conditions and proper signage
 - 5. Maintenance Reporting
 - a) Record results of all inspections
 - b) Take photographs of any damage or defects identified

- c) Inform Customer and warranty providers of all deficiencies identified
- d) Provide Customer with recommendations for corrective actions

Description of System Services that Contractor will provide on an AS-NEEDED basis at an additional cost:

- I. Corrective Maintenance, including:
 - A. Module cleaning, to include surface washing of all modules with pressure washing settings not to exceed 1,500 PSI. Contractor will provide before and after photographs of System.
 - B. On-site troubleshooting & diagnostics of all system components (service included at no additional cost for systems under Contractor Warranty)
 - C. Inverter and Data Acquisition System resets: (service included at no additional cost for systems under Contractor Warranty):
 - 1. Remote resets (if capability enabled and connection available)
 - 2. On-site resets
 - D. Processing of warranty claims on behalf of Customer and verification of replaced equipment (service included at no additional cost for systems under Contractor Warranty)
 - E. Management of repair and replacement for equipment out of warranty (service included at no additional cost for systems under Contractor Warranty).
 - F. Ongoing warranty support and representation of Customer's interest with System equipment manufacturers (service included at no additional cost for systems under Contractor Warranty).
 - G. All repair and replacement services beyond the installation and workmanship warranty as outlined in Section 3.1.
 - H. Repair and replacement of equipment covered by the Manufacturer's warranties as listed in Attachment D.

If the system is performing at or above 100% of the expected system production for the prior six month period, Contractor may elect to forgo the scheduled semi-annual site inspection, maintenance and testing.