

Case No.17-1431-EL-REN
Mutters-Will & Andrea-OH-PV-11.55kW Residence
Staff Interrogatories – Initial Set

Question 1: In section G of the application you have submitted the following:

G.4 SOLAR PHOTOVOLTAIC

G.4a Location of the PV Array: Roof

Description:

G.4b Total number of Modules: 28,14

However, all of the 42 panels are not visible in the photograph submitted in Section G.3. Please submit additional photographs that together with this photograph cover all the panels, OR submit any visual proof that shows all the panels and/or their layout.

Should you need to update the number of panels, please update the nameplate capacity submitted in Section I.a as well.

Answer 1.







Question 2: In **Section N** of the application, you have stated the following:

N.a The meter(s) that are measuring output from the facility are:

No Inverter Meter(s)

Yes Utility Grade Meter(s) *(Must meet ANSI 12.1, or demonstrate an accuracy level of $\pm 2\%$)*

N.1 Please provide the following information for each meter used in your system.

N.1.a Manufacturer: Enphase, Enphase

N.1.b Serial Number: 121706023956, 12170623954

N.1.c Type: X-IQ-AM1-240-B, X-IQ-AM1-240-B

N.1.d Date of Last Certification: May 24, 2017

Attach a photograph of the meter(s) with date image taken. The meter reading(s) must be clearly visible in the photograph.

N.1.e Report the total meter reading number at the time the photograph was taken and specify the appropriate unit of generation (e.g., kWh): 658kWh

- a. The image that you submitted in Section N.1.e does not show the physical meters being used to measure the gross output of the facility, but rather an image of the system's monitoring software display.

Please submit photographs of the actual physical meters used to measure the facility's output (which will be reported to the attribute tracking system), and indicate when the photographs

were taken. Details such as the meter reading numbers, manufacturers, types, and serial numbers should be clearly visible in the photographs of the meters.

Answer 2a.: This system has micro inverters with revenue grade monitoring and therefore does not have a physical box that displays the meter reading.

- b. According to Ohio Rules OAC [4901:1-40-04](#) (D)(1) & OAC [4901:1-10-05](#)(B), customers seeking certification as 'Eligible Ohio Renewable Resource Generating Facility' for systems larger than 6kW, must measure such system's gross output using a utility grade meter (Must meet ANSI 12.1, or demonstrate an accuracy level of $\pm 2\%$).

Since the facility's nameplate capacity that is submitted in Section I is larger than 6kW, please submit any proof that the Enphase meters in Section N are utility grade meters. Typically, this proof could be any of, but not limited to, the following:

- Cut sheets and/or specification sheets
- Proof of refurbishment to meet standards/accuracy
- Letters from installers/manufacturers attesting to the standards/accuracy

If needed, provide additional information and photographs to supplement your answer.

Answer 2b.: Please see the spec sheet below that indicates that the Enphase X-IQ-AM1-240-B is revenue grade and meets ANSI 12.1 compliance.

Enphase IQ Combiner

(X-IQ-AM1-240-B)

The **Enphase IQ Combiner™** with Enphase IQ Envoy™ consolidates interconnection equipment into a single enclosure and streamlines PV installations by providing a consistent, pre-wired solution for residential applications.



Smart

- Includes IQ Envoy for communication and control
- Flexible networking supports Wi-Fi, Ethernet, or cellular

Simple

- Three pre-installed 20 A / 240 VAC circuit breakers
- Provides production metering and consumption monitoring.

Reliable

- Durable NRTL-certified NEMA type 3R enclosure
- Five-year warranty



To learn more about Enphase offerings, visit enphase.com

Enphase IQ Combiner

MODEL NUMBER

IQ Combiner X-IQ-AM1-240-B	IQ Combiner with Enphase IQ Envoy™ for integrated revenue grade PV production metering (ANSI C12.20 +/- 0.5%) and optional consumption monitoring (+/- 2.5%).
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ACCESSORIES (order separately)

Enphase Mobile Connect™ CELLMODEM-01 (3G) CELLMODEM-03 (4G)	Plug and play industrial grade cellular modem with five-year data plan for systems up to 60 microinverters. (Available in the US, Canada, Mexico, Puerto Rico, and the US Virgin Islands, where there is adequate cellular service in the installation area.)
Consumption Monitoring CT CT-200-SPLIT	Split core current transformers enable whole home consumption metering (+/- 2.5%).

ELECTRICAL SPECIFICATIONS

Rating	Continuous duty
Solar branch circuit breakers	Three 2-pole 20 A/240 VAC DIN rail-mounted breakers
Maximum system voltage	240 VAC
Rated output current	48 A
Rated input current, each input	16 A
Maximum fuse/circuit breaker rating (output)	60 A
Production Metering CT	200 A solid core pre-installed on solar busbar and wired to IQ Envoy

MECHANICAL DATA

Dimensions (WxHxD)	38.0 x 38.7 x 20.3 cm (15.0" x 15.3" x 8.0")
Weight	5.1 kg (11.2 lbs)
Ambient temperature range	-40° C to +46° C (-40° to 115° F)
Cooling	Vented, natural convection, plus heat shield
Enclosure environmental rating	Outdoor, NRTL-certified, NEMA type 3R, polycarbonate construction
Wire size	14 to 6 AWG copper conductors for branch inputs. 14 to 4 AWG copper conductors for combined output. Follow local code requirements for conductor sizing.
Altitude	To 2000 meters (6,560 feet)

INTERNET CONNECTION OPTIONS

Integrated Wi-Fi	802.11b/g/n
Ethernet	802.3, Cat5E (or Cat 6) UTP Ethernet cable - not included
Cellular	Optional, CELLMODEM-01 (3G) or CELLMODEM-03 (4G) - not included

COMPLIANCE

Compliance, Combiner	UL 1741
Compliance, IQ Envoy	UL 916 CAN/CSA C22.2 No. 61010-1 47 CFR, Part 15, Class B, ICES 003 IEC/EN 61010-1:2010, EN50065-1, EN61000-4-5, EN61000-6-1, EN61000-6-2 Metering: ANSI C12.20 accuracy class 0.5

To learn more about Enphase offerings, visit enphase.com

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Summary: Reply reply to staff interrogatories electronically filed by Mr. Avery Sellers on behalf of Will & Andrea Mutters