

DOCKET NO. SP 60547, SUB 0

Filing Fee Tendered \$⁵⁰**Report of Proposed Construction (RPC) – Commission Rule R8-65**

Pursuant to G.S. 62-110.1(g), any person who seeks to construct an electric generating facility in North Carolina, and is exempt from the requirement to obtain a certificate of public convenience and necessity, is required to file this form and a notice of completion of the construction of the facility. This form may be accompanied by any exhibits or additional responses incorporated by reference thereto and attached to this form. This form must be accompanied by the required filing fee of \$50.00.

This form may be electronically filed. Please see www.ncuc.net for instructions.

If this form is filed by hard copy, the original plus 6 copies must be presented at or transmitted to the office of the Chief Clerk. Regardless of the method of delivery, this form is not deemed filed until it is received by the Chief Clerk, along with the required filing fee.

The mailing address is:

Chief Clerk
NC Utilities Commission
4325 Mail Service Center
Raleigh, NC 27699-4325

Exhibits required by Rule R8-65(g)		Applicant's Response
(1)(i)	Full and correct name of the owner of the facility	Rafael Vazquez Fuentes
	Facility name	Residential Home
	Business address	8141 Hovingham Way, Raleigh, NC 27616
	E-mail address	R.vazquezfuentes@gmail.com
	Telephone number	(919) 819-7931
(ii)	The owner is (check one)	<input checked="" type="checkbox"/> Individual <input type="checkbox"/> Partnership <input type="checkbox"/> Corporation
	If a partnership, the name and business address of each general partner	
	If a corporation, the state and date of incorporation	
	If a partnership, the name and address of each general partner (add additional sheets if necessary)	

	Owner's agent for purposes of this report, if applicable:	Sean Hayes - Palmetto Clean Technology, Inc
	Agent's business address	997 Morrison Drive Suite 200, Charleston, SC 29403
	Agent's e-mail address	nc.interconnection@palmetto.com
	Agent's telephone number	(855) 339-1831
(iii)	The full and correct name of the site owner and, if the site owner is other than the applicant, the applicant's legal interest in the site	Rafael Vazquez Fuentes
(2)(i)	Attach a color map or aerial photo showing the location of the generating facility site in relation to local highways, streets, rivers, streams, and other generally known local landmarks with the proposed location of major equipment indicated on the map or photo, including: the generator, fuel handling equipment, plant distribution system, startup equipment, the site boundary, planned and existing pipelines, planned and existing roads, planned and existing water supplies, and planned and existing electric facilities;. A U.S. Geological Survey map or an aerial photo map prepared via the State's geographic information system (found at www.gis.ncdcr.gov/hpoweb/) is preferred.	
(ii)	E911 street address of the proposed facility	8141 Hovingham Way, Raleigh, NC 27616
	County in which the proposed facility will be physically located	Wake
	GPS coordinates of the approximate center of the proposed facility site to the nearest second or one thousandth of a degree	35.895208, -78.517918
(3)(i)	The nature of the facility, including its technology, and the source of its power and fuel(s)	Residential solar photovoltaic panels to be installed at the location. Net metering project.
(ii)	A description of the buildings, structures and equipment comprising the generating facility and the manner of its operation	Rooftop; Equipment specification sheets follow this RPC.
(iii)	The gross and net projected maximum dependable capacity of the facility in megawatts – Alternating Current	.0060 megawatts (6.0 kW)

	The facility's nameplate capacity in megawatts – Alternating Current	.0060 megawatts (6.0 kW)
(iv)	The projected date on which the facility will come on line	08/04/2023
(v)	The applicant's general plan for sale of the electricity to be generated, including the name of utility to which the applicant plans to sell the electricity	Duke Energy Net Metering
(vi)	Any provisions for wheeling of the electricity, if applicable	N/A
(vii)	Arrangements for firm, non-firm, or emergency generation, if applicable	N/A
(viii)	The service life of the project	20 years
(ix)	The projected annual sales in kilowatt-hours	12,365
(x)	Whether the applicant intends to produce renewable energy certificates that are eligible for compliance with the State's renewable energy and energy efficiency portfolio standard <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	
(4)	The expected cost of the proposed facility	\$ 34,906

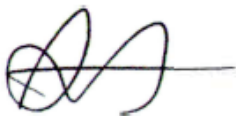
Confidentiality

If an applicant considers certain of the required information above to be confidential and entitled to protection from public disclosure, it may designate said information as confidential and file it under seal. Documents marked as confidential will be treated pursuant to applicable Commission rules, procedures, and orders dealing with filings made under seal and with nondisclosure agreements.

All reports shall be signed and verified (notarized) by the applicant or by an individual duly authorized to act on behalf of the applicant for the purpose of the report. A blank verification page is attached below:

VERIFICATION

STATE OF FLORIDA COUNTY OF MIAMI-DADE



Signature of Owner's Representative or Agent

REGIONAL VICE PRESIDENT
Title of Representative or Agent

SEAN HAYES

Typed or Printed Name of Representative or Agent

The above named person personally appeared before me this day and, being first duly sworn, says that the facts stated in the foregoing report and any exhibits, documents, and statements thereto attached are true as he or she believes.

WITNESS my hand and notarial seal, this 7 day of JUNE, 2023.

My Commission Expires: 12/11/2026



Signature of Notary Public

DANIEL RIBE

Name of Notary Public – Typed or Printed



This original verification must be affixed to the original report, and a copy of this verification must be affixed to each of the copies that are also submitted to the Commission.

This is the closest county to the point you clicked on the map

Find What County I'm In	8141 Hovingham Way, Raleigh, NC 27616	Find County for Address
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County Wake County

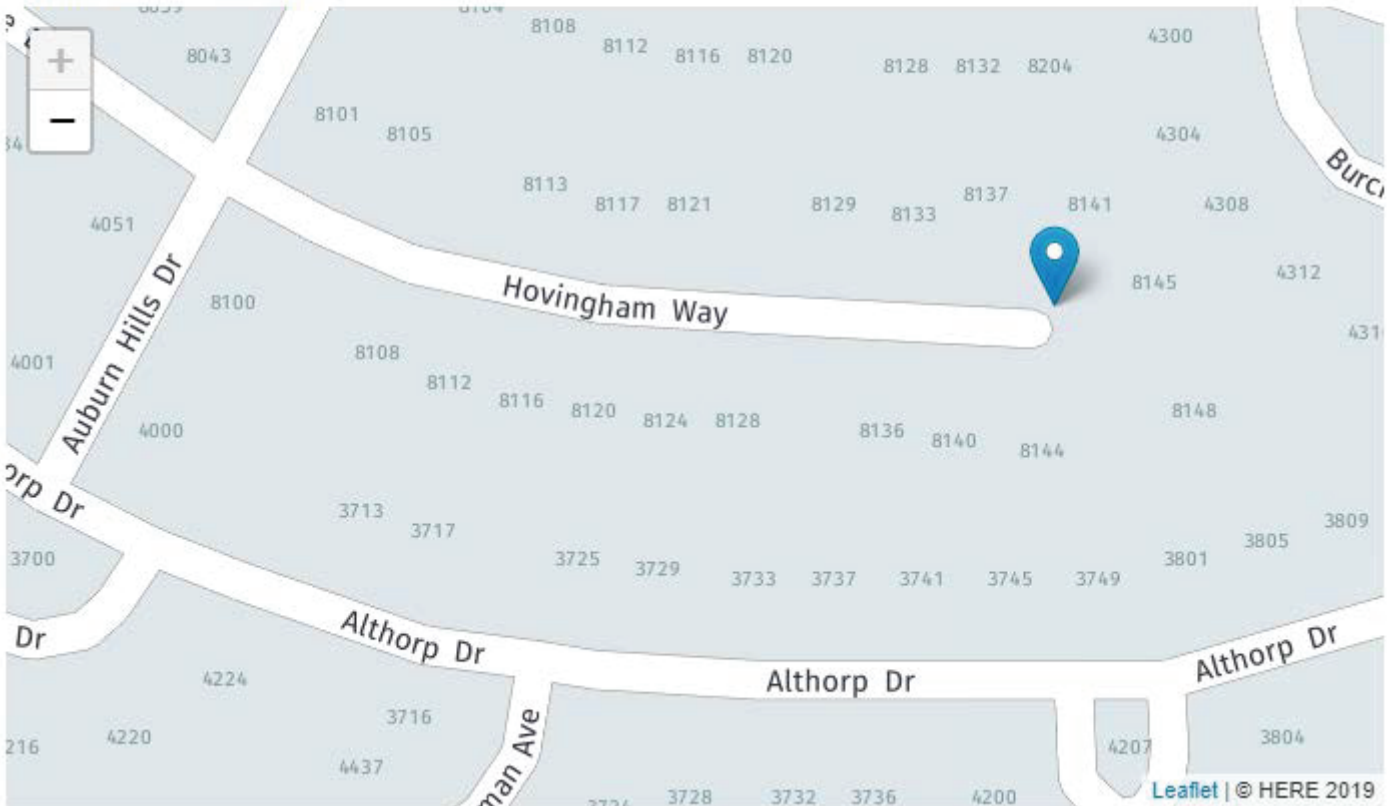
City Raleigh

Latitude 35.895208

State North Carolina

Longitude -78.517918

Zipcode 27616



OFFICIAL COPY

Jun 08 2023

VSUN405-108BMH

405W

Highest power output

20.74%

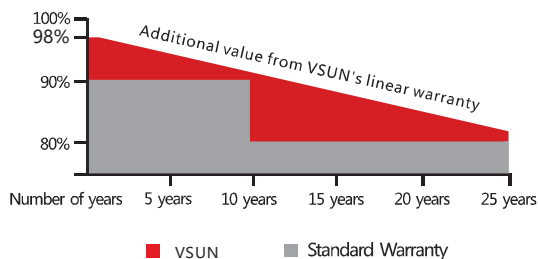
Module efficiency

12years

Material & Workmanship warranty

30years

Linear power output warranty



Munich RE 



MBB technology with Circular Ribbon



Higher output power



Half-cell Technology



Positive tolerance offer



Micro Gap



Up to 30% extra power generation yield from the back side



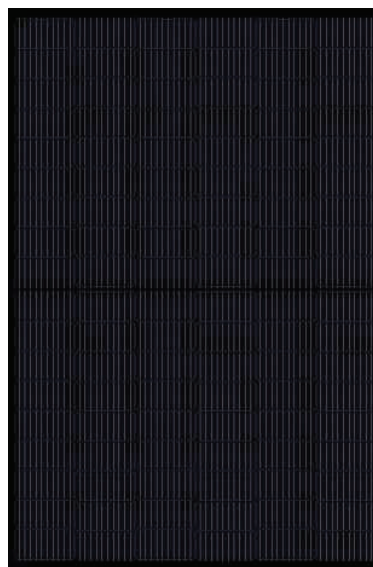
Certified for salt/ammonia corrosion resistance



Load certificates: wind to 2400Pa and snow to 5400Pa



Lower LCOE



VSUN, a BNEF Tier-1 PV module manufacturer invested by Fuji Solar, has been committed to providing greener, cleaner and more intelligent renewable energy solutions. VSUN is dedicated to bringing reliable, customized and high-efficient products into various markets and customers worldwide

Electrical Characteristics at Standard Test Conditions(STC)

Module Type	VSUN405-108BMH	VSUN400-108BMH	VSUN395-108BMH	VSUN390-108BMH
Maximum Power - Pmax (W)	405	400	395	390
Open Circuit Voltage - Voc (V)	37.36	37.2	37.03	36.84
Short Circuit Current - Isc (A)	13.78	13.68	13.59	13.5
Maximum Power Voltage - Vmpp (V)	31.36	31.17	31	30.82
Maximum Power Current - Imp (A)	12.92	12.84	12.75	12.66
Module Efficiency	20.74%	20.48%	20.23%	19.97%

Standard Test Conditions (STC): irradiance 1,000 W/m²; AM 1.5; module temperature 25°C. Pmax Sorting : 0~5W. Measuring Tolerance: ±3%.

Remark: Electrical data do not refer to a single module and they are not part of the offer. They only serve for comparison among different module types.

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

Pmax (W)	Voc (V)	Isc (A)	Vmpp (V)	Imp (A)	Pmax gain
420	37.1	14.36	31.17	13.48	5%
440	37.1	15.05	31.17	14.12	10%
479	37.2	16.42	31.12	15.41	20%
499	37.2	17.10	31.12	16.05	25%

Temperature Characteristics

NOCT	45°C(±2°C)
Voltage Temperature Coefficient	-0.27%/°C
Current Temperature Coefficient	+0.048%/°C
Power Temperature Coefficient	-0.32%/°C

Maximum Ratings

Maximum System Voltage [V]	1500
Series Fuse Rating [A]	30
Bifaciality	70%±10%

Material Characteristics

Dimensions	1722×1134×30mm (L×W×H)
Weight	21.4kg
Frame	Black anodized aluminum profile
Front Glass	White toughened safety glass, 3.2 mm
Cell Encapsulation	EVA (Ethylene-Vinyl-Acetate) or POE
Back Sheet	Transparent black-mesh backsheets
Cells	12×9 pieces monocrystalline solar cells series strings
Junction Box	IP68, 3 diodes
Cable&Connector	Potrait: 500 mm (cable length can be customized, 1×4 mm ² , compatible with MC4)

Packaging

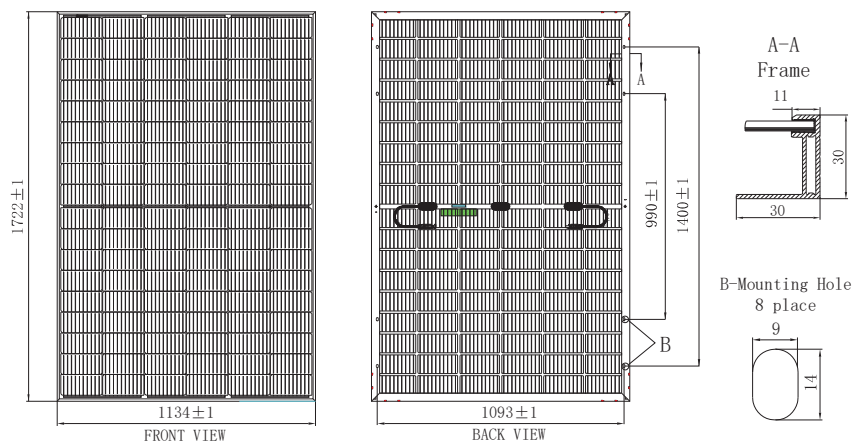
Dimensions(L×W×H)	1760×1125×1253mm
Container 20'	216
Container 40'	468
Container 40'HC	936

System Design

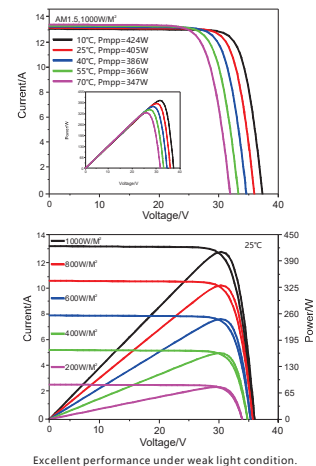
Temperature Range	-40 °C to + 85 °C
Withstanding Hail	Maximum diameter of 25 mm with impact speed of 23 m/s
Maximum Surface Load	5,400 Pa
Application class	class A

Dimensions

Note:mm



IV-Curves



INVERTERS

Single Phase Inverter with HD-Wave Technology

for North America

SE3000H-US / SE3800H-US / SE5000H-US / SE6000H-US /
SE7600H-US / SE10000H-US / SE11400H-US



Optimized installation with HD-Wave technology

- Specifically designed to work with power optimizers
- Record-breaking 99% weighted efficiency
- Quick and easy inverter commissioning directly from a smartphone using the SolarEdge SetApp
- Fixed voltage inverter for longer strings
- Integrated arc fault protection and rapid shutdown for NEC 2014, NEC 2017 and NEC 2020 per article 690.11 and 690.12
- UL1741 SA certified, for CPUC Rule 21 grid compliance
- Small, lightweight, and easy to install both outdoors or indoors
- Built-in module-level monitoring
- Optional: Faster installations with built-in consumption metering (1% accuracy) and production revenue grade metering (0.5% accuracy, ANSI C12.20)

/ Single Phase Inverter with HD-Wave Technology for North America

SE3000H-US / SE3800H-US / SE5000H-US / SE6000H-US/
SE7600H-US / SE10000H-US / SE11400H-US

MODEL NUMBER	SE3000H-US	SE3800H-US	SE5000H-US	SE6000H-US	SE7600H-US	SE10000H-US	SE11400H-US	
APPLICABLE TO INVERTERS WITH PART NUMBER	SEXXXXH-XXXXBXX4							
OUTPUT								
Rated AC Power Output	3000	3800 @ 240V 3300 @ 208V	5000	6000 @ 240V 5000 @ 208V	7600	10000	11400 @ 240V 10000 @ 208V	VA
Maximum AC Power Output	3000	3800 @ 240V 3300 @ 208V	5000	6000 @ 240V 5000 @ 208V	7600	10000	11400 @ 240V 10000 @ 208V	VA
AC Output Voltage Min.-Nom.-Max. (211 - 240 - 264)	✓	✓	✓	✓	✓	✓	✓	Vac
AC Output Voltage Min.-Nom.-Max. (183 - 208 - 229)	-	✓	-	✓	-	-	✓	Vac
AC Frequency (Nominal)	59.3 - 60 - 60.5 ⁽¹⁾							Hz
Maximum Continuous Output Current @240V	12.5	16	21	25	32	42	47.5	A
Maximum Continuous Output Current @208V	-	16	-	24	-	-	48.5	A
Power Factor	1, Adjustable - 0.85 to 0.85							
GFDI Threshold	1							A
Utility Monitoring, Islanding Protection, Country Configurable Thresholds	Yes							
INPUT								
Maximum DC Power @240V	4650	5900	7750	9300	11800	15500	17650	W
Maximum DC Power @208V	-	5100	-	7750	-	-	15500	W
Transformer-less, Ungrounded	Yes							
Maximum Input Voltage	480							Vdc
Nominal DC Input Voltage	380				400			Vdc
Maximum Input Current @240V ⁽²⁾	8.5	10.5	13.5	16.5	20	27	30.5	Adc
Maximum Input Current @208V ⁽²⁾	-	9	-	13.5	-	-	27	Adc
Max. Input Short Circuit Current	45							Adc
Reverse-Polarity Protection	Yes							
Ground-Fault Isolation Detection	600k Ω Sensitivity							
Maximum Inverter Efficiency	99	99.2						%
CEC Weighted Efficiency	99						99 @ 240V 98.5 @ 208V	%
Nighttime Power Consumption	< 2.5							W

(1) For other regional settings please contact SolarEdge support

(2) A higher current source may be used; the inverter will limit its input current to the values stated

/ Single Phase Inverter with HD-Wave Technology for North America

SE3000H-US / SE3800H-US / SE5000H-US / SE6000H-US/
SE7600H-US / SE10000H-US / SE11400H-US

MODEL NUMBER	SE3000H-US	SE3800H-US	SE5000H-US	SE6000H-US	SE7600H-US	SE10000H-US	SE11400H-US
ADDITIONAL FEATURES							
Supported Communication Interfaces	RS485, Ethernet, ZigBee (optional), Cellular (optional)						
Revenue Grade Metering, ANSI C12.20	Optional ⁽³⁾						
Consumption metering							
Inverter Commissioning	With the SetApp mobile application using Built-in Wi-Fi Access Point for Local Connection						
Rapid Shutdown - NEC 2014, NEC 2017 and NEC 2020, 690.12	Automatic Rapid Shutdown upon AC Grid Disconnect						
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 (HI)						
Emissions	FCC Part 15 Class B						
INSTALLATION SPECIFICATIONS							
AC Output Conduit Size / AWG Range	1" Maximum / 14-6 AWG				1" Maximum /14-4 AWG		
DC Input Conduit Size / # of Strings / AWG Range	1" Maximum / 1-2 strings / 14-6 AWG				1" Maximum / 1-3 strings / 14-6 AWG		
Dimensions with Safety Switch (HxWxD)	17.7 x 14.6 x 6.8 / 450 x 370 x 174				21.3 x 14.6 x 7.3 / 540 x 370 x 185		in / mm
Weight with Safety Switch	22 / 10		25.1 / 11.4		26.2 / 11.9		38.8 / 17.6 lb / kg
Noise	< 25				<50		dBA
Cooling	Natural Convection						
Operating Temperature Range	-40 to +140 / -40 to +60 ⁽⁴⁾						°F / °C
Protection Rating	NEMA 4X (Inverter with Safety Switch)						

(3) Inverter with Revenue Grade Meter P/N: SExxxH-US000BNC4; Inverter with Revenue Grade Production and Consumption Meter P/N: SExxxH-US000BNI4 . For consumption metering, current transformers should be ordered separately: SEACT0750-200NA-20 or SEACT0750-400NA-20. 20 units per box

(4) Full power up to at least 50°C / 122°F; for power de-rating information refer to: <https://www.solaredge.com/sites/default/files/se-temperature-derating-note-na.pdf>

How to Enable Consumption Monitoring

By simply wiring current transformers through the inverter's existing AC conduits and connecting them to the service panel, homeowners will gain full insight into their household energy usage helping them to avoid high electricity bills

