



Dianne M. Triplett
ASSOCIATE GENERAL COUNSEL
Duke Energy Florida, LLC

February 5, 2016

Ms. Carlotta Stauffer, Commission Clerk
Florida Public Service Commission
2540 Shumard Oak Boulevard
Tallahassee, Florida 32399-0850

Re: Docket No. 160017-EI
DEF's Response to Staff's First Data Request

Dear Ms. Stauffer:

Attached is DEF's Response to Staff's First Data Request propounded on January 22, 2016. Portions of DEF's response and one attachment to this response are confidential. DEF has filed the confidential documents in a sealed envelope under a separate cover letter along with a Notice of Intent to Request Confidential Classification. The redacted version is attached.

Thank you for your assistance in this matter. Please feel free to call me at (727) 820-4692 should you have any questions concerning this filing.

Respectfully,

/s/ Dianne M. Triplett

Dianne M. Triplett

DMT/at
Enclosure

Docket No. 160017-EI

Duke Energy Florida, LLC's Responses to Staff's First Data Request to Duke Energy Florida

1. According to paragraph 4 of its petition, DEF seeks depreciation rates for solar photovoltaic generating units and associated equipment at solar facilities... “and to such other solar photovoltaic generating units that may be constructed in the future.”

- a. Regarding the “...other such generating units...” mentioned in the paragraph, has DEF planned any other solar PV generating units? Please explain.

RESPONSE:

Yes, consistent with DEF’s 2015 Ten-Year Site Plan Filing, (page 3-20), DEF’s response to the 2015 First Supplemental TYSP Data Request filed on May 15, 2015, (question #16), and DEF’s TYSP Workshop Solar Presentation on September 15, 2015, DEF has incorporated this clean energy source as a supply-side resource in DEF’s generation plans. The DEF forecast for renewables includes 500 MW of solar photovoltaics installed over the 10 year period.

- b. If your response to question 1a is affirmative, please identify each such unit, including its planned capacity, location, and in-service date.

RESPONSE:

Please find the updated data to question #16 of the 2015 First Supplemental TYSP Data Request filed on May 15, 2015.

Facility Name	Installed Capacity (MW)	Unit Location (county)	In-Service Date (MM/YYYY)
Osceola County Solar Facility	3.8	Osceola	05/2016
Perry Solar Facility	5.1	Taylor	07/2016
Solar 3*	10	Volusia or Suwannee	03/2017
Solar 4	10	TBD	06/2017
Solar 5	10	TBD	06/2018
Solar 6 & 7	50	TBD	06/2019
Solar 8 & 9	130	TBD	06/2020
Solar 10	35	TBD	06/2021
Solar 11	50	TBD	06/2022
Solar 12	75	TBD	06/2023
Solar 13 & 14	125	TBD	06/2024

*Site review is underway

- c. How do the Perry Solar Facility, Osceola Solar Facility, and other solar photovoltaic generating units discussed in the petition fit into Duke Energy Florida's (DEF) generation planning?

RESPONSE:

Consistent with DEF's 2015 Ten-Year Site Plan Filing, (page 3-20) the Perry and Osceola Solar Facilities, and other near-term solar photovoltaic generating units are scaled demonstration facilities that will allow DEF to examine solar PV generation technology efficiency, sufficiency, and adequacy, the cost of providing such technology, and the value of such technology to our customers. DEF is also interested in the long term benefit renewables can aid in energy diversity. DEF has included solar PV resources in its long-term forecast; however, the forecast relies heavily on the forward looking price for this technology, the value rendered by this technology and considerations to other clean energy policies and emerging cost-effective alternatives.

- d. When will the Perry Solar Facility and Osceola Solar Facility be placed in service?

RESPONSE:

Please see table #1b above.

2. Paragraph 4 states that "Performance warranties from vendors of the equipment being utilized for the facilities, as well as information from industry groups, generate an estimated design life of 30 years."

- a. Please identify the specific sources of the design life estimate of 30 years.

RESPONSE:

DEF relied on both vendor and industry information to determine an expected life of the solar facilities. The main component of a solar facility is the photovoltaic panels. For both sites under construction, the vendor for the panels is SolarWorld Americas, Inc. The vendor has provided 25 year performance warranties/guarantees on the panels; however, DEF forecasts these panels will remain operational for at least another 5 years or longer consistent with industry estimates from the Department of Energy and the National Renewable Energy Laboratory. Other components, mainly inverters, transformers and potentially racking, will be rebuilt or replaced as needed in order to achieve the useful life of the facility.

Additionally, industry studies from the National Renewable Energy Laboratory (NREL) show a known degradation of output but still a viable energy resource beyond 25 years. The information suggests that a 30 year life is a reasonable expectation. Information from NREL is available as follows:

- Useful Life Estimates: http://www.nrel.gov/analysis/tech_footprint.html
- PV Lifetime Project
Geoffrey S. Kinsey, PhD
Technical Advisor, Solar Energy Technologies Office
Department of Energy, US Government
http://www.nrel.gov/pv/performance_reliability/pdfs/2015_spi_wkshp_kinsey.pdf

Based on the information, DEF determined that 30 years is a reasonable estimate of the useful life of the project. Additionally, the PSC approved a 30 year life for similar sites at Florida Power & Light (Docket No. 080543-EI, Order No. PSC-08-0731-PAA-EI) and for Tampa Electric Company (Docket No. 150211-EI, Order No. PSC-15-0573-PAA-EI).

b. Please identify the vendors and industry groups referred to in the paragraph.

RESPONSE:

Please refer to the response to question 2a above.

c. Please specify the warranty terms for each solar facility discussed in this paragraph including the years covered and the corresponding energy output warranted.

RESPONSE: **REDACTED**

The Perry Solar Facility has the following warranties:

- Panels- Ten year functional capability warranty and 25 year performance guarantee. Panel manufacturer guarantees that the actual output will amount to at least 97% of effective output during the first year after purchase and then the effective output will decline annually by no more than 0.7% for a period of 24 years, so that by the end of the 25th year after purchase an actual output of at least 80.2 % of effective output will be achieved.
- Racking- 20 year warranty (defects and workmanship).
- Inverter & Transformer- ■ year warranty (defects, workmanship, services) and ■ year warranty for software.

The Osceola Solar Facility has the following warranties:

- Panels- Ten year functional capability warranty and 25 year performance guarantee. Panel manufacturer guarantees that the actual output will amount to at least 97% of effective output during the first year after purchase and then the effective output will decline annually by no more than 0.7% for a period of 24 years, so that by the end of the 25th year after purchase an actual output of at least 80.2 % of effective output will be achieved.
- Racking- 25 year warranty (defects and workmanship).
- Inverter & Transformer- ■ year warranty (defects, workmanship, services) and ■ year warranty for software.

d. Please specify the solar technology (e.g.: rooftop PV, stand-alone fixed PV, PV with tracking) used for each facility discussed in the paragraph.

RESPONSE:

Both the Osceola Solar Facility and Perry Solar Facility will use fixed-panel stand-alone solar PV equipment.

3. Paragraph 4 mentions “...generating units and associated equipment.”
- a. Please identify the major components of generating units, and ‘associated equipment,’ such as PV modules, support structure, etc., by FERC account.

RESPONSE:

The major components and associated FERC account are as follows:

<u>Component</u>	<u>FERC Account</u>
Solar Panel	Account 344 – Generators
Racking System	Account 344 – Generators
Inverter and Transformer	Account 345 – Accessory Electric Equipment

Please note that the above components are the major components of the solar facilities. Other FERC accounts, such as account 341 Structures and Improvements and 343 Other Generation Plant, may be used for smaller components depending on the specific details for a project. Additionally, DEF will establish sub-accounts associated with each FERC account used for the solar assets (i.e. 344.xx-Generators, 345.xx-Accessory Electric Equipment, etc.).

- b. What is the design life of each such component? Please provide supporting documentation.

RESPONSE:

Please refer to information provided in response to question 2. The design life of the panels and racking system is 30 years based on industry studies and manufacturer warranties. The life for inverters can generally range between 10-15 years; however, DEF plans to maintain these components throughout the expected service life of the facility, (i.e. 30 years).

- c. What is the expected service life of each such component? Please explain.

RESPONSE:

The expected service life of each component is 30 years.

- d. What are the warranties associated with each such component? Please explain.

RESPONSE: **REDACTED**

Panels are warranted for functional capability, mechanical adverse effect, clouding or discoloration of glass, cable and connector plug operation, frames will not freeze up, and energy production. Racking equipment is warranted to be free from defects in materials and workmanship. Inverters and transformers are warranted to [REDACTED]

e. Please provide a copy of the above mentioned performance warranties from the vendors.

RESPONSE:

For the solar panel warranties applicable to both sites (Osceola and Perry), please see the attachments bearing Bates Numbers 160017-DEF-0001 through 160017-DEF-0003.

For the racking warranty at the Perry site, please see the attachment bearing Bates Numbers 160017-DEF-0004 through 160017-DEF-0006.

For the racking warranty at the Osceola site, please see the attachment bearing Bates Number 160017-DEF-0007.

The inverter warranty for both sites, bearing Bates Numbers 160017-DEF-0008 through 160017-DEF-00011, is entirely confidential. A redacted slip sheet is attached hereto. An unredacted version has been filed with the FPSC along with DEF's Notice of Intent to Request Confidential Classification dated February 5, 2016.

4. According to paragraph 5, "Other solar projects may be considered and constructed in the future."

a. Will DEF own all equipment associated with these other projects?

RESPONSE:

Yes, current plans include DEF owning all of the equipment associated with the other solar photovoltaic facilities to be constructed in the future.

b. Will DEF own the land associated with these other projects?

RESPONSE:

It is still undetermined if DEF will own the land associated with other solar photovoltaic facilities to be constructed in the future.

c. Please explain if DEF will include any "other solar projects" in its next depreciation study?

RESPONSE:

Any projects in-service at the time of DEF's next depreciation study will be included in the study.

5. Please provide references, industry sources, or citations used as a basis for DEF's zero net salvage for the unit under construction, as mentioned in Paragraph 6.

RESPONSE:

At this time, DEF is proposing zero net salvage for the facilities which is consistent with the assumptions and rates previously approved by the PSC for Florida Power & Light (Docket No. 080543-EI, Order No. PSC-08-0731-PAA-EI) and for Tampa Electric Company (Docket No. 150211-EI, Order No. PSC-15-0573-PAA-EI). Salvage estimates will be re-visited and updated with technology changes as needed.

6. Please provide references, industry sources or citations used to support the 3.3% depreciation rate mentioned in Paragraph 6.

RESPONSE:

The 3.3% rate was determined to be the appropriate rate to depreciate the cost of the facilities over a 30 year life with no net salvage estimate. The 3.3% rate is consistent with the rates approved by the PSC for similar sites at Florida Power & Light (Docket No. 080543-EI, Order No. PSC-08-0731-PAA-EI) and for Tampa Electric Company (Docket No. 150211-EI, Order No. PSC-15-0573-PAA-EI).

7. Please provide the rationale for applying a single depreciation rate of 3.3%, given that the account activities associated with a certain subaccount may differ substantially from other subaccounts.

RESPONSE:

The components of the solar facilities will be accounted for in separate subaccounts as described in the response to question 3 above. The inverters and racking, will be rebuilt or replaced as needed in order to achieve the 30-year useful life of the facility. As such, it was deemed appropriate to apply the 3.3% rate to all components of the facility.

8. Will the other solar photovoltaic generating units addressed in Paragraph 4 be included in DEF's next depreciation study?

RESPONSE:

All solar photovoltaic generation units in service at the time of the next DEF depreciation study will be included in the study.

9. Referring to paragraph 7, please clarify and elaborate on the statement “DEF is currently evaluating the retirement unit structure that it will employ and will file the retirement units used in the Report of Retirement Units filed with the next Annual Status Report.”

RESPONSE:

At the time of filing the petition, the project estimates and retirement units were still being determined and evaluated as to which retirement units will be used for the facilities. As described in the response to question 3 above, the main components/ retirement units will be the solar panels, racking system, and inverters. DEF has a requirement to file new items added to the unit of property catalogue per Rule 25-6.0142 and will include all new units of property as part of the Annual Status report due April 30, 2016.

The SolarWorld Sunmodule[®] Advantage

Valid from 02.01.2014

By purchasing the solar modules (hereafter referred to as: products) from SolarWorld Americas LLC ("SolarWorld"), you have chosen a level of quality, which meets the highest requirements. SolarWorld assumes that use in accordance with regulations will reliably maintain the function of the products to produce electricity (hereinafter referred to as: functional capability) as well as reliably maintaining the performance of the products. As a sign of our confidence in this quality, SolarWorld is happy to grant you as the end-user of the products (i. e., the person who put the products into operation correctly for the first time or the person who has legitimately purchased the products from such an end-customer without any modifications) the rights which are presented below:

A - Limited product warranty:

- SolarWorld provides you with a warranty for the functional capability of the products until ten years has elapsed since the purchase of the product and that the product:
 - will not suffer from any mechanical adverse effects, which limit the stability of the solar module. A condition for this is correct installation and use in accordance with regulations, as described in the installation instructions enclosed with the product.
 - will not be subject to any clouding or discoloration of the glass.
 - with its cable and connector plug will remain safe and operational, if they are installed professionally and are not permanently positioned in water (puddle). However, damage to the cable, which is caused by abrasion on a rough lower surface owing to insufficient fixing or owing to unprotected running of the cable over sharp edges, is excluded. Any damage caused by animals (e. g., rodent bites, birds, insects) is also exempted.
 - with its aluminium frames will not freeze up when it is frosty if it is installed correctly. The appearance of the product as well as any scratches, stains, mechanical wear, rust, mould, optical deterioration, discoloration and other changes, which occurred after delivery by SolarWorld, do not represent defects, insofar as the change in appearance does not lead to a deterioration in the functional capability of the product. A claim in the event of glass breakage arises only to the extent that there was no external influence.
- If the products exhibit one of the above mentioned defects during this period and this has an effect on the functional capability of the product, SolarWorld will repair the defective products, supply replacement products or provide the customer with an appropriate residual value of the products as compensation at its discretion.

B - Limited performance guarantee:

- SolarWorld guarantees that the actual output of the product will amount to at least 97 % of effective output during the first year after purchase of the product and as of the second year after purchase of the product, the effective output will decline annually by no more than 0.7 % for a period of 24 years, so that by the end of the 25th year after purchase an actual output of at least 80.2 % of effective output will be achieved. In the event of a negative deviation of actual product performance from the so-called threshold values, SolarWorld will either supply you with replacement products, which make it possible to maintain actual performance, carry out repairs, which make it possible to achieve actual performance or provide you with financial compensation for the lower performance of the product. During the first 15 years of the guarantee period SolarWorld will exclusively either supply replacement products, which make it possible to maintain the actual performance or carry out repairs, which make such an actual performance possible. After 15 years of the guarantee period SolarWorld is free to also grant financial compensation for the lower performance of the products.
- When replacement products are supplied, there is no entitlement for the use of new products or those which are as good as new. On the contrary, SolarWorld is authorized to also supply used and/or repaired products as replacements.

C - Further conditions of entitlement:

- The period of the performance guarantee under B) is restricted to a period of 25 years from the purchase of the product and will not be extended even in the event of a repair or exchange of a product.
- The effective output and the actual output of the products are to be determined for the verification of any guarantee case using standard test conditions, as described under IEC 60904. The decisive measurement of performance is carried out by a recognized measuring institute or through SolarWorld's own measurements (the assessment of measurement tolerances is undertaken in accordance with EN 50380). The guarantee does not cover transport costs to return the products or for a new delivery of repaired or replacement products. It also does not cover the costs of the installation or reinstallation of products, as well as other expenditure by the end-customer or seller.
- Ownership of all products which have been replaced passes to SolarWorld.
- The term of the rights granted to you in this Certificate in paragraphs A) and B) starts with the original purchase of the products, insofar as they were purchased by the original end-customer after 12.01.2013. SolarWorld retains the right to adjust voluntary special services in accordance with this document at any time. However, any product purchases, which have already been concluded, remain unaffected by this – including the voluntary special services in accordance with this document. You can find out about the current status of this document at any time under www.solarworld-usa.com.

D - Assertion of claims:

The assertion of the services specified under A) and B) requires you (i) to inform the authorized seller/dealer of the product of the alleged defect in writing, or (ii) to send this written notification directly to the address mentioned in G), if the seller/dealer who should be informed no longer exists (e. g., owing to business closure or insolvency). Any notification of defects is to be added to the original sales receipt as evidence of the purchase and the time of the purchase of the SolarWorld products. The assertion should take place within six weeks of the occurrence of the defect. The connecting factor for the recognition of the occurrence of a defect is acknowledgement of material and/or processing errors for claims from the product guarantee (letter A). For claims from the performance guarantee (letter B) the connecting factor is acknowledgement of the lower performance of the products. The return of products is permitted only after the written consent of SolarWorld has been obtained.

E - Use in accordance with this Limited Warranty.

- The services described above can be ensured only if the product is properly assembled, used and operated. Services provided by SolarWorld must therefore be withdrawn if the defects to the product are not exclusively based on the products themselves; e. g., in the following cases:
 - Delays on your part or on the part of the fitter in observing the assembly, operational and maintenance instructions or information, if this leads to defects and/or a loss of the products' performance.
 - Exchange, repair or modification of the products, if this was not undertaken correctly and professionally.
 - Incorrect use of the products.
 - Vandalism, destruction through external influences and/or persons/animals.
 - Incorrect storage or inappropriate transport before installation, if this leads to defects and/or a loss of the products' performance.
 - Damage to the customer system or incompatibility of the customer's system equipment with the products, if this leads to defects and/or a loss of the products' performance.
 - Use of products on mobile units such as vehicles or ships.
 - Influences such as dirt or contamination on the faceplate; contamination or damage by e. g., smoke, extraordinary salt contamination, or other chemicals.
 - Force majeure such as flooding, fire, explosions, falling rocks, direct or indirect lightning strikes, or other extreme weather conditions such as hail, hurricanes, whirlwinds, sandstorms or other circumstances outside the control of SolarWorld.
- The entitlements referred to under A) and B) will not be granted if and as soon as the manufacturer's labels or serial numbers on the PV modules have been changed, deleted, peeled off or made unrecognizable.

F - Exclusive remedy:

The remedies set forth in this Limited Warranty are the exclusive remedies available to you as a product purchaser. SolarWorld shall not be liable for damage, injury or loss arising out of or related to a product except as set forth in this Limited Warranty. In particular, under no circumstances shall SolarWorld be liable for incidental, consequential, special or other indirect damages in any way connected with a product. SolarWorld's aggregate liability, if any, shall be limited to a product's purchase price or any service furnished in connection with a product, as the case may be.

G - Your contacts:

To receive service under this Limited Warranty, please contact the authorized seller/dealer of your product or SolarWorld at the following addresses: Customer Service, SolarWorld Americas LLC, 25300 NW Evergreen Road, Hillsboro, OR, 97124, USA. Email: customerservice@solarworld-usa.com. Phone: (503) 844-3400. Fax: (503) 844-3403.

H - Choice of law:

This Limited Warranty, including without limitation the rights and responsibilities granted hereunder, shall be governed and construed in accordance with the laws of the State of Oregon, without regard to the conflicts of law provisions thereof.

I - Validity:

The following table contains all the current products to which this Limited Warranty is to be applied. Products, which do not appear in this list, are also not subject to this Limited Warranty.

Sunmodule/Sunmodule Plus/laminate/black

SW 230 mono	SW 235 mono	SW 240 mono	SW 245 mono
SW 250 mono	SW 255 mono	SW 260 mono	SW 265 mono
SW 270 mono	SW 275 mono	SW 280 mono	SW 230 poly
SW 235 poly	SW 240 poly	SW 245 poly	SW 250 poly
SW 255 poly	SW 260 poly	SW 130 compact mono	SW 135 compact mono
SW 140 compact mono	SW 145 compact mono	SW 150 compact mono	SW 155 compact mono
SW 160 compact mono	SW 165 compact mono	SW 170 compact mono	SW 192 vario poly
SW 196 vario poly	SW 200 vario poly	SW 204 vario poly	SW 285 mono
SW 290 mono	SW 310 XL mono	SW 315 XL mono	

J - Exclusion of liability:

This Limited Warranty is expressly intended to exclude all other express or implied warranties, including without limitation the warranties of merchantability and fitness for a particular purpose, to the periods set forth herein. This Limited Warranty gives you specific legal rights, and you may also have other rights which vary from state-to-state. Some states do not allow limitations on implied warranties or the exclusion or limitation of damages, so some of the above limitations may not apply to you.

K - Severability:

If any provision of this Limited Warranty is held unenforceable or illegal by a court or other body of competent jurisdiction, such provisions shall be modified to the minimum extent required such that the rest of this Limited Warranty will continue in full force and effect.

Hillsboro, 12.01.2013



Mukesh Dulani
President
SolarWorld Americas LLC



Ardes Johnson
Vice President, Sales and Marketing
SolarWorld Americas LLC

Sunmodule® Plus XL

SW 320 MONO (33mm frame)



TUV Power controlled:
Lowest measuring tolerance in industry



Every component is tested to meet
3 times IEC requirements



Designed to withstand heavy
accumulations of snow and ice



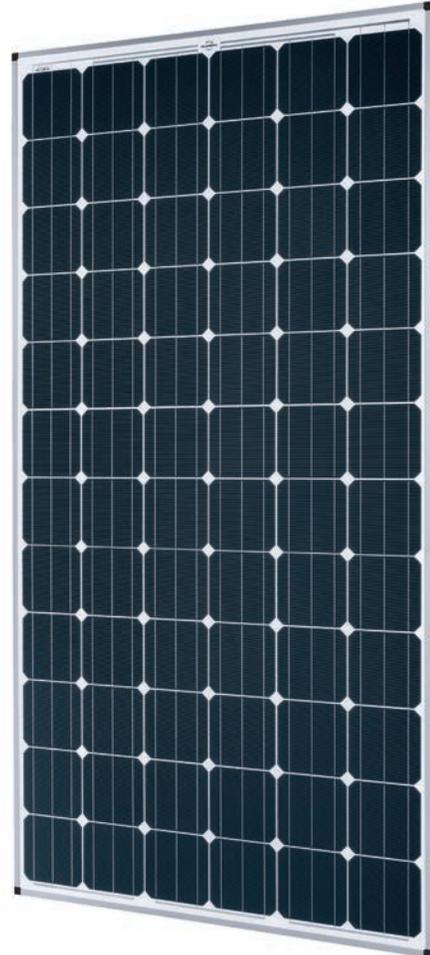
Sunmodule Plus:
Positive performance tolerance



25-year linear performance warranty
and 10-year product warranty



Glass with anti-reflective coating



World-class quality

Fully-automated production lines and seamless monitoring of the process and material ensure the quality that the company sets as its benchmark for its sites worldwide.

SolarWorld Plus-Sorting

Plus-Sorting guarantees highest system efficiency. SolarWorld only delivers modules that have greater than or equal to the nameplate rated power.

25-year linear performance guarantee and extension of product warranty to 10 years

SolarWorld guarantees a maximum performance digression of 0.7% p.a. in the course of 25 years, a significant added value compared to the two-phase warranties common in the industry, along with our industry-first 10-year product warranty.*

*in accordance with the applicable SolarWorld Limited Warranty at purchase.
www.solarworld.com/warranty



- Qualified, IEC 61215
- Safety tested, IEC 61730
- Blowing sand resistance, IEC 60068-2-68
- Ammonia resistance, IEC 62716
- Salt mist corrosion, IEC 61701
- Periodic inspection



- Periodic inspection
- Power controlled



Sunmodule[®] Plus XL

SW 320 MONO (33mm frame)



PERFORMANCE UNDER STANDARD TEST CONDITIONS (STC)*

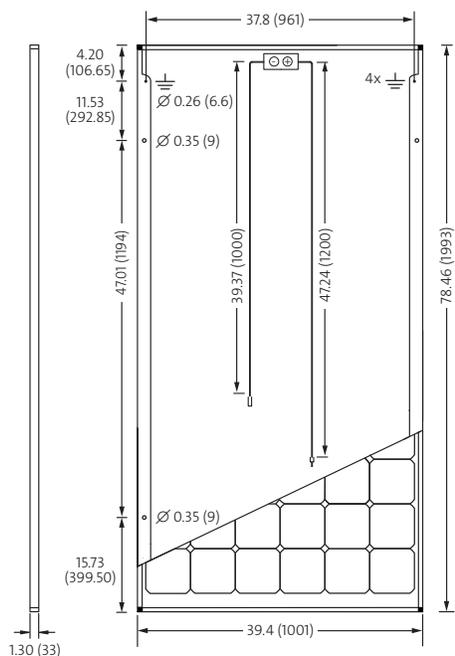
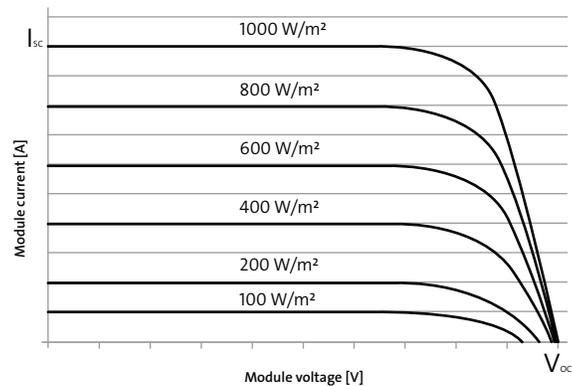
Maximum power	P_{max}	320 Wp
Open circuit voltage	V_{oc}	45.9 V
Maximum power point voltage	V_{mpp}	36.7 V
Short circuit current	I_{sc}	9.41 A
Maximum power point current	I_{mpp}	8.78 A
Module efficiency	η_m	16.04 %

*STC: 1000 W/m², 25°C, AM 1.5

1) Measuring tolerance (P_{max}) traceable to TUV Rheinland: +/- 2% (TUV Power Controlled).

THERMAL CHARACTERISTICS

NOCT	46 °C
TC I_{sc}	0.042 %/°C
TC V_{oc}	-0.304 %/°C
TC P_{mpp}	-0.43 %/°C
Operating temperature	-40°C to 85°C



PERFORMANCE AT 800 W/m², NOCT, AM 1.5

Maximum power	P_{max}	244.4 Wp
Open circuit voltage	V_{oc}	40.1 V
Maximum power point voltage	V_{mpp}	33.8 V
Short circuit current	I_{sc}	7.82 A
Maximum power point current	I_{mpp}	7.23 A

Minor reduction in efficiency under partial load conditions at 25°C: at 200 W/m², 100% (+/-2%) of the STC efficiency (1000 W/m²) is achieved.

COMPONENT MATERIALS

Cells per module	72
Cell type	Mono crystalline
Cell dimensions	6.17 in x 6.17 in (156.75 x 156.75 mm)
Front	Tempered glass (EN 12150)
Frame	Clear anodized aluminum
Weight	45.2 lbs (20.5 kg)

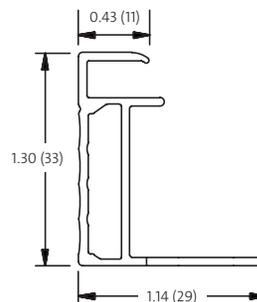
SYSTEM INTEGRATION PARAMETERS

Maximum system voltage SC II / NEC	1000 V	
Maximum reverse current	25 A	
Number of bypass diodes	3	
Design Loads*	Two rail system	113 psf downward 64 psf upward
Design Loads*	Edge mounting	30 psf downward 30 psf upward

* Please refer to the Sunmodule installation instructions for the details associated with these load cases.

ADDITIONAL DATA

Power sorting ¹	-0 Wp / +5 Wp
J-Box	IP65
Module leads	PV wire per UL4703 with H4 connectors
Module type (UL 1703)	1
Glass	Low iron tempered with ARC



- Compatible with both "Top-Down" and "Bottom" mounting methods
- Grounding Locations:
 - 4 locations along the length of the module in the extended flange.

GFT GROUND
FIXED
TILT

UNIRAC[®]
A HILTI GROUP COMPANY

UNIRAC GFT – WARRANTY



MANUFACTURER'S LIMITED PRODUCT WARRANTY – GROUND FIXED TILT (GFT)

This Limited Warranty contains the limited warranties Unirac makes to Buyer with regard to the Products. The Limited Warranties are limited in type, scope and duration and are subject to the terms and conditions contained herein.

Definitions

As used in this Limited Warranty, the following terms have the meanings given below:

- A. "Buyer" is defined as the entity purchasing Products to be installed at the Site
- B. "Unirac" is defined as (i) for products sold in Canada, Unirac Canada Corp., an Ontario corporation, or (ii) for products sold in all other countries, Unirac, Inc., a New Mexico corporation.
- C. "Products" are defined as all products that are designed and manufactured by Unirac that the Buyer purchases from Unirac.
- D. "Site" is defined as the original installation site.
- E. "Warranty Commencement Date" is defined as the date that installation of Products on Site commences as shown on Buyer's construction records.

Warranty

20-Year Limited Warranty

Unirac warrants to Buyer that the 20-Year Warranty Components at the Site and purchased from Unirac shall be free of defects in material and workmanship which substantially impair their ability to perform their intended function for a period of 20 years after the Warranty Commencement Date.

Warranty Claims

If, within the Warranty Period set forth above, Buyer asserts that any Product fails to conform to the Limited Warranty, then Buyer shall notify Unirac and give Unirac an opportunity to inspect the Product and contest the Limited Warranty claim. The parties shall work in good faith to resolve any dispute expediently. For all acknowledged valid Limited Warranty claims, Unirac shall (a) repair or provide a replacement for the nonconforming Product, or the nonconforming part thereof, or (b) refund the purchase price of the nonconforming Product or non-conforming part, at Unirac's option. Such repair, replacement or refund shall be Buyer's and any transferee's sole remedy under this Limited Warranty and shall fulfill all of Unirac's obligations with respect to this Limited Warranty. Any such repair, replacement or refund does not cause the beginning of new Limited Warranty terms, nor shall the Limited Warranty period or Warranty Commencement Date of this Limited Warranty be extended. Unirac shall bear all costs of shipment or transportation related to the repair or replacement of the nonconforming Product. For warranty service claims, please contact Unirac technical support at (505) 242-6411. Any potential claim under this Limited Warranty which Buyer fails to provide written notification to Unirac of within the Warranty Period is considered waived.

Warranty Limitations

- A. This Limited Warranty covers only the Products.
- B. This Limited Warranty is transferrable from the Buyer to the owner of the Site, and from the Site owner to subsequent owners of the Site, so long as the transferee agrees to the terms of the Limited Warranty as if it were the Buyer.

- C. This Limited Warranty does not cover material finish, or other considerations that do not substantially affect structural performance.
- D. This Limited Warranty does not cover damage to the Products (i) that occurs during its shipment, storage, or installation, (ii) that is related to or arising from mis-wiring, short circuits, over voltage, experiments, trials, or tests where Product experiences higher than normal or planned stresses, and similar issues, or (iii) from force majeure acts including fire, flood, earthquake, storm, hurricane or other natural disaster, war, terrorist activities, acts of foreign enemies, or criminal acts.
- E. This Limited Warranty shall be void if (i) installation of any Product is not performed in accordance with the technical information provided by Unirac, (ii) if any Product has been modified, repaired, or reworked in a manner not previously authorized by Unirac in writing, (iii) any Product is installed in an environment for which it was not designed, (iv) any Product is dismantled, reassembled, or moved from the Site, or (v) any such Product is not installed in accordance with either the original manufacturer's installation guidelines or other instructions as such are provided by Unirac to Buyer or as such are incorporated into instructions furnished by Unirac to Buyer.
- F. Unirac's aggregate liability under this Limited Warranty shall in no event exceed the Buyer's original purchase price of the Product.

EXCEPT FOR THE LIMITED WARRANTY EXPRESSED ABOVE, UNIRAC MAKES NO REPRESENTATION OR WARRANTY OF ANY KIND WHATSOEVER AND HEREBY DISCLAIMS ALL OTHER WARRANTIES, EXPRESS OR IMPLIED, INCLUDING THE IMPLIED WARRANTIES OF MERCHANTABILITY, FITNESS FOR A PARTICULAR PURPOSE, COURSE OF DEALING AND USAGE OF TRADE.

UNIRAC SHALL NOT BE LIABLE UNDER THIS LIMITED WARRANTY FOR LOSS OF USE, REVENUE OR PROFIT, OR FOR DIRECT, INDIRECT, SPECIAL, PUNITIVE, LIQUIDATED, INCIDENTAL OR CONSEQUENTIAL DAMAGES, OR FOR ANY OTHER LOSS OR COST OF A SIMILAR TYPE, CLAIMS BY BUYER FOR DAMAGES OF BUYER'S CUSTOMERS, OR CLAIMS OF THIRD PARTIES OR INJURY TO PERSONS OR PROPERTY ARISING OUT OF THE SALE, USE OR INABILITY TO USE THE PRODUCT, OR ANY REPRESENTATION OR WARRANTY, EVEN IF DUE TO THE NEGLIGENCE OF UNIRAC. ALL SUCH DAMAGES AND EXPENSES ARE HEREBY EXCLUDED. THE REMEDIES STATED HEREIN ARE THE SOLE AND EXCLUSIVE REMEDIES FOR ANY ALLEGED BREACH OF WARRANTY, ANY ALLEGED FAILURE OR DEFECT IN THE STRUCTURE, DESIGN, OR WORKMANSHIP OF THE PRODUCTS, ANY ALLEGED DEVIATION FROM THE TECHNICAL INFORMATION PROVIDED BY UNIRAC, OR FOR ANY OTHER SIMILAR CLAIMS.



Rayport-G Eco™ Limited Extended Warranty and Limitations of Liability

Applied Energy Technologies, Inc. ("AET") warrants only to the first retail or end user ("Customer") exclusively that the Rayport-G Eco racking system (the "Equipment") shall be free from defects in materials and workmanship (under normal and proper use, maintenance and service conditions) which substantially impair its ability to perform the intended function, as referenced in AET's Product Information, for a period of 25 years ("Warranty Period") – from earlier of the date the installation of the Equipment at the Site is substantially complete, or 120 days after purchase of the Equipment. This Warranty cannot be assigned to or enforced by any other person or entity. While in the ownership of the original Customer, the Equipment shall be used exclusively by such Customer and by no other person or entity. There shall be no third party beneficiary to this Warranty unless approved in writing by AET.

The obligation of AET under this Warranty is solely limited to repair or replacement (at AET's option) of the defective Equipment and/or parts or components thereof during the warranty period. AET's total liability hereunder shall not exceed the original purchase price of the Product. The purchaser agrees to bear the costs of any labor associated with installation, removal, reinstallation, shipping, or transportation of the product or components thereof for replacement or service. This Warranty does not cover damage to the Equipment that occurs during its storage or installation. Any improper use, operation, substitution of parts not approved by AET, or any unauthorized alteration or repair voids this Warranty in its entirety. This Warranty is VOID if installation of the Equipment is not performed in accordance with AET's written installation instructions. The remedies set forth herein are exclusive, and the liability of AET, whether in contract, in tort, under any warranty, or otherwise, shall not exceed the price of the Equipment on which the liability is based.

THIS WARRANTY IS EXCLUSIVE AND EXPRESSLY IN LIEU OF ANY AND ALL OTHER WARRANTIES. EXCEPT AS EXPRESSLY SET FORTH HEREIN, AET MAKES NO REPRESENTATION OR WARRANTY, STATUTORY, EXPRESS OR IMPLIED, WITH RESPECT TO THE EQUIPMENT AND/OR THE PARTS OR COMPONENTS MANUFACTURED OR SUPPLIED BY AET, WHETHER AS TO MERCHANTABILITY, FITNESS FOR A PARTICULAR PURPOSE OR ANY OTHER MATTER, AND ALL SUCH OTHER WARRANTIES ARE EXPRESSLY DISCLAIMED. IN NO EVENT, INCLUDING IN THE CASE OF ANY CLAIM OF NEGLIGENCE, SHALL AET BE LIABLE FOR INCIDENTAL, INDIRECT, SPECIAL, PUNITIVE OR CONSEQUENTIAL DAMAGES OF ANY TYPE.

In addition to the exclusions set forth above, AET expressly excludes from this Warranty coverage of the following: (a) periodic inspection, maintenance, cleaning, or adjustments or checks to the Equipment required by or otherwise commonly performed on such Equipment, including replacement of normal service items, (b) any damage or malfunction caused in whole or in part by inadequate, improper, or neglected maintenance or repairs (including warranty repairs) performed by any person or service facility other than AET, (c) normal deterioration, degradation or corrosion due to use or exposure on component parts and exterior finish, (d) Customer's loss or misplacement of any component parts of the Equipment, (e) damage to the Equipment caused by abuse, misuse, an act of God, or accident, (f) damage to the Equipment caused by failure to properly install the Equipment according to the AET installation requirements, (g) damage to the Equipment that occurs during shipment to the installation location or is caused by moving the Equipment after installation, or (h) damage to the Equipment caused by biological infestation or other adverse environmental conditions, each as determined by AET at its sole discretion.

All Equipment will be considered accepted by Customer and in good condition unless AET receives written notice of such non-acceptance within ten (10) day of such delivery to Customer.

Warranty Procedure – Purchaser should contact AET Customer Service at 586-466-5073, or Applied Energy Technologies, 22367 Starks Drive, Clinton Township, MI 48036.

SLIP SHEET FOR REDACTED PAGES

**Bates Numbers 160017-DEF-0008 through
160017-DEF-00011**