

## Library SunPower Management Plan



### **Project Concept:**

Photovoltaic solar panels produce energy by converting the sun's light into an electric current. This electric current is then used by the building that is connected to the panels, or fed into the electrical grid. Solar energy is renewable, inexhaustible, non-polluting, and results in cost-savings by providing free electricity to the building on which it is sited.

In August of 2019, an 11.45 kilowatt solar array was installed on the rooftop of the Red Lodge Carnegie Library. This array is projected to offset 70% of the Library's electricity usage, and will save the City roughly \$1,850 annually. Prior to the installation of the solar array, the Library underwent a variety of energy efficiency upgrades which include, installing all LED lighting, programmable thermostats, and occupancy sensors. These upgrades reduced the Library's electrical usage and allowed us to install a smaller, less expensive solar array.

### **Location:**

Red Lodge Carnegie Library  
3 8th Street  
Red Lodge, MT 59068

**Installed Items:**

29 SunPower SPR-P19-395-COM Modules  
1 SolarEdge 10000 Inverter  
Ecolibrium EcoFoot 2+ Ballasted Racking  
SolarEdge Monitoring System

**Installer Information:**

Independent Power Systems  
Dan Perata  
2430 N 7th Ave #6  
Bozeman, MT 59715  
(406) 624- 9534  
[dperata@solarips.com](mailto:dperata@solarips.com)

**Funding:**

The City was able to purchase and install the Library solar panels thanks to the Universal Systems Benefit Grant from NorthWestern Energy. This grant paid for 90% of the project costs, or \$24,377. The Library then fundraised for the remaining 10% of the project costs. The total cost of the solar array came to \$27,086.06

*This renewable generation project received funding through the NorthWestern Energy Efficiency Plus (E+) Renewable Energy Program. The program is established with Universal System Benefits Program funds collected from all NorthWestern electric customers in the State of Montana.*

**Monitoring Usage:**

NorthWestern Energy Account Number:  
Red Lodge Carnegie Library 713548-6

The Red Lodge Carnegie Library where the solar panels were installed, is on the meter that is listed above. A monitoring spreadsheet has been developed that will allow the City to track the energy and cost savings accrued due to this project.

The monitoring spreadsheet is available via Google Sheets and can be found at the links below.

[https://docs.google.com/spreadsheets/d/1\\_SCnL7sBxjiSiJzdagGYdxo6BhSCvWzdm\\_08Bs6tUyM/edit?usp=sharing](https://docs.google.com/spreadsheets/d/1_SCnL7sBxjiSiJzdagGYdxo6BhSCvWzdm_08Bs6tUyM/edit?usp=sharing)

Independent Power Systems also offers a monitoring system that tracks the solar production of the array minute by minute. The up to date production monitoring program can be found here:

<https://monitoringpublic.solaredge.com/solaredge-web/p/kiosk?guid=775133f6-4e7f-42a0-a26>

[2-18bd9dc38](#)

**Community Impact:**

The City will see significant monetary savings from this project. The solar array will decrease the cost of the Library's electric bill and lessen the amount of greenhouse gases that the Library emits. It will save the City roughly \$1,850 annually, and will pay itself off in 1.5 years if you only account for the money the Library had to contribute. If you account for full project costs, the project will pay itself off in 14.6 years.

**Maintenance Plan:**

Solar arrays require virtually no maintenance. The City and Library should check the monitoring system daily to ensure that the array is producing as projected. If it is not performing as it should be, a call should be placed to Independent Power Systems so they can look into the issue.

Independent Power Systems offers a 10 year workmanship warranty which will expire on August 2, 2029. SunPower offers a 25 year product and production warranty on its solar modules. SolarEdge offers a 12 year workmanship and material warranty on its inverter. For more information, see the attached warranty information.

# Exhibit I: IPS Warranty Statement

## General Warranty Conditions

Independent Power Systems (IPS) warrants that the Work performed and the PV Solar System shall be free from defects from installation. IPS shall resolve any system-related problems caused by improper installation for a period of 10 years at the Company's sole expense (Workmanship Warranty).

The Company will bill the Client for any service labor and material expenses not covered by the manufacturer at the Company's standard service charge rate. The Company shall also repair or replace any faulty equipment that is not covered by an applicable manufacturer or workmanship warranty at the sole expense of the Client at the Company's standard service charge rate. The warranty is expressly in lieu of any other warranty, express or implied, including but not limited to merchantability or fitness for a particular purpose, and all other obligations or liabilities. It is understood that the Client accepts and agrees to comply with the terms of this warranty. This warranty shall not apply to any damages caused to the PV Solar System due to misuse, maintenance neglect, abuse, vandalism, abnormal operation, weather-related events, vermin, or wind speeds exceeding the basic wind speed of the jurisdiction.

Workmanship warranty shall mean any system malfunction or loss of production caused by improper or substandard methods or materials.

## Exclusions & Limitations:

The workmanship warranty does not apply to any of the following:

- 1) All Monitoring issues post initial successful installation
- 2) System energy production loss due to overgrowth, dirt, and shading objects not present at site evaluation
- 3) Production loss due to lack of system oversight or monitoring malfunction
- 4) Production loss due to equipment malfunction covered by warranty
- 5) Ground fault issues stemming from unidentified causes or causes not due specifically to workmanship
- 6) Inverter faults due to high or low grid voltage
- 7) Animal damage to any portion of the system
- 8) Work performed on any aspect of our installation by another contractor without explicit written approval by IPS.

## How to Obtain Warranty Service:

Please visit our website at [www.solarips.com/contact/service-request/](http://www.solarips.com/contact/service-request/) and fill out a service request form. An IPS representative will contact you within two business days.



## SunPower Limited Product and Power Warranty for Commercial Performance PV Modules

*This Limited Warranty is effective for SunPower® photovoltaic modules for commercial installation with "SPR-P" in the product model number and sold after February 1, 2019.*

### 1. Limited Warranty

Subject at all times to the terms and conditions as set out in this Limited Warranty, SunPower Corporation ("SunPower") warrants that for 25 years beginning on the Warranty Start Date<sup>1</sup> (the "Warranty Period"), its photovoltaic modules specified above ("PV Module(s)"), shall be free from defects in materials and workmanship under normal application, installation, use and service conditions, and the power of the PV Modules will be at least 97% of the Minimum Peak Power<sup>2</sup> rating for the first year, and will decline by no more than 0.6% per year for the following 24 years, so the power output at the end of the final year of the 25th year warranty period will be at least 82.6% of the Minimum Peak Power rating (the "Guaranteed Peak Power" rating).

### 2. Claims Process and Coverage

If any PV Module fails to conform to this Limited Warranty and provided that any loss in power is determined by SunPower (in its sole discretion) not to have resulted from one of the excluded events set forth in Section 4 below, then for the Warranty Period, SunPower will repair, replace or refund the defective PV Modules as set forth herein.

In the event you have a claim covered by this Limited Warranty, immediately notify SunPower Corporation at the contacts shown below. Upon receipt of a claim, SunPower may require additional information regarding the claim, which may include, without limitation, applicable warranty registration information, proof of purchase and/or delivery, installation, serial and model numbers, and evidence regarding the basis of claim. All SunPower warranty obligations hereunder are expressly contingent upon the timely and full provision of such additional information. The return of any PV Modules will not be accepted unless prior written authorization has been given by SunPower.

For any valid claim, SunPower will, in its sole discretion, either: (a) repair; (b) replace; or (c) refund the original purchase price subject to the conditions set out herein. In the event SunPower elects to repair or replace the affected PV Modules, SunPower will pay for reasonable and customary transportation costs for: (i) the return of the PV Modules from the place where the affected PV Modules were delivered by SunPower, and; (ii) reasonable and customary transportation costs for reshipment of any repaired or replaced PV Modules to the place where the affected PV Modules were delivered by SunPower.

In the event SunPower elects to replace any PV Module, SunPower will replace have such PV Module replaced with an electrically and mechanically compatible PV Module (including a refurbished or remanufactured PV Module) with a substantially equal or greater power rating. For any refund, SunPower may either refund the amount equal to the original purchase price multiplied by the difference between the Guaranteed Peak Power percentage and the actual power output percentage; provided, however, the original purchase price shall be prorated at 4.75% per year starting five years after the Warranty Start Date.

### 3. General Conditions for Warranty Claims

- a) All warranty claims must be filed within the Warranty Period. Any claim filed outside the Warranty Period, including any claim for a latent or undiscovered defect, is invalid.
- b) The Limited Warranty for any repaired or replaced PV Module shall not extend beyond the Warranty Period.
- c) When PV Modules are used on a mobile platform of any type (excluding trackers) the Warranty Period shall be limited to 12 years.
- d) When PV modules are to be installed on floating mounting systems, the Limited Warranty shall apply only if SunPower has provided the customer with its written consent to the application of this Limited Warranty prior to such installation.
- e) In cases of PV Module replacement, any replaced PV Module shall pass into the ownership of SunPower.

---

<sup>1</sup> "Warranty Start Date" is the earlier of (i) date of array interconnection and (ii) 6 months following the date of SunPower delivery. If the delivery date cannot be verified, manufacturing date will be used in its place.

<sup>2</sup> "Minimum Peak Power" is defined as the minimum rated power, as shown on the label. Peak Power is defined as the watt peak at Standard Test Conditions (1000W/m<sup>2</sup> irradiance, AM1.5, 25C. SOMS current, LACCS FF and Voltage from NREL calibration), as described in IEC61215, measured per IEC60904, and accounting for 3% measurement tolerance. SunPower modules shall, in any event, require a sweep rate of no less than 200ms to ensure an accurate power measurement. SunPower can provide a detailed testing procedure or a list of recognized testing agencies upon request.



#### 4. Exclusions and Limitations

The Limited Warranty does not apply to any of the following:

- a) PV Modules subjected to: (i) misuse, abuse, neglect or accident; (ii) alteration or improper installation (improper installation includes, without limitation, installation or array that does not comply with all SunPower installation instructions and operations and maintenance instructions of any type (as may be amended and updated from time to time at SunPower's sole discretion), and all national, state, and local laws, codes, ordinances, and regulations); (iii) repair or modification by someone other than an approved service technician of SunPower; (iv) conditions exceeding the voltage, wind, snow load specifications, and any other operational specification; (v) power failure surges, lightning, flood, or fire; (vi) damage from persons, biological activity, or industrial chemical exposure; (vii) glass breakage from impact or other events outside SunPower's control.
- b) Cosmetic effects stemming from normal wear and tear of PV Module materials or other cosmetic variations which do not cause power output lower than what is guaranteed by the Limited Warranty. Normal wear and tear of PV Module materials can include, but is not limited to, fading of frame color, weathering of glass coatings, and areas of discoloration around or over individual solar cells or any part of the PV Module.
- c) PV Modules installed in locations, which in SunPower's absolute judgment may be subject to direct contact with bodies of salt water.
- d) PV Modules for which the labels containing product type or serial number have been altered, removed or made illegible.
- e) PV Modules which have been moved from their original installation location without the express written approval of SunPower.
- f) PV Modules which have been installed on single-family homes or semi-detached homes, including but not limited to duplexes and townhomes. For clarity, apartment and condominiums are not excluded.

SunPower shall not be held responsible or liable to the customer or any third-party arising out of any non-performance or delay in performance of any terms and conditions of sale, including this Limited Warranty, due to acts of God, war, riots, strikes, fire, flood or any other cause or circumstance beyond the reasonable control of SunPower.

#### 5. Assignment and Transfer of Warranty

This Limited Warranty is fully assignable and transferable provided that the warranty holder provides notice to SunPower at the address listed below within 90 days of the assignment or transfer of the Limited Warranty.

#### 6. Limitation of Warranty Scope

SUBJECT TO THE LIMITATIONS UNDER APPLICABLE LAW, THE LIMITED WARRANTY SET FORTH HEREIN IS EXPRESSLY IN LIEU OF AND EXCLUDES ALL OTHER EXPRESS OR IMPLIED WARRANTIES. EXCEPT AS PROVIDED IN THIS LIMITED WARRANTY, ALL WARRANTIES OF ANY KIND, INCLUDING BUT NOT LIMITED TO WARRANTIES OF MERCHANTABILITY AND OF FITNESS FOR PARTICULAR PURPOSE, USE, OR APPLICATION, COURSE OF DEALING, OR USAGE OF TRADE AND ALL OTHER OBLIGATIONS OR LIABILITIES ON THE PART OF SUNPOWER ARE EXPRESSLY EXCLUDED AND DISCLAIMED. NOTWITHSTANDING ANY PROVISION TO THE CONTRARY, SUNPOWER SHALL HAVE NO RESPONSIBILITY OR LIABILITY WHATSOEVER FOR DAMAGE OR INJURY TO PERSONS OR PROPERTY OR FOR OTHER LOSS OR INJURY RESULTING FROM ANY CAUSE WHATSOEVER ARISING OUT OF OR RELATED TO THE PV MODULES, INCLUDING, WITHOUT LIMITATION, ANY DEFECTS IN THE PV MODULE, OR FROM USE OR INSTALLATION. UNDER NO CIRCUMSTANCES SHALL SUNPOWER BE LIABLE FOR INCIDENTAL, CONSEQUENTIAL OR SPECIAL DAMAGES, HOWSOEVER CAUSED. LOSS OF USE, LOSS OF PROFITS, LOSS OF PRODUCTION, LOSS OF REVENUES ARE THEREFORE SPECIFICALLY BUT WITHOUT LIMITATION EXCLUDED. SUNPOWER'S AGGREGATE LIABILITY, IF ANY, IN DAMAGES OR OTHERWISE, SHALL NOT EXCEED THE PURCHASE PRICE PAID TO SUNPOWER BY THE CUSTOMER, FOR THE UNIT OF PRODUCT OR SERVICE FURNISHED OR TO BE FURNISHED, AS THE CASE MAY BE, WHICH GAVE RISE TO THE WARRANTY CLAIM. SOME JURISDICTIONS DO NOT ALLOW LIMITATIONS ON IMPLIED WARRANTIES OR THE EXCLUSION OF DAMAGES SO THE ABOVE LIMITATIONS OR EXCLUSIONS MAY NOT APPLY TO YOU.

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.

## LIMITED PRODUCT WARRANTY

This SolarEdge Technologies Ltd. Limited Warranty covers defects in workmanship and materials of the below-listed products for the applicable Warranty Period set out below (the "Products"):

- **Power optimizers:** 25 years commencing on the earlier of: (i) 4 months from the date the power optimizers are shipped from SolarEdge; and (ii) the installation of the power optimizers, *provided, however*, that for the module embedded power optimizers (CSI and OPJ models), the Warranty Period shall not exceed the maximum of (1) the module product warranty and (2) the module power warranty periods provided by the applicable module manufacturer.
- **Inverters, Safety & Monitoring Interface (SMI), Auto-transformer:** 12\* years commencing on the earlier of: (i) 4 months from the date the products are shipped from SolarEdge; and (ii) the installation of the products.
- **StorEdge Interface:** 10 years commencing on the earlier of: (i) 4 months from the date the Interfaces are shipped from SolarEdge; and (ii) the installation of the Interfaces.
- **ZigBee Gateway, Commercial Gateway, Firefighter Gateway, Smart Energy products, Wireless Communication Products, RS485 Plug-in, Energy Meter:** 5 years commencing on the earlier of: (i) 4 months from the date the product is shipped from SolarEdge; and (ii) the installation of the product. Warranty duration of wireless communication products is the same whether or not the product is pre-installed in the inverter.

\* In some countries the inverter warranty is limited to 7 years. For a list of these countries please access [http://www.solaredge.com/articles/warranty\\_exceptions](http://www.solaredge.com/articles/warranty_exceptions)

The Limited Warranty does not apply to components which are separate from the Products, ancillary equipment and consumables, such as, for example, cables, cable holders, fuses, wires and connectors, whether supplied by SolarEdge or others. Some components may carry their own manufacturer warranty. See product datasheet for more details. In addition, for all power optimizers with a part number ending in C, the SolarEdge warranty does not apply to the input connector.

The Limited Warranty only applies to the buyer who has purchased the Products from an authorized seller of SolarEdge for use in accordance with their intended purpose. The Limited Warranty may be transferred from buyer to any assignee, and will remain in effect for the time period remaining under the foregoing warranties, *provided* that the Products are not moved outside its original country of installation and any reinstallation is done in accordance with the installation directions and use guidelines accompany the Products (collectively the "*Documentation*").

If, during the applicable Warranty Period, buyer discovers any defect in workmanship and materials and seeks to activate the Limited Warranty, then buyer shall, promptly after such discovery, report the defect to SolarEdge by sending an email to [support@solaredge.com](mailto:support@solaredge.com) with the following information: (i) a short description of the defect, (ii) the Product's serial number, and (iii) a scanned copy of the purchase receipt or warranty certificate of the applicable Product.

Upon buyer's notification, SolarEdge shall determine whether the reported defect is eligible for coverage under the Limited Warranty. The Product's serial number must be legible and properly attached to the Product in order to be eligible for Warranty coverage. If SolarEdge determines that the reported defect is not eligible for coverage under the Limited Warranty, SolarEdge will notify buyer accordingly and will explain the reason why such coverage is not available. If SolarEdge determines that the reported defect is eligible for coverage under the Limited Warranty, SolarEdge will notify buyer accordingly, and SolarEdge may, in its sole discretion, take any of the following actions:

- repair the Product at SolarEdge's facilities or on-site; or
- issue a credit note for the defective Product in an amount up to its actual value at the time buyer notifies SolarEdge of the defect, as determined by SolarEdge, for use toward the purchase of a new Product; or
- provide Buyer with replacement units for the Product.

SolarEdge will determine whether the Product should be returned to SolarEdge and, if SolarEdge so determined, the Return Merchandise Authorization ("*RMA*") Procedure (set out below) will be invoked. Where replacement Products are sent, SolarEdge generally sends such products within 48 hours. SolarEdge may use new, used or refurbished parts that are at least functionally equivalent to the original part when making warranty repairs. The repaired Product or replacement parts or Product, as applicable, shall continue to be covered under the Limited Warranty for the remainder of the then-current Warranty Period for the Product.

Where the RMA Procedure is invoked by SolarEdge, SolarEdge will instruct buyer how to package and ship the Product or part(s) to the designated location. SolarEdge will bear the cost of such shipment, upon receipt of the Product or part(s), SolarEdge will, at its expense and sole discretion, either repair or replace the Product or part(s).

SolarEdge will deliver the repaired or replaced Product or part(s) to buyer at buyer's designated location in countries where SolarEdge has an office and/or there is a significant PV market. For the specific list of countries to which such service is provided,

please access [http://www.solaredge.com/articles/shipping\\_cost\\_coverage\\_warranty](http://www.solaredge.com/articles/shipping_cost_coverage_warranty). SolarEdge will bear the cost of such shipment, including shipping and customs (where applicable) and buyer shall bear any applicable value added tax. SolarEdge may elect to ship replacement Product and/or part(s) prior to receipt of the Product and/or part(s) to be returned to SolarEdge as per the above.

All costs, including, without limitation, labor, travel and boarding costs of SolarEdge service personnel or others that are incurred for labor relating to repairs, uninstalling and reinstalling of Products on-site, as well as costs related to buyer's employees and contractors repair or replacement activities, are not covered by the Limited Warranty and, unless otherwise agreed in writing in advance by SolarEdge, shall be borne by the buyer.

**Warranty Exclusions:** This Limited Warranty will not apply if (a) buyer is in default under the General Terms and Conditions of other Agreement governing the purchase of the Product, or (b) the Product or any part thereof is:

- damaged as a result of misuse, abuse, accident, negligence or failure to maintain the Product;
- damaged as a result of modifications, alterations or attachments thereto which were not pre-authorized in writing by SolarEdge;
- damaged due to the failure to observe the applicable safety regulations governing the proper use of the Product;
- installed or operated not in strict conformance with the Documentation, including without limitation, not ensuring sufficient ventilation for the Product as described in SolarEdge installation guide;
- opened, modified or disassembled in any way without SolarEdge's prior written consent;
- used in combination with equipment, items or materials not permitted by the Documentation or in violation of local codes and standards;
- damaged by software, interfacing, parts, supplies or other product not supplied by SolarEdge;
- damaged as a result of improper site preparation or maintenance or improper installation;
- damaged or rendered non-functional as a result of power surges, lightning, fire, flood, pest damage, accident, action of third parties, direct exposure to sea water or other events beyond SolarEdge's reasonable control or not arising from normal operating conditions; or
- damaged during or in connection with shipping or transport to or from buyer where buyer arranges such shipping or transport.

This Limited Warranty does not cover cosmetic or superficial defects, dents, marks or scratches, which do not influence the proper functioning of the Product.

THE LIMITED WARRANTIES SET OUT HEREIN ARE IN LIEU OF ANY OTHER WARRANTIES WITH RESPECT TO THE PRODUCTS PURCHASED BY BUYER FROM SOLAREEDGE, WHETHER EXPRESS OR IMPLIED, WRITTEN OR ORAL (INCLUDING ANY WARRANTIES OF MERCHANTABILITY OR FITNESS FOR A PARTICULAR PURPOSE), ALL OF WHICH ARE EXPRESSLY EXCLUDED TO THE FULLEST EXTENT PERMITTED BY APPLICABLE LAW.

Claims by buyer that go beyond the warranty terms set out herein, including claims for compensation or damages, are not covered by the Limited Warranty, insofar as SolarEdge is not subject to statutory liability. In such cases, please contact the company that sold you the Product. Eventual claims in accordance with the law on product liability remain unaffected.

Coverage under the Limited Warranty is subject to buyer complying with the foregoing notification requirements and cooperating with SolarEdge's directions. SolarEdge's sole obligation and buyer's exclusive remedy for any defect warranted hereunder is limited to those actions expressly stated above. Such actions are final and do not grant any further rights, in particular with respect to any claims for compensation.

Unless otherwise specified in an executed Agreement with SolarEdge, the Limited Warranty and related provisions set out herein are subject to SolarEdge's General Terms and Conditions, including, without limitation, the provisions thereof, which relate to disclaimer of warranties, limitation of liability and governing law and jurisdiction.