



山室-1

Yamamuro-1

PV System Inspection Report

Power: 2.24 MW_{DC} peak
Module Technology: Polycrystalline
Tracking: Fixed
Construction Date: 2016
Report Generated: February 26, 2018

Contact:

[Name]
[Telephone Number]
[Email]

Location

[City], [State/Province], [Country]
GPS: [Latitude], [Longitude]



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Site Overview

The Yamamuro-1 Solar Facility is located in [City], [State/Province], [Country]. The Solar Facility encompasses 1 parcel of land near [Closest Landmark]. In total, the Solar Project was constructed using 8,610 Talesun TP660P 260 Wp polycrystalline modules, and 2 SMA CP500 JP inverters. Peak power is 2.24 MWdc. The Solar Facility was commissioned in 2016.

Summary of Major Findings

All affected kW reported in DC.

- Shadowing from power lines along the southern border, comprising majority of 8.71 kW affected DC.
- Some shadowing from vegetation along northern border.
- Two modules with activated bypass diodes.
- Two modules with multi-cell defects along edge.

Modules Defects by Site

	Cell Defect	Multi-Cell Defect	Activated Bypass Diode	Shadowing	Total
山室-1	17	2	2	67	88
Total	17	2	2	67	88

Estimated Affected DC (kW)

	Cell Defect	Multi-Cell Defect	Activated Bypass Diode	Shadowing	Total
山室-1	1.473	0.260	0.173	8.710	10.617
Total	1.473	0.260	0.173	8.710	10.617

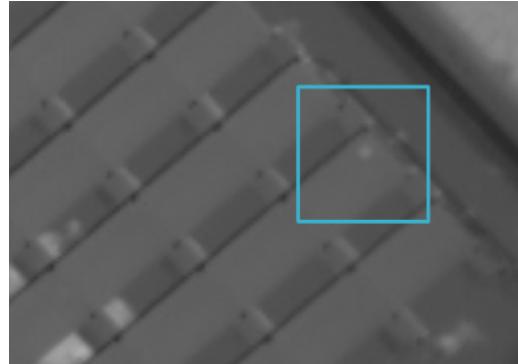
Aerial Thermography with UAS

The solar facility was inspected with an unmanned aerial system (UAS) on February 14, 2018, between 1030 and 1130. The camera was FLIR 640x512 radiometric thermal camera (13 mm lens). For each sub-site, camera heading was maintained (UAS does not turn around for each pass).

Examples of Faults

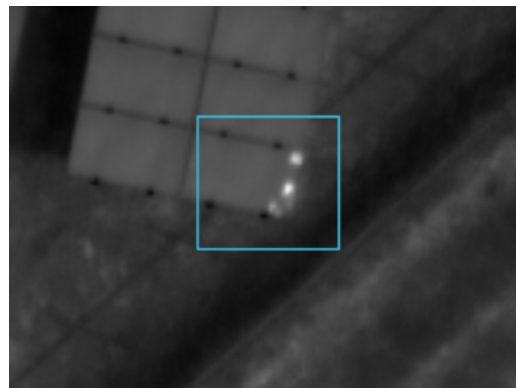
Cell defect

Typically presents as a well-defined hotspot, with rectangular geometry



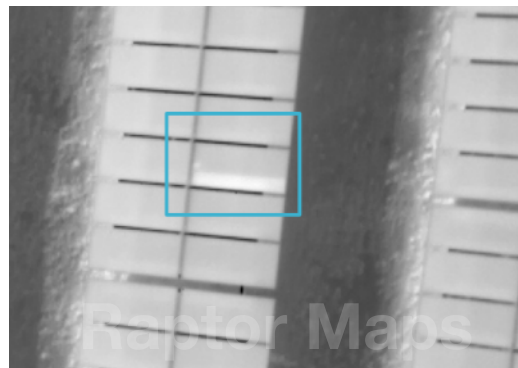
Shadowing

Shadow cast on modules, may result in hot spots. Can be due to man-made objects (power lines, fences) or vegetation.



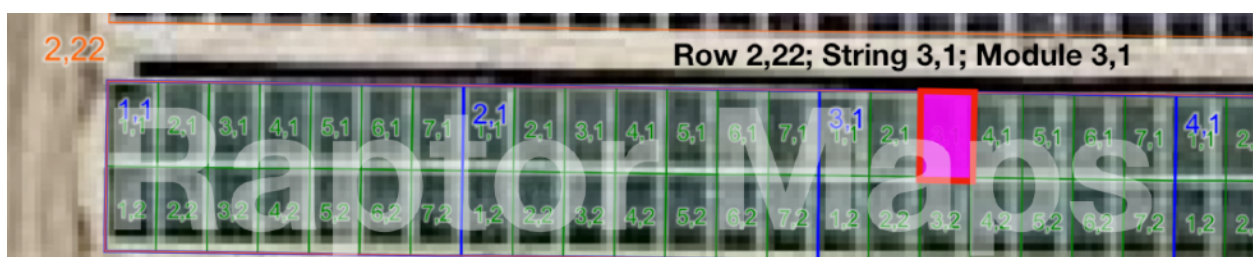
Diode

Activated bypass diode



Localizing Defects

Defects at the Yamamuro-1 Solar Facility are localized using local coordinate systems defined for each subsite. The diagram below shows the local coordinate system for this site. Row labels are consistent with the numbering provided in the construction drawings. Additionally, all GPS locations in the .KML files are accurate to the nearest module.



山室-1

[Link to images](#) [screenshot]

[Link for .KML download](#) [screenshot]

Shadowing is shown in blue below. Activated diodes and cell hot spots are shown in red.



Defect Locations

tag_name	row_x	row_y	string_x	string_y	module_x	module_y
shadowing	1	1	1	1	2	2
shadowing	1	2	1	1	1	2
shadowing	1	2	1	1	5	1
shadowing	1	2	1	1	5	2
shadowing	1	2	4	1	4	1
shadowing	1	2	4	1	5	1
shadowing	1	2	4	1	6	1
shadowing	1	2	4	1	7	1
shadowing	1	2	5	1	5	1
shadowing	1	2	5	1	7	2
shadowing	1	3	1	1	1	2
shadowing	1	3	3	1	7	1
shadowing	1	3	3	1	7	2
shadowing	1	3	4	1	1	1
shadowing	1	3	6	1	1	2
shadowing	1	3	6	1	3	2
shadowing	1	3	6	1	5	2
shadowing	1	4	1	1	2	2
shadowing	1	4	3	1	7	1
shadowing	1	4	4	1	3	1
shadowing	1	4	5	1	2	1
shadowing	1	4	5	1	7	2
shadowing	1	4	6	1	1	1
shadowing	1	4	6	1	1	2
shadowing	1	5	1	1	1	2
shadowing	1	5	2	1	7	1
shadowing	1	5	2	1	7	2
shadowing	1	5	3	1	1	1
cell	1	5	3	1	5	2

diode	1	5	3	1	6	1
shadowing	1	5	5	1	4	2
shadowing	1	5	6	1	2	2
shadowing	1	5	6	1	3	2
shadowing	1	6	1	1	1	2
shadowing	1	6	3	1	6	1
shadowing	1	6	3	1	7	1
shadowing	1	6	4	1	7	2
shadowing	1	7	1	1	1	2
shadowing	1	7	1	1	6	1
shadowing	1	7	1	1	6	2
cell	1	7	2	1	6	1
shadowing	1	7	3	1	7	1
shadowing	1	7	4	1	6	2
shadowing	1	7	5	1	1	2
shadowing	1	7	5	1	3	2
shadowing	1	8	1	1	1	2
shadowing	1	8	2	1	7	2
shadowing	1	8	3	1	1	1
shadowing	1	8	3	1	1	2
shadowing	1	8	4	1	6	2
shadowing	1	9	1	1	1	2
shadowing	1	10	1	1	1	2
shadowing	1	10	3	1	1	1
shadowing	1	11	1	1	2	1
shadowing	1	11	1	1	2	2
shadowing	1	12	2	1	1	2
cell	1	12	5	1	3	1
shadowing	1	13	1	1	1	2
shadowing	1	13	2	1	1	2
shadowing	1	13	2	1	2	2
cell	1	14	6	1	5	1

shadowing	1	15	1	1	1	2
cell	1	15	3	1	7	1
shadowing	1	16	1	1	1	2
cell_multi	1	18	7	1	6	2
cell_multi	1	18	7	1	7	2
cell	1	24	9	1	6	1
cell	1	24	10	1	7	1
cell	1	27	6	1	3	2
cell	1	32	5	1	5	2
cell	1	33	8	1	7	2
cell	1	33	13	1	6	2
diode	1	34	9	1	2	2
cell	1	39	4	1	1	1
shadowing	1	43	3	1	6	1
shadowing	1	43	3	1	7	1
shadowing	1	43	4	1	1	1
shadowing	1	43	4	1	2	1
shadowing	1	43	5	1	5	1
shadowing	1	43	5	1	6	1
shadowing	1	43	7	1	2	1
shadowing	1	43	7	1	3	1
shadowing	1	43	7	1	4	1
cell	2	19	3	1	5	2
cell	2	20	10	1	1	1
cell	2	21	1	1	4	2
cell	2	22	3	1	3	1
cell	2	24	2	1	4	2