

## Knowledge Base Article

What are the steps for troubleshooting underproduction?

Installer to provide the following information:

- Permit package
- Stamped single-line diagram (SLD)
- The solar energy-harvest calculations or production estimates used for system design
- What type of underperformance is seen?
- Is the concern about lower-than-expected overall energy coverage for the site?  
If so, what is the expected overall energy coverage for the site?
- Is the issue related to reduced solar export back to the grid?

### Troubleshooting for lower-than-expected overall energy coverage for the site:

1. Verify the SLD. Review the tilt, azimuth, shade analysis, and system size.
2. Review expected overall energy coverage for the site with SLD.

### Troubleshooting for reduced solar export back to the grid:

1. Verify the weather
  - a. Are there clouds? Snow? High heat? Smoke?
  - b. Confirm fall/winter production drop due to shorter days and lower sun angle.
  - c. Compare current production with records from prior years when available.
2. Check System Monitoring & Data

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- a. Confirm the inverter is online and reporting.
  - b. Review daily/weekly/monthly production graphs for sudden drops.
  - c. Verify CTs are reading correctly.
3. Inspect Solar Panels
- a. Is there shading? New construction? New trees?
  - b. Is there any damage on the panels? Microcracks?
  - c. Have the panels been cleaned? Is there any obstruction?
4. Inspect Wiring & Connections
- a. Do the PV strings have the voltage and current in spec?
  - b. Is there any reversed polarity? Or miswired strings?
  - c. Are there any loose MC4 connectors? Damaged cables? Rodent damage?
  - d. While onsite review breakers, combiner boxes, fuses, verify the CT orientation and placement.
5. Check the Inverter
- a. Are there any alerts?
  - b. Is the inverter in normal mode?
  - c. Are the MPPTs reporting?
  - d. Is the correct grid mode selected?
  - e. Is the inverter temperature within specifications?
  - f. What value is Zero export power set to? If it is set to 0 this will limit production.
  - g. If there is more than 1 battery, are the batteries in sync? If not, set the batteries in Batt-V Mode.
  - h. For the NV7600, set Max Solar Power to 11400.

In Solarman Business, click on Devices-> Inverter->System Work Mode-1->Read ->\*Max

- i. Solar Power, After entering the value click on set.

NEOVOLTA

PRODUCT: NV7600, NV14, NV16KAC

V20250412

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\* Max Solar Power

11400

6. Provide documentation
  - a. Provide photos of the inverter wiring, battery wiring, inverter status.
  - b. Provide photos of the measurements for voltage/current for each string.