

THE IMPORTANCE OF SOLAR MAINTENANCE

By Keith Peltzman, President of Independence Solar

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Solar installations have no moving parts and require little maintenance. Unlike major mechanical systems, there is no replacing lubricants, inspecting fan belts or cleaning fuel tanks. Does this mean that solar requires no ongoing attention? No, it is critical that your solar installation receive ongoing attention on a regular basis.

There are many reasons to have an experienced solar company maintain your existing solar installation:

1. Safety
2. Preventative Maintenance
3. Output

1. SAFETY

Solar installations are generally safe and have redundant safety systems in-place. However, a regular inspection would identify any failing conditions. These failures could include blown fuses, overheated terminations, worn wires and separated connections. Electrical equipment that is compromised can cause arcing, heat or fire and should be corrected immediately.

2. PREVENTATIVE MAINTENANCE

In many cases, catastrophic system failures will present warning signs in advance. A regular, proactive solar inspection can identify potentially dangerous conditions and prevent future failures. Experienced solar technicians would look for indications such as loose or dangling connections, solar panel "hot spots", moisture infiltration and stressed wires. By correcting these warning signs proactively, you may be able to prevent safety hazards in the future.

3. OUTPUT

A regular inspection could also ensure that your solar installation is maximizing output. Typically, most solar owners believe that their installation is operating at peak, but it hard to know for certain. With many monitoring applications, the solar output is captured at a high-level and minor system under performance is lost. Solar installations may suffer from minor losses caused by panel-level issues such as bypass diodes, "snail trails", degradation or soiling. In addition, inverters or combiner boxes may have issues that are not obvious when monitoring at a system-wide level. The cost of a regular solar review is easily recouped by correcting these under performance issues.



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SOLAR CHECKLIST

A regular solar inspection should include a thorough review of all system components and should be performed at least on an annual basis. Some key items on the inspection checklist would include:

1. Visual Inspection

- ▶ Check racking, ballast, wires, connectors

2. Electrical Inspection

- ▶ Check electrical readings at all termination points

3. IR Scan

- ▶ Check for signs of heat on modules, terminations and electrical gear

4. Torque Check

- ▶ Check hardware for loose or failing fasteners

5. IV Curve Trace

- ▶ Check module strings for actual vs. expected performance

6. Dirt/Debris

- ▶ Inspect for excessive dirt and debris and replace/clean air filters

7. Corrective Plan

- ▶ Summarize findings to establish baseline and provide recommended action plan

Solar is generally a low-maintenance investment, but a proper maintenance plan is essential to safe operations. In addition, regular inspections can ensure that your solar installation maximizes its electricity yield. This will increase not only the savings to your bottom line, but also help increase the carbon savings for our planet.



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ABOUT US



Keith Peltzman is president and founder of Independence Solar with offices in Cherry Hill, NJ and Boston, MA.

Independence Solar is a turnkey installer of commercial solar energy. Since 2007, the team has developed and built over \$200 million of solar projects, including the largest rooftop solar array (9 MW) in North America at the Gloucester Marine Terminal in NJ. Independence Solar forges long-term partnerships to maximize returns on our customers' solar energy investments.

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