

# Wolf River Electric Offers Electroluminescence and Photoluminescence Inspection Services

*Cell-Level Solar Diagnostics in Minnesota, Wisconsin, Iowa, North Dakota, and South Dakota*

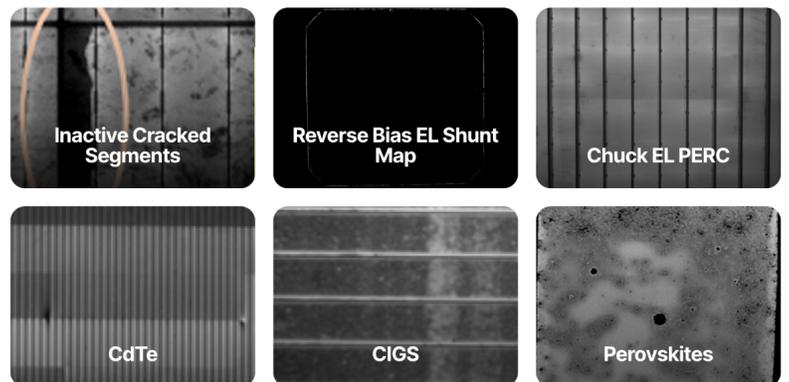
ISANTI, MN, UNITED STATES, February 24, 2026 /EINPresswire.com/ -- As severe weather events continue to impact solar installations across the Midwest, Wolf River Electric is expanding its advanced [Electroluminescence \(EL\) and Photoluminescence \(PL\) inspection services](#) to help solar owners uncover hidden damage that traditional inspections often miss.

From hailstorms in Minnesota to high winds across the Dakotas and Iowa, solar panels frequently sustain [microcracks and internal cell defects that are invisible](#) to the naked eye. These hidden issues can quietly reduce system output, accelerate long-term degradation, and complicate insurance claims—without ever appearing in standard visual inspections or basic performance reports.

“Solar panels can look perfectly intact after a storm, yet suffer significant internal cell damage,” said Vladimir Marchenko, CEO of Wolf River Electric. “Our EL and PL inspection services allow us to see what others can’t—at the cell level—so owners and operators can make



Wolf River Electric Logo

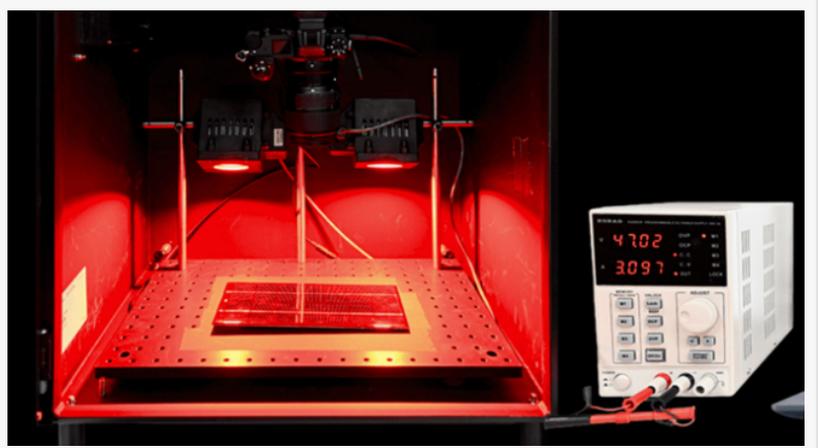


EL Applications inject current to discover invisible damage

informed, data-driven decisions.”

### Discover Solar Panel Damage You Can't See—At the Cell Level

Electroluminescence testing works like an “X-ray” for solar cells. During the inspection process, controlled electrical currents are applied to solar module strings in low-light conditions. Using high-resolution short-wave infrared (SWIR) imaging, technicians capture luminescent emission patterns that reveal microcracks, broken cells, soldering failures, shunting, and degradation.



EL Detects issues to solar panels

Healthy cells emit uniform light. Damaged cells appear as dark regions, fracture patterns, or irregularities—providing precise insight into the extent and cause of the issue.



If your system has experienced severe weather, unexplained underperformance or is approaching a critical financial milestone it is the time to uncover the invisible. EL and PL testing provide clarity.”

*Vladimir Marchenko, CEO of  
Wolf River Electric*

Photoluminescence testing complements EL by using light-induced excitation rather than electrical current to detect material-level defects, contamination, and performance variations in solar wafers and modules. Together, EL and PL technologies deliver a comprehensive, non-destructive assessment of photovoltaic health.

#### Why [EL and PL Inspection Matter in the Midwest](#)

Severe weather across Minnesota, Wisconsin, Iowa, North Dakota, and South Dakota has led to hundreds of millions of dollars in solar-related insurance claims in recent

years—particularly from hail damage. However, many of these damages are not immediately visible.

EL and PL inspections can identify:

- Cell-level micro-cracking caused by hail impacts—even when glass remains intact
- X-shaped or “crow’s feet” fractures from rear-shell impacts
- Manufacturing defects such as soldering-related cracks or contamination
- Installation or handling damage from improper module flexing
- Early-stage performance degradation and stress points predicting future power loss
- Non-uniformities across module strings indicating systemic issues

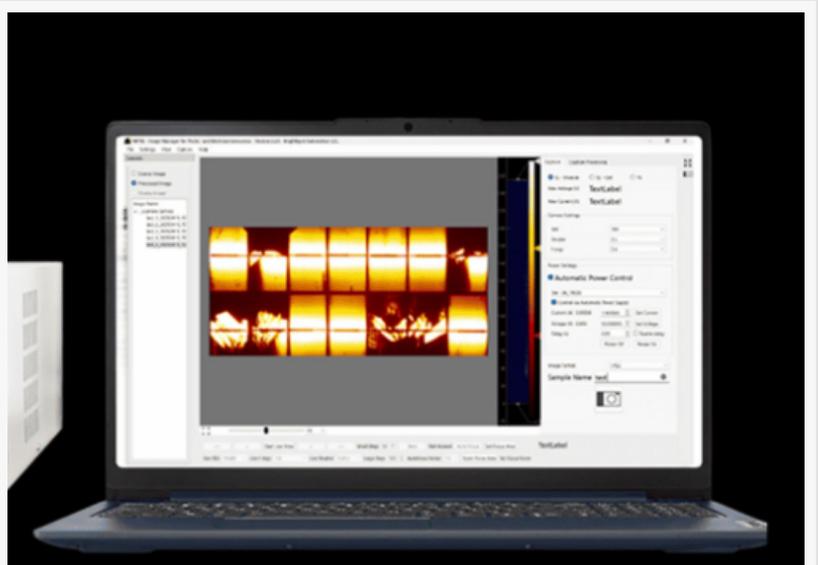
Because this damage often worsens over time, early detection is critical to preserving energy

production, optimizing warranties, and supporting insurance documentation.

Supporting Solar Owners, Developers, and Insurers

Wolf River Electric's advanced EL/PL inspection systems provide valuable insights for:

- ☐ Solar farm owners assessing post-storm damage
- ☐ Insurance adjusters verifying hail-related claims
- ☐ Operations managers troubleshooting underperformance
- ☐ Developers conducting quality assurance evaluations
- ☐ Asset managers approaching financial or warranty milestones



WRE PL service helps to detect invisible problems in solar panels

Benefits include:

- ☐ Non-Destructive Testing: No panel disassembly required
- ☐ Insurance Claim Support: Clear visual documentation of internal damage
- ☐ Warranty Optimization: Identification of manufacturing defects within warranty periods
- ☐ Improved O&M Strategy: Data-driven maintenance planning
- ☐ Risk Mitigation: Early detection to prevent long-term energy loss

Midwest Expertise, Industry-Leading Technology

Wolf River Electric is proud to serve solar projects across Minnesota, Wisconsin, Iowa, North Dakota, and South Dakota with state-of-the-art EL and PL inspection capabilities. The company's experienced team provides customized inspection plans based on system size, location, recent weather events, performance concerns, and financial goals.

"If your system has experienced severe weather, unexplained underperformance, or is approaching a critical financial milestone, now is the time to uncover the invisible," Vladimir added. "EL and PL testing provide the clarity solar operators need to protect their investment."

For more information or to schedule an EL/PL inspection, visit [WRE EL / PL Inspections page](#).

About Wolf River Electric

Wolf River Electric is a 100% employee-owned local renewable energy contractor dedicated to making clean, sustainable energy accessible to businesses and homeowners. Based in Isanti, Minnesota and serving customers across Minnesota, Wisconsin, Iowa, South Dakota, and North Dakota, the company specializes in solar panel installations, battery storage systems, whole-

home generators, and energy efficiency solutions. Wolf River Electric's mission is to deliver high-quality workmanship and innovative technology to help communities transition to renewable energy, and the company takes pride in its customer-focused approach and long-term support for every solar project. For more information, visit [wolfriverelectric.com](http://wolfriverelectric.com).

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