



# Improving supervisory control and data acquisition (SCADA) for battery enclosures with SRI's Self-Cooling Paint™

*Results of an independent field test*



## Heat risks to the electric grid

A utility company uses aluminum outdoor battery enclosures to support their Field Area Network (FAN), a large-scale outdoor communications infrastructure critical to the operation of the electric grid.

Cell tower cabinets house lithium batteries, which are highly sensitive to heat. If the internal enclosure temperature reaches 135°F, the Battery Management System (BMS) will shut the battery down as a safety measure. When this occurs, there results a temporary loss of communication at the site, reducing visibility and remote-control capabilities across the grid. This can lead to slower outage response times, more truck deployments, and reduced situational awareness.

SRI's Self-Cooling Paint was applied to explore the opportunity to extend the backup battery systems' charging times by keeping the lithium battery installations under the 135 degree cutoff threshold. One desired criteria for a solution was that the technology be easily applicable. The coated enclosures are typically mounted ~30' above the ground on utility poles and transmission towers.

### APPLICATION PROCESS

A technician built a containment structure. Paint was sprayed on and was tested both without a primer and with an epoxy primer.

### RESULTS

Test results comparing coated and uncoated boxes were positive.

*"Applying your Self-Cooling Paint is a key mitigation step to prevent these shutdowns. By reflecting solar radiation and reducing internal temperatures, the paint helps ensure we maintain reliable communications under harsh conditions. It's a simple yet critical part of keeping the grid stable and our operations efficient."*

Utility company representative

### About SRI

SRI is an independent nonprofit research institute, headquartered in Menlo Park, California., with a rich history of supporting government and industry. We create and deliver world-changing solutions for a safer, healthier, and more sustainable future. For more than 75 years, we have collaborated across technical and scientific disciplines to discover and develop groundbreaking products and technologies and bring innovations and ideas to the marketplace. Learn more at [www.sri.com](http://www.sri.com).

### Contact

Contact SRI to inquire about partnership or licensing of the paint

Gregory Smith, Business Development  
[gsmith@sri.com](mailto:gsmith@sri.com)

[www.sri.com](http://www.sri.com)