

## SOLUTION OVERVIEW

# METER TEMPERATURE MANAGEMENT

Silver Spring's Operations Optimizer solution harnesses powerful data analytics to automatically detect meter problems and potential fires before they occur to protect your assets and customers.



### HIGHLIGHTS

- » Reduces the cost and risk of fires through early detection
- » Enables intelligent management of meter temperature using your existing AMI infrastructure
- » Requires no new equipment or changes in consumer behavior
- » Presents actionable insights in a user-friendly histogram with easily customized settings
- » Improves customer service through proactive management of customer experiences
- » Delivered as a service, requiring no new software or hardware
- » Reduces troubleshooting associated with high meter temperatures

### Are You Doing Enough to Prevent Meter Fires?

Meter temperature anomalies can lead to brownouts, power quality issues and fires. These result in customer backlash over smart meters, and utilities are being held liable for costly damages to utility and customer property. Although the problem is not necessarily caused by weather, recent hot temperatures have been exacerbating these incidents in the summer and fall.

Utilities are now under increased pressure to detect rising meter temperatures before they cause fires and damage customer premises. However, the approaches that many utilities take today aren't comprehensive and don't effectively use temperature sensors that are inside the majority of smart meters. Typical methods of reducing fire risk include manual inspections and asking vendors to take photos after installation to ensure work was done correctly, but the most cost-effective and timely solution is to continuously monitor meter temperatures remotely via the smart grid.

The Operations Optimizer **Meter Temperature** solution can monitor the temperatures of millions of meters to proactively identify those that are too hot. Easy to use tools help your utility optimize use of field crews through remote identification of failed and defective meters. Configurable dashboards highlight actionable insights to help you focus on critical issues affecting your assets, field crews and customers.

Honed over years of experience working with a variety of utility customers in varied operating environments, the Operations Optimizer Meter Temperature solution has applied proven analytical methods on massive volumes meter temperature data to prevent numerous fires and equipment failures.

### DID YOU KNOW?

The most common cause of meter temperature fires is a problem in the physical connection between the meter and the socket. This can be caused by a faulty socket housing, improper installation, or erosion caused by weather. The result is a gap that allows arcing to occur between the meter and the socket, resulting in heat and the potential for electrical fires.

## Harnessing the Power of Data Analytics

Operations Optimizer integrates seamlessly into the SilverLink Data Platform, which uses smart grid technology to collect, store, and present real-time and historical data from multiple sources. The Operations Optimizer Meter Temperature solution leverages a variety of utility and third party data, including GIS location, temperature, voltage, usage, and weather, among other sources. Operations Optimizer then combines and cleanses all of these rich historical data and executes a variety of advanced statistical methods to identify failed meters and potential fire hazards.



Operations Optimizer applies a simple, three step automated process to detect and resolve meter temperature hazards. The system is configured to read meter temperature data six times daily, with all historical data stored in the SilverLink Data Platform. The data is then automatically delivered from the Data Platform into Operations Optimizer, which scans the meter population to detect temperature anomalies. Any exceptions with very high temperatures are reported immediately via automated email alerts. Operations Optimizer then performs an advanced, proprietary regression analysis that searches for patterns in temperature and usage to proactively identify loose fittings that can lead to future meter hazards. Operations Optimizer provides a detailed summary of all potential and confirmed high temperature meter records in an easy to use dashboard for additional analysis.

The meter temperature data analytics are integrated with workflow tools that enable utility operators to prioritize immediate safety hazards. The system also leverages robust and proven machine learning techniques that enable continuous improvement in the predictive capabilities of the analytics. In the field, Operations Optimizer has demonstrated more than 50% success rate for identifying meter temperature hazards and loose fittings.

## An Array of Tools in a Single Application

Meter Temperature is just one of many use cases for AMI Operations, one of several pre-built modules of the Operations Optimizer that are ready for out-of-the-box deployment. Other use cases include identifying hop count irregularities and detecting unreachable meters. Operations Optimizer is also highly configurable, so customized use cases can be added as new challenges arise. The combination of the SilverLink Data Platform and Operations Optimizer creates a powerful analytical solution so you can avoid the added workload and expense of integrating multiple single-use applications.

Operations Optimizer includes a dynamic user interface, which allows you to toggle between a variety of list and map views. Reports and charts can be produced quickly, and the interface's dashboard can be customized to fit your particular needs. Position tracking allows map views to be used remotely—from a tablet, a laptop or a truck mount—so utility crews can easily access data in the field.

Don't let failed and defective meters cause damage to your customer relationships and your distribution infrastructure. Operations Optimizer allows you to harness the power of Big Data to improve AMI operations, while giving you the tools you need to protect your customers and your assets.

### ABOUT SILVER SPRING NETWORKS

Silver Spring Networks enables the Internet of Important Things™ by reliably and securely connecting things that matter. Cities, utilities, and companies on five continents use the company's cost-effective, high-performance IoT network and data platform to operate more efficiently, get greener, and enable innovative services that can improve the lives of millions of people. With more than 24.9 million devices delivered, Silver Spring provides a proven standards-based platform safeguarded with military grade security. Silver Spring Networks' customers include Baltimore Gas & Electric, CitiPower & Powercor, ComEd, Consolidated Edison, CPS Energy, Florida Power & Light, Pacific Gas & Electric, Pepco Holdings, and Singapore Power. Silver Spring has also deployed networks in Smart Cities including Copenhagen, Glasgow, Paris, Providence, and Stockholm. To learn more, visit [www.ssn.com](http://www.ssn.com).

Corporate Headquarters  
230 W Tasman Drive  
San Jose, California 95134  
☎ +1 669 770 4000  
Toll Free +1 866 204 0200

