



LightHouse SMS Analytics Software

- End-to-End Analytics
- User-Defined Rules Engine
- Over-the-Air Firmware Upgrades
- Highly Scalable Architecture
- Sensor and Event Visualization
- Real-time Alarming and Event Notification

Tollgrade offers LightHouse[®], the next generation real-time distribution monitoring solution providing utilities actionable intelligence and visibility into their network.

Our flexible solution consists of highly accurate and intelligent Medium Voltage (MV) sensors deployed in the field, and powerful analytics software distributed in the network. Tollgrade's Sensor Management System (SMS) analytics software supports utilities in diagnosing network events, and accurately tracks system condition information.

LightHouse provides the visibility utilities require for:

- Real-Time Fault Detection and Location
- Asset Management
- Vegetation Management
- Continuous Three-Phase Load Monitoring and Balancing
- Power Quality
- Line Sag

LightHouse SMS Software

The LightHouse Sensor Management System (SMS) is a highly scalable analytics software suite that provides actionable intelligence to decision makers at the utility head-end. SMS analyzes precise measurements and waveforms using Tollgrade's field tested algorithms to accurately classify events. A user defined rules engine allows utilities to identify and predict issues on their distribution network before they occur.

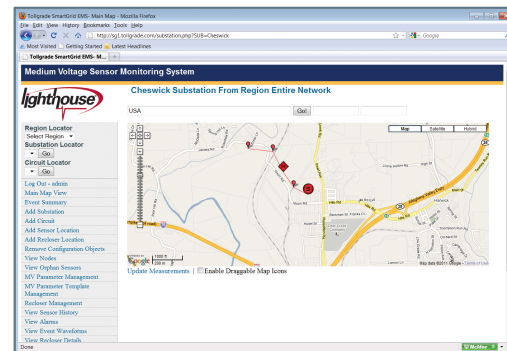
LightHouse SMS Analytics Platform Features

End-to-End Analytics

LightHouse SMS continuously collects and archives detailed information on key circuit parameters, and uses proprietary waveform analysis to generate actionable analytics intelligence for utilities.

User Defined Rules Engine

By leveraging field tested algorithms and highly accurate real-time data from our MV sensors, our SMS software give utilities the autonomy they need to create rules specific to their network.



Over-the-Air Firmware Upgrades

Maintenance free software upgrades allow utilities to invest in a platform without having to spend time and money replacing hardware for point products to address new applications.

Highly Scalable Enterprise Architecture

LightHouse SMS allows end-users to manage the deployments of 10,000+ sensors and easily integrate into other systems (SCADA, Data Historians, etc.).

Visualization of Sensors and Events

Our software provides circuit level visualization of events, load readings and deployed MV sensors using Google Maps.

Alarming and Event Notification

Alarms are sent to specified utility personnel via email and text message using alarm thresholds and parameters set by utilities in real-time.

Availability and Ordering Information

For more information or for a pilot proposal, call toll free at +1-800-878-3399 or email us at lighthouse-sales@tollgrade.com

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LightHouse SMS Software Benefits & Specifications

- Real-time Fault Detection, Location and Outage Notification
- Continuous Three Phase Monitoring
- User configurable power quality monitoring filters

LightHouse SMS Specifications:

Analytic Examples	<ul style="list-style-type: none"> ■ Fault Analytics: Permanent, Momentary ■ Event Analytics: Capbank, Fuse Operations ■ Operations Analytics: Vegetation Management, Load Balancing ■ Asset Management Analytics: Recloser Counting
Minimization of False Positives	<ul style="list-style-type: none"> ■ Inrush current ■ Power Disturbance ■ Momentary
Outage Reporting	<ul style="list-style-type: none"> ■ RMS fault current ■ Event report through email and text message
Outage Visualization	<ul style="list-style-type: none"> ■ Google maps for: <ul style="list-style-type: none"> ■ Sensor and fault status ■ Fault location ■ Easy GPS co-ordinates based GUI for adding Substation, Feeder and other IED visualization ■ Recloser management
Management	<ul style="list-style-type: none"> ■ Capable of managing 10,000 MV units ■ Automatic, easy firmware upgrades ■ Easy, large scale configuration
Configurability	<ul style="list-style-type: none"> ■ User configurability for <ul style="list-style-type: none"> ■ RMS current ■ Di, Dt values ■ Wait times ■ Alarm thresholds
Security	<ul style="list-style-type: none"> ■ Standards based secure communication with sensors and aggregators ■ Read / write access control
DNP-3	<ul style="list-style-type: none"> ■ Multiple DNP masters ■ Outstation creation using grouping and template options ■ Polled Reads, Writes, and Unsolicited protocol support ■ DNP database limits ■ Configurable event clear timers ■ Outstation report generation
Multi-Phase Processing	<ul style="list-style-type: none"> ■ Classification of faults based on the number of phases the fault current was observed ■ Easy viewing of phases on which the fault happened