Technical Training Catalog
moving faster into the future

Landis+Gyr
manage energy better
WELCOME

Training is essential to ensure the customer’s success in implementing the Smart Grid Solution. Our goal at Landis+Gyr is to provide a foundation of knowledge that will allow personnel to quickly and accurately understand how the system functions and to take full advantage of the information that is provided. Modular, process-based training allows employees from all areas within the utility to understand their role in the Smart Grid system and be able to integrate the system into their daily processes.

Initial agreements with Landis+Gyr generally include a training package. The package may include classroom training, WebEx training or a combination of both. Utilities may choose to purchase credits towards future training needs. Utilities that elect to purchase a Support Agreement receive 16 credits to be used towards future WebEx training.

To view the upcoming WebEx sessions, and register for a session: https://attendee.gototraining.com/371vl/catalog/184110289463283456?tz=America/Chicago

To view the training calendar, and to register for a class: http://www.landisgyr.com/services/training/training-schedule

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GRIDSTREAM RF CLASSROOM TRAINING

Gridstream RF Command Center Introduction

Pre-requisites: None
Class Length: 3 Days  Credits: 24  Fee: $1200

Command Center is the browser-based operating software for Gridstream RF and PLC networks. It provides a secure platform for data and system management throughout the utility. In this session, participants will be introduced to basic and intermediate features of the Command Center software for use in the Smart Grid solution. Students will perform normal day-to-day functions including deploying meters, changing out meters, maintaining the system and troubleshooting.

Audience: AMI System Administrator and other utility personnel that need to understand all aspects of the Gridstream RF System.

- Gridstream RF Solution Overview
- Deploying Collectors and Routers
- Managing Endpoints and Routers
- Billing and Customer Service
- Setting Up Command Center
- Meter Deployment
- Daily System Monitoring

Gridstream RF Network Deployment

Pre-requisites: None
Class Length: 3 Days  Credits: 24  Fee: $1200

The Gridstream RF network connects electric, water and gas meters, distribution devices and home area network devices under a single communication network. This session covers the fundamentals of the Gridstream RF network, site survey processes, installation and configuration of collectors and routers. In addition, students will be introduced to RadioShop and Endpoint Testing Manager software as tools used to work with the hardware devices in the network.

Audience: AMI System Administrator the Network Administrator, RF Field Technicians, Metering personnel and other personnel who may be responsible for the installation of network hardware equipment.

- Overview of the Gridstream RF Solution
- Collector Installation
- Endpoint Testing Manager
- Site Surveys
- Router Installation
- RadioShop

Gridstream RF Advanced Network Troubleshooting.

Pre-requisites: Gridstream RF Command Center Introduction, RadioShop, Endpoint Testing Manager
Class Length: 3 Days  Credits: 24  Fee: $1200

Command Center and RadioShop provide a variety of reports for troubleshooting and maintaining the Gridstream RF Network. In this session, participants will learn how to troubleshoot the various components of the Gridstream RF Network using both software tools.

Audience: AMI System Administrator, Network Administrator, and other utility personnel that will be involved in troubleshooting the Gridstream RF system.

- Gridstream RF System Overview
- Troubleshooting Collectors
- Troubleshooting Routers
- Troubleshooting Meters
GRIDSTREAM RF COMMAND CENTER ONLINE TRAINING

Gridstream RF Solution Overview
Pre-requisites: None
Class Length: 90-120 Minutes  Credits: 4  Fee: $200

Landis+Gyr Gridstream RF Solution is a comprehensive wireless data communications solution that uses spread-spectrum radios in the 902 - 928 MHz area of the radio spectrum to provide reliable network answers for remote telemetry. In this session, participants will become familiar with the Gridstream RF solution, including understanding the RF Mesh theory of operations, fundamental elements of the network, and network routing.

Audience: AMI System Administrator, Network Administrator, Security Administrator and all individuals at the utility wishing a general understanding of the Gridstream RF Solution.

- Gridstream RF Solution Overview
- Elements of the RF Solution
- Mesh Network Routing
- Gridstream Security Overview

Gridstream RF Command Center Setup & Management
Pre-requisites: None
Class Length: 90-120 Minutes  Credits: 4  Fee: $200

User access, global settings and rules are established by the utility upon initial installation of Command Center. In this session, participants will learn how to setup Command Center for initial use, as well as on-going processes and maintenance tasks.

Audience: AMI System Administrator, Security Administrator, Network Administrator and decision makers in other departments within the utility

- Command Center Overview
- Understanding Command Center Licenses
- Create User Roles
- Set-up and Administer Users
- Validation Groups
- Importing Firmware and DCWs

Gridstream RF Command Center Deploying Collectors and Routers
Pre-requisites: None
Class Length: 90-120 Minutes  Credits: 4  Fee: $200

The Collector provides the communication interface between the mesh network and Command Center. Collectors should be the first equipment installed, followed by the routers to provide the Initial components of the layered network. In this session, participants will learn the steps necessary to configure collectors and deploy routers using the Command Center software.

Audience: AMI System Administrator, Network Administrator and IT personnel.

- RF Collector Overview
- Collector Auto-registration
- Managing/Troubleshooting Collectors
- Router Auto-registration
- Managing/Troubleshooting Routers
Gridstream RF Deploying Meters

Pre-requisites: None
Class Length: 90-120 Minutes  Credits: 4  Fee: $200

Meters equipped with a Gridstream RF radio are “plug and play”. They arrive in operational state, ready to be installed in the field. In this session, participants will learn the steps necessary to deploy meters via Command Center, techniques for managing meter change-outs, as well as learn how to monitor and troubleshoot deployment.

Audience: AMI System Administrator, Network Administrator, Metering and other personnel that will be responsible for deploying and monitoring meters.

- Auto-registration
- Deploying Meters
- Monitoring Meter Change-outs
- Importing Meter Files
- Tracking Meter Deployment
- RF Endpoint Configuration

Gridstream RF Command Center Managing Endpoints

Pre-requisites: None
Class Length: 90-120 Minutes  Credits: 4  Fee: $200

Command Center is the primary tool that the utility will use to manage and troubleshoot the Gridstream RF system. In this session, participants will be introduced to the reports, commands and functions available to manage the devices in the network.

Audience: AMI System Administrator, Network Administrator, Metering, Billing and other personnel responsible for management of the system.

- Gridstream RF Endpoint Information
- Managing Endpoints
- Broadcasting
- Daily Reads & Interval Reads
- Group Addressing

Gridstream RF Command Center Daily System Monitoring

Pre-requisites: None
Class Length: 150-180 Minutes  Credits: 6  Fee: $300

Command Center provides a variety of dashboard, reports, and graphical displays to assist in the monitoring of the Gridstream RF network. In this session, participants will learn the day to day activities necessary for managing their system.

Audience: AMI System Administrator, Network Administrator.

- Analyzing the Daily Reads Status Report
- Endpoint and Meter Alerts
- Monitoring the System Map
- Monitoring the AMI Dashboard
- Monitoring the Log Viewers
- Monitoring the Real Time Outage Map
### Gridstream RF Command Center Billing and Customer Service Tools

**Pre-requisites:** None  
**Class Length:** 90-120 Minutes  
**Credits:** 4  
**Fee:** $200

Command Center provides billing and customer service personnel with tools needed to extract readings information for billing purposes as well as customer service functions and reports. In this session, participants will learn how to setup billing extracts, as well as learn the reports provided to work with customers of the utility.

**Audience:** AMI System Administrator, Billing and Customer Service personnel

- Billing Setup
- Service History Report
- Connect/Disconnect Management
- Scheduling Billing Extracts
- Meter History Viewer

### Gridstream RF - Understanding the GAP Reconciliation Process

**Pre-requisites:** Gridstream RF Command Center Introduction Training is preferred, but not required.  
**Class Length:** 90-120 Minutes  
**Credits:** 4  
**Fee:** $200

Gap Reconciliation is an automated Command Center process to collect missing interval and self-read data from Time of Use (TOU), interval and demand meters. In this session participants will become familiar with the standard readings protocol for Gridstream RF meters, as well as how to enable and configure the system to automatically retrieve missing daily and interval readings.

**Audience:** AMI System Administrator and personnel responsible for management of the system.

- Readings Protocol
- Gap Reconciliation Settings
- Viewing Interval Data Gaps
- What is Gap Reconciliation
- Gap Request Commands
- Daily Reads Status Reports

### Gridstream RF – Custom Configuration of Gridstream RF Endpoints

**Pre-requisites:** Gridstream RF Command Center Introduction Training is preferred, but not required.  
**Class Length:** 90-120 Minutes  
**Credits:** 4  
**Fee:** $200

The Gridstream RF configuration group drives the scheduled commands, the alarm priorities and the network settings of a group of devices. In this session, participants will learn the default configuration settings of various meter models, as well as the functions to customize the configuration to meet utility needs.

**Audience:** AMI System Administrator, Engineering, and other personnel wishing to understand endpoint configuration.

- Default Configuration Groups
- Alarm Definitions
- Network Settings
- Reconfiguration Process
- Configuration Group Components
- Packet Definitions
- Creating Configuration Groups
- Troubleshooting Reconfiguration
### Gridstream RF - Configuring Scheduled Demand Resets

**Pre-requisites:** Gridstream RF Command Center Introduction Training is preferred, but not required.

**Class Length:** 150-180 Minutes  
**Credits:** 6  
**Fee:** $300

The purpose of the Demand Reset is to capture peak demand values and the times at which those values were recorded since the last time the reset procedure was executed. In this session participants will learn how to setup scheduled reads for demand resets in the Gridstream RF system. In addition, best practices for monitoring and troubleshooting demand resets will be discussed.

**Audience:** AMI System Administrator and Billing personnel

- Understand the Demand Reset Process
- Demand Reset Schedule Setup
- Manual Demand Resets
- Monitoring Scheduled Demand Resets
- Understanding and Configuring Demand Reset Parameters

### Gridstream RF - Implementing Home Area Network Devices

**Pre-requisites:** Gridstream RF Command Center Introduction

**Class Length:** 150-180 Minutes  
**Credits:** 6  
**Fee:** $300

The Gridstream HAN solution is comprised of multiple components to provide a complete integrated environment for a utility to access and manage in-premise HAN devices. In this session, participants will gain a basic understanding of the ZigBee technology, learn how to commission and manage HAN devices using Command Center.

**Audience:** AMI System Administrator and personnel responsible for deploying and managing HAN devices.

- HAN Overview
- Smart Energy and the Gridstream Solution
- Managing HAN Devices
- ZigBee Overview
- Creating a Home Area Network
- Testing and Troubleshooting

### Gridstream RF - Implementing 2-Way Water Meters

**Pre-requisites:** Gridstream RF Command Center Introduction

**Class Length:** 150-180 Minutes  
**Credits:** 6  
**Fee:** $300

RF water modules are two way battery-powered devices. They communicate with electric meters and network devices to send reading data to the Command Center via the Gridstream network. In this session, participants will learn the skills needed to install, register and manage 2-way water meters in the Gridstream RF Solution.

**Audience:** AMI System Administrator and RF field technicians involved with the installation of 2-Way Water meters.

- 2-Way Water Overview
- Managing 2-Way Water Meters in Command Center
- Deploying 2-Way Water Meters
Gridstream RF - Implementing 2-Way Gas Meters

**Pre-requisites:** Gridstream RF Command Center Introduction  
**Class Length:** 150-180 Minutes **Credits:** 6 **Fee:** $300

RF gas modules are two way battery-powered devices. They communicate with electric meters and network devices to send reading data to the Command Center via the Gridstream network. In this session, participants will learn the skills needed to install, register and manage 2-way gas meters in the Gridstream RF Solution.

**Audience:** AMI System Administrator and RF field technicians involved with the installation of 2-Way Gas meters.

- 2-Way Gas Overview
- Managing 2-Way Gas Meters in Command Center
- Deploying 2-Way Gas Meters
- Working with 2-Way Gas Meters in ETM

Gridstream RF Security Implementation Online Training

**Gridstream RF Advanced Encryption Mode - Configuration**

- **Pre-requisites:** Basic understanding of security concepts  
- **Class Length:** 90-120 Minutes **Credits:** 4 **Fee:** $200

Security is an important feature of Command Center and the RF mesh network. It helps to prevent service interruptions or blockages, unauthorized control, loss or corruption. Advanced Encryption Mode is the most secure approach. It provides strong mechanisms to prevent systemic attacks on the system. In this session, participants will learn the steps necessary to implement Advanced Security in their network.

**Audience:** Security Administrator

- Gridstream Advanced Security Overview
- Creating Security Configuration Groups
- Export/Import of Security Tokens
- Security Reconfiguration Process
- User Maintenance

**Gridstream RF Advanced Encryption Mode – Monitoring and Troubleshooting**

- **Pre-requisites:** Basic understanding of security concepts  
- **Class Length:** 90-120 Minutes **Credits:** 4 **Fee:** $200

Command Center provides a variety of dashboard, reports, and graphical displays to assist in the monitoring of security in the Gridstream RF network. In this session, participants will learn the day to day activities necessary to monitor and troubleshoot the advanced security in the network.

**Audience:** Security Administrator

- Monitoring the Security Dashboard
- Monitoring the Security Event Log
- Monitoring the Security Reconfiguration Process
- Troubleshooting Endpoints
Gridstream RF Standard Encryption Mode - Configuration

Pre-requisites: Basic understanding of security concepts
Class Length: 90-120 Minutes  Credits: 4  Fee: $200

Standard Encryption mode allows the utility to encrypt messages on the network using a utility specific encryption key. In this session, participants will learn the tasks necessary to create utility specific encryption keys and configure their network devices for standard encryption.

Audience: Security Administrator

- Gridstream Standard Security Overview
- Creation of System Key with RadioShop
- Security Reconfiguration Process
- Export/Import of Security Tokens
- Security Configuration Groups

Gridstream RF Standard Encryption Mode - Monitoring and Troubleshooting

Pre-requisites: Gridstream RF Standard Encryption Mode Configuration WebEx. Basic understanding of security concepts
Class Length: 90-120 Minutes  Credits: 4  Fee: $200

Command Center provides a variety of dashboard, reports, and graphical displays to assist in the monitoring of security in the Gridstream RF network. In this session, participants will learn the day to day activities necessary to monitor and troubleshoot Standard security in the network.

Audience: Security Administrator

- Monitoring the Security Dashboard
- Troubleshooting Endpoints
- Monitoring the Security Reconfiguration Process
- Monitoring the Security Event Log
- Security Reconfiguration Process

Gridstream RF – Advanced Encryption Mode – Key Rolling

Pre-requisites: Gridstream RF Standard Encryption Mode Configuration WebEx. Basic understanding of security concepts
Class Length: 90-120 Minutes  Credits: 4  Fee: $200

Command Center provides an automated process to roll both the utility public key and the individual endpoint keys. In this session, participants will learn the processes for configuring key rolling, become familiar with the Security reconfiguration process, as well as learn the steps for rolling the Segment key.

Audience: Security Administrator

- Organization Information Settings
- System Settings
- Utility Key Generation
- Process Settings
- Security Reconfiguration Process
GRIDSTREAM RF NETWORK DEPLOYMENT ONLINE TRAINING

**Gridstream RF Network Site Survey**

*Pre-requisites:* None  
*Class Length:* 90-120 Minutes  
*Credits:* 4  
*Fee:* $200

In Gridstream Network planning and design, various factors are taken into account to maximize network performance. In this session, participants will be familiarized with the Landis+Gyr network design process, and will learn the steps performed to validate the design through collector and router site surveys.

**Audience:** AMI System Administrator, Network Administrator, RF Field Technicians

- Landis+Gyr Design Process
- Router Site Survey
- Collector Site Survey
- Verification of Locations

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**Gridstream RF C7400 Collector Installation and Configuration**

*Pre-requisites:* None  
*Class Length:* 120-150 Minutes  
*Credits:* 6  
*Fee:* $300

Gridstream RF Collectors provide the interface between the Gridstream Network and Command Center. In this session, participants will learn the steps necessary to install and configure the C7400 Collector.

**Audience:** AMI System Administrator, Network Administrator, RF Field Technicians

- Collector Overview
- Collector Site Survey
- Collector and Antenna Installation
- Configuring Command Center with ETM
- Configuration and Management of Collectors via Command Center

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**Gridstream RF C6400 GAP Collector Installation and Configuration**

*Pre-requisites:* None  
*Class Length:* 120-150 Minutes  
*Credits:* 6  
*Fee:* $300

Gridstream RF Collectors provide the interface between the Gridstream Network and Command Center. In this session, participants will learn the steps necessary to install and configure the C6400 Collector.

**Audience:** AMI System Administrator, Network Administrator, RF Field Technicians

- GAP Collector Overview
- Pre-installation Configuration Using ETM
- Auto-registration
- Backhaul Configuration
- Collector Installation
- Configuration and Management of Collectors
Gridstream RF – Router Installation and Configuration

Pre-requisites: None
Class Length: 90-120 Minutes   Credits: 4   Fee: $200

Routers provide the backbone of the Gridstream Network. In this session, participants will learn how to configure and install routers, as well as the functions available in Command Center for managing the devices.

Audience: AMI System Administrator, Network Administrator, RF Field Technicians

- Router Overview
- Router Site Survey
- Router Configuration
- Router Installation

Gridstream RF Tools – Endpoint Testing Manager

Pre-requisites: None
Class Length: 90-120 Minutes   Credits: 4   Fee: $200

Endpoint Testing Manager (ETM) software provides the user the ability to verify accurate module to meter, meter to module, module to network and network to module communications. In this session, participants will learn the procedures from using ETM to test modules/meters, as well as reset modules when returned from the field.

Audience: AMI System Administrator, Network Administrator, Meter Shop Personnel

- Workstation Setup
- Performing Meter Tests
- Generating Reports
- Upgrading DCW and Firmware
- Resetting Modules to Installation Mode

Gridstream RF Tools – RadioShop

Pre-requisites: None
Class Length: 150-180 Minutes   Credits: 6   Fee: $300

RadioShop software provides access to the Gridstream Network and is used for configuring and monitoring radios on the Gridstream network. In this session, participants will become familiar with the RadioShop application, and learn how to use it as a configuration and troubleshooting tool.

Audience: AMI System Administrator, Network Administrator, RF Field Technicians

- RadioShop Overview and Setup
- Working with Radios
- Monitoring the Network
- Managing Collectors
Gridstream RF – Monitoring and Troubleshooting Collectors (C7400 and C6400)

Pre-requisites: Gridstream RF Command Center Introduction, Gridstream RF Network Deployment, RadioShop Training
Class Length: 150-180 Minutes  Credits: 6  Fee: $300

Gridstream RF Collectors provide the interface between the Gridstream Network and Command Center. In this session, participants will learn how to use various Command Center Reports along with RadioShop to identify, troubleshoot, and resolve issues within their Gridstream RF Collectors.

Audience: AMI System Administrator, Network Administrator and field personnel responsible for troubleshooting the network.

- Upgrading Collector Code
- Collector Communication Issues
- Device Radio Statistics Report
- Hardware Troubleshooting
- Collector Events
- Monitoring Collector Statistics
- Investigation with RadioShop

Gridstream RF – Monitoring and Troubleshooting Routers

Pre-requisites: Gridstream RF Command Center Introduction, Gridstream RF Network Deployment, and RadioShop Training
Class Length: 150-180 Minutes  Credits: 6  Fee: $300

Routers provide the backbone to the Gridstream Network; therefore, monitoring routers on a regular basis ensures that the network is performing optimally. Participants of this session will learn how to use various Command Center Reports along with RadioShop to identify, troubleshoot, and resolve issues with the routers in the network.

Audience: Network Administrator and personnel responsible for troubleshooting the routers in the network.

- Troubleshooting Routers by Status
- Troubleshooting with RadioShop
- Router Events
- Device Radio Statistics Report
- Router Preventative Maintenance

Gridstream RF – Monitoring and Troubleshooting Meters

Pre-requisites: Gridstream RF Command Center Introduction, Gridstream RF Network Deployment, and RadioShop Training
Class Length: 150-180 Minutes  Credits: 6  Fee: $300

Command Center provides a variety of reports and dashboards that allow the utility to monitor the performance of the AMI meters. In this session, participants will learn how to use various Command Center Reports along with RadioShop to identify, troubleshoot, and resolve issues within their Gridstream RF Network.

Audience: AMI System Administrator and/or personnel responsible for troubleshooting the endpoints in the network.

- Troubleshooting by Endpoint Status
- Troubleshooting with RadioShop
- Endpoints Alerts
- Meter Alerts
Gridstream RF – Performing Firmware/DCW Upgrades

Pre-requisites: Gridstream RF Command Center Introduction, Gridstream RF Network Deployment, RadioShop Training

Class Length: 150-180 Minutes  Credits: 6  Fee: $300

Landis+Gyr provides customers with firmware download files whenever there are new images available. Within the Gridstream mesh network, over the air firmware downloads are supported, and all efforts should be made to use Command Center for firmware downloads. In this session, participants will learn how to use Command Center to properly upgrade firmware and DCW for devices in their Gridstream RF Network. RadioShop will also be presented, as a monitoring/troubleshooting tool.

Audience: AMI System Administrator, Network Administrator and field personnel responsible for upgrading firmware and DCW on the network devices.

- Importing Firmware .hfz Files
- Execution and Planning Recommendations
- Monitoring the Firmware Upgrade Process
- Preparing for the Upgrade
- Broadcasting Firmware
- Upgrading Firmware with RadioShop

GRIDSTREAM RF GRID AUTOMATION TRAINING - ONLINE

Gridstream RF Grid Automation Solution Overview

Pre-requisites: None

Class Length: 120-150 Minutes  Credits: 4  Fee: $200

The Landis+Gyr Grid Automation Solution provides a communications means to acquire data and control remote DA devices, along with supporting peer-to-peer device communication. The system can be deployed standalone or in conjunction with Landis+Gyr AMI systems. In this session, attendees will be provided an overview of the implementation of Grid Automation in the Gridstream solution.

Audience: AMI System Administrator, Network Administrators and other personnel who wish to gain an understanding of Grid Automation in the Gridstream solution.

- What is Distribution Automation
- Primary Functions of DA/SCADA
- Gridstream Radios and Connections
- What is SCADA
- DA System Components
- Preparing DA Solutions Communication

Gridstream RF - Troubleshooting the Grid Automation Network

Pre-requisites: Gridstream Grid Automation Solution Overview WebEx, Network Tools – RadioShop WebEx

Class Length: 150-180 Minutes  Credits: 6  Fee: $300

RadioShop software is a tool that can be used to analyze the Grid Automation network. This session will provide a basic overview of techniques that can be used to troubleshoot issues in the DA network.

Audience: Grid Automation System and Network Administrators, as well as personnel interested in learning the management capabilities in Command Center.

- Troubleshooting Connectivity
- Troubleshooting Techniques
- RadioShop Troubleshooting Reports
Gridstream RF Implementing Grid Automation in Command Center

**Pre-requisites:** Gridstream RF Command Center Introduction (classroom or WebEx training), Gridstream Grid Automation Solution Overview

**Class Length:** 150-190 Minutes  
**Credits:** 6  
**Fee:** $300

Command Center 5.0 introduced the ability to manage the networking capability of various Grid Automation devices. In this session, participants will receive an overview of the tools available to implement and manage Grid Automation devices through the Command Center software.

**Audience:** Grid Automation System and Network Administrators, as well as personnel interested in learning the management capabilities in Command Center.

- Grid Automation Device Deployment
- Managing Grid Automation Devices
- Grid Automation Events & Alarms
- Auto-registration
- Monitoring Grid Automation Devices

MDMS ONLINE TRAINING

**MDMS System Overview**

**Pre-requisites:** None  
**Class Length:** 150-180 Minutes  
**Credits:** 6  
**Fee:** $300

Gridstream MDMS is Landis+Gyr's Meter Data Management System. A key component of advanced metering infrastructure (AMI) systems, MDMS transforms volumes of automated meter reading (AMR) data collected from electric, gas, and water meters into business intelligence. In this session, participants will be provided an overview of the MDMS system, and learn the core MDMS processing functions.

**Audience:** All involved in a project.

- MDMS Solution Overview
- DSE
- Meter Load Processing
- WAVE/iWAVE
- MDMS Solution Components
- Meter Reading Gateways
- Meter Readings Analytics

**Introduction to Validation, Estimating, Editing (VEE)**

**Pre-requisites:** MDMS System Overview  
**Class Length:** 150-180 Minutes  
**Credits:** 6  
**Fee:** $300

The automated validation engine applies complex, rule-based validation, estimation and editing (VEE) algorithms which certify daily meter reads and load profile readings regardless of deployed AMI technology. In this session, participants will gain an understanding of the rules used for validation and estimation, as well as learn how to customized VEE for utility specific business requirements.

**Audience:** System Administrators, Billing

- EMED Processes
- MRA Processes
- Device Groups forWAVE/iWAVE
- WAVE Consumption Summary Report
- Meter Reading Gateways
- Customizing WAVE/iWAVE
- Read Status Summary Report
- WAVE Demand Summary Report
Managing Meter Exceptions in MDMS Navigator

Pre-requisites: Introduction to Validation, Estimating, Editing (VEE) recommended
Class Length: 150-180 Minutes  Credits: 6  Fee: $300

The Meter Exceptions tool ensures business-critical validation failures (such as a meter reset) are prevented from going to Billing. In this session, participants will learn to identify, and manage exceptions reported by the VEE engine.

Audience: System Administrators, Billing.
- VEE Overview
- Managing WAVE Exceptions
- Read Status Summary Report
- WAVE Demand Summary Report
- Viewing Meters
- Managing iWAVE Exceptions
- WAVE Consumption Summary Report

Network Performance Monitor & Service Orders: Setup & Management

Pre-requisites: MDMS System Overview recommended
Class Length: 90-120 Minutes  Credits: 4  Fee: $200

The Network Performance Monitor & Reporting Engine (NPM) identifies irregular alerts, consumption, alarms, and other abnormal activity and proactively generates the necessary reports, service orders, or any user defined actions, resulting in operational efficiencies. In this session, participants will learn to configure the NPM and Service Order engines for utility specific business cases.

Audience: Billing, Field Personnel.
- NPM Configuration
- Managing Service Orders
- NPM Outage Summary Report
- Service Order Configuration
- NPM Event Summary Report
- Service Order Report

MDMS Configuring Reference Data

Pre-requisites: Introduction to Validation, Estimating, Editing (VEE) recommended
Class Length: 150-180 Minutes  Credits: 6  Fee: $300

Reference Data is utility specific data that the MDMS requires to perform the functions required for validation, estimation, editing, and billing. In this session, participants will learn the function of each reference data element, and learn the skills to configure the reference data specific to the utility’s business functions.

Audience: System Administrators, Billing.
- Understanding Reference Data Use
- Configuring Device Programs
- Configuring Device Programs
- Configuring Billing Cycles
- Configuring Time of Use
- Configuring Program Readings
Understanding MDMS Data Synchronization Engine

Pre-requisites: MDMS System Overview recommended
Class Length: 150-180 Minutes  Credits: 6  Fee: $300

The Data Synchronization Engine (DSE) ensures the integrity and accuracy of the data by automatically synchronizing core customer and account information as well as point-of-delivery data stored in the Meter Data Repository with master utility databases. In this session, participants will be provided an understanding of the three main DSE Interfaces (DBMaint, DBSync, Published Reads Service), as well as gain an understanding of the MDMS 24 hour processing.

Audience: System Administrators, Billing.
- DSE Processes
- DBMaint
- DBSync
- Interfaces
- Published Reads Service
- MDMS 24 Hour Processing

MDMS UX – Administrator Training

Pre-requisites: None
Class Length: 90-120 Minutes  Credits: 4  Fee: $200

The Gridstream MDMS User Interface provides a comprehensive, efficient user experience when working with the Gridstream Meter Data Management System (MDMS). This interface currently works in conjunction with the MDMS Navigator User Interface. In this session, participants will learn how to configure the MDMS UX to meet business needs.

Audience: System Administrators.
- Setting Up Feature Groups & User Profiles
- Setting Up Gridstream UX
- ODE Configuration
- Usage Views

Landis+Gyr Virtual Peak Plant Classroom Training

Landis+Gyr Virtual Peak Plant

Pre-requisites: None
Class Length: 2 Day  Credits: 8  Fee: $800

Landis+Gyr’s Virtual Peak Plant (VPP) system includes two browser-based interface portals, a Home Energy Manager portal for customers and a Power Center portal for utility and support personnel. The system not only allows customers to manage their energy usage, it also allows the utility to override normal operation of managed equipment to curtail energy usage when necessary to avoid a demand peak. In this session, participants will be introduced to the features of the VPP system for use in the Smart Grid solution.

- System Overview
- Customer Support Operations
- Utility Operations
- Direct Load Control Management
- Thermostat Management
## Landis+Gyr Virtual Peak Plant Training - Online

### Landis+Gyr Virtual Peak Plant System Overview

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Landis+Gyr’s Virtual Peak Plant (VPP) system includes two browser-based interface portals, a Home Energy Manager portal for customers and a Power Center portal for utility and support personnel. The system not only allows customers to manage their energy usage, it also allows the utility to override normal operation of managed equipment to curtail energy usage when necessary to avoid a demand peak. In this session, participants will be introduced to the features of the VPP system for use in the Smart Grid solution.

**Audience:** VPP System Administrators, VPP Customer Service Personnel.

- System Overview
- Power Center Overview
- Thermostat Management
- Home Energy Manager Overview
- Direct Load Control

### Landis+Gyr Virtual Peak Plant Customer Support Operations

<table>
<thead>
<tr>
<th>Pre-requisites:</th>
<th>Landis+Gyr Virtual Peak Plant System Overview</th>
</tr>
</thead>
<tbody>
<tr>
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<tr>
<td>Credits:</td>
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</table>

Landis+Gyr’s Virtual Peak Plant (VPP) system includes two browser-based interface portals, a Home Energy Manager portal for customers and a Power Center portal for utility and support personnel. The Home Energy Manager portal gives users access to their various in home devices and gives them the ability to manage and monitor them. In this session, participants will be introduced to the features of the Home Energy Manager portal.

**Audience:** VPP System Administrators, VPP Customer Service Personnel.

- Accessing Customer Accounts
- Opting out of Conservation Events
- Managing In Home Devices

### Landis+Gyr Virtual Peak Plant Utility Operations

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Landis+Gyr’s Virtual Peak Plant (VPP) system includes two browser-based interface portals, a Home Energy Manager portal for customers and a Power Center portal for utility and support personnel. The Power Center is the utilities portal to manage and monitor the VPP solution. In this session, participants will be introduced to the features of the Power Center portal.

- Understanding the Dashboard
- Managing Users
- Managing Conservation Events
**POWER LINE CARRIER TECHNOLOGY**

**GRIDSTREAM PLX CLASSROOM TRAINING**

**Gridstream PLX Command Center Introduction**

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<td>Credits:</td>
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</tr>
<tr>
<td>Fee:</td>
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</tbody>
</table>

Gridstream PLX builds upon Landis+Gyr’s 15 years of history developing PLC networks for advanced metering. In this session, participants will learn the basic and intermediate features of Command Center for managing their PLX system. Students will perform normal day-to-day functions including deploying meters, changing out meters, monitoring the system and troubleshooting. Hands-on training and exercises will provide those attending with the ability to manipulate information using the PLX Command Center software.

**Audience:** AMI System Administrator and utility personnel that needs to understand all aspects of the PLX system.

- **Gridstream PLX System Overview**
- **Working with Substations and Collectors**
- **Daily System Monitoring**
- **Command Center Reports**
- **Command Center Setup & Configuration**
- **Programming and Deploying PLX Modules**
- **Managing PLX Endpoints**
- **Billing and Extract Tools**

**Gridstream PLX Network Deployment Training**

<table>
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<th>Pre-requisites:</th>
<th>Observe a minimum of one substation commissioning by Landis+Gyr Field Services Representative.</th>
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<tr>
<td>Fee:</td>
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</table>

In the Gridstream PLX system, the components installed at the substation are used to transmit and receive signals to/from endpoints. In this session, participants will learn the best practices for installation of substation equipment, receive hands on testing experience, and learn the Command Center associated setup processes. This course is offered at the Pequot Lakes training facility. Contact Landis+Gyr Technical Training Department for required tools.

**Audience:** Personnel that will be responsible for the commissioning of the substation equipment.

- **Overview of Gridstream PLX System**
- **Programming Collectors**
- **Validation Tests**
- **Final Documentation Requirements**
- **Overview of Substation Equipment**
- **Collector/TCU Installation Guidelines**
- **Collector Configuration in Command Center**
GRIDSTREAM PLX ONLINE TRAINING

Gridstream PLX Solution Overview
Pre-requisites: None
Class Length: 90-120 Minutes  Credits: 4  Fee: $200

Landis+Gyr Gridstream PLX Solution capitalizes on 15 years of power line carrier technology experience to deliver the industry’s most powerful PLC AMI in the marketplace. Gridstream PLX is an AMI solution that delivers those must-have smart grid applications with the capacity to adapt to future market needs.

Audience: AMI System Administrator and all individuals at the utility wishing a general understanding of the Gridstream PLX Solution.

- Gridstream PLX Solution Overview
- Elements of the PLX Solution

Gridstream PLX 3000 Initial Collector Setup
Pre-requisites: None
Class Length: 30-60 Minutes  Credits: 2  Fee: $100

The PLX 3000 Collector requires new setup measures when connecting to it for the first time. In this session users will learn about the new setup procedures for the PLX 3000 collector, how to connect to the collector for the first time, how to setup user accounts, and how to configure the network settings.

Audience: Security Administrator

- PLX 3000 Collector Overview
- User Setup
- Web Tunnel Software
- Network Settings

Gridstream PLX Command Center Setup & Management
Pre-requisites: None
Class Length: 90-120 Minutes  Credits: 4  Fee: $200

User access, global settings and rules are established by the utility upon initial installation of Command Center. In this session, participants will learn how to setup Command Center for initial use, as well as become familiar with on-going processes and maintenance tasks.

Audience: AMI System Administrator, Network Administrator, Security Administrator and decision makers in all other departments within the utility.

- Command Center Overview
- Organization and Process Settings
- Working with Command Center Licensing
- User Access Management
Gridstream PLX Command Center Managing Substations and Collectors
Pre-requisites: None
Class Length: 90-120 Minutes  Credits: 4  Fee: $200

The Collector provides the communication interface between the PLX system and Command Center. In this session, participants will learn the steps necessary to configure collectors using the Command Center software.

Audience: AMI System Administrator, Network Administrator and IT personnel.
- Collector Overview
- Adding and Configuring Collectors
- Adding Substations
- Managing Collectors

Gridstream PLX Programming and Deploying Endpoints
Pre-requisites: None
Class Length: 90-120 Minutes  Credits: 4  Fee: $200

Meters equipped with a PLX module are “plug and play”. They arrive in operational state, ready to be installed in the field. In this session, participants will learn the steps necessary to deploy meters via Command Center, techniques for managing meter change-outs, as well as how to configure modules for custom applications.

Audience: AMI System Administrator, Metering and personnel that will be responsible for managing the PLX meter deployment.
- PLX Configuration Groups
- Managing the Meter Change Out Process
- Meter Deployment Processes
- PLX Find Process

Gridstream PLX Managing Endpoints
Pre-requisites: None
Class Length: 90-120 Minutes  Credits: 4  Fee: $200

Command Center is the primary tool that the utility will use to manage and troubleshoot the PLX system. In this session, participants will be introduced to the commands and functions available to manage the devices in the field.

Audience: AMI System Administrator, Network Administrator, Metering, Billing and other personnel responsible for management of the system
- User Defined Command Addressing Groups
- Available Endpoint Commands
- Scheduled Reads

Gridstream PLX Daily System Monitoring
Pre-requisites: None
Class Length: 150-180 Minutes  Credits: 6  Fee: $300

Command Center provides a variety of dashboard, reports, and graphical displays to assist in the monitoring of the Gridstream PLX system. In this session, participants will learn the day to day activities necessary for managing their system.

Audience: AMI System Administrator, Network Administrator, Metering and any personnel involved in the monitoring of the PLX system.
- PLX Readings Processing Status Report
- Collector Events
- Analyzing the Log Viewer
- Monitoring the AMI Dashboard
- System Alerts
- Understand the Meter History Viewer
Gridstream PLX Command Center Reports

**Pre-requisites:** None  
**Class Length:** 90-120 Minutes  
**Credits:** 4  
**Fee:** $200

Command Center provides a variety of reports that can be used to monitor and troubleshoot the PLX system, as well as reports used by the utilities customer service personnel. In this session, participants will become familiar with how to generate and analyze these reports.

**Audience:** AMI System Administrator, Network administrator, Engineering, Billing and Customer Service personnel.

- PLX Readings Processing Report
- Signal Quality Reports
- Interruption Reports
- Outage Tracker
- Meter Exceptions
- Downstream Performance Reports
- Service History Report
- Transaction Log

Gridstream PLX Command Center Billing

**Pre-requisites:** None  
**Class Length:** 90-120 Minutes  
**Credits:** 4  
**Fee:** $200

Command Center provides billing personnel with tools needed to extract readings information for billing purposes. In this session, participants will learn how to setup billing extracts, as well as learn the reports provided to reads availability. This session covers TS1, TS2 and PLX.

**Audience:** AMI System Administrator and Billing Personnel

- Working with Billing cycles
- Scheduling Data Extract
- Final Readings (TS2 and PLX)
- Data Extract Setup
- Utilizing the Billing Progress Report

Gridstream PLX Setting Up Demand Billing Schedules

**Pre-requisites:** PLX Programming and Deploying Endpoints  
**Class Length:** 90-120 Minutes  
**Credits:** 4  
**Fee:** $200

The purpose of the demand reset is to capture peak demand values and the times at which those values were recorded since the last time the reset procedure was executed. Command Center may be used to configure PLX endpoints to reset on a scheduled basis. In this session, participants will learn how to configure endpoints for demand reset and monitor demand reset success.

**Audience:** AMI System Administrator and Billing Personnel

- Setting Up Demand Billing Configuration
- Monitoring Demand Resets
- Configuring Endpoints for Demand Billing
**Gridstream PLX Custom Configuration**

**Pre-requisites:** None  
**Class Length:** 90-120 Minutes  
**Credits:** 4  
**Fee:** $200

Meters equipped with a PLX module are “plug and play”. Using a default configuration group, the endpoint will report daily and load profile to Command Center. In this session, participants will learn how to configure modules for custom applications.

**Audience:** AMI System Administrator, Engineering, and Metering Personnel

- PLX Default Configuration Groups
- Re-configuration Process
- Creating Custom Configuration Groups

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**Differences between PLX and TS2 PLC Systems**

**Pre-requisites:** None  
**Class Length:** 90-120 Minutes  
**Credits:** 4  
**Fee:** $200

Gridstream PLX builds upon Landis+Gyr’s 20 years of history developing PLC networks for advanced metering. By adding the capacity and fast response times required to meet the smart grid demands of today and tomorrow, Gridstream PLX is better able to deliver data and connectivity required for the most advanced applications in this session participants will become familiar with the differences between their PLX and TS2 PLC systems.

**Audience:** AMI System Administrator, Network Administrator, and other utility personnel wishing to understand the difference between the two systems.

- PLX Communication
- Endpoint Find Process
- On-demand Reads
- Hardware Components
- Configuration

---

**Gridstream PLX Endpoint Administration Software**

**Pre-requisites:** None  
**Class Length:** 120-150 Minutes  
**Credits:** 4  
**Fee:** $200

Landis+Gyr PLX Endpoint Administration Software (EAS) is a PC-based software application that is used for programming and troubleshooting all PLX endpoint types. In this session, participants will learn the processes for working with EAS and the Optowand+ for communications and troubleshooting endpoints.

**Audience:** AMI System Administrator, Metering and any other personnel that will be programming meters in the meter shop or in the field.

- Overview of OptoWand+
- Programming Endpoints
- Firmware Updates
- EAS Configuration
- Diagnostics
**TS2 TECHNOLOGY CLASSROOM TRAINING**

**TS2 Command Center Introduction**

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<tr>
<td>Fee:</td>
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TS2 technology maintains continuous, unsolicited communication with each device on the network. The system is operated by Command Center software. In this session, participants will learn the day to day functions needed to deploy collectors and meters, manage meters, and troubleshoot their TS2 system.

**Audience:** AMI Administrator and any other utility personnel that need to understand all aspects of the TS2 system.

- TS2 System Overview
- Working with Substations and Collectors
- Managing TS2 Modules
- Command Center Reports
- Command Center Setup and Configuration
- Programming and Deploying TS2 Modules
- Daily System Monitoring
- Billing and Customer Service Tools

**TS2 Substation Installation Certification Training**

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</table>

In the TS2 system, the components installed at the substation are used to transmit and receive signals to/from endpoints. In this session, participants will learn the best practices for installation of substation equipment, receive hands on testing experience, and learn the Command Center associated setup processes. This course is offered at the Pequot Lakes training facility.

**Audience:** Personnel that will be responsible for the commissioning of the substation equipment. Contact the Landis+Gyr Technical Training Department for required tools.

- Overview of TS2 System
- Programming Collectors
- Validation Tests
- Overview of Substation Equipment
- Collector/TCU Installation Guidelines
- Collector Configuration in Command Center
- Final Documentation Requirements

**TS2 Command Center Advanced**

<table>
<thead>
<tr>
<th>Pre-requisites:</th>
<th>TS2 Command Center Introduction or appropriate experience</th>
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<tbody>
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The TS2 technology maintains continuous, unsolicited communication with each device on the network. The system is operated by Command Center™ software. In this session, participants will learn advanced features of the system, as well as techniques for troubleshooting more effectively.

**Audience:** AMI System Administrator, Network Administrator and other utility personnel responsible for monitoring and troubleshooting the system.

- TS2 System Overview
- Outage Detection
- Troubleshooting the TS2 System
- Advanced Collector Management
- System Management
**TS2 ONLINE TRAINING**

### Differences between TS1 and TS2 PLC System

**Pre-requisites:** None  
**Class Length:** 90-120 Minutes  
**Credits:** 4  
**Fee:** $200

Landis+Gyr offers both a one-way and a two-way power line carrier system. In this session participants will become familiar with the differences between the two systems.

**Audience:** AMI System Administrator, Network Administrator, Metering and other personnel who will be involved with the TS2 system.

- TS2 Communication Path  
- Endpoints Supported  
- Find Process  
- On Demand Eads  
- Substation Equipment  
- Plug and Play Functionality  
- Packet Timing  
- Demand Reset

### Command Center Setup and Management

**Pre-requisites:** None  
**Class Length:** 90-120 Minutes  
**Credits:** 4  
**Fee:** $200

User access, global settings and rules are established by the utility upon initial installation of Command Center. In this session, participants will learn how to setup Command Center for initial use, as well as become familiar with on-going processes and maintenance tasks.

**Audience:** AMI System Administrator, Network Administrator, Security Administrator and decision makers in all other departments within the utility.

- Command Center Overview  
- Organization Information Settings  
- Process Settings  
- Working with Command Center Licensing  
- Organization Locations  
- User Access Management

### TS2 Programming and Deploying Endpoints

**Pre-requisites:** None  
**Class Length:** 90-120 Minutes  
**Credits:** 4  
**Fee:** $200

Meters equipped with a Gridstream TS2 endpoint are “plug and play”. They arrive in operational state, ready to be installed in the field. In this session, participants will learn the steps necessary to deploy meters via Command Center, techniques for managing meter change-outs, as well as learn the default configuration settings of the TS2 endpoints.

**Audience:** AMI Administrator, Metering and any other personnel that will be programming meters in the meter shop or in the field.

- Configuration Groups  
- Monitoring Deployment  
- Deploying Endpoints  
- Managing the Meter Change Out Process
### TS2 Daily System Monitoring

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</table>

Command Center provides a variety of dashboard, reports, and graphical displays to assist in the monitoring of the network. In this session, participants will learn the day to day activities necessary for managing their system.

**Audience:** AMI System Administrator, Network Administrator, Metering and personnel involved in troubleshooting the system both in the office and in the field.

- Monitoring the AMI Dashboard
- Understanding the Meter History Viewer
- Utilizing the Log Viewer
- Using Status Groups

### PLC Command Center Reports

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Command Center provides a variety of reports that can be used to monitor and troubleshoot the PLC system, as well as reports used by the utilities customer service personnel. In this session, participants will become familiar with how to generate and analyze these reports. The session will cover both TS1 and TS2.

**Audience:** AMI System Administrator, Network administrator, Engineering, Billing and Customer Service personnel.

- Optics Reports
- Meter Exceptions Report
- Downstream Performance
- Service History Report
- Meter Change Out Report
- Billing Progress Report
- Endpoint Audit
- Signal Quality Reports
- Interruption Reports
- Daily Reads Status Report
- Outage Tracker
- Transaction Log

### PLC Command Center Billing

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Command Center provides billing personnel with tools needed to extract readings information for billing purposes. In this session, participants will learn how to setup billing extracts, as well as learn the reports provided to verify readings availability. This session covers TS1, TS2 and PLX.

**Audience:** AMI System Administrator and Billing personnel.

- Working with Billing Cycles
- Scheduling Data Extract
- Final Readings (TS2 and PLX)
- Data Extract Setup
- Utilizing the Billing Progress Report
**TS2 Implementing Demand Billing**

**Pre-requisites:** None  
**Class Length:** 90-120 Minutes  
**Credits:** 4  
**Fee:** $200

The purpose of the demand reset is to capture peak demand values and the times at which those values were recorded since the last time the reset procedure was executed. Command Center may be used to scheduled demand resets. In this session, participants will learn how to configure endpoints for demand reset and monitor demand reset success.

**Audience:** AMI System Administrator, Billing and Metering personnel.

- Setting up the Demand Billing Configuration  
- Demand Billing Scheduled Reads  
- Configuring Endpoints for Demand Billing  
- Demand Billing Impact to Data Extract

**TS2 Introduction to Interval Data**

**Pre-requisites:** None  
**Class Length:** 90-120 Minutes  
**Credits:** 4  
**Fee:** $200

The TS2 technology offers the collection of hourly interval data. In this session, participants will learn the requirements for setup of interval data, how to configure endpoints, and how to monitor incoming data.

**Audience:** AMI System Administrator, Engineering and Billing personnel.

- Understanding the Basics of Interval Data  
- Deployment Considerations  
- Viewing Interval Data in Command Center  
- Infrastructure Requirements  
- Setting Up Command Center

**TS2 Implementing Load Control (LCS)**

**Pre-requisites:** None  
**Class Length:** 90-120 Minutes  
**Credits:** 4  
**Fee:** $200

The Landis+Gyr Load Control Switch (LCS) allows TS2 Command Center to selectively control appliances such as air conditioners and water heaters to ease the load on a utility’s power system during peak demand times. In this session participants will get an overview of how to deploy Load Control endpoints, as well as learn how to set up configuration of Load Control using TS2 Command Center.

**Audience:** AMI Administrator as well as Billing and Metering personnel.

- Overview of Load Control  
- Schedule Sets  
- Configuration Groups  
- Load Control Schedules  
- Seasonal Schedules  
- Load Control Reports