

Instructor-Led Online Training Topics

Revised May 2021

CEMS New User with StackVision™

The StackVision New User topics are specifically for the new user. These topics cover the basic features of the StackVision software and the 8864 data controller. Participants will receive hands-on experience with StackVision and have ample time to cover the entire data acquisition system (DAS) and associated tasks.

Topics recommended for beginners:

Topic	Approximate Time	Topic Focus
CEMS Overview	1.5 hours	Users will identify and describe a typical CEM System and CEMS components.
CEMScope	1 hour	Users will identify and customize CEMScape components to create StackVision views, as well as use CEMScape functions to explore system parameters.
Data Controller Essentials	1.5 hours	Users will identify features and functions of the data controller, and become familiar with common menu options in order to perform frequently performed tasks.
DataLab and DataLab Viewer	1 hour	Users will explore DataLab and DataLab Viewer components and functionality in order to retrieve and review parameter data.
CalLab and Cal Gas Management	1.5 – 2 hours	Users will learn the role of CalLab in managing calibration data, as well as discover features of the StackVision Cal Gas Management tool.
ProcessNow	.5 hours	Users will identify the role of ProcessNow in data processing.
System Applications	1.5 – 2 hours	Users will become familiar with the Linearity, RATA, Stack Flow, and Fuel System tools available within StackVision to enter certification data.
System Monitoring and Reporting	1.5 hours	Users will learn to acknowledge alarms successfully and ensure that StackVision is communicating with the data controller, as well as explore common reporting tools.
Permit	.5 hours	Users will identify and review tools and reports associated with plant operating permits and 40CFR60.
Consoles	1.5 hours	Users identify console components and understand how to build, save and recall a custom console.

Data Review with StackVision

In these topics, participants will learn how to use StackVision to identify, troubleshoot and resolve data anomalies in order to maintain the integrity and validity of CEMS data, Using DataLab, Callab and reporting tools available in StackVision. Participants will streamline their compliance activities.

Topics recommended for intermediate users:

Topic	Approximate Time	Topic Focus
Daily Report Review	1.5 hours	Part 75 Review – Monitor calibrations, exception events, average data, MDSUB, operating data, and ProcessNow Part 60 Review – Monitor downtime/excess emissions events, rolling/block averages, and geometric averages
Using DataLab to Troubleshoot*	1.5 – 2 hours	Explore DataLab and DataLab Viewer components and functionality in order to retrieve and review parameter data.
Navigating and Understanding Callab*	2 hours	Learn the role of Callab in managing calibration data, as well as discover features of the StackVision Cal Gas Management tool. <ul style="list-style-type: none"> • Understand the requirements of the Calibration Error Test • Discuss data validity and failed test • Add a 7-day Calibration Drift Test and a Cycle Time Test
Understanding ProcessNow*	1 hour	Explain ProcessNow Logic <ul style="list-style-type: none"> • Define procedures for reviewing plant operational data • Discuss ProcessNow Sequences and Tasks • Troubleshoot ProcessNow errors
System Applications	1.5 hours	<ul style="list-style-type: none"> • Review Linearity, CGA record entry procedures • Examine RATA record entry procedures • Review Stack Flow Monitoring entry procedures • Discuss usage of the Appendix D – Fuel Analysis Tool • Review test extensions and exemption procedures
Certification Events	1.5 hours	<ul style="list-style-type: none"> • Comprehend the importance of filing a certification event • Ascertain when a certification event is required and review specific events • Employ StackVision to file an event record
Periodic Reports	1 hour	<ul style="list-style-type: none"> • Alarm History & Comprehensive Alarm History • Cumulative Emissions • Emissions & Performance Summary • Opacity Performance Summary • Performance Summary • Peaking Unit Qualification • Operating Load Analysis • Analyzer Range Evaluation • Creating Linked Reports

*This is the same material covered in the QuickStart to StackVision and CEMS New User with StackVision.

ESC Spectrum

10801 N. MoPac Expressway | Building 1, Suite 200 | Austin, TX | 78759
escspectrum.com | 512-250-7900

Using StackStudio

These topics are designed for users who are experienced in configuring ESC|StackVision. Participants will be introduced to the configuration tools available in ESC|StackStudio and will explore the SQL Server -based architecture of StackStudio while learning how to make significant edits to a StackVision configuration. In addition to identifying the steps necessary for completing configuration changes and updates, completion of all topics will demonstrate how StackStudio can be used for validation and error-checking tasks.

Topics recommended for intermediate users:

Topic	Approximate Time	Topic Focus
StackVision Configuration Overview	1 hour	<ul style="list-style-type: none"> Overview of the configuration architecture Establish the many ways to access configuration files, to save configuration files and to navigate the StackStudio environment
Data Definition and Control	3 hours	<ul style="list-style-type: none"> Understand how data flows through your StackVision system from data controller to StackVision server Gain familiarity with the location and features of StackStudio configuration editors Recognize configuration information specific to parameters, data controller channels, calibrations, averaging, digital expressions and alarms
System Setting	1.5 hours	<ul style="list-style-type: none"> Identify configuration information in StackStudio which customizes the way certain StackVision utilities are used Review steps necessary for performing system management tasks in the StackVision application
Data Processing	1.5 hours	<ul style="list-style-type: none"> Recognize the ProcessNow components organized and configured in StackStudio Review the steps for using the StackVision Task Scheduler Wizard to automate processing tasks configured in StackStudio
Data Reporting	1.5 hours	<ul style="list-style-type: none"> Assess the information configured using the Regulatory Programs configuration editors which prepares data for accurate reporting Examine XML EDR and report settings information kept in StackStudio Review the procedure for creating a linked report using Microsoft SQL Server Reporting Services Customizing Linked Reports

ESC Spectrum

Data QA/Certification with StackVision

These topics are designed to show participants how to utilize ESC|StackVision in order to complete required DataQA and CEMS Certification procedures. Topics cover the theory of Certification/On-going Test Events and Quality Assurance procedures required for 40 CFR 75 quarterly reporting, discussions on linearity, RATA, Flow- to- Load, 7-Day Calibration Error/Drift Test, cycle time response tests, daily calibrations, formula verification and missing data algorithms.

Topics recommended for intermediate users:

Topic	Approximate Time	Topic Focus
Part 75 Initial Certification Procedures	1.5 hours	Users will identify and understand the steps and tests required for Initial Certification under 40CFR75, as well as use StackVision to enter records of these tests
Data Quality Control	3 hours	Users will understand regulatory requirements associated with Calibration Error tests and Flow Interference checks. In this module, users will also use StackVision to view reports associated with daily quality control and view Calibration test records.
Quarterly Quality Assurance	1.5 hours	Users will identify regulatory requirements for quarterly quality assurance tests, including Linearity Checks, Flow-to-Load Tests, and Leak Checks. In addition, users will use StackVision record the results of these tests.
Semi-Annual or Annual Quality Assurance	1.5 hours	Users will understand the regulatory requirements and calculations necessary for RATA testing, and using StackVision to validate RATA tests.
Optional Methods for Gas and Oil-Fired Units	1.5 hours	Users will understand and identify certification testing required for Appendix D and Appendix E units.
Diagnostic and Recertification Testing	1 hour	Users will understand the steps and testing policies for 40CFR75 diagnostic and recertification testing, as well as procedures for entering these tests into StackVision.
Record Keeping	.5 hours	Users will identify 40CFR75 record keeping and QA/QC plant requirements, and how to use StackVision to comply with these requirements.

Using ECMPS

These topics will aid the participants in understanding the proper steps for preparing, evaluating and submitting an XML EDR with the EPA's ECMPS Client Tool. Participants will review the XML schema and the ECMPS Client to acquire the tools necessary to successfully submit an XML report to EPA. The Reporting Instructions provided by EPA have been incorporated to eliminate the need to search in multiple places for an error resolution.

Topics recommended for advanced users:

Topic	Approximate Time	Topic Focus
What is XML and ECMPS	1 hour	Users will define and become introduced to the ECMPS Client Tool and XML.
Overview of ECMPS	1 hour	Users will identify and begin familiarization with the ECMPS Client Tool, as well as understand error codes within ECMPS.
Working with the Monitoring Plan	.5 hours	Users will evaluate, correct errors, and generate a printed monitoring plan using the ECMPS Client Tool.
Using StackVision for XML Reporting	1.5 hours	Users will identify the role of StackVision in XML reporting and use StackVision to work with the corrected monitoring plan.
Resolving QA/Emissions Errors	1 hour	Users will evaluate, view, and correct QA and Emissions Errors using the ECMPS Client Tool.
Monitoring Plan Data	1.5 hours	Users will utilize information gathered from the ECMPS Reporting Instructions to resolve Monitoring Plan data errors.
Quality Assurance and Certification Data	1 hour	Users will utilize information gathered from the ECMPS Reporting Instructions to resolve Quality Assurance and Certification data errors.
Emissions Data	1 hour	Users will utilize information gathered from the ECMPS Reporting Instructions to resolve Emissions data errors.

Basic Part 60/Part 75 Regulations

These topics provides a better understanding of the 40CFR75 (Part 75) and 40CFR60 (Part 60) regulations behind specific responsibilities. Participants will become familiar with terms and acronyms and understand the reasoning behind testing requirements and associated performance specifications.

Topics recommended for intermediate users:

Topic	Approximate Time	Topic Focus
Introduction to Regulation	1.5 hours	<ul style="list-style-type: none"> • Air regulations timeline • Laws verses regulations • Programs overview (NSPS, ARP, NBP, CAIR)
Monitoring Requirements and Certification	2 hours	<ul style="list-style-type: none"> • Monitoring requirements • Certification fundamentals • Backup monitors
Monitoring Fundamentals	2 hours	<ul style="list-style-type: none"> • Span and range • Data validity • Missing data substitution • Diluent capping • Full-scale exceedances • Special rules for coal-fired units with SO₂ monitors
QA/QC Recordkeeping and Reporting	1.5 hours	<ul style="list-style-type: none"> • QA/QC Test • Recordkeeping requirements • Reporting
Excepted Method	1.5 hours	<ul style="list-style-type: none"> • App. D, E & G methodology • Low mass emissions (LME) units
Part 60 Regulations	2 hours	<ul style="list-style-type: none"> • Subpart A – General Provisions • Subpart D, Da, Db, GG and KKKK specific limits • Navigate the subparts

Data Controller Training

These topics provide an introductory basic overview of the ESC 8832 Data Controller highlighting features, security and navigation. Additionally, participants will go “under the hood” and review the I/O cards, firmware and internal functions. Participants will learn how monitor calibrations, alarms and real time displays, as well as system settings and status, and the use of the MODBUS interface.

Topics recommended for intermediate users:

Topic	Approximate Time	Topic Focus
Data Controller Familiarization	1 hour	A basic overview of the 8864 Data Controller highlighting features, security and navigation.
Under the Hood	.5 hours	Covers the “guts” and “brains” of the data controller, with concentration on I/O cards, firmware and internal functions.
Data Controller Operation	1.5 hours	An exploration of different connection and log in methods of using and navigating the data controller.
Data Controller Configuration	3 hours	Address how and what to enter in the various configuration menus and fields as well as the correct settings in the configuration, and what will the end result will be.
Working with Calibrations, Alarms and Real Time Displays	1.5 hours	How to set up, initiate and monitor calibrations. Looks at the different controller alarm types, and covers the many Real Time displays available and the benefits of each.
System Settings and Status	1 hour	Looks at the current status of the system with regards to settings previously configured and using the various status menus to get a broader system status.
Using the MODBUS Interface	1 hour	Will address the modbus settings and registries on both the Modbus Server and Client.