

CEMS Fundamentals Training Program Outline

CEMS Fundamentals is comprised of three modules designed to focus on specific aspects of Continuous Emissions Monitoring System Operations.

Module 1- CEMS Basics

- Section 1: What is a CEMS
 - CEMS Overview and Background
 - CEMS Applications and Benefits
 - System Components
- Section 2: CEMS Methodologies
 - In-Situ CEMS
 - Extractive CEMS
- Section 3: Instrumentation
 - Gas Concentration
 - Temperature Measurement
 - Flow Monitoring
- Section 4: Regulations
 - Regulatory Landscape
 - EPEA Approvals
 - Codes and Directives
- Section 5: The Quality System
 - Quality System Objectives
 - Scope of the Quality System
 - Quality Plans

Module 2- CEMS Operations

- Section 1: Installation and Commissioning
 - CEMS Location and Siting
 - Port Location Requirements
 - Representative Sampling
 - Section 2: Certification
 - Conditioning Test Period
 - Operational Test Period
 - Component Replacement and Recertification
 - Section 3: Inspection, Verification and Calibrations
 - Inspections and Data Review
 - Verifications
 - Calibrations Adjustment
 - Section 4: Maintenance and Corrective Action
 - Routine Preventative Maintenance
 - Non-Routine Preventative Maintenance
 - Corrective Action and Troubleshooting
 - Out of Control Conditions
 - Section 5: Performance Testing
 - Cylinder Gas Audits (CGAs)
 - Relative Accuracy Test Audits (RATAs)
 - Source Emission Testing
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Module 3- Regulatory Compliance

- Section 1: Approvals and Monitoring Plans
 - EPEA Approvals
 - Deviations and Authorizations
 - Monitoring Plans
 - Section 2: Quality Assurance Plans
 - Quality Assurance Content
 - Quality Control Content
 - Appendices
 - Section 3: CEMS Data Reporting
 - Electronic Database Reporting
 - Valid Hours
 - Percent Availability
 - Section 4: Reporting
 - Monthly IAM Reporting
 - Annual IAM Reporting
 - AEIR Reporting
 - Section 5: Audits
 - Audit Preparation
 - Audit Scope
 - Audit Findings and Next Steps
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