A Basic Understanding of Air Emissions Compliance Obligations

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Baseline for the Rules
Baseline for the rules

- Air programs are defined at the Federal Level

- “Rules” are organized & found within the Code of Federal Regulations (CFR)

- The CFR is made up of various Titles representing regulations defined by various departments & agencies of the Federal Government

- Title 40 – covers the USEPA mission for the protection of the environment

- Source obligations are defined under Parts and Subparts of Title 40
Primary Source Identification within the rules driven by:
- Industry Type
- Unit Type
- Fuel Type(s)

Secondary Source Identification within the rules driven by:
- Construction Date
- Commencement of commercial operation
- Unit Operating Conditions/Unit Capacity
Breaking the code

40CFR Part 60 Subpart Db

Protection of the Environment

New Source Performance Standards (NSPS)

Defines Source ID, Monitoring & Reporting
National Emission Standard for HAPS (NESHAPS)

Protection of the Environment

NESHAP Definitions for Industrial Boilers
Breaking the code

New Source Performance Standards (NSPS)

40CFR Part 60 Subpart Ja

Protection of the Environment

Standards of Performance for Petroleum Refineries
Breaking the code

Compliance complexity driven by applicable rules

- 40CFR Part 60: Criteria Pollutants
- 40CFR Part 63: NESHAPS/MACT Standards
- 40CFR Part 75: XML EDR Reporting/MDS
- Title V Permit: SU/SD Conditions/Limits
- Consent Decree: Settlement Conditions
Minimum requirements are set out in the Federal Codes

States can make the requirements more stringent than the Feds

State regulators are responsible for enforcement of the “Rules”

Enforcement is managed through the Title V Operating Permit process

Local regulators can add additional requirements

Corporate commitments through consent decrees can add even more
Air Permit:
- Puts real requirements on the Federal Guidance
- Sets limits based on fuel type(s) & operating conditions
- Establishes SU/SD criteria and grace periods
- Defines monitoring & reporting criteria
Controls & monitoring

Controls:
- Devices designed to reduce emissions
- One or more devices may be needed to meet your obligation
- Once the controls are in place you have to demonstrate compliance
Controls & monitoring

Monitoring:
- Periodic, Continuous or Predictive
- Opportunity to optimize your monitoring methodology
- Minimize the introduction of errors
Data collection & reporting

- Real Time Data Collection
- Data Validity & Data Calculations Consistent with Rules
- Averages in Reportable Format(s)
- Historical Database Supporting Quarterly Reporting
- Home Grown vs 3rd Party Solutions
Initial Data Validations

Modbus TCP/IP or OPC

10-sec 1-min 6-min 15-min 1-hour

Data Historian
The PARCserver suite of applications is in the powerhouse behind the speed and efficiency with which dataPARC products retrieve and display data.

Data Collection
Data collectors utilize "store and forward" technology to buffer data, ensuring maximum integrity. Hundreds of OPC and custom servers are available to interface with your automation layer.

Automation Layer
PARCserver is capable of acquiring high frequency data from all the automation and control systems in the plant. These systems include PLCs, DCSs and others.

Database
Complex Calcs
Audit Logs
Agency Reports

DCS

Plant I/O & non-CEMS
Modbus TCP/IP

NOx  Flow
CO  PM
O2  COMS

3rd Party Access
Analyte/Excel
Performance Monitoring
Statistical Aggregation
OPC/DA
OPC-HDA
Elastics
ABRS
Allen-Bradley
Data, S
Factors
Management
DAS/DAHS/DARS
Avoiding pitfalls, pratfalls and dangerous situations

- Use the Rules to find your source baseline
- Optimize your site-specific advantages allowed within the Rules
- Due diligence when evaluating control technologies & monitoring methodologies
- Talk to “like-kind” sources with similar environmental challenges
- Conduct thorough risk assessment associated with compliance investments
- Ask for help where needed
Questions?