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Air Compliance Auditing - Panel & Engineered Lumber Facilities

PELICE

Atlanta, Georgia - April 8, 2016

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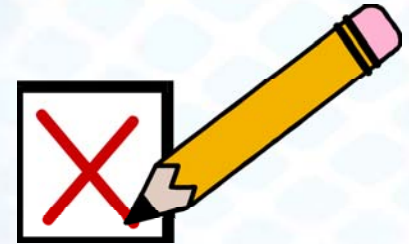
Environmental Management Goals for PEL Facilities

- > With maximum efficiency, systematically and completely comply with:
 - ❖ Legal obligations
 - ❖ Internal policies, standards and procedures
 - ❖ Societal expectations
- > Remove / minimize impediments to business operations
- > Preserve / improve the image of the organization
- > Prioritize environmental activities to achieve the highest returns and effectiveness

Evaluating Environmental Compliance

> The Worst Ways

- ❖ Regulatory inspection findings and enforcement actions against you
- ❖ Enforcement actions against others
 - ◆ Other company facilities
 - ◆ Competitor facilities
 - ◆ Other facilities / companies
- ❖ Citizen lawsuits
- ❖ Compliance certifications



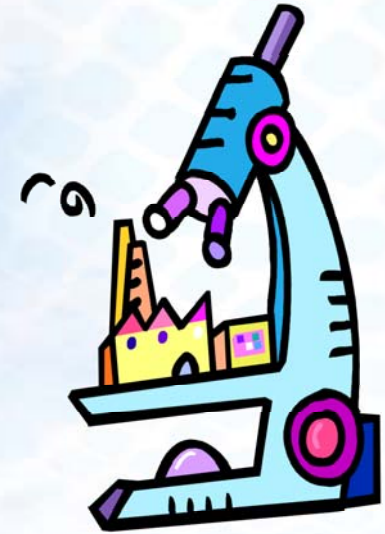
Evaluating Environmental Compliance



- > Better Ways
 - ❖ Routine internal data analysis and review
 - ❖ **Self-evaluations and audits**
 - ❖ Peer / industry contacts and sharing
 - ❖ EHS management system certification
- > Environmental auditing is thus a critical component of a functional and effective environmental management system

Air Compliance Auditing Challenges

1. Number and complexity of air regulations is significant
2. Air regulations are derived from combination of:
 - ❖ Federal programs
 - ❖ State regulations
 - ❖ Local regulations



Air Compliance Auditing Challenges

3. Air regulations are not mature—they are continually being added, modified, revised
 - ❖ NAAQS - Lower Pb and PM_{2.5} standards; new 1-hr NO₂ and SO₂ standards, new 8-hr ozone standard
 - ❖ NSR - Court cases on applicability; PM_{2.5} Increments; PM_{2.5} NSR applicability rules
 - ❖ NESHAPs - Changes to treatment of SSM emissions; new boiler standards, new engine standards, residual risk
 - ❖ GHG - CO₂ as regulated NSR pollutant when subject to regulation under remaining portions of the Tailoring Rule not invalidated
 - ❖ Modeling - New models/guidance for Class 1 areas and short-term NAAQS
 - ❖ etc....

Air Compliance Auditing Challenges

4. Air regulations and air permitting processes are different (sometimes significantly) between states and EPA regions
 - ❖ Attainment vs. nonattainment vs. other designations
 - ❖ Separate or combined construction/operating permit programs
 - ❖ Different air permit applicability procedures and exemptions
 - ❖ Hybrid SIP/PSD/Title V permitting programs
 - ❖ State "BACT" or SIP rules only
 - ❖ Modeling for new construction or only PSD
 - ❖ Air toxics - emissions, modeling, risk?
 - ❖ Variations in permitting and certification requirements
 - ❖ Paper vs. electronic emissions and reporting requirements; different software between states

Air Compliance Auditing Challenges

5. Air regulations applicable to a PEL facility are dependent on:
 - ❖ Types of equipment and processes
 - ❖ Level of emissions (major or minor source)
 - ❖ Location (e.g., attainment/nonattainment)
 - ❖ Air permitting history (grandfathering paradigm)

Air Compliance Auditing Challenges

6. Compliance most often NOT determined by direct measurement of emissions
 - ❖ Complex parametric monitoring systems and periodic testing common
7. Violations are as much due to what has not been done (or done incorrectly) in the past as they are about what is not being done (or being done incorrectly) in the present
 - ❖ Identifying past errors can be extremely difficult
8. Few EH&S professionals within industry can focus on air; instead, most have to be generalists

Key Questions when Auditing for Air Compliance

1. Am I in compliance with the air permits I have?
 - ❖ Explicit requirements
 - ❖ Implicit requirements
2. Do the air permits I have correctly encompass all obligations of local, state, and federal air programs/rules?
3. Do I have all the air permits I need?

Example- Compliance Classification

- > Emission unit subject to CO emission limit
- > CEMS required by NSPS; must operate continuously; allowance provides for at least 95% uptime
 - ❖ If during the period, the monitor exactly achieves the 95% uptime, then there is still a 5% “hole” in the data
 - ❖ Consider that there are really 2 requirements embedded here, first is the emission limit, the second is for the monitor

Example- Compliance Classification

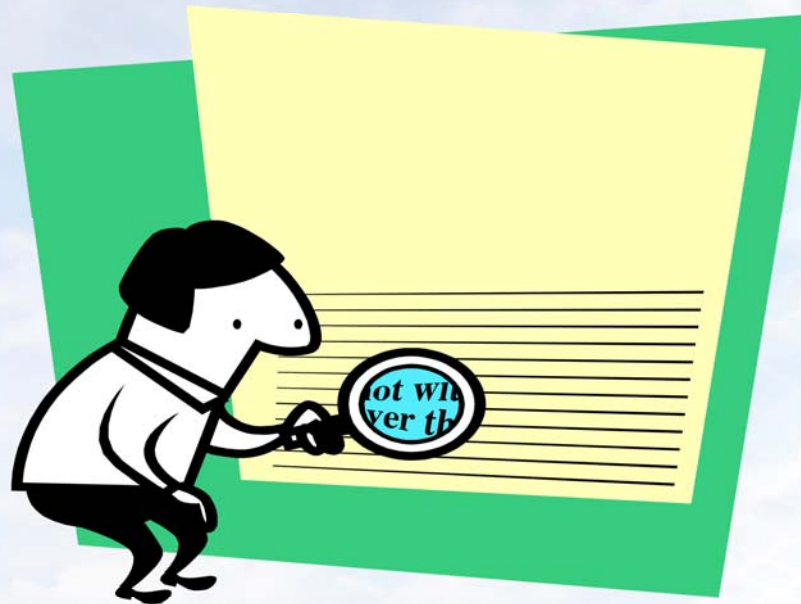
> Monitoring Requirement

- ❖ If monitor uptime above 95% then classify as continuously compliant
- ❖ If below 95% uptime, not compliant

> Emission Limit Requirement

- ❖ If monitor was up more than 95% of the time, could conservatively declare only intermittently compliant
- ❖ If monitor data was back-filled following the NSPS procedures or if a facility wants to take a less conservative approach, then could declare continuously compliant

Review and Assimilation of an Air Permit



Assimilating the Requirements of an Air Permit

- > Understand process and emission unit nomenclature
- > Consider format and parts of permit
 - ❖ General provisions, facility-wide requirements, emission unit-specific requirements
 - ❖ Categories of requirements
- > Note facility source classification(s)
- > Identify key state and federal regulations
- > Discern conditions derived from regulation versus self-imposed
- > Start getting familiar with compliance assurance conditions

Dissecting an Air Permit

Step 1: Qualify conditions with regard to their inferred compliance status.

Compliance inherent ⊕

Compliance can/must be inferred ⊕

Compliance is directly verifiable

Focus of audit.

Step 2: Consider explicit and implied tasks derived from conditions.

Tasks explicitly mandated ⊕

Tasks implied by condition ⊕

Step 3: Define and classify compliance tasks. ⊕

PEL Facilities - Dissecting Permit Examples (1 of 3)

- > Condition:
 - ❖ Facility shall not discharge or cause the discharge into the atmosphere from Furnaces and Dryers, any emissions which contain PM in excess of X lb/MMBtu
- > Compliance?
 - ❖ Compliance can be inferred
 - ❖ Review PM performance testing results

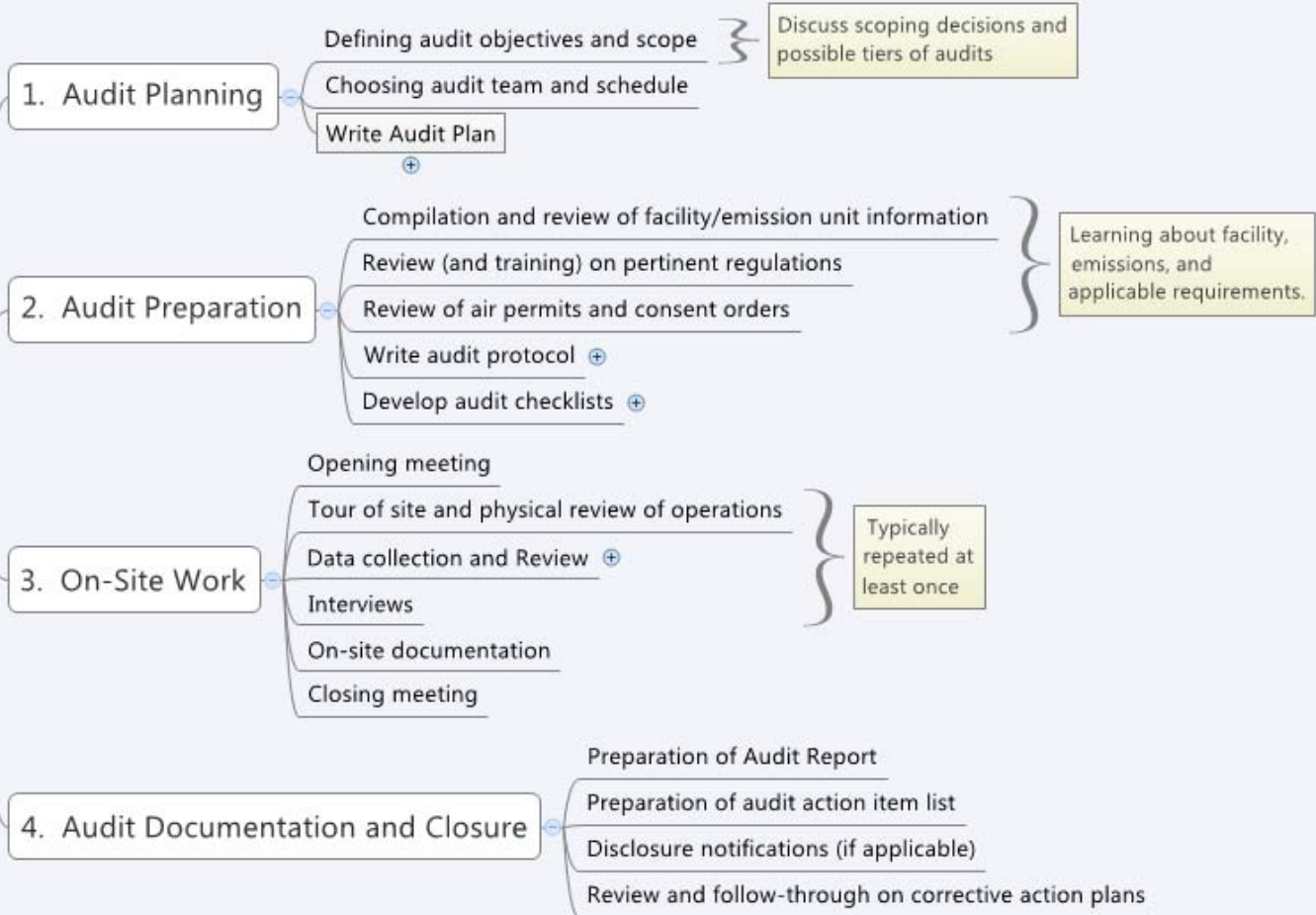
PEL Facilities - Dissecting Permit Examples (2 of 3)

- > Condition:
 - ❖ Before April 8, 2016, the facility shall install, start up, maintain and operate Regenerative Catalytic Oxidizer to control VOC emissions from the presses and dryers, which are designed to reduce VOC emissions, such that facility-wide VOC emissions are less than the BACT limits
- > Compliance?
 - ❖ Compliance is inherent
 - ❖ If RCO started up before today

PEL Facilities - Dissecting Permit Examples (3 of 3)

- > Condition:
 - ❖ The facility shall conduct NO_x and CO tests on the RTO exit stack, at 12-month intervals. The tests shall be conducted at the maximum anticipated production rate.
- > Compliance?
 - ❖ Compliance can be inferred
 - ❖ Confirm start-up date, initial test date, subsequent annual testing, and review the results of the testing

General Flow of an Air Compliance Audit



Possible Tiers in Scope of Air Audit

- > Tier 1- “Compliance with Air Permit(s)?”
 - ❖ Assess compliance with requirements derived from existing air permit(s), for example:
 - ◆ Collection and review of explicit monitoring data and reporting requirements
 - ◆ Verification of accuracy and appropriateness of emission test and direct emission measurements
 - ◆ Defining, considering, and assessing implicit requirements of an air permit

Possible Tiers in Scope of Air Audit

- > Tier 2- "Correctness of Air Permit(s)?"
 - ❖ Additionally, assess completeness and accuracy of existing air permit(s), for example:
 - ◆ All numerical values and calculations (operating limits, emission limits, parameter limits)
 - ◆ Correct regulatory interpretations
 - ◆ Confirmation that compliance assurance methods sufficient (and appropriate) to verify compliance with emission limits
 - ❖ Requires an independent regulatory applicability analysis

Possible Tiers in Scope of Air Audit

- > Tier 3- "Have Necessary Air Permit(s)?"
 - ❖ Additionally, assess whether all necessary permits have been obtained for capital projects and process changes
 - ◆ Detailed review of facility operating history
 - ◆ Review of capital appropriation requests
 - ◆ Review of maintenance expenditures
 - ◆ Review of raw material, production and utility trends
 - ◆ Interviews with plant personnel
 - ◆ Tour of facility property

Examples of Focus Quadrant Issues (Tier 1 Audit)

	Higher Risk/Liability	Lower Risk/Liability
Higher Likelihood	<ul style="list-style-type: none"> • Exceedance of explicit or test-derived operating limits • Exceedance of NSR or Title V avoidance limits • Exceedance of BACT, NSPS or NESHAP emission limits with narrow margins • Stack tests (method, results, and interpretation) • Errors/omissions on annual certification • ODS maintenance and tracking 	<ul style="list-style-type: none"> • Semiannual report errors/ omissions • Missing monitoring data; monitoring data excursions • Incomplete APC or other maintenance records • Incomplete emissions tally recordkeeping • Tardy or missing reports • Upset reporting obligations • Fugitive dust control practices or other work practice deficiencies • Errors on emissions fee statements
Lower Likelihood	<ul style="list-style-type: none"> • Exceedance of BACT, NSPS or NESHAP emission limits with high margins • Misstatements or intentional omissions on annual certification • Tardy renewal application 	<ul style="list-style-type: none"> • Monitoring data critical to operations • Generally applicable SIP rule limits with wide compliance margins • Access to records and permit • Incomplete SOPs

Examples of Focus Quadrant Issues (Tier 3 Audit)

	Higher Risk/Liability	Lower Risk/Liability
Higher Likelihood	<ul style="list-style-type: none">• Unpermitted modifications at major sources• Incorrect application of RMRR exemption• Incorrect emission calculus for NSR non-applicability determination• Changes to NSPS grandfathered emission units	<ul style="list-style-type: none">• Unpermitted insignificant activities• Improperly permitted emergency use engines• Monitoring methods inconsistent with permit• Incorrect application of SIP permitting exemptions
Lower Likelihood	<ul style="list-style-type: none">• Unpermitted new emission units• Incorrectly permitted emission units (e.g., wrong capacity)	<ul style="list-style-type: none">• Replacement of emission units or APC without proper notifications

Common Air Compliance Issues



Common Emissions Limit / Operating Limit Issues

- > Equipment capacity information
 - ❖ Actual operating data never reconciled with original application representations
 - ❖ Increases due to production creep invalidating original emissions assumptions
- > Fuel certifications missing or not correct
- > No fugitive dust control practices or SOPs
- > Historical limits based on outdated emission factors

Common Testing Issues

- > Missed or tardy tests
- > Missed or tardy test protocols/notifications
- > Incorrect reference methods used
- > Not operating control equipment to max/min ranges
- > Poor or incomplete test reports
 - ❖ No production data tallied
 - ❖ Incorrect or inappropriate units for results
- > No accounting for by-pass stacks, emergency pressure releases, dilution air dampers, etc.

Common Monitoring/Recordkeeping Compliance Problems

- > Monitoring data outside defined ranges
- > No calibration records for monitoring equipment
- > Poor or incomplete data logs
 - ❖ Dates & Times
 - ❖ Signatures vs. Initials
 - ❖ OK vs. Values
 - ❖ Weekends & Holidays
 - ❖ Incomplete Forms
 - ❖ Pencil Whipping
 - ❖ Lost or overwritten electronic files

Common Reporting Problems

- > Missed reporting requirements
- > Wrong compliance status
 - ❖ “continuous compliance” vs. “intermittent compliance” vs. “non-compliance”
 - ❖ Partial records review
 - ❖ Incomplete audit of requirements
- > Late
- > Forms Completed Incorrectly
- > No Compliance Plan
- > Wrong Responsible Official

Questions?

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