



Air Permit Compliance Auditing

Process, Tips, Continuous Improvement

IERG Air Seminar

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AUDIT

Introduction

Conducting Effective CAAPP Permit Compliance Audit

Objectives of Audit

- Continuous Improvement

Elements of Audit

- Pre-Audit Preparation
- Activity Onsite
- Checklist

General Structure of CAAPP Permit

- Tips



Objectives of Compliance Audit

Element of Continuous Improvement – Improve Environmental Performance

■ Key Objectives:

- Identify areas of non-compliance (Legal Finding) and recommend corrective actions.
- Identify “Best Practices” where applicable.
- Sometimes includes corporate standards or EHS Management System.

■ Legal Issues:

- Often conducted under Attorney-Client Privilege
 - Review permit conditions and applicable regulations.
 - Evaluate facility operations and emissions monitoring.
 - Assess recordkeeping and reporting practices.
 - Disclosure of noncompliance to agency through legal self-disclosure procedure (the primary mechanism in Illinois is USEPA’s eDisclosure system).
- **Outcome:** Ensure the facility meets all Title V requirements, “passes” regulatory inspections, and avoids enforcement actions.

Audit Methodology



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Elements of Audit

■ Document Review (preparation)

- Review permit conditions, facility records, compliance history, and regulatory requirements.

■ On-Site Inspection

- Opening meeting
- Inspect emission units, control equipment, and monitoring systems.
- Interview facility personnel to understand operations and compliance practices.
- Review and analyze information (emissions data, monitoring logs, and reporting records).
- Compare actual emissions to permitted limits.
- **Compliance Assessment**
 - Identify areas of non-compliance and potential violations.
 - Document findings and corrective actions.
 - Communicate with facility (no surprises).
- Closing meeting & report

Preparation



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Activities prior to the audit.

▪ Review the Title V Permit

- Obtain a copy of the facility's CAAPP Title V permit and construction permits issued since last renewal.
- Identify all applicable requirements, including:
 - ✓ Emission limits.
 - ✓ Monitoring, recordkeeping, and reporting requirements.
 - ✓ Operational standards.
- Enforcement History
 - ✓ Review any enforcement actions taken against the facility (e.g., fines, penalties).
 - ✓ Verify the facility has addressed all enforcement issues and returned to compliance.

▪ Gather Supporting Documents

- Facility records (e.g., emissions data, monitoring logs, reports).
- Previous compliance reports and inspection records.
- Prior audit findings (confirm that corrective actions implemented).
- Applicable federal and state regulations (e.g., NSPS, NESHAP, Illinois Administrative Code).
- Notice of Compliance Status Report (NOCSR)
- Create a checklist of permit conditions and compliance requirements.

▪ Federal, State, Local Rules

▪ Audit Protocols Available (e.g., STS, Intelex, VelocityEHS)

▪ Agency tools (e.g., USEPA Field Audit Checklist Tool replaced by the ECMPS 2.0)

▪ Self Developed Checklists

Key Areas of Focus



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What is Important?

■ Emission Limits

- Verify compliance with pollutant-specific limits.
- Review stack test results and Continuous Emission Monitoring System (CEMS) data.
- Review material or throughput limits (e.g., vapor pressure limits, raw material or product amounts)

■ Monitoring Requirements

- Ensure proper operation and calibration of monitoring equipment (e.g., CEMS, opacity monitors).
- Verify adherence to monitoring frequency and methods.

■ Recordkeeping

- Assess completeness and accuracy of records (e.g., fuel usage logs, maintenance records).
- Ensure records are retained for the required period (typically 5 years).

■ Reporting

- Review semi-annual compliance reports and deviation reports submitted to the Illinois EPA.
- Verify timely submission of reports and notifications.

■ Operational Standards

- Confirm compliance with work practice standards (e.g., startup, shutdown, and malfunction procedures).
- Review required management plans (e.g., dust management plans)
- Evaluate adherence to operational limits (e.g., fuel type, operating hours).

■ Other Standards

- Requirements not explicitly in the permit (e.g., ODS regulation).
- Elimination of SSM provisions.

■ Standard Permit Conditions:

- General requirements applicable to all CAAPP permits (duty to comply, duty to maintain records, duty to report deviations).

Other Smaller Permitted Sources



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Non-CAAPP Permits

▪ Federally Enforceable State Only Permit (FESOP)

- Not CAAPP source because of permit restriction
- Verify compliance with pollutant-specific limits.
- Review stack test results and Continuous Emission Monitoring System (CEMS) data.
- Review material or throughput limits (e.g., vapor pressure limits, raw material or product amounts)

▪ Lifetime Operating Permit (LOP)

- The facility must emit less than 25 tons per year of combined regulated air pollutants (excluding greenhouse gases).
- Ensure records are retained for the required period (typically 5 years).

▪ Registration of Smaller Sources (ROSS) Program

- Very small sources that emit:
 - Actual annual emissions must be less than 7.0 tons per year (tpy) of combined pollutants (PM, CO, NO_x, SO₂, and VOM) ≤ 10 tons over past two years combined (initial qualification less than 5.0 tpy)
 - less than 0.5 tons/year of combined hazardous air pollutants (HAPs),
 - less than 0.05 tons/year of lead, and
 - less than 0.05 tons/year of mercury.
- Verify adherence to monitoring, methods and annual qualification.

▪ Keys for these sources

- Make sure that required records are maintained to ensure the facility still qualifies for the permit.
- Other Standards Still Apply
 - Although it may not be spelled out in the permit, state and federal rules still apply.
- Permit may not have been issued and must rely on the permit application
 - FESOP applied for never issued, applied for CAAPP permit (O₃ NA issue) never issued.
 - Follow what was represented in the application.

Example: requirements of Reciprocating Internal Combustion Engines (RICE) diesel-fired emergency generators.

- Insignificant and exempt from construction permit.
- 40 CFR Part 63 Subpart ZZZZ (RICE MACT) EGs limited to 100 hours/year for maintenance/testing.
- Use of ULSD fuel, conduct mandatory maintenance, and adhere to strict definition constraints.



Example: Chemical Plant Tank Storage

Permit includes heated storage tank limits:

Vapor pressure of stored material must be less than 0.5 psia

The storage temperature must be less than 350 °F (either v.p. or temp.)

Material stored includes a list (match permit application if specific)

Tank throughput cannot exceed 150 kgal/month

Requires monthly calculation of emissions to demonstrate emissions are below 5 tpy on a 12-month rolling basis (may have monthly limit too).

Records reviewed show the following:

Vapor pressure is approximated from a calculation based on material stored and storage temperature.

Storage temperature recorded in plant historian.

Any given tank stores multiple different materials in a month.

Finding:

Although records are kept, there is no monthly calculation of emissions maintained.

Corrective Action:

Maintain monthly emission calculation

Example Findings:

CAAPP Sources:

- Permit required stack drawings missing
- Missing inspection records
- Outdate plans (e.g., QA/QC, Fugitive Particulate Operating Program, CAM Plan)
- Annual Compliance Certification does not include construction permits
- Insignificant source inventory and determination

Deeper Dive:

- Capital projects authorization documentation missing and/or no construction permit applicability (MOC) documentation

Both CAAPP and Other Smaller Sources

- No inventory of Ozone Depleting Substance (ODS) containing equipment and service technician certifications
- Missing service records on emergency equipment (diesel fire pumps, emergency generators)

What to do-

- Implement corrective actions
- Look for systemic or cultural changes needed
- Identify desired permit changes for next renewal



Auditing FESOP in O₃ NA

2025 Reclassification of ozone nonattainment area (Cook, DuPage, Kane, Lake, McHenry, Will, and parts of Grundy/Kendall counties)

The EPA determined the area failed to meet the 2015 standard by the deadline, forcing a reclassification from “moderate” to “serious” nonattainment, effective January 2025.

Major Source in Moderate O₃ NA:

- 100 tpy NOx or VOM

Major Source in Serious O₃ NA:

- 50 tpy NOx or VOM

Reclassification was effective as of January 16, 2025

Illinois gave to January 16, 2026, to get application for FESOP less than 50 tpy or CAAPP permit holder?

What to do-

- Re-evaluate Emission Thresholds
- Permit Revisions/Applications
- Lowering Limits to remain a FESOP or Apply for CAAPP Permit.



Conclusion

Continuous Improvement



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Key Takeaways:

- A compliance audit helps ensure adherence to Title V permit requirements and Illinois EPA regulations.
- Identify needed changes in the permit.
- Proactive compliance reduces the risk of enforcement actions and improves operational efficiency.

Next Steps:

- Implement corrective actions and preventive measures.
 - ✓ Can involve changes to the facility culture.
 - ✓ Often involves access to records and documentation.
- Maintain regular communication with regulatory agencies.

Questions?

Thanks!

Write any extra information here.



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