

US EPA ARCHIVE DOCUMENT

simplifying

Compliance

Air Quality

Why should I care? I don't emit any air pollutants....and I'm exempt, right??



Outline of Topics



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- What Is Air Quality?
- The Clean Air Act
- Basic Definitions
- How Do I Know if I Need an Air Quality Permit?
- How Do I Obtain a Permit?
- What Does PTE Mean??
- Common Regulations That May Apply
- Why Correctional Facilities?
- Common Violations
- Air-Permitting Limits
- RMPs

What Is Air Quality?



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- A measure of the presence in the outdoor atmosphere of one or more contaminants, such as dust, fumes, gas, mist, odor, smoke or vapor in quantities and of characteristics and duration such as to be injurious to human, plant or animal life or to property or to interfere unreasonably with the comfortable enjoyment of life and property
- Example - Great Smoky Mountains

Visibility at the Great Smoky Mtns.



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Clean Air Act



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- The haze in the mountains is mostly due to the pollution created by fossil fuel-burning power plants, industrial facilities and motor vehicles.
- The worst case of air pollution, so far, happened in London when dense smog (a mixture of smoke and fog) formed in December 1952, and lasted until March 1953. In one week, 4,000 people died, and 8,000 more died within six months.
- The Clean Air Act was enacted to control air pollution on a national level. The first Clean Air Act was the Air Pollution Control Act of 1955, followed by the Clean Air Act of 1963, the Air Quality Act of 1967, the Clean Air Act Extension of 1970 and a Clean Air Act Amendment in 1977.
- The most recent Clean Air Act amendment was in 1990, and this involved numerous changes that directly affect YOU because it established a national permits program.

Basic Definitions



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- Air Quality Permit - Legally enforceable documents designed to improve compliance by clarifying what facilities (sources) must do to control air pollution
- Type of air pollutants:
 - PM and PM10 (10=microns in diameter or smaller)
 - Nitrogen Oxide (NO_x)
 - Sulfur Dioxide (SO₂)
 - Lead (Pb)
 - Carbon Monoxide (CO)
 - Volatile Organic Compounds (VOCs)
 - Hazardous Air Pollutants (HAPs)

How Do I Know if I Need a Permit?



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Common sources of emissions for correctional facilities

- Boilers (A boiler permit is not the same thing as an air quality permit.)
- Spray coating
- Woodworking shops
- Welding
- Generators (backup)
- Engines (stationary sources only)
- Water heaters
- Unpaved roadways

I Have My List---What Do I Do Next?



- Once you have a list of all your emission sources, then you'll need to calculate your PTE.

- PTE??????????? What's PTE???

What Does PTE Mean?



- PTE = Potential to Emit
- It's the potential of your facility to emit air pollution if it were to operate 24/7/52.

Maximum Hourly Rate * Potential Operating Hours * Emission Factor (EF)

Emission factors are a numerical representation of how much pollution is emitted per unit processed/manufactured/or utilized (see EPA's document AP-42 <http://www.epa.gov/ttn/chief/ap42/>).

Emission Factors



Example:

An emission factor for wood sawing may be expressed as 6 pounds of particulate matter emitted per ton of wood processed

Or 6 lbs./ton.

Combustion Emissions



PTE Uncontrolled =

$$(8.0 \text{ MMBtu/hr} \div 1,050 \text{ MMBtu/MMscf}) * 8,760 \text{ hr/yr} * \underbrace{84 \text{ lb/MMscf}}$$

Emission Factor from AP-42

$0.00762 \text{ MMscf/hr} * 8,760 \text{ hr/yr} * 84 \text{ lb/MMscf} = 5,606.4 \text{ lbs. or } \mathbf{2.8 \text{ tons per year}}$

*Still confused? Call DCA for assistance (number at end of presentation).

Common Regulations That May Apply



401 KAR 59:010 - New Process Operations

401 KAR 59:015 - New Indirect Heat Exchangers

401 KAR 52:030 - Federally enforceable permits for non-major sources

401 KAR 63:010 - Fugitive Dust

40 CFR 60 Subpart Dc - Standards of Performance for Small Industrial-Commercial-Institutional Steam Generating Units

Air Permitting Limits



Nothing is required (no registration or permit) if a source's PTE is

- <2 tpy(tons per year) of an HAP (hazardous air pollutant),
- <5 tpy of combined HAPs,
- <10 tpy of an RAP (regulated air pollutant) and
- The source is not subject to an NSPS (new source performance standard) or NESHAP (National Emission Standard for Hazardous Air Pollutants).

Registration is required if a source's PTE is

- ≥ 2 but < 10 tpy of a HAP,
- ≥ 5 but < 25 of combined HAPs,
- ≥ 10 but < 25 tpy of an RAP subject to an AR that does not specify the MOC (method of compliance),
- ≥ 10 but < 100 tpy of an RAP subject to an AR that specifies the MOC,
- ≥ 10 but < 100 tpy of an RAP that is not subject to an AR,
- If the source is subject to an NSPS or NESHAP,
 - < 10 tpy of an HAP,
 - < 25 tpy of combined HAPs and
 - > 25 but <100 tpy of an RAP subject to an AR that does not specify the method of control (MOC).

Air Permitting Limits



A state origin permit is required if a source's PTE is

- ≤ 10 tpy of an HAP,
- ≤ 25 tpy of combined HAPs and
- ≥ 25 but < 100 tpy of an RAP subject to an AR that does not specify the MOC.

A Title V permit is required if a source's PTE is

- ≥ 10 tpy of an HAP,
- ≥ 25 tpy of combined HAPs or
- ≥ 100 tpy of an RAP and
- The source's PTE is not limited below these thresholds by a permit (*conditional major*) or prohibitory rule.

* Prevention of Significant Deterioration (PSD) permits are major sources above Title V thresholds or certain industry categories with specific limits that are located in attainment areas.

*tpy = tons per year

Limiting Your Potential



- Federally Enforceable State Operating Permits (FESOP)
 - Conditional Major
 - Synthetic Minor
- These permits have restrictions on your emission to artificially limit your PTE to below major source thresholds.

How Do I Obtain an Air Permit?



- Perform a “walk-through” of your entire facility.
- Make a list of all emission sources since even things that seem harmless may not be, and complete PTE calculations.
- List all specifications of each piece of equipment.
- Print off copies of all MSDS (Material Safety Data Sheets) for all chemicals used by the university, how they are used and in what amounts per month or year.
- Determine if you need a permit or a registration.

How Do I Obtain an Air Permit?



- Complete all DEP 7007 series of forms or the DEP 7039A form that apply for your facility.
- Forms can be found at www.air.ky.gov.
- Call DCA with questions.

Common Violations



Most common violations for correctional facilities:

401 KAR 52:020 - Construction w/out permit

401 KAR 52:020 - Not submitting annual and semi-annual reports

401 KAR 52:020 - Not renewing permit six months prior to expiration date

401 KAR 52:030 - Compliance demonstration

401 KAR 63:050 - Exceedance of emission limitations

Asbestos



- Asbestos does not have to be removed.
 - It can be "encapsulated," but removal is the best long-term solution.
- Thorough asbestos inspection prior to starting work
- Written notification to DAQ 10 working days prior
- Certified asbestos contractor for removal
- Trained on-site supervisor during removal
- Disposal at approved landfill (cradle to grave)
- <http://www.air.ky.gov/asbestos/>

Risk Management Plans (RMP)



- What's an RMP?
- Many facilities handle chemicals that could pose a risk to the surrounding community if an accident were to occur. State and federal laws now require facilities that use any of 140 listed toxic or flammable chemicals to develop an RMP for preventing accidental releases and responding to any that might occur. The laws also require the facility to document its Risk Management Program in a Risk Management Plan (RMPlan).
- <http://www.air.ky.gov/programs/Hazardous+Chemical+Accidents-Prevention+and+Response+112r+Program.htm>
- www.epa.gov/oem/content/rmp/index.htm

Questions?



- For additional information via e-mail or phone:

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