Air Quality Permitting 101

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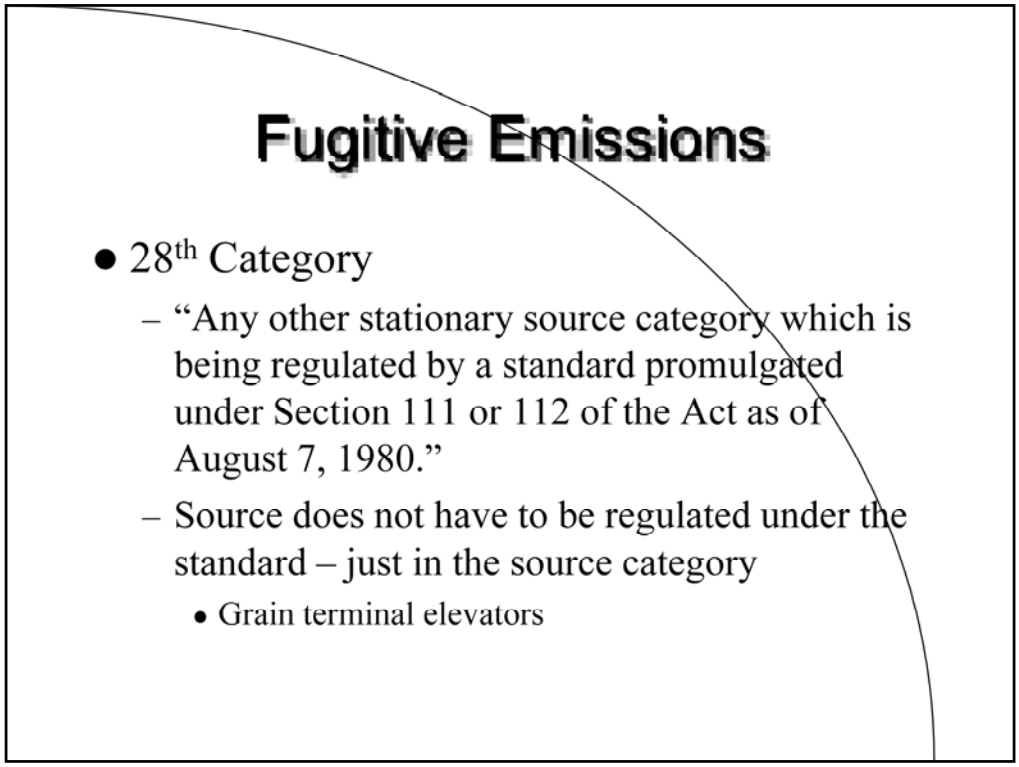
Air Quality Permitting

- Permitting Requirements
- Pre Application Steps
- Major vs Synthetic Minor Status

Fugitive Emissions

- When do I include fugitives
  - Any source in one of the 28 listed source categories for all pollutants
    - Boilers ≥250 MMBtu
      - (Aggregate size and only those associated with the boiler)
    - Chemical production plants, etc.
  - Always when calculating HAP emissions

Depending on how you count them, there are 27 or 28 source categories where fugitives must be included when calculating major/minor source size and when determining if a project is subject to permitting. There is a category that can be read as one, or as two.



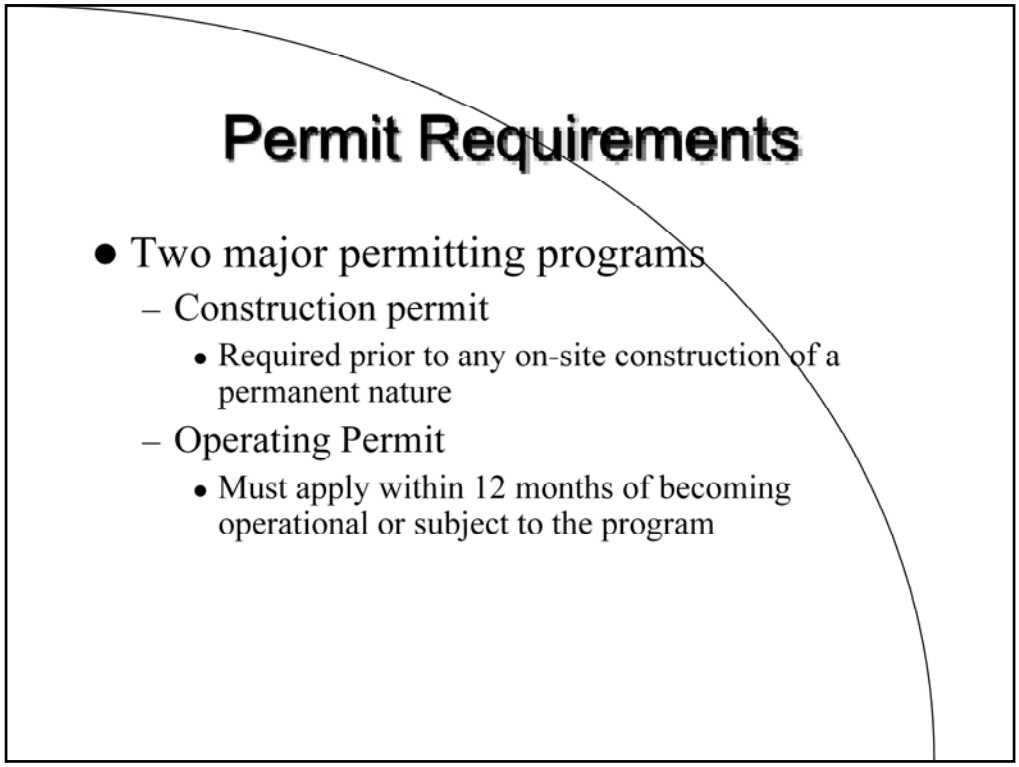
As stated, the "source category" being regulated must include fugitives. The source does not need to be subject to the standard.

Potential To Emit (PTE)

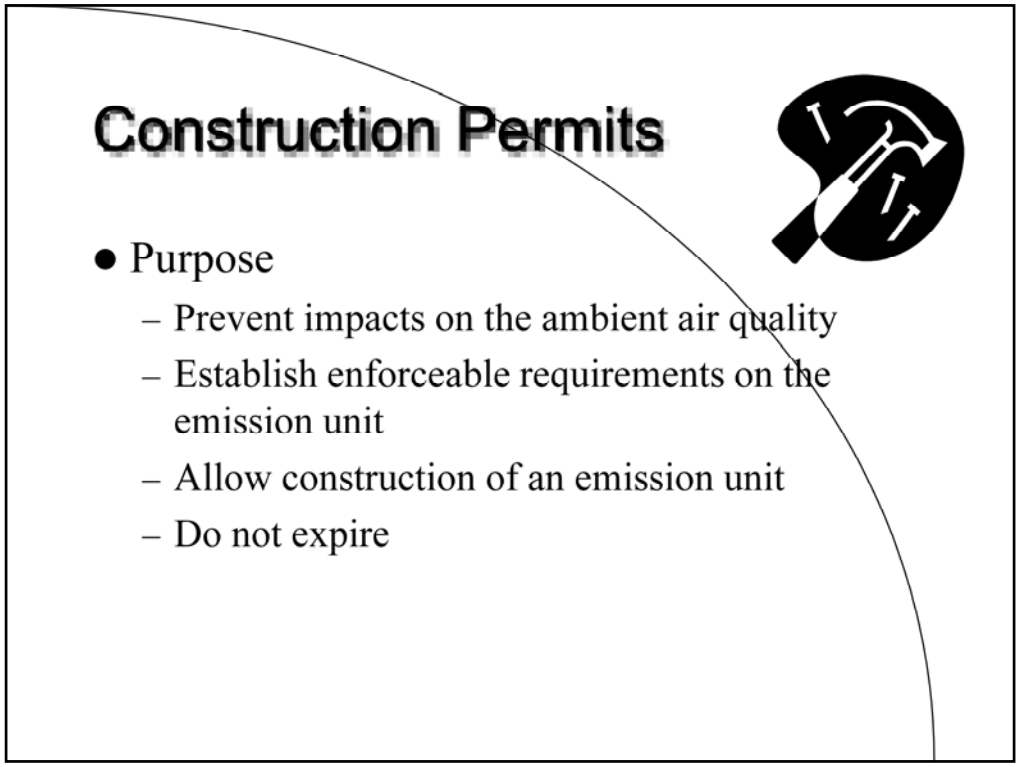
- What is PTE
  - "The maximum capacity of a stationary source to emit a pollutant under its physical and operational design."
  - Can only consider a "physical or operational limitation on the capacity" if enforceable

Since the permitting criteria are in tons per year, the calculation must assume the equipment is operating 24/7 or 8760 hours per year at its maximum physical and operational design.

An example of a physical limitation on equipment is the installation of a control device. An operational limitation would be hours of operation, throughput, etc. These have to be required by a permit or regulation before the source can take credit for them.



Permanent nature includes installation of building supports and foundations, laying of underground pipe work, and construction of permanent storage structures.



One thing that is confusing about our operating permit program is a clause that we must include in our permits. Title 129 requires that we state that all previous construction permits are superseded by the operating permit. This was added at the request of industry. The concern was that, if there was a violation, they would be in violation of both the construction permit and the operating permit.

Because the CP and OP programs are two separate programs that each have their own legal and regulatory requirements, an OP cannot completely supersede a construction permit. Only a CP can do that. In addition, OPs expire after five years. Because of this, the NDEQ has interpreted this clause to mean that while the OP is in effect, it supersedes all previous CPs. This interpretation is best for both the NDEQ and the source.

Example: A source goes out of business shortly before their operating permit expires and plans to sell the source, but will not do so until after the expiration date. If the OP supersedes the previous CPs and the permit expires, the new owner will have to go through the CP process before they can operate. Under our interpretation, the owners would be allowed to transfer the CPs and the new owner would be allowed to operate immediately.

Construction Permits

- Two Classifications
  - Prevention of Significant Deterioration (PSD) – Federal Sources
  - State Sources

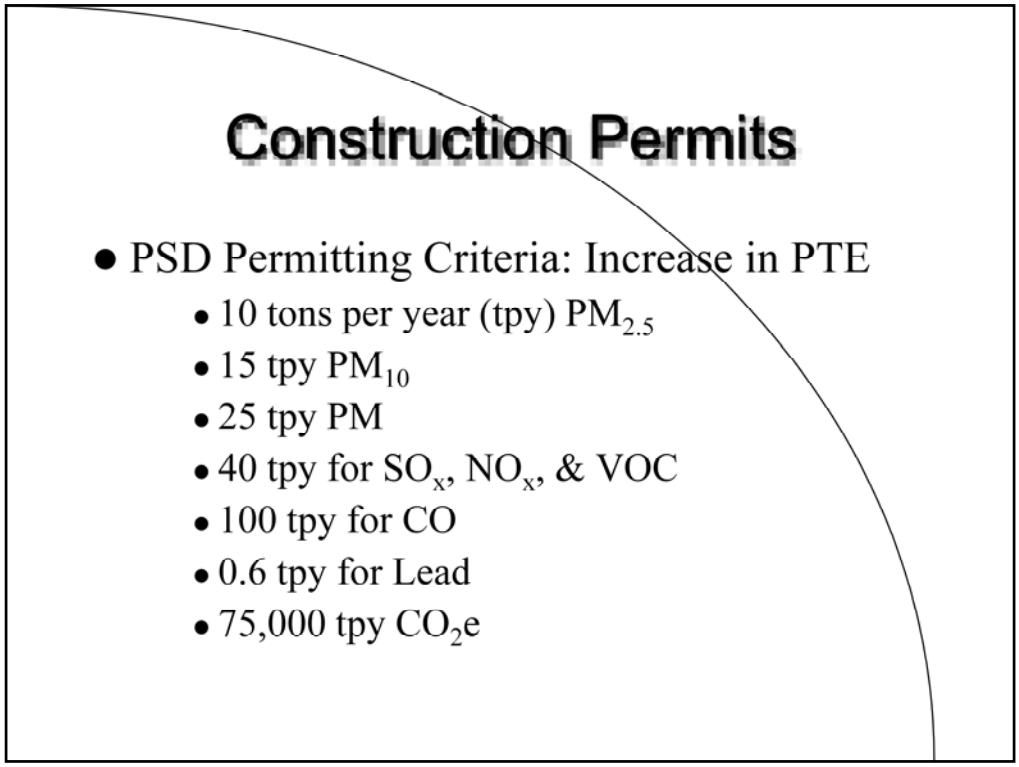
Construction Permits

- Federal Source Criteria
  - 100 tpy for any pollutant for 27 source categories
    - Chemical Processing Plants
    - Boilers greater than 250 MMBtu
  - 250 tpy for all other sources
  - GHGs – 100 tpy on a mass basis and 100,000 tpy CO_2e

The categories are the same as those where fugitives must be included, except for the one dealing with standards promulgated before August 1980. Those sources are not 100 tpy sources. Instead, they are 250 tpy sources.

Construction Permits

- State Permitting Criteria: Net Increase in PTE
  - 10 tons per year (tpy) $PM_{2.5}$
  - 15 tpy PM_{10}
  - 40 tpy for SO_x, NO_x, & VOC
  - 50 tpy for CO
  - 0.6 tpy for Lead
  - 2.5 tpy for any single HAP
  - 10 tpy for combined HAP



The NDEQ does <u>not</u> have a state program for GHGs.

Method of determining the change in PTE is different for state and PSD permitting.

Construction Permits

- Allowable activities prior to receiving construction permit
  - Dirt work
  - Construction related activities, i.e.,
    - site access roads,
    - electrical,
    - employee break areas, etc.
- Don't be afraid to ask

Construction related activities are as needed for construction of the project. You need an access road, but do not need a paved access road. You need electrical to the site, but you do not need underground conduit (piping) throughout the site.

Construction Permits

- Application Fees
  - Based on PTE of source, not the project
  - $3000
    - ≥100 tpy
    - ≥10 tpy single HAP
    - ≥25 tpy combined HAPs

Construction Permits

- Application Fees
  - $1500
    - ≥50 tpy and <100 tpy listed pollutant
    - ≥2.5 tpy and <10 tpy single HAP
    - ≥10 tpy and <25 tpy combined HAPs

Construction Permits

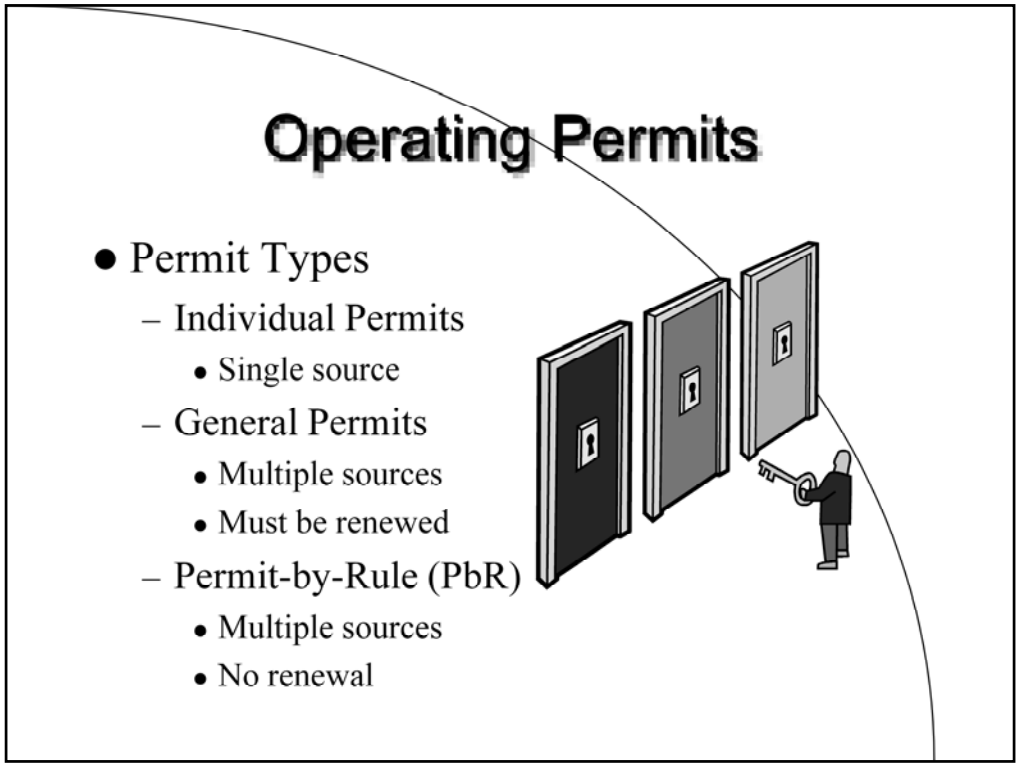
- Application Fees
  - $250
    - <50 tpy listed pollutant
    - <2.5 tpy single HAP
    - <10 tpy combined HAP

Construction Permits

- Application Fees
  - Pollutants subject, other than HAPs
    - PM_{10},
    - NO_x,
    - VOC,
    - CO, and
    - SO_2 or SO_3 or any combination of the two
  - Fugitives included in fee determination if included in applicability determination

Operating Permits

- Purpose
  - "One Stop Shopping"
  - Make compliance determinations easier
  - Public awareness
  - Good for up to five years
    - Exceptions: Low Emitter and Permit-by-Rule (PbR)
      - Life of source, or
      - Status change



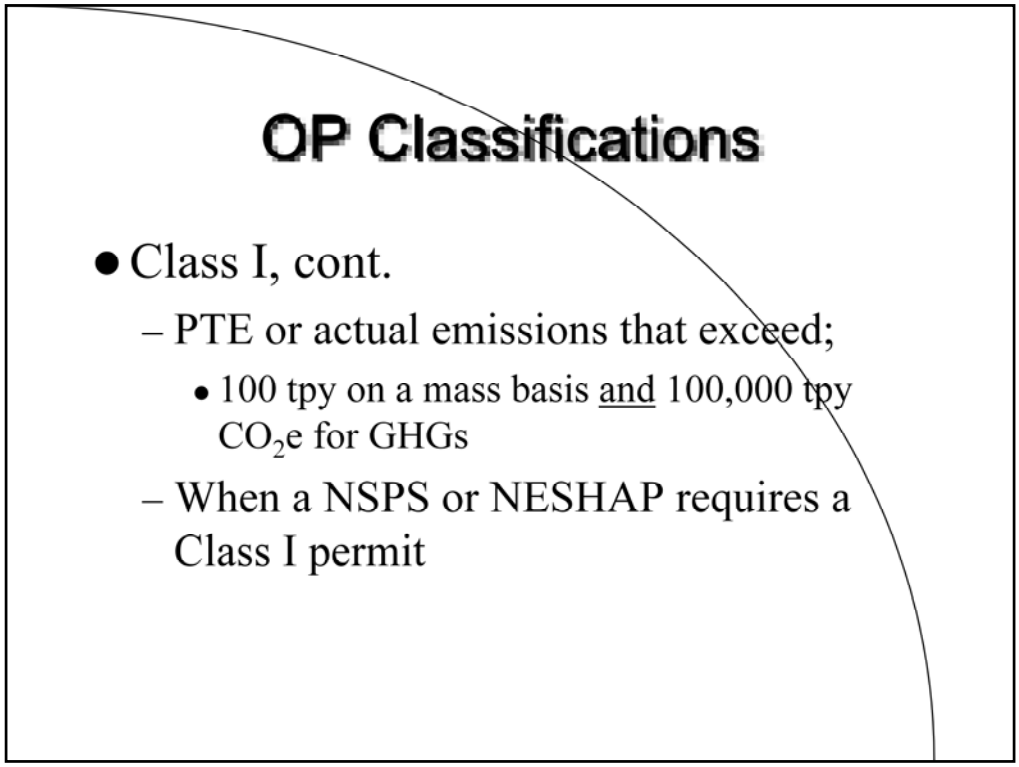
For General Permits and PbRs, the source must meet the criteria and agree to keep the records required by the permit or rule.

OP Classifications

- Permit Classifications
  - Class I Permits (Title V, Major)
  - Class II Permits
    - Synthetic Minor
    - Minor
  - Low Emitter
  - No Permit Required

OP Classifications

- Class I Permit
  - Potential-to-Emit (PTE), or actual emissions, that exceed:
    - 100 tons per year (tpy) for criteria pollutants
    - 10 tpy of any single HAP or 25 tpy of combined HAPs
    - 5 tpy of Lead

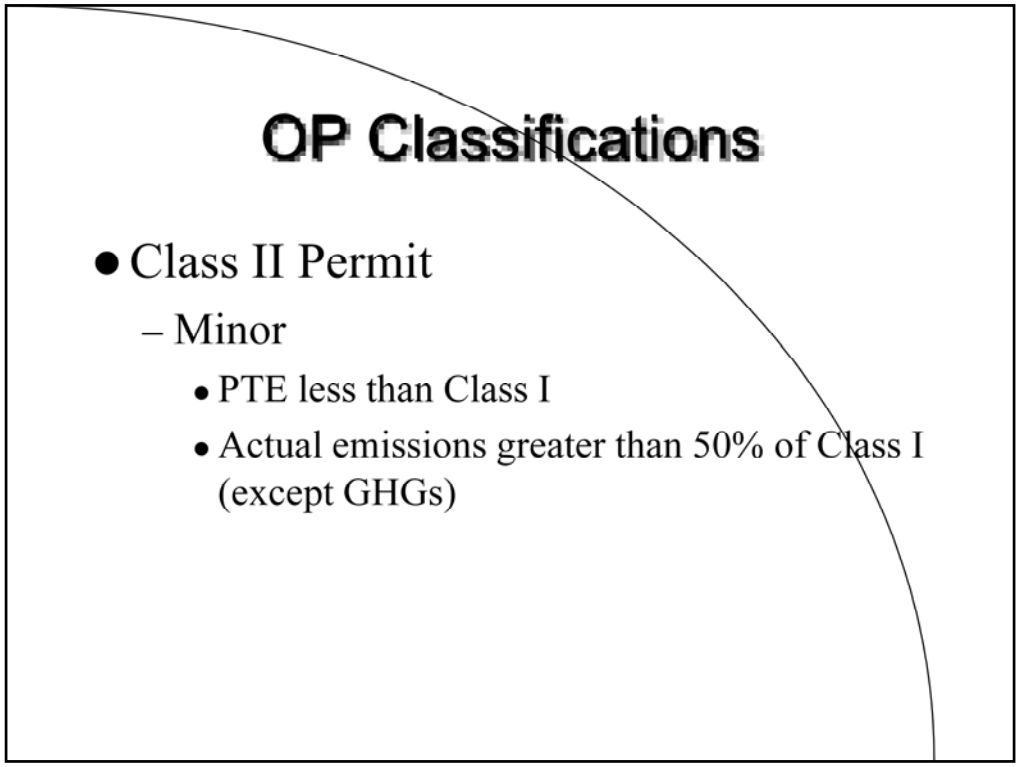


Examples of NSPS that require Class I permits regardless of emissions are: landfills, incinerators.

Examples of NESHAPs that require Class I permits regardless of emissions are: MON, Glass Manufacturing, etc.

OP Classifications

- Class II Permit
  - Synthetic Minor
    - PTE above Class I
    - Take federally enforceable limits to limit PTE and actual emissions below Class I



The NDEQ does not have GHGs criteria for Class II permits.

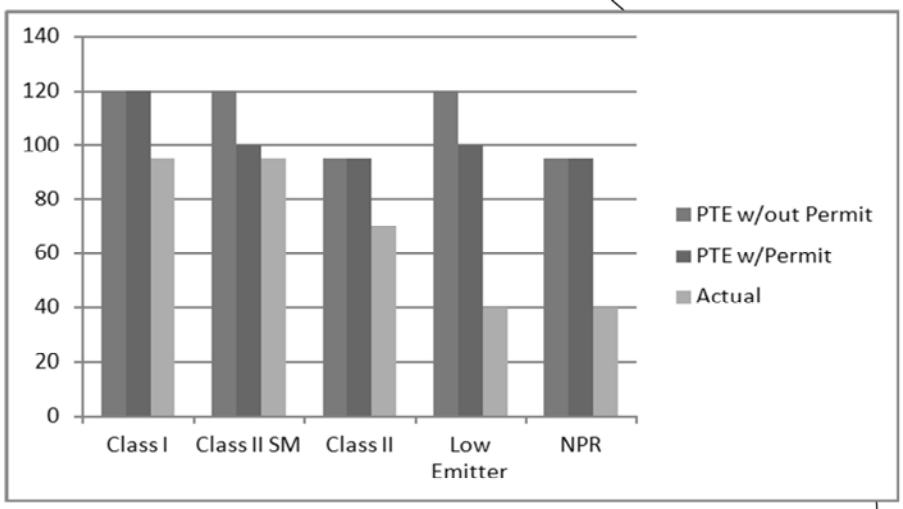
OP Classifications

- Low Emitter Program
  - PTE above Class I uncontrolled
  - Actual emissions below 50% of Class I

OP Classifications

- No Permit Required (Natural Minor)
  - PTE below Class I
  - Actual emissions below 50% of Class I

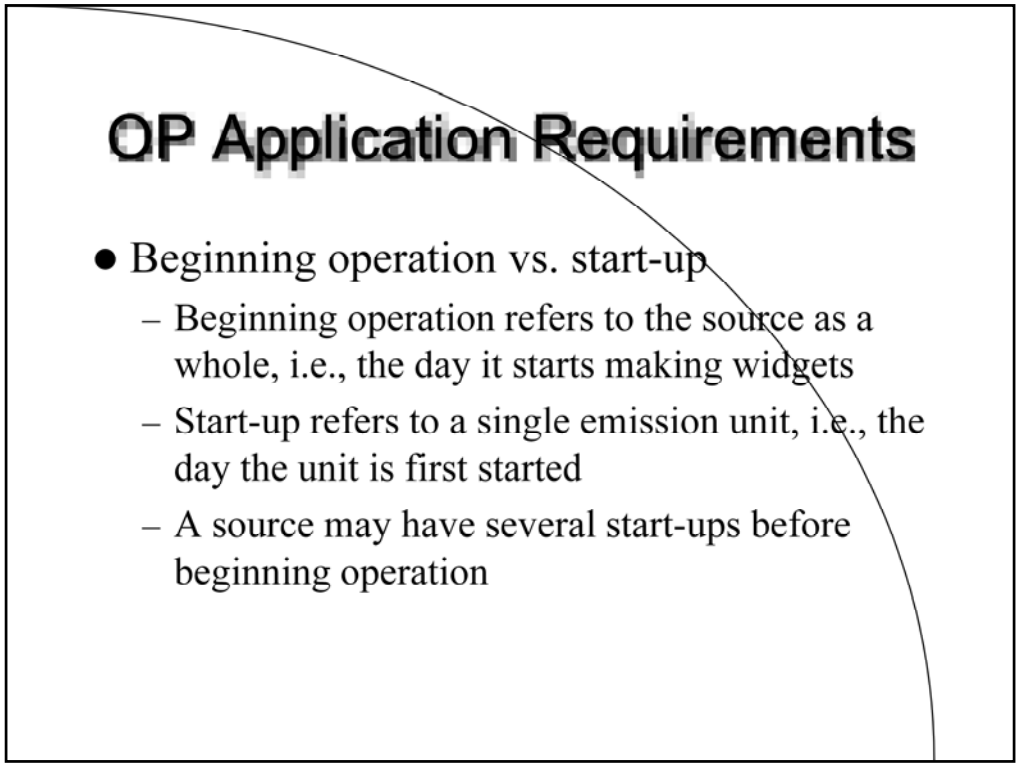
OP Classifications



OP Application Requirements

- New/Revisions
  - Within 12 months of beginning operation
  - Within 12 months of becoming subject
- Renewal
  - No more than 18 months, and
  - No less than 6 months from expiration

When a source receives a construction permit, they must apply for their initial permit, or a permit renewal, within 12 months of becoming operational



It is likely EPA made a conscious decision to not use “start-up” in the regulations dealing with OP applications. This term had been used for years in the NSPS program as a measurement for when testing was required.

For the OP program, we want a comprehensive application that covers all emission units. The only way to accomplish this is to consider begin operation in the context of the entire source. If we were to use start-up, we may receive a fragmented application. For example, a source starts their grain receiving operations for shakedown and fire their boiler 6 months later. If begin operation and start-up meant the same thing, it would mean the application for grain receiving would be due six months before the application for the boiler. If the source has a two to three year construction timeline, the source may not even be built before their first application is due.

Pre Application Steps

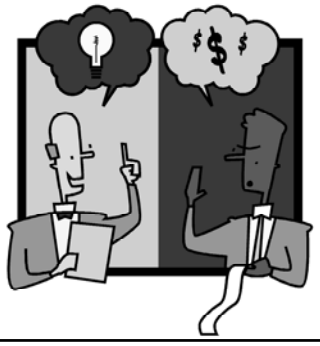
- Project Planning - Construction
  - Meeting with major NDEQ permitting programs
  - Go over general requirements for each program

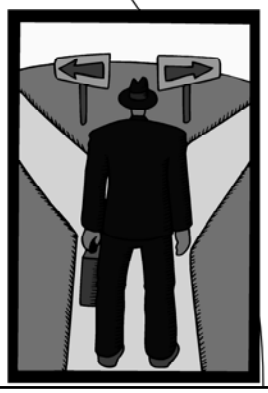
Pre Application Steps

- Pre Application - Construction
  - Meeting with just air
  - One to three months prior to submittal of application
  - Go over details of the project, schedule, identify problem areas/technology issues, modeling requirements, etc.
  - Allows source and DEQ to coordinate schedules

Major vs Synthetic Minor Status

- Considerations
  - Pros/Cons – Synthetic Minor Status
  - Pros/Cons – Major Status





Major vs Synthetic Minor Status

- Pros – Synthetic Minor
  - No emission fees
  - Less frequent reporting
  - HAPs – not subject to more stringent major source requirements

Major vs Synthetic Minor Status

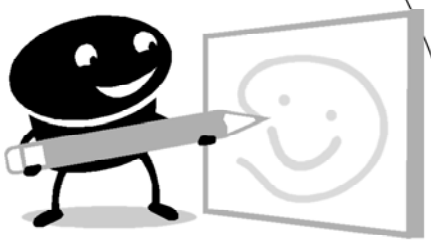
- Cons – Synthetic Minor
  - Closer to the major source criteria means
    - More rigorous monitoring
    - More rigorous testing
    - More recordkeeping
  - Meeting limitations
    - NO_x vs CO
      - Inverse relationship
      - Demonstrating compliance with both

Major vs Synthetic Minor Status

- Cons – Synthetic Minor
  - Implications of Non-compliance
    - PSD violations
      - Need to go back and do complete BACT analysis
    - HAP limits (tons per year)
      - Once in Always in – One violation, on or after compliance date, and become subject to applicable rule(s)
  - Less operational flexibility

Major vs Synthetic Minor Status

- Pros – Major Status
  - More operational flexibility
  - Opportunity for reduced monitoring in some areas when major
    - CO emissions
    - HAPs



Major vs Synthetic Minor Status

- Cons – Major Status
  - PSD
    - Future modifications potentially subject to BACT
    - Potential for additional control requirements for future projects
    - Additional modeling requirements
      - Increment
      - Additional impacts analysis
    - Additional cost of preparing application

Major vs Synthetic Minor/Non-major Status

- Cons – Major Status
  - Operating Permit
    - Paying fees
    - Additional reporting

ASSISTANCE

- Permitting Assistance
  - Permit Hotline: 877.834.0474
- Compliance Assistance
  - Yvonne Austin: 402.471.3305
- Air Quality Email
  - **NDEQ.AirQuality@nebraska.gov**
- Forms and Fact Sheets on the web @
  - **www.deq.state.ne.us**

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Questions?