

# Air Quality Permitting 101

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## Air Quality Permitting

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

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## Fugitive Emissions

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



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## Fugitive Emissions

- 28<sup>th</sup> Category
  - “Any other stationary source category which is being regulated by a standard promulgated under Section 111 or 112 of the Act as of August 7, 1980.”
  - Source does not have to be regulated under the standard – just in the source category
    - Grain terminal elevators

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## 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



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## Permit Requirements

- Two major permitting programs
  - Construction permit
    - Required prior to any on-site construction of a permanent nature
  - Operating Permit
    - Must apply within 12 months of becoming operational or subject to the program

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## Construction Permits



- Purpose
  - Prevent impacts on the ambient air quality
  - Establish enforceable requirements on the emission unit
  - Allow construction of an emission unit
  - Do not expire

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## Construction Permits

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

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## 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<sub>2</sub>e

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## 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

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## Construction Permits

- PSD Permitting Criteria: Increase in PTE
  - 10 tons per year (tpy)  $PM_{2.5}$
  - 15 tpy  $PM_{10}$
  - 25 tpy PM
  - 40 tpy for  $SO_x$ ,  $NO_x$ , & VOC
  - 100 tpy for CO
  - 0.6 tpy for Lead
  - 75,000 tpy  $CO_2e$

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## 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



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## Construction Permits

- Application Fees

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



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## Construction Permits

- Application Fees

- \$1500
  - $\geq 50$  tpy and  $< 100$  tpy listed pollutant
  - $\geq 2.5$  tpy and  $< 10$  tpy single HAP
  - $\geq 10$  tpy and  $< 25$  tpy combined HAPs



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## Construction Permits

- Application Fees

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



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## Construction Permits

- Application Fees

- Pollutants subject, other than HAPs
  - PM<sub>10</sub>,
  - NO<sub>x</sub>,
  - VOC,
  - CO, and
  - SO<sub>2</sub> or SO<sub>3</sub> or any combination of the two
- Fugitives included in fee determination if included in applicability determination



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## 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



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## Operating Permits

- Permit Types

- Individual Permits
  - Single source
- General Permits
  - Multiple sources
  - Must be renewed
- Permit-by-Rule (PbR)
  - Multiple sources
  - No renewal



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## OP Classifications

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

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## 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

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## OP Classifications

- Class I, cont.
  - PTE or actual emissions that exceed;
    - 100 tpy on a mass basis and 100,000 tpy CO<sub>2</sub>e for GHGs
  - When a NSPS or NESHAP requires a Class I permit

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**OP Classifications**

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

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**OP Classifications**

- **Class II Permit**
  - Minor
    - PTE less than Class I
    - Actual emissions greater than 50% of Class I (except GHGs)

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**OP Classifications**

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

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## OP Classifications

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

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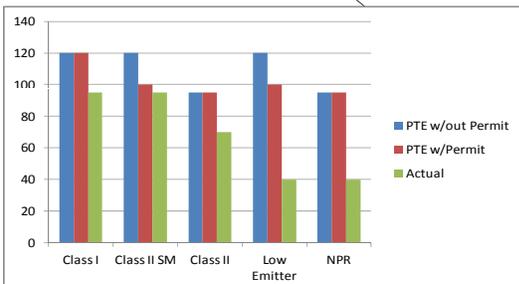
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## OP Classifications



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## 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

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## OP Application Requirements

- Beginning operation vs. start-up
  - Beginning operation refers to the source as a whole, i.e., the day it starts making widgets
  - Start-up refers to a single emission unit, i.e., the day the unit is first started
  - A source may have several start-ups before beginning operation

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## Pre Application Steps

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



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## 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

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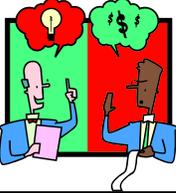
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## Major vs Synthetic Minor Status

- Considerations

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



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## Major vs Synthetic Minor Status

- Pros – Synthetic Minor

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



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## 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<sub>x</sub> vs CO
    - Inverse relationship
    - Demonstrating compliance with both

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## 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

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## Major vs Synthetic Minor Status

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



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## 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

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## Major vs Synthetic Minor/Non-major Status

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



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## ASSISTANCE

- Permitting Assistance
  - Permit Hotline: 877.834.0474
- Compliance Assistance
  - Yvonne Austin: 402.471.3305
- Air Quality Email
  - [NDEQ.AirQuality@nebraska.gov](mailto:NDEQ.AirQuality@nebraska.gov)
- Forms and Fact Sheets on the web @
  - [www.deg.state.ne.us](http://www.deg.state.ne.us)



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## Air Quality Permitting

Questions?



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