

Air 101 – Construction Permitting

Air Quality 101 Workshop
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Construction Permits (CPs)

- When Required?
 - Before a new source is built or before an existing source is expanded or modified
 - All construction permits (if required) are required to be obtained prior to the source commencing construction



Types of Construction Permits

- State Construction Permit
- New Source Review (NSR) Permit
 - Prevention of Significant Deterioration (PSD) Permit
 - Non-Attainment NSR Permit
- Permit by Rule (PbR)
- Purpose of all permits is to protect ambient air quality, which is the air the public has access to.

A Construction Permit...

- Gives "permission" to commence construction
- Allows a source to operate under the CP for a certain amount of time or indefinitely if an OP is not required
- Never Expires, however it becomes invalid if construction does not commence within 18 months of permit issuance.



A Construction Permit...

- Contains applicable requirements that the owner or operator must comply with, which may include:
 - Production Limitations
 - Emission Limitations
 - Required use and maintenance of control equipment
 - Federal requirements (NSPS, NESHAP, etc.)
 - Recordkeeping and Reporting

A Construction Permit is **required** when...

- A source ***constructs, modifies, or reconstructs*** an emissions unit
- AND**
- The net change in emissions exceeds the thresholds in Chapter 17 and/or Chapter 19
- OR**
- When an existing permit is worded such that the source cannot make the change they want without revising it.

Definitions

- **Construction** – installation of a new emissions unit or source
- **Modification** – any physical change in, or change in method of operation, of an affected facility which increases the amount of any air pollutant (some exclusions)
- **Reconstruction** – a situation where the fixed capital cost of the new components exceed 50% of the fixed capital cost of a comparable entirely new facility or source



Net Increase in Emissions

- Simplified Definition:
Net Increase in Emissions =
PTE from new units – PTE from units being removed
- Specific requirements exist if calculating net increase in emissions for determining NSR applicability
 - Very specific and detailed
- For state construction permitting
 - Is this a true replacement in every sense of the word?
 - If NO, go the safe route and obtain a permit if the new unit(s) if above the permitting thresholds

A CP may be **requested...**

- To establish enforceable limits to avoid otherwise applicable requirements
 - Example: Limiting production throughput to keep emissions below major source thresholds
- To make the use of control equipment enforceable in order to take control efficiency of equipment into account when determining emissions
 - Example: Installing a baghouse for product recovery

A "Source" for the CP Program is...

- Stationary source - any building, structure, facility, or installation which emits or may emit a regulated NSR pollutant {40 CFR 52.21(b)(5)}
- Building, structure, facility, or installation is defined as all of the pollutant emitting activities which:
 - Belong to the same industrial group (SIC code), and
 - Are located on one or more contiguous or adjacent properties, and
 - Are under the control of the same person (or persons under common control) {40 CFR 52.21(b)(6)}

State Construction Permitting Program

- Program was established in 1972
- Regulations located in Title 129, Chapter 17
- Net change in PTE must be calculated to determine if a state CP is needed for project
- Permits are issued for a project, so multiple CPs may be issued for a source



A State CP is needed if...

- A stationary source or emissions unit is constructed, modified, or reconstructed, such that there is a net increase in potential emissions at the stationary source equal to or exceeding the following levels:
 - 15 tons/year of PM₁₀
 - 40 tons/year of sulfur oxides (SO_x)
 - 40 tons/year of nitrogen oxides (NO_x)
 - 40 tons/year of volatile organic compounds (VOC)
 - 50 tons/year of carbon monoxide (CO)
 - 0.6 tons/year of lead (Pb)
 - 2.5 tons/year of a single hazardous air pollutant (HAP)
 - 10 tons/year of combined HAP

Determining if State CP is Required

- Fugitive emissions must be included in calculating net increase in potential emissions if source is one of the listed 28 located in Title 129, Chapter 17
 - Fossil Fuel-fired Steam Electrical Generating Plants of more than 250 MMBtu/hr heat input
 - Portland Cement Plants
 - Chemical Processing Plants (excluding ethanol)
- The majority of incinerators must obtain a State CP



So, you need a State CP...

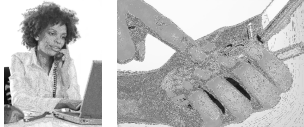
- Complete the appropriate CP Application forms located on the NDEQ website
 - www.deq.state.ne.us
 - Focus on Air
 - Air Construction Permit – Publications, Forms and Applications
- Submit appropriate permit application fee
 - Application fees are required for construction permits
 - Based on entire facility PTE after permit is issued (not just permitted project)
 - Only PM_{10r}, SO_{xr}, NO_{xr}, VOC, CO, and HAPs need to be evaluated for CP Fee purposes (i.e. not PM)

So, you need a State CP...

- Submit air dispersion modeling if Required
 - Department can require modeling if permitted emissions from source after permitting action will exceed construction permitting thresholds for PM_{10r}, SO_{xr}, NO_{xr} and CO
 - Modeling Guidance Document available on website
 - The source is typically responsible for conducting the modeling and submitting the results to the Department
 - Modeling should demonstrate project and source will not contribute to predicted NAAQS exceedances

So, you need a State CP...

- Determine if you are subject to State Toxics Best Available Control Technology requirements
 - Subject if the project has a PTE increase of HAP Emissions
 - 2.5 tons/year of a single HAP and/or
 - 10 tons/year of combined HAP
 - HAP BACT Analysis may be required to be submitted if project triggers thresholds
- Call the Permitting Hotline for assistance for any step of the process
 - 1-877-834-0474



Federal CP Program

- Program established in 1977
- NDEQ has authority to implement and enforce the Federal rules
- Regulations located in Title 129, Chapter 19
- Referred to as New Source Review
 - Two Tiered program based on compliance with national ambient air quality standards
 - Prevention of Significant Deterioration (PSD)
 - Non-Attainment New Source Review (NNSR)

A Federal CP is needed if...

- Source has the potential to emit:
 - 100 tons/year of any regulated pollutant if the source is one of the 28 listed source categories
 - 250 tons/year of any regulated pollutant if the source is not explicitly listed
- Fugitive emissions must be included in calculating potential emissions if source is one of the listed 28 located in Title 129, Chapter 2

A Federal CP is needed if...

- The project net emissions increases of:
 - 25 tons/year of PM or TSP
 - 15 tons/year of PM₁₀
 - 40 tons/year of sulfur oxides (SO_x)
 - 40 tons/year of nitrogen oxides (NO_x)
 - 40 tons/year of volatile organic compounds (VOC)
 - 100 tons/year of carbon monoxide (CO)
 - 0.6 tons/year of lead (Pb)
 - Other pollutants with significance thresholds include fluorides, sulfuric acid mist, hydrogen sulfide (H₂S), total reduced sulfur (TRS), and reduced sulfur compounds.

So, you need a Federal PSD CP...

- If you are not familiar with the PSD/Federal Regulations, obtain assistance!!
- You may have to:
 - Conduct pre-application monitoring
 - Complete a BACT Analysis
 - Conduct Air Dispersion Modeling to demonstrate compliance with NAAQS and Increment
 - Complete Additional Impacts Analysis

Permits by Rule

- Conditions have been established for specific industry or units
- Requirements located in Title 129, Chapter 42
- Satisfies construction and operating permit requirements
- Less time to complete forms and get approval
- Currently rules have been established for two source categories
 - Asphalt Plants
 - Small Animal Incinerators (SAI)

I am an Asphalt Plant or SAI...

- Determine if the rule specifically covers your source
- Complete the appropriate Notice of Intent Forms (located on website)
 - All – Section 1.0
 - Asphalt Plant – Section 2.0
 - SMI – Section 3.0
- Submit \$250 Application Fee (if satisfying CP requirement)
- You will receive a letter from NDEQ if you are approved to construct and operate in accordance with Title 129, Chapter 42

Don't need a CP??

- You do not need an official NDEQ response indicating you don't need a permit
- However, you should maintain documentation on-site that indicates a permit was not necessary
 - Net PTE Calculations (below thresholds)
 - Description of project (size of units, fuel types)
 - Utilized bottlenecks, existing permit limitations, or control equipment
- Suggest submitting informative letter to NDEQ

Questions?

Air Quality Permitting Hotline
1-877-834-0474
