

Nebraska Air Construction Permits

Sam Hansen, Permitting and Engineering Division

Pati West, Permitting and Engineering Division

Overview

- Housekeeping
- CP Program Overview and Review Process
- Tips for a Smooth Permitting Process
- How Do I Calculate Potential-to-Emit (PTE)?
- Single Source Determinations
- Application Fees
- Confidentiality
- Notification Requirements

Today's Presentation

- If you have questions during the presentation, please enter them in the chat box.
- For any questions you have after the presentations is over, please email your detailed question to NDEE.AirQuality@nebraska.gov



Construction Permit Program Overview

What pollutants do we regulate?

There are three types of pollutants that CP and OP typically regulate:

6 Criteria Air Pollutants (CAPs):

- (1) CO;
- (2) NO₂;
- (3) PM;
- (4) SO₂;
- (5) Ozone; and
- (6) Lead.

Note: These pollutants are commonly referred to as "*criteria pollutants*" because the EPA sets National Ambient Air Quality Standards (NAAQS) for them based on criteria, which are characterizations of the latest scientific information on health and environmental effects.

What pollutants do we regulate?

Hazardous Air Pollutants (HAPs):

- The term "air toxics" is often used synonymously with the regulatory term "hazardous air pollutants", which refers to the air pollutants listed under section 112 of the Clean Air Act and on the Environmental Protection Agency (EPA)'s HAPs website.
- There are currently **188 listed** HAPs.

Note: HAPs are those pollutants that are known or suspected to cause cancer or other serious health effects, such as reproductive effects or birth defects, or adverse environmental effect.

What pollutants do we regulate?

Volatile Organic Compounds (VOCs):

- For purposes of the air program, as defined in 40 CFR Part 51.100(s):
 - "Volatile organic compounds (VOC) means any compound of carbon, **excluding carbon monoxide, carbon dioxide**, carbonic acid, metallic carbides or carbonates, and ammonium carbonate which participates in atmospheric photochemical reactions.
- This includes any such organic compound **other than** the following, which have been determined to have negligible photochemical reactivity:
methane; ethane;; acetone; etc.
 - Many HAPs are also considered VOCs. Different VOCs have different levels of reactivity. That is, they do not react to form ozone at the same speed or

Types of Construction Permits

- Major NSR (PSD)
- Nonattainment NSR (All counties in NE are currently in attainment)
- Minor NSR (“State” Permit)
 - New Construction
 - Significant Permit Revisions (SPRs)
 - Minor Permit Revisions (MPRs)
 - No-Permit-Required Determinations (NPRs)
 - Administrative Permit Amendment
- http://dee.ne.gov/publica.nsf/Pubs_Air_CP.xsp

CONSTRUCTION PERMITS (CP)

(Project Specific)

Purpose of CP: Allows the Source to construct and begin operation of a permitted project. (SHORT TERM)

When Needed: When a project's net PTE in tons per year (tpy) exceeds the following CP thresholds.

Minor NSR Permitting Thresholds:

15 tpy of PM₁₀ Emissions

10 tpy of PM_{2.5} Emissions

40 tpy of SO_x Emissions

40 tpy of NO_x Emissions

40 tpy of VOC Emissions

100 tpy of CO Emissions

0.6 tpy Lead Emissions

2.5 tpy Individual HAP Emissions

10 tpy Total HAP Emissions

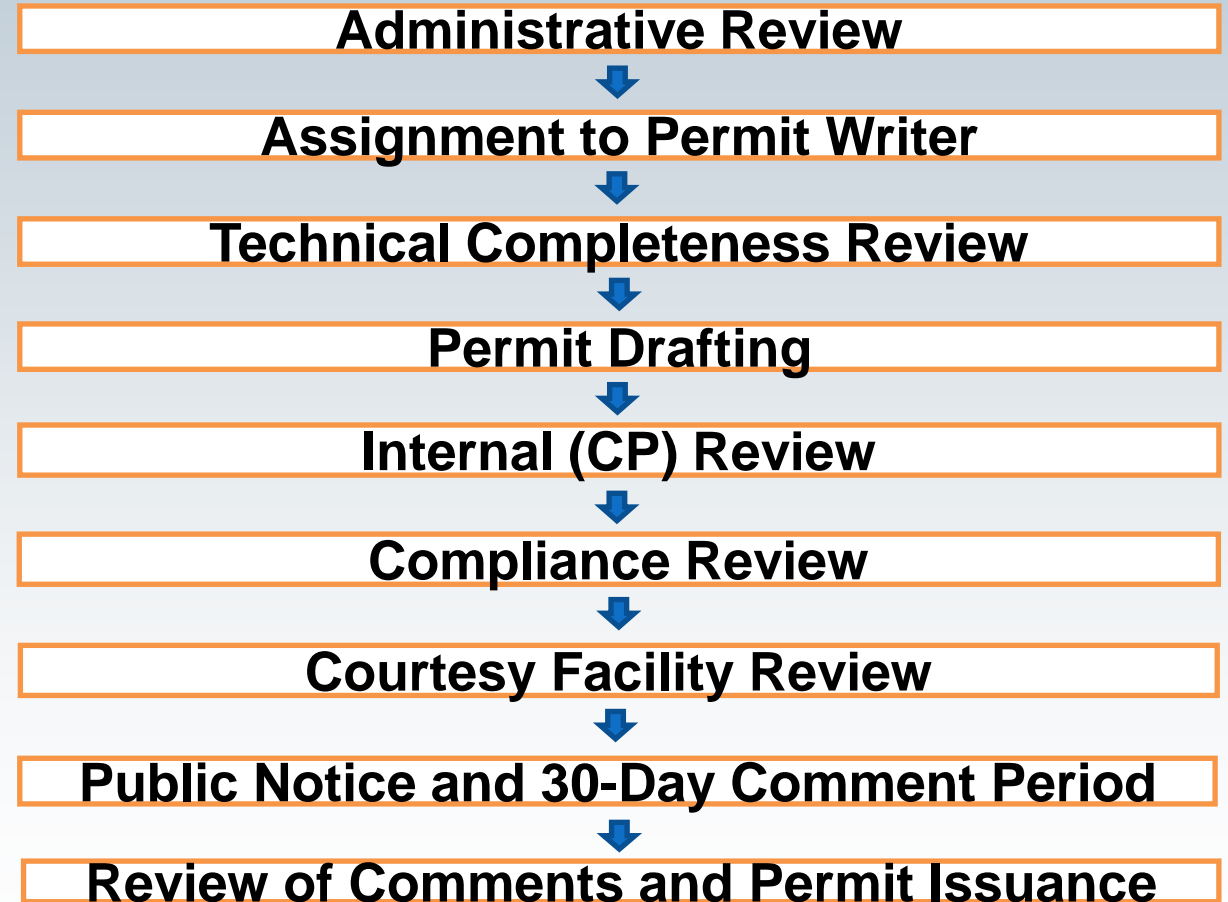
CONSTRUCTION PERMITS (CP)

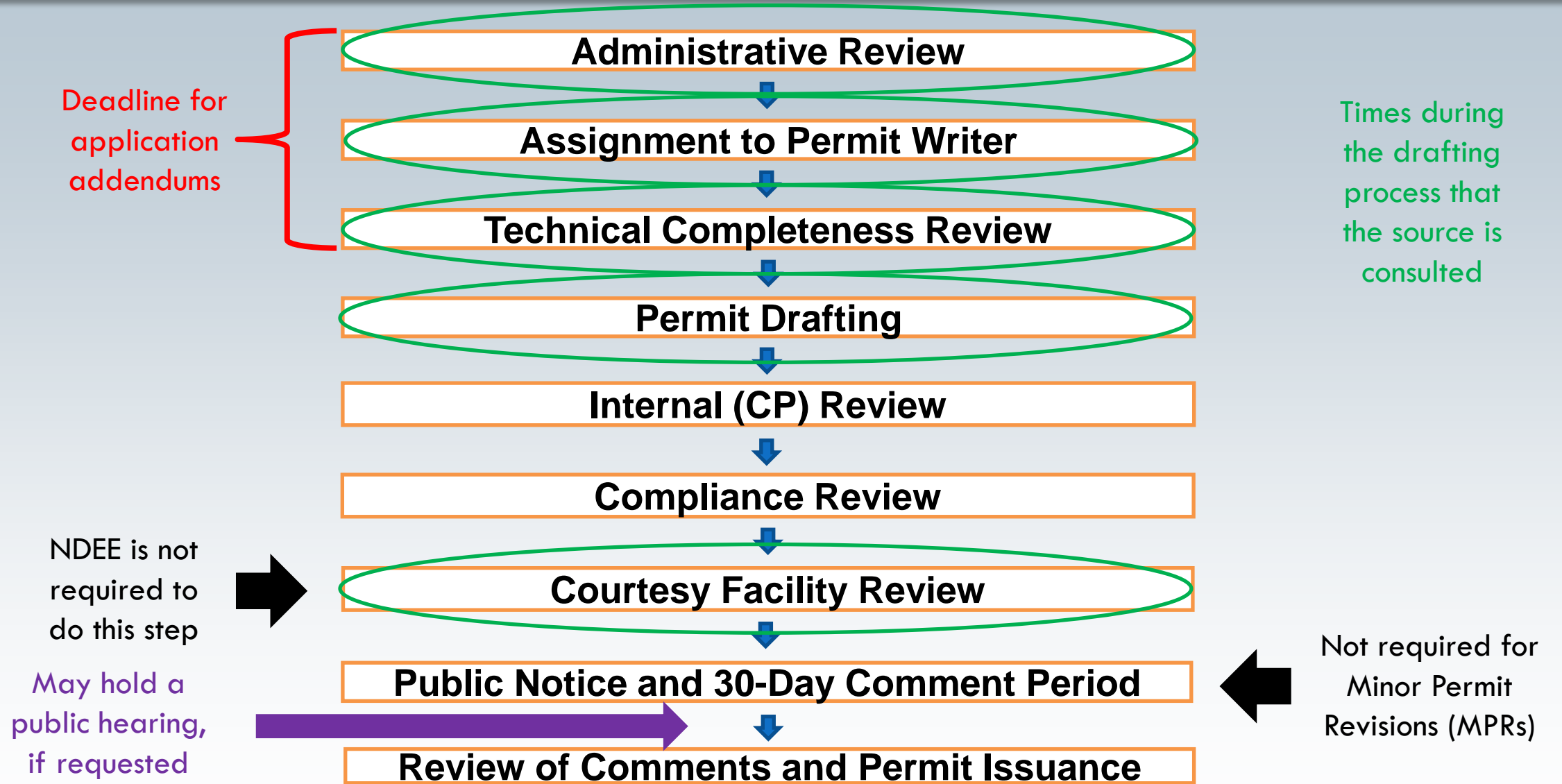
(Project Specific)

- **Content of CP:**
 - Prescribes emissions limits
 - Prescribes emissions control equipment
 - Prescribes operation and monitoring requirements
 - Prescribes recordkeeping and reporting requirements
 - Requires initial emissions testing (sometimes subsequent testing until operating permit is issued)

Air Construction Permitting Process

- Process Overview
- Permit Status Updates
- Tips for a Smooth Permitting Process





NDEE Air Construction Permit Application Status as of October 14, 2022

Application #	NDEE FID	Source Name	Application Received	Administrative Review	Technical Completeness Review	Drafting	Internal Permitting Section Review	Internal Compliance Section Review	Courtesy Source Review	Public Notice / Signature	Notes
21-023	64401	Cargill Polyols	4/28/2021	Complete	Complete						ON HOLD
21-033	116018	OPPD Standing Bear Lake Stn	7/26/2021	Complete	Complete	Complete	Complete	Complete	Complete	In Progress	
21-035	116017	OPPD Turtle Creek Station	8/17/2021	Complete	Complete	Complete	Complete	Complete	Complete	In Progress	
21-038	58562	Clean Harbors	8/24/2021	Complete	Complete	Complete	Complete	Complete	Complete	Completed/Issued on 09/27/22	
21-039	57789	Omaha Papillion Creek WRRF	8/27/2021	Complete	Complete	Complete	Complete	Complete	Complete	Completed/Issued on 09/19/22	
21-048	25616	Green Plains Wood River (Cargill AgHorizons West Elevator)	10/21/2021	Complete	Complete	Complete	In Progress				
22-003	117197	Westwood Solutions, LLC	1/18/2022	Complete	Complete	In Progress					
22-008	108432	Raven Northbrook, LLC	2/10/2022	Complete	Complete	In Progress					
22-009	117304	Equilon Enterprises, LLC	2/11/2022	Complete	Complete	Complete	Complete	Complete	Complete	In Progress	
22-013	41253	Darling Ingredients (Bellevue)	4/13/2022	Complete	Complete	Complete	Complete	Complete	Complete	In Progress	
22-015	77861	Heartwell Renewables	4/18/2022	Complete	Complete	Complete	Complete	Complete	Complete	In Progress	
22-017	117709	Norfolk Crush, LLC	4/25/2022	Complete	Complete	Complete	Complete	Complete	Complete	In Progress	
22-018	100535	Consolidated Grain & Barge Co.	4/26/2022	Complete	Complete	Complete	Complete	Complete	Complete	In Progress	
22-020	58390	Offutt AFB	5/12/2022	Complete	Complete	In Progress					
22-022	54712	C.W. Burdick Generating Station	6/8/2022	Complete	Complete	Complete	Complete	Complete	Complete	In Progress	
22-024	118023	AT&T Mobility (Sidney)	6/15/2022	Complete	Complete	Complete	Complete	Complete	Complete	In Progress	
22-025	107686	Weiland, Inc.	6/21/2022	Complete	Complete	Complete	Complete	Complete	Complete	Issued on 09/19/22	
22-026	118073	AT&T Mobility (Buschnell)	6/23/2022	Complete	Complete	Complete	Complete	Complete	Complete	In Progress	
22-027	118071	AT&T Mobility (Bridgeport)	6/23/2022	Complete	Complete	Complete	Complete	Complete	Complete	In Progress	
22-028	106518	Fireball Group, LLC	6/24/2022	Complete	Complete	Complete	Complete	Complete	Complete	Issued on 09/27/22	
22-029	35677	Nucor Steel	7/15/2022	Complete	Complete	Complete	Complete	Complete	In Progress		
22-030	58562	Clean Harbors	7/18/2022	Complete	In Progress						
22-037	118217	SCS Carbon Removal LLC - York	7/20/2022	Complete	In Progress						

Tips for a Smooth Permitting Process

- Submit a timely application!
 - Pre-application meeting
 - Permitting assistance
- Identify emission points and units consistently
 - Emission factors and justifications
 - Requested permit limits and facility-wide PTE calculations
- Timely correspondence

Tips for a Smooth Permitting Process

NEBRASKA DEPT. OF ENVIRONMENT AND ENERGY Department of Environment and Energy Air Quality Construction Permit Section P.O. Box 98922, Lincoln, NE 68509-8922 402-471-2186 <http://dee.ne.gov>

NEBRASKA Air Quality Construction Permit Application Form 1.0: Construction Permit Application General Information Section 1.1: AQ Construction Permit General Information

IMPORTANT: READ THE INSTRUCTIONS ACCOMPANYING THIS SECTION Do NOT use pencil to fill out this application. Please type responses or use black ink.

Administrative Information

1) Facility Name: _____ 2) NDEE Facility ID#: _____
 3) Facility SIC Code(s): _____ 4) Facility NAICS Code(s): _____

5) Facility Description: _____
 6) Facility Physical Address: _____
 7) Facility City: _____ 8) State: **Nebraska** 9) Zip: _____
 10) County: _____ 1/4 _____ 1/4 _____ Section: _____ Township: _____ Range: _____
 11) Indicate the adjacent states that the facility is located within 50 Miles of: None Colorado Iowa Kansas Missouri South Dakota Wyoming 12) UTM Coordinates: Zone: _____ X: _____ Y: _____

13) Company Name: _____
 14) Company Mailing Address: _____
 15) Company City: _____ 16) State: _____ 17) Zip: _____
 18) Is The Business Incorporated? No Yes, State of Incorporation: _____

Contact Information

19) Facility Contact Person: _____
 20) Facility Contact Person's Title or Responsibility: _____
 21) Phone Number: _____ 23) Fax Number: _____
 22) Alt. Phone Number: _____ 24) Email Address: _____
 25) Who is the Primary Contact for Application-related Questions?: Facility Contact Other (fill in 25-30 below)
 26) Primary Contact Name: _____
 27) Primary Contact Company: _____
 28) Phone Number: _____ 30) Fax Number: _____
 29) Alt. Phone Number: _____ 31) Email Address: _____
 32) Hard-copy drafts and the final permit documents should be sent to: Facility Contact Other (fill in 32-37 below)
 33) Document Recipient's Name and Title: _____
 34) Document Recipient's Mailing Address: _____
 35) Document Recipient's City: _____ 36) State: _____ 37) Zip: _____

Construction Permit Fee Information

38) Construction Permit Application Fee Enclosed (see instructions): \$3,000 \$1,500 \$250 N/A
 Make check payable to: **Nebraska Department of Environment and Energy**
 Memo: **Air Quality CP Application Fee**

NEBRASKA DEPT. OF ENVIRONMENT AND ENERGY Air Quality Construction Permit Application Form 1.0: Application General Information

FACILITY NAME: _____ DATE: _____
 NDEE Facility ID#: _____

Section 1.1: AQ Construction Permit General Information (continued)

Project Information

39) This Application is For: a. Initial Construction Permit for a New Facility
 (Check One) b. Modification of an Existing Facility
 c. Significant Revision of an Existing Construction Permit(s) #: _____
 d. Historical Construction/Modification

40) Projected Date to Begin Actual Construction: _____ 41) Projected Date of Startup: _____
 42) Estimated Cost of Project: _____

Historical Permitting Information N/A

43) What year was the facility originally constructed? _____
 44) Enter the date the most recent Air Quality Construction Permit was issued (mm/dd/yyyy): _____
 45) Provide a brief summary of each modification below (Attach additional sheets if needed):

Date of Modification	Date Permitted	Summary of Modification
_____	_____	_____
_____	_____	_____

Source Information

46) Is the existing source classified as a Major Prevention of Significant Deterioration (PSD) Source? Yes No N/A
 47) Is this project subject to PSD Review? Yes No If Yes, complete Section 4.3
 48) Is the project subject to State toxic BACT Requirements in Chapter 13? Yes No If Yes, attach T-BACT analysis
 49) Is the Source subject to NESHAP or MACT Requirements? Yes No If Yes, complete Section 4.2

Attestation of Citizenship

50) Is this application being submitted on behalf of an individual (if Yes go to 51, No go to 52) Yes No
 51) Is the applicant a citizen of the United States. Yes No
 -or-
 Is the applicant a qualified alien under the Federal Immigration and Nationality Act (applicant must provide immigration status, alien number and USICS documentation) Yes No

52) Responsible Official Certification Statement

I certify under penalty of law that, based on information and belief formed after reasonable inquiry, the statements and information contained in this Air Quality Construction Permit application are true, accurate, and complete. I also certify that all copies, including the electronic copy, of this application are identical in content to the original.

Signature (See Instructions for Signatory Requirements) _____ Date (mm/dd/yyyy): _____
 Typed or Printed Name: _____ Title: _____

What is PTE?

- Basis for determining if you need a permit
- “Maximum capacity of a stationary source to emit a pollutant under its physical and operational design.”
(Title 129, Chapter 1)
- Calculated PTE is compared to the air quality thresholds
(Title 129, Chapter 3, Section 001.03A) to determine permit applicability

How is PTE Used?

- Determines the classification of a stationary source in federal programs
- Construction permit application fee category
- If dispersion modeling is required with a construction permit application

How To Calculate PTE (New Facilities)

1. Identify all units and processes capable of emitting air pollutants and all air pollutants potentially emitted at the facility
 - Fugitive Emissions
2. Calculate the PTE for each emission point
3. Calculate facility-wide PTE

How to Calculate PTE (Existing Facilities)

- By modification of an existing facility
- PTE is evaluated based upon the specific project, after permit limits are taken
- Modifications include physical and/or operational changes to the equipment
- Subtract the existing facility wide PTE from the new proposed facility wide PTE.

Fugitive Emissions

Fugitive emissions must be included in the PTE only if:

1. The fugitive emissions are HAPs;
2. Your facility falls into one of the source categories listed in Table 1 (next slide), in which case all fugitive emissions of all regulated air pollutants must be included;
3. Your facility is subject to a New Source Performance Standard (NSPS) or NESHAP promulgated on or before August 7, 1980.

*Fugitive emissions \neq Uncaptured emissions



Table 1: Source Categories that Must Include Fugitive Emissions

Coal cleaning plants (with thermal dryers)	Sulfur recovery plants
Kraft pulp mills	Carbon black plants (furnace process)
Portland cement plants	Primary lead smelters
Primary zinc smelters	Fuel conversion plants
Iron and steel mills	Sintering plants
Primary aluminum ore reduction plants	Secondary metal production plants
Primary copper smelters	Chemical process plants (exception for ethanol plants)
Municipal incinerators capable of charging more than 250 tons of refuse per day	Fossil-fuel boilers totaling more than 250 million British thermal units per hour heat input
Hydrofluoric, sulfuric, or nitric acid plants	Petroleum storage and transfer units with a total storage capacity exceeding 300,000 barrels
Petroleum refineries	Taconite ore processing plants
Lime plants	Glass fiber processing plants
Phosphate rock processing plants	Charcoal production plants
Coke oven batteries	Fossil fuel-fired steam electric plants of more than 250 British thermal units per hour head input

Emission Units/Points

- Emission Unit: “any part or activity of a stationary source, which emits or would have the potential to emit any regulated air pollutant or any pollutant listed in Appendix I” (Title 129, Chapter 1, Section 002.37)
- Emission Unit: equipment, process, or location where emissions are generated
- Emission Point: where emissions enter the atmosphere
 - Stacks, vents, exhausts, and fugitive release points



Why include limitations in a CP?

- Staying minor for New Source Review (NSR), area source for HAPs or for an Operating Permit classification.
- Keep project below modeling thresholds.
- Not be subject to Best Available Control Technology (BACT)
- Subject to approval by NDEE
 - Must specify a compliance demonstration methodology and recordkeeping requirement

Single Source Determinations

Things to Consider:

- What if one facility claims that they are two separated facilities with different functions?
- What if two facilities are located on the same property?
- What if one person/entity owns both adjacent sources?

Three Main Factors (Three-Prong Test)

CAPs (NSR Program)

1. Whether the activities belong to the same industrial grouping, based upon the 1987 Standard Industrial Classification (SIC) Manual;
2. Whether they are located on contiguous or adjacent properties; and
3. Whether they are under control of the same person (or persons under common control).

Three Main Factors (Three-Prong Test)

HAP Program (Two-Prong Test)

- Does not include the Industrial Grouping criteria (SIC codes)
- Now there are different definitions of a “single source” for purposes of the HAP program, as compared to the New Source Review (NSR) program.

Prong	CAPs	HAPs
Same SIC Code	X	
Contiguous or Adjacent Properties	X	X
Under Common Control	X	X

Application Fee Basis

- Nebraska Air Quality regulations requires that each air quality construction permit application be accompanied by a non-refundable fee (Title 129, Chapter 3, Section 002.01)
- Fee is based on the amount of pollutants the source will directly emit or have Potential to Emit (PTE), as permitted
 - Includes fugitive emissions

Permit Application Fee Schedule

<u>FACILITY-WIDE PTE</u>	FEE
Less than 50 tons per year of any <u>listed air pollutant</u> ; or Less than 2.5 tons per year of any single hazardous air pollutant (HAP); or Less than 10 tons per year of any combination of HAPs	\$250
50 tons or more but less than 100 tons per year of any <u>listed air pollutant</u> ; or 2.5 tons or more but less than 10 tons per year of any single HAP; or 10 tons or more but less than 25 tons per year of any combination of HAPs	\$1,500
100 tons or more per year of any <u>listed air pollutant</u> ; or 10 tons or more per year of any single HAP; or 25 tons or more per year of any combination of HAPs	\$3,000

Listed air pollutants: Particulate Matter with aerodynamic diameter less than 10 micrometers (PM₁₀), Oxides of Sulfur (SO_x), Nitrogen Oxides (NO_x), Volatile Organic Compounds (VOC), and Carbon Monoxide (CO)

Confidentiality

- Background
- Trade Secrets
- Regulation
- Records that Can Not Be Confidential
- 7 Steps of Confidentiality

Background

- Facilities may claim confidentiality for specific records or information given to OR obtained by NDEE.
- Owner or operator desiring certain information be kept confidential must certify that the information relate to methods of processes entitled to protection as trade secrets under the Trade Secrets Act, Neb. Rev. Stat. §87-501 et seq.

“Trade Secret”

- Neb. Rev. Stat. §87-502(4) defines “trade secret” as: *“information including, but not limited to, a drawing, formula, pattern, compilation, program, device, method, technique, code, or process that: (a) Derives independent economic value, actual or potential, from not being known to, and not being ascertainable by proper means by, other persons who can obtain economic value from its disclosure of use; and (b) Is the subject of efforts that are reasonable under the circumstances to maintain its secrecy.”*

Regulation

- Claims must be submitted in accordance with Title 115, Chapter 2 – Rules of Practice, Confidentiality for Trade Secrets
- The Director of NDEE will evaluate the claim and determine if it will be given confidential status under Neb. Rev. Stat. §81-1527 and §84-712.05.

Records that Can Not Be Confidential

- Public Records laws prevent the Department from withholding records as confidential if they have been disclosed in open court, open administrative proceeding, open meeting, or if they have been disclosed by the Department in its duties.
- Emission data obtained under the Clean Air Act, as amended

7 Steps of Confidentiality

1. Confidentiality claim must be declared at the time of document or record submission, or it will be deemed waived.
2. The claim shall include a cover sheet on the submitted information claiming confidentiality, reasons for the claim, and what information shall be kept confidential.

7 Steps of Confidentiality

3. The notice and reasons for asserting the claim shall include:
 - a. Certification that the information is considered a trade secret
 - b. Description of reasonable measures the facility has taken to protect the confidentiality of the information or record
 - c. Assurance that the information is not obtainable through other means
 - d. Reasons why disclosure of the confidential information can have substantial harmful effects for the business
 - e. A showing that no statute specifically requires disclosure of the information or record

7 Steps of Confidentiality

4. Certification of the claim with a signature from the facility's responsible official (RO)
5. The facility must submit two copies of the information or record, one marked "confidential" with all information included, and one copy with redacted confidential information that serves as the public record copy.

7 Steps of Confidentiality

6. Confidentiality claims must be submitted each time confidential material is submitted to NDEE, even if previously approved for the same information
7. If NDEE denies the claim of confidentiality, the facility will be notified by certified mail. The NDEE will make the information available to the public on the 10th day after the date of the claimant's receipt of written notice

Notification Requirements

Condition II.(A): Construction, reconstruction, or modification

- (1): Written notice no later than 30 days after a source has commenced construction/reconstruction/modification.
- (2): Notification to NDEE within 15 days of the source or modification first becoming operational.
- (3): Any excess emissions from start-ups, unplanned shutdowns, or malfunctions. (Chapter 15, Section 006.05)

Notification Requirements

Condition I.(I): Notifying of physical/operational changes

- Physical or operations changes to emission units or control equipment that makes original performance testing not representative (15 days)
 - Must have been previously tested and have an emission limit
 - Also applies to throughput increases of +10%

Notification Requirements

Condition I.(M)(1): Performance testing notifications

- (a): Written notice to NDEE 30 days prior to performance testing date.
- (g): Certified copy of test results, signed by the tester, within 60 days of completion of the test.

Questions?

- Visit the NDEE Assistance Webpage:
 - <http://dee.ne.gov/NDEQProg.nsf/OnWeb/Assistance>
- Email the Air Program:
 - NDEE.AirQuality@nebraska.gov
- Call Us: (402) 471-2186

PTE Example

- The emission unit is a 50 million Btu/hour natural gas fired boiler. The following is the PTE calculation for nitrogen oxides (NO_x).
- Heating value of natural gas = 1,020 Btu/cubic foot
- Annual operating hours = (365 days/year) x (24 hours/day) = 8,760 hours/year
- Hourly maximum fuel use = $\frac{50 \text{ Million Btu/hr}}{1,020 \text{ Btu/ft}^3} = 49,020 \text{ cubic feet/hr}$
-
- NO_x emission factor from AP-42 = 100 pounds of NO_x emitted per million ft³ of natural gas burned
- 8760 hr/yr x 49,020 ft³ natural gas/hr = 429.41 million ft³ natural gas/year
- 429.41 million ft³ natural gas/yr x 100 pounds NO_x/ million ft³ natural gas = 42,941 pounds of NO_x per year
- 42,941 pounds/yr ÷ 2,000 pounds/ton = 21.47 tons/year

Application Fee Example 1

- You plan to build a new painting facility (source) to replace an existing facility that has a PTE of 12 tons per year for a single Hazardous Air Pollutant (HAP). In the application you propose to accept limits on the new source in the construction permit to keep single HAP emissions below 2.5 tons per year and total HAP emissions below 10 tons per year to avoid the requirement to apply best available control technologies to the process in accordance with Chapter 13.
- A \$250 fee is required with your construction application.

Application Fee Example 2

- You currently operate a source that has a facility-wide PTE as shown in column 2 of the table below. You plan to add a new emission unit that has a PTE as listed in column 3. After the application is processed, the facility-wide PTE adds up to the values in column 4.

Air Pollutant	Current Facility-wide PTE (tons/yr)	PTE of new equipment (tons/yr)	Facility-wide PTE under new permit (tons/yr)
PM ₁₀	40	8	48
VOC	23	41	64

- Since the PTE for VOCs is between 50 and 100 tons per year, you must submit a \$1,500 fee with the construction permit