

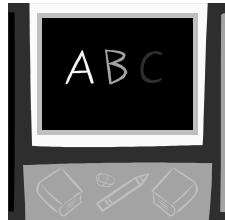
Air Quality Basics

Air 101 Workshop
May 2008
Melissa Ellis



Overview

- Program Objectives
- Regulatory Background
- Regulated Pollutants
- What do we do & why?
- Where are we?
- How can we help you?

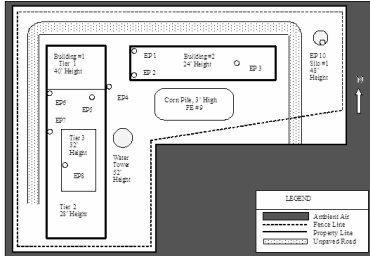


Program Objectives

- Protect public health, welfare, & environment
- Develop & enforce regulations
- Air quality
 - Status of atmosphere

Ambient Air

- Air general public can access



Ambient Air



Regulatory Background

- Congress enacts Clean Air Act (CAA)
 - First legislation – 1955
 - First CAA 1963 -
 - Amended 1990 (CAAA)
- EPA develops regulations based on CAAA
 - Ambient Air Quality Standards (NAAQS)
 - National Emission Standards for Hazardous Air Pollutants (NESHAPs)

Regulatory Background

- NAAQS
 - Primary - health-based
 - Secondary – public welfare
 - “Criteria Pollutants”
 - Attainment – in compliance with NAAQS
 - Non-attainment – out of compliance
- NE currently in attainment for all pollutants
- Attainment status will affect level of control



Regulatory Background

- NESHAPS
 - Not “criteria pollutants”
 - Hazardous air pollutants
 - Can cause or contribute to cancer or other serious health effects
 - More on these later!

Coming soon!

Regulatory Background

- Federal Regulations found in Code of Federal Regulations (CFR)
 - Title 40 – Protection of Environment
 - Air Rules – Parts 1-99
 - Broken into Subparts
- Federal regulations and other actions public noticed in Federal Register = promulgation

Regulatory Background

- Nebraska Environmental Protection Act (NEPA)
 - Legislative statute
 - Authority to develop regulations
- State air regulations
 - Can develop state standards and/or
 - Adopt EPA regulations
 - May need new legislative authority for some regulations
 - Can be more stringent than EPA

Regulatory Background

- Environmental Quality Council (EQC)
 - Must approve our rules
 - 18 members – represent various industries & interests
 - Appointed by Governor with Legislature Consent
 - Four year term
 - Meet each calendar quarter
- EQC Adoption → AG review → Sec. Of State review → Governor review & approve
- Title 129 – Nebraska Air Quality Regulations

Regulated Pollutants

- Particulate matter (PM)
 - PM <100 microns
 - PM₁₀
 - Annual NAAQS
 - PM_{2.5}
 - Annual & 24-hour NAAQS
 - Dust, smoke, fly ash, etc.



Regulated Pollutants

- Sulfur Dioxide – SO_2 , SO_3 , SO_x
 - SO_x = Combination of SO_2 & SO_3
 - SO_2 - Annual, 24-hour, & 3-hour NAAQS
 - Combustion
- Nitrogen Oxide – NO_x
 - Annual NAAQS
 - Combustion
 - Contributes to ozone formation



Regulated Pollutants

- Carbon Monoxide – CO
 - 8-hour & 1-hour NAAQS
 - Combustion
- Ozone – O_3
 - 8-hour & 1-hour NAAQS
 - Secondary formation – NO_x + VOC + Sunlight



Regulated Pollutants

- Volatile Organic Compounds – VOC
 - Contributes to ozone formation
 - Combustion, solvents, paints, chemicals, etc.
 - Some are hazardous air pollutants (HAP)
- Lead – Pb
 - Metal HAP
 - Quarterly average NAAQS
 - Paints, fuel



Regulated Pollutants

- Total Reduced Sulfur – TRS
 - NE ambient air quality standard
 - 1-minute average & 30 minute rolling average
 - Hydrogen sulfide, methyl mercaptan, dimethyl sulfide, & dimethyl disulfide
 - Packing plant, tanning, sewage treatment, livestock waste, rendering, & oil & natural gas extraction

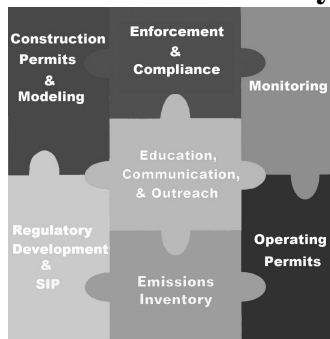


Regulated Pollutants

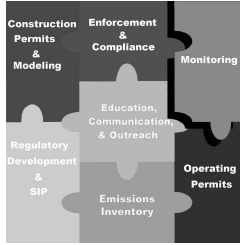
- Hazardous Air Pollutant – HAPs
 - National Emission Standards for Hazardous Air Pollutants (NESHAPs)
 - 187 regulated HAPs
 - Combustion, solvents, chemicals, paints, etc.



What do we do & Why?



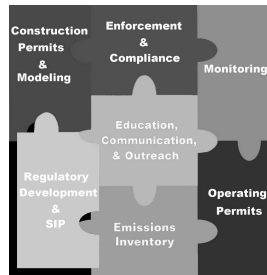
Monitoring



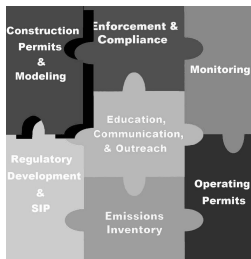
- Ensure compliance with ambient air standards
 - Attainment or Non-attainment
- Collect and analyze ambient air samples
- More information in “Air Quality Report” on web

Regulatory Development

- Develop regulations
- Update federal regulations referenced in Title 129
- Submit implementation plans to EPA



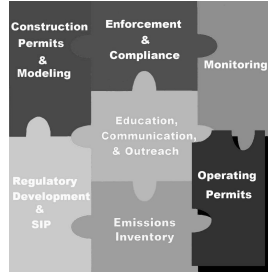
Construction Permits & Modeling



- Allow construction of an emission unit
- Limit impacts on the ambient air quality
- Establish enforceable requirements on the emission unit

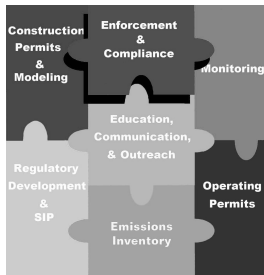
Operating Permits

- “One stop shopping” permit
- Compliance determinations easier
- Public awareness



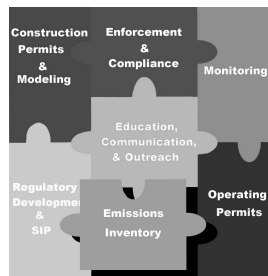
Compliance & Enforcement

- Ensure compliance with permits and regulations
- Inspections
- Review reports
- Observe stack tests
- Investigate complaints

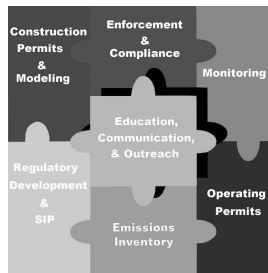


Emission Inventory

- Collect actual emissions data from industry annually
- Collect fees from major sources (Class I)
- Input data electronically & send to EPA



Communication, Education, & Outreach



- Assistance
- Guidance documents
- Training
- Workshops
- Federal emission standards
- Work plans
- More!

Where are we?

- NDEQ main office
 - Lincoln – 12th & ‘N’ St. Atrium
- Field Offices with Air Inspectors
 - Norfolk, Holdrege, North Platte



Where are we?

- Local Air Quality Programs
 - Lincoln Lancaster County
 - City of Omaha
- EPA Region VII Office
 - Kansas City



Contact Info

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- NDEQ Website
 - www.deq.state.ne.us