

## THE AIR DVD: *Chapter 4 – Federal Standards*

The Environmental Protection Agency has developed federal regulations to control air pollution.

These regulations are based on the Clean Air Act.

Although your air permit will list federal regulations that apply to your facility, you may be subject to additional federal regulations that aren't listed in your permit. Let's take a look at some of them.

National Ambient Air Quality Standards, or NAAQS, are the basis for many federal air quality regulations.

NAAQS are designed to protect public health and environment.

These standards are based on scientific studies conducted over many years. They are expressed as either micrograms per cubic meter or parts per million, over a specified period of time.

NAAQS regulate six pollutants, known as "criteria pollutants". They are: particulate matter less than ten microns in diameter and less than 2.5 microns in diameter, sulfur dioxide, nitrogen dioxide, ozone, carbon monoxide, and lead.

We have monitors located throughout the state that measure the concentration of criteria pollutants in the ambient air. We also have monitors that measure total reduced sulfur and mercury.

The Nebraska Air Quality Report summarizes this monitoring data. You can find the report on our website.

Areas at or below threshold levels are considered attainment areas.

If the concentration of a criteria pollutant in an area exceeds the threshold level, the area will be classified as a nonattainment area.

As of 2010, all areas in Nebraska are in attainment. As new science about the health effects from air pollution becomes available, the EPA evaluates and revises the standards. Therefore, Nebraska's attainment status may change in the future.

Nonattainment areas pose risks to our health. They also could impact economic growth. Businesses may decide against expanding or may decide to move if they can't afford the controls needed to return an area to attainment status.

New businesses may decide not to locate in these areas if they are unable to afford emission controls.

We also maintain the NAAQS through permitting programs. Before facilities are permitted to construct or expand their operations, their expected emissions are evaluated to ensure that the ambient air quality is protected.

The EPA developed and the NDEQ implements the New Source Review program. This program ensures that any new emissions of a major source, when added to the source's existing emissions, will not violate the NAAQS.

There are two conditions under which a source qualifies as major. Either the source is one of 26 specific industrial categories that emit or have the potential to emit 100 tons of any regulated air pollutant per year or the source emits or has the potential to emit 250 tons of regulated pollutants per year.

A list of the industrial categories can be found in Title 129, Chapter 2.

Major sources constructing in attainment areas follow the Prevention of Significant Deterioration rules.

Sources constructing in nonattainment areas must follow more stringent new source review standards and implement additional controls to reach the lowest achievable emission rate.

The NSR and the state construction permit programs are discussed in Chapter 2 of this DVD.

You can also refer to the NDEQ website under Publications for more information.

The EPA has developed operating permit rules for major sources of air pollution called the Title V Operating Permit Program

This program incorporates all of a source's regulations into one permit, making it easier to maintain compliance.

Sources needing Title five permits are called Class one sources. You are a Class I source if your actual and potential annual emissions are above 100 tons of criteria pollutants, 10 tons of a single hazardous air pollutant, 25 tons of combined HAPs, or 5 tons of lead.

The NDEQ implements the title V program and issues permits to major sources. We also issue permits to minor sources of air pollution.

More information about title five regulations can be found in chapter 2 of this DVD.

The Regional Haze Program is designed to protect visibility in federal parks and wildlife areas.

To reduce haze, the EPA requires states to create long-term strategies for reducing air pollutant emissions.

One strategy involves the installation of the best available retrofit technology, or BART, by certain sources.

We have more information about regional haze and BART on our website.

The EPA has established standards for specific industries and emission units called New Source Performance Standards, or NSPS.

NSPS have been in place since the 1970s, but are frequently revised. They are based on the best demonstrated control methods available.

They are found in Part 60 of the Code of Federal Regulations and in Chapter 18 of Title 129.

Most NSPS rules control criteria pollutant emissions. However, a few “non criteria pollutants” are regulated, such as hazardous air pollutants, landfill gas, and total reduced sulfur.

NSPS regulations typically apply to new, modified, or reconstructed stationary sources

A modification is a physical or operational change that results in an increase of emissions.

Reconstruction is defined as the replacement of components at an existing facility if the fixed capital cost of the replacement is greater than 50% of the cost of a new facility.

Each NSPS specifies its emission limits and requirements for control technology, reporting, recordkeeping, monitoring, and testing.

The EPA has also developed emission guidelines that apply to existing stationary sources. The EPA has primarily used these guidelines to control emissions from incinerators.

The guidelines for existing sources are also found in Part 60 of the federal rules. The guidelines are structured like the new source performance standards, but apply to existing sources instead of new sources.

Sources that have to comply with an NSPS or emission guideline must also follow the requirements in Part 60 Subpart A, called the General Provisions.

The General Provisions provide requirements for construction, compliance, reporting, recordkeeping, testing, and monitoring.

Hazardous air pollutants, or HAPS, are known or suspected to cause cancer, birth defects, reproduction problems, or other serious illnesses. HAPS are commonly referred to as air toxics.

The EPA currently regulates 187 HAPS under their federal air program.

The list of HAPS is reviewed periodically and can be revised as needed.

Examples of HAPs are benzene from gasoline, perchlorethylene from some dry cleaning facilities, and methylene chloride which is used as a paint stripper.

When HAPS were first regulated, national standards were based on the health risks posed to humans. The EPA regulated pollutants one at a time and only eight HAPS were addressed in twenty years.

These standards are still enforced and are found in part 61 of the federal regulations and Chapter 23 of Title 129. Congress revised their rule development process in 1990. Now, the EPA creates a list of source categories that emit air toxics, then, develops regulations for each category.

These standards are found in Part 63 of the rules and in Chapter 28 of Title 129. Both sets of standards are called National Emission Standards for Hazardous air pollutants, or NESHAPs but we often refer to the newer standards as Maximum Achievable Control Technology Standards, or MACT.

MACT standards take many forms. Some allow for flexibility while others are very specific. They can include regulations on emission rates, pollution control equipment, or work practices.

The EPA is required to review each standard 8 years after it is promulgated and will make changes if there are remaining risks to our health and environment.

When the EPA develops a MACT standard, it first establishes a baseline called the MACT floor. Standards cannot be less stringent than the MACT floor.

The EPA can establish standards that are more stringent than the MACT floor based on the economic, environmental, and public health benefits.

Sources that emit HAPs are classified as either major or area sources.

“Major Sources” are those that have the potential to emit over 10 tons of a single HAP per year or over 25 tons of combined HAPs per year. These larger emitting sources will typically be subject to more stringent MACT standards.

“Area Sources” are those that have the potential to emit less than 10 tons per year of a single HAP or less than 25 tons of combined HAPS per year. These are typically smaller facilities like dry cleaners and gas stations.

Area sources are subject to either MACT or less stringent standards called generally available control technology standards, or GACT.

Air Toxics standards can apply to new or existing sources. New sources are those constructed or reconstructed after the EPA proposes a standard.

After a rule is finalized, existing sources usually have three years to comply with the standard. New sources typically have to comply as soon as they start up their operation.

Each standard states which sources are subject to the rule. The standards also include emission limits, control equipment requirements, monitoring, recordkeeping, stack testing and reporting requirements.

Air toxics standards require sources to submit notifications and reports. These can include initial notifications, compliance status notifications, and periodic compliance reports.

All major sources subject to a MACT standard on its compliance date are required to comply permanently with the standard. This policy is referred to as the “once in, always in” policy.

The EPA proposed revisions to this policy which would allow a major source to become an area source if it lowered its potential to emit below the major source threshold. Check the EPA’s website for updates on this proposal.

Sources that have to comply with a NESHAP in Part 63 must also follow the requirements in Subpart A, called the General Provisions.

The General Provisions contain definitions of important terms. It also lists your reporting, recordkeeping, testing, and monitoring requirements.

When a MACT standard doesn’t exist for a source that is constructing or reconstructing, local air agencies must develop one.

For this to happen, the new or reconstructed source must have the potential to emit 10 tons or more of a single HAP or 25 or more tons of combined HAPS.

This ensures that the public is protected until the EPA develops an official standard. This requirement is also referred to as 112(g) and can be found in Title 129, Chapter 27.

The EPA is given deadlines for establishing MACT standards. If they fail to establish a standard within 18 months of its due date, 112(j) of the Clean Air Act will apply and the MACT Hammer falls. Then, states must develop air toxics standards for major sources of HAP on a case by case basis.

The Hammer may also fall if a court vacates a standard, removing it from the regulations. Then, it is as if the rule never existed and the EPA has missed its deadline.

It is your responsibility to understand and comply with the air toxics standards. These rules can be very complex.

The air toxics notebook is our online tool to help you understand air toxics regulations. It can be found on our website from the air toxics program page. The notebook contains applicability information, links to the regulations, notification forms, implementation tools, and other resources for each air toxics rule.

You can also find general air toxics information from the air toxics program page, including an air toxics 101 section. Between the air toxics notebook and the air toxics program page, a wealth of air toxics information can be accessed at any time.

We have only touched on some of EPA's air regulations. For instance, they have also developed programs to address acid rain, pollutant trading, stratospheric ozone protection, mobile source pollution, and climate change. You can find more information on these and other federal programs on EPA's Air website. [www.epa.gov/air](http://www.epa.gov/air)  
[www.epa.gov/region7/air/index.htm](http://www.epa.gov/region7/air/index.htm)