How Hazardous Air Pollutants Are Regulated In Permitting

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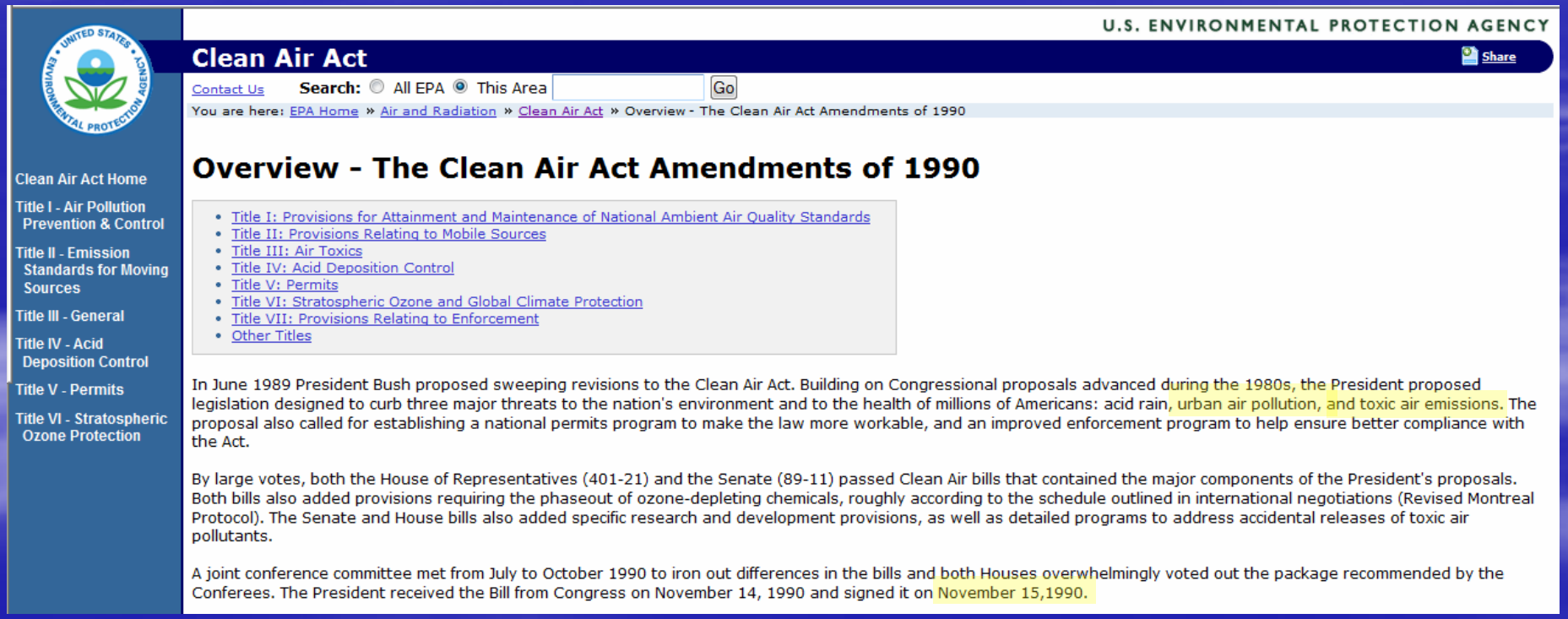
The 1990 Clean Air Act Amendments

http://www.epa.gov/air/caa/caaa_overview.html



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Clean Air Act

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Overview - The Clean Air Act Amendments of 1990

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In June 1989 President Bush proposed sweeping revisions to the Clean Air Act. Building on Congressional proposals advanced during the 1980s, the President proposed legislation designed to curb three major threats to the nation's environment and to the health of millions of Americans: acid rain, urban air pollution, and toxic air emissions. The proposal also called for establishing a national permits program to make the law more workable, and an improved enforcement program to help ensure better compliance with the Act.

By large votes, both the House of Representatives (401-21) and the Senate (89-11) passed Clean Air bills that contained the major components of the President's proposals. Both bills also added provisions requiring the phaseout of ozone-depleting chemicals, roughly according to the schedule outlined in international negotiations (Revised Montreal Protocol). The Senate and House bills also added specific research and development provisions, as well as detailed programs to address accidental releases of toxic air pollutants.

A joint conference committee met from July to October 1990 to iron out differences in the bills and both Houses overwhelmingly voted out the package recommended by the Conferees. The President received the Bill from Congress on November 14, 1990 and signed it on November 15,1990.

Urban Air Toxics

- Bernalillo County has a MSA population over 250,000 and is thus included in EPA's Urban Air Toxics Strategy goals to reduce cancer incidences by 75%, and substantially reduce public health risks especially among highly exposed population groups. Mobile sources are targeted as well.
- The Clean Air Act required EPA to identify a list of at least 30 air toxics that pose the greatest potential health threat in urban areas and create a list of stationary source categories contributing 90% of the listed air toxics
- As a result, EPA identified a list of 33 air toxics of the 188 toxic air pollutants and identified 70 source categories. To date, EPA has created standards for 14 of the 70 sources.

Urban Air Toxics List of 33

acetaldehyde	ethylene oxide
acrolein	formaldehyde
acrylonitrile	hexachlorobenzene
arsenic compounds	hydrazine
benzene	lead compounds
beryllium compounds	manganese compounds
1, 3-butadiene	mercury compounds
cadmium compounds	methylene chloride
carbon tetrachloride +	nickel compounds
chloroform	polychlorinated biphenyls (PCBs)
chromium compounds	polycyclic organic matter (POM)
coke oven emissions +	quinoline
dioxin	1, 1, 2, 2-tetrachloroethane
ethylene dibromide +	perchloroethylene
propylene dichloride	trichloroethylene
1, 3-dichloropropene	vinyl chloride
ethylene dichloride	--

Source Categories Common in Bernalillo County

- Gas Stations
- Stationary Internal Combustion Engines
- Dry Cleaners
- Paint & Body Shops
- Hospital Sterilizers
- Municipal Landfills
- Chrome Electroplating

Title III – Air Toxics

http://www.epa.gov/air/caa/caaa_overview.html

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Title III: Air Toxics

Toxic air pollutants are those pollutants which are hazardous to human health or the environment but are not specifically covered under another portion of the Clean Air Act. These pollutants are typically carcinogens, mutagens, and reproductive toxins. The Clean Air Act Amendments of 1977 failed to result in substantial reductions of the emissions of these very threatening substances. In fact, over the history of the air toxics program only seven pollutants have been regulated.

We know that the toxic air pollution problem is widespread. Information generated from The Superfund "Right to Know" rule (SARA Section 313) indicates that more than 2.7 billion pounds of toxic air pollutants are emitted annually in the United States. EPA studies indicate that exposure to such quantities of air toxics may result in 1000 to 3000 cancer deaths each year.

The Clean Air Act of 1990 offers a comprehensive plan for achieving significant reductions in emissions of hazardous air pollutants from major sources. Industry reports in 1987 suggest that an estimated 2.7 billion pounds of toxic air pollutants were emitted into the atmosphere, contributing to approximately 300-1500 cancer fatalities annually. The new law will improve EPA's ability to address this problem effectively and it will dramatically accelerate progress in controlling major toxic air pollutants.

The new law includes a list of 189 toxic air pollutants of which emissions must be reduced. EPA must publish a list of source categories that emit certain levels of these pollutants within one year after the new law is passed. The list of source categories must include: (1) major sources emitting 10 tons/year of any one, or 25 tons/year of any combination of those pollutants; and, (2) area sources (smaller sources, such as dry cleaners).

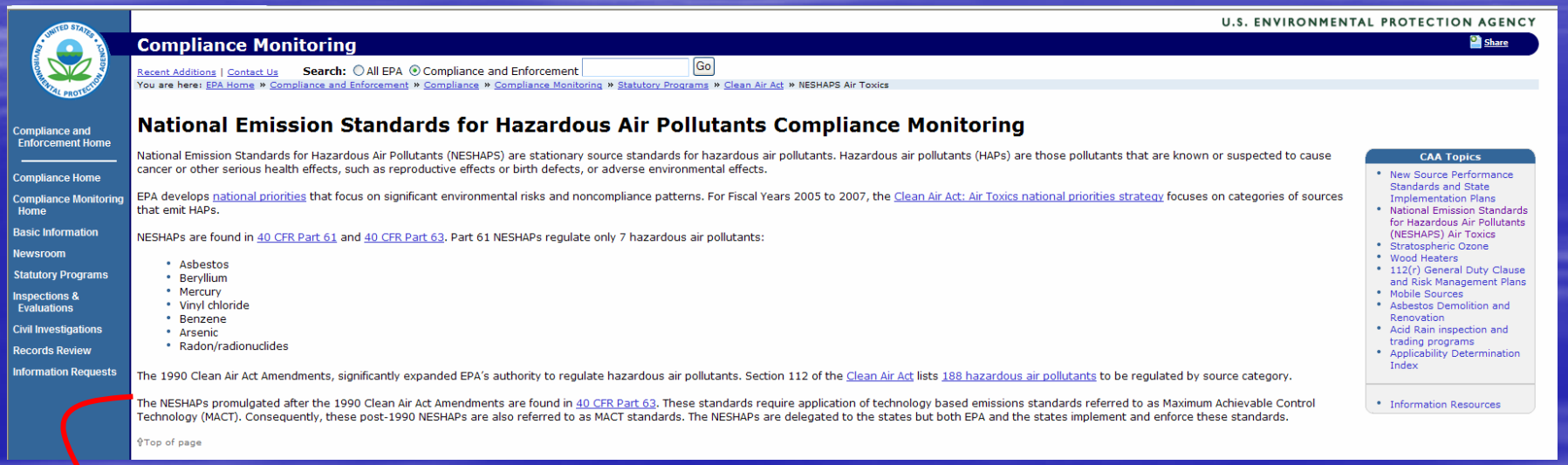
EPA then must issue "Maximum Achievable Control Technology" (MACT) standards for each listed source category according to a prescribed schedule. These standards will be based on the best demonstrated control technology or practices within the regulated industry, and EPA must issue the standards for forty source categories within two years of passage of the new law. The remaining source categories will be controlled according to a schedule that ensures all controls will be achieved within 10 years of enactment. Companies that voluntarily reduce emissions according to certain conditions can get a six year extension from meeting the MACT requirements.

Eight years after MACT is installed on a source, EPA must examine the risk levels remaining at the regulated facilities and determine whether additional controls are necessary to reduce unacceptable residual risk.

The new law also establishes a Chemical Safety Board to investigate accidental releases of chemicals. Further, the new law requires EPA to issue regulations controlling air emissions from municipal, hospital and other commercial and industrial incinerators.

Regulating Hazardous Air Pollutants

http://www.epa.gov/Compliance/monitoring/programs/caa/neshaps.html



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National Emission Standards for Hazardous Air Pollutants Compliance Monitoring

National Emission Standards for Hazardous Air Pollutants (NESHAPS) are stationary source standards for hazardous air pollutants. Hazardous air pollutants (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 effects.

EPA develops national priorities that focus on significant environmental risks and noncompliance patterns. For Fiscal Years 2005 to 2007, the Clean Air Act: Air Toxics national priorities strategy focuses on categories of sources that emit HAPs.

NESHAPs are found in 40 CFR Part 61 and 40 CFR Part 63. Part 61 NESHAPs regulate only 7 hazardous air pollutants:

- Asbestos
- Beryllium
- Mercury
- Vinyl chloride
- Benzene
- Arsenic
- Radon/radionuclides

The 1990 Clean Air Act Amendments, significantly expanded EPA's authority to regulate hazardous air pollutants. Section 112 of the Clean Air Act lists 188 hazardous air pollutants to be regulated by source category.

The NESHAPs promulgated after the 1990 Clean Air Act Amendments are found in 40 CFR Part 63. These standards require application of technology based emissions standards referred to as Maximum Achievable Control Technology (MACT). Consequently, these post-1990 NESHAPs are also referred to as MACT standards. The NESHAPs are delegated to the states but both EPA and the states implement and enforce these standards.

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Maximum Achievable Control Technology – "MACT"

- The 1990 Clean Air Act Amendments led to the creation of standards for hazardous air pollutants that are "technology based" and are not health based standards or ambient standards that are analyzed in an air dispersion model
- MACT definition – "The maximum degree of reduction in HAP emissions the Administrator determines is achievable, considering the cost of achieving the reduction and any non-air-quality health and environmental impacts and energy requirements" [CAA § 112(d)(2)].

Maximum Achievable Control Technology – "MACT"

For New Sources:

- The emission control achieved in practice by the best controlled similar source [CAA § 112(d)(3)]

For Existing Sources:

- The average emission limitation achieved by the best performing 12% of existing sources if there are 30 or more sources / facilities [CAA §112(d)(3)(A)], or
- The average emission limitation achieved by the best performing 5 of the existing sources if fewer than 30 sources / facilities [CAA §112(d)(3)(B)]

The National Emission Standards for Hazardous Air Pollutants

- The actual standards are codified under 40 CFR 61– "National Emission Standards for Hazardous Air Pollutants" and 40 CFR 63 – "National Emission Standards for Hazardous Air Pollutants for Source Categories"
- "NESHAP" is the acronym commonly used for these standards
- The NESHAP standards are delegated to the COA/EHD/AQD and enforced locally through 20.11.64 NMAC – *Emission Standards for Hazardous Air Pollutants for Stationary Sources*

NESHAP Source Categories

- If a “source category” is subject to the NESHAP regulations under 40 CFR 61 or 63, the requirements are incorporated into the air permit issued by the AQD and enforced through 20.11.41 NMAC.

NESHAP Source Categories Requiring Permits

- (examples most common in Bernalillo County: Dry cleaners, gas stations, paint and body shops, chrome electroplaters)
- Cement Distribution Terminals such as American Cement are not listed as a “source category” subject to NESHAP requirements.

NESHAP Source Categories

- List of Source Categories subject to the NEHSAP regulations can be found at the following links:

  http://www.epa.gov/ttn/atw/mactfnlalph.html

  http://www.epa.gov/ttn/atw/area/arearules.html

Questions?