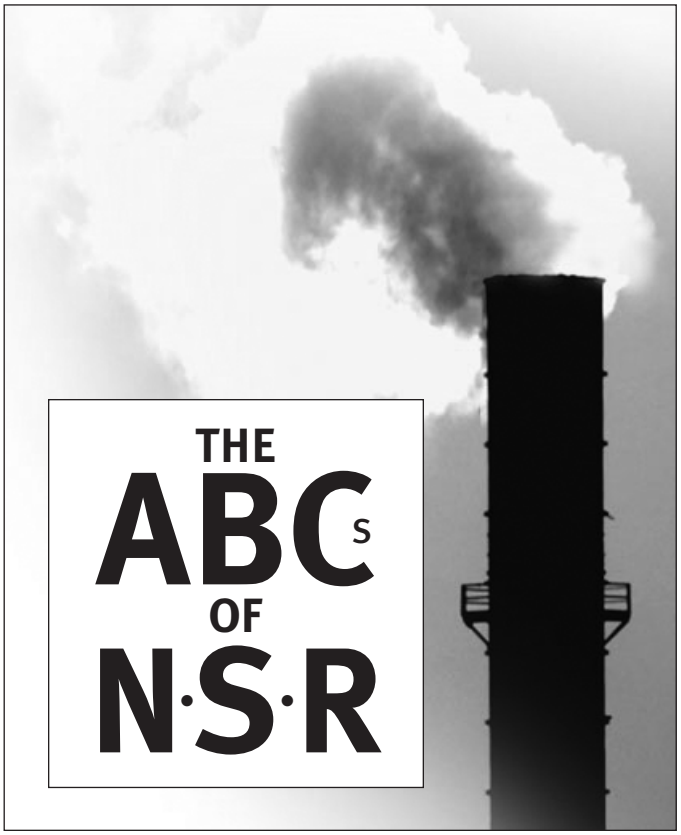

A CITIZEN'S GUIDE TO THE CLEAN AIR ACT'S NEW SOURCE REVIEW PERMITTING PROCESS

New York Public Interest Research Group Fund

December 2005

This publication was developed under Federal Cooperative Agreement No. CXA-831584-01-0 awarded by the U.S. Environmental Protection Agency (EPA). It has not been formally reviewed by EPA. The views expressed in this document are solely those of the New York Public Interest Research Group Fund, Inc., and EPA does not endorse any products or commercial services mentioned in this publication.

© 2005, New York Public Interest Research Group Fund

The New York Public Interest Research Group Fund (NYPIRG) is New York's largest environmental and consumer organization. NYPIRG has played a central role in a wide range of environmental issues in New York State more than thirty years. These include air, energy, water, lead, toxics, solid waste, hazardous waste, and pesticides. For more information, visit www.nypirg.org.

An electronic copy of this manual can be downloaded free of charge from www.nypirg.org. Print copies are available for $10 each by contacting:

NYPIRG
9 Murray Street, 3rd Floor
New York, NY 10007
(212) 349-6460
info@nypirg.org

Cover Design: Li Howard

The ABCs of NSR

A Citizen's Guide to the Clean Air Act's New Source Review Permitting Process

Principal Author and Editor: Laura Haight

Contributing Authors: Lisa F. Garcia, Jason K. Babbie, and Kelly Haragan

New York Public Interest Research Group Fund

December 2005

Acknowledgements

Many people contributed to the completion of this project. The authors would like to thank everyone who helped over the years and hope that we have not left anyone out who deserves acknowledgement.

Laura Haight is the principal author and editor of this manual. Jason K. Babbie of NYPIRG and Kelly Haragan of the Environmental Integrity Project provided technical assistance and contributed portions of the text. The project was completed under the direction of NYPIRG's executive director Rebecca J. Weber.

Lisa F. Garcia developed the original structure for the manual and drafted portions of the text, with the assistance of Antonia Bryson of the Urban Environmental Law Center and under the direction of NYPIRG's former executive director Chris Meyer.

Portions of this manual were excerpted from "The Proof is in the Permit: How to Make Sure a Facility in Your Community Gets an Effective Title V Air Pollution Permit," written by Keri Powell, who previously worked at NYPIRG and who initiated this project.

We would like to thank the following NYPIRG interns and staff for their assistance with research and preparation of this manual: Leena Raut, Katherine Kendall, Edward Kravitz, Tom Hackman, Susan Craine, Melinda Sobin, Rachel Tronzano, and Andy Goldberg. Special thanks to Liam Arbetman, for lay-out and technical assistance, and Li Howard, for the cover design.

We greatly appreciate the input from staff at the U.S. Environmental Protection Agency Office of Air Quality Planning and Standards at Research Triangle Park, in particular Juan Santiago, who provided detailed comments on the entire manual. We would also like to thank Pam Long, Mark Sendzik, Racqueline Shelton, Jabeen Akhtar, Dan DeReock, Grecia Castro, and Melissa McCullough.

In addition, we thank the following EPA regional staff for reviewing and commenting on draft sections of the manual: Laura Yannayon, Region 9; Jim Little, Region 4; Genevieve Damico, Region 5; and David Neleigh, Region 6. Their input was invaluable.

continued on next page

We are enormously grateful to the following individuals who shared their time, insight, expertise and encouragement through interviews and case studies:

Gary Abraham, environmental attorney
Neil Carman, Ph.D., Sierra Club Lone Star Chapter
Phyllis Fox, environmental consultant
Lisa F. Garcia and Suzanne Shaw, Rutgers Environmental Law Clinic
Marc Gerstman, environmental attorney
Kelly Haragan, Environmental Integrity Project
Dona Hipert, Northwest Environmental Defense Center
Arthur Kell, former NYPIRG staff
Bruce Nilles, Sierra Club
Verena Owen, Lake County Conservation Alliance
Sam Pratt, Friends of Hudson
Larry Shapiro, Rockefeller Family Fund
Rev. Marvin Smith, St. Clair-Superior Neighborhood Development Corp.
Robert Ukeiley, environmental attorney
Lyman Welch, Mid-Atlantic Environmental Law Center
Jane Williams, California Communities Against Toxics

In addition, thanks to John Blair, David Frederick, Helen Kang, Anjali Mathur, Keri Powell, Eric Uram, and Adam Zeller for providing background information and suggestions for case studies and interviews.

Finally, we would like to offer our special thanks to Jason Babbie, Kelly Haragan, Verena Owen, Keri Powell, Robert Ukeiley, and others for reviewing portions of the manual. Their comments greatly strengthened the final product. Their listing does not constitute an endorsement of the content of this manual.

The article, “From White Knight Lawyers to Community Organizing,” originally published in “Race, Poverty & the Environment,” Fall 1994/Winter 1995, a joint publication of Urban Habitat and the California Rural Legal Assistance Foundation, was reprinted with permission from the publishers.

This manual is dedicated to all the people working to protect the air we breathe and to improve the quality of life in our communities.

“Never doubt that a small group of thoughtful, committed citizens can change the world; indeed it's the only thing that ever does.”

- Margaret Mead

AUTHORS' BIOGRAPHIES

Principal Author and Editor

Laura Haight is senior environmental associate for the New York Public Interest Research Group (NYPIRG), where she currently directs NYPIRG's statewide toxics, solid waste and pesticide projects. Ms. Haight has extensive experience reviewing and commenting on environmental permits, and has published articles, reports, and citizens' guides on a range of environmental issues. She may be reached at: NYPIRG, 107 Washington Ave., Albany, NY 12210, (518) 436-0876 or at lhaight@nypirg.org.

Contributing Authors

Lisa F. Garcia is an assistant clinical professor of law at the Rutgers Environmental Law Clinic, where she started an Urban Health and Environmental Justice program that represents environmental and civic groups on a range of environmental matters. Prior to joining Rutgers, she served as a staff attorney with NYPIRG, where she directed NYPIRG's Air Quality Litigation Project. She may be reached at: Rutgers Environmental Law Clinic, 123 Washington St., Newark, NJ 07102-3094, (973) 353-5695 or at lgarcia@kinoy.rutgers.edu.

Jason K. Babbie is NYPIRG's environmental policy analyst, directing NYPIRG's statewide clean air and energy projects as well as federal environmental campaigns. Mr. Babbie participated in a state working group reviewing potential revisions to New York's New Source Review program, and currently serves on the Board of Reviewers for the Queens Clean Air Project. He may be reached at: NYPIRG, 9 Murray St., New York, NY 10007, (212) 349-6460 or at jkb@nypirg.org.

Kelly Haragan has represented communities fighting for cleaner air and water as both a private attorney and as counsel for public interest organizations. Ms. Haragan is currently counsel with the Environmental Integrity Project, where she works with communities around petrochemical facilities to strengthen air pollution limits and improve industrial compliance. She may be reached at: Environmental Integrity Project, 919 18th St., NW, Suite 975, Washington, D.C. 20006, (202) 263-4449 or at kharagan@environmentalintegrity.org.

TABLE OF CONTENTS

LIST OF APPENDICES

LIST OF TABLES

LIST OF BOXES

ACRONYMS

AQRV	Air Quality Related Value
BACT	Best Available Control Technology
CAA	Clean Air Act
CEMS	Continuous Emissions Monitoring System
CFR	Code of Federal Regulations
CO	Carbon Monoxide
EAB	Environmental Appeals Board
EPA	U.S. Environmental Protection Agency
ERC	Emission Reduction Credit
EU	Emissions Unit
EUSGU	Electric Utility Steam Generating Unit
FLM	Federal Land Manager
FOIA	Freedom of Information Act
HAP	Hazardous Air Pollutant
LAER	Lowest Achievable Emission Rate
LDAR	Leak Detection and Repair
MACT	Maximum Achievable Control Technology
NAAQS	National Ambient Air Quality Standard
NA NSR	Nonattainment Area New Source Review
NO_2	Nitrogen Dioxide
NO_x	Nitrogen Oxides
NOV	Notice of Violation
NSPS	New Source Performance Standard
NSR	New Source Review
O_3	Ozone
PAL	Plantwide Applicability Limit
PM	Particulate matter
$PM_{2.5}$	Particulate matter of 2.5 microns or less in diameter
PM_{10}	Particulate matter of 10 microns or less in diameter
PSD	Prevention of Significant Deterioration
PTE	Potential to Emit
RBLC	RACT/BACT/LAER Clearinghouse
RMRR	Routine Maintenance, Repair, and Replacement
SIP	State Implementation Plan
TPY	Tons Per Year
SO_2	Sulfur Dioxide
VOC	Volatile Organic Compound

Introduction: The Importance of Citizen Involvement in New Source Review

a) Overview of the NSR Program

The New Source Review (NSR) program is one of the key regulatory programs established in the federal Clean Air Act to protect the nation's air quality. Created by Congress as part of the 1977 Clean Air Act amendments, the NSR program applies to major industrial sources of air pollution when they are built or undergo modifications that will significantly increase their emissions.

While the program itself is complex, its purpose is simple. The NSR program is designed to ensure that major industrial sources of air pollution do not significantly degrade air quality in areas that meet national air quality standards, or interfere with progress toward attaining federal air quality standards in areas where the air quality is poor.

To comply with NSR, any new major facility or existing facility undergoing a major modification must apply for and obtain a permit prior to construction.[1] Among other things, the permit must require the source to install and operate up-to-date pollution control technology. No permit can be issued until after the public has been notified and given at least thirty days to review and comment on the draft permit.

The New Source Review program has prevented millions of tons of air pollutant emissions each year.[2] However, many of the nation's oldest and dirtiest plants continue to operate without up-to-date pollution controls. This is because when the NSR program was created, it "grandfathered" existing sources of industrial pollution. If a plant was built before 1977, it can continue operating without undergoing NSR until such time as it is modified in a way that significantly increases its emissions.

Congress intended that these older facilities would eventually require NSR permits as a result of upgrading or modernizing their plants and equipment. The NSR requirements were designed to provide a mechanism for continual improvement and efficiency of air emissions controls at industrial facilities.

---

[1] The thresholds for what is considered a major source or major modification, and what types of modifications are covered under the NSR program, will be discussed further in Chapters 3 and 4.
[2] "A Breath of Fresh Air: Reviving the New Source Review Program," (National Academy of Public Administration, April 2003), at 84. Available on-line at www.napawash.org. Referred to hereafter as the "NAPA Report."

b) Our Health at Risk

The public pays a steep price for the ongoing pollution of our air, through premature deaths, cardiac and respiratory ailments, emergency room visits, hospitalizations, and lost work time. Despite the progress that has been made to improve the nation's air quality, in 2002 approximately 146 million people nationwide lived in counties with unhealthy air pollution levels.[3]

By requiring state-of-the-art pollution controls on new major industrial sources and requiring older facilities to upgrade their pollution controls when they are significantly expanded or modified, the NSR program has the potential to improve air quality.[4] The health benefits of upgrading pollution controls at sources constructed prior to 1977 are particularly noteworthy. For example:

- It is estimated that older coal-burning power plants emit as much as ten times more nitrogen oxides and sulfur dioxide as modern coal plants.[5] A major study of these facilities concluded that as many as 18,000 premature deaths and 366,000 asthma attacks could be prevented *each year* if the nation's existing "grandfathered" coal-fired power plants met modern emissions standards.[6]

- Another study estimated that particulate emissions from nine older power plants upwind of Chicago caused 400 premature deaths a year. The authors estimated that using best available control technology, the 33 million people in the surrounding area would suffer 300 fewer premature deaths a year, as well as 2,000 fewer emergency room visits, 10,000 fewer asthma attacks, and 400,000 fewer daily incidents of respiratory problems.[7]

In recent years, more attention has been paid to environmental justice concerns. Many of the nation's industrial facilities are located in or near low-income and minority communities. As a result, these communities may be disproportionately affected by the adverse health effects of industrial air pollution.[8] As of 2002, the U.S. Environmental Protection Agency (EPA) had NSR enforcement cases pending against 57 refineries and 15 oil-related facilities in 17 states. Nearly half

---

[3] U.S. Environmental Protection Agency Office of Air and Radiation, 2004-2005 Environmental Justice Action Plan, at http://www.epa.gov/compliance/resources/reports/actionplans/ej/oar-ej-actionplan-2004.pdf.
[4] See Chapter 4 for more information on NSR triggers for modifications.
[5] "Death, Disease & Dirty Power: Mortality and Health Damage Due to Air Pollution from Power Plants," (Clean Air Task Force, October 2000), at 4. Available on-line at http://cta.policy.net/reports/.
[6] *Id.*, at 5.
[7] J. Levy and J. Spengler, "Health Benefits of Emissions Reductions from Older Power Plants," *Risk in Perspective*, Harvard Center for Risk Analysis, Vol. 9, No. 2 (April 2001).
[8] OAR Environmental Justice Action Plan, *supra* note 3.

of these were operating in communities of color along the 260-mile corridor between Louisiana's infamous "cancer alley" and Houston, Texas.[9]

Recent state and federal enforcement actions have resulted in substantial reductions in air pollution. For instance, it is estimated that a federal NSR enforcement action against four oil refineries in Louisiana will result in 60,000 fewer tons of air pollution per year.[10] The investigation was triggered after community residents in Norco, Louisiana, where one of the refineries was located, began linking air pollution in their community to the numerous health problems residents were experiencing. These included elevated rates of respiratory ailments, blurred vision, dizziness, asthma and depression.[11]

A recent settlement negotiated by the State of New York with the owners of six older coal-fired power plants in upstate New York will result in emissions reductions of more than 18,000 tons of nitrogen oxides and 123,000 tons of sulfur dioxide each year. In the original lawsuit, the state charged that the companies had failed to install the necessary state of the art pollution controls required by NSR when they made major modifications at two of their plants.[12] The agreement is expected to both improve public health and reduce acid rain, which has caused serious damage to lakes and forests in the Adirondack Park.

c) Importance of Citizen Involvement

At first glance, the NSR process can appear complex and daunting. While NSR review includes many technical issues, you do not need to be an expert to get involved. Participating upfront in permitting decisions may help avoid air pollution problems such as those described above.

Time and again, citizens have ensured that air quality is protected in their communities by participating in the review process and speaking out for clean air. Whether the outcome has been tougher permit conditions, concessions outside of the permit, or shutting down a polluting facility altogether, many of these gains would not have been achieved without public involvement.

This manual is designed to help citizens navigate the labyrinth of acronyms and technical terms that accompany the NSR process. It will highlight, through case studies, the many ways in which public participation has had a positive impact on agency permitting decisions, and provide guidance for how citizens can be most effective.

---

[9] "Smokestack Rollback," (Earthjustice, et al., Feb. 2002), at 5. Available on-line at www.refineryreform.org.
[10] *Id.*, at 17.
[11] *Id.*
[12] Press release, January 11, 2005, Office of the New York State Attorney General Eliot Spitzer: "Governor and Attorney General Announce New York's Largest Coal Plants to Slash Pollution Levels." On-line at http://www.oag.state.ny.us/press/2005/jan/jan11c_05.html.

d) How this Manual is Organized

Chapters 1 and 2 provide basic information about the New Source Review process and how NSR fits in with the Clean Air Act and other regulatory programs.

Chapters 3 through 6 describe generally what sources are required to get a major NSR permit and the different requirements for the two types of major NSR permits: Prevention of Significant Deterioration (PSD) and Nonattainment Area New Source Review (NA NSR).

The rest of the manual (Chapters 7-10) is geared toward providing information and resources to help citizens effectively participate in the NSR permitting process, including filing appeals of permit decisions. The manual also includes extensive appendices with useful references and information.

This manual is not intended to be an encyclopedic reference to the NSR program. Anyone embarking on reviewing an individual facility will have to conduct a fair amount of research on their own concerning air quality in their region and the specific air pollution regulations that apply in their state. Appendix D provides an annotated list of websites and references that will be helpful in your research.

e) Terminology

There are many new terms you will be exposed to in this manual. In most cases, new terms will be highlighted in bold and defined in the text when they first appear. In addition, there is a list of acronyms in the front pages of the manual and a glossary of terms in Appendix A.

Throughout the manual you will see certain terms repeated frequently. The NSR program is actually two separate permitting programs: "**Prevention of Significant Deterioration**" (PSD) for "**attainment areas**," where the air quality meets national standards, and "**Nonattainment Area New Source Review**" (NA NSR) for "**nonattainment areas**," where the air quality does not meet these standards. In this manual, the term "**New Source Review**" or "NSR" refers to *both* of these programs.

In addition to the two different NSR programs, keep in mind that there are important distinctions between how "**new sources**" and "**modifications**" are treated under NSR.

The term "**permitting authority**" (also known as the "reviewing authority") refers to the state environmental agency, local air quality control board, or tribal nation that is responsible for issuing NSR permits in your area. In some cases, the EPA is the permitting authority.

f) Differences Between State and Federal Programs

This manual describes the *federal* NSR program. However, NSR permits are generally issued by state or local air permitting authorities. Some states simply follow the federal NSR regulations (these are called **delegated programs**). However, many state and local agencies have their own, often more stringent, NSR programs that have been approved by the EPA. These programs are called **approved programs**. While approved programs must be substantially equivalent to the federal NSR program, there can be important differences.

In addition, many states have their own "**minor New Source Review**" programs to cover new sources and modifications to major sources that will not increase emissions above the threshold level that triggers "major" NSR. There is a great deal of variability among these programs.

This manual will *not* cover state and local NSR permitting programs. You should consult the appropriate permitting authority in your own state or region to determine what the NSR requirements are for sources in your area. The purpose of this manual is to help citizens understand how the federal NSR program works in general, and how citizens can participate in the process.

g) Federal Rule Changes

At the time of this manual's publication, the federal NSR program is in a state of flux. EPA issued a rule change in 2002 making five major revisions to the NSR process, and an additional rule change in 2003.[13] All of these rule changes concern how NSR applies to modifications at existing facilities.

A number of lawsuits were filed by state and local governments, public interest groups, and industry groups challenging these rule changes. As this manual goes to print, the 2003 rule change has been stayed by a federal court pending the outcome of the litigation,[14] and portions of the 2002 rule change have been struck down.[15] Additional changes are being proposed by EPA as this manual goes to print.[16] As a result, there is a good deal of uncertainty as to what the future of the NSR program will look like.

Moreover, due to the rule changes at the federal level, many state NSR programs are also in flux. The 2002 rule change went into effect on March 3, 2003 in the delegated states and areas where EPA retains permitting authority, but states with approved programs have until January 2, 2006 to submit revisions to their

[13] The 2002 and 2003 federal rule changes are briefly summarized in Chapter 4, section E.
[14] *State of New York v. U.S. EPA*, U.S. Court of Appeals (DC Circuit), No. 03-1380 (December 24, 2003).
[15] *State of New York v. U.S. EPA*, U.S. Court of Appeals (DC Circuit), No. 02-1387 (June 24, 2005).
[16] For the current status of the federal NSR rules, go to: http://www.epa.gov/nsr/actions.html.

implementation plans to reflect the rule changes.[17] Until these plans are approved by EPA, the states cannot implement the NSR reform rule. One of the potential issues for future litigation is whether EPA can require states to adopt these rule changes if they are less stringent than the states' existing rules.

Where appropriate, this manual will identify issues that may be affected by these rule changes. However, as you will read many times in this manual, before embarking on New Source Review in your community, make sure to check with your local permitting authority to find out exactly what rules apply in your area.

[17] Permit applications submitted *prior* to March 3, 2003 are subject to whatever regulations were in place at the time they were deemed complete applications.

Chapter 1: The Clean Air Act and NSR

This chapter describes how the New Source Review program fits into the overall regulatory scheme of the federal Clean Air Act.

a) About the Clean Air Act

In response to growing concerns about the nation's air quality, Congress enacted the federal Clean Air Act in 1970 "to protect and enhance the quality of the Nation's air resources so as to promote the public health and welfare and the productive capacity of its population."[18]

The initial goal of the Clean Air Act was to bring air quality throughout the nation up to healthy standards by 1975. To accomplish this goal, the Act requires the U.S. Environmental Protection Agency (EPA) to establish uniform national standards for certain common air pollutants, known as criteria pollutants. The law requires state and local authorities to develop implementation plans to maintain or achieve these standards.

The Clean Air Act regulates air pollution from both **stationary sources** (i.e. factories, power plants, and other industrial facilities) and **mobile sources** (i.e. motor vehicles). The New Source Review (NSR) program is one of numerous programs set forth in the Clean Air Act to require new industrial facilities or those that undergo major modifications to minimize their air pollution emissions.

Despite significant progress in improving air quality in some areas, many parts of the United States have still not attained the minimum air quality standards required by the Clean Air Act. The Act has been amended several times since 1970 to more effectively combat the nation's air pollution problems. The NSR program, described in more detail later in this manual, was added in 1977 to address air pollution from new major facilities and major modifications to existing facilities.

[18] 42 U.S.C. § 7401 (b).

National Ambient Air Quality Standards (NAAQS)

EPA has established **National Ambient Air Quality Standards (NAAQS)** for six **criteria pollutants** that are common air pollutants found across the United States. The criteria pollutants are: sulfur dioxide (SO_2), nitrogen oxides (NO_x), carbon monoxide (CO), particulate matter (PM), ground-level ozone (O_3), and lead (Pb). These pollutants are known to harm human health and the environment and damage property. See Table 1.1 for a description of these pollutants and their health hazards.

The Clean Air Act directs EPA to develop two tiers of federal air quality standards: primary standards and secondary standards. **Primary standards** set limits to protect public health, including the health of sensitive populations such as people with asthma, children, and the elderly. **Secondary standards** set limits to protect public welfare, including protection against visibility impairment and damage to animals, crops, vegetation, and buildings. These standards apply uniformly nationwide, and are updated every five years by the EPA. The current NAAQS can be found at: http://epa.gov/air/criteria.html.

The Clean Air Act divides the United States into numerous air quality regions. States monitor air quality in these regions to track levels of criteria pollutants in **ambient air** (i.e. outdoor air) and report regularly to the EPA. This monitoring data is used to determine whether each region has attained acceptable air quality for each of the NAAQS.

Attainment Areas

Regions where air quality meets the primary NAAQS are considered **attainment areas**. Attainment areas are determined on a pollutant-by-pollutant basis; in other words, a region may be considered an attainment area for one pollutant, and a **nonattainment area** for another. For permitting purposes, **unclassifiable areas** (places where air quality monitoring data are insufficient) are treated as attainment areas. The goal of the Clean Air Act is to protect the air quality in attainment areas and prevent it from being significantly degraded.

Attainment areas are divided into three classes that denote the level of protection, or conversely the amount of allowable degradation, appropriate for their purpose. However, even in these areas the NAAQS cannot be exceeded:

> **Class I** areas receive the highest protection and allow the least amount of air quality degradation. Designated Class I areas include international parks, national wilderness areas and memorial parks over 5,000 acres in size, and national parks more than 6,000 acres in size.[19] There are also a small number of tribal lands that are Class I.

[19] See Appendix C for a complete list of mandatory federal Class I areas in the U.S.

Table 1.1 Criteria Pollutants and Their Health Effects[20]

Sulfur dioxide (SO_2). SO_2 reacts with oxides of nitrogen (NO_x) and other substances in the air to form acid rain. Acid rain damages forests, makes lakes and streams unsuitable for most types of fish, and damages buildings, monuments, and cars. Also, high concentrations of SO_2 can cause breathing problems for people with asthma. Symptoms include wheezing, chest tightness, and shortness of breath. SO_2 emissions are transformed in the atmosphere into acidic particles. Long-term exposures to high concentrations of SO_2 in combination with high levels of particulate matter (discussed below), may lead to respiratory illness, weakening of the lungs' defenses, and aggravation of existing cardiovascular disease. People with cardiovascular disease or chronic lung disease, as well as children and the elderly, are most likely to suffer from health problems linked to elevated SO_2 levels.

Particulate Matter (PM). PM consists of small particles of soot, wood smoke, and other compounds in solid or liquid droplet form. PM can cause respiratory problems, as well as damage to lung tissue and premature death. PM can cause or worsen respiratory diseases and aggravate heart disease. PM reduces visibility, an issue that is of particular concern in national parks and other scenic areas. Sometimes this pollutant is listed as PM_{10} or $PM_{2.5}$. The number refers to the size of the particle. PM_{10} refers to particulates that are 10 microns in diameter or smaller. $PM_{2.5}$ refers to particulates that are 2.5 microns in diameter or smaller. The smaller the particulate, the more dangerous it is to human health. Until recently, U.S. EPA regulations applied to all particulates 10 microns in diameter or smaller as one group. The U.S. EPA now has more stringent standards for $PM_{2.5}$.

Carbon Monoxide (CO). The main source of CO is automobile emissions, but CO is also released by woodstoves and by industrial sources such as boilers and waste incinerators. The health effects related to CO include visual impairment, reduced work capacity, reduced coordination, poor learning ability, and difficulty in performing complex tasks.

Ozone (O_3). Ozone is formed when ***Volatile Organic Compounds (VOCs)*** combine with oxides of nitrogen (NO_x) in the presence of heat and sunlight. Ground-level ozone is a major component of smog. Children and people with asthma and other lung diseases are most susceptible to health problems caused by ground level ozone, which damages lung tissue and can make it difficult to breathe. When ozone levels are high, however, even healthy adults may suffer. Because ozone itself is not an emission, the U.S. EPA regulates emissions of VOCs and NO_x in lieu of ozone. In addition to being ozone precursors, some VOCs are toxic and are regulated as hazardous air pollutants.

Nitrogen Oxides (NO_x). NO_x are linked to almost every air pollution problem. NO_x emissions result in the formation of ground-level ozone, acid rain, coastal water pollution, and reduced visibility (haze and smog). Because NO_x can travel very long distances after being released into the atmosphere, NO_x released in one state can cause environmental damage in another state downwind. Breathing NOx can make people more susceptible to respiratory infections, lung disease and possibly cancer.

Lead (Pb): Excessive exposure to lead can cause seizures, mental retardation and/or behavioral disorders. Exposure to even low levels of lead can harm the central nervous system. Children are especially susceptible to lead poisoning at low doses. Lead may also contribute to high blood pressure and subsequent heart disease.

[20] Excerpted in part from "The Proof is in the Permit: How to Make Sure a Facility in Your Community Gets an Effective Title V Air Pollution Permit," (New York Public Interest Research Group Fund and The Earth Day Coalition, June 2000), pp. 1-2. Available at: www.titlev.org. Hereafter referred to as the "Title V Handbook."

Class II areas allow more air quality degradation, and therefore are more amenable to industrial growth.

Class III areas are targeted for the most growth and allow the most degradation. At this time, no area or state has been designated as Class III.

Nonattainment Areas

Regions where air quality violates the NAAQS are considered **nonattainment areas**. The goal of the Clean Air Act is to bring the air quality in these regions up to acceptable standards; therefore more stringent air pollution controls are required in these areas.

The Clean Air Act classifies ozone, CO and PM_{10} nonattainment areas based on the concentration of these pollutants in excess of the NAAQS. For example, ozone is divided into the following five increasingly stringent categories: marginal, moderate, serious, severe, and extreme nonattainment areas, depending on the measured ozone concentration in the area.[21]

The worse the air quality is in a designated nonattainment area, the more stringent the pollution control requirements for that area will be, which in turn may make it more difficult to construct new facilities or expand existing facilities in nonattainment areas. For the NSR program, a lower applicability threshold and additional offsets are required for each increasingly stringent category. The poorer the air quality, the more years the area is allowed to reduce emissions and become an attainment area. The Clean Air Act's goal is to bring air quality in these areas into attainment.

Can an area be in both attainment and nonattainment?

Yes. These classifications are made on a pollutant-by-pollutant basis, so that a region may be in attainment for one pollutant and in nonattainment for another. For instance, the borough of Manhattan in New York City is designated nonattainment for particulate matter and for ozone, but attainment for sulfur dioxide. Los Angeles is in extreme nonattainment for ozone but attainment for sulfur dioxide.

How can I find out whether or not my area is in attainment?

The EPA maintains a listing of areas of the country where air pollution levels persistently exceed the national ambient air quality standards and are therefore designated "nonattainment." Go to www.epa.gov/oar/oaqps/greenbk/multipol.html for state-by-state listings of

[21] There is a sixth classification for ozone, "Subpart 1," which is less stringent than "marginal" but for which no threshold has yet been set.

nonattainment areas. You can also find more detailed information at www.epa.gov/oar/oaqps/greenbk/index.html.

Your state or local air pollution control agency or regional EPA office should also be able to provide you this information. See Appendix B for a list of state and local permitting authorities and regional EPA offices.

b) NSR Regulatory Requirements

The Clean Air Act created two different NSR programs, one for sources located in areas that meet federal ambient air quality standards, called **Prevention of Significant Deterioration (PSD**), and one for sources located in nonattainment areas, called **Nonattainment Area New Source Review (NA NSR)**.[22] For the purposes of this manual, the term "New Source Review" refers to both of these programs collectively.[23]

The NSR program regulates air pollution from the nation's largest industrial facilities. NSR permits are required for new major sources or major modifications to existing sources that will result in a significant increase in emissions of criteria pollutants or their precursors.[24] These permits are often referred to as **pre-construction permits** or "authority to construct," because companies must obtain them before beginning construction.

Prevention of Significant Deterioration (PSD)

The PSD program applies to sources in attainment areas, where national clean air standards have been met.[25] The purpose of this program is to ensure that air quality is not significantly degraded from the addition of new or modified major sources of air pollution in these areas. Facilities must use **best available control technology (BACT)** to minimize their emissions. The PSD permit requirements are described in Chapter 5.

Nonattainment Area New Source Review (NA NSR)

The NA NSR program applies to sources in nonattainment areas, where air pollution concentrations exceed national ambient air quality standards. The

[22] The New Source Review program is established in Title 1 of the Clean Air Act. The PSD program can be found in Title 1, Part C of the Clean Air Act, and the federal regulations are in 40 C.F.R. Part 52, Subpart A. The NA NSR program can be found in Title 1, Part D of the Clean Air Act, and 40 C.F.R. Part 51, Subpart I.

[23] However, sometimes people refer to the two programs as "PSD" and "NSR" – in this case, "NSR" refers to the NA NSR program.

[24] Chapters 3 and 4 discuss the pollutants regulated under NSR, the thresholds for what is considered a "major" new source or modification, and the types of modifications that are covered under the NSR program.

[25] "Unclassifiable" areas, where the air quality data are insufficient, are also included in the PSD program.

purpose of this program is to ensure that construction of new major industrial sources and major modifications will not interfere with a region's progress toward attaining federal air quality standards. To achieve this goal, these sources must use the **lowest achievable emission rate (LAER)**, and offset increased emissions by obtaining emissions reductions from other nearby sources (known as "**emissions offsets**"). The NA NSR permit requirements are described in Chapter 6.

Note that a facility may require *both* types of permits if it is located in an area that is in attainment for some of the criteria pollutants it will emit but not for others.

Minor New Source Review

In addition to the federal NSR program, the Clean Air Act authorizes states to develop their own permitting programs for "minor" sources of pollution; i.e. new facilities or modifications to existing facilities where emissions increases are not large enough to meet the federal NSR thresholds for "major." **Minor NSR** programs vary considerably from state to state and will not be described in this manual.[26] Check with your state or local permitting authority for information about the minor NSR program in your area. (See Appendix B for a list of permitting authorities).

New Facilities versus Modifications to Existing Facilities

The NSR program has different thresholds for new sources than for modifications to existing major sources. These will be discussed in considerable detail in Chapters 3 and 4. Recent federal rule changes to the NSR program apply only to permits required for modifications.[27]

c) Role of States in Implementing the NSR Programs

NSR permits are generally issued by state or local air pollution control agencies, referred to in this manual as "permitting authorities." See Appendix B for a list of state air pollution control agencies. You can also find out who your permitting authority is by going to: www.epa.gov/nsr/where.html.

Some states simply adopt and implement the federal NSR regulations (these are called **delegated programs**). However, many state and local agencies develop their own, often more stringent, NSR programs that must be approved by the EPA before they can be implemented. These programs are called **approved programs**. While approved programs must be substantially equivalent to the federal NSR program, there can be important differences. The Clean Air Act

[26] The section of the Clean Air Act establishing the minimum elements of a state minor NSR program can be found at Title 1, Part A, Section 110(a)(2)(c).
[27] See Chapter 4 for more information about the 2002 and 2003 federal rule changes.

allows state and local governments to establish even stricter rules for curbing emissions from stationary sources than the federal government.

d) How NSR Relates to Other Clean Air Act Programs

State Implementation Plans (SIPs)

Under the Clean Air Act, each state must submit a **State Implementation Plan (SIP)** to EPA that demonstrates how the state will achieve or maintain air quality that satisfies federal standards.[28] The SIP is a collection of laws, regulations, and programs a state will use to bring air quality up to national standards. States can also implement programs that are more stringent than the Clean Air Act. Once approved by EPA, a SIP requirement is **federally enforceable** (i.e. it can be enforced by EPA and the public).[29] A state's NSR permitting program must be included in its SIP.

Title V Operating Permits[30]

As part of the Clean Air Act amendments of 1990, state and local permitting authorities must issue "Title V" operating permits for all major stationary sources of air pollution, and for many smaller sources that emit **hazardous air pollutants (HAPs),** which are a more toxic class of chemicals than criteria pollutants and are regulated more stringently (see below).[31] Title V permits consolidate all the federally-enforceable air pollution requirements that apply to a particular facility into one permit. This makes it easier for facilities to comply with their air quality obligations, for agencies to track compliance, and for the public to review permits and monitoring data for specific facilities.

Title V permits for major sources include SIP requirements and all applicable emissions limits, including NSR permit requirements, New Source Performance Standards, HAPs, and acid rain provisions. While federal regulations allow a plant owner or operator to wait up to a year after commencing operation to apply for a Title V permit, some states require new sources to obtain a Title V permit prior to construction. Moreover, some states issue combined NSR/Title V permits to new sources.

Under such circumstances, it is important that you become familiar with both the NSR rules and the Title V rules. The substantive standards that govern these two

---

[28] Local air quality boards or tribal nations, if responsible for air quality protection in their region, must submit local or tribal implementation plans to the EPA for approval.

[29] Federally enforceable standards include any regulation, emission limitation or standard that is part of an EPA-approved State Implementation Plan or under the Clean Air Act (CAA). Federally enforceable requirements are enforceable by the State, which has the primary authority, but also by the EPA Administrator and in certain situations by private citizens who can compel compliance with the SIP and the CAA by filing a lawsuit.

[30] Title V permits are so named because they are contained in Title V of the Clean Air Act. The federal regulations are found in 40 C.F.R. Part 70.

[31] Hazardous air pollutants are defined in Section 112(b)(2) of the Clean Air Act.

programs are quite different: while a NSR permit establishes new emission limits, a Title V permit is designed to assure compliance with existing requirements by compiling all such requirements into a single permit and requiring the source to perform monitoring, recordkeeping, and reporting sufficient to demonstrate its compliance. Likewise, the two programs provide different opportunities for public participation.[32]

New Source Performance Standards (NSPS)

The Clean Air Act requires EPA to develop categories of sources that substantially contribute to air pollution and to develop **New Source Performance Standards** (NSPS) to control pollution from newly constructed, modified, or reconstructed facilities within these categories.[33] While NSR requires pollution control determinations (i.e., BACT and LAER) to be made on a case-by-case basis, NSPS are established by federal regulation for each source category and applied uniformly nationwide. A source may be subject to both NSPS and NSR. In general, many more facilities are subject to NSPS requirements than to NSR.

For NSR purposes, the NSPS serve as the lower limit, or "floor," for establishing the level of pollution control sufficient to qualify as BACT or LAER for a particular stationary source. In other words, while NSR can require *more* stringent pollution control than is required by the NSPS applicable to a given source category, it cannot require less.[34]

Hazardous Air Pollutants

Under the Clean Air Act, the EPA currently sets emissions limits for over 180 hazardous air pollutants (HAPs), which are commonly referred to as air toxics. More than 80 categories of industries must comply with these limits, which are required for both new and existing sources. EPA requires sources to use the **maximum achievable control technology (MACT)** to reduce their emissions of hazardous air pollutants. The MACT standards for HAPs are similar to the BACT controls required under the NSR program in that they both rely on the availability of control technology to reduce emissions. All requirements related to HAP emissions are included in each source's Title V operating permit.

The NSR program does not regulate hazardous air pollutants *per se*. However, hazardous air pollutants that are precursors to any of the criteria air pollutants are regulated under NSR. For instance, many hazardous air pollutants are volatile organic chemicals (VOCs). VOCs combine with nitrogen oxides in the presence

[32] An excellent resource on the Title V program is the "The Proof is in the Permit: How to Make Sure a Facility in Your Community Gets an Effective Title V Air Pollution Permit" (New York Public Interest Research Group and The Earth Day Coalition, 2000), available on-line at www.titlev.org.
[33] 42 U.S.C. § 7411. EPA has set NSPS for nearly 70 source categories; *see* 40 C.F.R. Part 60, Subpart C.
[34] 42 U.S.C. § 749.

of heat and sunlight to form ozone, and are therefore considered **ozone precursors**. Since ozone is one of the criteria pollutants regulated by NSR, any hazardous air pollutants that are VOCs are also regulated under NSR.[35]

Other Clean Air Act Programs for Reducing Air Pollution

The Clean Air Act has various other programs to limit air pollution from stationary sources. These include: the Title IV Acid Rain Program, which addresses sulfur dioxide and nitrogen oxide emissions from certain fossil-fuel fired power plants; the "NO_x SIP Call," which addresses the issue of air pollution from upwind states adversely impacting air quality in states downwind of them; and the Regional Haze Rule, intended to curb emissions that may reduce visibility in Class I areas such as national parks and wilderness areas.

In addition, the Clean Air Act has extensive provisions to control emissions from mobile sources, such as cars and trucks. Unlike with stationary sources, where state and local governments can enact policies more stringent than the federal law, for the most part, states are not allowed to create their own air pollution regulations for mobile sources. However, California set more stringent vehicle standards before the federal government did, and has been allowed to regulate mobile sources separately. States may choose between the federal standards or the more stringent California vehicle emissions standards.

e) EPA Environmental Justice Policy

EPA's Office of Air and Radiation (OAR), which administers and oversees Clean Air Act programs, is required to integrate environmental justice principles into its programs and decision-making processes, pursuant to an environmental justice policy adopted agency-wide in 1992.[36] The EPA defines "environmental justice" as "the fair treatment and meaningful involvement of all people regardless of race, color, national origin, or income with respect to the development, implementation, and enforcement of environmental laws, regulations, and policies."[37]

According to OAR's environmental justice policy, "All Americans deserve to be protected from pollution. However, the Office of Air and Radiation recognizes that, in some instances, minority and low-income communities face a higher level of environmental risk than the majority population. Therefore, OAR is committed to addressing this issue by incorporating environmental justice into its activities and decision-making processes. The Office's goal is to achieve environmental justice by decreasing the burden of environmental risks to all communities as a result of improved air quality."[38]

---

[35] 40 CFR Part 165(a)(1)(xxxviii); 40 CFR Part 52.21(b)(50).
[36] U.S. Environmental Protection Agency Office of Air and Radiation, 2004-2005 Environmental Justice Action Plan, at http://www.epa.gov/compliance/resources/reports/actionplans/ej/oar-ej-actionplan-2004.pdf.
[37] Source: http://www.epa.gov/compliance/environmentaljustice/.
[38] EPA OAR Environmental Justice Plan, at 8.

OAR implements this policy in part through enhanced efforts to involve community participation in low-income and minority areas affected by pollution. Chapter 8, section f, describes how to petition the EPA to take environmental justice concerns under consideration during the NSR permitting process.

Chapter 2: Getting Started

This chapter outlines the basic steps of the New Source Review permitting process and opportunities for public participation.

a) Becoming Aware: Air Quality Concerns in Your Community

Members of the public may choose to get involved in reviewing New Source Review (NSR) air permits for any number of reasons. You may already be concerned about unhealthy air in your community because of elevated rates of asthma and other respiratory diseases. Air pollution has also been linked to heart disease, cancer, neurological disorders, and other non-respiratory ailments.

There may be an existing facility that people in your community are especially concerned about. For instance, residents living near an oil refinery in Texas were concerned about the facility's frequent "upsets" (uncontrolled releases of emissions) and elevated disease rates in the community.[39] In another community, residents living near a polyvinylchlorinated (PVC) plastic manufacturing plant were concerned about leaks and accidents at the plant which had killed workers and released toxic plumes of carcinogenic vinyl chloride and ethylene dichloride gas.[40]

Some communities may already have numerous existing sources of air pollution, both stationary and mobile, resulting in cumulative impacts on local air quality and community health. In these communities, residents are often concerned that a new major source or expansion could make an existing air pollution problem even worse.

How Can I Learn More About Air Quality in My Community?

More than half of all Americans live in communities located in nonattainment areas. Even some rural areas, far from major cities or industrial centers, suffer from impaired air quality. Just because your air is *clear* does not mean that it is *clean*. Many invisible pollutants pose serious health hazards.[41]

---

[39] Donovan Webster and Michael Scherer, "No Clear Skies," *Mother Jones Magazine*, October 2003, pp. 63-68, re: Motiva oil refinery, Port Arthur, Texas. Upsets often result in large uncontrolled emissions of pollutants in excess of Clean Air Act limits.

[40] Source: Neal Carman, Sierra Club Lone Star Chapter, re: Formosa Plastics Corporation, Point Comfort, Texas.

[41] Title V Handbook, *supra* note 20, at 3.

There are several sources on the Internet where you can find out about air quality in your region. These include:

www.scorecard.org
This site, maintained by Environmental Defense, Inc., allows you to type in your zip code and find out about pollution in your community, including smog, particulates, and hazardous air pollutants.

www.epa.gov/airnow
This site offers real-time information about ground-level ozone and fine particle pollution ($PM_{2.5}$) at sites across the country, along with other air pollution information.

www.epa.gov/oar/oaqps/greenbk/index.html
This site provides links to information about nonattainment areas in the United States.

In addition, you can contact your state or local air pollution control agency to find out more. Appendix B has a list of state agency contacts.

What Can I Do?

Participating in the New Source Review process is just one of many ways in which citizens can weigh in on individual air quality decisions affecting their communities. Another opportunity for citizens to review individual facilities is through the Title V operating permit program.[42] In addition, citizens can file lawsuits to enforce the Clean Air Act when companies are in violation of their air permits, if no EPA enforcement action is taken.

You can also play a proactive role. For example, in Cleveland, Ohio, residents formed a working group to address concerns about local air quality impacts from numerous industrial sources in the area. They brought their concerns to local, state and federal environmental officials, who in turn investigated the problems and have been working with the community group and local companies to resolve them (see case study, Box 2.1).

On a broader level, you can advocate for more protective state and federal air pollution laws and policies. To find out more, you can contact state or national environmental organizations working on clean air issues. See Appendix D for a list of groups working on clean air.

[42] See The Title V Handbook, *supra* note 20, for an excellent guide to public participation in the Title V permit process.

Box 2.1 Case Study: Cleveland, Ohio Community Working Group

The St. Clair-Superior Neighborhood Development Corporation Environmental Committee, a community group based in Cleveland, Ohio, started a working group in 2001 to address neighborhood concerns about pollution from nearby companies. The committee invited representatives of state environmental groups as well as Ohio's state environmental agency, the Ohio EPA, to participate. The Ohio EPA assigned the northeast Ohio director to the working group, who in turn recruited the city's Department of Pollution Control and the U.S. EPA to participate. The working group has met every 4-6 weeks since its inception. Through this working group, neighborhood residents learned more about how to address local air pollution concerns through inspections, enforcement, and public comment on Title V permits. As a result of this dialogue, the involved pollution control agencies agreed to send air and hazardous waste inspectors to 28 different companies of concern. Subsequently, several Notices of Violation were issued, two Title V permits have been substantially changed, and dialogues were initiated with several local companies. The group continues to press neighborhood health concerns to improve the quality of life in the area, and is also meeting with the city health department and other agencies.[43]

b) Overview of the New Source Review Permitting Process

If a new facility or modification to an existing facility is subject to New Source Review (NSR), the facility must obtain an NSR permit before it can begin construction. Although the specific requirements for an NSR permit may vary from state to state and depending on whether it is a PSD permit or an NA NSR permit, the basic application and review process is largely the same.

Who issues NSR permits?

The NSR permit is usually issued by a state or local air pollution control agency, referred to in this manual as the **permitting authority**. In most cases, the permitting authority is the air quality division within your state's environmental protection department.[44] Some states have local air quality boards that are responsible for regulating air pollution, and some tribal nations have assumed responsibility for regulating pollution on Indian lands.[45] All state, local, and tribal NSR permitting programs must be consistent with the Clean Air Act (CAA) and approved by the EPA.

In some cases, the EPA is the permitting authority, such as on the outer continental shelf and on Indian territories where the tribal nation is not authorized to regulate air pollution. In these instances, the permit is issued by the EPA Regional Office in the region where the source is located. The regional EPA

[43] Source: Rev. Marvin Smith, Chairman, St. Clair-Superior Neighborhood Development Corporation Environmental Committee.
[44] See Appendix B for a list of state air agencies.
[45] There are more than 160 local air pollution control authorities in the U.S., including 35 in California alone (NAPA Report at 30, see *supra* note 2).

offices also issue PSD permits in states that have failed to submit a PSD SIP program or receive delegation.[46]

Steps in the NSR permitting process

1) Pre-application: Facility representatives are encouraged to participate in pre-application meetings with the permitting authority staff before submitting a permit application.

2) Application: The owner or operator of a proposed facility submits an application for a permit with the permitting authority. The application must contain all the information required by the NSR regulations.[47]

3) Application Review and Determination of Completeness: The permitting authority reviews the application to make sure that all of the NSR requirements for the application have been met and that the project will not result in a violation of the NAAQS. The applicant may be required to revise the application or submit additional information until the permitting authority determines that the application is complete.

4) Issuance of Draft Permit: The permitting authority reviews the application and develops a draft permit with permit conditions, such as emission controls and operating limits. The permit conditions must ensure that the facility will comply with all of the applicable requirements from the Clean Air Act (CAA) and the SIP, and not violate the NAAQS. Draft permits are often developed through negotiations with the applicant.

5) Public Review: Once the draft permit is completed, it is released for public review. The permitting authority must allow at least 30 days for the public to review the draft permit and submit written comments. Sometimes the permitting authority will also hold a public hearing where the public can testify. Both written comments and oral testimony at public hearings are included in the administrative record, which is the basis for any future appeal of the permit.[48]

6) Issuance or Denial of Permit: After the public comment period is closed, the permitting authority reviews and responds to all of the comments and decides whether or not to issue the permit. The permitting authority may make revisions to the draft permit that take into account the comments received during the public comment period. The permitting authority then issues a final NSR permit to the applicant.

7) Appeal of Permit: An interested party, such as the applicant or a concerned citizen, will have a limited amount of time to appeal the permit if the party

[46] See Appendix B for a list of EPA regional contacts.
[47] Permit application requirements are described in Chapters 5 and 6.
[48] Chapters 7 and 8 provide guidance for effective citizen participation in the NSR process.

disagrees with any of its provisions.[49] In most cases, only parties that provided comments during the public notice period may file an appeal. If an appeal is filed, construction cannot begin until the appeals process is completed and a decision has been made on the final permit.

8) Compliance: The applicant must comply with all permit conditions on a continuing basis. In order to facilitate compliance, the permit will include monitoring and reporting requirements. In addition to reviewing the monitoring reports submitted by the applicant, the permitting authority may inspect the facility to ensure compliance with CAA requirements.

9) Enforcement: If a facility violates an NSR permit condition or any other CAA requirement, it can be sued by the permitting authority, EPA, or an affected member of the public pursuant to the CAA's citizen suit provision. A lawsuit can also be brought against any person who commences construction of a major new source or major modification without first obtaining an NSR permit.

10) Permit Duration: An applicant must begin construction within 18 months of issuance of the final NSR permit. In the event the applicant does not begin construction within 18 months, the applicant may seek a one-time extension; otherwise, the permit is void and the applicant must reapply.[50] A preconstruction permit is generally a permit for life, unless the facility withdraws or it is rescinded by the permitting authority. Some states limit the duration of their permits to a certain number of years, after which the owner or operator must submit a renewal application.

c) Opportunities for the public to participate in New Source Review

The earlier that citizens engage in the review process, the more opportunities you will have to affect the final permit decision. On average, it takes about seven months for a facility to obtain an NSR permit after submitting a complete application, although the timeframe for the permitting process can range from less than two months to more than two years.[51]

Below are the basic steps citizens must take in order to participate effectively in the NSR permitting process. Most of these steps will be discussed in more detail in later chapters of this manual.

Step 1: Identify the permitting authority
Step 2: Learn about any new or pending NSR permit applications
Step 3: Identify important deadlines
Step 4: Obtain the draft permit and other necessary information

---

[49] Chapter 9 describes the appeals process for NSR permits.
[50] 40 CFR Part 52.21(r).
[51] U.S. EPA, NSR 90-Day Review Background Paper, June 22, 2001 (Docket A-2001-19; Document 11-A-01), at 7. Available on-line at http://www.epa.gov/NSR/documents/nsr-review.pdf.

Step 5: Review and comment on the draft permit
Step 6: Review the final permit
Step 7: File an appeal, if necessary
Step 8: Monitor implementation

Step 1: Identify the permitting authority

The permitting authority and contact information will be listed on any public notice about a public comment period or hearing on a draft NSR permit.

If you are not aware of any pending NSR permit applications, you can get a head start by contacting the permitting authority in your area. Some states maintain a database of citizens who request to be notified about agency actions on air permits. A list of state pollution control agencies is provided in Appendix B. You can also find your local permitting authority by going to: www.epa.gov/nsr/where.html.

If you intend to work on clean air issues in your community, developing relationships with the staff in the permitting authority can be very helpful. This could include meeting with agency staff and interested members of your community to share any concerns you have about local air quality, as has proven so effective in Cleveland (see case study in Box 2.1, above).

Step 2: Learn about any new or pending NSR permit applications

Often citizens only learn about new projects in their communities after a final permit has been approved and their opportunity to comment has expired. To ensure that you do not miss your opportunity to comment on NSR permits, it is important that you become familiar with the procedures used by your local permitting authority to notify the public of proposed permits.

Permitting authorities must provide at least 30 days for the public to comment on draft NSR permits, and may also hold public hearings. In order to effectively comment on an NSR permit, you need as much time as possible. It is, therefore, important to find out that a draft permit is out for public comments as soon as possible.[52]

If you are fortunate enough to learn of an NSR permit application *before* the start of the public comment period, you should contact the permitting authority and request additional information about the project as soon as possible. Many important decisions related to the draft permit are made before it is released for public review. Therefore, the earlier you start reviewing the proposal, the better.

[52] Some states notify the public when a permit is applied for in addition to when a draft permit is issued. This allows the public more time to gather background documents and to work to develop meaningful comments on the permit.

While there are certain minimum public participation requirements under the federal law, each state has its own procedures for notifying the public about draft permits. You should, therefore, contact your local permitting authority to determine how they handle public notice.

The following are some common ways that permitting authorities publish notice:

- **Your local newspaper:** Notice of the opportunity for public comment and a public hearing must be either published in a newspaper of general circulation in the region (PSD) or be prominently advertised in the affected area (NA NSR). In most cases, this means notice is published in a local newspaper. Often notices are published in the legal section of the paper (which few people usually read). Notices are also often published in smaller local papers rather than in the paper of largest circulation.

- **Government publications:** Many states publish notice of draft permits in a government publication, like a state register.[53]

- **The permitting authority's website:** Some agencies also post the public notice and other information on their web site.[54] Check with your local permitting authority to see if they post notices on their website. Also ask how quickly notices are posted. In some cases, posting to the website may lag a few days behind the actual start of the comment period.

- **Mailed or e-mailed notice:** Some states allow the public to register to receive notice about any pending permits for particular facilities or for particular regions. If your permitting authority maintains such a notice list, be sure to send them a written request asking that you be included for the facilities/regions you are concerned about. Then follow up by phone and confirm that you have actually been added to the notice list.

In addition to the formal notice that a public comment period on an NSR permit has begun, there are other ways of finding out that a future permitting action at a facility you are concerned about is likely:

- **The permitting authority's staff/files**: Call your local permitting authority and ask if there are any pending permitting actions for the

[53] In New York State, for instance, notices are published in the Environmental Notice Bulletin issued weekly via e-mail by the N.Y.S. Department of Environmental Conservation.

[54] A good example is Washington State's Department of Ecology, which posts both the draft permit approval and a detailed technical support document on its website. The website also includes links to applicable regulations, draft, final and existing PSD permits, guidance on commenting on PSD permits, and a description of the permit appeals process. See http://www.ecy.wa.gov/programs/air/psd/psd_info_site.html.

facility you are concerned about. If there is a particular agency staffperson assigned to the facility you are interested in, ask to speak to that person. Let them know that you want to know about any future permitting actions. You can also review the facility's files. If an application has been submitted, it should be included in the file.

- **Newspaper articles regarding industry expansions:** Often, local papers will publish articles about large planned expansions at local industries. Such articles may run before a complete application is even submitted to the permitting authority and provide a good opportunity for you to get involved early in the process.

- **Other government actions regarding the facility:** Another way that people learn of proposed projects that may require NSR permits is when these facilities apply for other permits, such as water discharge permits or local zoning approvals. These, too, usually must be publicized by the appropriate agency. In many cases, one of the first government actions on a proposed new facility or facility expansion will involve your local government and applications for zoning changes or tax abatements. Ask your local officials to notify you regarding any activity at facilities you are concerned about.

Step 3: Identify important deadlines

To be most effective, you must identify key deadlines and dates as soon as possible. If you miss these deadlines, you will likely lose your chance of having your concerns addressed by the permitting authority in the final permit. You will need to know the following:

- Deadline for public comment
- Deadline to request a public hearing
- Date and time of public hearing
- Date of final permit issuance
- Timeline for filing an appeal of final permit

The public notice for the draft permit should contain the deadline for public comment and either the date, time, and location of the public hearing (if one is scheduled) or a deadline and procedure for requesting a public hearing.

You should also familiarize yourself with the timeline and process for filing an appeal. If the final permit does not address the concerns you have raised to your satisfaction, you will have a narrow window of time to file an appeal (within as little as 20 days from the issuance of the final permit). You will need to keep a sharp eye out for the release of the final permit. Chapter 9 describes this in detail.

Step 4: Obtain the draft permit and other necessary information

Thirty days is not much time to learn about the proposed project and submit comments. NSR permits and application materials can be quite lengthy and complex. The sooner you get this information, the better.

Chapter 7 provides a checklist of information materials you should obtain to facilitate your review of a draft NSR permit. Appendix D includes a list of websites where you can obtain useful information about the NSR program and technical assistance resources.

Step 5: Review and comment on the draft permit

Chapters 7 and 8 offer tips on how to effectively comment on a draft NSR permit, either through written comments or testimony at a public hearing. These chapters also provide practical advice on how to secure additional resources to assist you and how to conduct public outreach and education about the proposal.

Step 6: Review the final permit

As soon as the final permit is issued, review it to see if the concerns you raised during the comment period were addressed to your satisfaction. If not, you will have a narrow timeframe for filing an appeal of the permit.

Step 7: File an appeal, if necessary

Chapter 9 describes the process for filing an appeal if you are not satisfied with the final permit. In most cases, you can only appeal a permit decision if you submitted formal comments on the draft permit. In order to preserve your rights to appeal the permit, you should familiarize yourself with the appeals process in your state *before* submitting your comments on the draft permit.

Sometimes, companies will negotiate with members of the public in order to resolve disagreements about the permit more expeditiously. Negotiated settlements can include measures beyond the scope of what the NSR permitting process requires. Chapter 9 provides several examples of NSR settlements that resulted in significant air quality improvements and other community benefits.

Step 8: Monitor implementation

Citizens can play a valuable watchdog role after the final permits are issued and the new source or modification has been constructed. As part of the permitting requirements, companies must perform routine monitoring and report the results regularly to permitting authorities. While agencies are responsible for reviewing monitoring data and taking enforcement action as necessary, citizens can also review these data, or collect information on their own, and bring a citizen suit

under the Clean Air Act against a source that has violated its NSR permit or other CAA requirements.

Chapter 3: NSR Thresholds for New Sources

This chapter describes what facilities are required to undergo New Source Review and the NSR applicability thresholds for new sources.

A New Source Review (NSR) permit is required before construction can occur on any major new stationary source of air pollution that will emit, or has the potential to emit, NSR-regulated air pollutants in excess of certain emissions thresholds. The threshold for what is considered "major" varies depending on the air quality where the source is located, the type of facility, and the pollutants emitted.[55]

As described in more detail in Chapters 5 and 6, there are two different NSR programs: Prevention of Significant Deterioration (PSD) for major air pollution sources in areas that are in attainment for air quality, and Nonattainment Area New Source Review (NA NSR), for major sources in nonattainment areas. A source may require *both* a PSD *and* a NA NSR permit if it emits significant quantities of NSR-regulated pollutants in an area that meets clean air standards for some of its emissions but not for others.

In general, the major source thresholds for NSR are lower in nonattainment areas, where air quality does not meet all of the national ambient air quality standards (NAAQS), than in attainment areas. This is because more aggressive pollution control is required in order to meet the Clean Air Act's goal of bringing the air quality in these areas up to acceptable levels.

This manual only summarizes the NSR permitting program. For more detailed information about NSR permitting requirements, you should consult currently applicable laws and regulations. In addition, EPA's NSR Workshop Manual and EPA Region 7 guidance documents are very helpful.[56] These and other useful references are listed in Appendix D.

This chapter will describe the following:

(a) What is a stationary source?
(b) What pollutants are regulated under NSR?

[55] There are significant differences between how NSR applies to new sources versus modifications of existing sources. The NSR thresholds for modifications are described in Chapter 4.
[56] Draft New Source Review Workshop Manual, (U.S. EPA, October 1990), available on-line at: www.epa.gov/nsr/publications.html. Hereafter referred to as the "NSR Workshop Manual."

(c) How are potential emissions calculated?
(d) NSR thresholds for new sources
- PSD thresholds
- NA NSR thresholds
- NSR non-applicability

a) What is a Stationary Source?

The term **stationary source** means any building, structure, facility, or installation which emits or has the potential to emit an air pollutant that is regulated under NSR.[57] This term can apply to an entire factory complex or grouping of buildings, so long as they are contiguous or adjacent properties and under common ownership or control.[58]

A stationary source may include one or more **emission units (EUs)**. An emission unit is any part of the facility that emits any pollutant regulated by the Clean Air Act. An NSR permit will typically include specific emissions limitations for each of the source's emission units.

For example, an industrial complex may have three factory buildings. The entire complex is considered the **stationary source**. Each of the three buildings contains a separate turbine and exhaust stack. Each of these is treated as a separate **emission unit**. The sum of the emissions from each of the three emission units is counted toward the stationary source's total emissions.

b) What Pollutants Are Regulated Under NSR?

The New Source Review program regulates the six **criteria pollutants** for which the EPA has established health-based national ambient air quality standards (NAAQS): sulfur dioxide (SO_2), nitrogen oxides (NO_x), lead (Pb), carbon monoxide (CO), particulate matter (PM), and ground-level ozone (O_3).[59]

In addition, NSR regulates any constituents or precursors for these criteria pollutants, such as volatile organic chemicals (VOCs), which combine with nitrogen oxides in the presence of heat and sunlight to form ozone. Many VOCs are air toxics; however, VOCs are regulated under NSR not because they are hazardous air pollutants but because they are ozone precursors. See Appendix E for a complete list of NSR-regulated pollutants and their applicability thresholds.

Since ozone is not emitted directly from factories, but rather is formed as a result of VOCs and NO_x emissions, the EPA regulates VOCs and NO_x as **surrogates** for ozone. A surrogate is something that is measured in place of the criteria pollutant. For example, if a new source emits or has the potential to emit VOCs in an

[57] 40 C.F.R. Part 52.165(a)(1)(i).
[58] See Chapter 8, section g for a discussion of the issues related to common control.
[59] 40 CFR Part 165(a)(1)(xxxviii); 40 CFR Part 52.21(b)(50).

amount that exceeds the major source threshold for ozone, it would require an NSR permit.

To trigger NSR, a new source or modification to an existing source must emit, or have the potential to emit, an NSR-regulated pollutant in an amount that exceeds the applicability thresholds. A source that is subject to NSR is called a **major source**. The NSR thresholds for new sources are listed in section (d) and Table 3.1, below.[60]

c) How Are Potential Emissions Calculated?

Potential to Emit (PTE)

In order to determine whether a new source will trigger NSR, the source's **potential to emit** (PTE) for each regulated pollutant must be calculated. PTE is defined as "the maximum capacity of a stationary source to emit a regulated pollutant under its physical and operational design."[61] The PTE can be calculated for the worst-case scenario by estimating the proposed source's maximum output of each regulated pollutant, operating 365 days a year, 24 hours a day at full capacity, and applying the efficiency rate of the air pollution control equipment used.

If a proposed source's PTE would exceed the NSR applicability threshold, but the source's actual emissions are expected to fall below the threshold, the source owner has the option of avoiding NSR by accepting enforceable limitations that are sufficient to prevent the source's actual emissions from exceeding the NSR threshold.[62] The source's PTE is then calculated based on these limits. Such limits might include a requirement to install and operate certain air pollution control equipment, a restriction on the source's hours of operation, or a limit on the type or amount of material combusted, stored, or processed. A source that avoids NSR through the use of enforceable physical or operational limitations is referred to as a "**synthetic minor**" source.

The PTE must be calculated for each pollutant at each emission unit. Some of the commonly-used methods for determining PTE are operational data from the equipment vendor or manufacturer, actual emissions data from similar sources in operation, and review of technical literature and EPA reference documents such as the "AP-42" emission factors.[63] Factors which may influence a source's PTE

---

[60] The NSR significance thresholds for modifications are listed in Chapter 4 and in Appendix E.
[61] 40 C.F.R. Part 51.166(b)(4); 52.21(b)(4).
[62] For a permit condition to be enforceable it must include adequate testing, monitoring, and record-keeping requirements so that a source's compliance can be determined.
[63] Compilation of Air Pollutant Emission Factors, AP-42, 5th Ed, Vol. 1 (Jan. 1995), U.S. Environmental Protection Agency. This and other resources for calculating air emissions can be found at www.epa.gov/ttn/chief/index.html. Note that the AP-42 emission factors may not be reliable for a particular facility; for more discussion on how emission limits are determined, see Chapter 8, section b.

include the type of machinery or equipment, type of pollution control for each emission unit, type of fuel or material combusted or used, hours of operation, and general operating conditions or limitations.

Are Fugitive Emissions Included in the PTE?

Fugitive emissions are "those emissions which could not reasonably pass through a stack, chimney, vent or other functionally equivalent opening," i.e. emissions that cannot be reasonably captured through a pollution control device.[64] Examples of fugitive emissions include particulate matter from open-air coal piles, road dust, or quarries, or VOCs from leaking valves at outdoor chemical storage tanks.

Many categories of major stationary sources are required to include fugitive emissions in their PTE.[65] If the fugitive emissions can be quantified, they must be included in the total PTE for a new or modified source.

Are Secondary Emissions Included in the PTE?

Secondary emissions are emissions that are associated with a source, but are not emitted by the source itself. For example, if a new Portland cement plant is proposed which will require a nearby gravel quarry to increase its production to supply aggregate, the increased emissions from the quarry would be considered secondary emissions. Secondary emissions do not include vehicles transporting fuel or product to or from the source.

Secondary emissions are not included in the calculation of a source's PTE. However, secondary emissions must be considered in the air quality impact analysis for PSD permits.

d) NSR Applicability Thresholds for New Sources

New Source Review permit limitations are determined on a pollutant-by-pollutant basis. A single permit may contain requirements for several pollutants if their emissions exceed the NSR applicability thresholds (see Table 3.1). A source may have to apply for either a PSD permit or a NA NSR permit, *or both*, depending on whether the area is in attainment or nonattainment for each regulated pollutant emitted.

[64] 40 C.F.R. Part 51.166(b)(1)(iii).

[65] These categories are: the 28 named PSD source categories subject to 100 tpy emissions threshold; any source category subject to New Source Performance Standards; and any source category subject to National Emissions Standards for Hazardous Air Pollutants. *See* NSR Workshop Manual, *supra* note 56, at A.9.

PSD Applicability Thresholds for New Sources

A new major stationary source must obtain a PSD permit if *either*:

- The source will emit, or has the potential to emit, 250 tons per year (tpy) or more of any regulated pollutant for which the area is in attainment, *or*

- The source will emit, or has the potential to emit, 100 tpy or more of any regulated pollutant for which the area is in attainment *and* the source is on EPA's list of 28 PSD source categories (see Table 3.2).

In addition, PSD review would be triggered if a new source is constructed within 10 kilometers of a Class I area and would adversely impact ambient air quality in that area.[66]

Table 3.1 NSR Emissions Thresholds for New Sources, in Tons Per Year

	PSD[1] (attainment)	NA NSR (nonattainment)					
		General[2]	Marginal[3]	Moderate	Serious	Severe	Extreme
Ozone (VOCs and NO_x)	100 or 250	-	100	100	50	25	10
CO	100 or 250	-	-	100	50	-	-
PM_{10}	100 or 250	-	-	100	70	-	-
SO_2	100 or 250	100	-	-	-	-	-
NO_x	100 or 250	100	-	-	-	-	-
Lead	100 or 250	100	-	-	-	-	-

[1] Lower threshold (100 tpy) applies to sources on the list of 28 PSD source categories (see Table 3.2)
[2] There are no classifications for these pollutants
[3] Under the new 8-hr ozone standard, "marginal" has been divided into two new categories: Subpart 1 and Basic

NA NSR Applicability Thresholds for New Sources

In a nonattainment area, the applicability threshold depends on the pollutant and its nonattainment classification for that area (see Table 3.1). In general, any new source with a PTE of 100 tons per year or more of a regulated pollutant for which the area is in nonattainment is considered a major source, subject to the NA NSR program.

However, the Clean Air Act has special nonattainment classifications for ozone, carbon monoxide, and particulate matter (PM_{10}). There are five categories of

[66] Class I areas include certain national parks, wilderness areas, and federal lands where the least amount of air quality deterioration is allowed. Specifically, PSD would be triggered if the source would increase the average concentration of any regulated pollutant in ambient air in the Class I area by one microgram per cubic meter (1 ug/m3) or greater. See Appendix C for a list.

ozone nonattainment areas, from "marginal" to "extreme" nonattainment.[67] For example, in a serious ozone nonattainment area, the NSR applicability threshold for VOCs and NO_x emissions is 50 tons per year, while in an extreme ozone nonattainment area, the threshold is 10 tpy.[68]

States are now required to implement new standards for ozone emissions, based on average emissions over an 8-hour timeframe (previously states were required to focus on a 1-hour ozone standard).[69] In addition, the EPA is developing new rules to implement the NAAQS for $PM_{2.5}$ (fine particulate matter of up to 2.5 microns in diameter). Until the new rules are finalized, states must use the PM_{10} emissions as a surrogate for $PM_{2.5}$.[70]

NSR Non-Applicability

The vast majority of new sources constructed each year are not required to obtain a major NSR permit. Many stationary sources don't meet the emissions thresholds to trigger major NSR, or opt to limit their potential to emit (PTE) in order to avoid being subject to NSR permitting requirements. Chapter 8 includes a checklist for troubleshooting whether a source may have improperly avoided complying with major NSR. If a new source does not trigger major NSR, it may still be subject to a state's minor NSR permitting program.

[67] There is an additional classification for ozone nonattainment areas, known as "Subpart 1," which is less stringent than "marginal" but for which the EPA has not yet established a threshold.
[68] VOCs and NOx emissions are regulated as surrogates for ozone.
[69] The 8-hour ozone standards went into effect June 15, 2004. May 20, 2005, Final Notice of Reconsideration of Certain Aspects of the Phase 1 Rule Implementing the National Air Quality Standards for 8-hour Ozone, http://www.epa.gov/airlinks/o3fact052005.html.
[70] Memorandum, April 5, 2005, Implementation of New Source Review Requirements in PM-2.5 Nonattainment Areas, from Stephen Page, Director of OAQPS, EPA, http://www.epa.gov/ttn/oarpg/t1/memoranda/m16633memo.pdf.

Table 3.2 PSD Source Categories with 100 TPY Major Source Thresholds

A new stationary source must obtain a PSD permit if it will emit, or has the potential to emit, 100 tons per year (tpy) or more of any regulated NSR pollutant for which the area is in attainment, and is listed among the 28 source categories listed below (from 40 C.F.R. Part 52.21(b)(1)(i)(a)). All other new sources are considered "major" under PSD if they emit 250 tpy or more of any NSR pollutant.

1. Fossil fuel-fired steam electric plants of more than 250 million British thermal units per hour heat input
2. Coal cleaning plants with thermal dryers
3. Kraft pulp mills
4. Portland cement plants
5. Primary zinc smelters
6. Iron and steel mill plants
7. Primary aluminum ore reduction plants
8. Primary copper smelters
9. Municipal incinerators capable of charging more than 250 tons of refuse per day
10. Hydrofluoric acid plants
11. Sulfuric acid plants
12. Nitric acid plants
13. Petroleum refineries
14. Lime plants
15. Phosphate rock processing plants
16. Coke oven batteries
17. Sulfur recovery plants
18. Carbon black plants (furnace process)
19. Primary lead smelters
20. Fuel conversion plants
21. Sintering plants
22. Secondary metal production plants
23. Chemical process plants
24. Fossil fuel boilers (or combinations thereof) totaling more than 250 million British thermal units per hour heat input
25. Petroleum storage and transfer units with a total storage capacity exceeding 300,000 barrels
26. Taconite ore processing plants
27. Glass fiber processing plants
28. Charcoal production plants

Chapter 4: NSR Thresholds for Modifications

This chapter describes the New Source Review thresholds for modifications to existing sources.

The preceding chapter described what a stationary source is, what pollutants are regulated under New Source Review (NSR), how a source's "potential to emit" is calculated, and how NSR is applied to new sources. This chapter explains how NSR is used to regulate significant emission increases resulting from modifications of existing major sources.

In general, the NSR applicability thresholds are lower for modifications than for new sources. This is both to further protect air quality and to capture existing sources that may have been built before 1977, when the NSR provisions went into effect. These older, "grandfathered" facilities are often the heaviest polluters because they have never operated with the emissions controls that newer facilities are required to have.

The process for determining whether a modification to an existing source is "significant" and therefore requires an NSR permit is a good deal more complex than for new sources. In addition, this component of the NSR program has been subject to a number of recent federal rule changes. These rule changes have been challenged in court and the outcome of some of the legal challenges is not known at the time of publication of this manual.

This chapter will describe the following:

a) NSR thresholds for modifications to existing sources
b) What modifications trigger NSR?
c) Determining significance
d) NSR non-applicability
e) Federal rule changes

a) NSR Thresholds for Modifications to Existing Sources

If a modification to an existing source will result in a **significant net emissions increase** of an NSR regulated pollutant, an NSR permit will be required. Section c, below, describes the process for determining whether the modification will cause a significant net increase in emissions.

The emissions thresholds for modifications, known as **significant thresholds**, are provided below in Table 4.1. In most cases, the significance thresholds for major modifications are the same for attainment areas as for nonattainment areas. However, there are lower significance thresholds for ozone and for carbon monoxide in areas that are in serious to extreme nonattainment for these pollutants. In addition, the EPA has only established nonattainment areas for the six criteria air pollutants, so any additional pollutants regulated under NSR fall into the PSD program.

Table 4.1. NSR Significant Thresholds for Modifications to Existing Major Sources, in TPY

	PSD (attainment)	**NA NSR (nonattainment)**					
		General	Marginal	Moderate	Serious	Severe	Extreme
Ozone (VOCs and NOx)	40	-	40	40	25	25	Any
CO	100	-	-	100	50	-	-
PM_{10}	15	-	-	15	15	-	-
SO_2	40	40	-	-	-	-	-
NO_x	40	40	-	-	-	-	-
Lead	0.6	0.6	-	-	-	-	-
Fluorides	3	3					
Sulfuric acid mist	7	7					
Hydrogen sulfide, total reduced sulfur, or reduced sulfur compounds	10	10					
MWC organics[1]	3.5×10^{-6}	3.5×10^{-6}					
MWC metals	15	15					
MWC acid gases	50	50					
MSW[2] landfill non-methane gas emissions	50	50					

[1]municipal waste combustor (MWC)
[2]municipal solid waste (MSW)

In addition, any modification to a source within 10 kilometers of a Class I area would be considered significant if the increased net emissions of any regulated pollutant would adversely impact ambient air quality in that area.[71]

[71] Specifically, PSD would be triggered if the modification would increase the 24-hour average concentration of any regulated pollutant in ambient air in the Class I area by 1ug/m3 or greater.

b) What Modifications Trigger NSR?

Two types of modifications require an NSR permit:

- a modification to an existing major stationary source, where the increase or net increase of regulated emissions would exceed the NSR significance thresholds for modifications, or,

- a modification to an existing *minor* stationary source, where the modification *itself* would qualify as a new major source of NSR-regulated emissions.

The first scenario is called a "major modification" and is discussed in more detail below. The second scenario would be treated as a new major source under NSR, and would be subject to the thresholds described in Chapter 3.

A third scenario to be aware of is when a minor modification is made to an existing minor source. This type of modification would *not* be subject to NSR at this time. However, NSR could be triggered in the future if the resulting emissions, post-modification, qualify this source as a major source under NSR. In this case, any future modifications must take into account that the facility has now become a major stationary source. (See Box 4.1 for examples).

Finally, many states have their own "minor NSR" programs that address emissions from sources that don't meet the applicability thresholds for federal NSR. There is considerable variability among these programs. Check with your state or local permitting authority to find out what modifications might be covered by their minor NSR program.

Box 4.1: Three Scenarios for Modifications that May Trigger NSR

Example 1: Major Modification of a Major Source
A Portland cement plant in an area that is in nonattainment for particulate matter (PM) has an NA NSR permit allowing it to emit 100 tons per year (tpy) of particulate matter. This plant is considered a major source since it exceeds the NSR thresholds for major source status. The owner wants to increase operations by adding new equipment. This will result in a net increase of 25 tpy of PM emissions. The threshold for modifications for this pollutant in nonattainment areas is 15 tpy. Therefore, the facility must get an NA NSR permit for this proposed modification.

Example 2: Major Modification of a Minor Source
A Portland cement plant in an area that is in attainment for particulate matter (PM) has a permit allowing it to emit 60 tpy of PM. The plant is considered a minor source since it is below the NSR thresholds for major source status. The owners want to increase plant operations by adding new equipment. The modification itself will add 101 tpy of PM. The new emission unit's PTE of 101 tpy for the modification will have to undergo PSD permitting review as a new source because the modification *itself* is considered a major stationary source (cement plants are on list of 28 source categories for which the PSD applicability threshold is 100 tpy).[72] Following this modification, the whole facility will be considered a major stationary source.

Example 3: Minor Modification of a Minor Source
As in example 2, a Portland cement plant in an attainment area for particulate matter (PM) has a permit allowing it to emit 60 tpy of PM. It is considered a minor source because its emissions are below the thresholds for major source status. The owners want to increase plant operations by adding new equipment. In this example, however, the modification itself will add only 60 tpy of PM. While this would double the plant's emissions of PM to 120 tpy, this modification would *not* require a PSD permit because the modification *itself* was less than 100 tpy. However, any *future* modifications at this facility could be subject to NSR because the entire facility would now be considered a major stationary source. In addition, the modification may require a "minor NSR" permit from a state or local permitting authority.

[72] See Appendix F for a complete list of the 28 PSD source categories.

c) Determining significance

A modification of a major stationary source is defined as "any physical change in, or change in the method of operation of, a major stationary source" that would result in *both* a significant increase in the emission of a regulated NSR pollutant and a *significant net increase* in such emissions.[73] (These terms are discussed in more detail below.) To determine whether a modification is significant, and therefore would trigger NSR, the following questions need to be answered:

(1) is the proposed change excluded from the definition of modification?
(2) will the change result in a significant emission increase?
(3) will the change result in a significant *net* emission increase?

1. Is the proposed change excluded from the definition of modification?

The Clean Air Act defines a modification as "any physical change in, or change in the method of operation of, a stationary source which increases the amount of any air pollutant emitted by such source or which results in the emission of any air pollutant not previously emitted."[74] However, the federal NSR regulations provide little guidance as to what constitutes a physical or operational change. Instead, the regulations list a number of changes that are *not* considered modifications, including: routine maintenance, repair and replacement; increasing the production rate or hours of operation (unless prohibited under a permit condition)[75]; switching to certain alternative fuels; and a change in ownership.[76] If the proposed modification falls into one of these categories, it will not require a major modification NSR permit.

There has been considerable debate, in particular, over what constitutes "routine maintenance, repair and replacement" (RMRR). Currently, this is determined on a case-by-case basis, looking at factors such as the cost, nature, extent and purpose of the change, and the frequency of changes at a particular source. The basic intent of this exclusion is to ensure that an action that is truly routine in nature, such as replacing a leaky valve, need not trigger the NSR process.

However, the routine maintenance exclusion has been subject to numerous interpretations and lawsuits over the years.[77] In some cases, companies have illegally avoided NSR by claiming that their action was a routine repair or replacement, when in fact it was a modification that should have been subject to NSR. In the 1990s, EPA investigated several major industry sectors, such as coal-fired power plants, petroleum refineries, and pulp and paper mills, to see whether

[73] See 40 C.F.R. Part 52.21(b)(2) and 40 CFR Part 51.166(b)(2).
[74] 42 U.S.C. Section 7411(a)(4).
[75] See 40 C.F.R. Part 52.21(b)(2) and 40 CFR Part 51.166(b)(2).
[76] *Id*.
[77] See NAPA report, *supra* note 2, pp. 39-41.

they had complied with NSR when they expanded their operations. EPA found numerous violations and conducted enforcement actions against companies across the country.[78]

In October 2003, EPA issued a revised rule concerning routine equipment replacement (see "Federal Rule Changes," below). Implementation of this rule was stayed indefinitely by a court order in December 2003.[79]

2. Will the change result in a significant emission increase?

In general, in order to trigger NSR, a modification of a major source must result in a significant emissions increase ***and*** a significant *net increase* of NSR-regulated pollutant emissions from that source.[80] Four steps are required to determine whether a modification will result in a significant increase in NSR-regulated emissions (see Box 4.2). Because at the time of this manual's publication, some states are implementing the old regulations and others are not, both approaches are included in Box 4.2.

3. Will the change result in a significant net emission increase?

If a proposed modification will result in a significant emission increase (see Box 4.2), a further calculation must be performed to determine if there will be a significant *net* increase in emissions.

Even if the emissions increase is significant, a source may avoid NSR through a process called "**emissions netting**." A netting analysis allows an applicant to take into account recent emissions increases and decreases at the source, provided they are "contemporaneous" and "creditable," to calculate if the proposed modification will result in a significant *net increase* in emissions.

The EPA defines "contemporaneous" as the period beginning five years before the modification is expected to commence.[81] To be "creditable," the increase or decrease has to have occurred at the source and it cannot have been previously subject to NSR. It must also be federally enforceable.[82]

---

[78] NAPA report, *supra* note 2, at 43.
[79] *State of New York v. U.S. EPA*, U.S. Court of Appeals (DC Circuit), No. 03-1380 (December 24, 2003).
[80] Note that this process is not allowed for a major modification to a *minor source*, because in that case the modification itself is major and is treated as a new source under NSR.
[81] Some state and local permitting agencies, however, may have different timeframes in their definitions of "contemporaneous."
[82] Other considerations may apply when determining if an emissions change is creditable; see NSR Workshop Manual, *supra* note 56, pp. A.38-A.42; A.47-48.

Box 4.2: Calculating the Emissions Increase from a Modification

Step 1: Determine the source's baseline (actual) emissions
A source's actual emissions will usually be lower than the limit in its permit. Prior to the 2002 rule changes, sources were required to use actual operating data from the two years prior to the proposed change to determine their baseline emissions (unless those two years were not representative of normal operations because of extraordinary circumstances).

Under the 2002 federal rule changes, sources may use ANY consecutive 24-month period from the previous ten-year operating period for their baseline emissions, with the exception of electric utility steam generating units (EUSGUs), which are only allowed a five-year lookback. Sources may select a different 24-month period for each pollutant, but must use the same 24-month period (per pollutant) for all equipment involved in the modification. The baseline must be adjusted to account for any new rule limits, periods of non-compliance, and start-up, shutdown and malfunction emissions.

Step 2: Estimate the source's future (i.e. post-modification) emissions
There are two methods of estimating future emissions: the potential to emit (PTE) and projected actual emissions. A source may use either method. Prior to the 2002 rule change, sources were required to calculate their post-modification emissions based on their potential to emit after the modification was completed, unless the source agreed to accept an enforceable emission limit in their permit. A source may still use this method.

The 2002 rule change allows sources to use another method to calculate their post-modification emissions. Rather than using the potential to emit, sources can use the actual amount of their projected post-modification emissions.

Step 3: Calculate the emissions increase
Prior to the 2002 federal rule change, the emissions increase was calculated by subtracting the source's baseline emissions (Step 1) from the source's future PTE (Step 2). This is called an "actual-to-potential" analysis. A source may still use this method.

The 2002 rule change allows existing sources to instead use an "actual-to-projected-actual" analysis to determine the emissions increase.[83] This method allows a source to compare its baseline (actual) emissions to the projected maximum annual emissions that will occur over a five-year period following the modification.[84] In other words, even if a facility has the *potential* to emit a greater amount, it is only required to consider what it actually *expects* to emit. Under this alternative, the emissions increase is calculated by subtracting the source's baseline emissions (Step 1) from the source's projected actual emissions.

A source using this option is required to keep records of actual emissions related to the modified emission unit for the next 5-10 years to demonstrate that it did not exceed the NSR major modification emission thresholds.

Another alternative for applicants is to agree to reduce the PTE of the existing source. This would in turn reduce the total emissions increase resulting from the modification.

Step 4: Is the emissions increase significant?
Regardless of which method is used, if the emissions increase from the modification is not significant, no major NSR permit action is required, although state NSR requirements may still apply. If the emissions increase from the modification is significant (see Table 4.1), further steps are required to determine whether there will be a significant *ne*t emissions increase (see Box 4.3), which would trigger the need for a major modification NSR permit.

[83] Electric utilities were already allowed to use this approach prior to the 2002 rule change.
[84] In some cases, the permit may require ten-year projections. The source would be required to maintain records and track whether its actual emissions exceed its projections.

To determine whether a modification will result in a significant net emissions increase, two more steps are required (see Box 4.3). An NSR permit is only required if there will be an emission increase from the project, and a net increase in emissions, and if both increases are significant, i.e. exceeding the NSR thresholds for modifications (see Table 4.1).

If the net emissions increase is not significant, the modification will not require a major NSR permit. This process is called "netting out." Check with the reviewing authority in your state about its policy on netting. Certain states, such as California, have stricter requirements for netting exercises.

Box 4.3: Calculating the Net Emissions Increase from a Modification

If a proposed modification will result in a significant increase in emissions of an NSR-regulated pollutant (see Box 4.2), further steps are required to determine whether the modification is subject to NSR.

Step 1: Calculate the net emissions increase
The net emissions increase is calculated by taking the project's emissions increase from Step 3, adding any "contemporaneous" emissions increases from the source and subtracting any emissions decreases from the source over the same time period.

Net Emissions Increase = Emissions Increase + Recent Increases - Recent Decreases

To be included in the netting analysis, emissions changes must be both "contemporaneous" (usually defined as the preceding five years) and "creditable" (i.e. the decreases cannot have been the result of a previous NSR action).[85]

Step 2: Is the net emission increase significant?
If the net increase in emissions is significant, i.e. exceeding the NSR thresholds for modifications (see Table 4.1), then the modification will require an NSR permit. For instance, if a modification of a coal-burning plant will result in a net increase of 50 tpy of SO_2 emissions, when the threshold is 40 tpy, the net emission increase is considered significant and would trigger the NSR process.

d) NSR Non-Applicability

Most modifications to existing stationary sources are not required to obtain a major NSR permit. Many modifications are excluded from NSR because the emission increase or net emission increase is below the significance thresholds required to trigger major NSR. Applicants may also opt to limit the potential to emit (PTE) of the existing source or the proposed project to prevent the modification from being subject to NSR. If a modification does not trigger major NSR, it may still be subject to a state's minor NSR permitting program. Chapter 8, section g includes a checklist for troubleshooting whether a source may have improperly avoided complying with major NSR permit requirements for a modification.

[85] *Id.*

e) Federal Rule Changes

In 2002, after a lengthy review process, the EPA issued a final rule containing five NSR reforms, all pertaining to modifications. The rule was issued December 31st, 2002 and went into effect on March 3rd, 2003.[86] This set of reforms is referred to in this manual as the "2002 rule change." An additional rule, on routine equipment replacement, was finalized October 27th, 2003.[87] This rule, referred to in this manual as the "2003 rule change," was stayed "indefinitely" by court order on December 24, 2003.

In addition, on October 13, 2005 the EPA proposed a new rule change that would affect the emissions tests used in NSR to determine if a physical or operational change at a power plant would cause emission increases that would require the plant to install additional pollution controls. At the time of this manual's publication, the public comment period is still underway on this proposal.

As discussed in more detail below, both the 2002 and 2003 recent rule changes were challenged in court, and some of the issues remain unresolved at the time of this manual's publication.

To find out the current status of these and other changes to the federal NSR regulations, go to the EPA's website at: **www.epa.gov/nsr/actions.html**.

State Implementation Plans and Effective Date

The 2002 rule change, which applies to any permit application submitted after March 3, 2003, went into effect immediately in states with delegated PSD programs. However, states with EPA-approved NSR programs have until January 2, 2006 to revise their State Implementation Plans (SIPs) to reflect the rule changes. Some states have already submitted revised SIPs or are in the process of doing so. EPA must approve these plans before they can be implemented.

One of the issues raised by state and local authorities in their lawsuit against the EPA was whether EPA could force them to include the 2002 rule change in their SIPs if their own programs were more stringent. The court dismissed this challenge as "unripe," leaving open the potential for future lawsuits challenging the 2002 rule.[88] In addition, the 2003 rule change is still being challenged in court. The outcome of this litigation could lead to further amendments of the SIPs.

---

[86] 67 Federal Register 80185-80314 (Dec. 31, 2002).
[87] 68 Federal Register 61248-61280 (Oct. 27, 2003).
[88] *State of New York v. U.S. EPA*, U.S. Court of Appeals (DC Circuit), No. 02-1387 (June 24, 2005), see pp. 67-72. The court held that "until EPA has rejected a newly submitted SIP, we think the issue is unripe," at 69.

Legal Challenges

A number of state attorneys general, local governments, industry, and environmental groups filed suits against the EPA challenging the 2002 and 2003 rule changes. The EPA's 2003 rule change concerning "routine equipment replacement" has been indefinitely stayed by court order.[89] At the time of publication of this manual, this lawsuit is still pending and it is likely that there will be further litigation over changes to the NSR regulations.

2002 Rule Change

The final rule, which went into effect March 3, 2003, changes the process for determining when modifications will be subject to BACT, LAER, and other NSR requirements.[90] In June 2005, a federal court struck down two of these revisions (pertaining to "pollution control projects" and "clean units") and also ordered the EPA to explain or revise its proposed relaxation of record-keeping requirements for sources making modifications.[91]

The court upheld the following revisions to the NSR permitting program for modifications:

- ***Determining Baseline Emissions.*** The new rule allows an existing source, except for electric utilities,[92] to use actual emissions data from any 24 consecutive months from the previous ten-year operating period to establish its emissions baseline. Previously, a source was generally required to use actual operating data from the two years prior to the proposed change to determine its baseline emissions.

- ***Calculating Emission Increases.*** The new rule allows sources to use an "actual-to-projected-actual" emissions test to determine whether the emissions increase from a modification will be significant (see Box 4.2). Previously, only electric utilities could use this approach; all other sources were required to use an "actual-to-potential" emissions test (i.e. if a source's potential emissions, post-modification, were significantly higher than its actual emissions prior to the change, it would have to undergo NSR for the modification, unless it agreed to a legally enforceable limit on its post-modification emissions to ensure that there would be no significant increase). The new rule includes several other changes related

[89] *State of New York v. U.S. EPA*, U.S. Court of Appeals (DC Circuit), No. 03-1380 (December 24, 2003).
[90] 67 Federal Register 80185-80314 (Dec. 31, 2002).
[91] *State of New York v. U.S. EPA*, U.S. Court of Appeals (DC Circuit), No. 02-1387 (June 24, 2005).
[92] Electric utility steam-generating units (EUSGUs) are only allowed a five-year look-back.

to calculating emission increases and reduced record-keeping and reporting.

- ***Plantwide Applicability Limit (PAL).*** The new rule allows a source to establish an emissions cap on NSR pollutants for the whole facility, allowing for modifications to occur without triggering NSR if the resulting emissions do not exceed a specified level established under the PAL. The PAL for a pollutant is established using the emissions baseline plus the "significance level" for the pollutant. A source's PAL remains in effect for ten years, and may be renewed at the same level, without consideration of other factors, if the source emitted at least 80% of its PAL for the previous ten years.

2003 Rule Change: Routine Equipment Replacement Provision

On October 27th, 2003, EPA issued its final "NSR Routine Equipment Replacement Rule."[93] The new rule would allow equipment to be replaced at an existing source without triggering NSR as long as it met four criteria: (1) the new equipment is "identical or functionally equivalent" to the old equipment; (2) the cost of replacing the equipment does not exceed 20% of the current replacement value of the entire process unit; (3) the replacement does not alter a "design parameter" of the process unit; and (4) the replacement will not cause a violation of an existing legally-enforceable emission limit.

On December 24th, 2003, after a legal challenge filed by 14 states and other governmental entities, along with health and environmental groups, a court stayed the implementation of the new rule "indefinitely."[94] In June 2005, EPA completed a reconsideration of its rule, but did not propose any changes.

Impact of the Rule Changes on Public Health and the Environment

The effect of these rule changes has been widely debated among federal regulators, regulated businesses, health and environmental groups, attorneys general, and state and local pollution control agencies.[95] It is beyond the scope of this manual to provide an analysis of the impact of these rule changes on air quality or enforcement of the NSR program or to summarize the divergent opinions on this subject. Much has been written about the potential impacts of these rule changes; many of these analyses can be found on the internet.[96]

---

[93] 68 Federal Register 61248-61280 (Oct. 27, 2003).
[94] *State of New York v. U.S. EPA*, U.S. Court of Appeals (DC Circuit), No. 03-1380 (December 24, 2003).
[95] The EPA's own analyses, including the agency's Supplementary Analysis of the Environmental Impact of the 2002 Final NSR Improvement Rules (Nov. 21, 2002, 182 pages), can be found at http://www.epa.gov/nsr/actions.html.
[96] See Appendix D for list of on-line information resources.

Chapter 5: PSD Permit Requirements

This chapter describes the requirements for
"Prevention of Significant Deterioration" (PSD) permits.

The Prevention of Significant Deterioration (PSD) program applies to sources located in attainment areas, where the national ambient air quality standards (NAAQS) have been met.[97] This chapter describes the basic requirements of a PSD permit application.

Most PSD programs are SIP-approved, which means there can be a good deal of variation from one state to the next. Some states are delegated by the EPA to implement the federal NSR regulations.

The Clean Air Act set forth five goals for the PSD program.[98] These include: (1) to protect public health and welfare; (2) to preserve, protect, and enhance the air quality in national parks, wilderness areas, monuments, seashores, and other areas of special national or regional natural, recreational, scenic, or historic value; (3) to insure that economic growth will occur in a manner consistent with the preservation of existing clean air resources; (4) to assure that emissions from any source in any state will not interfere with any portion of the applicable implementation plan to prevent significant deterioration of air quality for any other state; and (5) to assure any decision to permit increased air pollution is made only after careful evaluation of the consequences and after adequate procedural opportunities for informed public participation in the decisionmaking process.

To obtain a PSD permit, an applicant must:

a. use the best available control technology (BACT);
b. conduct an air quality impact analysis;
c. analyze additional impacts to soils, vegetation, and visibility, and
d. show that the proposal will not adversely impact a Class I area.

After the application is complete, the permitting authority will:

e. prepare a draft permit;
f. allow the public to review and comment on the draft permit; and,
g. issue the final permit.

[97] "Unclassifiable" areas, where the air quality data are insufficient, are also included in the PSD program.
[98] 42 U.S.C. Section 7470 (section 160 of the Clean Air Act).

a) Applicability Thresholds for PSD Permits

As Chapters 3 and 4 describe in more detail, for a facility to require a PSD permit, it must:

(1) be a new "major source" or a "major modification" to an existing source; and,

(2) emit, or have the potential to emit, "significant" amounts of an NSR-regulated pollutant for which the area is in attainment of air quality standards, or unclassifiable.

In general, a new source located in an attainment or unclassifiable area must get a PSD permit if it will emit, or has the potential to emit, 250 tons per year (tpy) or more of any NSR regulated pollutant for which the area is classified as in attainment. However, if the source is on EPA's list of 28 PSD source categories (see Appendix F), the threshold for a PSD permit is only 100 tpy. The "significant levels" are lower for modifications (see Appendix E).

In addition, PSD review would be triggered if a new source or major modification is constructed within 10 kilometers of a Class I area and would adversely impact air quality related values in that area.

Note that the same facility may *also* require a Nonattainment Area NSR (NANSR) permit if it is located in an area that is in nonattainment for at least one of its major emissions of regulated NSR pollutants. Chapter 6 will discuss the different permit requirements for NA NSR.

b) Use of Best Available Control Technology (BACT)

All PSD permits require the use of "best available control technology" (BACT) to reduce emissions of pollutants that meet the applicability thresholds for PSD review. BACT is one of the most stringent emissions limitations that EPA can require. It requires the source to control its emissions as much as technically feasible through the use of available methods, systems, and technology. However, industries may take into account energy, environmental and economic impacts and costs when selecting which control technology to use.[99]

Applicants must submit a "control technology review" as part of their permit application. BACT is determined on a case-by-case basis for each pollutant at each emission unit.

[99] In contrast, sources in nonattainment areas must use the Lowest Achievable Emissions Reduction (LAER), which does not consider cost-effectiveness.

EPA's NSR Workshop Manual recommends a five-step "top-down" process for determining BACT for a particular regulated pollutant:

(1) identify all available control options for a targeted pollutant;
(2) eliminate options that are "technically infeasible";
(3) rank feasible options in order of effectiveness;
(4) evaluate the most effective controls (including their energy, environmental, and economic impacts); and,
(5) select the most effective feasible control technology (BACT). [100]

The "top-down" process requires that all available pollution control technologies be ranked in order of their effectiveness. The top-ranking alternative is the "best," or most stringent, control technology. If an applicant chooses a lower-ranking alternative, the applicant must be able to justify this choice by documenting that technical considerations, or energy, environmental, or economic impacts, made the higher-ranking alternative(s) not feasible. (The permitting authority may disagree and require more stringent pollution controls.)

EPA maintains a technology information clearinghouse to assist with the selection of BACT. EPA's on-line RACT/BACT/LAER (RBLC) clearinghouse contains case-specific information provided by state and local permitting agencies on the air pollution technologies that they have required for stationary sources.[101] Other sources of information include: vendors of pollution control technology, technical journals, and recent NSR permits issued for similar sources.
Under no circumstances can the permitting authority approve a BACT determination that will result in higher emissions for a pollutant than the New Source Performance Standards (NSPS) would allow.[102]

c) Air Quality Impact Analysis

An applicant for a PSD permit must also perform an extensive air quality impact analysis, including an assessment of existing ambient air quality (pre-construction), and projected impacts on ambient air quality as a result of the proposed project (post-construction). Post-construction impacts include secondary emissions from any future residential, commercial or industrial growth in the area that would be associated with the project.

The purpose of the air quality impact analysis is to demonstrate that the proposal would not result in a violation of any National Ambient Air Quality Standard (NAAQS) and that it will not exceed any **PSD increment.** The PSD increment is

[100] NSR Workshop Manual, *supra* note 56, at B.6. The manual has an excellent and very detailed chapter on how BACT is determined, pp. B.1-B.75.
[101] EPA's RBLC clearinghouse can be accessed on-line at http://cfpub1.epa.gov/rblc/htm/bl02.cfm. Note that the RBLC clearinghouse is not always kept up-to-date by the states.
[102] Unlike BACT, which is determined on a case-by-case basis, NSPS are national, uniform emission limits for different categories of sources (see Chapter 1).

the maximum allowable increase of a regulated pollutant in an area's ambient air above the area's **baseline concentration**. In general, the baseline concentration refers to the area's existing concentration of air pollution at the time that the PSD permit is submitted.

In other words, a proposed project in an attainment area cannot be allowed to bring that area into nonattainment for a given pollutant, nor can it significantly deteriorate existing air quality, even if the increased emissions would not affect that area's attainment status.

Currently, the EPA has established PSD increments for only three criteria pollutants (see Table 5.1). Class I areas, which include national wilderness areas and parks over a certain size,[103] have the smallest PSD increments and therefore allow the least amount of air quality degradation. Class II areas have larger PSD increments and can therefore accommodate more industrial growth. Class III areas allow the greatest pollution increases. (At this time, however, there are no Class III areas designated in the United States or its territories).

While the assessment of existing air quality is generally done using air monitoring data from the previous year (if available), the impact assessment relies on air quality modeling or **dispersion modeling**. Dispersion modeling is extremely technical, and states may have specific requirements for how it can be conducted.[104]

Table 5.1. PSD Increments for Class I, II, and III Areas[105]

Pollutant	Maximum Allowable Increase (in micrograms per cubic meter)		
	Class I	Class II	Class III
Particulate Matter:			
PM-10, annual arithmetic mean	4	17	34
PM-10, 24-hr maximum	8	30	60
Sulfur Dioxide:			
Annual arithmetic mean	2	20	40
24-hr maximum	5	91	182
3-hr maximum	25	512	700
Nitrogen Dioxide:			
Annual arithmetic mean	2.5	25	50

The air quality impact analysis is site-specific and a separate analysis must be conducted for each regulated pollutant. A full impact analysis must take into account, among other things, the impact area, local meteorological and topographical conditions, and other sources of pollution in the area. Although the

[103] Class I areas are described in more detail below, in section e. See Appendix C for complete list.
[104] The NSR Workshop Manual, *supra* note 56, has a lengthy chapter on how the air quality impact analysis is conducted, pp. C.1-C.73.
[105] 40 C.F.R. Part 52.21(c).

EPA has not established impact levels for non-criteria pollutants, these too must be inventoried and assessed as part of the analysis.

d) Additional Impacts Analysis

The PSD permit applicant must also prepare an "additional impacts analysis" for each regulated NSR pollutant. This analysis generally assesses the project's impacts on soils and vegetation, visibility, and secondary emissions from associated residential, commercial, or industrial growth. The vegetation analysis is concerned only with impacts on vegetation with "significant commercial or recreational value," such as food crops or recreational wilderness areas. However, an applicant may have to conduct further impact assessment where required by other local, state, or federal laws (such as state environmental review laws or the national Endangered Species Act).

e) Special Requirements for Protecting Class I areas

Under the Clean Air Act, designated "Class I" areas are subject to the highest level of air quality protection. Mandatory federal Class I areas include the following:

- international parks;
- national wilderness areas greater than 5,000 acres in size;
- national memorial parks greater than 5,000 acres in size; and,
- national parks greater than 6,000 acres in size.[106]

Federal Class I areas are managed either by the U.S. Forest Service, National Park Service, or Fish and Wildlife Service. The head of the federal agency responsible for each of these areas is called the **federal land manager** (FLM).

The PSD permitting program gives federal land managers considerable authority to review and weigh in on PSD permitting decisions that may impact Class I areas under their jurisdiction.[107] The NSR regulations give federal land managers "an affirmative responsibility to protect the air quality related values (including visibility) of such lands and to consider, in consultation with the [EPA] Administrator, whether a proposed source or modification will have an adverse impact on such values."[108]

---

[106] 40 C.F.R. Part 52 (e). "Mandatory" federal Class I areas cannot be reclassified. While states and Indian nations are empowered to designate "Class I" areas within their boundaries, these areas can be reclassified and are considered *non-federal* Class I areas. See entire chapter, E.1-E.24, for more discussion on Class I area impact analysis. See Appendix C for a complete list of mandatory Class I areas.
[107] 40 C.F.R. Part 52.21 (p).
[108] 40 C.F.R. Part 52.21 (p)(2).

A notice of a PSD application must be sent to the appropriate FLM within 30 days of receipt and at least 60 days prior to a public hearing on the proposal. The FLM can recommend that a PSD permit be denied, *even if the emissions will not exceed PSD increments for Class I areas.* If the reviewing authority rejects the FLM's recommendation, it must explain in writing its reason for doing so.

While the regulations specifically mention impacts on visibility (for instance, a project that would cause increased haze affecting views from the rim of the Grand Canyon), the FLM has considerable latitude in identifying the "air quality related values" of concern. For example, the National Park Service defines "adverse impact" as "any impact that: (1) diminishes the area's national significance, (2) impairs the structure or functioning of ecosystems, or (3) impairs the quality of the visitor experience."[109]

f) Permit Drafting

Once the applicant completes the control technology review and the various impact analyses outlined above, the permitting authority will review the application to ensure that it complies with the PSD program and decide whether or not to issue a draft permit. There are no federal laws or regulations prescribing what a draft PSD permit must contain.

Typically, a PSD permit and supporting technical documents will include the following items:

- A description of the proposed facility, where it is located, and how it will operate;
- Emissions limits for each regulated NSR pollutant to be emitted by the facility and the area’s attainment status for each pollutant;
- An explanation of why the source is subject to PSD;
- A description of the BACT analysis and other PSD studies; and,
- A description of how the source will ensure compliance with the applicable Clean Air Act regulations and maintain the specific permit limits in the draft permit.

g) Public Review

After the permitting authority has determined that the application is complete and has drafted the PSD permit, it must provide the public the opportunity to review and comment on the draft permit. The permitting authority is required to publish

[109] NSR Workshop manual, *supra* note 56, at E.10, E.12.

a notice announcing the public comment period and the deadline for requesting a public hearing on the draft permit (Chapter 2 describes where you can find these public notices).

Federal law provides for a minimum 30-day public comment period. However, state and local permitting agencies may provide longer public comment periods, or allow an extension of the 30-day timeframe if a request is made. Many reviewing authorities will schedule, upon request, a public hearing on the draft permit before it is issued.[110] Chapters 7 and 8 discuss how citizens can effectively participate in the public review process.

h) Issuing the Final Permit

After the public comment period on the draft permit is over, the permitting authority must review and respond to all the comments it received and decide whether or not to issue a final permit. The permitting authority may revise the draft permit as it deems necessary before issuing the final permit.

Should someone who commented on the draft permit wish to contest the final permit, they can file an appeal with the permitting authority or, if the permit was issued by EPA or under a delegated program, EPA's Environmental Appeals Board. Chapter 9 describes the appeal process. Once the final permit is issued, the source must begin construction within 18 months or obtain a one-time extension; otherwise, the permit will expire.[111]

[110] 40 C.F.R. Part 124.12.
[111] 40 C.F.R. Part 52.21(r)(2).

Chapter 6: Nonattainment Area NSR Permit Requirements

This chapter will describe the requirements for Nonattainment Area New Source Review permits.

The preceding chapter described the requirements for obtaining a New Source Review permit for major sources located in air quality attainment areas (known as "PSD" permits). This chapter describes the requirements for obtaining an NSR permit in nonattainment areas (known as "NA NSR" permits). While the two programs are similar, there are important differences.

The purpose of the NA NSR permitting program is to allow for some industrial growth in nonattainment areas while ensuring "reasonable further progress" toward bringing air quality in these areas into attainment. To do this, NA NSR requires sources that emit significant quantities of pollutants for which an area is in nonattainment to: (a) implement the most stringent air pollution controls achievable, and (b) offset their air emissions in order to provide a net air quality benefit in the region.

This chapter describes the basic requirements of an NA NSR permit application. Each state has its own EPA-approved program for issuing NA NSR permits, which can be found in its State Implementation Plan (SIP). In general, to obtain an NA NSR permit, an applicant must:

a) use the lowest achievable emission rate (LAER);
b) obtain emissions offsets;
c) demonstrate compliance at other facilities it owns; and,
d) show that the proposal will not adversely impact visibility in a federal Class I area.

The permit drafting and public review process is generally the same as with PSD permits.

a) Applicability Thresholds for NA NSR Permits

As Chapters 3 and 4 describe in more detail, for a source to be subject to NA NSR permit requirements, it must:

- be a new "major source" or a "major modification" to an existing major source, and,

- emit, or have the potential to emit, "significant" amounts of an NSR-regulated pollutant for which the area is in nonattainment of air quality standards.

In most cases, any new source must obtain an NA NSR permit if it will emit, or has the potential to emit, 100 tons per year or more of a criteria pollutant for which that area is in nonattainment. However, the Clean Air Act has additional nonattainment classifications for three criteria pollutants: ozone,[112] particulate matter (PM_{10}), and carbon monoxide. In nonattainment areas where air quality problems are more severe for these pollutants, EPA has established lower applicability thresholds for new sources (see Appendix E).

In general, the "significant levels" for emissions of criteria pollutants are lower for modifications to existing sources than for new sources (see Appendix E).

In addition, NA NSR review would be triggered if a new source or major modification is constructed within 10 kilometers of a Class I area and would adversely impact ambient air quality in that area.

An applicant may need to apply for both a PSD permit and an NA NSR permit if the source is located in an area that meets the national ambient air quality standards (NAAQS) for some but not all of its major emissions. For instance, in the Northeast, where most urban areas are in nonattainment for ozone, many applicants must apply for an NA NSR permit for their volatile organic compound (VOC) emissions and PSD permits for their other emissions.

b) Use of Lowest Achievable Emissions Rates (LAER)

Nonattainment Area NSR permits require the use of "lowest achievable emissions rates" (LAER) to reduce emissions of regulated NSR pollutants. LAER is the most stringent pollution control EPA can require. Unlike "best available control technology" (BACT), which is required for PSD permits, the selection of LAER does not have to consider energy, environmental, or economic impacts or other costs.

[112] Ozone is not emitted by industrial sources; it is formed by volatile organic compounds (VOCs) and nitrogen oxides (NO_x), known as "ozone precursors," in the presence of heat and sunlight. VOCs and NO_x emissions are regulated as surrogates for ozone.

Federal regulations define LAER as the more stringent rate of emissions based on either of the following:

(a) The most stringent emissions limitation which is contained in the implementation plan of any State for such class or category of stationary source, unless the owner or operator of the proposed stationary source demonstrates that such limitations are not achievable; or,

(b) The most stringent emission limitation which is achieved in practice by such class or category of stationary sources.

In general, the most stringent limitation contained in a State Implementation Plan (SIP) for a source category must be considered LAER, unless even stronger emissions reductions have been achieved in practice, or if the applicant can demonstrate that the SIP limitation is unachievable. In the latter scenario, the applicant would have to make the case that the cost of a LAER control is so great that it would prohibit the source from being built. However, the applicant would not be able to make this argument if other similar sources are operating with the same technology.[113]

Sometimes more than one control measure is required in order to achieve LAER. In addition to installing pollution control equipment, such as scrubbers in smokestacks, a source may be required to consider changing the raw material that is processed or modifying its process. In addition to the SIP limits, sources of information for determining LAER include EPA's on-line RACT/BACT/LAER technology information clearinghouse and recent NSR permits issued for similar sources located in nonattainment areas.[114]

Under no circumstances can the permitting authority approve a LAER that will result in higher emissions for a pollutant than the New Source Performance Standards (NSPS) would allow.[115]

c) Emissions Offsets

Any project subject to nonattainment NSR must obtain **offsets,** also known as **emission reduction credits (ERCs)**, as a condition of approval. The purpose of offsetting the emissions increases is to ensure that the new construction will not impede progress toward bringing air quality in the region into compliance with national standards. In general, offsets are obtained from emission reduction

[113] Draft New Source Review Workshop Manual, (U.S. EPA, October 1990), pp. G.2-G.4. Available on-line at: www.epa.gov/nsr/publications.html.
[114] EPA's RBLC clearinghouse can be accessed on-line at http://cfpub1.epa.gov/rblc/htm/bl02.cfm.
[115] Unlike LAER and BACT, which are determined on a case-by-case basis, NSPS are national, uniform emission limits for different categories of sources (see Chapter 1).

projects performed at the same or nearby sources. Such projects must obtain ERCs, which are surrendered to "offset" emissions from the new project. The amount of offsets required depends on the nonattainment status of the pollutant, but must be at least the same amount as the emissions from the proposed new source or modification.[116]

Offsets are required only for those emissions for which the area is in nonattainment. For instance, if an area is in nonattainment for particulate matter (PM), a new source proposing to emit over the major source threshold or a proposed modification that would emit significant quantities of PM would have to obtain PM ERCs from an existing source. In general, offsets for all pollutants should be located within the same area as the new or modified source in order to best "offset" the ground level impacts of the new emissions.

In order to provide a net air quality benefit, the **offset ratio** (i.e. the ratio of emission reductions to new emissions) must be equal to or greater than 1 to 1. For instance, a new source that will emit 100 tpy of PM in an area that is in nonattainment for PM would need to obtain an emissions reduction offset of at least 100 tpy of PM.

Emissions offsets can only be credited if they are "surplus, real, permanent, quantifiable, and federally enforceable."[117] For example, an emissions credit could be achieved by permanently shutting down an emissions unit at an existing facility, or by curtailing its production rate or hours of operation. To be enforceable, any commitment to reduce emissions as an emission reduction credit must be clearly described in the permit, and must be added as a permit condition in the operating permit of the source that is providing the emission reduction. This enables citizens or the enforcement agency to determine whether the source has complied with the permit conditions.

An offset is not creditable if the emissions reduction has already been counted for compliance with a regulatory action, such as for "netting out" of a major modification,[118] or if a state has already relied on it to demonstrate progress toward attaining clean air standards. In other words, if the emission reduction has already been counted once, it cannot be used again. In order to encourage industrial development, some states maintain a registry of available emission reduction credits. For example, New York State maintains a registry of emission reduction credits for NO_x, VOCs, CO and PM_{10}.

The Clean Air Act contains additional offset requirements for ozone nonattainment areas (see Table 6.1). The offset ratios increase with the severity of the ozone nonattainment category. For instance, areas that are in extreme

[116] Clean Air Act, section 173(c). More stringent offset requirements exist for VOCs or NOx emissions in ozone nonattainment areas.
[117] 40 C.F.R. Part 51.165 (a)(3)(ii)(C)(1).
[118] See Chapter 4 for a description of netting.

nonattainment for ozone require an offset ratio of 1.5 to 1 – or 150 tpy of NO_x or VOCs emissions reductions for every 100 tpy of new NO_x or VOCs emissions. States have the authority to require higher offset ratios in their SIPs. However, available offsets may be difficult to locate in nonattainment areas.

Table 6.1 Offset Ratios for NO_x and VOCs in Ozone Nonattainment Areas[119]

Nonattainment Classification	Offset Ratio
Marginal	1.1 to 1
Moderate	1.15 to 1
Serious	1.2 to 1
Severe	1.3 to 1
Extreme	1.5 to 1[1]

1 The offset ratio for an extreme nonattainment area is 1.2 to 1 if BACT is applied to all existing sources in the area.

In order to ensure that progress is made toward achieving the NAAQS, it is important to determine the appropriate baseline emissions of the source from which any emissions offsets are obtained. Generally, the offsets must be based on actual emissions reductions, not reductions in PTE, with no credit given for emissions above an applicable SIP emission limit in effect at the time.[120]

d) Other Permit Requirements

In nonattainment areas, an alternatives analysis must be conducted to evaluate alternatives to the proposed construction (including alternative sites, sizes, production processes and environmental controls) and demonstrate that the benefits of the project outweigh the environmental and social costs.

An applicant must also show that any other major stationary sources that it owns or operates in the same state as the proposed new construction are either in compliance with all applicable Clean Air Act requirements or on a schedule for attaining compliance.

In addition, if the proposed action may impact visibility in a mandatory federal Class I area, the permitting authority must ensure that the appropriate federal land manager is notified and has an opportunity to review the application.[121]

The public review process for an NA NSR permit application is generally the same as for a PSD permit application. The public must be provided with a minimum 30-day period to review and comment on the draft permit. Always check with your permitting authority to find out the deadlines for public comment in your state.

---

[119] Clean Air Act, Section 182.
[120] NSR Workshop Manual, *supra* note 56, at G.7.
[121] See Chapter 5 for a description of Class I areas and the role of the federal land manager. Appendix C lists the mandatory federal class I areas in the United States.

In summary, the NA NSR permit requirements differ from PSD permits in two significant ways. An NA NSR permit requires the most stringent pollution control technology (LAER) *without consideration of cost or other factors.* In addition, any significant increase of emissions of a criteria pollutant for which the area is designated nonattainment *must be offset* by an equal or greater reduction of that same pollutant, preferably from a nearby existing source.

While the goal of the Prevention of Significant Deterioration (PSD) program is to ensure that pristine or acceptable air quality is not worsened by a new or modified source, the goal of the Nonattainment Area New Source Review (NA NSR) program is to ensure that progress toward improving poor air quality is not impeded while allowing for industrial and economic growth.

Chapter 7: Reviewing an NSR Permit - Part 1

This chapter describes the steps leading up to preparing your comments on a draft NSR permit.

You have just learned that a company has applied for a New Source Review (NSR) permit to construct or expand a facility in your community. The 30-day public comment period may have already started. Thirty days is not much time, especially since some NSR permit applications can be hundreds of pages long, and are very technical. What should you do first?

Reviewing and commenting on an NSR permit can be daunting, but remember, the simple fact that you are demonstrating interest in a permit will likely result in some improvements to that permit. While you probably won't get everything you ask for, your interest will likely make the agency staff reviewing the permit pay closer attention to the issues you are concerned about. In addition, every time you review a permit, it gets a little easier.

Below is a ten-step approach to reviewing and commenting on a draft NSR permit. These include organizing tips as well as required steps in the NSR review process.

When starting your review of a draft NSR permit, you should take the following steps right away:

1) contact the permitting authority as soon as possible to find out when the public comment ends, the deadline for requesting a public hearing, and to obtain a copy of the draft permit, technical support documents, and other key information;

2) review the proposed action and identify key issues of concern; and,

3) should you feel there is a need for a public hearing or for additional time to provide comments, send a letter of request to the permitting authority explaining why there is such a need.

The following steps may increase your effectiveness in reviewing the draft permit:

4) find out whether there are any other community or environmental groups reviewing the application and get in touch with them;

5) assess your resource needs and identify what areas you will need help with; and,

6) educate others about the proposal and encourage them to get involved.

The final steps of the process, discussed in Chapters 8 and 9, are to:

7) thoroughly review the draft permit, engineering evaluation, and technical support documents;

8) prepare and submit comments on the draft permit (both written and oral, if a public hearing is held);

9) review the agency's final permit; and,

10) file an appeal of the permit, if your concerns have not been satisfactorily addressed.

These are just suggestions to get you started; they are not hard and fast rules! Every community and each proposal is unique, so there are many approaches that you or your organization can take when responding to an NSR permit application.

This chapter will discuss the steps leading up to reviewing and commenting on the draft permit. The most important step of the NSR public participation process is preparing and submitting well-written and well-researched comments on the draft permit. These will form the basis for any appeals you may decide to file in the future. Chapter 8 will discuss how to review and comment on the draft permit, and Chapter 9 will explain how to appeal a permit decision.

Step 1: Gather information

What Information You Will Need

You will need the following information to effectively review and comment on a draft NSR permit:

- draft permit
- deadlines for public comment and for requesting a public hearing
- complete permit evaluation, including the pollution control technology review, air quality impact analysis (for PSD permits) and any other analyses that were performed by the applicant or agency
- information about air quality in your area for each pollutant (e.g. attainment status)

- copies of correspondence between the agency and the applicant related to the proposed construction project (this is a good place to identify contentious issues)
- applicable clean air regulations
- information about the appeals process

In addition, you should find out whether the applicant owns or operates any other sources in your state, and whether they are in compliance with clean air requirements. If they are not in compliance, and have no schedule for getting in to compliance, the agency cannot issue an NA NSR permit to the applicant. Some states require a finding of compliance with all Clean Air Act requirements at other facilities in the state owned by the applicant for PSD permits, as well.[122]

You should also find out what other approvals are required for this project, the status of those approvals, and what the opportunities are for the public to weigh in on those decisions. New facilities may require a number of state, local, and even federal approvals. These may include local zoning approvals and building permits, state environmental review, and permits for water use, wastewater discharge, and solid or hazardous waste storage and disposal. (See Box 7.1 for an example of how a single new source may require multiple approvals.)

Any concerns about the project that are not related to air quality generally cannot be addressed through the NSR process. Therefore, you may want to pursue some or all of the other avenues for public participation available to you. If the same agency issues permits for more than one permit required for the project (e.g. both an NSR permit and a wastewater discharge permit), you can ask the agency to coordinate the public participation processes.

Box 7.1 Case Study: Multiple Approvals Needed for New Cement Plant

A proposal to build a massive coal-fired Portland cement plant along a scenic stretch of the Hudson River in upstate New York required 17 approvals from 12 different state, local, and federal agencies, including an NSR permit. Friends of Hudson, a community group opposing the plant, retained expert legal, engineering, visual, and environmental consultants to challenge each of the project's 17 required permits and approvals. In April 2005, the N.Y.S. Department of State determined that the project was inconsistent with the policies of the state's Coastal Management Program. Since no federal permits can be issued to projects that are inconsistent with a state's coastal management policies, this determination effectively put an end to the project. [123]

[122] A good source of information is the EPA Enforcement and Compliance History Online (ECHO) website: http://www.epa.gov/echo/.

[123] Friends of Hudson, "Issues Overview of St. Lawrence Cement Plant," p. 1, available online at: http://www.friendsofhudson.com.

How to Get this Information

Generally the public notice will include information about where the draft permit can be reviewed, such as at the agency's regional office, on their website, or at a local library (often referred to as a "document repository"). However, the permitting authority should be able to provide you with a copy of the draft permit upon request.

Many state agencies post their regulations on-line; if yours does not, the agency should be able to give these to you, too. State laws and regulations can also be found at local law libraries. The agency should also be able to provide you with information about the appeals process (described in more detail in Chapter 9).

The agency may require you to submit a public records request (also known as a freedom of information request) to obtain copies of the complete permit application and any correspondence between the agency and applicant. In this case, the agency may charge you for the copying costs. Some of these documents are quite large, so copying costs could be very high. If your resources are limited, ask to review the files at the agency offices and just photocopy what you need. (See Appendix G for a sample public records request) Many states also have provisions in their freedom of information laws that allow certain groups, like non-profit organizations, to apply for a fee waiver. Ask your permitting authority if they offer fee waivers and, if so, what the qualifications are. In addition, a number of states have laws that require agencies to provide you with electronic copies of documents if they are available.

To find out whether the applicant is in compliance with clean air requirements at the other sources it owns or operates in the state, you should find out whether any Notices of Violation (NOVs) have been issued to those facilities. A good place to start is the EPA Enforcement and Compliance History Online (ECHO) website: http://www.epa.gov/echo/. You may need to submit a public records request to your state air permitting authority to get further information. In addition, you could try doing an internet search for news articles and other information about the company.

The permitting authority, or the municipality where the project is located, may be able to inform you about what other approvals are required for the proposed action. You could also contact the applicant directly for this information.[124]

[124] Note that in your research, you may discover that the company has not applied for all the permits it is supposed to; this should be brought to the attention of the appropriate government agency.

Communicating With Agency Staff

Your primary source of information is the agency that will be issuing the NSR permit. Usually the public notice will include the name and phone number of a contact person at the permitting authority. It can be very helpful to develop a good working relationship with this person. In addition to providing you with the permit application and other information about the proposed project, agency staff can answer your questions about the project and help walk you through the maze of regulations that will apply to this facility.

Be aware that agency staff often interact far more regularly with the companies applying for permits than with members of the public. It is not uncommon for a permit applicant to meet for a year or more with agency staff before the permit application is finalized and the draft permit is sent out for public review. It may be mutually beneficial for you to meet face-to-face with the appropriate agency staff to discuss any questions or concerns you may have about the project. The staff person may have a great deal of information about the project that is not written up in the draft permit and may be able to explain to you the rationale for any decisions that have already been made pertaining to the application.

Even if you find yourself at times frustrated by the NSR process, try to remain polite and respectful with the agency contact. For instance, it can be frustrating to be told that some of the issues of concern to you and your community, such as increased noise and traffic, cannot be addressed in an NSR permit. Nevertheless, these concerns are legitimate, and if you are able to establish a good working relationship with the agency contact, he or she might volunteer some suggestions of other approaches you can take to address these issues. Some agencies have an office of community relations or a staff liaison to assist members of the public.

Keep a record of all your communications with agency staff. This will help you follow up with any information they promised to send you. Be friendly and persistent with your follow-up. Time is of the essence, and your requests should be responded to promptly. If a staff member has been unresponsive to your calls and requests for information, your notes will provide valuable documentation. In addition, taking notes will ensure that you remember all of the information correctly and can accurately convey it to others as needed.

Step 2: Identify key issues of concern

Start off by reviewing a description of the proposed action and listing and prioritizing your concerns. As you learn more about the proposal, you may find that you need to revise this list, but it's important to begin with a clear understanding of what issues are of most concern to you or your organization.

Since this is an air pollution permit, you should focus your concerns on the source's air emissions and their impact on public health and the environment. Examples of air quality related concerns include:

- existing air quality problems in your region
- high rates of asthma and respiratory diseases or other health problems in your community
- impact of increased air pollution on nearby schools and residential areas
- environmental justice issues; e.g. your community is already over-burdened with air pollution sources
- proposed pollution offsets may not benefit local community

If the permit is to modify an existing source, you may also have concerns about the source's operating history, such as:

- previous permit violations
- history of leaks and "upsets" (uncontrolled releases of pollution) from the source
- worker accidents related to chemical releases from the source

As you learn more about the proposal, you may have additional concerns based on:

- the applicant's record of compliance with air regulations at other sources that it owns or operates
- the track record of this type of facility in other places (for example, certain industrial processes may be more prone to leaks and accidents)
- the track record of the proposed emissions control technology
- the type of fuel that will be used at the source

The more times you review permits, the easier it gets. As you learn more about what issues to look for, it's easier to spot them in the next permit you review.

There are likely to be other concerns that you or your organization will have about the proposed new source or modification. These could include increased noise, traffic congestion, local emergency response preparedness, and other issues. Depending on the regulations in your state, you may not be able to address these other, non-air quality related issues in the NSR process. However, there will likely be other avenues in which you can pursue these concerns, especially if it is a new source (see Box 7.1, above). Check with the permitting authority to find out if it is appropriate to include these concerns in your comments. (The content and organization of permit comments is discussed in more detail in Chapter 8).

Step 3: Request a public hearing and/or an extension of the public comment period, if needed

You can increase the opportunities for the public to review and comment on the draft permit by requesting a public hearing, and, if necessary, a time extension. Public hearings typically allow for greater public input because people can submit their comments orally. An extension of the time period may be necessary because of the complexity of the permit, or because citizens only learned about the proposal at a late stage in the review process.

Most permitting authorities have provisions for holding a public hearing on a draft NSR permit. Public hearings are usually only held upon request from a member of the public. The permitting authority will often include the deadline for submitting requests for a public hearing in the public notice for the draft permit. In some states, you may be required to demonstrate how you or your organization will be directly affected by the proposed facility or expansion in order to qualify for a hearing.

To be most effective, you should make your request for a public hearing in writing and include a reason why you are requesting a public hearing. Explain specifically in your hearing request how you and/or other members of your group will be affected by the proposed permit. If you are representing an organization, put the letter on your organization's official letterhead. More than one group can request a hearing. (See Appendix G for sample letter requesting a public hearing). Fax and mail a hard copy to the permitting authority. You may also want to send copies of your request to your regional EPA office and your local elected officials, although this is not required.

Follow up with a call to the permitting authority to see whether they received the letter. Find out the date, time and location of the public hearing, and what the ground rules are. (For instance, the agency may impose time limits on people's testimony). Ask if the agency will answer questions from the audience, and if so, request that the agency bring staff who can respond to your main concerns. You can also offer scheduling advice, such as alerting the agency about dates that would conflict with other events in your community, and make suggestions about good locations for the hearing in your community, such as a neighborhood school, church or public building that is easily accessible to the public.

You may also ask the permitting authority for an extension of the public comment period. Given the complexity of most NSR permits, you may need extra time to review and comment on the draft NSR permit and to educate community members about the proposal. The agency is not required to honor your request, so you must include a compelling argument about why you need the extra time. (See Appendix G for a sample letter requesting an extension of the public comment period).

As with your request for a public hearing, make sure to put your letter on your organization's official letterhead if you are writing on behalf of a group, or include your own name and address if you are writing as an individual. Fax and mail the letter to the agency, and follow up with a phone call to make sure they received it and to find out whether your request will be granted. As with your request for a public hearing, it may be helpful, although it is not required, to send copies of your request to your regional EPA office and your local elected officials.

Step 4: Identify and reach out to other community and environmental groups

It's possible that another organization has already begun collecting information about the proposal and is reviewing the draft permit. When you speak with the contact person at the permitting authority, ask him or her if any other groups have contacted the agency about the draft permit. Usually they will tell you the names of other interested groups, although they are not required to.

Reaching out to other involved groups and working together with them can save valuable time and dramatically enhance your effectiveness. It also enables groups to divide up tasks and play to their individual strengths. For instance, a neighborhood group can do outreach to community members and generate local turn-out to the public hearing, while a statewide environmental group may have an attorney on staff who is familiar with the NSR regulations and can take the lead in preparing permit comments and appeals.

Even if you are unfamiliar with the other groups involved, don't be shy about picking up the phone and calling them. They may be just as happy to hear from you as you are to speak with them. Discuss what your primary issues of concern are, see if there's common ground, and go from there. It's always best to start with a phone call -- don't waste valuable time sending a letter or e-mail, which could get lost in their in-box.

Getting involved with the NSR process takes a lot of work, involves complex technical and legal issues, and can be costly. Steps 5 and 6 go into more detail about how to bring more individuals, groups, and resources to your aid in the review process.

Step 5: Assess your resource needs and identify areas you need help with

Doing this step *early* can make a huge difference in your effectiveness. There's a lot to do, and not much time to do it in. Here is where good organizing skills can be especially helpful.

If you are not already a member of a group or committee that is interested in reviewing the proposed project, you might consider forming one and inviting others to join you. You don't need to be part of an organization, and indeed many

people participate in the NSR process as individuals. However, having a group involved can give you more credibility and name recognition with the media, agency officials, and the general public. It also may give you more resources to draw upon, and more people with whom to share the workload.

Whether participating through an organization or as an individual, to maximize your effectiveness you'll need to assess your internal resources, identify your additional resource needs, and reach out to others to help fill those needs.

You may have access to more resources than you realize. Put the word out through your various networks about what kind of help you need. For instance, perhaps someone in your church congregation is a lawyer, engineer, or environmental scientist who can help review the permit, or knows someone else who can.

Even if you don't have access to this type of technical expertise, there's plenty of work to be done that requires no special skills whatsoever, just a willingness to learn and to reach out to others. Examples of tasks that you could divide up among your group include:

- form a research team to gather information and review the draft permit
- establish a liaison with the permitting authority
- outreach to other local and state organizations
- public education and community organizing
- media activities
- outreach to elected officials
- identify and reach out to potential sources of free technical expertise
- identify and reach out to potential consultants to hire, such as knowledgeable environmental attorneys, scientists and engineers
- fundraising

Sources of free help

Before hiring experts, you may want to explore whether there are any groups or individuals who can provide free assistance to your group. Possible sources of free technical assistance include:

- volunteers from your community
- local college or university faculty
- law firms that might provide "*pro bono*" (free) assistance
- law clinics (some law schools have environmental law clinics, where law students provide free legal services)
- local, state or national organizations that can provide staff assistance

Appendix D lists a number of organizations that may be able to put you in touch with experts and groups that may be able to assist you.

Do you need to hire a lawyer?

In general, while legal assistance might be helpful, you don't need to have a lawyer to participate in the NSR process or to prepare and submit comments on a draft NSR permit.

However, it may be advisable to consult with a lawyer if you expect to file an appeal. It is essential that you understand the appeals process in your state before you submit your comments on the draft permit. Some states will only allow you to appeal issues if they were included in your initial comments on the draft permit. Others allow you to raise new issues in your appeal. In the former instance, consulting a lawyer early on can help ensure that your permit comments will support you in the appeals process. In addition, some types of appeals are very complex. Chapter 9 describes the appeals process in more detail.

An interesting case study (see Box 7.2 and reprinted in full in Appendix H) examines how a community-based group in California effectively integrated lawyers, scientists and community members in their grassroots campaign to address concerns about a major oil refinery expansion in their neighborhood.

Box 7.2 Case Study: Lawyers vs. Community Organizing

The West County Toxics Coalition (WCTC), a community-based environmental justice organization in Richmond, California, used a multi-pronged strategy – incorporating law, science, and community organizing – to address a major oil refinery expansion proposed for their community. The organization chose to let their community leaders and scientific experts negotiate directly with the plant owners, rather than let their attorneys speak for them. They also rejected some of the legal strategies their attorneys recommended. Nevertheless, participating groups hailed the collaboration between lawyers, scientists, and community members as a model for other community-based campaigns. A detailed case study prepared by Citizens for a Better Environment, a non-profit group that provided legal and technical support to WCTC, concluded that "perhaps the single most important role played by the lawyers was in identifying public fora, decision makers, and pressure points around which the community could organize." See Appendix H for the complete case study.[125]

Fundraising

If you decide to hire a lawyer or expert consultants, you may need to raise a lot of money in a short period of time. There are many good sources of information on fundraising available at your library or on the internet.

[125] Source: Richard Toshiyuki Drury and Flora Chu, "From White Knight Lawyers to Community Organizing," *Race, Poverty & the Environment*, Fall 1994/Winter 1995, pp. 52-54. Reprinted with permission from the publisher in Appendix H.

The best way to raise money quickly is to ask for donations, large and small, from individuals and from other groups.[126] Some types of fundraising, like t-shirts, bake sales, and walk-a-thons, are good for raising both money and public awareness about the issue. However, they can be resource-intensive and may not raise as much money as you need.

Another potential source of funding is foundation grants. If you are reacting to a new proposal and are on a short timetable, this may not be a viable option, since most foundations require a 3-6 month time period to review proposals and give out grants. Some foundations, however, may offer "emergency grants" using discretionary funds - it's worth checking.[127]

Step 6: Educate others about the proposal and urge them to get involved.

The more people know about the proposed project and participate in the review process, the more information can be brought to light that will be of use to agency decision-makers.

Examples of how you can educate members of your community include:

- put articles in community newsletters
- go door-to-door in your neighborhood
- put up flyers on community bulletin boards
- ask religious leaders to mention the issue during their services
- create a website
- host a community forum

Examples of what you can ask members of the public to do include:

- participate in the public hearing
- send written comments on the draft permit
- attend a community forum
- sign a petition
- join your group
- tell others

[126] Source: "Fundraising for Social Change," 4th Ed., Revised & Expanded, Nov. 2000, by Kim Klein, available from Chardon Press, http://www.josseybass.com/WileyCDA/Section/id-5718.html.

[127] The Foundation Center, http://www.fdncenter.org/, provides extensive information for grantseekers. Each foundation has its own eligibility criteria and application guidelines.

You can dramatically expand your public outreach by using the media. Examples of ways you can reach out to the media include:

- hold news conferences
- issue press releases
- write letters to the editor
- meet with editorial boards
- go on radio talk shows
- invite reporters to attend the public hearing and other public forums
- suggest ideas to reporters for investigative stories

If there is strong community concern about a project, your local elected officials should be informed. If your elected officials, once educated about the project, share your concerns, they can be very helpful.

Examples of ways you can involve your local officials include:

- schedule a meeting with them to discuss the project
- invite them to participate in community forums and press conferences
- ask them to submit comments on the draft permit
- cc: your local officials on all copies of correspondence with the agency

Public education, outreach and mobilization, while useful tools for increasing public awareness and involvement in the review process, may not always have an impact on an agency's NSR permitting decision. To be effective, it is essential that you prepare and submit persuasive and well-supported comments on the draft permit. The following chapter discusses how to do this.

Chapter 8: Reviewing an NSR Permit - Part 2

This chapter describes how to review, prepare, and submit comments on a draft NSR permit.

After you have gathered all the necessary information (see Chapter 7), it is time to review the draft permit and prepare your comments. Your formal comments can be submitted in writing, orally (if a public hearing is held), or both. This chapter discusses how to proceed with these next steps.

You can also share your concerns with the permitting authority prior to the public comment period if you learn about the application before the draft permit is issued. Key decisions are often made before the draft permit goes out for public review. The earlier you become involved in the review process, the more time and opportunity you will have to weigh in on the final permitting decision.

Even as you prepare your formal comments, keep in mind that there will be another opportunity for you to raise your concerns by filing an appeal of the final permit if it does not address your concerns. It is imperative that you understand the appeals process in your state before you submit your comments on the draft permit. Your state may not allow you to appeal aspects of the permit decision unless you have adequately raised these concerns during the public comment process (see Chapter 9).

This chapter addresses the following topics:

a) Reviewing the draft permit and application
b) Emission limits
c) What to look for in a PSD permit
    a. BACT analysis
    b. Air quality impact analysis
    c. Additional impacts analysis
    d. Class I Area impacts
d) What to look for in a NA NSR permit
    a. LAER selection
    b. Emission reductions
    c. Alternatives analysis
    d. Demonstration of compliance
    e. Class I area visibility impacts

e) Compliance measures
    a. Monitoring
    b. Recordkeeping
    c. Reporting
f) Environmental justice impacts
g) Why didn't that company get a major NSR permit?
    a. Legal options for avoiding NSR
    b. Troubleshooting
    c. What to do it you find a problem
h) Preparing written comments
i) Public hearings
j) Adjudicatory hearings

a) Reviewing the Draft Permit and Permit Application

Starting out
Once you have obtained copies of the draft permit and technical support documents, read through them to familiarize yourself with their content and organization. Make sure that all the information you requested is included.

You may come across some unfamiliar technical terms, units of measurement, and abbreviations. Some states require the permitting authority to include a description, in plain English, of the permit requirements and applicable regulations. If you can't find it explained in the permit, the contact person at the permitting authority should be able to help answer your questions.

In addition to this manual, you may want to obtain the following reference documents to help guide you in reviewing and commenting on the draft permit. Both are available on the worldwide web and can be downloaded for free:

> EPA's **Draft New Source Review Workshop Manual**, (U.S. EPA, October 1990): The most comprehensive guidance available on NSR, although it has not been updated to reflect changes made to the program since 1990.
> *322 pages, PDF, available at: www.epa.gov/nsr/publications.html*
>
> **The Proof is in the Permit: How to Make Sure a Facility in Your Community Gets an Effective Title V Air Pollution Permit**, (New York Public Interest Research Group Fund and The Earth Day Coalition, June 2000). The definitive citizens' guide to reviewing Title V operating permits. While it does not focus on NSR, it contains a good deal of information and guidance that's transferable.
> *135 pages, plus appendices, PDF, available at: www.titlev.org*

EPA's website, www.epa.gov/nsr/, has a great deal of information on NSR, including links to relevant statutes, regulations, policies, and reports. One of the

best sources of information on EPA's website is the searchable NSR policy and guidance database at www.epa.gov/region07/programs/artd/air/nsr/nsrpg.htm. Other sources of information on NSR are listed in Appendix D.

Learn what regulations apply in your area
As discussed in Chapters 5 and 6, there are different requirements for Nonattainment Area New Source Review (NA NSR) and Prevention of Significant Deterioration (PSD) permits (see Box 8.1). Some sources may require both types of permits, if they are located in areas that meet air quality standards for some, but not all, of their significant emissions.

The draft permit will usually cite the applicable regulations for each of the permit conditions. Specific regulations may differ quite a bit from state to state, and therefore you cannot rely on this manual alone for information about permitting requirements.

Box 8.1 Components of PSD/NA NSR Permit Review

PSD requirements	• Best Available Control Technology (BACT) analysis • Air quality analysis • Additional impact analysis (soils, vegetation, visibility, growth) • Class I impact analysis
NA NSR requirements	• Lowest achievable emissions rate (LAER) selection • Emissions offsets • Alternatives analysis • Demonstration of compliance at other facilities • Class I visibility impact analysis
Common elements	• Draft permit (including description of source, emissions limitations, and monitoring, record-keeping, and reporting requirements) • Public review process • Environmental justice analysis, if relevant

Questions to ask as you review the draft permit
It is beyond the scope of this manual to address all of the questions that might come up during your review of an NSR permit. This chapter includes some examples of questions you should ask as you review the draft permit. Different approaches have proven more successful in some communities than in others. Each proposal and each community is unique. There also can be a great deal of variation from one permitting authority to the next in terms of what the NSR requirements are and how aggressively the permitting authority implements the

program. As a general rule, however, don't assume that everything in the permit is accurate. Even the most thorough agency staff can make errors.

As a member of the public, your major questions when reviewing the NSR application materials are likely to focus on how the proposed project will affect your health. Not all of these questions are required to be answered in the NSR process, but it is perfectly appropriate to raise them:

- How much air pollution will be caused by the project? How accurate are the emissions estimates? Have the projections taken into account other existing or proposed sources in the area?

- How will the pollution affect public health in the area? Is your community already exposed to other major sources of air pollution? What are the cumulative impacts? Is your community suffering elevated disease rates that could be caused or made worse by air pollution?

- How effective is the proposed pollution control technology? Are there ways to reduce the emissions even further than what is being proposed? Is there a cleaner fuel that could be used?

- Is the site for the proposed facility or facility change appropriate? (For NA NSR permits, an alternatives analysis must be performed.) Are there environmental justice issues, such as disproportionate impacts on low-income or minority communities?

This is all so technical – can I really do this myself?
You do not need to be an expert to participate in the NSR process, nor do you need to hire a consultant. Plenty of people are "self-taught." Simply by reading this manual, you know more about NSR permitting than 99% of the population! Any comments you submit will likely result in improvements in the draft permit – they don't have to be perfect. If you inform the permitting staff about your particular concerns about a project, they are likely to be more careful when drafting the permit, even if they don't make all the changes you would like. And the more NSR permits you review, the better you will get.

However, although you can do much of this on your own, having access to someone with the necessary expertise could prove very helpful for some of the more technical tasks described below, such as reviewing the air quality analysis for PSD permits. Some groups have the resources to hire expert consultants to assist them with reviewing draft NSR permits. Alternatively, there may be individuals, nonprofit groups, law clinics, or consulting firms in your community with the necessary expertise who would assist you *pro bono*. Chapter 7 lists some ideas for where you can find such assistance (see also Appendix D).

What should be in the draft permit

The draft permit itself should include, at a minimum, the information listed in Table 8.1 (below). However, much of the information that the permitting authority relies on to derive the permit conditions is included in the permit application and supplemental analyses. That is why it is important that you review all the public records available related to the permit application, not just the draft permit.

Table 8.1 Suggested Minimum Contents of Air Emission Permits[128]

Permit Category	Typical Elements
Legal Authority	Basis - statute, regulation, etc. Conditional provisions Effective and expiration dates
Technical Specifications	Unit operations covered Identification of emission units Control equipment efficiency Design/operation parameters Equipment design Process specifications Operating/maintenance procedures Emission limits
Emission Compliance Demonstration	Initial performance test and methods Continuous emission monitoring and methods Surrogate compliance measures - process monitoring - equipment design/operations - work practice
Definition of Excess Emissions	Emission limit and averaging time Surrogate measures Malfunctions and upsets Follow-up requirements
Administrative	Recordkeeping and reporting procedures Commence/delay construction Entry and inspections Transfer and severability
Other Conditions	Post construction monitoring Emissions offset

b) Emission Limits

The draft permit should include pollutant-specific emission limits for each of the emission units covered by the permit, as well as limits on fugitive emissions, if applicable. Emission limits can be expressed in a variety of ways, such as in parts per million, pounds per hour, tons per year, and tons removed.[129]

[128] Excerpted from the NSR Workshop Manual, *supra* note 56, Table H.1, at H.4.
[129] *Id.*, pp. A.5-8.

As discussed in Chapter 3, in order to determine whether a new source or modification will trigger NSR, the source's potential to emit (PTE) for each regulated NSR pollutant must be calculated. The PTE is the sum of the emissions from all the source's emission units under a scenario in which they operate continually, 24 hours a day, 365 days a year, utilizing emission controls.

However, a source may limit its PTE in order to avoid NSR by imposing a physical or operational limitation on the capacity of the source to emit a pollutant, such as through restrictions on hours of operation or on the type or amount of material combusted, stored, or processed. If a source intends to limit its PTE in this way, the permit must include a clear description of each limitation and how it will be monitored, in order to ensure that the limitation is practically and federally enforceable.[130]

Although it may sound very basic, one of the first things that many experienced reviewers do when they look at an NSR permit is add up the PTE from each of the emission units in order to see whether the permitting authority has correctly calculated the source's total PTE. Any discrepancies should be brought to the attention of the permitting authority. An error in the calculation of a source's PTE for a regulated NSR pollutant could make the difference between whether or not an NSR permit is required.

You may also want to review how the PTE was derived. For instance, many applicants rely on EPA's "AP-42" emission factors to estimate their potential emissions.[131] However, the AP-42 emission factors may not be reliable for a particular facility, since they are based on average emissions from a source category and may not reflect recent advances in technology. Moreover, an AP-42 emission factor may be based on emissions from a very small number of sources.[132] Other methods for determining potential emissions include operational data from the equipment vendor or manufacturer, actual operating data from similar sources, review of technical literature, and background documents for the NSPS and NESHAP rules.

In addition, make sure that the permitting authority considered all potential emissions when calculating a source's PTE, including excess emissions caused by planned startup and shutdown or maintenance activities. If a source is included

[130] For a permit condition to be practically enforceable it must include adequate testing, monitoring, and record-keeping requirements so that a source's compliance can be determined.
[131] Compilation of Air Pollutant Emission Factors, AP-42, 5th Ed, Vol. 1 (Jan. 1995), U.S. Environmental Protection Reviewing authority. This and other resources for calculating air emissions can be found at www.epa.gov/ttn/chief/index.html.
[132] EPA rates the reliability of each emissions factor on a scale of A-F, with "A" being the most reliable. However, you should not assume that an emissions factor with an "A" or "B" rating is sufficiently reliable for determining NSR applicability.

among EPA's list of 28 PSD "source categories," fugitive emissions should also be included in the PTE, provided they can be accounted for and quantified.[133]

Determining whether a modification should be subject to major NSR is not as straightforward as for new major sources. If you are reviewing a permit for a proposed modification to an existing source, you should be aware of recent federal rule changes (described in more detail in Chapter 4) and find out what rules currently apply in your state.[134] Since the federal rule changes were issued in 2002, they are not addressed in EPA's 1990 NSR Workshop Manual.

c) What to Look for in a PSD permit

BACT Analysis

Both PSD and NA NSR permits require an analysis of the best methods that can be used to control the source's projected emissions. PSD permits require applicants to use the "Best Available Control Technology" (BACT), which allows cost and other factors to be considered. BACT is usually a pollution control device, but can also be a design, work practice, or operational standard. NA NSR permits require applicants to use the technology and/or processes that will result in the "Lowest Achievable Emissions Reductions" (LAER), regardless of cost.

In selecting BACT, unlike the more stringent LAER, applicants can rule out some methods if they can document that they are too costly or would have other energy or environmental impacts. Both BACT and LAER are determined on a case-by-case basis for each pollutant at each emission unit.

You should review how BACT was selected for this source and verify that the permitting authority conformed with the "top-down" process EPA recommends for selecting BACT. This process involves five steps for determining BACT for a particular regulated NSR pollutant:

(1) identify all available control options for a targeted pollutant;
(2) eliminate options that are "technically infeasible";
(3) rank feasible options in order of effectiveness;
(4) evaluate the most effective controls (including their energy, environmental, and economic impacts); and,
(5) select the most effective feasible control technology (BACT).

EPA's NSR Workshop Manual has a very detailed, step-by-step description of how the BACT analysis should be conducted.[135]

---

133 Fugitive emissions are emissions that cannot be reasonably captured through a pollution control device, such as VOCs from leaking valves at outdoor chemical storage tanks. See Appendix F for list of the 28 PSD "source categories."

134 States with SIP-approved programs have until March 2006 to revise their NSR programs to reflect the 2002 federal rule changes. See Chapter 4 for an explanation of these changes.

135 NSR Workshop Manual, pp. B.1-75.

To be considered "feasible," the technology must both be "available" and "applicable," meaning that it can be or is already being used to control pollution on that type of source.

Questions to ask as you review the BACT analysis include: are there more stringent technologies or work practices that were not considered, and why? Was a more stringent technology or work practice rejected, and why? Did the permitting authority consider a combination of work practices and technologies when possible? What cost factors and other information were considered in the BACT analysis?

Was the best available control technology selected?
It can be difficult to challenge a BACT determination because the permitting authority has a great deal of discretion in the selection of BACT. One way to address this issue is to research what control technologies have been approved in your state or elsewhere for similar sources in recent years. The technology review submitted as part of the permit application will typically include some of this information.

EPA maintains a technology information clearinghouse to assist with the selection of BACT. EPA's on-line RACT/BACT/LAER (RBLC) clearinghouse contains case-specific information provided by state and local permitting agencies on the air pollution technologies that they have required for stationary sources.[136] However, this clearinghouse is not always kept up-to-date by all the states. Find out if your state regularly updates the RBLC database, and what technology has been required for similar sources located in your state and elsewhere. The California Air Resources Board has its own searchable on-line BACT database.[137] If there is a more stringent (i.e. less polluting) technology that has been used by a source similar to the one you are concerned about, you should question why that technology wasn't selected as BACT.

If you are unfamiliar with air pollution control technology, it may be helpful for you to speak with someone who is knowledgeable about the type of industrial facility you are reviewing and available pollution control options. Appendix D lists some potential sources for this type of information. Other sources of information include: vendors of pollution control technology, technical journals, and recent NSR permits issued by other states for similar sources. You could also try using an internet search engine to locate information and experts.

[136] EPA's RBLC clearinghouse can be accessed on-line at http://cfpub1.epa.gov/rblc/htm/bl02.cfm.
[137] California's BACT database can be accessed online at www.arb.ca.gov/bact/bact.htm. California is known for having stringent BACT requirements.

Box 8.2. Case Study: Must you settle for BACT?

There is no reason why you can't request that a company use LAER rather than BACT, even if they are not required to do so. In some cases, applicants may be willing to go beyond state rules on air pollution limits. For instance, a company that proposed to build a new gas-fired power plant in Texas agreed to lower NO_x emissions limits than required. According to the Sierra Club, one reason why the company agreed to this was because the county where the plant was to be built bordered a serious ozone nonattainment area, which in the near future was expected to be expanded to include the county. In addition, residents had raised concerns about existing air quality because of three older cement kilns and an old steel mill operating in the same area as the proposed new power plant.[138]

Has the permitting authority properly supported its position? Are there inconsistencies with how the permitting authority has made BACT decisions? If a permitting authority allows an applicant to rule out a particular technology or method because of financial or other considerations, or because it is deemed "technically infeasible," the permitting authority should provide a record supporting its decision.

In at least one case, EPA's Environmental Appeals Board (EAB), which reviews appeals of PSD permits issued in delegated states, overturned a BACT determination because the permitting authority did not provide enough information to support its decision. In this case, the Michigan Department of Environmental Quality (MDEQ) rejected BACT controls in one draft PSD permit because they were too expensive, even though the costs were within the average range deemed acceptable by MDEQ in previously issued permits. A nonprofit group filed an appeal with the EAB, which **remanded** the permit (i.e. sent it back to the permitting authority to correct) "based principally on the dearth of evidence in the record to support MDEQ's determination of BACT in this case." [139]

This example highlights two things to look for when reviewing draft NSR permits. First, if you can demonstrate that a permitting authority's permitting decision is inconsistent with its previous decisions, you have a strong case for challenging the permit. Secondly, a permitting authority must provide adequate documentation supporting its decisions. Failure to provide an adequate administrative record has resulted in permits being remanded by the EAB for correction, resulting in temporary delays, but not necessarily tougher permit conditions.[140]

---

[138] Source: Neil Carman, Sierra Club Lone Star Chapter, in training manual prepared for an NSR workshop in Houston, Texas on January 25 & 26th, 2003, re: American National Power, Ellis County, Texas.

[139] *In re: General Motors*, PSD Appeal No. 01-30 (EAB, March 6, 2002).

[140] For instance, *In re Knauf Fiber Glass*, GMBH, 8 E.A.D. 121, 174 (EAB Feb. 4 1999), the EAB remanded a permit because it did not include an adequate record to support its determination that there would be no environmental justice impacts. While the citizens group filed a second appeal after the permit was reissued charging that the environmental justice analysis was inadequate, the EAB denied the appeal (*In re Knauf Fiber Glass*, GMBH, 9 E.A.D. 1 (EAB March 14, 2000).

Does the permit allow BACT limits to be exceeded at certain times?
The source must comply with BACT at all times. For example, a permit cannot provide blanket exemptions from compliance with BACT for anticipated scenarios that might involve temporary permit exceedances, such as during the startup and shutdown of combustion units. During startup and shutdown, the combustion unit does not operate as efficiently as during normal operations, and therefore can result in higher emissions for temporary periods.

An EPA guidance memo advises that: "startup and shutdown of process equipment are part of the normal operation of a source and should be accounted for in the planning, design and implementation of operating procedures for the process and control equipment. Accordingly, it is reasonable to expect that careful and prudent planning and design will eliminate violations of emissions limitations during such periods."[141]

Several types of equipment and control devices require a startup period before they can operate as designed, and thus may not be able to meet the emission limits specified as BACT. In this case, a source may propose and an agency may approve an alternative BACT limit after demonstrating why the BACT limits that apply during normal operations cannot be met during startup or shutdown, but an agency cannot grant a blanket exemption for operation during startup and shutdown periods. At a minimum, the permit should contain specific requirements for reducing or eliminating excess emissions that might occur during startup and shutdown or other reasonably anticipated emissions scenarios, such as equipment malfunctions.[142]

In at least two instances, EPA's Environmental Appeals Board (EAB) remanded PSD permits that would have exempted a source from BACT emissions limits during startup and shutdown and instead required a plan to be approved at a later date.[143] The EAB ruled that issuing a blanket exemption and referencing a plan to be developed in the future was insufficient and unenforceable, unless the permit specifies what conditions might be in the plan, what criteria the state will use to approve it, and includes a provision for public notice and review.[144] In another decision, the EAB, in a footnote, reproached a permitting authority for exempting

---

[141] Memorandum from John B. Rasnic, Director, Stationary Source Compliance Division, OAQPS, U.S. EPA, to Linda M. Murphy, Director, Air, Pesticides and Toxics Management Division, U.S. EPA Region 1 (Jan. 28, 1993).
[142] Note that while excess emissions resulting from equipment malfunctions in some cases may be deemed "unavoidable," this should not be assumed. For instance, some sources and processes are notoriously prone to "upsets" because they involve corrosive chemicals and gases. In many cases, these "unavoidable" releases could have been prevented or minimized by careful and prudent planning and design.
[143] *In re Rockgen Energy Center*, 8 E.A.D. 536, 553 (EAB 1999); *In re Tallmadge Energy Center*, PSD Appeal No. 02-12 (EAB May 21, 2003). The Tallmadge permit also exempted malfunction periods.
[144] *In re Rockgen Energy Center*, *ibid.*, at 553.

a power plant from short-term (i.e. hourly and daily) BACT concentration limits during startup and shutdown.[145]

Box 8.3 Case Study: New York City Incinerator BACT Decision

In 1990, the New York Public Interest Research Group (NYPIRG) filed an administrative appeal of an EPA-issued PSD permit that was approved for a proposed incinerator in New York City that would have burned up to 3,000 tons of municipal garbage per day. NYPIRG contended, among other things, that the permitting authority (EPA) had not required the applicant to perform a proper BACT analysis for the proposed incinerator. Although NYPIRG opposed the project as a whole, it pointed out that the applicant had not considered limiting input of nitrogen into the plant as a way of controlling NO_x emissions.

In a precedent-setting decision, then-U.S. EPA Administrator William Reilly ruled that the federal air quality permit could not be issued until after "the viability of a reasonable materials separation program for nitrogen-containing materials" was fully studied.[146] This marked the first time that EPA required a study of source separation anywhere in the country. While this decision alone did not mark the demise of the proposal, it was a major setback for the incinerator's backers. Ultimately, the diverse coalition of groups that opposed the incinerator - including members of the neighboring Latino and Hassidic communities - defeated the proposal through grassroots organizing and lobbying elected officials. Their efforts resulted in the passage of state legislation barring the incinerator's construction. [147]

Air Quality Impact Analysis

One of the most important components of the PSD permit application is the air quality impact analysis. PSD permits require the applicant to prepare an air quality analysis to demonstrate that the increase in emissions from the proposed new source or modification will not result in a violation of any National Ambient Air Quality Standards (NAAQS) or worsen air quality beyond the area's allowable PSD increments.[148]

The air quality impact analysis is site-specific and requires a separate analysis for each regulated pollutant that will be emitted in significant quantities. Generally, the analysis must include an assessment of existing air quality and predictions of the impacts of the proposed new emissions on ambient air quality. A full impact analysis must take into account, among other things, the impact area, local meteorological and topographical conditions, and other sources of pollution in the area.

---

[145] *In re Indek-Niles Energy Center*, PSD Appeal No. 04-01 (EAB, Sept. 30, 2004), footnote 9.
[146] *In re Brooklyn Navy Yard Resource Recovery Facility*, PSD Appeal No. 88-10 (U.S. EPA Administrator William K. Reilly, Feb. 28, 1992).
[147] Sources: Arthur Kell and Larry Shapiro, former NYPIRG staff.
[148] The PSD increment is the maximum allowable increase of a regulated pollutant in an area's ambient air above the area's baseline concentration. See Chapter 5 for a more detailed description of the PSD permit requirements.

Although the air quality analysis can be very lengthy and technical, it is worth scrutinizing the data very closely. For instance, a permitting authority could erroneously issue a draft permit when the applicant's own air quality modeling shows that the increased emissions would violate air quality standards. Always check the data. If you can show that the applicant used the wrong inputs, or calculated emissions inaccurately, or the permitting authority made an error when drafting the permit, it may require the permitting authority to substantially revise the permit.

Have the baseline concentrations been properly calculated?
Check to see on what basis the permitting authority has determined the baseline concentration of air pollution in the impact area at the time that the PSD permit application is submitted (known as the **baseline date**). When, where and how was the air monitoring data collected? If the permitting authority is not using actual air monitoring data to determine baseline concentrations, are the assumptions fully explained and justified?

What assumptions were used in the modeling method?
The air quality impact assessment relies on air quality dispersion modeling. Carefully review the assumptions that were used in doing this modeling. The analysis must take into account, among other things, the area's baseline concentration of regulated NSR pollutants, the impact area, local meteorological and topographical conditions, and other sources of pollution in the area. The results of the modeling can be significantly affected by the model that is used and the information that is put into it. This is a task where having someone with the appropriate technical expertise to assist you will prove very valuable.

Did the "source inventory" include all potential emissions from nearby sources?
A critical part of the impact analysis is assessing whether the increased emissions from the proposed action will violate a NAAQS or consume a PSD increment. To do this, the permitting authority must look not only at the potential emissions from the new or modified source, but also from other sources in the area. The applicant is required to develop a **source inventory** (also called an "emissions inventory").

The source inventory should include *all potential emissions* from sources within the impact area and from the surrounding screening area.[149] Check to see whether the source inventory includes all *potential* emissions from nearby sources, or is relying on actual emissions. A source's actual emissions are often much lower than its potential emissions. The inventory should use permitted emission limits, not actual emissions, to determine whether there would be a NAAQS violation. However, it is EPA's policy to use "actual" emissions in an analysis of PSD increment consumption. If the impact area reaches into a neighboring state, the inventory has to include emissions inventories from that

[149] For more information about inventorying emissions and defining the impact area, see the NSR Workshop Manual, chapter C.

state as well. It should also include sources in the area that have been approved but not yet constructed, as well as any complete PSD applications for which a permit has not yet been issued.[150]

Additional Impacts Analysis

The PSD permit applicant must prepare an "additional impacts analysis" for each regulated NSR pollutant. This analysis generally assesses the project's impacts on soils and vegetation, visibility, and secondary emissions from associated residential, commercial, or industrial growth.

The applicant may also be required to conduct other impact analyses depending on local, state or federal laws outside the PSD permitting process, such as the Endangered Species Act or the National Historic Preservation Act (see Box 8.4).

Soil and Vegetation Analysis
The vegetation analysis addresses impacts on vegetation with "significant commercial or recreational value," such as farms or wilderness recreational areas. In some cases, vegetation experiences adverse impacts at levels significantly below the NAAQS.[151]

In an area where agriculture represents a significant part of the regional economy, demonstrating that a new industry may have adverse impacts on crops can bring the issue of jobs into the forefront of the public debate on a project. Similarly, a local tourism economy might be adversely impacted if the natural beauty of an area is marred by trees that have been injured or killed due to air pollution.

While sulfur dioxide and nitrogen oxides can harm vegetation, the criteria pollutant that causes the most crop damage and damage to native vegetation is ozone.[152]

The vegetation analysis can also consider potential adverse impacts on endangered plant species (see Box 8.4).

---

[150] Provided that such applications were submitted at least 30 days before the date that the proposed source filed its PSD application, NSR Workshop Manual at C-34.
[151] The most commonly-used reference on impacts of air emissions on soils and vegetation is: Final Report, A Screening Procedure for the Impacts of Air Pollution Sources on Plants, Soils, and Animals, US EPA, EPA 450/2-81-078 (Dec. 12, 1980), available from the National Technical Information Service. This should be used as a starting-off point for your research; you should also review more recent scientific literature.
[152] Federal Land Managers' Air Quality Related Values Workgroup (FLAG) Phase I Report, (December 2000), at viii. Online at http://www.fs.fed.us/r6/aq/natarm/NRISFLAG.html. Referred to hereafter as the "FLAG report."

Box 8.4 Case Study: The Endangered Species Act and NSR

Potential adverse impacts on endangered species can be raised under the federal Endangered Species Act (ESA) if the NSR permit is issued by a delegated state. Any potential adverse impacts identified to an endangered species can be raised in the environmental consideration requirement of a BACT determination. Potential adverse impacts on endangered plant species can also be considered as part of the vegetation analysis. Recently in response to a Sierra Club appeal, EPA agreed to conduct an ESA analysis as part of the NSR permitting process for a new coal-burning power plant proposed in Illinois.[153] Sierra Club raised concerns about the impacts of the plant's emissions on two endangered plant species that grow in the Midewin National Tallgrass Prairie, immediately adjacent to the proposed site. EPA has subsequently conducted ESA analyses in other PSD permit proceedings. States may also have their own endangered species protection requirements, which may apply to a PSD permit proceeding. [154]

Growth Analysis

Associated growth is industrial, commercial, and residential growth that will occur in the area as a result of the construction or modification of a source. The applicant must assess the area's existing capacity, predict how much new growth is likely to result from the project, and estimate the air emissions generated by this new growth (known as **secondary emissions**). The projected secondary emissions are then combined with the project's direct emissions for the purpose of the air quality modeling analysis.

Visibility Analysis

A major part of the visibility analysis is to determine whether emissions from the proposed project will cause or contribute to adverse visibility impacts in Class I areas. According to the EPA, visibility impairment caused by manmade air pollution occurs "virtually all the time" at most national parks and wilderness areas.[155]

Most visibility impairments in Class I areas are the result of haze. The major contributors to haze are sulfur dioxide (SO_2), nitrogen oxides (NO_x) and fine particulate matter ($PM_{2.5}$).

The federal government considers a source whose emissions will result in a 5% change in **extinction** (i.e. blocking of sunlight) noticeable and worthy of concern, and a 10% change significant.[156]

---

[153] Note that some of the issues raised in the Sierra Club's appeal regarding the interplay between the Endangered Species Act consultation process and the issuance of a PSD permit have not been resolved at the time of this manual's publication; see *In re Indeck-Elwood, LLC*, PSD Appeal No. 03-04 (EAB, Dec. 1, 2005).

[154] Source: Bruce Nilles, Sierra Club, re: Indeck Energy Corporation.

[155] U.S. EPA, Regional Haze Regulations, Final Rule, 40 CFR Part 51, Federal Register July 1, 1999.

[156] FLAG report, *supra* note 152, at vi.

Class I Area Impacts
A PSD permit is required if a new source or modification is proposed within 10 kilometers of a Class I area and would adversely impact ambient air quality in that area. To trigger PSD, the source must increase the average concentration of any regulated pollutant in ambient air in the Class I area by one microgram per cubic meter (1 ug/m3) or greater.

Even if the new source is located more than 10 kilometers away from a Class I area, the impact of emissions on visibility and other **air quality related values** (AQRVs) must be assessed. The permitting authority must notify the appropriate Federal Land Manager (FLM) if a proposed project may impact a Class I area. [157] Generally, the FLM should be notified of PSD permit applications located within 100 km (62 miles) of a Class I area. In addition, they should be notified about "very large sources" located further away that could adversely impact Class I areas.[158]

FLMs have considerable latitude to weigh in on PSD permit decisions, and can recommend that a PSD permit be denied even if the emissions will not exceed allowable PSD increments. While some of their top concerns are visibility impairment and ozone damage to vegetation, the FLMs broadly define "air quality related value" to mean:

> "A resource, as identified by the FLM for one or more Federal areas, that may be adversely affected by a change in air quality. The resource may include visibility or a specific scenic, cultural, physical, biological, ecological, or recreational resource identified by the FLM for a particular area."[159]

An excellent source of information for Class I impacts and how they are evaluated is the Federal Land Managers' Air Quality Related Values Workgroup (FLAG) Phase I Report (known as the "FLAG Report").[160]

If you believe that a project you are reviewing may adversely impact a Class I area, you should share your concerns with the appropriate FLM and encourage them to file comments of their own.

d) What to look for in a Nonattainment Area NSR permit

The NA NSR permit requirements are considerably different than PSD requirements, and in some ways are simpler for a citizen reviewing the application. For instance, selection of LAER is less complicated than the 5-step

[157] See Chapter 4 for Class I definitions and more information about the FLM's role in PSD permitting. For a list of federally-designated Class I areas, see Appendix C.
[158] FLAG report, *supra* note 152, at 9.
[159] Id., at 6.
[160] *Supra*, note 152.

top-down BACT selection process in PSD and less subject to discretion by the permitting authority. In addition, the applicant does not need to conduct an air quality analysis to determine how much degradation of existing air quality a project might cause, since in nonattainment areas, the air is already too polluted. Instead, an NA NSR permit applicant must demonstrate that it can **offset** any new emissions by reducing emissions from other sources affecting the same area.

States are required to describe in their State Implementation Plan (SIP) how they intend to improve air quality in nonattainment areas.

LAER Selection

NA NSR permits require applicants to use the technology and/or processes that will result in the "Lowest Achievable Emissions Rate" (LAER), regardless of cost. As a result, LAER is typically more stringent than BACT, where PSD permit applicants can rule out some pollution control technologies if they can document that they are too costly or would have other energy or environmental impacts.

LAER is an emissions rate specific to each emissions unit, including sources of fugitive emissions. LAER is derived either from the most stringent emissions limitation contained in the SIP, or the most stringent emissions limitation that has been achieved in practice by a similar class or category of source. If a SIP contains an emissions limit that has not yet been achieved in practice, it does not necessarily mean that the limit is unachievable.[161]

The selection of LAER requires less discretion on the part of the permitting authority than BACT, where a number of factors can be used to rule out possible pollution control technologies. Good sources of information about LAER include the California Air Resources Board,[162] which has its own searchable on-line BACT database, and the EPA's on-line RACT/BACT/LAER clearinghouse.[163] You may also want to research what emissions rates have been achieved at similar sources or source categories in other parts of the world, particularly if they have been constructed or modified recently.

Emission Reductions

If a new source or modification will emit significant amounts of pollutants for which an area is in nonattainment, it must (1) offset the emissions increase from the new construction and (2) provide a net air quality benefit. The purpose of offsetting the new emissions is to ensure that the project will not impede progress

[161] NSR Workshop Manual, pp. G.2-G.4.
[162] California's BACT database can be accessed online at http://www.arb.ca.gov/bact/bactsearch.htm. Since most areas in California are in nonattainment, California's BACT requirements are equivalent to LAER.
[163] EPA's RBLC clearinghouse can be accessed on-line at http://cfpub1.epa.gov/rblc/htm/bl02.cfm. Note that this clearinghouse is not always kept up-to-date by the states

toward attaining clean air standards. In other words, if a new source or modification is going to emit 100 tpy of NO_x in an ozone nonattainment area, it must surrender at least 100 tpy of NO_x emission reduction credits (ERCs).[164]

States with nonattainment areas must have emission offset rates that are at least as stringent as those required by the federal Clean Air Act. They have considerable latitude in determining any additional offset requirements needed to help their region make reasonable progress toward attaining the NAAQS. The Clean Air Act requires each ton of new NO_x emissions to be offset by 1.1 tons of NO_x emissions reductions in "marginal" nonattainment areas. These offset requirements increase as air quality worsens. In "extreme" nonattainment areas, sources must obtain 1.5 tons of NO_x emissions reductions for every ton of new NO_x emissions.[165]

At a minimum, emission reductions used to provide offsets must be "real, creditable, quantifiable, federally enforceable, and permanent."[166] Emissions reductions should be obtained from existing sources located near the proposed source. If they are not located near the source, an additional offset ratio may be required to compensate for the distance, but the emission reductions must come from the same air basin.

Questions to ask when evaluating offsets include:

Are the emission reductions real?
Emissions offsets are frequently obtained by shutting down an existing source or permanently curtailing production or operating hours below baseline levels. The offsets must achieve an actual emissions reduction, not just a reduction of a source's potential emissions. In other words, if a source's permit allows it to emit 100 tpy of NO_x, but it has only been emitting 80 tpy, it can't agree to only emit 80 tpy and claim a 20 tpy reduction, because it wasn't emitting the extra 20 tpy in the first place. (This is often called a "paper reduction.")

Sometimes sources claim reductions where it is either unclear that a reduction will really occur or where the quantity of the emissions reduction is unclear. For example, sources have claimed emissions reductions will result from a promise to conduct increased monitoring. While increased monitoring might lead to emission reductions, there is no guarantee that it will. Likewise, sources have claimed emission reductions from paving facility roads (to reduce dust). Paving will likely decrease some emissions, but it is difficult to quantify the reduction.

[164] See chapter 6, section c.
[165] The CAA allows extreme nonattainment areas to require only a 1.2 tons for every ton of NO_x emitted if they require BACT to be applied to all sources in their area.
[166] NSR Workshop Manual, p. G.6.

Have they been counted already?
An emission reduction credit is not creditable if the emissions reduction has already been counted toward a regulatory action, such as for "netting out" of a major modification,[167] if the reduction is required by the CAA or a SIP rule, or if a state has already relied on it to demonstrate progress toward attaining clean air standards.

Are they local?
Where are the emissions offsets located in relation to the proposed new source or modification? Will the emissions reductions actually benefit air quality in the communities most impacted by the proposed project?

Although the EPA advises that "offsets should be located as close to the proposed site as possible," the EPA deems it acceptable for an offset to be obtained from "the same general area," such as anywhere within the air quality control region.[168] You can argue, however, that because the new emissions from the source you are concerned about will significantly impact your community, the reductions should occur in your community. This may also be an environmental justice issue if the pollution increases are in a low-income or minority community, while the pollution reductions are not.

Communities adjacent to or immediately downwind of the proposed new construction are likely to be especially concerned about the location of proposed offsets. The location of the offset may also be affected by the specific pollutants involved.[169]

Are they enforceable?
The offset must be federally enforceable. To be federally enforceable, the proposed NSR permit must specify the amount and source of the emission reduction credits (ERCs) to be surrendered as offsets. The source generating the ERC is required to accept conditions in their permit to ensure the emission reductions remain permanent (such as operating on a certain level or in a certain manner), or surrender operating permits for equipment that is being permanently shutdown, or these conditions can be included in a SIP revision. That way, if a source providing an emission offset does not obtain the necessary reduction, it will be in violation of a federal permit or of a SIP requirement and subject to enforcement action by EPA, the State, and/or private parties.[170]

---

[167] See Chapter 4 for a description of netting.
[168] NSR Workshop Manual, p. G.6.
[169] According to the EPA, VOCs and NO_x emissions tend to have less localized impacts than SO_2, particulates, and carbon monoxide, and therefore it is preferable to have offsets for SO_2, PM, and CO in the immediate vicinity of the source (40 C.F.R. Part 51, Appendix S). If an offset is located further away from the proposed source, a state could require a greater offset ratio to mitigate air quality impacts.
[170] 40 C.F.R. Part 51, Appendix S.

Alternatives Analysis

The Clean Air Act requires states to perform an alternatives analysis before issuing an NA NSR permit. Specifically, the statute requires that:

> "an analysis of alternative sites, sizes, production processes, and environmental control techniques for such proposed source demonstrates that benefits of the proposed source significantly outweigh the environmental and social costs imposed as a result of its location, construction, or modification."[171]

The EPA has never promulgated regulations or guidance for how to conduct an alternatives analysis, nor is it mentioned in the NSR Workshop Manual. Nevertheless, legal opinions have upheld that an alternatives analysis is required for NA NSR permits.[172] This is an important provision for citizens because it allows for consideration of environmental justice impacts and other local concerns.

Demonstration of compliance

An applicant for an NA NSR permit must certify that it is in compliance with the Clean Air Act at all other facilities that it owns or operates in the state, or is on a schedule to come into compliance. This applies to both the applicant or "any entity controlling, controlled by, or under common control with" the applicant.[173] Check agency records for any notices of violation (NOVs) for these facilities or other documentation that indicates noncompliance.

Class I Area Visibility Impacts

If emissions from a major new source or modification proposed in a nonattainment area may impact visibility in a federal Class I area, the appropriate Federal Land Manager must be notified about the NA NSR permit application. Unlike with PSD permits, where the FLM may review any air quality related values that could be adversely impacted (see above), with NA NSR the main purpose of the FLM's review is to assess visibility impacts.

e) Compliance measures

In order to ensure that an NSR permit is both federally and practically enforceable, it must include clear and comprehensive requirements for monitoring, recordkeeping, and reporting. These requirements must be clearly

[171] 42 U.S.C. Section 7503(a)(5).
[172] *In re Operating Permit, Formaldehyde Plant, Borden Chemical*, Petition No. 6-0101 (U.S. EPA Administrator Carol M. Browner, Dec 22, 2000); Oregon Environmental Council v. Oregon Department of Environmental Quality, 775 F.Supp. 353, 356 (D. Or. 1991).
[173] NSR Workshop Manual, p. G.9.

written, in language understandable to the general public, and as specific as possible in order to minimize confusion over their interpretation (see Box 8.5 for examples of permit terms that should be avoided). The monitoring, recordkeeping and reporting requirements must be sufficient for an enforcement agency to determine whether the source is complying with its permit conditions.

Monitoring

Is the monitoring sufficient to determine whether a source is in full compliance? Periodic monitoring is necessary to ensure that the source is in compliance with each of its permit requirements and to provide information necessary to identify and correct air pollution problems at the source.

Permit conditions for monitoring should provide specific language concerning what type of testing and monitoring protocols are required and how frequently they must be performed. Agencies will often require different monitoring protocols for different emission units within a source.

Box 8.5 Permit Terms that Can Adversely Effect "Practical Enforceability"[174]

"Normally": as in "The permittee shall normally inspect the unit daily." "Normally" is subject to interpretation. The permit should require more specific language.

"As soon as possible," or **"Promptly"**: as in "The permittee shall take corrective action as soon as possible." An outer time limit must be set instead of leaving the condition open-ended.

"Significant": as in "The permittee shall take corrective action if parameters are significantly out of range." "Significant" must be defined - the permit should assign an outer acceptable limit.

"Should" or **"May"**: as in "The permittee should inspect daily." Both of these terms indicate that the condition is up to the preference of the permittee, and is not required. Ask for "must" or "shall" for all required permit terms.

"As suggested by the manufacturer's specifications": Specific numbers must be incorporated into the permit rather than a reference to a document that may not include clear requirements.

"Take reasonable precautions": The permit must identify the minimum activities that constitute “reasonable precautions."

"Use best engineering practices": Best engineering practices must be specified in the permit.

[174] Source: Title V Permit Review Guidelines, U.S. EPA Region 9 (March 31, 1999).

Has the appropriate monitoring been required?
The testing and monitoring methods that are selected must be appropriate for determining whether the source is in full compliance with each of its permit requirements. As with reviewing BACT determinations, one way you can research this is to look at what monitoring has been required in NSR permits for other sources using similar technology.

There are three main methods for directly testing and monitoring emissions that may be included in an NSR permit. These are continuous emissions monitoring systems (CEMS), stack tests, and leak detection and repair (LDAR) programs (see Box 8.6).

Box 8.6 Common Types of Direct Monitoring Required in NSR Permits

Continuous emissions monitoring systems (CEMS) are the best monitoring systems available to determine, on a continuous basis, whether a source is in compliance with its emission limits for specific criteria pollutants.[175]

Stack tests are often required instead of, or in addition to, CEMS. Stack tests provide a snapshot of the pollutants emitted from a source. They are often required after startup of a new or modified emissions unit, once the unit is operating at maximum capacity, in order to measure emissions rates during peak conditions. It is important that stack tests accurately obtain a representative sample of a unit's emissions, and that they be conducted periodically, not just after the initial startup.

Leak detection and repair (LDAR) programs may be required to monitor fugitive emissions from a source. Usually LDAR monitoring is used to detect and repair leaks of VOCs. An LDAR program can reduce fugitive VOC emissions by over 60%. A "directed program" means that testing with a hydrocarbon analyzer is done afterwards to verify that the leak has been fixed. A "non-directed" LDAR program does not require such verification.[176]

Another common method of monitoring is referred to as **parametric monitoring**, which involves indirect measurement of emissions by monitoring key parameters as a surrogate (or substitute) for monitoring actual pollutant emission levels. For instance, instead of requiring a source to directly monitor the amount of SO_2 coming out of its smokestack, the permit might require the source to keep records of the sulfur content of the fuel burned and the amount burned each hour.[177] If a permitting authority includes parametric monitoring in a draft permit, it should justify the correlation between the surrogate being monitored and the actual

[175] CEMS can also test opacity on a continuous basis, which is a way of determining particulate emissions. This technology is also referred to as continuous opacity monitoring systems (COMS). A good source of information is EPA document EPA/452/B-02-001, Section 2, Chapter 4 "Monitors," http://www.epa.gov/ttncatc1/dir1/cs2ch4.pdf.
[176] Brandt Mannchen, Houston Sierra Club, "Testing and Monitoring in New Source Review Permits," 4 pp., Jan. 26, 2003. See Appendix I for the complete memo. Hereafter referred to as "Sierra Club monitoring memo."
[177] Title V Handbook, *supra* note 20, at 77.

emissions. In the example above, the facility should provide evidence to establish that the sulfur content of the fuel is a reliable and consistent indicator of the SO_2 emissions from the smokestack. Likewise, the permit should clearly identify the maximum combination of sulfur fuel content and fuel usage allowed without exceeding the SO_2 emission limits. This equation is based on the correlation between emission rates and the surrogate being monitored.

Monitoring requirements should be included in the permit to verify compliance with each of the permit conditions, not just the source's emissions limitations. For instance, if the permit requires the source to limit its hours of operation, secure emissions offsets, or use a cleaner burning fuel, the permit should require appropriate monitoring, recordkeeping, and reporting to demonstrate compliance with these conditions.

Are there uncertainties in the permit's monitoring requirements?
Beware of "fuzzy language" in the draft permit. For instance, a permit condition that says a source must be monitored with "an approved air stripping system or equivalent" raises numerous questions. What is an "approved" air stripping system? Who approves the system? What criteria does an "equivalent" system have to meet?[178] If you encounter this type of language, request that the permitting authority clarify these terms.

In the case of LDAR for fugitive emissions, the permit should provide a clear timetable for corrective action. A poorly drafted permit might say: "Every reasonable effort should be made to repair a leaking component, as specified in this paragraph, within 15 days after the leak is found." Better permit language might say: "All leaking components shall be repaired within 15 days. A first attempt at repair will be made within 5 days."[179]

Another pitfall to watch out for in the draft permit is language that limits the type of evidence that can be used to show that a source is violating a permit requirement. EPA guidelines state that the permitting authority and the public may rely on any "credible evidence" to demonstrate that a source is out of compliance.[180] The permit should not contain language that limits enforcement actions to the specific testing and monitoring methods required in the permit.[181] See Box 8.7 for examples of language that should not be used in an NSR permit.

[178] Sierra Club monitoring memo, *supra* note 176, p. 3.
[179] Id, at 2.
[180] Title V Handbook, *supra* note 20, pp. 70-71; citing U.S. EPA's Credible Evidence Rule, 62 FR 8314 (Feb. 24, 1997) and the Compliance Assurance Monitoring Rule, 62 FR 54899 (Oct. 22, 1999).
[181] Sierra Club monitoring memo, *supra* note 176, at 3.

Box 8.7 Examples of Unacceptable Permit Language Limiting "Credible Evidence"[182]

"The monitoring methods specified in this permit are the sole methods by which compliance with the associated limit is determined."

"Reference test method results supercede parametric monitoring data."

"The permittee is considered to be in compliance if less than 5% of any CEM monitored emission limit averaging periods exceeds the associated emission limit."

"Excess emissions that are unavoidable are not violations of permit terms."

"Compliance with this provision will be demonstrated by [a certain type of monitoring]."

"A 'deviation from permit requirements' shall not include any incidents whose duration is less than 24 hours from the time of discovery by the permittee."

Recordkeeping

Is the recordkeeping sufficient to determine whether a source is in full compliance?
The permit should specify what records must be kept by the source and for how long. These records are essential for determining whether a source is in compliance, for enforcement of permit violations, and for taking corrective action. Examples of what records a source may be required to keep onsite include:

- Name and location of each processing unit
- Dates and times of testing or monitoring, and other relevant information (e.g. meteorological data, if appropriate)
- Testing method, monitoring instrument calibration, and other relevant information, to assure quality control of data
- Monitoring results
- If leak or other problem is discovered, date and explanation of corrective action taken and required follow-up

Records should be kept for at least five years to be consistent with Title V operating permit recordkeeping requirements.

[182] Source: Title V Permit Review Guidelines, U.S. EPA Region 9 (March 31, 1999).

Reporting

Are the reporting requirements sufficient for agencies and the public to determine whether a source is in full compliance?
The permit should specify what the applicant must report and how frequently. Although the requirements vary widely from one permit to another, the permitting authority will typically require regular submission of monitoring reports, often on a quarterly or six-month basis. (Facilities with poor performance records may be required to conduct more frequent monitoring and reporting). These reports, once submitted to the appropriate agency, should be public record documents that members of the public have the right to review. Requiring electronic reporting is generally the easiest way for citizens and regulatory agencies to access and track this information.

In some cases, it might be appropriate to require the applicant to report to more than just the permitting authority. For instance, most sources are required to report "upset" emissions – unplanned releases generally caused by equipment malfunctions – to the permitting authority within a matter of hours or days after the discovery of the release. In addition, releases of hazardous substances in amounts exceeding certain thresholds must be reported to the National Response Center and Local Emergency Planning Committees.[183] You could request in your comments that such releases also be reported to local agencies, such as local emergency response officials and health departments, and the surrounding community.

f) Environmental Justice Impacts

It is important to inform the permitting authority and your regional EPA office about any environmental justice concerns that you might have about a proposed new source or modification to an existing source. The EPA is guided by a federal executive order which requires federal agencies to identify and address, as appropriate, "disproportionately high and adverse human health or environmental effects of [their] programs, policies, and activities on minority populations and low-income populations in the United States."[184]

While this executive order applies only to federal agencies, permits issued under federally-delegated programs are also covered, since in these cases the state "stands in the shoes" of the EPA for the purposes of implementing these programs.[185] If your state's NSR program is not delegated, check to see whether

---

[183] Comprehensive Environmental Response, Compensation, and Liabiltiy Act §103(a); Emergency Planning and Community Right to Know Act §304(b).
[184] Federal Actions to Address Environmental Justice in Minority Populations and Low-Income Populations, Executive Order No. 12,898, 59 Fed. Reg. 7629 (Feb. 16, 1994). More information about EPA's environmental justice policy can be found at http://www.epa.gov/compliance/environmentaljustice/index.htm (see Chapter 2).
[185] *In re Knauf Fiber Glass*, GMBH, 8 E.A.D. 121, 174 (EAB 1999).

your permitting authority has its own environmental justice policy, or whether it will voluntarily follow EPA's guidelines.

Where environmental justice concerns have been raised, the EPA or its delegate must conduct an environmental justice analysis. This involves analyzing the demographics of the area surrounding the proposed new source or modification and assessing whether the facility will have a disproportionately high adverse human health or environmental impact on a minority or low-income population.

Although it can be difficult to document the environmental justice implications of a proposed action, it is important to raise these concerns as early in the review process as possible. Environmental justice principles suggest that permitting authorities conduct early and meaningful public outreach in order to communicate more effectively with low-income and minority communities. Furthermore, additional conditions and terms (such as requiring enhanced monitoring) can be added to the permit to address disproportionate or cumulative impacts and reduce the risks to the community.

g) Why didn't that company get a major NSR permit?

The vast majority of stationary sources are not required to get a New Source Review major source permit before construction or modification. Many companies would prefer to avoid the time-consuming nature of the NSR permitting process and the expense of installing state-of-the-art pollution control equipment.

As described in Chapters 3 and 4, there are many ways in which a source can legally avoid NSR. However, there are also some methods that are used to avoid NSR which are not permissible. Below are some of the most common ways that sources avoid NSR and some practices that reviewers should watch out for.

Even if a new source or modification does not trigger a major NSR process, it may require a "minor NSR" permit, a Title V operating permit, or other approval. It is often in the course of reviewing these other permits that citizens learn about these facilities and question why they did not trigger major NSR.

Legal options for avoiding major NSR

Below are some of the most common reasons why a stationary source may not be required to obtain a major NSR permit. These are described in more detail in Chapters 3 and 4.

1) Potential emissions from the new source or modification fall below the major thresholds for NSR. An action will not trigger NSR if it is considered a "minor"

new source or a "minor modification" to an existing major source.[186] Whether the emissions are considered "major" or "minor" varies depending on whether or not the source is in an attainment area, whether it is a new source or a modification to an existing source, the source category, and other factors.[187] In many cases these sources will fall under a state's "minor NSR" program.

2) A source has opted to become a "synthetic minor." A source can intentionally limit its PTE in order to fall below NSR thresholds and avoid being subject to NSR permitting requirements. This can be done by restricting hours of operation or changing pollution control equipment or work practices. If the source would otherwise be "major," it is now considered a "synthetic minor." Becoming a synthetic minor is legal, as long as the restrictions used to limit PTE are clearly described in a source's permit conditions and are enforceable.

3) A source has "netted out" of NSR. A modification at a source may avoid NSR through a process called "emissions netting." Netting allows a source to take into account previous emissions increases and decreases at the facility, provided they are "contemporaneous" and "creditable," to calculate if the proposed modification will result in a significant *net increase* in emissions. The EPA defines "contemporaneous" as the period beginning five years before the modification is expected to commence.[188] To be "creditable," the increase or decrease has to be at the source and it cannot have been previously required by NSR. It must also be federally enforceable.[189]

4) The modification is excluded from NSR. Federal regulations state that certain activities are *not* considered modifications and are therefore excluded from NSR, including: routine maintenance, repair and replacement; increasing the production rate; increasing the hours of operation (unless it is prohibited under a permit condition); switching to certain alternative fuels; and change in ownership. [190]

5) The source is "grandfathered." If the source was built before 1977, when the NSR program was created, it was not required to obtain an NSR permit (i.e. it was "grandfathered" under the law). Many of these older facilities emit significantly greater amounts of pollution than newer sources equipped with modern pollution controls required by NSR. However, "grandfathered" sources are required to get NSR permits when they undergo major modifications under current regulations.

---

[186] Note that NSR might be required in the future if a "minor modification" to a "minor source" makes it a "major source."
[187] See Chapters 3 and 4 for applicable thresholds for new sources and modifications, respectively.
[188] Some state and local permitting agencies, however, may have different timeframes in their definitions of "contemporaneous."
[189] Other considerations may apply when determining if an emissions change is creditable; see NSR Workshop Manual, pp. A.38-A.42; A.47-48.
[190] 40 C.F.R. Part 52.21(b)(2) and 40 CFR Part 51.166(b)(2).. As this manual goes to print, a 2003 federal rule change concerning the routine maintenance exclusion has been stayed (see Chapter 4).

Troubleshooting

Below are some examples of NSR avoidance that are not permissible, and some questions to raise when reviewing permits. Determining whether a modification should have been subject to NSR is especially difficult (see Chapter 4). Note that this manual does not go into detail on any of these issues and you will need to research applicable laws, regulations, and guidance documents.

Here are some questions to ask when reviewing a source that did not obtain a major NSR permit:

Was the facility classified correctly? Certain source categories must obtain a PSD permit if their emissions are 100 tons per year (tpy), while the rest have a 250 tpy threshold.[191] If a source does not require a PSD permit because it emits less than 250 tpy of NSR regulated pollutants, check to make sure that it has been correctly classified – it's possible that it belongs on the list of 28 source categories that trigger PSD at the lower 100 tpy threshold.

Is it a major source "nested" in a minor source? An industrial complex may house a number of different types of sources. Is a source that would be subject to the 100 tpy threshold nested inside a source that is subject to the 250 tpy threshold?

Common control/ownership issues: Is it a new source or really an expansion of an existing source? Is it part of a larger facility? A company may claim that it is constructing a "new source" rather than expanding an existing source in order to avoid the lower NSR thresholds for modifications. If the new construction is adjacent to or contiguous to an existing source, and if they are under common control or ownership, then the new construction should be treated as an expansion and subject to the lower NSR thresholds for modifications. Similarly, a company cannot divide one source into two or more smaller ones in order to avoid NSR.

Restart of an existing facility: Should it require a new permit? Sometimes a source will maintain that it does not need a new permit to reopen an existing facility that has been closed. According to EPA guidance, restarting an existing source would require a permit for a new major source if the shutdown were permanent. "A shutdown lasting for two years or more, or resulting in removal of the source from the emissions inventory of the State, should be presumed permanent."[192]

Sham permits: Is the facility calling itself a minor source when it should be major? Were the potential emissions calculated properly? (See Chapter 3) Did the permitting authority rely on accurate data for measuring proposed new

[191] See Appendix F for a list of the 28 PSD source categories.
[192] Letter, Sept. 7th, 2001, to Jerold W. Holmes, Colville Tribal Enterprise Corporation, from Douglas E. Hardesty, U.S. EPA, re: start-up of Quality Veneer & Lumber facility.

emissions? When calculating potential emissions, were fugitive emissions and excess emissions caused by start-up/shutdown and maintenance activities factored in?

Phased permits: Is the facility avoiding NSR by staging its upgrades in phases? Only "major modifications," which will result in a significant net increase in emissions, will trigger an NSR permit. Companies may try to break a major modification up into separate steps in order to avoid complying with NSR. If a major upgrade is conducted in stages, and if the cumulative net emissions increase is significant, the source is required to obtain an NSR permit.

Double-counting: Is the facility applying invalid emissions reductions in order to "net out" of NSR? Major modifications only trigger NSR if they result in a significant net increase of emissions. Sources may "net out" of the PSD program by taking into account all emissions increases and decreases over a "contemporaneous" period. Generally, "contemporaneous" is defined as five years prior to the commencement of the modification.[193] A source cannot use the same emissions decrease more than once to "net out" of NSR, nor can it use an emissions decrease that occurred prior to the "contemporaneous" time period.

What to do if you find a problem

If you are concerned that a source may have improperly avoided NSR, you should review the permitting authority's records for that source. The permitting authority may have in its files, or include in the source's air permits, information that explains why the source did not require a major NSR permit. For instance, if a source netted out of NSR or became a synthetic minor, the agency should have proper documentation on record. Conversely, information on file with the agency may show that the source should have obtained an NSR permit, but didn't.

If you can demonstrate that the source should have obtained an NSR permit, you should bring this to the attention of the permitting authority and your regional EPA. In some cases the agency, and/or EPA, may take enforcement action against the company. If you believe the company is violating the Clean Air Act, or that the agency issued a permit erroneously, your other options include: filing a Title V petition to the EPA (if applicable); filing a state administrative or judicial challenge to the state permit; or filing a Clean Air Act citizen suit against the company.[194]

[193] Note that this timeframe can vary depending on the regulations in your state.

[194] You should consider consulting with a lawyer before embarking on any of these actions. Note that the Environmental Appeals Board has ruled that "the Board's jurisdiction is limited to federal PSD permits that are actually issued; it does not extend to a State's decision not to issue a PSD permit." *In re Carlton, Inc. North Shore Power Plant*, 9 E.A.D. 690 (EAB, Feb. 28, 2001).

h) Preparing Written Comments on the Draft Permit

It is best to start early in preparing your written comments, and not wait until the end of the public comment period if you can possibly avoid it. As you go through the permit, you will undoubtedly have a lot of questions to research. If you need more time to prepare your comments you can request an extension of the public comment period (see Chapter 7), but the permitting authority is not obligated to grant your request.

What your comments should include
If you believe any condition of the draft permit is inappropriate or disagree with the permitting authority's permitting decision, EPA regulations state that you must "raise all reasonably ascertainable issues and submit all reasonably available arguments supporting [your] position by the close of the public comment period (including any public hearing)."[195]

The regulations also require that any supporting materials referenced in the comments must be included in full, unless they are already part of the administrative record for the permit application, or if they consist of state or federal laws or regulations, EPA documents of "general applicability," or other "generally available" reference materials.[196] Make sure that any comments you may have submitted to the permitting authority about the permit application before the start of the public comment period are included in the official administrative record on the permit; you can do this by attaching copies of your previous correspondence about the facility to the formal comments you submit during the public comment period.

The permitting authority is only required to consider comments that it deems are pertinent to the proposed permitting decision. If you have additional concerns about the proposed project that fall outside the scope of the NSR permit, you may certainly include them in your comments, but the permitting authority is not required to consider them. While you should therefore focus your comments on the actual draft permit, bear in mind that you may be able to articulate your concerns in a way that fits within the scope of issues that can be considered during NSR permitting. For example, the NA NSR analysis of alternatives requires consideration of the environmental and social costs imposed because of the location, construction or modification. Framing your issue in these terms makes it a relevant issue that the permitting authority should address.

Preparing your comments
Begin your letter by stating what you are commenting on (i.e. Draft PSD Permit for XYZ Corporation, I.D No. 123-45-6). You could also briefly introduce yourself or your organization and the reason for your interest in this permit application. For example, if you represent a group, you could describe the

[195] 40 C.F.R. Part 124.13. Regulations may be different in your state.
[196] *Id.*

mission of your organization and, if relevant, how many of your members live near the proposed facility. Always include your name, address, and other contact information.

If possible, include specific examples in your comments describing how you or members of your organization will be impacted – for example, you can see the pollution from your house or on your drive to work every day, you often smell emissions from the facility, or you are concerned about health impacts on you and your family. If relevant, you might also include information indicating that prevailing (or maybe seasonal) winds blow towards your home or office from the facility. It is important to gather this type of information because in some states, if you wish to challenge the final permit, you will have to prove you have "standing;" this is discussed further in Chapter 9.

Box 8.8 Tips for Writing Effective Comments[197]

Be specific. For example, rather than making a generic statement that the draft permit lacks adequate periodic monitoring, identify draft permit conditions that need additional periodic monitoring. If possible, provide a periodic monitoring suggestion…

Use "must" whenever appropriate. If you believe that a requirement mandates a certain change in the draft permit, use "must" rather than "should." For example, you can say "[The Permitting Authority] must require periodic monitoring to support this condition." Only use "should" when you are quite certain that the Permitting Authority has discretion over whether or not to heed your advice.

Use declarative sentences rather than questions. Often, you will lack information that is necessary for determining whether a particular requirement applies to a facility, or whether a certain type of monitoring will assure that the facility is complying with the law. If you need to know the answer to a question in order to make your argument, then argue in the alternative. For example, you might say "If this requirement does apply to [the xyz facility], it must be supplemented with periodic monitoring. If this requirement does not apply to [the xyz facility], it must be deleted from the draft permit."

Cite statutes and regulations. Whenever possible, cite a statute or regulation to support your argument. It also helps to cite to U.S. EPA guidance on an issue. U.S. EPA guidance is not legally enforceable, but it is usually given a lot of weight by permitting authorities and courts.[198] If all else fails, make your argument based upon common sense about what the program is meant to accomplish… Your comments are still valid even if you do not cite to a law that proves your point.

Focus most of your comments on the issues that you believe are most significant. However, you should try to raise as many of the issues as you can in order to preserve issues for later appeals, if necessary.

---

[197] Excerpted from the Title V Handbook, *supra* note 20, pp. 82-83. This section is written for reviewers of Title V permits (hence the emphasis on monitoring), but provides relevant advice for virtually any permit review.

[198] To find EPA guidance documents online, go to http://www.epa.gov/nsr/guidance.html and click on "Region 7 Policy & Guidance."

Ideally, for each problem that you identify in the draft permit, you should:

- describe the problem, and why it is important
- identify the regulation or law that governs the issue
- explain how the rule applies to the problem,
- state how the draft permit must be modified to comply with the rule, and include any documentation to support your comment.

Submitting written comments

You must submit your written comments and any supporting documents to the permitting authority by the end of the public comment period. Comments submitted after the end of the public comment period do not have to be considered by the permitting authority.

State rules regarding how written comments can be submitted – by mail, fax or email – may differ. Check with your local permitting authority or follow the instructions in the public notice.

If you send your comments by mail, make sure that they are postmarked before the public comment period expires.[199] If you send them by e-mail, you should request confirmation that they have been received by the permitting authority and follow up, if necessary. You can also submit your written comments to the hearing officer if a public hearing is held.

While not required, you should send copies of your comments to your regional EPA headquarters, especially in states that have delegated PSD programs. At your discretion, you may also want to send copies of your comments to your local elected officials and other interested parties.

i) Public Hearings

As discussed in Chapter 7, the permitting authority may hold a public hearing to accept public comment on the draft permit. As a general rule, public hearings on NSR permits are held at the discretion of the permitting authority. The permitting authority may hold a public hearing if it determines there is significant public interest in a draft permit or if it has received a request during the public comment period and deems the request warranted.

If the hearing is scheduled on a date after the close of the public comment period, the permitting authority must extend the public comment period to include the hearing, so that comments given at the hearing become part of the administrative record on the permit decision.

[199] Some local permitting rules may require that comments be received – rather than postmarked – by the deadline, so be sure to check.

Presenting oral testimony at public hearings

Public hearings provide a wider opportunity for members of the public to share their comments and concerns with agency staff about the proposed action. If a public hearing is scheduled, urge as many people as possible from the impacted areas to attend. Even if you are planning to submit written comments, you should testify at the public hearing and encourage others to do so as well.

While public hearings are designed to collect the same information from the public that can be included in written comments, they can provide a forum for more open exchange of ideas and information. The permitting authority may be willing to accommodate requests from the public concerning the format of the public hearing. For instance, you can ask the permitting authority to include presentations by agency staff and the applicant about the project, and to allow a "question and answer" period following these presentations.

In addition, the way you present your comments at a public hearing can be quite different than in your written comments. While your written comments, as described above, should be as detailed as possible and include citations and supporting materials, it may be preferable to summarize your comments and make them less technical when delivering oral testimony. (See Box 8.9, "Tips for Effective Oral Testimony").

Box 8.9 Tips for Effective Oral Testimony[200]

- Keep your comments brief, especially if you are also submitting written comments
- If more than one person from your organization is speaking, divide up your key talking points in advance, in order to reduce repetition and make sure all your major points are made
- Prepare notes in advance of what you want to say

Bear in mind that when you testify at a public hearing you are not only speaking to the permitting authority, but also to any members of the public, public officials, and reporters who may be in the room. Because of media deadlines, you may want to have your best speakers go first. The permitting authority must consider all comments submitted during the public comment period, both written and oral, so you do not have to repeat everything in your written comments when you testify.

[200] For more suggestions about public hearings, see "Making the Most of Public Hearings," by Larry Shapiro, available at www.titlev.org.

Encourage others to participate in the public hearing
Invite as broad a cross-section of your community to participate in the public hearing as possible. Examples of whom to invite include:

- doctors, nurses and other health care professionals
- public health advocacy groups (e.g. American Lung Association)
- residents of the affected community
- churches and community groups
- PTAs and school groups
- environmental groups
- elected officials
- "experts"

Many people are intimidated about public speaking and may be reluctant to testify. Here are some ways to help them overcome their discomfort:

- find out the format of the hearing in advance and explain it to citizens (for instance, will there be time limits on testimony? Will the applicant make a presentation? Will the agency holding the hearing take questions from the audience? Can people carry signs and banners inside the building?). Knowing in advance what to expect will help people be better prepared.

- prepare and circulate flyers about the public hearing, with directions and transportation information, as well as background information about the proposal and talking points;

- urge people to keep their comments brief and try to focus on the core issues of increased air pollution and impacts on public health;

- suggest they jot down notes in advance of what they want to say.

The public hearing offers a chance for people from all walks of life to participate, including many who ordinarily would not submit written comments. Encourage concerned residents to speak out and share their personal stories. For instance, a mother who has children with asthma could talk about her concerns about what the increased emissions will do to her children who live and go to school downwind of the source.

Public hearings can be a very effective means of generating public comment on a draft permit, and can help communities coalesce around issues of local concern. Importantly, public hearings provide a forum for citizens to participate whom the permitting authority might otherwise not hear from. Citizens at public hearings may raise issues about the project that the permitting authority was not aware of and will now have to consider. Public hearings also offer an opportunity to reach a broader audience through coverage in the news media.

Make sure to request a copy of the official transcript of the public hearing or find out how to obtain it (some agencies will post the proceedings on their websites).

j) Adjudicatory hearings

In addition to public hearings, some states provide the opportunity for a contested case or adjudicatory hearing on the permit. Contested case hearings provide additional public participation opportunities beyond those required by the Clean Air Act. These are trial type hearings at which witnesses are called and an administrative judge or panel of judges decides whether to recommend to the permitting authority that the permit be granted or denied. Such hearings provide an opportunity to more closely examine the assumptions the applicant is making about its proposed facility and usually result in additional permit improvements.[201] They are, however, very resource intensive. If your permitting authority offers a contested case hearing process, it will be in addition to the comment and public hearing opportunities discussed above.

[201] For a description of one state's contested case process (and a good general guide to citizen participation in environmental permitting), see http://www.allianceforcleantexas.org/html/cg_toc.html.

Chapter 9: Appealing an NSR Permit

This chapter describes the process for appealing NSR permits and negotiating settlements.

After the public comment period is closed, the permitting authority must consider all the comments it has received and decide whether to issue or deny the permit. The permitting authority may make any changes it deems necessary to the draft permit before issuing a final NSR permit.

If your concerns are not fully addressed in the final permit, you will have a short window of time to appeal the agency's decision. The appeals process varies from state to state, and depends on whether the state's program is delegated or approved. However, both are time-sensitive with short deadlines. Even before the public comment period is over, you should be preparing to review the final decision and potentially file an appeal.

This chapter will deal with the following subjects:

a) obtaining and reviewing the final permit
b) appealing an NSR permit under a delegated program
c) appealing an NSR permit under an approved program
d) judicial review
e) when to use a lawyer
f) negotiating settlements

If you decide to appeal the agency's permit decision, it may be wise to seek assistance from an attorney, especially in approved states. The appeals process is complicated and must be based on legal issues, rather than general concerns. Chapter 6 included tips on where you can go to find free legal assistance, and how to raise money to hire a lawyer and technical experts.

a) Obtaining and reviewing the final permit

You will have a limited amount of time to submit an appeal after the agency issues the final permit. Since preparing an appeal can be quite complex, you will need to obtain a copy of the final permit as soon as it is issued.

Most permitting agencies have a formal mechanism for publicizing final permit approvals, such as an on-line environmental notice bulletin. Even before the 30-

day comment period has expired, you should find out how and when the public will be notified that the final permit has been issued.

You should also check in regularly with your contact person at the permitting authority to find out when the permit will be coming out. If you develop a good working relationship with this person, they may be willing to call you when the permit is finalized. Ask them to provide any explanatory or supplemental documents that were prepared along with the final permit.

Once the final permit has been issued, obtain a copy as soon as possible and compare it against the draft permit. Note whether there have been any changes, and whether those changes reflect the concerns you have raised.

All states should require the permitting authority to issue a written summary of public comments and the agency's response (generally known as a "responsiveness summary"). This can be very useful for you to understand why the agency did not address all of your concerns. If the agency does not respond to your comments, this failure can be grounds for appealing the final permit.[202] Even if such a response is not provided in writing, you should call the contact person at the agency to try and get your questions addressed. It could be that some of your concerns, however legitimate, were considered by the permitting authority to be outside the scope of the NSR permitting process.

b) Appealing an NSR permit under a delegated program

NSR permits issued by states under a federally delegated program can be appealed to EPA's Environmental Appeals Board (EAB). The regulations guiding the appeals process can be found in 40 C.F.R. Part 124.19.

What is the Environmental Appeals Board?
The Environmental Appeals Board (EAB) is EPA's final decision-maker on administrative appeals under all major environmental statutes that EPA administers. There are four members of the EAB. The EAB sits in panels of three judges and makes decisions by majority vote.[203]

Who can submit an appeal?
Anyone who submitted written comments on the draft permit or spoke at the public hearing has "standing" to petition the EAB to review any condition of the permit. Even someone who did not participate may petition for administrative review, but "only to the extent of the changes from the draft to the final permit decision."[204]

---

[202] 40 CFR Section 124.17(a).
[203] For more information about the Environmental Appeals Board, go to http://www.epa.gov/boarddec/.
[204] 40 C.F.R. Part 124.19(a).

What is the process for petitioning the EAB?
A party wishing to appeal must submit a Petition for Review ("Petition") to the EAB within 30 days after the permitting authority issues the final permit. The petition is basically a "legal brief." A legal brief is a paper that a party prepares and files with the EAB that explains the legal and factual basis for what the party wants the EAB to do. For instance, if you want the EAB to revoke the permit, you will need to cite in your brief the relevant statute or regulation, and then point to evidence that shows that the permitting authority violated that legal rule when it issued the final permit.

The EAB has the discretion to decide whether or not it will review the permit. The permitting authority is usually given 45 days to respond to the petition. The permit applicant may also be allowed to respond to the petition.

If the EAB declines to review the permit, the appeals process is over. If the EAB grants review, it will review the briefs and issue a decision. Occasionally the EAB will request or agree to consider additional briefs. The applicant cannot begin construction until the EAB review has been completed and the final permitting decision has been made. The EAB may order the permitting authority to correct the final permit; this is called "remanding" the permit to the permitting authority.

Most cases are decided without oral argument, based on the administrative record and on written briefs submitted by the parties. However, an oral argument may be scheduled by request from any party, or at the Board's initiative, where the Board decides that it will assist in decision making. Making an oral argument requires going to Washington, D.C. and presenting your case, in a limited amount of time, directly before the Environmental Appeals Board. Oral arguments are open to the public.

What should be included in the petition?
Guidelines for preparing and submitting a Petition to Review can be found in the Environmental Appeals Board Practice Manual (the "Practice Manual") and on the EAB website.[205] The burden of proof is on you, the "petitioner," to show that the permitting authority's permit was defective (i.e. contrary to rule) or that the process for issuing the permit was defective.

The Practice Manual advises petitioners to "set forth, in detail, all of the issues and all of the arguments in their favor."[206] You can only raise issues regarding the PSD permit conditions and the process for issuing the permit. You must specifically identify what permit conditions are being disputed and include

[205] Environmental Appeals Board Practice Manual, U.S. E.P.A. June 2004, at pp. 26-42. Available on-line at http://www.epa.gov/boarddec/pmanual.pdf. The EAB website includes mailing information, formatting recommendations, and other guidance at: http://www.epa.gov/eab/eabfaq.htm.
[206] *Id.*, at 31.

information supporting the allegations. You can also argue that the permit should not have been issued at all, but you need to point to a specific legal rule that was violated as your grounds for making this claim. Simply repeating objections raised during the comment period is not sufficient; you must demonstrate why the permitting authority's response warrants review.[207]

c) Appealing an NSR permit in an approved program

If you want to appeal an NSR permit that has been issued under a federally-approved program, you must follow the laws and regulations that govern such appeals in your state.

Many administrative review processes are overseen by an Administrative Law Judge (ALJ) who works for the permitting authority. The ALJ works independently from the permitting authority staff and the agency commissioner. Although there may be important differences from one state to another, in general, you need to exhaust the administrative appeals process before you can seek judicial review in the courts.

Timeframe for submitting an appeal
Be sure to review your state's rules prior to a final determination. Many of the deadlines for filing an appeal are very short. For instance, your state's administrative review process may require you to submit a letter appealing the permitting authority's decision within only 20 days after the final permit is issued.

Limitations on standing and reviewable issues
Your state may require that only parties who submitted comments on the draft permit or who participated in the public hearing can appeal a final permit decision. In addition, some states will only allow petitioners to appeal permit conditions that they commented on, while other states will allow you to raise new issues in the appeals process (called "*de novo*" appeals). Therefore it is in your best interest to understand the rules guiding appeals in your state *before* you submit your comments on the draft permit.

In some states, you have to prove that you have "standing" to challenge the permit. That generally means that you have to prove that the pollution from the proposed facility or some other aspect of the construction will harm you. Standing is often established by a person who lives, works, or recreates near the proposed facility and will be impacted by pollution from the proposed facility. If an organization has members that meet these criteria, it can seek to establish organizational standing.

[207] *Id.*, at 33.

Administrative review process
While there is considerable variation from one state to the next, most state appeals processes are conducted in a similar manner to a trial in public court. Parties in the process will have the opportunity to present expert witnesses to testify. You should research the applicable rules in your state and consider consulting with an attorney before filing an appeal.

d) Judicial review

In many states, only after you have exhausted your administrative appeals will you be able to appeal your case through the court system. Although you are allowed to represent yourself in court (but not a non-profit organization which is a corporation), it is generally a good idea to consult with an experienced environmental attorney about your legal options.

e) When to use a lawyer

The EAB appeals process is fairly straightforward, in that it generally only requires submission of a written brief (i.e., the "petition to review"). The EAB's Practice Manual is written in plain English and should provide adequate guidance to a motivated citizen or group that wants to file an appeal to the EAB without the assistance of an attorney. However, the regulations regarding NSR permits can be lengthy and complex and there can be many technical issues involved. Therefore, if you have the resources and are not familiar with the Clean Air Act, its regulations and technical issues, you may want to consider hiring an attorney to help you with an EAB appeal.

If you are appealing a permit in a state with an approved NSR program, you will have to follow the rules for filing appeals in your state. In general, most administrative appeals processes are very much like court trials, in that they can involve numerous legal filings, presentation of oral arguments under oath before a judge or panel of judges, and the use of expert witnesses. Most citizen groups that have been involved in NSR administrative appeals recommend that you have an attorney represent you in this type of appeals process.

An attorney may also be useful in any settlement negotiations that you enter into with the applicant (see case studies, below). However, as described in the case study of West County Toxics Coalition in Richmond, California (see Appendix H), there are advantages and disadvantages of having attorneys take the lead in negotiations. It is up to you or your group to decide whether to use an attorney and what their role should be.

If you do go to the expense of hiring an attorney, it is usually best to hire an attorney who has experience with environmental law, and preferably with NSR permitting. Don’t be embarrassed about asking attorneys before hiring them about their specific experience with this type of case.

f) Negotiating settlements

Citizens have achieved some of the most significant changes to NSR permits by entering into settlement negotiations with the applicants.

For businesses, time is money. Applicants may be motivated to settle with citizens in order to avoid costly delays associated with a lengthy appeals process. Often the settlement discussions are initiated by the applicant, or by a public agency seeking to mediate the dispute. While a settlement can be negotiated at any time in the NSR process, they typically don't occur until after a citizen or group has filed an appeal.

Once a settlement has been agreed upon by all parties, it must be filed with the appropriate agency so that it becomes legally enforceable. If the settlement includes revisions to the NSR permit, it is attached to the permit as an enforceable permit condition.

In negotiating a settlement, it is possible for citizens to get concessions from the industry that fall outside of the NSR program. The following four case studies present examples of settlements, large and small, that resulted in air quality and community benefits.

Box 9.1 Case Study: Company Agrees to Install Better Monitoring Equipment, Which Detects New Violations[208]

In the early 1990's, Sierra Club's Lone Star Chapter and local residents challenged a draft PSD permit for a major expansion of a polyvinyl chloride (PVC) manufacturing plant in Point Comfort, Texas. Families living in the vicinity of the plant were extremely concerned about releases of carcinogenic vinyl chloride and ethylene dichloride gas from the plant, including leaks, accidents and spills, which they believed had caused worker injuries and deaths and sickened community members.

According to the Sierra Club, the groups negotiated a side agreement with the company, outside the NSR permit, in which the company agreed to purchase and install a $65,000 state-of-the-art real-time VOC ambient air monitoring system along the southern fenceline of the plant to protect the community from releases of vinyl chloride and ethylene dichloride gas. The company also had to submit monitoring reports to the state air agency for review. However, the plant did not have to run the new laser air monitor all the time.

Within a year of installing the new air monitoring system, the system began to detect excessive levels of ethylene dichloride gas from the plant's nearby tank farm along the southern fenceline between the plant and the community. As a result of this and other problems at the plant, the state air agency took enforcement action against the company. The state ordered the company to operate the laser monitor continuously to measure the levels of ethylene dichloride and to determine if the corrective actions required in the enforcement action were working.

[208] Source: Neil J. Carman, Ph.D., Clean Air Program Director with the Lone Star Chapter of the Sierra Club.

Box 9.2 Case Study: Company Agrees to Enhanced Monitoring and Local Emergency Response Training[209]

In 2004, the Warren County Quality of Life Coalition, with representation by the Mid-Atlantic Environmental Law Center, filed an administrative appeal of an NSR permit for a new coker unit at an existing petroleum refinery in Pennsylvania. The appeal was resolved through a negotiated settlement agreement.

Under the terms of the agreement, the company must improve its monitoring and reporting of particulate and VOC emissions from the coker unit, including third-party testing of fugitive VOC emissions and an enhanced Leak Detection and Repair (LDAR) program. In addition, the company agreed to notify the Local Emergency Planning Committee (LEPC), as well as the EPA and state, of any reportable environmental releases, for posting on the LEPC website. Such notification would include a "root cause analysis," describing what factors contributed to the incident and what measures might be taken to reduce the likelihood of a recurrence.

Finally, the company agreed to update its emergency response plan and provide annual training for local firefighters and other emergency response personnel on how to respond to fires and releases from the new coker unit.

[209] Lyman Welch, personal communication, August 27, 2004; Settlement Agreement, Warren County Quality of Life Coalition v. Commonwealth of Pennsylvania, Department of Environmental Protection and United Refining Company, EHB Docket No. 2003-307-R, May 21st, 2004, available on-line at http://www.environmentalintegrity.org/pub228.cfm.

Box 9.3 Case Study: Power Plant Settlement Creates Fund to Mitigate Global Warming and Acid Rain[210]

In 2004, the Appalachian Center for the Economy & the Environment, on behalf of the Sierra Club, National Parks Conservation Association, and Trout Unlimited, filed an appeal of an air permit for a new coal-fired power plant with the West Virginia Air Quality Board. This was the first such appeal filed in the state's history. After months of filing appeal documents, the applicant initiated settlement negotiations.

The parties to the appeal reached a precedent-setting settlement agreement. This agreement includes: tighter permit limits for acid rain-forming NO_x and SO_2 emissions; annual inspections of the plant (rather than every five years), the first-ever continuous emission monitor for mercury, and the creation of a fund to mitigate the impacts of global warming and acid rain. The mitigation fund requires the applicant, and any subsequent owners, to pay $500,000 per year for the first ten years of operation and $300,000 per year for the remaining life of the plant to fund carbon sequestration and acid rain mitigation projects in West Virginia.

According to the Appalachian Center, "this agreement will not only help protect the public health of West Virginians, but it also sets national standards that will be used by environmentalists and public health advocates across the country to require more stringent permits in other regions."

[210] Source: Appalachian Center for the Economy & the Environment, http://www.appalachian-center.org/issues/air/index.html.

Box 9.4 Case Study: PSD Settlement Leads to Shutdown of Older New York City Power Plant[211]

In 2001, the New York Public Interest Research Group (NYPIRG), Natural Resources Defense Council (NRDC), and CHOKE (Citizens Helping Organize for a Kleaner Environment), a local community group, joined forces to challenge an application to construct a 500-megawatt power plant in Astoria, Queens. The plant was to be built immediately adjacent to an existing 825-megawatt power plant already owned by the applicant, and within a mile of four other power plants, several highways, and a major international airport.

The groups divided up the work, with NYPIRG focusing on the air and water permits. In its comments on the draft PSD permit, NYPIRG contended that the BACT selection was inadequate, that the cumulative air impacts and environmental justice impacts had not been analyzed, and that the applicant was not in compliance with its air permit and emission limits at the existing plant. At the public hearing, many local residents testified that the area was overburdened with polluting facilities and that a new power plant would add to the high levels of asthma already plaguing the community.

According to NYPIRG, the state reviewing authority did not address the concerns raised by environmental groups and local residents in its responsiveness summary. Since New York's PSD program is delegated, NYPIRG filed an appeal with the Environmental Advisory Board (EAB). This automatically stayed (halted) all the other permit approvals for the project.

Shortly after NYPIRG filed its appeal, New York's governor called the parties together to seek a settlement of the case. In 2002, after several months of negotiations with city and state agencies, NYPIRG, NRDC, CHOKE, and the applicant came to a settlement agreement to reduce the overall pollution from the plants owned by the applicant.

The three groups agreed to drop their challenge of the new power plant. In exchange, the applicant agreed to shut down the existing plant, which had been operating since 1977, in 2008. In the interim, the applicant agreed to gradually increase the proportion of natural gas in its fuel mix at the plant and reduce its use of Number 6 fuel oil, a dirtier fuel. The applicant also agreed to increase its budget for energy efficiency programs in New York City by at least $10 million a year for five years. Finally, the applicant established a $2 million account to be made available for community-based air pollution reduction programs to improve air quality and public health in northwest Queens. The overall settlement is expected to dramatically improve air quality in New York City.

[211] Source: Lisa F. Garcia, Esq.. Ms. Garcia was the NYPIRG staff attorney who handled this case from 2001 to 2004.

Conclusion: The Continuing Role of Citizens

The role of citizens in New Source Review and other air quality permitting does not end when the final permit is issued.

Citizens can monitor a source's compliance with NSR by reviewing the reports it must submit to the reviewing authority. A source's Title V operating permit will includes all of its air quality monitoring and reporting requirements, including those required under its NSR permit.

Citizens can also perform their own independent monitoring of emissions, as has been done effectively by groups like the Louisiana Bucket Brigade. This nonprofit organization teaches communities neighboring oil refineries and chemical plants how to conduct their own air sampling using a simple and relatively inexpensive EPA-approved technique.[212]

In many cases, citizen complaints about air quality violations have triggered investigations and subsequent enforcement actions against companies that failed to comply with the law. In addition, the Clean Air Act empowers citizens to enforce the law directly by suing companies or government agencies.

In the course of preparing this manual, many citizens were interviewed from across the country who had participated in NSR in their communities, often with little or no prior training. One such individual, Verena Owen, who is the clean air coordinator for an all-volunteer conservation organization in Illinois, is convinced that just by participating, citizens can make a difference. In Mrs. Owen's opinion:

> "Public participation makes for better permits, there is no question. Citizens can provide valuable information that leads to improved permit conditions. The public participation requirement was put in the Clean Air Act for a good reason; it gives the public a voice to influence decisions that could impact them. I encourage everybody to take advantage of it. I have, and it works."[213]

With the experience that you have gained from participating in the NSR process, you are now better prepared to review any new proposals in your community that may have an impact on air quality and public health.

You have your work cut out for you, but don't be discouraged. As Margaret Mead wrote: "Never doubt that a small group of thoughtful, committed citizens can change the world; indeed it's the only thing that ever does."

---

[212] Go to http://www.labucketbrigade.org/ for more information.
[213] Interview with Verena Owen, Lake County Conservation Alliance, Oct. 19, 2004.

Appendix A: Glossary

Actual Emissions: The actual amount of air pollution that a source emits (as opposed to a source's potential emissions or the allowable emissions under a source's permit).

Air Quality Impact Analysis: An assessment of existing air quality and predictions of the impacts of proposed new emissions on ambient air quality, required under the PSD permitting program.

Air Quality Related Value: A resource, as identified by a federal land manager for one or more federal Class I areas, that may be adversely affected by a change in air quality, such as visibility or a specific scenic, cultural, physical, biological, ecological, or recreational resource.

Ambient Air: The outdoor air that we breathe.

Applicability Threshold: The amount of emissions, in tons per year, that would make a new source subject to New Source Review (also called the Major Source Threshold). The applicability threshold varies depending on the pollutant emitted, the source category, and whether or not the source is located in an area that is in attainment for the pollutants emitted.

Approved Program: Programs run by state or local authorities for issuing New Source Review permits that have been approved by EPA; must be substantially equivalent to the federal NSR program and can be more stringent.

Attainment Area: An area considered to have air quality as good as or better than the national ambient air quality standards (NAAQS) for criteria air pollutants as defined in the Clean Air Act. An area may be an attainment area for one pollutant and a nonattainment area for others. These regions are further divided into Class I, Class II and Class III Attainment Areas, which denote the amount of allowable degradation, so as to preserve the air quality in these regions.

Baseline Area: All portions of an attainment area or unclassifiable area in which the emissions from a proposed new source would have a significant impact on ambient air quality.

Baseline Concentration: An area's existing concentration of air pollution for a pollutant at the time a complete Prevention of Significant Deterioration (PSD) permit application is submitted.

Baseline Date: The submittal date for the first complete PSD permit application.

Best Available Control Technology (BACT): The air pollution control technology required for sources subject to PSD permits. For any specific source, the currently available technology producing the greatest emissions reductions for each pollutant, taking into account energy, environmental, economic, and other costs.

Class I Attainment Areas: Pristine areas, such as national wilderness areas and national memorial parks, that are subject to the most stringent air quality protection in order to prevent degradation of air quality or air quality related values.

Clean Air Act: The nation's air pollution control law, enacted by Congress in response to growing concerns about the nation's air quality, with intent to, "protect and enhance the quality of the Nation's air resources so as to promote the public health and welfare and the productive capacity of its population."

Contemporaneous Period: The period immediately prior to when a modification is expected to commence (usually the preceding five years); used in the netting analysis for modifications.

Criteria Pollutant: An air pollutant for which the U.S. Environmental Protection Agency (EPA) has established a National Ambient Air Quality Standard (NAAQS). The six criteria pollutants are: sulfur dioxide, nitrogen oxides, lead, carbon monoxide, particulate matter, and ground-level ozone.

Delegated Program: A program where a state, tribal, or local authority has been delegated the authority to issue New Source Review permits on behalf of EPA, utilizing federal NSR regulations.

Emission: The release of pollutants into the air from a source.

Emissions Netting: See **Netting**.

Emission Offset: See **Offset.**

Emission Reduction Credit (ERC): A federally enforceable emissions reduction used to secure offsets required for a Nonattainment Area NSR permit (see definition offset).

Emission Standard: A requirement that limits the quantity, rate, or concentration of emissions from a source.

Emission Unit: Any part of a stationary source that emits or has the potential to emit a pollutant regulated by the Clean Air Act.

Environmental Appeals Board (EAB): EPA panel that rules on administrative appeals under all major environmental statutes that the EPA administers.

Federal Land Manager: The head of the federal agency responsible for any federal Class I areas.

Federally Enforceable: Federally enforceable standards include any regulation, emission limitation or standard that is part of an EPA-approved State Implementation Plan or under the Clean Air Act (CAA). Federally enforceable requirements are enforceable by the State, which has the primary authority, but also by the EPA Administrator and in certain situations by private citizens who can compel compliance with the SIP and the CAA by filing a lawsuit.

Fugitive Emissions: Emissions that cannot be reasonably captured through a pollution control device, e.g. dust from open-air coal piles, roads, or quarries.

Grandfathered: A legal term referring to the continued allowed use of a property as it at the time when restrictions were adopted. For instance, a source built before 1977, when the NSR program was created, is "grandfathered in," meaning it is not required to obtain an NSR permit until it undergoes a major modification.

Hazardous Air Pollutants (HAPs): Toxic chemicals released into the air that cause serious health and environmental effects.

Increment: See **PSD increment**.

Lowest Achievable Emissions Rate (LAER): The emission limitation required for sources subject to Nonattainment New Source Review (NA NSR) permits. LAER is defined as the most stringent requirement contained in a State Implementation Plan (SIP) for a source category, unless more stringent emission reductions have been achieved in practice.

Major Modification: A physical or operational change at an existing facility or emissions unit that causes a net emissions increase of any regulated pollutant in excess of the defined significance threshold.

Major Source: A stationary source, such as a building, structure, or facility, that emits, or has the potential to emit, one or more pollutants regulated by the Clean Air Act in excess of the defined applicability threshold. The level of emissions that will make a source "major" varies from program to program.

Maximum Achievable Control Technology (MACT): The technology requirements for sources to reduce their emissions of hazardous air pollutants.

Minor New Source Review: Programs that states can implement under authorization from the Clean Air Act that regulate emissions from facilities that do not meet the applicability thresholds for "major" New Source Review permits.

Mobile Source: Any non-stationary source of emissions that is regulated under the Clean Air Act, such as a motor vehicle, airplane, train, or vessel.

Modeling: A method of calculating the impacts of emissions from a new source or modification, using a variety of assumptions**.** Used to perform the air quality impact analysis required for PSD permits.

Modification: A physical or operational change at an existing stationary source.

Monitoring: Periodic or continuous surveillance or testing to determine the level of compliance with permit requirements and/or pollutant levels in the air.

National Ambient Air Quality Standard (NAAQS): Standards promulgated by the EPA establishing the maximum allowable concentrations of criteria pollutants in the ambient air, based on their potential to cause human health problems, environmental degradation and property damage. The six criteria pollutants are: sulfur dioxide, nitrogen oxides, lead, carbon monoxide, particulate matter, and ground-level ozone.

Netting: A process in which a source may avoid major NSR requirements for a modification. Netting allows a source to take into account previous emissions increases and decreases at the facility, provided they are "contemporaneous" and "creditable," to demonstrate that the proposed modification will not result in a significant *net increase* in emissions.

New Source Performance Standards (NSPS): Federal standards promulgated by EPA to control air pollution from new stationary sources or modifications. The NSPS are applied uniformly to categories of sources (unlike BACT and LAER determinations, which are made on a case-by-case basis).

New Source Review (NSR): The federal preconstruction permitting program that establishes air pollution control requirements for new major sources and for major modifications at existing sources. Established in the Clean Air Act. Includes the Prevention of Significant Deterioration (PSD) program for attainment areas, and the Nonattainment Area New Source Review (NANSR) program for nonattainment areas.

Nonattainment Area: An area that does not meet one or more of the National Ambient Air Quality Standards (NAAQS) for the criteria pollutants designated in the Clean Air Act.

Nonattainment Area New Source Review (NA NSR): The NSR permitting program for new major sources and major modifications in nonattainment areas. Requires sources to use the Lowest Achievable Emission Rate (LAER) and secure emission offsets. Established by the Clean Air Act to ensure that new construction in a nonattainment area will not interfere with the region's progress toward attaining federal air quality standards.

NSR-Regulated Pollutant: Any air pollutant regulated by the NSR program. Includes the six criteria pollutants, plus constituents or precursors for these criteria pollutants, such as volatile organic chemicals (VOCs), which can contribute to the formation of ozone.

Offsets: Emission decreases that an NANSR permit applicant must purchase or provide from existing sources in the area, as a means to offset increased emissions resulting from new construction in a nonattainment area. Offsets are required only for those pollutant emissions for which an area is in nonattainment. Offsets are secured through **emission reduction credits.**

Ozone (O_3): Ozone is formed when volatile organic compounds (VOCs) combine with nitrogen oxides (NO_x) in the presence of heat and sunlight. Ground level ozone is a major component of smog. One of the six criteria pollutants.

Particulate Matter: Fine particles, such as dust and soot, which are found in air emissions. PM_{10} refers to particulates that are 10 microns in diameter or smaller. $PM_{2.5}$ refers to particulates that are 2.5 microns in diameter or smaller. The smaller the particulate, the more dangerous it is to human health. One of the six criteria pollutants.

Permit: An authorization, license, or equivalent control document issued by EPA or a state, local, or tribal permitting authority to implement the requirements of an environmental regulation.

Permitting Authority: Also called a reviewing authority. Any state, local or tribal government agency that issues New Source Review permits through a program consistent with the federal Clean Air Act that has been approved by the Environmental Protection Agency. In some cases, EPA is the permitting authority.

Plantwide Applicability Limit (PAL): Created under the 2002 rule change. An emissions cap on NSR pollutants for the entire facility, allowing for modifications to occur without triggering NSR if the resulting emissions do not exceed a specified plantwide level established under the PAL.

Potential to Emit (PTE): The maximum capacity of a stationary source to emit an NSR-regulated pollutant under its physical and operational design.

Preconstruction Permit: A term used to describe a New Source Review permit.

Prevention of Significant Deterioration (PSD): The NSR permitting program for new major sources and major modifications in attainment areas. Requires sources to use the Best Available Control Technology (BACT). Established by the Clean Air Act to ensure that air quality in an attainment area is not significantly degraded as a result of new emissions.

PSD Increment: The maximum allowable increase of a regulated pollutant in an attainment area's ambient air above the area's baseline concentration. Part of the air quality impact analysis required for PSD permits.

Regulated Pollutant: See **NSR-Regulated Pollutant**.

Remand: A legal term meaning to send back. The EPA Environmental Appeals Board, after reviewing a petition challenging an NSR permit issued by a state or local permitting authority, may remand the permit to the permitting authority to correct.

Secondary Emissions: Emissions that are associated with the source, but are not emitted by the source itself.

Significant Net Emissions: The amount of emissions, in tons per year, that would make a modification subject to New Source Review.

Significant Threshold: See **Significant Net Emissions**.

Source Inventory: The sum of potential emissions from all sources within a proposed source's impact area, including potential emissions from the proposed new source or modification. Part of the air quality impact analysis required for PSD permits.

State Implementation Plan (SIP): Plan submitted by each state to the EPA that demonstrates how the state will achieve or maintain air quality that satisfies federal standards. The SIP contains laws, regulations, and programs a state will use to bring air quality up to national standards, and is federally enforceable.

Stationary Source: A fixed source of air pollution that is regulated under the Clean Air Act, such as factories, power plants, and other industrial facilities.

Surrogate: Something that is measured in place of a criteria pollutant; e.g. VOCs and NO_x emissions are measured as surrogates for ozone, since ozone is not emitted directly from a source.

Synthetic Minor Source: A source that intentionally limits its potential emissions through the use of enforceable physical or operational limitations in order to fall below NSR thresholds and avoid being subject to NSR permitting requirements.

Title V Permit: An operating permit required under the Clean Air Act for major stationary sources, as well as smaller sources that emit hazardous air pollutants. The Title V operating permit consolidates all the federally-enforceable air pollution requirements that apply to a particular facility into one permit.

Unclassifiable Area: An area where air quality monitoring data are insufficient. For permitting purposes, these areas are treated as attainment areas.

Upset: An uncontrolled release of emissions from a source, often caused by equipment malfunction or occurring during start-up or shutdown of an emission unit.

Volatile Organic Compound (VOC): An organic compound that contributes to photochemical reactions when released into the atmosphere, such as the creation of ozone smog. Examples of VOCs include gasoline, industrial chemicals such as benzene, and solvents such as toluene, xylene, and perchloroethylene (used in dry-cleaning). VOCs emissions are regulated under NSR because they are precursors to ozone, a criteria pollutant. Many VOCs are also regulated as hazardous air pollutants because of their health risks.

Appendix B: Federal and State Air Permitting Authorities

U.S. EPA Headquarters

U.S. Environmental Protection Agency
Ariel Rios Building
1200 Pennsylvania Avenue, N.W.
Mail Code 3213A
Washington, DC, 20460
(202) 260-2090
www.epa.gov

U.S. EPA Regional Offices

EPA Region 1 - New England
(Connecticut, Maine, Massachusetts, New Hampshire, Rhode Island, Vermont & 10 Tribal Nations)

U.S. EPA, Region 1
1 Congress St.,
Boston, MA 02114-2023
(888) 372-7341 - New England States
(617) 918-1111 - Outside New England
www.epa.gov/region01/

EPA Region 2
(New Jersey, New York, Puerto Rico, US Virgin Islands and 7 Tribal Nations)

U.S. EPA, Region 2
290 Broadway
New York, NY 10007-1866
(212) 637-5000
www.epa.gov/region02/

EPA Region 3 - Mid-Atlantic
Delaware, District of Columbia, Maryland, Pennsylvania, Virginia, and West Virginia)

U.S. EPA, Region 3
1650 Arch Street (3PM52)
Philadelphia, PA 19103-2029
(215) 814-5000 - Main Business Number
(800) 438-2474 - When calling from within the region
www.epa.gov/region03/

EPA Region 4 - Southeast
(Alabama, Florida, Georgia, Kentucky, Mississippi, North Carolina, South Carolina, Tennessee)

U.S. EPA, Region 4
Sam Nunn Atlanta Federal Center
61 Forsyth Street, SW
Atlanta, GA 30303-3104
(404) 562-9900
(800) 241-1754
www.epa.gov/region04/

EPA Region 5
(Illinois, Indiana, Michigan, Minnesota, Ohio, Wisconsin and 35 Tribal Nations)

U.S. EPA, Region 5
77 W. Jackson Blvd.
Chicago, IL 60604
(312) 353-2000
(800) 621-8431
www.epa.gov/region05/

EPA Region 6 - South Central
(Louisiana, Arkansas, Oklahoma, New Mexico, Texas and 66 Tribal Nations)

U.S. EPA, Region 6
1445 Ross Avenue
Suite 1200
Dallas, TX 75202
(214) 665-6444
www.epa.gov/region06

EPA Region 7
(Iowa, Kansas, Missouri, Nebraska, and 9 Tribal Nations)

U.S. EPA, Region 7
Office of External Programs
901 N. 5th Street
Kansas City, KS 66101
(913) 551-7003
(800) 223-0425
www.epa.gov/region07/

EPA Region 8 - Mountains and Plains
(Colorado, Montana, North Dakota, South Dakota, and 27 Tribal Nations)

U.S. EPA, Region 8
999-18th Street
Suite 300
Denver, CO 80202
(303) 312-6312
(800) 227-8917 (Region 8 states only)
www.epa.gov/region8

EPA Region 9 - Pacific Southwest
(Arizona, California, Hawaii, Nevada, the Pacific Islands, and over 140 Tribal Nations)

U.S. EPA, Region 9
75 Hawthorne Street
San Francisco, CA, 94105
(866) EPA-WEST
(415) 947-8000
www.epa.gov/region9

EPA Region 10 - Pacific Northwest
(Alaska, Idaho, Oregon, Washington and Native Tribes)

U.S. EPA, Region 10
1200 Sixth Avenue
Seattle, WA 98101
(800) 424-4EPA
(206) 553-1200
www.epa.gov/region10

State Air Quality Permitting Authorities

Alabama Dept. of Environmental Management
1400 Coliseum Blvd.
P.O. Box 301463
Montgomery, Alabama 36110
Phone: (334) 271-7861
Fax: (334) 279-3044
www.adem.state.al.us

Alaska Dept. of Environmental Conservation
Division of Air Quality
555 Cordova Street
Anchorage, AK 99501
Phone: (907) 269-7634
Fax: (907) 269-3098
www.state.ak.us/dec/air

Arizona Dept. of Environmental Quality
Air Quality Division
Phoenix Main Office:
1110 W. Washington Street
Phoenix, AZ 85007
Phone: (602) 771-2300 or 1-800-234-5677
www.adeq.state.az

Arkansas Dept. of Environmental Quality
8001 National Drive
PO Box 8913
Little Rock, AR 72219
Phone: (501) 682-0744
www.adeq.state.ar.us

California Air Resources Board
1001 “I” Street
PO Box 2815
Sacramento, CA 95812
Phone: (916) 322-2990
Fax: (916) 445-5025
www.arb.ca.gov

Colorado Dept. of Public Health and Environment
Air Pollution Control Division
4300 Cherry Creek Drive South
Denver, CO 80246
Phone: (303) 692-2000
www.cdphe.state.co.us/ap/aphom.htm

Connecticut Dept. of Environmental Protection
79 Elm Street
Hartford, CT 06106
Phone: (860) 424 3000
http://dep.state.ct.us

Delaware Dept. of Natural Resources and Environmental Control
Division of Air and Waste Management
Air Quality
89 Kings Highway
Dover, Delaware 19901
Phone: (302) 739-4764
www.dnrec.state.de.us

D.C. Dept. of Consumer and Regulatory Affairs
Environmental Regulation Administration
Air Resources Management Division
51 N Street, N.E.
Washington, D.C. 20002
Phone: (202) 535-2250
www.environ.state.dc.us

Florida Dept. of Environmental Protection
3900 Commonwealth Boulevard, M.S. 49
Tallahassee, FL 32399
Phone: (850) 245-2118
www.dep.state.fl.us

Georgia Dept. of Natural Resources
Environmental Protection Division
2 Martin Luther King Jr. Drive
Suite 1152 East Tower
Atlanta, GA 30334
Phone: (404) 657-5947 or (888) 373-5947
Fax: (404) 651-5778
www.dnr.state.ga.us

Hawaii Environmental Planning Office
919 Ala Moana Blvd., Room 312
Honolulu, HI 96814
Phone: (808) 586-4337
www.hawaii.gov/doh/eh/epo/

Idaho Dept. of Environmental Quality
DEQ State Office
1410 N. Hilton
Boise, ID 83706
Phone: (208) 373-0502
Fax: (208) 373-0417
www.deq.state.id.us/

Illinois Environmental Protection Agency
Bureau of Air
1021 North Grand Avenue East
PO Box 19276
Springfield, IL 62794
Phone: (217) 782-3397
www.epa.state.il.us

Indiana Dept. of Environmental Management
Office of Air Quality
Indiana Government Center-North
100 N. Senate Avenue
PO Box 6015
Indianapolis, IN 46206-6015
Phone: (317) 232-8603 or 1-800-451-6027
www.in.gov/idem

Iowa Dept. of Natural Resources
Air Quality Bureau
7900 Hickman Rd., Suite 1
Urbandale, IA 50322
Phone: (515) 242-5100
Fax: (515) 242-5094
www.iowadnr.com

Kansas Dept. of Health and Environment
Bureau of Air and Radiation
100 SW Jackson Suite 310
Topeka, KS 66612
Phone: (785) 296-6024
Fax: (785) 291-3953
www.kdhe.state.ks.us/bar/index.html

Kentucky Dept. for Environmental Protection
Division for Air Quality
803 Schenkel Lane
Frankfort, KY 40601
Phone: (502) 573-3382
Fax: (502) 573-3787
www.air.ky.gov

Louisiana Dept. of Environmental Quality
Office of the Secretary
P.O. Box 4301
Baton Rouge, LA 70821
Phone: (225) 219-3953
Fax: (225) 219-3971
www.deq.state.la.us/index.html

Maine Dept. of Environmental Protection
Bureau of Air Quality
17 State House Station
Augusta, ME 04333-0017
Phone: (207) 287-2437
Fax: (207) 287-7641
www.maine.gov/dep/air/index.htm

Maryland Dept. of the Environment
1800 Washington Boulevard
Baltimore, MD 21230
Phone: (410) 537-3000
www.mde.state.md.us

Massachusetts Dept. of Environmental Protection
Bureau of Air Quality Control
One Winter Street
Boston, MA 02108
Phone: (617) 292-5593
www.mass.gov/dep/dephome.htm

Michigan Dept. of Environmental Quality
Air Quality Division
P.O. Box 30260
Lansing, MI 48909
Phone: (517) 373-7023
Fax: (517) 335-6993
www.michigan.gov/deq

Minnesota Pollution Control Agency
Division of Air Quality
520 Lafayette Road
St. Paul, MN 55155
Phone: (651) 296-6300
www.pca.state.mn.us/air

Mississippi Dept. of Environmental Quality
P.O. Box 20305
Jackson, MS 39289-1305
Phone: (601) 961-5171
Fax: (601) 961-5349
www.deq.state.ms.us/

Missouri Dept. of Natural Resources
Air and Land Protection Division
P.O. Box 176
Jefferson City, MO 65102
Phone: (573) 751-4817
www.dnr.state.mo.us/alpd

Montana Dept. of Environmental Quality
1520 East Sixth Avenue
P.O. Box 2010901
Helena, MT 59620-0901
Phone: 406-444-2544
www.deq.state.mt.us

Nebraska Dept. of Environmental Quality
Air and Waste Management Division
1200 "N" Street, Suite 400
PO Box 98922
Lincoln, NE 68509
Phone: (402) 471-2186
Fax: (402) 471-2909
www.deq.state.ne.us/

Nevada Division of Environmental Protection
Bureau of Air Quality Planning
Bureau of Air Pollution Control
33 West Nye Lane
Carson City, NV 89706
Phone: (775) 687-4670 (BAQP)
Phone: (775) 687-9350 (BAPC)
www.ndep.nv.gov

New Hampshire Dept. of Environmental Services
Air Resources Division
29 Hazen Drive
P.O. Box 95
Concord, NH 03302-0095
Phone: (603) 271-1370 or 1-800-498-6868
Fax: (603) 271-1381
www.des.state.nh.us/ard_programs.htm

New Jersey Dept. of Environmental Protection
Environmental Regulation---Air Quality
401 East State Street
P.O. Box 423
Trenton, NJ 08625
Phone: (609) 292-2795
Fax: (609) 777-1330
www.nj.gov/dep

New Mexico Environment Department
Air Quality Bureau
2048 Galisteo
Santa Fe, NM 87505
Phone: (505) 827-1494
www.nmenv.state.nm.us/aqb/index.html

New York State Dept. of Environmental Conservation
Office of Air and Waste Management
Division of Air Resources
625 Broadway
Albany, NY 12333-3250
Phone: (518) 402-8452
www.dec.state.ny.us/website/dar/index.html

North Carolina Dept. of Environment and Natural Resources
Air Quality Division
1601 Mail Service Center
Raleigh, NC 27699
Phone: (919) 733-3340
www.daq.state.nc.us

North Dakota Dept. of Health
Environmental Health Section
Division of Air Quality
1200 Missouri Ave.
P.O. Box 5520
Bismarck, ND 58506-5520
Phone: (701) 328-5188
Fax: (701) 328-5200
www.health.state.nd.us/AQ

Ohio Environmental Protection Agency
Division of Air Pollution Control
122 S. Front Street
Columbus, OH 43215
Phone: (614) 644-2260
www.epa.state.oh/dapc

Oklahoma Dept. of Environmental Quality
Air Quality Division
702 North Robinson
P.O. Box 1677
Oklahoma City, OK 73102-01677
Phone: (405) 702-1000
www.deq.state.ok.us

Oregon Dept. of Environmental Quality
Air Quality Division
811 SW Sixth Ave.
Portland, OR 97204-1390
Phone: (503) 229-5696
Fax: (503) 229-6124
www.deq.state.or.us/

Pennsylvania Dept. of Environmental Protection
Bureau of Air Quality
Rachel Carson State Office Bldg., 12th Floor
P.O. Box 8468
Harrisburg, PA 17105
Phone: (717) 787-9702
Fax: (717) 772-2303
www.dep.state.pa.us/dep/deputate/airwaste/aq/default.htm

Rhode Island Dept. of Environmental Management
Office of Air Resources
235 Promenade Street
Providence, RI 02908
Phone: (401) 222-2808
Fax: (401) 222-2017
www.state.ri.us/dem/programs/benviron/air/index.htm

South Carolina Dept. of Health and Environmental Control
Bureau of Air Quality
2600 Bull Street
Columbia, SC 29201
Phone: (803) 898-4123
Fax: (803) 8898-4117
www.scdhec.net/baq/

South Dakota Dept. of Environmental and Natural Resources
Air Quality Program
523 East Capitol Avenue
Joe Foss Building
Pierre, SD 57501
Phone: (605) 773-3151
Fax: (605) 773-5286
www.state.sd.us/denr/DES/AirQuality/airprogr.htm

Tennessee Dept. of Environment and Conservation
401 Church Street
L and C Tower, 21st Floor
Nashville, TN 37243-0435
Phone: (888) 891-TDEC *(8332)*
www.state.tn.us/environment/air.php

Texas Commission on Environmental Quality
12100 Park 35 Circle
Austin, TX 78753
Phone: (512) 239-1000
Mailing Address:
TCEQ, Contact Name, Mail Code,
P.O. Box 13087, Austin, TX 78711-3087
www.tceq.state.tx.us

Utah Dept. of Environmental Quality
Division of Air Quality
DEQ Building 1
150 North 1950 West
P.O. Box 144820
Salt Lake City, UT 84114
Phone: (801) 536-4000
www.airquality.utah.gov/#

Vermont Agency of Natural Resources
Dept. of Environmental Conservation
Air Pollution Control Division
103 South Main Street, Building 3 South
Waterbury, VT 05671-0402
Phone: (802) 241-3840 or in-state toll free: (888) 520-4879
Fax: (802) 241-2590
www2.anr.state.vt.us/dec/air/index.htm

Virginia Dept. of Environmental Quality
Air Quality
629 East Main Street
P.O. Box 10009
Richmond, VA 23240
Phone: (804) 698-4000, or toll-free in Virginia (800) 592-5482
www.deq.state.va.us/air

Washington Dept. of Ecology
Air Quality Program
PO Box 47600
Olympia, WA 98504
Phone: 360-407-7006
www.ecy.wa.gov/programs/air/airhome.html

West Virginia Division of Environmental Protection
Division of Air Quality
7012 MacCorkle Ave., S.E.
Charleston, WV 25304
Phone: (304) 926-3647
Fax: (304) 926-3637
www.dep.state.wv.us

Wisconsin Dept. of Natural Resources
Permits Section
P.O. Box 7921
Madison, WI 53707
Phone: (608) 266-0113
Fax: (608) 267-9500
www.dnr.state.wi.us/org/aw/air/

Wyoming Dept. of Environmental Quality
Air Quality Division
122 West 25th Street, Herschler Building, 4th Floor West
Cheyenne, WY 82002
Phone: (307) 777-7391
http://deq.state.wy.us/aqd/index.asp

Appendix C: Federal Class I Areas*

* Excerpted from EPA's Draft New Source Review Workshop Manual (U.S. EPA, October 1990), pp. E.2-6.

II. CLASS I AREAS AND THEIR PROTECTION

Under the CAA, three kinds of Class I areas either have been, or may be, designated. These are:

- ***mandatory Federal Class I areas***;
- ***Federal Class I areas***; and
- ***non-Federal Class I areas***.

Mandatory Federal Class I areas are those specified as Class I by the CAA on August 7, 1977, and include the following areas in existence on that date:

- international parks;
- national wilderness areas (including certain national wildlife refuges, national monuments and national seashores) which exceed 5,000 acres in size;
- national memorial parks which exceed 5,000 acres in size; and
- national parks which exceed 6,000 acres in size.

Mandatory Federal Class I areas, which may not be reclassified, are listed by State in Table E-1. They are managed either by the Forest Service (FS), National Park Service (NPS), or Fish and Wildlife Service (FWS).

The States and Indian governing bodies have the authority to designate additional Class I areas. These Class I areas are not "mandatory" and may be reclassified if the State or Indian governing body chooses. States may reclassify either State or Federal lands as Class I, while Indian governing bodies may reclassify only lands within the exterior boundaries of their respective reservations.

TABLE E-1. MANDATORY CLASS I AREAS

State/Type/Area	Managing Agency
Alabama	
National Wilderness Areas	
Sipsey	FS
Alaska	
National Parks	
Denali	NPS
National Wilderness Areas	
Bering Sea	FWS
Simeonof	FWS
Tuxedni	FWS
Arizona	
National Parks	
Grand Canyon	NPS
Petrified Forest	NPS
National Wilderness Areas	
Chiricahua Nat. Monu.	NPS
Chiricahua	FS
Galiuro	FS
Mazatzal	FS
Mt. Baldy	FS
Pine Mountain	FS
Saguaro Nat. Monu.	NPS
Sierra Ancha	FS
Superstition	FS
Sycamore Canyon	FS
Arkansas	
National Wilderness Areas	
Caney Creek	FS
Upper Buffalo	FS
California	
National Parks	
Kings Canyon	NPS
Lassen Volcanic	NPS
Redwood	NPS
Sequoia	NPS
Yosemite	NPS
California - Continued	
National Wilderness Areas	
Agua Tibia	FS
Caribou	FS
Cucamonga	FS
Desolation	FS
Dome Land	FS
Emigrant	FS
Hoover	FS
John Muir	FS
Joshua Tree	NPS
Kaiser	FS
Lava Beds	NPS
Marble Mountain	FS
Minarets	FS
Mokelumne	FS
Pinnacles	NPS
Point Reyes	NPS
San Gabriel	FS
San Gorgonio	FS
San Jacinto	FS
San Rafael	FS
South Warner	FS
Thousand Lakes	FS
Ventana	FS
Yolla Bolly-Middle-Eel	FS
Colorado	
National Parks	
Mesa Verde	NPS
Rocky Mountain	NPS
National Wilderness Areas	
Black Canyon of the Gunn.	NPS
Eagles Nest	FS
Flat Tops	FS
Great Sand Dunes	NPS
La Garita	FS
Maroon Bells Snowmass	FS
Mount Zirkel	FS
Rawah	FS
Weminuche	FS
West Elk	FS

TABLE E-1. Continued

State/Type/Area	Managing Agency
Florida	
National Parks	
Everglades	NPS
National Wilderness Areas	
Bradwell Bay	FS
Chassahowitzka	FWS
Saint Marks	FWS
Georgia	
National Wilderness Areas	
Cohutta	FS
Okefenokee	FWS
Wolf Island	FWS
Hawaii	
National Parks	
Haleakala	NPS
Hawaii Volcanoes	NPS
Idaho	
National Parks	
Yellowstone (See Wyoming)	
National Wilderness Areas	
Craters of the Moon	NPS
Hells Canyon (see Oregon)	
Sawtooth	FS
Selway-Bitterroot	FS
Kentucky	
National Parks	
Mammoth Cave	NPS
Louisiana	
National Wilderness Areas	
Breton	FWS
Maine	
National Parks	
Acadia	NPS
National Wilderness Areas	
Moosehorn	FWS
Michigan	
National Parks	
Isle Royale	NPS
National Wilderness Areas	
Seney	FWS
Minnesota	
National Parks	
Voyageurs	NPS
National Wilderness Areas	
Boundary Waters Canoe Ar.	FS
Missouri	
National Wilderness Areas	
Hercules-Glades	FS
Mingo	FWS
Montana	
National Parks	
Glacier	NPS
Yellowstone (See Wyoming)	
National Wilderness Areas	
Anaconda-Pintlar	FS
Bob Marshall	FS
Cabinet Mountains	FS
Gates of the Mountain	FS
Medicine Lake	FWS
Mission Mountain	FS
Red Rock Lakes	FWS
Scapegoat	FS
Selway-Bitterroot (see Idaho)	
U.L. Bend	FWS
Nevada	
National Wilderness Areas	
Jarbridge	FS
New Hampshire	
National Wilderness Areas	
Great Gulf	FS
Presidential Range-Dry	R.FS

TABLE E-1. Continued

State/Type/Area	Managing Agency
New Jersey	
National Wilderness Areas	
Brigantine	FWS
New Mexico	
National Parks	
Carlsbad Caverns	NPS
National Wilderness Areas	
Bandelier	NPS
Bosque del Apache	FWS
Gila	FS
Pecos	FS
Salt Creek	FWS
San Pedro Parks	FS
Wheeler Peak	FS
White Mountain	FS
North Carolina	
National Parks	
Great Smoky Mountains	(see Tennessee)
National Wilderness Areas	
Joyce Kilmer-Slickrock	FS
Linville Gorge	FS
Shining Rock	FS
Swanquarter	FWS
North Dakota	
National Parks	
Theodore Roosevelt	NPS
National Wilderness Areas	
Lostwood	FWS
Oklahoma	
National Wilderness Areas	
Wichita Mountains	FWS
Oregon	
National Parks	
Crater Lake	NPS
Oregon - Continued	
National Wilderness Areas	
Diamond Peak	FS
Eagle Cap	FS
Gearhart Mountain	FS
Hells Canyon	FS
Kalmiopsis	FS
Mountain Lakes	FS
Mount Hood	FS
Mount Jefferson	FS
Mount Washington	FS
Strawberry Mountain	FS
Three Sisters	FS
South Carolina	
National Wilderness Areas	
Cape Romain	FWS
South Dakota	
National Parks	
Wind Cave	NPS
National Wilderness Areas	
Badlands	NPS
Tennessee	
National Parks	
Great Smoky Mountains	NPS
National Wilderness Areas	
Joyce Kilmer-Slickrock	(see North Carolina)
Texas	
National Parks	
Big Bend	NPS
Guadalupe Mountain	NPS

TABLE E-1.* Continued

State/Type/Area	Managing Agency
Utah	
National Parks	
Arches	NPS
Bryce Canyon	NPS
Canyonlands	NPS
Capitol Reef	NPS
Vermont	
National Wilderness Areas	
Lye Brook	FS
Virgin Islands	
National Parks	
Virgin Islands	NPS
Virginia	
National Parks	
Shenandoah	NPS
National Wilderness Areas	
James River Face	FS
Washington	
National Parks	
Mount Rainier	NPS
North Cascades	NPS
Olypmic	NPS
National Wilderness Areas	
Alpine Lakes	FS
Glacier Peak	FS
Goat Rocks	FS
Mount Adams	FS
Pasayten	FS
West Virginia	
National Wilderness Areas	
Dolly Sods	FS
Otter Creek	FS
Wisconsin	
National Wilderness Area	
Rainbow Lake	FWS
Wyoming	
National Parks	
Grand Teton	NPS
Yellowstone	NPS
National Wilderness Areas	
Bridger	FS
Fitzpatrick	FS
North Absaroka	FS
Teton	FS
Washakie	FS
International Parks	
Roosevelt-Campobello	n/a

Appendix D: Information Resources

U.S. Environmental Protection Agency NSR Website

EPA's website contains a wealth of information about air pollution and how it is regulated. Some of the most useful sites for NSR purposes are listed below.

New Source Review (NSR) home page: www.epa.gov/nsr/
Contains basic information about the NSR process and how citizens can participate. The site contains links to state and local permitting authorities, as well as NSR regulations and standards, laws and statutes, policy and guidance, publications, and other related links.

All of the following sites can also be accessed via links from EPA's NSR home page:

NSR Regulations: www.epa.gov/nsr/actions.html
This site includes links to the federal regulations in effect for PSD, NA NSR, and Minor NSR programs. It is also contains up-to-date information on the status of the 2002 federal rule changes.

Clean Air Act: www.epa.gov/oar/caa/contents.html#ic
Title I of the federal Clean Air Act establishes the New Source Review permitting program. PSD permits are required under Title I, Part C; NA NSR permits are required under Title I, Part D; and Minor NSR permits are required under Title I, Part A, section 110(a)(2)(C).

RACT/BACT/LAER Clearinghouse (RBLC): http://cfpub1.epa.gov/rblc/htm/bl02.cfm
The RBLC database contains case-specific information on the "Best Available" air pollution technologies that have been required to reduce the emission of air pollutants from stationary sources (e.g., power plants, steel mills, chemical plants, etc.). This information has been provided by State and local permitting agencies.

Enforcement and Compliance History Online (ECHO): www.epa.gov/echo/
The ECHO database focuses on facility compliance and EPA/State enforcement of environmental regulations, including facilities regulated as Clean Air Act stationary sources.

NSR Policy & Guidance Database:
www.epa.gov/region07/programs/artd/air/policy/search.htm
EPA Region 7 has developed a searchable database that contains over 550 EPA-issued policy and guidance documents that interpret the NA NSR and PSD construction permit regulations.

Environmental Appeals Board: www.epa.gov/eab/
This website includes published and unpublished decisions of EPA's Environmental Appeals Board (EAB), general information, federal court review of EAB decisions, and the EAB Practice Manual.

Other Useful Sites on the U.S. EPA Website

Air Quality Planning and Standards: www.epa.gov/air/oaqps/
This is the home page for EPA's Office of Air Quality Planning and Standards. This site is a useful jumping off point for learning more about air quality, air toxics, emissions, and how they are regulated.

National Ambient Air Quality Standards (NAAQS): www.epa.gov/air/criteria.html
Lists the current National Ambient Air Quality Standards (NAAQS) for the six criteria air pollutants.

Greenbook: www.epa.gov/oar/oaqps/greenbk/index.html
Contains maps and state-by-state listings of nonattainment areas in the U.S.

AirData: www.epa.gov/air/data/
The **AirData** web site gives you access to air pollution data for the entire United States. AirData presents annual summaries of air pollution data from two EPA databases, the Air Quality System (AQS) database and the National Emission Inventory (NEI) database.

AIRNow: http://cfpub.epa.gov/airnow/index.cfm?action=airnow.main
The AIRNow web site offers daily Air Quality Index (AQI) forecasts as well as real-time AQI conditions for over 300 cities across the US, and provides links to more detailed State and local air quality web sites.

Environmental Justice: www.epa.gov/compliance/environmentaljustice/
This is the home page for EPA's Office of Environmental Justice, which coordinates the EPA's efforts to integrate environmental justice into all policies, programs, and activities.

Other Useful Air Pollution Websites

California Air Resources Board: www.arb.ca.gov/bact/bact.htm
The California Air Resources Board administers a Statewide Best Available Control Technology (BACT) Clearinghouse.

Scorecard website: www.scorecard.org
The Scorecard website, hosted by Environmental Defense, is a popular web resource for information about pollution problems and toxic chemicals. Scorecard can provide an in-depth pollution report for your county, covering air, water, chemicals, and more.

STAPPA/ALAPCO: www.cleanairworld.org
The State and Territorial Air Pollution Program Administrators/Association of Local Air Pollution Control Officials (STAPPA/ALAPCO) website contains the most current and comprehensive national and international air quality and air pollution control information.

Title V website: www.titlev.org
The Title V website includes examples of public comment letters, lawsuits, citizen petitions, and other documents pertaining to the Clean Air Act Title V operating permit program.

Louisiana Bucket Brigade: www.labucketbrigade.org
The Louisiana Bucket Brigade is a nonprofit environmental health and justice organization working with communities that neighbor Louisiana's oil refineries and chemical plants. The Bucket Brigade helps community groups to take air samples to monitor and expose industrial pollution as it happens, using a simple EPA-approved bucket.

National Groups Working On Clean Air Issues

Below is a list of some of the major national nonprofit environmental organizations working on clean air issues. This list is not comprehensive.

American Lung Association: www.lungusa.org
The American Lung Association fights lung disease in all its forms, with special emphasis on asthma, tobacco control and environmental health. The American Lung Association has a national office and constituent and affiliate associations around the country.

Clean Air Task Force: www.catf.us
The Clean Air Task Force is a nonprofit organization dedicated to restoring clean air and healthy environments through scientific research, public education, and legal advocacy.

Clear the Air: www.cleartheair.org
Clear the Air is a national public education campaign to improve air quality by reducing emissions from coal-burning power plants. Clear the Air brings together grassroots organizations, national environmental groups, and policy experts to make the case for stricter pollution controls to communities, government agencies, elected representatives, and the media.

Earthjustice: www.earthjustice.org
Earthjustice is a non-profit public interest law firm dedicated to protecting the magnificent places, natural resources, and wildlife of this earth and to defending the right of all people to a healthy environment. Earthjustice has eight offices across the country.

Environmental Defense: www.environmentaldefense.org
Environmental Defense links science, economics and law to create innovative, equitable and cost-effective solutions to society's most urgent environmental problems.

Environmental Integrity Project: www.environmentalintegrity.org
The Environmental Integrity Project is a nonpartisan, nonprofit organization established in March of 2002 to advocate for more effective enforcement of environmental laws.

National Environmental Trust: www.net.org
NET is a non-profit, non-partisan organization established in 1994 to inform citizens about environmental problems and how they affect our health and quality of life.

Natural Resources Defense Council: www.nrdc.org
NRDC uses law, science and the support of more than 1 million members and online activists to protect the planet's wildlife and wild places and to ensure a safe and healthy environment for all living things.

Our Children's Earth: www.ocefoundation.org
OCE is a non-profit organization dedicated to protecting the public from the harmful effects of air and water pollution.

Sierra Club: www.sierraclub.org
The Sierra Club is America's oldest, largest and most influential grassroots environmental organization. The Sierra Club has more than two dozen field offices, and local chapters and groups across the country.

U.S. Public Interest Research Group: www.uspirg.org
The state PIRGs created U.S. PIRG in 1983 to act as watchdog for the public interest in our nation's capital.

State, Regional, and Local Groups Working On Clean Air Issues

There are too many local, state, and regional nonprofit groups working on air pollution issues to list individually. Many of these groups are affiliated with the national organizations listed above. Below are some websites with links to groups that may be active on clean air issues in your state. This list is not comprehensive.

American Lung Association
The American Lung Association has nearly 200 offices in the United States, Puerto Rico, and the U.S. Virgin Islands. You can find your local chapter by going to the ALA website, www.lungusa.org, going to "local chapters," and searching by state or zipcode for the office nearest you.

Clean Air Task Force
State and regional resources are listed at www.catf.us/advocacy/resources/.

Clear the Air
Clear the Air's grassroots network is listed at www.cleartheair.org/campaign/grassroots.vtml.

Environmental Clearinghouse
The Environmental Clearinghouse website has links to environmental law clinics and both public interest and for-profit environmental law firms around the country: http://ec.wustl.edu/links.asp

Sierra Club
You can find your local Sierra Club chapter or field office by going to the Sierra Club website, going to "Inside Sierra Club," www.sierraclub.org/inside/, and looking up the chapter and/or field office nearest you.

State Environmental Leadership Project
SELP is a nationwide network of over 50 independent, nonprofit, public interest, multi-issue environmental advocacy organizations that work to affect strong state environmental protection policies. The website lists the SELP member groups and how to reach them: www.selp.org/public/memberlinks.html.

State PIRGs: www.pirg.org
The state Public Interest Research Groups are a network of independent, state-based, citizen-funded organizations that advocate for the public interest.

Title V website
The Title V website has internet links to state and regional nonprofit organizations working on Title V issues. www.titlev.org.

Other Useful Resources

Environmental Clearinghouse: http://ec.wustl.edu/
The Environmental Clearinghouse (EC) enables effective public participation in crucial environmental decisions by connecting public interest groups with legal and technical experts.

The "Links" section of the website has links to environmental law clinics all across the country. The site also includes "The Experts Directory," a searchable database of experts who provide assistance to public interest environmental groups, community organizations and legal clinics. Access to the E2 Directory is limited to public interest organizations and participating environmental law clinics.

Foundation Center: www.fdncenter.org
The Foundation Center is the nation's leading authority on philanthropy and is dedicated to serving grantseekers, grantmakers, researchers, policymakers, the media, and the general public. The website has searchable information about private and community foundations in the U.S. and links to many of their websites. The Foundation Center also publishes numerous books and guides on fundraising, and has five libraries and more than 230 cooperating collections throughout the country

Publications

There are numerous published reports and documents related to the NSR program. This list includes some of the publications used most frequently in this manual, and is not meant to be comprehensive.

Draft New Source Review Workshop Manual, (U.S. EPA, October 1990):
322 pages, PDF, available at: www.epa.gov/nsr/publications.html

The Proof is in the Permit: How to Make Sure a Facility in Your Community Gets an Effective Title V Air Pollution Permit, (New York Public Interest Research Group Fund and The Earth Day Coalition, June 2000).
135 pages, plus appendices, PDF, available at: www.titlev.org

A Breath of Fresh Air: Reviving the New Source Review Program (National Academy of Public Administration, April 2003). A report by a panel of the National Academy of Public Administration (NAPA) for the U.S. Congress and the Environmental Protection Agency. (Known as the “NAPA report”).
203 pages, PDF, available at: www.napawash.org

Federal Land Managers' Air Quality Related Values Workgroup (FLAG) Phase I Report, (U.S. Forest Service, National Park Service, U.S. Fish and Wildlife Service, December 2000). (Known as the “FLAG report”).
222 pages, PDF, available at http://www.fs.fed.us/r6/aq/natarm/NRISFLAG.html

Gaining the Tools to Fight Coal-Fired Power Plants (Sierra Club Midwest Regional Conservation Committee, April 2004). Workshop materials from the MRCC’s Power Plant Workshop, April 2-4, 2004, Milwaukee, WI. Available only on CD-ROM.
To receive the CD-ROM free of charge, contact the Sierra Club Midwest Office at 608-257-4994 or mw.field@sierraclub.org

Other publications related to the NSR program can be found at:

U.S. EPA: www.epa.gov/nsr/publications.html

STAPPA/ALAPCO: www.cleanairworld.org

Environmental Integrity Project: www.environmentalintegrity.org

Appendix E: NSR Regulated Pollutants And Their Applicability Thresholds

NSR Applicability Thresholds for New Sources, in Tons Per Year (TPY)

	PSD[1] (attainment)	NA NSR (nonattainment)					
		General[2]	Marginal[3]	Moderate	Serious	Severe	Extreme
Ozone (VOCs and NO_x)	100 or 250	-	100	100	50	25	10
CO	100 or 250	-	-	100	50	-	-
PM_{10}	100 or 250	-	-	100	70	-	-
SO_2	100 or 250	100	-	-	-	-	-
NO_x	100 or 250	100	-	-	-	-	-
Lead	100 or 250	100	-	-	-	-	-

[1] Lower threshold (100 tpy) applies to sources on the list of 28 PSD source categories (see Table 3.2)
[2] There are no classifications for these pollutants
[3] Under the new 8-hr ozone standard, "marginal" has been divided into two new categories: Subpart 1 and Basic

NSR Significant Thresholds for Modifications to Existing Sources, in TPY

	PSD (attainment)	NA NSR (nonattainment)					
		General	Marginal	Moderate	Serious	Severe	Extreme
Ozone (VOCs and NOx)	40	-	40	40	25	25	Any
CO	100	-	-	100	50	-	-
PM_{10}	15	-	-	15	15	-	-
SO_2	40	40	-	-	-	-	-
NO_x	40	40	-	-	-	-	-
Lead	0.6	0.6	-	-	-	-	-
Fluorides	3	3					
Sulfuric acid mist	7	7					
Hydrogen sulfide, total reduced sulfur, or reduced sulfur compounds	10	10					
MWC organics[1]	3.5×10^{-6}	3.5×10^{-6}					
MWC metals	15	15					
MWC acid gases	50	50					
MSW[2] landfill non-methane gas emissions	50	50					

[1] Municipal waste combustor (MWC)
[2] Municipal solid waste (MSW)

Appendix F: PSD Source Categories with 100 TPY Major Source Thresholds

A new stationary source must obtain a Prevention of Significant Deterioration (PSD) permit if it will emit, or has the potential to emit, 100 tons per year (tpy) or more of any regulated NSR pollutant for which the area is in attainment, and is listed among the 28 source categories listed below (from 40 C.F.R. Part 52.21(b)(1)(i)(a)). All other new sources are considered "major" under PSD if they emit 250 tpy or more of any NSR pollutant.

1. Fossil fuel-fired steam electric plants of more than 250 million British thermal units per hour heat input
2. Coal cleaning plants with thermal dryers
3. Kraft pulp mills
4. Portland cement plants
5. Primary zinc smelters
6. Iron and steel mill plants
7. Primary aluminum ore reduction plants
8. Primary copper smelters
9. Municipal incinerators capable of charging more than 250 tons of refuse per day
10. Hydrofluoric acid plants
11. Sulfuric acid plants
12. Nitric acid plants
13. Petroleum refineries
14. Lime plants
15. Phosphate rock processing plants
16. Coke oven batteries
17. Sulfur recovery plants
18. Carbon black plants (furnace process)
19. Primary lead smelters
20. Fuel conversion plants
21. Sintering plants
22. Secondary metal production plants
23. Chemical process plants
24. Fossil fuel boilers (or combinations thereof) totaling more than 250 million British thermal units per hour heat input
25. Petroleum storage and transfer units with a total storage capacity exceeding 300,000 barrels
26. Taconite ore processing plants
27. Glass fiber processing plants
28. Charcoal production plants

Appendix G: Sample Letters

The following sample letters involve groups concerned about a proposed power plant modification in Astoria, Queens. All the names in this case study, and the case itself, are entirely fictional.

The group, Stamp Out Smog (SOS), learns about the proposal in early February, shortly after the public comment period is announced. The 30-day public comment period is scheduled to close on March 1st.

Step 1: The group submits a public records request for documents related to the proposal.

Step 2: The group requests a public hearing on the draft permit.

Step 3: The group requests a 30-day extension of the public comment period.

SAMPLE PUBLIC RECORDS REQUEST

Jennifer Green
Stamp Out Smog (SOS)
9 Mary Street, 3rd Floor
New York, NY 10007

February 7th, 2005

Mr. Ted White
Records Access Officer
N.Y.S. Department of Environmental Conservation
One Hunters Point Plaza, 47-40 21st Street
Long Island City, NY 11101-5407

Re: Freedom of Information Law Request

Dear Mr. White:

Under the provisions of the New York Freedom of Information Law, Article 6 of the Public Officers Law, I request access, for review and copying, to the following records pertaining to the Astoria Power Plant, Permit Application ID 98-765-4321/05, located in Astoria, Queens:

- all technical documents related to the proposed permit application, including BACT analysis, air quality impact analysis, and other evaluations performed by either the applicant or the agency
- all existing air permits for the above facility
- all correspondence between the applicant and the agency concerning the proposed action, including e-mail correspondence, letters, memoranda, and meeting notes
- documentation regarding emissions or compliance monitoring for the above facility for the past three years

If there are any fees for searching and copying the records requested, please inform me before filling this request *(alternatively: please supply the records without informing me if the fees are not in excess of $___).** If for any reason any portion of my request is denied, please inform me of the reasons for the denial in writing and provide the name of the person or body to whom an appeal should be directed.

Since the public comment period for the draft permit ends on March 1st, I would appreciate if it you would process this information request as soon as possible. Thank you very much for your prompt response to this request.

Sincerely,

Jennifer Green
Coordinator, SOS Coalition

** Note: Some states may waive the copying fees if the person who files the request meets certain criteria, such as being a nonprofit organization whose purpose is primarily to benefit the public.*

SAMPLE PUBLIC HEARING REQUEST

Jennifer Green
Stamp Out Smog (SOS)
9 Mary Street, 3rd Floor
New York, NY 10007

February 7th, 2005

Richard Gray
N.Y.S. Department of Environmental Conservation
Division of Air Resources
One Hunters Point Plaza
47-40 21st Street
Long Island City, NY 11101-5407

Re: Astoria Power Plant Modification
Permit Appl. ID 98-765-4321/05

Dear Mr. Gray:

Stamp Out Smog (SOS) requests that the Department of Environmental Conservation hold a public hearing on the proposed draft PSD permit for a modification to the Astoria Power Plant in Astoria, Queens (Permit Application ID 98-765-4321/05). We further request that the department hold the public hearing in Astoria so that local residents can more easily participate, and that you provide staff who can answer questions from the public.

SOS is a coalition of 27 local environmental and community organizations in New York City that are concerned about unhealthy air quality in our communities. With our combined membership, our organizations represent more than 80,000 New York City residents in the five boroughs. Three of our organizations are located near the facility: Astoria for a Clean Environment (ACE); the Astoria Park Neighborhood Association; and the Northwest Queens Environment Center. Members of each of these organizations live within a mile of the facility. They regularly see emissions from the facility and are concerned about the impacts of these emissions on their health and their environment.

Our groups are concerned about the potential air quality impacts of this proposal, which would nearly double the sulfur dioxide emissions from this facility. The plant is located near a densely populated residential area that already has poor air quality and elevated asthma rates. A public hearing would provide a greater opportunity for residents of the affected communities to participate in the permit review process.

Thank you very much for your consideration of this request.

Sincerely,

Jennifer Green
Coordinator, SOS Coalition

SAMPLE REQUEST FOR EXTENSION OF THE PUBLIC COMMENT PERIOD

Jennifer Green
Stamp Out Smog (SOS)
9 Mary Street, 3rd Floor
New York, NY 10007

February 15th, 2005

Richard Gray
N.Y.S. Department of Environmental Conservation
Division of Air Resources
One Hunters Point Plaza
Long Island City, NY 11101-5407

Re: Astoria Power Plant Modification
Permit Appl. ID 98-765-4321/05

Dear Mr. Gray:

Stamp Out Smog (SOS) requests that you extend the public comment period on the proposed draft PSD permit for a modification to the Astoria Power Plant in Astoria, Queens (Permit Application ID 98-765-4321/05) by thirty days, to March 31st, 2005.

SOS is a coalition of 27 local environmental and community organizations in New York City that are concerned about unhealthy air quality in our communities. With our combined membership, our organizations represent more than 80,000 New York City residents in the five boroughs.

Our coalition is very concerned about the potential air quality impacts of this proposal, which would nearly double the sulfur dioxide emissions from this facility. The plant is located near a densely populated residential area that already has poor air quality and elevated asthma rates.

Three of our organizations are located near the facility: Astoria for a Clean Environment (ACE); the Astoria Park Neighborhood Association; and the Northwest Queens Environment Center. Members of each of these organizations live within a mile of the facility. They regularly see emissions from the facility and are concerned about the impacts of these emissions on their health and their environment.

Our groups need extra time to review the proposal and inform community residents about the potential air quality impacts. The application and accompanying documents are over 600 pages long, and many of our member groups do not have the technical expertise to review them. Extra time will enable us to learn more about this proposal and get assistance to help us review it.

Thank you very much for your consideration of this request.

Sincerely,
Jennifer Green
Coordinator, SOS Coalition

Appendix H: Case Study - Richmond, California*

* The following article, “From White Knight Lawyers to Community Organizing,” published in *Race, Poverty & the Environment*, Fall 1994/Winter 1995, pp. 52-54, was reprinted with permission from the publishers, Urban Habitat and the California Rural Legal Assistance Foundation.

From White Knight Lawyers to Community Organizing

Citizens for a Better Environment -- California

by Richard Toshiyuki Drury and Flora Chu

The recent attention to "environmental justice" has brought support from mainstream environmental organizations and the broader legal community, with dozens of lawsuits filed on behalf of community groups in the last five years. However, not all of this attention has been welcomed by the environmental justice community. Many long-time activists believe that litigation is a disempowering tool that transfers power from community members who are directly affected by pollution to a handful of lawyers speaking for the community. Many highly mobilized community groups have withered as they pumped all of their resources into protracted litigation. Environmental justice activists have railed against "white knight" lawyers who move active community struggles into the courtroom where the community is no longer able to direct or even participate in the battle.

This article outlines a community-based environmental justice strategy pursued by the West County Toxics Coalition (WCTC) in Richmond, California, with legal and technical support from Citizens for a Better Environment (CBE) and other Bay Area groups. After taking part in, and analyzing, the campaign, we conclude that while existing legal strategies for environmental justice are inadequate at best, lawyers can best use their skills by helping to open channels for community action. Lawyers are often most effective not when they attempt to solve the problems of the community through litigation, lobbying or advocacy, but rather, when they work together with affected community groups to help them identify effective ways to solve their own problems through community organizing. This role will usually not involve litigation. Instead lawyers are more likely to identify industry or governmental targets that the community might be able to pressure through community action. Lawyers may also be able to identify and make more accessible so-called "public" fora (generally used only by industry, government, and professional environmentalists) so that they may be used as organizing opportunities where the community can speak for itself. Finally, lawyers should be "translators" of legal documents, processes, and technical terminology.

To achieve the goal of environmental justice, lawyers must serve not as "white knights" out to save the victim community, but as resources to be integrated into a broader struggle for community empowerment.

The West County Toxics Coalition Struggle

Chevron USA, Inc. is the nation's most profitable oil company. The Chevron refinery is the largest industrial complex in the City of Richmond, currently processing 245,000 barrels of oil per day. The refinery is also Richmond's largest polluter, releasing 68,000 pounds of air pollutants *each day*, including numerous highly toxic and carcinogenic chemicals. The Chevron refinery has a long history of serious accidental and ongoing chemical releases, which have had a disastrous effect on the neighboring community of North Richmond. In response to the toxic threat, for the past decade North Richmond residents have organized to combat Chevron and other polluters, forming the West County Toxics Coalition.

In mid-1993, Chevron quietly unveiled its "Clean Fuels" project. Research by staff scientists at CBE revealed that the so-called "Clean Fuels" project was actually "green" cover for a massive refinery expansion. The result would be hundreds of tons of additional pollution in the Richmond skies and entirely new accident risks for the low-income, African American fenceline communities. While the project would produce cleaner burning fuels for the rest of California, it would also mean more pollution and accident risks for local residents — once again transferring pollution from across California into the already overburdened City of Richmond.

In a series of meetings at the WCTC office in Richmond, CBE's scientists and lawyers discussed this information with active community members. The community leadership was clearly concerned about the project's local health and safety impacts — but the concern was far deeper than that. Community members saw this project as being only one in a long line of similar projects that had the cumulative impact of bringing upon Richmond an ever worsening spiral of urban blight, toxic health risks, residential flight, and declining property values.

The CBE staff discussed with community members various approaches to address the problems identified. The attorneys examined legal avenues, the scientists technical approaches, and the community members community organizing strategies. In the end, we settled on a hybrid strategy that incorporated all three of these approaches — law, science, and community organizing.

The community members drafted a detailed plan for the project, including state-of-the-art pollution control and safety equipment. But the revolutionary elements of the package were those designed to remedy the project's impacts on the quality of life in North Richmond. These measures included local hiring commitments, a community health clinic (long a priority due to toxic chemical-related health problems), funding for the local school system, restoration of waterways and other areas surrounding the refinery, and the creation of a

community development fund to redirect Chevron's corporate giving to the areas the refinery had the most directly impact on.

Members of the community groups approached every neighborhood association and many other groups in the City of Richmond to obtain their support for the WCTC plan. Without exception, every neighborhood association signed on in support of the plan, even groups from the wealthier white areas of the city that had little history of working with the predominantly African American North Richmond community. WCTC members engaged in direct door-to-door community organizing in support of the plan. Coalition members also met with every local politician who would vote on the Chevron project. Our message to public was that the "environment" is not just fish and wildlife, but also the urban habitat where people live, work and play. Just as the city would require Chevron to restore or protect a wetland or animal habitat threatened by a proposed project, so the city should require the oil giant to protect the human environment of North Richmond which would become more polluted and more dangerous as a result of the refinery expansion.

While the community members were engaged in their intensive organizing, the CBE scientists identified technologies to make the refinery cleaner and safer. The scientists also identified numerous deficiencies in Chevron's health risk assessment, accident risk calculations, estimates of pollution to be generated by the project, and other aspects of the Chevron proposal.

The third leg of our strategy was legal. The legal team developed a "permit condition" strategy. Chevron would have to obtain a conditional use permit from the city in order to proceed with the refinery expansion project. Our strategy was to get the city to add the community's entire plan as a permit condition for Chevron's project.

Our primary legal vehicle was the California Environmental Quality Act (CEQA). CEQA is similar to the federal National Environmental Protection Act (NEPA), except it applies also to non-governmental projects that will impact the environment. In a nutshell, CEQA requires that prior to granting a permit for a proposed project a governmental agency must issue an environmental impact report (EIR) analyzing the project's adverse impacts, and discussing ways to minimize those impacts. The agency must circulate the EIR for public comment, and must consider and respond to public comments, usually through a public hearing process. In light of those public comments, the agency must decide whether to allow the project to proceed, and must impose "feasible" measures to reduce or eliminate the project's adverse environmental impacts.

CEQA was an ideal statute for our campaign because it created a public forum for decisions that would otherwise have been made behind closed doors between government and industry. Each of the public hearings held on the Chevron project were opportunities for community organizing. WCTC and other groups brought to the hearings progressively larger turnouts of one hundred or more supporters, about half of whom testified. The time between meetings was an opportunity for additional community outreach, lobbying of city officials, and media work.

To the surprise of Chevron, and even of some in the community coalition, in a 6-3 vote, the city planning commission adopted the entire community package after weeks of one-on-one meetings between community activists and planning commissioners, a series of legal and scientific opinion letters, and hours of testimony at the public hearing from supporters of the package from every corner of Richmond. It was one of the first major defeats for Chevron in its almost 100 years in the city and was cause for tremendous celebration by the community groups.

For the first time Chevron found itself on the defensive. Now Chevron had to lobby the nine city council members to reverse the planning department's decision. The oil company scrambled to save the estimated $60 million cost of the community package, engaging in a letter writing campaign, lobbying and media work. Chevron brought in San Francisco's largest law firm to barrage the city with letters.

The crucial element lacking in Chevron's campaign was community support. Less than five percent of refinery employees live in Richmond and there has long been tension between the predominantly white refinery workers and the neighboring African American community. Chevron found a single community group that relied heavily on Chevron money to take a high profile position in support of Chevron at public hearings. Ultimately, though, the most important showing of public support came from Chevron workers, even though only one in twenty lived in Richmond. Chevron strongly encouraged workers to attend the final city hearing on the project, convincing many that their jobs were at stake. Throughout our campaign, we had made overtures to union leaders, providing evidence that Chevron intended to bring in non-union workers from out of state to construct the project. In the end, the unions sided with Chevron. Over 1,000 angry pipefitters and refinery workers packed the city council hearing to sing Chevron's praises, dwarfing the community groups' otherwise impressive turnout of almost 200, and intimidating many active community members.

As is often the case, the public hearing turned out to be a sideshow. Chevron had cut a deal with key city council members, unveiled only minutes before the hearing. While the compromise package included many of the key elements of the community proposal, including funding for Richmond schools, a community health clinic, and an emergency warning siren system, important elements were lacking, such as advanced pollution control technology, safety equipment, and the community development fund. Nevertheless, it was an unprecedented victory for the community that would require Chevron to direct almost five million dollars toward community projects. The

package would never have materialized without the community organizing and other work that forced Chevron into the position of having to make serious concessions.

Despite the landmark victory, the community groups were determined to fight on. It seemed that the most discouraging aspect of the compromise package was that community leaders like Henry Clark of the WCTC had been excluded from the negotiations leading up to the deal. Community leaders also felt that the community development fund, pollution control and safety measures were bottom line issues that could not be sacrificed.

Our strategy up to this point had been to select fora that were open to the public, allowing community members to speak for themselves, and emphasizing our strengths in community organizing and mobilization. After the city council decision to accept Chevron's compromise package, the obvious choice would have been to file a CEQA lawsuit alleging deficiencies in the city's environmental impact report for the project and a failure to require Chevron to adequately mitigate the project's impacts. But a CEQA lawsuit would shift the focus from community members to lawyers. Once in court our legal team would take center stage, filing motions, pleadings, and making oral arguments on behalf of the community. Such a litigation strategy ran directly counter to our goal of having the community speak for itself. It also played to Chevron's strengths since Chevron had a law firm of over 400 lawyers and a substantial in-house legal team that would almost certainly attempt to "paper" us into submission. Our strengths on the other hand were in organizing and mobilizing people outside of the courtroom.

The legal team and community leadership discussed the pros and cons of litigation for hours over the course of numerous evening meetings. The final decision was left to the WCTC board, without the participation of the legal and technical "experts." In a close vote, the board decided not to file the CEQA lawsuit. We later learned that Chevron was infuriated by our decision not to sue. Chevron had its legal team primed for battle and thought that they would have won in court.

Instead, the community opted to move the battle to an obscure and little used forum that had been identified by a member of the legal team. The attorney noted that Chevron still needed to obtain a permit for the project from the Bay Area Air Quality Management District (BAAQMD). While this process was usually uneventful, the attorney discovered a citizen appeal process that had not been invoked for nearly a decade. Crucial to our strategy, the process was completely open to the public. Any interested member of the public was allowed to testify on the project, making this another excellent forum to continue the community organizing campaign.

The law students of Boalt Hall's Environmental Law Community Clinic and Golden Gate Law School's Environmental Law and Justice Clinic worked with CBE's scientists to develop a strong legal case based on the federal Clean Air Act. The students filed a 70-page appeal with the Air District arguing that the Chevron project failed to incorporate best available control technology (BACT), in violation of the Clean Air Act. Chevron, believing that we had given up our fight when we decided not to file a CEQA lawsuit, was taken completely by surprise. We had successfully caught Chevron off guard and moved the battle once again into a participatory public forum. Finally, Chevron agreed to come to the negotiating table with the community leadership.

In a series of marathon sessions, Chevron's Richmond plant management met with WCTC's Henry Clark, other community leaders, and CBE's refinery experts — without attorneys. Rather than filtering all negotiations through the lawyers, we cut the lawyers completely out of the process, forcing the Chevron management to meet face-to-face with the community leadership. The direct negotiations generated a landmark agreement only minutes before the Air District hearing was to commence. Valued at over ten million dollars together with the earlier city council compromise agreement, the package included five million dollars in corporate giving to programs designed to benefit the low-income neighborhoods near the refinery, $2.1 million for a community health clinic, $400,000 to the Richmond schools, a job training and local hiring commitment for residents of the "fenceline" communities, restoration of natural areas near the refinery, installation of advanced pollution control technology to reduce toxic chemical emissions, and numerous other provisions.

The agreement was monumental not just for its pollution control and safety elements, but especially for its inclusion of community development elements like the jobs program, school funding and health care clinic. While the substance of the agreement was impressive, the process used to arrive at the agreement was at least as significant. Throughout the campaign, community organizing played the central role and was our primary leverage. The scientists and lawyers served as resources for the community members, rather than leaders of the campaign. Perhaps the single most important role played by the lawyers was in identifying public fora, decision makers, and pressure points around which the community could organize.

Some of our mainstream environmental allies, steeped in the "impact litigation" tradition, did not understand the significance of the campaign that did not create any new case law for others to follow. Our "impact" was in creating a model for community directed collaborations between lawyers, scientists, and individuals directly affected by pollution.

Richard Toshiyuki Drury is staff attorney at Citizens for a Better Environment — California. He was lead counsel in the Chevron campaign discussed in this article. Flora Chu is director of the Stanford Law School Environmental Law Clinic and is former Staff Attorney for the Santa Clara Committee for Occupational Safety and Health.

Appendix I: Testing and Monitoring*

* The following memo, prepared by Brandt Mannchen of the Houston Sierra Club for a regional New Source Review training workshop, was reprinted with permission from the author.

SIERRA CLUB

Houston Regional Group
P.O. Box 3021
Houston, Texas 77253-3021
713/895-9309

Testing and Monitoring in New Source Review Permits

There are three testing/monitoring (TM) methods that may be addressed in a New Source Review Permit (NSR). The three TM methods include stack tests, continuous emissions monitoring systems (CEMS), and fugitive emissions leak detection and repair (LDAR) programs.

Stack Tests

Stack tests are often required by the Texas Commission on Environmental Quality (TCEQ) as a method to determine combustion or process emissions from stacks that have best available control technology (BACT) or lowest achievable emissions rate (LAER) control technology. A stack test is usually conducted soon after a new or modified process is started up and after shakedown operations. Stack tests should document compliance with the maximum allowable emission rates table (MAERT) that is contained in the NSR permit.

The stack test should capture a representative sample at baseline conditions of plant operation during maximum production. At these conditions the theoretical maximum amount of pollution is being emitted and will be sampled and documented during a stack test.

A stack test gives you a snapshot of pollutants emitted from a facility that is operating at its optimum, at its maximum production rate, and when it is brand new or newly modified. Common pollutants that may be sampled during stack tests include sulfur dioxide (SO2), carbon monoxide (CO), nitrous oxide (NO), nitrogen dioxide (NO2), particulate matter (PM), and volatile organic compounds (VOC).

Stack tests are conducted by trained personnel and consist of often laborious procedures operated by hand. A good stack tester uses experience to create science out of an art. Without extensive training and experience a stack tester will not be able to accurately obtain a representative sample so that a laboratory can determine by analysis the concentrations of pollutants of interest. Stack tests are expensive, labor intensive, and often take several days to complete.

Continuous Emissions Monitoring Systems (CEMS)

CEMS consist of an analyzer installed at a location, usually after the process and control equipment, which measure continuously, on a 24 hour basis, the concentrations of pollutants of interest. CEMS are expensive, require considerable resources to properly

operate and maintain, and rely upon a well executed quality assurance plan to ensure satisfactory operation.

CEMS are the best monitoring systems to use to determine, on a continuous basis, whether a permitted facility is meeting its emission limits. CEMS can also monitor process operating parameters like carbon dioxide (CO2) and oxygen (Oxygen). Some pollutants that CEMS can measure include carbon monoxide (CO), opacity (an indirect way to measure PM), SO2, NO, NO2, some speciated VOC, and VOC.

Leak Detection and Repair Programs

The third basic type of TM that may be found in NSR permits is fugitive emissions monitoring. Usually this type of monitoring is used for VOC and is part of a leak detection and repair (LDAR) program.

Fugitive VOC can be reduced by over 60% with a LDAR program. LDAR monitoring uses a hand held portable hydrocarbon analyzer to measures leaks from components like valves, pumps, compressors, and flanges. Most components leak. There are set leak concentration standards that are legal. Some of these standards are 500 ppm, 2,000 ppm, and 10,000 ppm of VOC.

Example of Fugitive Monitoring Language

1) The permit says, "Every reasonable effort shall be made to repair a leaking component, as specified in this paragraph, within 15 days after the leak is found."

a. The permit should say: **"All leaking components shall be repaired within 15 days. A first attempt at repair will be made within 5 days."**

2) The permit says, "Records shall indicate appropriate dates, test methods, instrument readings, repair results, justification for delay of repairs, and corrective actions taken for all components."

a. The permit should be specific about what records are needed the LDAR. For instance the following are some of the records should be required:

a. Name of the process unit
b. Plot plan with the location of the process unit
c. Process flow diagram for the process unit which shows the process streams and major equipment
d. Calibration data for the monitoring instrument
e. Component identification and method of leak determination
f. The date when the leak was discovered
g. The date when the component was repaired
h. The date and instrument reading of the recheck procedure for the leaking component
i. The date when a leaking component is placed on the shutdown list

j. The date the leaking component was taken out of service
j. The calculation showing the estimated VOC emission rates for the component
k. Records of audio, visual, and olfactory inspections of connectors

a. What is the time period that records need to be kept?

b. All records should be kept for five years.

3) The permit says, "The VOC associated with cooling tower water shall be monitored monthly with an approved air stripping system or equivalent. The appropriate equipment shall be maintained so as to minimize fugitive VOC emissions from the cooling tower. Faulty equipment shall be repaired at the earliest opportunity but no later than the next scheduled shutdown of the process unit in which the leak occurs. The results of the monitoring and maintenance efforts shall be recorded and such records shall be maintained for a period of two years. The records shall be made available to TCEQ personnel upon request."

a. What is "an approved air stripping system or equivalent?

b. Who approves the system?

c. How is equivalent judged?

d. What criteria does an equivalent air stripping system have to meet?

e. Why are the records only made available to TCEQ personnel?

d. Local air pollution agencies with jurisdiction should also be provided these records.

e. Why is there not a leak detection definition specified or required to be developed?

f. Records should be kept for five years.

Some Questions to Ask When Looking at Testing and Monitoring in NSR Permits

1) Is the sampling method in the draft permit the correct one?

2) What quality assurance (QA) requirements are in the NSR permit?

3) Is the appropriate QA for the TM method in the permit?

4) What story do the QA results tell?

5) What record keeping is required?

6) Is the time period for the record keeping sufficient so that MAERT exceedances will be captured (like lbs/hr or tons/yr)?

7) When will the stack test be conducted?

8) Is the LDAR program a directed program? Directed means that a hydrocarbon analyzer is used to determine that the leak is fixed after repair has occurred. Non-directed LDAR programs use no hydrocarbon analyzer for leak repair verification.

9) Are components monitored for all VOC liquid phases (heavy liquids, light liquids, gases and vapors)?

10) What are the predicted health effects screening levels or maximum allowable ground level concentrations allowed with the MAERT?

11) Have the health effects screening levels or maximum allowable ground level concentrations been exceeded?

12) Are more reductions needed?

13) If there are cooling towers does the permit have a MAERT emission rate?

14) Does the permit require a LDAR program for the cooling towers?

Brandt Mannchen
Houston Sierra Club
January 26, 2003