

Air Management Programs



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Air Management Programs

Introduction

The federal Clean Air Act and Clean Air Act Amendments of 1990 established air pollution control requirements that states must implement over many years. The U.S. Environmental Protection Agency (EPA) is responsible for federal implementation of the Clean Air Act.

The Wisconsin Department of Natural Resources (DNR) is responsible for development and oversight of the state's programs to comply with federal requirements. DNR is provided authority to conduct air quality programs under Chapter 285 of the statutes and under administrative rules in the NR 400 series. The Department of Transportation (DOT) administers certain provisions regarding vehicle inspections and other transportation control measures.

This paper provides an overview of the major federal provisions that affect Wisconsin, a discussion of actions required of the state, and the state's plans and programs for meeting federal clean air requirements. The paper describes the air management activities of the DNR, including to: (a) develop and implement state implementation plans that outline the measures the state will take to reduce emissions of ozone, particulate matter, and other air pollutants, in compliance with federal requirements; (b) issue permits to construct new and operate existing sources of air emission, and assess fees to assist in administration of the program; (c) perform compliance and monitoring activities of air pollutant sources; (d) monitor air quality across the state; and (e) administer other air management programs. It describes funding sources and expenditures for DNR air management programs. The state's programs are funded with a combination of federal revenues, state-assessed program revenue fees, and state segregated revenues.

Overview of Federal Clean Air Act Requirements

The federal Clean Air Act requires EPA to establish air quality standards for various air pollutants, especially ozone and particulate matter, and to designate areas in states that do not meet the standards. These areas are called "nonattainment areas." States are required to develop, submit to EPA, and implement a series of plans describing the programs and controls the state will utilize to reduce emissions and attain specific air quality levels by established dates or risk further federal requirements and eventually sanctions.

The Clean Air Act also established programs to: (a) create stricter standards on emissions from motor vehicles (mobile sources); (b) use alternative clean fuels; (c) create additional controls on air emissions at industrial facilities (stationary sources); (d) establish other air emission control measures for power plants, stationary engines at industrial facilities, small nonroad engines, and sources that are too small to regulate individually; and (e) regulate emissions of other hazardous air pollutants.

The Clean Air Act requires states to implement a permit program for certain stationary sources of emissions of air pollutants, especially power plants and large industrial facilities. States are also required to implement programs to reduce emissions of other hazardous air pollutants.

Department of Natural Resources Air Management Organizational Structure

The implementation of air quality programs

in Wisconsin is conducted by the Department of Natural Resources (DNR) Bureau of Air Management in the Division of Air, Waste, and Remediation & Redevelopment, staff in the DNR regional offices, and support from staff in the Department's other programs. Air management staff in the five DNR regions perform permit review and issuance for new construction and existing sources, stack emission test plan approval, compliance inspections and enforcement, complaint investigation, inspection of asbestos demolition and renovation, and inventory of industrial source emissions.

The Bureau of Air Management consists of five sections in the central office in Madison. The five sections are: (a) the Compliance, Enforcement, and Emission Inventory Section coordinates the program's efforts to ensure that industry and others comply with clean air laws, manages DNR's process of obtaining annual reports of air emissions and related fees, and coordinates DNR's efforts related to asbestos abatement and small sources emissions; (b) the Monitoring Section plans and executes a program of monitoring ambient air quality statewide, provides support for air quality forecasting, and tracks emerging issues; (c) the Permits and Stationary Source Modeling Section writes construction and operation permits for air pollution sources, negotiates permit conditions with industry representatives, and does computer modeling to determine how air pollutant emissions will affect air quality; (d) the Regional Pollutants and Mobile Source Section develops state implementation plans for major air pollutants such as ozone and particulate matter, develops plans and implements programs related to motor vehicles and motor vehicle fuels, performs air quality forecasting, and administers diesel grant programs; and (e) the Business Support and Information Technology Section prepares and tracks budgets and work plans, administers grants, provides rule oversight, performs outreach and communication, handles finance and data management, and provides support to program man-

gers on personnel management.

The air management program also has seven statewide teams to ensure consistency, monitor and evaluate program performance, involve DNR staff statewide and make policy recommendations related to the specific functions of the team. The teams include: (a) construction (new source review) permits; (b) operation permits; (c) compliance and enforcement; (d) stationary source modeling; (e) monitoring quality assurance; (f) monitoring field operations; and (g) monitoring technical support.

DNR occasionally convenes public meetings to obtain input from potentially affected parties and agencies involved in the state's effort to meet federal air quality requirements. The Air Management program also holds informational meetings on certain significant or controversial issues or proposed administrative rules.

National Ambient Air Quality Standards and Nonattainment Areas

Federal Standards

Under the Clean Air Act, EPA establishes national ambient air quality standards (NAAQS) based on scientific determinations of the threshold levels of air contaminants that will protect public health with an adequate margin of safety. Ambient air standards relate to the quality of the air people breathe. In comparison, emission limits relate to the quality of the air emitted from a pollution source.

Under ambient air standards, the concentration of pollution below the standards is considered acceptable. Where air pollution exceeds the standards, EPA requires states to establish plans to reduce air emissions sufficiently to improve air quality to meet and maintain the ambient air quality standard. In addition, where the standards

are met, the Clean Air Act includes requirements for some pollutants in order to prevent the deterioration of air quality. EPA is required to review the science supporting the national ambient air quality standards every five years and either propose changes or recommend that no changes be made.

The standards are set based on the amount of time of exposure, in recognition that individuals can tolerate higher levels of exposure to pollutants for short periods of time compared to prolonged exposure. Generally, there are two standards for each pollutant: (a) primary standards establish the air quality required to prevent adverse impacts on human health; and (b) secondary standards establish the air quality required to prevent adverse impacts on vegetation, property, or other aspects of the environment.

Criteria Pollutants

EPA has adopted NAAQS for six "criteria pollutants," including ozone, sulfur dioxide, nitrogen dioxide, particulate matter (solid or liquid matter suspended in the atmosphere), carbon monoxide and lead.

Ozone. Ozone is a gas composed of three oxygen atoms that, at ground level, is a primary component of smog. Smog is a persistent urban pollution and health problem. Air pollution sources do not directly emit ozone, but do emit air contaminants that are precursors to ozone. Ozone is created by a chemical reaction between nitrogen oxides (NO_x) and volatile organic compounds (VOCs) which react in sunlight on hot days to create ozone.

Major sources of ozone formation are large industrial facilities, electric utilities, motor vehicles and a variety of small sources that in total result in sizeable emissions. Individuals exposed to high ozone concentrations may experience a significant health risk, especially the elderly, young children, and people with respiratory difficulties. Health studies have shown exposure to

moderate levels of ozone causes increased respiratory problems, such as asthma and emphysema, and leads to permanent changes in lung structure. Ozone can also damage crops, trees, rubber, fabrics and other materials.

Volatile organic compounds. VOCs, while not listed as criteria air pollutants, have been targeted by EPA and states for reduction as part of smog control efforts. VOCs include a number of chemicals that are emitted as gases from certain solids and liquids. Major sources of VOC emissions are solvents used by industry and households, residential wood consumption, nonroad equipment, and motor vehicles.

Nitrogen oxides. Major sources of nitrogen oxides are power plants, factories, other industrial combustion sources and automobiles. The criteria pollutant nitrogen dioxide is one type of NO_x. In addition to being a component of ozone, NO_x is a component of particulate matter and acid rain. Acid rain is formed when emissions of sulfur dioxide and nitrogen oxides undergo chemical changes in the atmosphere and return to the earth's surface as acid rain, which causes damage to lakes, forests, other ecosystems and buildings.

Particulate Matter. Particulate matter is also called haze, dust, smoke, or soot. It is comprised of tiny pieces of solid particles and liquid droplets. Particulate matter can enter the lungs through the mouth and nose and cause negative health effects.

There are two categories of particulate matter. Inhalable coarse particles, known as PM₁₀, are smaller than 10 micrometers in diameter and bigger than 2.5 micrometers. PM₁₀ particles can cause nose and throat irritation and bronchitis, respiratory and cardiovascular problems for susceptible people. (A micrometer is 1/1000th of a millimeter. There are 25,400 micrometers in an inch. A human hair is approximately 70 micrometers in diameter.) PM₁₀ usually results from actions such as crushing, grinding, or agricultural

plowing, or from wind-blown dust.

Fine particles, known as PM_{2.5}, are 2.5 micrometers or smaller in diameter, and can penetrate more deeply into the lungs compared to larger particles. EPA studies have concluded that fine particles are more likely than coarse particles to contribute to health effects such as premature deaths and hospital admissions, at lower concentrations than allowed by the PM₁₀ standards. Fine particles, such as found in smoke or haze, can be emitted in forest fires, or can form through chemical processes when gases emitted from power plants, certain industries, and automobiles react in the air.

Nonattainment Areas

EPA designates areas as "nonattainment" for a specific pollutant if the area fails to meet the NAAQS for the pollutant. Almost all major urban areas experience periods when concentrations of air pollutants exceed one or more NAAQS during certain times of the day or year. Areas that are designated as nonattainment must take actions to reduce emissions of the specific pollutant. The more severe the air quality problem, the more control measures a nonattainment area must implement. States must identify and implement additional controls if the measures required by the Clean Air Act do not achieve required standards. States and areas that do not achieve air quality standards by the applicable attainment date face penalties and additional mandatory requirements.

States are required to develop state implementation plans (SIPs) that identify steps the state is taking to bring nonattainment areas into attainment of national ambient air quality standards. If the state's nonattainment areas fail to attain the national standard by the required deadline, the state must submit a revised state implementation plan prescribing control measures necessary to meet the air quality standards, including measures prescribed by EPA. This is discussed in a later section on state implementation plan require-

ments.

Currently, ozone and PM_{2.5} are two air contaminants for which some Wisconsin counties have been or are in nonattainment.

Ozone Attainment

A region is considered in nonattainment for ozone if a violation of the ozone standard occurs within the region. EPA determines the boundaries of the region on the basis of demonstrated air quality monitoring data.

EPA established a one-hour ozone standard in 1978, and replaced it with an eight-hour standard in 1997. The 1997 standard is a concentration of 0.08 parts per million (ppm) or 80 parts per billion (ppb). Because the rounding method used by EPA carried the measurement to three decimal places, the standard is effectively 0.084 ppm (84 ppb).

EPA issued final nonattainment designations for the 1997 eight-hour ozone standard in 2004. EPA designated 10 counties in Wisconsin as in nonattainment. These counties were Door, Kenosha, Kewaunee, Manitowoc, Milwaukee, Ozaukee, Racine, Sheboygan, Washington, and Waukesha. EPA redesignated all except Sheboygan County as attainment between 2008 and 2012. EPA did not redesignate Sheboygan as attainment at that time because the county violated the standard based on 2010 through 2012 ozone monitoring data.

In 2008, EPA revised the eight-hour ozone standard to a concentration of 0.075 ppm (instead of 0.084 ppm under the 1997 standards), or 75 ppb. An area meets the revised eight-hour standard if the average of the fourth highest eight-hour concentrations during each of three consecutive years is less than or equal to 0.075 ppm or violates it if the measurement is greater than 0.075 ppm or 75 ppb.

Wisconsin submitted a recommendation to EPA in 2009 for all counties in the state to be des-

ignated as attainment of the 2008 eight-hour ozone standard. In 2012, EPA completed nonattainment designations for the 2008 eight-hour ozone standard. EPA designated Sheboygan County and the portion of Kenosha County east of Interstate 94 as marginal nonattainment areas for the 2008 eight-hour ozone standard. DNR is currently implementing requirements for these two areas by completing a base year (2011) emission inventory, and documenting monitoring, reporting and planning activities.

EPA was under a U.S. District Court order to propose a new ozone standard by December 1, 2014. On November 26, 2014, EPA proposed revising ozone standards to within a range of 0.065 to 0.070 ppm (65 to 70 ppb) and to accept comment on a level of 0.06 ppm (60 ppb). EPA planned to accept public comment on the proposal for 90 days, hold public hearings, and to issue final ozone standards by October 1, 2015.

Particulate Matter Attainment

Coarse Particulates. EPA made initial designations of PM₁₀ (inhalable coarse particles that are less than 10 micrometers and larger than 2.5 micrometers) nonattainment areas in 1991, designating all of Wisconsin as in attainment. EPA has not changed the Wisconsin designation for PM₁₀ since then. The PM₁₀ standard in effect since 1997 is a 24-hour average of 150 micrograms per cubic meter.

Fine Particulates. In 1997, EPA established PM_{2.5} standards (fine particles that are 2.5 micrometers in diameter or less). In 2004, EPA designated all of Wisconsin as being in attainment of the 1997 standards. In 2006, EPA revised the PM_{2.5} 24-hour average threshold from the 1997 standard of 65 micrograms per cubic meter to 35 micrograms per cubic meter. EPA retained the 1997 PM_{2.5} annual average standard of 15 micrograms per cubic meter.

EPA requires states to establish monitoring

sites and collect data on fine particulate matter. EPA specifies the types of data that states must collect. EPA will use the data to determine whether an area is to be designated as nonattainment. For example, an area will meet the 24-hour standard if the 98th percentile of 24-hour PM_{2.5} concentrations in a year, averaged over three years, is less than or equal to the standard of 35 micrograms per cubic meter.

In 2009, EPA issued final designations of areas in nonattainment of the 2006 PM_{2.5} standards, and included Milwaukee, Racine, and Waukesha Counties as nonattainment, effective December 14, 2009. DNR submitted a request to EPA on June 5, 2012, for redesignation of the three counties from nonattainment to attainment. EPA approved the redesignation of attainment, effective April 1, 2014, making all of the state classified as in attainment of the 2006 PM_{2.5} standards.

In December, 2012, EPA issued a final rule revising the PM_{2.5} annual average standard from 15 micrograms per cubic meter to 12 micrograms per cubic meter, retaining the 24-hour average threshold of 35 micrograms per cubic meter, and retaining the PM₁₀ 24-hour and annual standards. As of November, 2014, EPA intended to issue final designations of attainment areas by early 2015, and had notified DNR that all of Wisconsin was expected to be classified as attainment.

State Requirements

If EPA adopts an air quality standard, states are required to adopt the standard. If EPA adopts an air quality standard, Wisconsin statutes require DNR to promulgate by administrative rule a similar standard, and specify the state standard may not be more restrictive than the federal standard.

If EPA modifies an air quality standard that was in effect in 1980, statutes require DNR to modify the corresponding state standards unless the Department finds that the modified standard would not provide adequate protection for public health and welfare. DNR is only allowed to make

this finding if the finding is supported with written documentation that includes specific information related to: (a) a public health risk assessment; (b) an analysis of population groups subjected to the air contaminant; (c) an evaluation of options for managing the risk; and (d) a comparison of the proposed standard with standards in Illinois, Indiana, Michigan, Minnesota, and Ohio.

If EPA does not adopt an air quality standard for an air contaminant, DNR may promulgate a state ambient air quality standard if the Department finds the standard is needed to provide adequate protection for public health or welfare, and if DNR provides specific written documentation to support its finding, including the four components described above.

State statutes specify that DNR may not identify a county as part of a nonattainment area under the Clean Air Act if the concentration of an air contaminant in the atmosphere in that county does not exceed the ambient air quality standard, unless the county is required to be designated under the Clean Air Act. For example, if the Clean Air Act requires that all of a metropolitan statistical area must be designated, a county within the metropolitan area might not have air quality standard exceedences, but might have to be identified as part of a federal nonattainment area.

Statutes require that when DNR issues documents which define or list specific nonattainment areas or which recommend that areas be designated as nonattainment areas, the Department must first hold a public hearing. The Department is required to provide notice at least 30 days prior to the public hearing, provide opportunity for comment at the public hearing, and receive written comments for 10 days after the close of the hearing. DNR may not issue the documents which define, or list, or recommend nonattainment areas, until at least 30 days after the public hearing.

Statutes require that, at least 60 days before the Governor is required to make a submission to EPA on a nonattainment designation, DNR must provide a report to the Legislature's committees on the environment. The report must contain a description of any area proposed to be identified as a nonattainment area and supporting documentation. If, within 30 days after DNR submits the report to the legislative committees, the chairperson of the respective committees submit written comments on the report to DNR, the DNR Secretary must respond to the chairperson in writing within 15 days of receipt of the comments. The provision does not require legislative approval before DNR issues its list or recommendation, or before the Governor makes a submission to EPA.

State Implementation Plans

Federal Requirements

The Clean Air Act requires states to achieve compliance with national ambient air quality standards through the development of, and revisions to, a "state implementation plan" (SIP). The SIP is a series of documents and regulations that identify, in detail, the measures a state is taking to control emissions of regulated pollutants. The SIP must also demonstrate how these measures will allow the state to attain national ambient air quality standards by specified deadlines for each classification of nonattainment. Areas with worse air quality classification have to implement more controls.

The SIP must include provisions for: (a) enforceable emissions limitations; (b) air quality monitoring programs; (c) an air permit program and fees to cover the cost of permitting; (d) prohibition of emissions which contribute significantly to nonattainment of an air quality standard or deterioration of air quality; (e) applicable controls

on interstate air pollution transport; (f) demonstration of adequate personnel, funding, and state statutory authority; (g) requirements for monitoring by stationary sources; (h) enforcement authority and procedures; (i) procedures for revising the plan; (j) requirements for consultation and notification of local governments; and (k) air quality modeling to predict the effect of air emissions on air quality standards.

The Clean Air Act contains specific deadlines for submission of the plans and EPA approval. If the state does not meet required deadlines, the state can be subject to further federal requirements and eventually sanctions.

States are required to submit rate-of-progress state implementation plan revisions to EPA at various time intervals which demonstrate the state has achieved required milestones for achieving required emissions reductions.

Sanctions for Deficient State Implementation Plans

If a state does not submit a required SIP or submits a SIP that is judged to be inadequate, EPA may impose sanctions on the state. Under certain circumstances, if the state fails to submit a SIP demonstrating attainment of an ambient air quality standard, the Clean Air Act requires EPA to impose sanctions on the state. If a state does not rectify its SIP situation and sanctions are enacted, EPA develops a federal implementation plan in order to move the state toward attainment. In general, if EPA finds a SIP submittal incomplete, the state is given 18 months to correct the submittal before federal sanctions begin, and sanctions would apply until the plan deficiency is corrected.

Sanctions include: (a) a requirement that new industrial projects provide emission offsets at a ratio of up to two tons of emission reductions to one ton of new emission increases; (b) the withholding of federal highway aids, except for: (1) projects principally for safety improvements and

(2) a specific list of project types which have a secondary impact of reducing vehicle emissions; and (c) EPA implementation and enforcement of a federal implementation plan (FIP) in place of the state plan or portions of plan which is determined to be deficient.

On August 11, 2014, EPA issued a finding that Wisconsin failed to make a required SIP submission to adopt federal definitions related to the federal prevention of significant deterioration (PSD) permitting program for sources that emit PM_{2.5} by the federal July 20, 2012, deadline. (PSD is the federal pre-construction permitting program for major sources or major modifications at a major source in attainment areas.) The Clean Air Act requires EPA to promulgate a federal implementation plan for Wisconsin by August, 2016, to address the PM_{2.5} components of the PSD program, unless the state takes action before then that meets EPA requirements. As of the fall of 2014, DNR was in the initial stages of promulgating administrative rules to comply with EPA requirements. DNR indicates it is implementing the PM 2.5 standards under the PSD program and the required submittal to EPA will not change how DNR issues permits.

Wisconsin Actions

Wisconsin has submitted a series of revisions or modifications to the state implementation plan (SIP) to EPA in accordance with a series of federal requirements. DNR continually develops plans and promulgates rules to implement the SIP. To respond to federal requirements that nonattainment areas include more controls on emissions, Wisconsin's SIP has placed more stringent controls on ozone precursor emissions in the state's ozone nonattainment counties.

Wisconsin's SIP addresses ozone, particulate matter, regional haze, and emissions of other regulated pollutants. The state has submitted SIP components to EPA in the last few years that include: (a) removal of obsolete provisions such as

the requirement for gas stations to have vapor recovery equipment; (b) transportation sector compliance with federal requirements, including vehicle inspection and maintenance provisions; (c) site specific controls for a paper mill in Green Bay; (d) implementation of a new federal designation of authority for the Potawatomi tribe; (e) expansion of permit exemption options; (f) nitrogen oxide emission limit flexibility in permit programs; (g) modifications to existing permit programs related to greenhouse gas emissions and modifications of stationary sources; and (h) demonstration that the state's programs are adequate to ensure compliance with NAAQS for lead, ozone, sulfur dioxide, and nitrogen oxides.

Under Wisconsin statutes, DNR is required to adopt revisions to the SIP that conform to the Clean Air Act. The state SIP may vary from the federal requirements if the Governor determines that: (a) the measures are part of an interstate ozone control strategy; or (b) the measures are necessary in order to comply with percentage emission reductions required under the Clean Air Act.

State statutes specify that DNR may not submit a state implementation plan to EPA that includes a control measure or strategy that imposes or may result in regulatory requirements unless the Department has first promulgated the control measure or strategy as an administrative rule. DNR must submit a state implementation plan to the Legislature for review at least 60 days before the Department is required to submit the SIP to EPA. DNR is required to submit, to the standing committees of the Legislature with jurisdiction over environmental matters, a report that describes the proposed plan and contains all of the supporting documents that the Department intends to submit to EPA with the plan. If, within 30 days after DNR provides the report, the chairperson of a standing committee to which the report was provided submits written comments on the report to the Department, the Department Secretary is required to respond to the chairper-

son within 15 days of receipt of the comments. The provision does not require legislative approval before DNR issues its list or recommendation, or before the Governor makes a submission to EPA.

The statutes authorize DNR to use the administrative rule process to develop and implement SIP modifications. DNR has implemented changes related to: (a) permitting requirements; (b) fee assessment; (c) technology standards applied to stationary sources; (d) standards applied to mobile sources; (e) area source controls; (f) monitoring requirements; and (g) all other modifications to the current SIP resulting from the federal Clean Air Act Amendments.

DNR uses extensive computer modeling to develop portions of the SIP, identify the mix of controls and programs most effective in reducing emissions, move the state toward attaining air quality standards, and bring the state's nonattainment areas into attainment by federal deadlines. Data on numerous variables that impact air quality, including air monitoring station data, vehicle miles traveled, economic growth factors, emission levels of various ozone sources, and several other data sources are used to simulate the actual air quality environment in a nonattainment area. Once the actual environment is simulated, the computer is able to predict how a given control measure or program will reduce ozone precursor emissions and overall ozone levels in the nonattainment area.

States are required to regularly demonstrate to EPA that they are making specified progress to achieve compliance with emissions reductions requirements. DNR has submitted a series of rate-of-progress state implementation plan revisions to EPA which demonstrated the state had achieved required milestones of reducing emissions from stationary, mobile and area sources.

Wisconsin is required to submit a state implementation plan to EPA for attainment of the

2008 eight-hour ozone standard by May, 2015, (three years after EPA issued nonattainment designations) showing how it will meet the 2008 eight-hour ozone standards. DNR anticipates that computer modeling of current federal and state requirements will demonstrate the two Wisconsin nonattainment areas (Sheboygan County and Kenosha County east of I-94) meet the 2008 standards without additional regulations.

EPA regional haze regulations promulgated in 1999 are intended to reduce emissions affecting air quality in national parks and wilderness areas. EPA approved Wisconsin's regional haze state implementation plan in August, 2012. The state is required to review progress towards the long-term goal of near-zero man-made visibility impairment in impacted areas and to submit a revision to the plan, and updated objectives, in 2015 or 2016. Wisconsin is also required to submit a state implementation plan in 2018.

Interstate Cooperative Efforts

Wisconsin has worked with neighboring states since 1989 to study regional air quality issues and to respond to issues related to the transport of emissions by wind from one area to another. Regional transport of air pollutants can be partially responsible for violations of air quality standards in other areas of the country. This has been and is a priority issue for DNR.

The Lake Michigan Air Directors Consortium (LADCO) is an organization of Wisconsin, Illinois, Indiana, Michigan, Ohio, and Minnesota that studies regional ozone pollution and how best to control it in the Lake Michigan region. LADCO is comprised of a Board of Directors (the state air program directors), a technical staff, and several workgroups. The member states and LADCO staff cooperate on technical assessments and studies of regional air quality problems such as ozone, fine particles, regional haze and air toxics. LADCO also provides a forum for the states to discuss regional air quality issues.

In 2013 and 2014, Wisconsin worked with LADCO, federally-recognized Indian tribes, the U.S. Park Service, the U.S. Forest Service, and the U.S. Fish and Wildlife Service to address issues related to ozone, PM2.5 and haze. The agencies are developing a SIP for the ozone nonattainment counties of Sheboygan and part of Kenosha, analyzing data, conducting research, updating computer models that are used for national modeling, developing a model to accurately forecast emissions from electric generating plants, and updating computer models used to prepare state implementation plans in the LADCO states. Wisconsin is working with LADCO states and the states of Iowa and North Dakota to update regional visibility computer modeling to use in regional haze SIP submittals.

Types of Pollutant Sources

Pollutant sources are generally grouped into categories based on the characteristic of the pollutant source. The Clean Air Act establishes different control mechanisms for each type of source, and in some cases, subdivides the source for purposes of setting control requirements. The categories of pollutant sources described in this section include stationary, mobile, and area sources, and nonroad engines.

Stationary Sources

Stationary sources generally include fixed sources of pollution, such as factories, power plants, and other business facilities. Many of the Clean Air Act requirements for stationary sources apply only to those facilities that emit pollutants in amounts greater than a certain quantity.

Larger potential emitters of pollutants are referred to as major sources, and often emit substantial quantities of air contaminants such as sulfur dioxide and nitrogen oxide. The definition of a

major source varies with the pollutant and the severity of the pollution in the area in which the facility is located. For example, a facility emitting 50 tons per year of a pollutant in a highly-polluted area may be a major source subject to regulation, but the same facility located in a less polluted area may not have to meet as stringent regulatory requirements as the same source would have to meet in a nonattainment area. Minor stationary sources include all facilities that are not categorized as a major source. Major sources are the primary facilities subject to the requirements of the Act, although provisions exist for the application of restrictions to minor sources in certain cases.

A primary requirement for existing stationary sources in nonattainment areas is the installation or retrofit of equipment with emission controls. A determination of what controls are required may be made on a case-by-case review of each facility. However, EPA has adopted guidelines setting a generic method of controls that will meet the requirements for specified industrial categories. The facilities which must install control equipment are determined based on: (a) the amount of pollution emitted by the facility; (b) the severity of the pollution problem in the nonattainment area; and (c) the industrial category of the facility. The emission limits are referred to as reasonably available control technology (RACT).

Mobile Sources

Mobile sources generally include any motor vehicle equipment that is capable of emitting any air pollutant while moving. Mobile sources are classified as: (a) highway vehicles (automobiles, buses, trucks, and motorcycles); and (b) off-road engines such as construction equipment, snowmobiles, all-terrain-vehicles, marine engines, chain saws, and lawn mowers.

Although emissions controls programs have been implemented, mobile sources of air pollution continue to be the largest single source of ozone-

forming pollutants and carbon monoxide emissions. They account nationally for approximately one-half of ozone-forming pollutants, 90% of carbon monoxide in urban areas, and one-quarter of particulate matter emissions.

The Clean Air Act includes requirements for fuel content in polluted areas, new emission standards for vehicles and transportation control measures. Vehicular pollution control provisions include: (a) more stringent emission standards for automobiles, trucks and urban buses; (b) clean-fueled vehicle standards for fleets and cars in the most polluted areas; (c) required use of reformulated gasoline; and (d) vehicle emission inspection and repair requirements.

Under federal law, in the most severely polluted areas, gasoline sold for vehicle use must be modified to reduce emissions. The fuel required is dependent on the pollutant of concern. Federal law requires use of reformulated gasoline (RFG) in areas of the state experiencing significant ozone problems. The fuel must provide specified reductions in emissions of toxic air pollutants year round and summertime reductions in VOCs and NOx. The components of RFG must meet certain refining and processing requirements.

In Wisconsin, the six counties of Kenosha, Milwaukee, Ozaukee, Racine, Washington, and Waukesha are subject to the reformulated gasoline requirements. The requirement for these counties can only be removed if Congress amends the Clean Air Act because the Clean Air Act amendments specifically require the use of RFG in the Milwaukee-Racine Consolidated Metropolitan Statistical Area. The RFG requirement did not automatically end when the counties achieved attainment of the ozone standard.

The Clean Air Act requires certain centrally-fueled fleets of ten or more motor vehicles to operate clean fuel vehicles and use clean fuels. This involves the use of vehicles which meet certified low emission vehicle emission standards.

In the 1990s, gasoline station operators located in moderate or worse ozone nonattainment areas were required to install gasoline vapor recovery systems on dispensing equipment (referred to as Stage II vapor controls). Vapors emitted include toxic air pollutants, such as benzene, in addition to ozone-forming pollutants.

On May 9, 2012, EPA published a finding that: (a) determined the use of onboard refueling vapor recovery was in widespread use for gasoline-powered motor vehicles; (b) waived the requirement that certain current and former ozone nonattainment areas must implement Stage II vapor recovery systems on gasoline dispensing pumps; and (c) authorized states that had implemented Stage II vapor recovery programs in ozone nonattainment areas to revise their ozone state implementation plans to allow gasoline service stations to remove their Stage II vapor recovery equipment.

Under 2011 Wisconsin Act 196, effective April 17, 2012, state rules requiring vapor recovery systems at retail gasoline stations ceased to apply on the effective date of the federal waiver. In addition, Act 196 authorized DNR to promulgate rules for capping and closing vapor recovery systems formerly subject to the requirements, and specified that vapor recovery systems are not required at any gasoline station for which construction begins after April 17, 2012. On November 12, 2012, EPA approved DNR's request to remove Stage II vapor recovery requirements for southeastern Wisconsin from the state's ozone SIP. As of the fall of 2014, DNR was in the process of promulgating administrative rules that would repeal the requirements for the gasoline stations to use the systems. A later section in this paper describes a state grant program created in 2013 Act 20 to assist gasoline stations with the costs of removing vapor recovery systems.

EPA has adopted, and continues to develop, regulations for tailpipe and evaporative emissions from vehicles, including: (a) use of ultra-low sul-

fur diesel fuel in heavy-duty diesel engines for highway vehicles; (b) greenhouse gas emission standards for new passenger cars, light-duty trucks, and medium-duty passenger vehicles; and (c) greenhouse gas and fuel economy standards for medium- and heavy-duty engines and vehicles. The requirements have been phased in for various model years of various types of vehicles.

Area Sources

Area sources encompass all other sources too small and numerous to regulate individually, and generally include paints, solvents, asphalt paving, bakeries, gas stations, autobody finishing shops, degreasing supplies, farm equipment, pesticides, small graphic arts shops, and consumer products. The Clean Air Act does not include specific statutory requirements or deadlines that area sources must meet, except as necessary to obtain required emission reductions and demonstrate attainment. EPA establishes most area source controls. However, states have implemented area source controls as part of their emission reduction ozone attainment plans submitted to EPA.

EPA has regulated the volatile organic compound content of paints, stains, and architectural coatings used by area sources. The regulations vary depending on the type of coating and source using the coating.

Nonroad Engines

EPA has adopted a series of regulations for nonroad engines since the 1990s. The regulations affect a broad range of engine types, including recreational vehicles, industrial equipment, lawn and garden equipment, off-highway vehicles, construction equipment and farm equipment. In Wisconsin, these regulations primarily affect small engine manufacturing plants.

EPA regulations for heavy-duty nonroad diesel engines limit emissions of nitrogen oxides, hydrocarbons, carbon monoxide, and sulfur, and include significant reductions in the allowable

sulfur content for fuel. Requirements and the implementation timeline vary depending on the type of engine or vehicle. The phase-in of the engine requirements began with the smallest engines for model year 2008. These engines include certain engines over 25 horsepower such as those used in forklifts, electric generators, airport baggage transport vehicles, certain farm and construction uses, warehouses, and ice-skating rinks.

EPA regulations phased in emission standards for the exhaust of: (a) recreational vehicles such as snowmobiles, off-highway motorcycles and all-terrain-vehicles in 2006 through 2012; (b) recreational marine diesel engines over 50 horsepower used in recreational boats, through emissions standards phased in between 2006 and 2009; (c) marine diesel engines above 800 horsepower and locomotives between 2008 and 2014; (d) small nonroad spark-ignition engines rated below 25 horsepower used in household and commercial applications, beginning with model year 2011 or 2012 (depending on the engine size), including engines used in lawnmowers, garden equipment, utility vehicles, generators, and other types of construction, farm, and industrial equipment; (e) marine spark-ignition engines and vessels, beginning with the 2010 model year, including outboard engines, personal watercraft, and inboard engines used in speedboats and recreational watercraft; and (f) large marine diesel engines, such as on ocean-going vessels, between 2011 and 2016.

Air Toxics

EPA administers a separate regulatory framework for emissions of toxic substances not covered by national ambient air quality standards. Toxic substances can potentially cause significant effects at low concentrations in localized instances. They can cause or are suspected of causing cancer or other serious human health problems, or

can cause adverse environmental and ecological effects. Air toxics include certain heavy metals, chemicals and pesticides.

EPA Requirements

EPA is required to regulate 188 hazardous air pollutants (HAPs). EPA first sets technology standards and requires industries to install maximum achievable control technology (MACT). The second phase of control requires facilities to adopt additional controls if the facilities have emissions remaining after MACT standards have been met which will create potentially harmful concentration of air toxics, termed residual risk.

EPA has identified categories of sources that emit HAPs. Major sources within the categories are subject to regulation. A major source is a facility that may emit 10 tons per year of any single HAP, or 25 tons per year of any combination of HAPs. In certain cases, facilities with lower emissions such as dry cleaners may be regulated.

EPA completed promulgation of maximum achievable control technology (MACT) standards for all major sources of the 188 HAPs in 2005. The last compliance date for major sources was the earlier of three years after promulgation of the standard, or October 1, 2008.

EPA completed issuance of court-ordered standards for 50 area source categories in March, 2011. Examples of area source categories that have to meet these regulations include sources with industrial boilers, iron foundries, stationary combustion engines, plating and polishing operations, and surface coating of plastic parts.

EPA continues to establish MACT standards. While the MACT standards require the maximum achievable degree of emissions reduction, technological feasibility and cost are considered when setting the standards. Stricter controls are required for new facilities than for existing facilities. The controls may involve: (a) changes in equipment, design or operational methods; (b) process chang-

es; (c) the substitution, reuse or recycling of materials; (d) work practice changes; (e) collection, capture, or treatment of pollutants released from a process, stack or other points; or (f) operator training and certification. For example, reductions will likely be achieved by identifying and controlling routine small leaks of substances, involving valves, flanges, pumps, compressors, caps and seals. EPA continues to establish residual risk standards.

EPA administers a regulatory program to address accidental or catastrophic releases of highly toxic air emissions from at least 100 extremely hazardous air pollutants, based on: (a) the severity of acute health effects; (b) the likelihood of accidental releases; and (c) the potential magnitude of human exposure. While DNR notifies the industrial facilities in the state of the federal regulatory requirements for the pollutants on the federal list, EPA administers the regulatory aspects of the program.

EPA completed a final urban air toxics strategy in July, 1999, which identified 33 priority air toxic pollutants (from the larger list of 188 HAPs) that pose the greatest threat to public health in urban areas. EPA has used the urban air toxics strategy to target reductions in the emission of these pollutants in urban areas from major industrial sources, smaller stationary sources, and cars and trucks. EPA activities undertaken under the strategy include to set MACT standards for HAPs, issue some area source standards, develop local and community-based initiatives to focus on specific pollutants and community risks, conduct additional monitoring and research, educate and obtain input from affected people about the strategy, and develop community-based risk reduction programs.

DNR Activities

DNR regulates hazardous air pollutants emitted by facilities through administrative rules in chapter NR 445. The rule regulates emissions of

535 substances above a certain threshold. The state rule focuses on the substance emitted rather than the source of the emissions. The rule specifies that if a federal hazardous air pollutant emission standard is promulgated for specific sources under the Clean Air Act, the federal standard applies rather than the state standard. The state enforces the federal standard for 27 toxics on the federal list but not on the state list.

Under NR 445, facilities must identify air toxics emitted by the facility, quantify emissions, and reduce or control emissions under specified conditions. DNR places air toxics operational restrictions and compliance requirements into facility permits during normal revision or renewal of permits (typically every five years). DNR determines whether federal or state NR 445 standards apply for an individual facility as part of review of facility permits. DNR evaluates compliance with NR 445 requirements during normal inspections of facilities.

The rule regulates a category of sources called incidental emitter, which includes most non-manufacturers and those manufacturers that emit less than three tons per year of volatile organic compounds and less than five tons per year of particulate matter. Under the rule, facilities must exercise due diligence, defined as a reasonable investigation of likely sources of air emissions. Facilities that exercise due diligence and meet applicable compliance requirements for the identified emissions, are granted what is termed “safe harbor.” That is, the facilities will not be penalized if it is subsequently discovered that they emit a regulated substance over threshold levels.

Under 2011 Wisconsin Act 122, effective March 22, 2012, emissions of hazardous air contaminants associated with agricultural waste are exempt from the hazardous air pollutant rule except to the extent required by federal law. DNR does not evaluate air impacts from these exempt sources.

Table 1: 2014-15 DNR Air Management Authorized Base Funding and Positions

Source	Fund Source	Amount	Position
Bureau of Air Management			
Program Revenue (PR)			
Stationary Source Fees -- Federally-Regulated Sources	PR	\$6,421,900	56.50
Stationary Source Fees -- State-Regulated Sources	PR	1,592,100	12.00
New Source Construction Permit Fees	PR	2,282,400	19.50
Asbestos Abatement Fees	PR	528,300	4.00
Ozone-Depleting Substance Fees	PR	125,100	1.50
Other Program Revenues	PR	37,700	0.00
Federal Clean Air Grants*	FED	3,380,500	35.00
Petroleum Inspection Fund -- Segregated Revenue (SEG)	SEG	1,460,300	5.50
Environmental Management Account -- (SEG)	SEG	226,800	2.00
General Purpose Revenue (GPR)	GPR	76,000	0.50
Subtotal Bureau of Air Management		<u>\$16,131,100</u>	<u>136.50</u>
Division of AWaRe, Divisionwide Management			
Stationary Source Fees -- Federally-Regulated Sources	PR	397,400	3.00
Division of Enforcement and Science			
Stationary Source Fees -- Federally-Regulated Sources	PR	108,400	1.00
Federal Clean Air Grants*	FED	148,500	1.50
Division of Customer and Employee Services			
Stationary Source Fees -- Federally-Regulated Sources	PR	423,300	5.75
Federal Indirect Cost Reimbursement	FED	504,800	0.00
Petroleum Inspection Fund	SEG	<u>1,088,000</u>	<u>3.00</u>
Total DNR Air Management Funding		\$18,801,500	150.75

* The federal clean air grant amounts primarily include funding received from the U.S. Environmental Protection Agency, and include smaller amounts from other federal sources.

DNR Revenue and Expenditures

DNR is authorized base funding of \$18.8 million with 150.75 positions for air management activities in 2014-15. Approximately half of the staff is located in the Madison central office and the other half is in the DNR regional and subregional offices located throughout the state. Table 1 lists the funding sources and amounts, and positions authorized for DNR air management programs.

Within the Division of Air, Waste, and Remediation and Redevelopment (AWaRe), the

Bureau of Air Management is authorized \$16.1 million with 136.5 permanent positions to conduct monitoring, permitting, planning and compliance activities. During 2014-15, the Bureau is planning for approximately 120 full-time equivalent (FTE) positions of staff effort. These positions include central office staff and regional staff in the air management program. The program anticipates holding an equivalent of approximately 7.5 FTE positions vacant during 2014-15, based on available federal and state revenues. Approximately 17.5 positions were vacant in November, 2014.

The Division of AWaRe is authorized 3.0 positions from federally-regulated stationary source

Table 2: Revenues for DNR's Air Management Programs - 2012-13 and 2013-14 *

Source	2012-13 Revenue	2012-13 % of Total	2013-14 Revenue	2013-14 % of Total	Total 2012-13 and 2013-14	% of Total
Stationary Source Operation Permit Fees						
- Federally-Regulated Sources	\$5,890,300	30.4%	\$7,281,900	35.8%	\$13,172,200	33.1%
- State-Regulated Sources	1,092,100	5.6	1,222,200	6.0	2,314,300	5.8
Federal Clean Air Act Grants	6,671,800	34.4	4,895,000	24.1	11,566,800	29.1
Petroleum Inspection Fund	2,397,700	12.4	3,520,600	17.3	5,918,300	14.9
Permit Review and Enforcement Fees	2,205,800	11.4	1,961,200	9.6	4,167,000	10.5
Asbestos Abatement Fees	698,700	3.6	733,200	3.6	1,431,900	3.6
Ozone-Depleting Substances Fees	160,500	0.8	147,900	0.7	308,400	0.8
Environmental Management Account	0	0.0	223,400	1.1	223,400	0.6
General Purpose Revenue	67,700	0.3	115,300	0.6	183,000	0.5
Other Program Revenues	<u>210,500</u>	<u>1.1</u>	<u>237,000</u>	<u>1.2</u>	<u>447,500</u>	<u>1.1</u>
	\$19,395,100	100.0%	\$20,337,700	100.0%	\$39,732,800	100.0%

*Federal grants and state-assessed fees include actual revenues. Petroleum inspection fund, environmental management account, and general purpose revenues include authorized funding.

fees for divisionwide program management. The Division of Enforcement and Science is authorized 1.5 positions from air funding sources for law enforcement. The Division of Customer and Employee Services is authorized 8.75 positions from federal and state air funding sources for legal, administrative services, customer service and licensing, communication and education strategy, and business support and sustainability to assist businesses in meeting environmental requirements.

DNR's air management programs are funded from several sources, as shown in Table 2. Revenues for DNR air management programs from all sources were approximately \$19.4 million in 2012-13 and \$20.3 million in 2013-14. Approximately 83% of funding for the program during the two years came from federal Clean Air Act grants, state-assessed stationary source operation permit fees, and the segregated petroleum inspection fund.

Almost 39% of revenues in the two-year period of 2012-13 and 2013-14 came from stationary source operation permit fees paid by federally-regulated and state-regulated sources. Almost 52% of air program positions were funded from stationary source fees during the two years.

These fees are discussed in detail in a subsequent section related to operation permits and fees.

EPA provides the state with grants for general program operations associated with implementing Clean Air Act provisions, based on an agreed upon work plan between EPA and DNR. EPA also provides funds for specific purposes such as to purchase air monitors to determine ambient levels of particulate matter in the air, to study air pollutants deposited in the Great Lakes and to monitor air toxics. DNR is authorized 36.5 permanent federal positions in 2014-15, of which 35.0 are in the Bureau of Air Management and the remaining 1.5 are in the Division of Enforcement and Science. This reflects the deletion of 3.0 FED positions in July, 2014, as part of DNR's plan for allocating the deletion of 32.1 positions agencywide required under 2013 Act 20, the 2013-15 biennial budget act.

DNR is authorized 19.5 PR positions funded from air construction permit fees. The fees and activities funded from the fees are discussed in a subsequent section related to construction permits and fees.

DNR is authorized 8.5 SEG petroleum inspection fund positions for air program activities

in 2014-15 (5.5 are in the Bureau of Air Management, and 3.0 are in the Division of Customer and Employee Services). DNR appropriations from the petroleum inspection fund are used for air management activities related to mobile source pollution control, air emission reduction from fuel storage and distribution systems, pollution prevention, and department-wide activities related to air management. The segregated (SEG) petroleum inspection fund receives revenues from the 2¢ per gallon petroleum inspection fee assessed on petroleum-based fuel products entering the state. The fund is primarily used for the petroleum environmental cleanup fund award (PECFA) program, transportation, and environmental programs. (For more information about the petroleum inspection fund, see the Legislative Fiscal Bureau informational paper entitled, "Petroleum Environmental Cleanup Fund Award (PECFA) Program.")

In addition to the ongoing appropriations from the petroleum inspection fund, 2013 Act 20 appropriated \$1,000,000 SEG in 2013-14 from the petroleum inspection fund for a new vapor recovery systems removal grant program. The program is described in a subsequent section. The appropriation is biennial, with no 2014-15 base funding.

Beginning in 2013-14, the DNR air management program is authorized 2.0 positions from the segregated environmental management account of the environmental fund. The positions are responsible for permitting, monitoring, and compliance related to industrial sand mining operations. (See the Legislative Fiscal Bureau informational paper entitled, "Environmental Management Account.")

The DNR air management program is authorized 0.5 position from general purpose revenues (GPR). 2013 Act 20 also appropriated \$70,000 GPR in 2013-14 and \$30,000 GPR annually beginning in 2014-15 to construct and operate an ozone air quality monitoring station in She-

boygan County. The air program receives 0.5% of total funding from GPR.

DNR collects other air pollution fees related to asbestos abatement inspections and the regulation of ozone depleting refrigerants, and is authorized 5.5 positions from these fees. These fees and activities are discussed in subsequent sections related to those programs.

DNR also receives program revenues from other state agencies. This primarily includes grants from the Wisconsin Department of Transportation (DOT) from funds provided under the federal Congestion Mitigation and Air Quality (CMAQ) program of the U.S. Department of Transportation. The CMAQ program funds projects in nonattainment areas that will reduce transportation-related emissions.

Air Emissions Reporting

Owners or operators of stationary sources of air emissions are required to provide information related to the annual amount of emissions of various air contaminants to DNR. DNR compiles the information and is required to report it to EPA. DNR also uses the data to: (a) develop state implementation plans required by EPA; and (b) assess emission fees to stationary sources under Chapter 285 of the statutes and administrative code.

Owners or operators are required to submit air emissions data to DNR every spring, for air emissions of the prior calendar year. DNR administrative rules include requirements for reporting procedures and minimum reportable amounts that vary by type of air contaminant. Table 3 lists the total amount of emissions from Wisconsin stationary sources from the last 10 years of 2004 through 2013, as reported annually by federally-regulated and state-regulated facili-

Table 3: Reported Air Emissions from Stationary Sources, 2004 Through 2013 (Tons Per Year)*

Calendar Year	Sulfur Dioxide	Nitrogen Oxides	Particulate Matter**	Particulate Matter 10**	Volatile Organic Compounds	Carbon Monoxide	Hazardous Air Pollutants	CFCs	TRS	Total
2004	251,938	116,793	26,540	11,139	31,374	50,679	15,715	86	632	504,896
2005	244,305	112,367	28,464	13,423	32,199	59,387	13,906	92	641	504,784
2006	230,284	100,100	26,700	12,548	30,712	49,115	14,707	97	658	464,921
2007	203,550	95,001	25,149	12,474	29,807	48,249	15,174	119	600	430,123
2008	193,423	88,323	23,206	12,953	27,751	44,255	13,774	80	520	404,285
2009	160,510	69,586	21,270	12,001	23,431	38,819	11,996	33	469	338,115
2010	163,366	68,620	22,904	12,589	24,701	42,053	12,566	47	479	347,325
2011	142,930	65,261	21,874	13,058	24,247	42,668	12,859	1	543	323,441
2012	107,498	55,556	20,675	11,702	23,483	42,661	8,051	0	541	270,167
2013	108,986	56,044	19,089	11,288	23,184	42,394	9,947	0	525	271,458

*Tonnage figures are based on reported emissions of regulated stationary sources.

**PM includes particles at or below 100 microns in size. PM10 includes particles 10 microns or smaller. EPA and DNR require separate reporting of PM and PM10 and use different methods to calculate emissions of each.

CFCs = Chlorofluorocarbons (CFC-12, HCFC-141B, and HCFC-22)

TRS = Total reduced sulfur, sulfur trioxide and hydrogen sulfide

ties to DNR. The total tons of emissions declined from over 500,000 tons in 2004 to less than 300,000 tons in 2013.

Air Construction Permits and Fees

The Clean Air Act requires stationary sources that emit air pollution to obtain a construction (new source) permit before beginning construction of the air pollution source. The program is also known as the new source review program. A construction permit allows a company to build, initially operate and test the air pollution source. The permit outlines all of the air pollution requirements that apply to a source, including emission limits and operating conditions to ensure that the source is in compliance with federal and state air pollution requirements.

DNR administers construction permit requirements under administrative code chapter NR 406. DNR permit review staff work in each of the five DNR geographic regions. They are assigned to permit sources within specific counties in the regions.

Types of activities that may require a permit include: (a) use of adhesives, paints, inks or other solvents that cause emissions of VOCs and HAPs; (b) fuel use (excluding electricity) that results in emissions of carbon monoxide, sulfur dioxide, NOx and some HAPs; and (c) grinding, sanding, welding, material handling or other activities that create dust or fumes that emit particulate matter and some HAPs. Types of businesses that may need a permit include: (a) metal parts coating or autobody refinishing; (b) food products and nondurable goods; (c) chemical, rubber and plastic products; (d) paper, printing and publishing; (e) lumber, wood products and wood furniture; (f) primary metals industry; (g) health services; (h) combustion sources; and (i) road paving material production.

All new, modified, reconstructed, relocated, or replaced air pollutant sources are required to obtain a construction permit before beginning construction, unless they are exempt from construction permit requirements under NR 406. The permit expires after 18 months and can have one 18-month extension under certain instances. Administrative rules include exemptions from construction permit requirements for specific

types of sources with low emissions that meet specific criteria.

The federal construction permit requirements vary depending on whether or not the facility is located in a nonattainment area. Facilities in nonattainment areas must meet more stringent standards. In areas that currently meet air quality standards, requirements are designed to prevent industrial growth from causing a significant deterioration of the air quality. Regulated major source facilities are required to install equipment with emission controls being generally used by industry for new construction. Generally, major sources for construction permits in areas which meet the air quality standards include facilities that have the potential to emit over 250 tons per year of any criteria pollutant, or over 100 tons per year in specified source categories.

Under federal and state requirements, certain major sources are required to meet "best available control technology" (BACT) emissions limitations specified in the DNR permit on a case-by-case basis. Certain facilities must install equipment with emission controls based on a "lowest achievable emission rate" (LAER) standard. This standard is the most stringent control technology and is determined by: (a) the most stringent emission limitation achieved in practice within an industry; or (b) the most stringent emission limit contained in any state plan. In addition, facilities in nonattainment areas must provide specified offsets to proposed increased emissions. Offsets are emission reductions obtained from other sources of air pollution in the nonattainment area. The Clean Air Act Amendments of 1990 apply these requirements to smaller sources of pollution.

The source is required to have a complete operation permit on file with DNR by the time the construction permit expires in order to continue operating the source. The operation permit program is described in a subsequent section.

DNR issued 116 construction permits in 2012-13 and 112 in 2013-14. DNR issued 4,842 construction permits between 1988 and June 30, 2014. As of July 1, 2014, DNR was processing 77 construction permit applications.

Since July, 2012, Sheboygan County and a portion of Kenosha County continue to be designated as nonattainment for ozone. Five of the 228 construction permits (2%) issued statewide in 2012-13 and 2013-14 were issued to facilities located in those two areas. Prior to the redesignation of areas of southeastern Wisconsin from nonattainment to attainment, approximately four-fifths of the permits were for facilities in attainment areas and one-fifth were for facilities in nonattainment areas.

Revenue and Expenditures

DNR activities related to reviewing and issuing construction permits are funded from program revenue (PR) fees authorized in administrative rule NR 410. The fees for an individual source vary depending on situations such as the type of request, type of pollutant, whether emission testing is required, and whether the applicant requests expedited review.

In 2014-15, DNR is authorized base funding of \$2,282,400 with 19.5 positions to administer the construction permit program. Table 4 shows construction permit fee revenues and expenditures for 2008-09 through 2013-14. In addition to

Table 4: Air Construction Permit Revenue and Expenditures

Year	Revenue	Expenditures
2008-09	\$1,576,200	\$2,250,800
2009-10	978,600	1,590,000
2010-11	1,803,600	1,389,600
2011-12	1,923,800	1,569,300
2012-13	2,205,800	1,507,200
2013-14	1,961,200	2,103,500

the expenditures shown in the table, DNR transferred \$113,700 from the appropriation account balance to the general fund in 2013-14 as part of the Department's obligations under the 2013-15 biennial budget act. On July 1, 2014, the account had a cash balance of \$1.4 million.

DNR promulgated administrative rule changes effective January 1, 2011, that increased certain fees, last increased in 1999, for reviewing applications to construct or modify sources of air pollutants. This includes actions such as review of major or minor source construction, modifications to sources, expedited review, modeling analysis, revisions to a permit, emissions testing, and determination of exemption from a construction permit or certain permit requirements. Applicants who withdraw or stop work on an application have to pay for review work completed to that point.

The average fee was approximately \$21,300 per permit in 2013-14. This is an increase from the \$8,500 average fee in 2009-10, before administrative rule changes increased the fees.

Timeline for Permit Issuance

In 2013-14, DNR issued construction permits in an average of 63 days after the receipt of a complete application. It took an average of 165 days from the time of the initial receipt of the application to issuance of the permit. However, the time varies widely, depending on the size of the source, whether the applicant requests expedited review and whether a public hearing is held regarding the application.

DNR is generally required to process a construction permit within 180 days of receiving a completed application if there is no public hearing, or 240 days if there is a hearing. The time allowed for processing a construction permit for a minor source is typically 120 days after the application is complete if there is no public hearing, or 180 days if there is a hearing. The specif-

ic requirements follow.

After DNR receives a construction permit application, the Department has 20 days to provide the applicant with written notice of any additional information required to determine if the proposed construction, reconstruction, replacement or modification will meet state requirements. After the applicant provides the information, DNR has 15 days to notify the applicant whether the information satisfies the Department's request. The application is considered complete when the applicant satisfies the Department's request. A DNR air management permit reviewer then prepares an analysis of the complete application, evaluates the application to quantify the proposed emissions, identifies applicable emission limitations, analyzes the effect of the project on ambient air quality and prepares a preliminary determination on the approvability of the application. The DNR analysis and preliminary determination must be completed within 90 days after the application is considered complete for major sources, or within 30 days for minor sources.

A public notice and 30-day public comment period follows issuance of the preliminary determination. DNR may hold a public hearing if a hearing is requested within 30 days after DNR gives public notice if requested by a person who may be affected by the issuance of the permit, any affected state or EPA. DNR must hold the public hearing within 60 days after the deadline for requesting a hearing if the Department determines that there is a significant public interest in holding a hearing. DNR must issue or deny the construction permit within 60 days after the close of the comment period or public hearing, whichever is later.

Other Construction Permit Requirements

DNR administrative rules exempt minor sources from the requirement to obtain a construction permit if the emissions from the

sources do not present a significant hazard to public health, safety or welfare or to the environment. The rules require payment of a determination or application fee, and provide: (a) an exemption from construction permit requirements for certain facilities which have actual emissions of pollutants of less than certain specified levels (depending on the type of source), and which are not subject to additional control requirements such as federal hazardous air pollutant standards; and (b) an exemption from construction permit requirements for projects with specified maximum theoretical emissions. Examples of exempt sources are certain grain storage facilities, motor vehicle refinishing shops, graphic arts operations, and painting or coating operations. DNR issued 32 exemptions to minor sources from the requirements to obtain a construction permit in 2012-13, and 21 in 2013-14.

Owners or operators may also apply, with payment of a fee, for an exemption to, or modification of, certain construction permit requirements for activities or operations such as: (a) exemptions for certain equipment used for testing or research; (b) a modification to a stationary source which is regulated by a plant-wide applicability limitation; and (c) minor modifications at major stationary sources. DNR issued 19 of these permits in 2012-13 and 18 in 2013-14. (All except one were permits for minor modifications at major sources).

A person may request a waiver to the requirement to obtain a construction permit before beginning construction, reconstruction, replacement, or modification of a stationary source if the person shows that beginning the activity prior to the issuance of the permit is necessary to avoid undue hardship. Construction permit waivers allow a facility to begin on-site preparation such as site clearing, grading, dredging or land-filling prior to receiving a construction permit when necessary to avoid undue hardship. Undue hardship could result from: (a) adverse weather conditions; (b) catastrophic damage of existing

equipment; (c) a substantial economic or financial hardship that may preclude the project in its entirety; or (d) other unique conditions. The Department is required to act on the waiver request within 15 days of receipt of the request. A statutory \$300 fee is assessed for the waiver request. In 2012-13, DNR issued 12 of these waivers, and in 2013-14, the Department issued 21 waivers.

DNR revised administrative rules for construction permits, effective August 1, 2014, to ensure consistency with federal requirements. In the fall of 2014, DNR was in the process of promulgating administrative rule changes to streamline the construction permit process for certain sources, and to revise the definition of "commence construction" for minor source construction permits.

Air Operation Permits and Fees

The Clean Air Act requires sources that emit above certain thresholds of air pollutants to obtain an operation permit to operate the source after the source is constructed. The federal operation permit program is also known as the Title V permit program, after the section in the Clean Air Act Amendments of 1990 that established the program. Federal requirements include greater oversight and more detailed compliance requirements for sources with these permits.

EPA must administer an operation permit program if the state fails to do so. EPA delegated to Wisconsin the authority to administer the federal operation permit program with interim approval in March, 1995, and full approval effective November 30, 2001. This paper refers to Title V permits and fees as federally-regulated sources.

While federal air permit requirements are generally only applicable to major sources, state law authorizes Wisconsin to also regulate minor

stationary sources. DNR also issues non-Title V permits to sources required under state law, but not federal law. This paper refers to these permits and fees as state-regulated sources.

An operation permit includes information about which pollutants are being released, outlines all of the air pollution requirements that apply to a source, establishes detailed limits on the emissions of air contaminants, establishes a maximum increase over a baseline of emissions, includes operating conditions to ensure that the source is in compliance with federal and state air pollution requirements, and includes related requirements such as monitoring, record-keeping and reporting. The permit incorporates requirements of the state implementation plans into specific requirements for an individual facility.

The same sources subject to construction permit requirements are required to file an operation permit application at the same time they file a construction permit application, unless they are exempt from operation permit requirements under administrative rule NR 407. For example, certain grain handling facilities are exempt from obtaining operation permits.

Federally-Regulated Operation Permits

A federal operation permit (FOP) is required for all facilities defined as major sources, many sources subject to federal air toxics regulation, and many facilities subject to federal new source emission standards. Generally, major sources for operation permits include facilities that have the potential to emit any one of the following: (a) over 100 tons per year of any criteria pollutant or 25 tons per year of VOCs in severe nonattainment areas; (b) 10 tons per year of any federal HAP; or (c) 25 tons per year of all combined federal HAPs. Examples of federally-regulated sources are large factories and power plants.

DNR categorizes some permits as federal operation permits if the source is in the process of

applying for a FOP, or is currently operating under a state operation permit or construction permit while it applies for a FOP.

State-Regulated Operation Permits

Certain stationary sources that emit air pollutants are known as state-regulated sources for purposes of operation permit requirements and fees. In general, these sources: (a) voluntarily accept permit limits that reduce emissions enough to be regulated under the state permit program, with federally enforceable conditions, and are known as "synthetic minor" sources; or (b) are required under state, but not federal law, to obtain an air operation permit, and are known as "natural minor" sources. The state regulations for minor sources are less stringent than the requirements for major sources. For example, minor sources are generally not required to install or retrofit equipment to control emissions, as is required of major sources.

State-regulated sources that are synthetic minor (SM) sources are required to have an operation permit, and have the potential to be a major source. They may instead obtain a state operation permit if they meet one of the following criteria:

1. SM80 (Synthetic Minor). These sources may, instead of obtaining a federal operation permit, obtain a state permit that contains conditions that limit potential emissions to less than 100% of the major source thresholds, but allows the emissions to be greater than 80% of the major source threshold. These permits are usually known as a federally enforceable state operating permit (FESOP). Some permits categorized by DNR as SM80 may not meet all the criteria of a FESOP, but still include federally enforceable conditions to limit emissions in a similar manner as FESOPs.

2. SM-FESOP. These sources may choose to obtain a FESOP that contains federally enforceable conditions that limit potential emis-

sions to less than 80% of the major source threshold.

3. SM-ROP. These sources may obtain a registration operation permit (ROP), discussed in a subsequent section, that contains federally enforceable conditions that limit potential emissions to less than 25% of the major source threshold.

4. SM-GOP. These sources meet criteria for coverage under a general operation permit (GOP), discussed in a subsequent section, that contains federally enforceable conditions that limit emissions to less than the major source threshold.

5. SM-Other. These sources are issued a permit that doesn't meet the other SM categories, with conditions specific to the facility, and includes federally enforceable conditions that limit potential emissions to less than 80% of the major source threshold. Alternatively, some of these sources may be operating while DNR is reviewing their application for an operation permit.

Natural minor (NM) sources have potential emissions that are naturally below major source thresholds, and thus, are not considered federally-regulated sources. DNR issues state operation permits to facilities that meet one of the following criteria:

1. NM-SOP. These sources have a state operation permit (SOP) with provisions specific to the facility.

2. NM-ROP. These sources are required to have an operation permit and are covered by a registration operation permit.

3. NM-GOP. These sources are required to have an operation permit and are covered by a general operation permit.

4. NM-Other. These sources may be oper-

ating under a different permit provision but will be issued an operation permit under the state-regulated sources program, or may be in the process of applying for an operation permit.

2013 Act 20 requires DNR to evaluate the reporting, record-keeping, and monitoring requirements for state-regulated stationary sources. DNR is also required to promulgate administrative rules that: (a) simplify, streamline, reduce, and make more efficient the requirements for reporting, record-keeping, and monitoring that apply to permits required for state-regulated sources; and (b) include requirements that are consistent with any applicable requirement under the federal Clean Air Act. During 2013 and 2014, DNR held a series of meetings with stakeholders to hear ideas related to program improvement. In the fall of 2014, DNR was in the process of developing potential administrative rule changes.

Number of Permits Issued

In total, DNR has issued 636 initial federal operation permits (FOP) as of June 30, 2014. An additional 12 new FOP applications were in the public comment phase. DNR issued 846 initial FESOPs as of June 30, 2014. The operation permit is issued for operations at the entire facility and is valid for five years. As of June 30, 2014, DNR issued 1,178 renewals (594 FOPs and 584 FESOPs) out of 1,803 applications received.

In addition to the FOPs and FESOPs, DNR issues state operation permits (SOP) for minor sources not subject to federal permit requirements. Examples of minor sources are some rock crushers, drycleaners and smaller boilers. As of July, 2014, 122 initial SOPs and 98 SOP renewals were issued and an additional 24 had reached the public notice and comment phase of review.

Timeline for Permit Issuance

After DNR receives an operation permit ap-

plication, the Department has 20 days to provide the applicant with written notice of any additional information required to determine if the source, upon issuance of the permit will meet state requirements. After the applicant provides the information, DNR has 15 days to notify the applicant whether the information satisfies the Department's request. The application is considered complete when one of the following happens: (a) DNR notifies the applicant that the additional information provided by the applicant satisfies the Department's request; (b) if DNR does not indicate, within the required 20 days, that additional information is needed, 20 days after receipt of the application; or (c) if DNR indicates, within the required 20 days, that additional information is needed, but does not indicate within the required 15 days whether the additional information is deficient, 15 days after receipt of the additional information. A DNR air management permit reviewer then prepares an analysis of the complete application, and prepares a preliminary determination on the approvability of the application. (There is no statutory timeline for this review.)

A public notice and 30-day public comment period follows issuance of the preliminary determination. DNR may hold a public hearing if a hearing is requested within 30 days after DNR gives public notice, if it is requested by a person who may be affected by the issuance of the permit, any affected state or EPA. DNR must hold the public hearing within 60 days after the deadline for requesting a hearing if the Department determines that there is a significant public interest in holding a hearing. After the public hearing and comment period, DNR must issue or deny the operation permit, and submit it to EPA for approval if required by the Clean Air Act. If EPA objects to the issuance of the operation permit, DNR must revise the proposed permit as necessary to satisfy the objection.

The federal deadline for DNR issuance of federal operation permits for existing facilities

was April, 1998, three years after EPA approval of the program. Few states met the EPA deadline for issuance of federal permits. DNR finished issuing all initial FOPs in December, 2004.

DNR indicates that permit review and analysis took approximately twice as long as estimated early in the program. Prior to 2005, DNR required an average of approximately 250 to 300 hours per permit issuance instead of 120 estimated initially, and many complex permits required additional review time. In 2007 and 2008, the average time required for DNR to issue an initial or renewal permit was 211 hours. In 2009 through 2014, the average was approximately 350 hours to issue initial or renewal federal operation permits. DNR indicates this higher amount of time is due to the need to respond to requirements in new federal standards and to issues raised by EPA related to deficiencies in previous permits.

DNR is required to notify an applicant for an operation permit, before issuing the permit, of any proposed emissions monitoring requirement for the permit. The applicant may choose to demonstrate that the proposed monitoring requirement is unreasonable. If the Secretary of DNR determines that the monitoring requirement is unreasonable, the Department may not impose the monitoring requirement.

General Permits

In 2005, DNR administrative rules authorized the issuance of general operation permits (NR 407) and general construction permits (NR 406) for similar categories of stationary sources. The rules: (a) must include criteria for identifying eligible categories of sources and permit requirements; and (b) may exempt persons who qualify for a general operation permit from a construction permit.

As of July 1, 2014, DNR had issued four general permits to cover almost all nonmetallic min-

eral processing facilities, printers, asphalt plants, and crushers. A total of 1,193 general permits have been issued to owners or operators of stationary sources as of July 1, 2014.

Within 15 days after DNR receives an application for coverage under a general permit, the Department is required to provide one of the following to the applicant: (a) written notice that the source qualifies for coverage under the general permit; (b) a written description of any information that is missing from the application for the permit; or (c) a written notice that the source does not qualify for the general permit.

Holders of a general permit pay an annual fee of \$400 (\$300 prior to 2013-14). General permit fees are deposited in the state stationary sources appropriation. A source with a general permit does not pay construction permit fees, but would be subject to general construction permit requirements.

Registration Permits

In 2005, DNR administrative rules also authorized the issuance of registration operation permits (NR 407) and registration construction permits (NR 406) that authorize construction or operation, or both, of stationary sources with low actual or potential emissions. As of July 1, 2014, DNR had issued 660 registration permits.

An owner or operator may apply for a registration permit if the source has actual emissions of less than 25 tons per year of each criteria pollutant, and slightly different thresholds for certain printing facilities. Facilities cannot be subject to any case-by-case determinations of emissions limits such as best available control technology or lowest achievable emission rates under federal and state rules. Sources which qualify for a registration operation permit do not need to obtain a separate construction permit. The registration operation permit allows the owner or operator the flexibility to construct, modify or re-

place equipment without obtaining a construction permit, as long as the facility continues to comply with all conditions of the registration permit after the change.

Within 15 days after DNR receives an application for coverage under a registration permit, the Department is required to provide one of the following to the applicant: (a) written notice that the source qualifies for coverage under the registration permit; (b) a written description of any information that is missing from the application for the permit; or (c) a written notice that the source does not qualify for the registration permit.

Holders of a registration operation permit pay an annual fee of \$400 (\$300 prior to 2013-14). Registration permit fees are deposited in the state stationary sources appropriation. For construction projects, a source with a registration operation permit is not subject to construction permit fees, because the registration permit already allows the source flexibility to construct, modify or replace equipment without obtaining a construction permit, as long as the facility continues to comply with all conditions of the registration permit after the change.

2013 Act 20 requires DNR to issue a registration permit authorizing the construction or operation, or both, for any stationary source with actual emissions that do not exceed 50 percent of any applicable major source threshold established under the federal Clean Air Act. The provision is subject to a requirement that DNR may not take action under air pollution requirements that conflicts with the federal Clean Air Act. As of November, 2014, DNR was in the process of drafting a registration permit under the provision.

Exemptions

Minor sources are exempt from the requirement to obtain an operation permit if the emissions from the sources do not present a signifi-

cant hazard to public health, safety or welfare or to the environment. Examples of exempt sources are painting or coating operations, graphic arts operations, motor vehicle refinishing shops, certain dry cleaning operations, gasoline dispensing facilities, grain storage facilities, grain processing facilities, and facilities with less than specified maximum theoretical emissions.

2013 Act 20 requires DNR to exempt natural minor sources of air emissions from the requirement to obtain a state air operation permit. The provision is subject to a requirement that DNR may not take action under air pollution requirements that conflicts with the federal Clean Air Act. Act 20 authorized DNR to promulgate administrative rules to define "natural minor sources."

Act 20 also requires DNR to seek approval from EPA of any changes necessary to the state implementation plan that may be necessary to implement the permit exemption under the federal Clean Air Act. Finally, Act 20 requires DNR to submit a report by March 1, 2015, to the Legislature's Joint Committee on Finance and standing committees of the Assembly and Senate with jurisdiction over environmental matters on the progress DNR has made in exempting natural minor sources from air operation permits.

As of November, 2014, DNR was in the process of drafting administrative rules to implement the provision. To the extent administrative rules that are promulgated implementing the provision exempt sources, the sources would become exempt from paying the \$400 annual operation permit fee for state-regulated sources.

2013 Act 20 requires DNR to annually contact facilities that hold state-regulated operation permits, and to inform them of the benefits of obtaining a registration operation permit or an exemption from an operation permit. In the fall of 2013 and 2014, DNR notified facilities that reported emissions below threshold limits for

registration permits or exemptions from permits of the potential for the facility to qualify for either a registration permit or exemption from a permit.

Revenues and Expenditures

As with the construction permit program, DNR administers the operation permit program with staff located in each of the five DNR regions. They are assigned to permit sources within specific counties in the regions.

The Clean Air Act Amendments of 1990 required states to assess fees based on the tonnage of emissions generated by a stationary source that is a federally-regulated facility under the federal operation permit program. The fees may only be used for the implementation of Clean Air Act provisions. States must demonstrate to EPA that the fees collected on emissions are adequate to cover the state's program costs associated with reducing the emissions of facilities being assessed the fees. States may place a cap on the tonnage of emissions that a fee is assessed on. States may adjust the fee rate annually based on the change in the consumer price index.

Prior Fee Structure. Wisconsin's air emissions tonnage fee system began with assessment of fees in 1992-93 for calendar year 1992 emissions. The fees for 1994 through 1999 were adjusted annually according to changes in the consumer price index. 1999 Act 9 deleted the annual consumer price index adjustment for years after 2000, and included a one-time adjustment of \$0.86 per ton. This fixed the fee rate at \$35.71 per ton for 2000 and subsequent years. Prior to calendar year 2005, stationary sources that were required to obtain an air operation permit were required to pay the air emissions tonnage fee for billable emissions of at least five tons. All emissions tonnage fees were used to fund administration of the operation permit program. The emissions tonnage fee has an annual cap of 5,000 tons per pollutant per facility (4,000 tons prior to

1999).

Under 2005 Act 25, changes were made in the operation permit fee structure. The Division of Air, Waste, and Remediation and Redevelopment stationary source emission fee appropriation was split into two, effective for fees assessed as of January 1, 2006: (a) one for revenues from stationary sources that are required to obtain an operation permit under the federal Clean Air Act; and (b) a new state permit sources appropriation for sources that are required to obtain an operation permit under state law, but not under federal law, or are allowed under federal law to obtain a state permit instead of a federal permit. Beginning in 2005-06, for calendar year 2005 emissions, separate appropriations were created for revenues assessed for operation permits for: (a) federally-regulated sources; and (b) sources regulated under state, rather than federal, regulations.

The statutes require that the fees deposited in each of the two appropriations be used for the following: (a) the costs of reviewing and acting on applications for operation permits; (b) implementing and enforcing operation permits except for court costs or other costs associated with an enforcement action; (c) monitoring emissions and ambient air quality; (d) preparing rules and materials to assist persons who are subject to the operation permit program; (e) ambient air quality modeling; (f) preparing and maintaining emission inventories; (g) any other direct and indirect costs of the operation permit program; and (h) costs of any other activities related to stationary sources of air contaminants.

Under 2009 Act 28, the fee structure was revised for holders of state operation permits, beginning in 2010-11. The fees included: (a) an annual fee of \$4,100 if the operation permit limits the source's potential to emit so that the source is not a major source, if the operation permit includes federally-enforceable conditions that allow the amount of emissions to be at least

at least 80 percent and less than 100 percent of the amount that results in the source being classified as a major source subject to the federally-regulated sources emissions tonnage fee; (b) an annual fee of \$300 for all other sources required to have a state operation permit (which also includes general and registration operation permits); and (c) an owner or operator of a stationary source that is exempt from the requirement to obtain an operation permit does not pay a fee beginning with the fees assessed for 2009-10. Between 2005-06 and 2008-09, the exempt facilities were subject to a fee of \$300 per year if the stationary source had actual emissions of a regulated pollutant in excess of three tons in the preceding year.

Current Fee Structure. Under 2013 Act 20, effective in 2013-14 for calendar year 2013 emissions, the fee structure was revised for federally-regulated and state-regulated sources. Fees paid by federally-regulated sources continue to be deposited in the program revenue appropriation for administration of the federally-regulated operation permits program, including continuation of transfers to the Division of Enforcement and Science and Division of Customer and Employee Services. Fees paid by state-regulated sources continue to be deposited in the program revenue appropriation for administration of the state-regulated operation permit program.

Sources that are required to obtain an operation permit under federal law continue to pay an annual air emissions tonnage fee of \$35.71 per ton. In addition, under 2013 Act 20, beginning with fees assessed in 2013-14 for calendar year 2013 emissions, all federally-regulated sources pay an annual flat fee, based on the tons of actual billable emissions from the facility in the prior calendar year as follows: (a) \$900 if the source emitted not more than 10 tons of billable emissions in the prior calendar year; (b) \$1,300 if the source emitted more than 10 tons but not more than 25 tons in the prior calendar year; (c) \$1,600 if the source emitted more than 25 tons

but not more than 50 tons in the prior calendar year; (d) \$2,300 if the source emitted more than 50 tons and not more than 80 tons in the prior calendar year; and (e) \$3,000 if the source emitted more than 80 tons per year in the prior calendar year.

In addition, 2013 Act 20 established annual flat fees for federally-regulated sources if they meet applicable criteria, beginning with fees assessed in 2014 for calendar year 2013 emissions. The flat fees include:

1. Sources pay \$960 if one or more maximum achievable control technology (MACT) standards apply to the source. This refers to technology-based federal standards that apply to major sources of hazardous air pollutants. Emission limits vary based on the toxicity of the pollutant. Examples of sources are chemical manufacturing, industrial and commercial boilers and heaters, and iron and steel foundries.

2. Sources pay \$960 if one or more federal new source performance standards (NSPS) apply to the source. This refers to technology-based federal standards issued to require new sources of air pollutants to minimize air emissions. The standards are typically specified for the type and size of equipment rather than the amount of emissions of pollutants. Examples of sources are electric steam generating units, incinerators, manufacturing plants, and various printing and coating operations.

3. Sources pay \$1,500 if federal prevention of significant deterioration (PSD) permitting applies to the source. This is the federal preconstruction permitting program for major sources or major modifications at a major source in attainment areas. Examples of sources are electric utilities, paper mills, and foundries.

4. Sources pay \$46,980 if the source is an electric utility with an electric generating unit (EGU), is privately-owned, and is a coal-fired

generating unit. This includes some of the largest sources of air pollutants in the state. The fee does not apply to publicly-owned electric generating units.

Under 2013 Act 20, state-regulated sources that previously paid an annual fee of \$300 instead pay a fee of \$400, for fees assessed beginning in 2013-14 and subsequent years. State-regulated sources subject to the annual fee of \$4,100 continue to pay that fee amount.

Annual Fees Assessed. Stationary source operation permit fees assessed the emissions tonnage fee generally ranged from \$8 million to \$10 million annually for fees assessed between 1992-93 and 2008-09. Beginning in 2009-10 (calendar year 2009 emissions), state-regulated sources pay a flat fee instead of a tonnage fee. Beginning in 2013-14 (calendar year 2013 emissions), federally-regulated sources pay a base fee in addition to a tonnage fee, and some of them also pay a flat fee. Table 5 shows the total operation permit fees assessed by year, the emissions fee rate per ton, the number of billable tons of emissions, the fees assessed based on the tonnage rate, and the flat or base fees assessed to federally-regulated or state-regulated sources.

Table 6 lists the operations permit fees assessed on federally-regulated facilities in 2013-14 for calendar year 2013 emissions. The table includes three sections. First, it shows the tons assessed the emissions tonnage fee, by type of pollutant. Federally-regulated sources that had billable emissions of at least five tons were billed an emissions fee of \$35.71 per ton of emissions. In 2013-14, a total of 409 facilities with federal operation permits were assessed stationary source fees totaling \$5.5 million in emissions tonnage fees for approximately 154,100 tons of billable pollutants that they emitted.

Pollutants assessed the fees include the criteria pollutants (carbon monoxide is exempted), hazardous air pollutants, and most other regulat-

Table 5: Stationary Source Operation Permit Fees - Fee Rate, Emissions, and Fees Assessed

Year of Emissions	Year of Assessment	Fee Rate Per Ton	Billable Tons	Tonnage Fees (\$ millions)	Flat or Base Fees (\$ millions)	Total Fees Assessed (\$ millions)
1992	1992-93	\$18.00	278,607	\$5.01		\$5.01
1993	1993-94	29.30	279,638	8.19		8.19
1994	1994-95	30.07	279,394	8.40		8.40
1995	1995-96	30.92	285,291	8.82		8.82
1996	1996-97	31.77	273,506	8.69		8.69
1997	1997-98	32.65	291,184	9.51		9.51
1998	1998-99	33.19	280,959	9.33		9.33
1999 (1)	1999-00	33.80	289,154	9.77		9.77
2000 (2)	2000-01	35.71	285,628	10.20		10.20
2001	2001-02	35.71	276,354	9.87		9.87
2002	2002-03	35.71	272,727	9.74		9.74
2003	2003-04	35.71	272,766	9.74		9.74
2004	2004-05	35.71	268,207	9.58		9.58
2005 (3)	2005-06	35.71	265,938	9.49		9.49
2006	2006-07	35.71	254,423	9.13		9.13
2007	2007-08	35.71	248,869	9.01		9.01
2008	2008-09	35.71	218,047	8.49		8.49
2009 (4)	2009-10	35.71	188,093	6.72	\$1.34	8.06
2010	2010-11	35.71	188,467	6.73	1.10	7.83
2011	2011-12	35.71	178,472	6.37	1.10	7.47
2012	2012-13	35.71	155,630	5.56	1.10	6.66
2013 (5)	2013-14	35.71	154,086	5.51	3.08	8.59

(1) Beginning in 1999, the emission fee cap increased from 4,000 to 5,000 tons per pollutant.

(2) 1999 Act 9 eliminated the annual inflationary adjustment factor after 2000.

(3) For emissions in 2005 through 2008, the tonnage fee was paid for federally-regulated or state-regulated sources.

(4) Beginning with emissions in 2009, state-regulated sources pay a flat fee rather than a tonnage-based fee. Tons are shown for federally-regulated sources.

(5) Beginning with emissions in 2013, federally-regulated sources pay a tonnage fee and a base fee, and certain federally-regulated sources also pay a flat fee. The column for flat or base fees includes federally-regulated and state-regulated sources.

ed pollutants under the Clean Air Act, such as ozone-depleting pollutants. A total of 93 different pollutants can be billed. Of the 93 pollutants, Wisconsin facilities emitted and were assessed on 19 different pollutants in 2013-14. In Wisconsin, the largest volume of emissions is generated by larger utilities, paper-related industries, and large chemical plants.

For 2013 emissions, Table 6 includes all of the 271,458 tons of emissions reported by federally-regulated and state-regulated sources, as also shown in Table 3. Of the reported emissions, 249,256 tons (92%) were reported by federally-regulated sources, of which 154,086 tons were subject to the emissions tonnage fee (62% of the tons reported by federally-regulated sources),

and 22,202 tons (8%) were reported by state-regulated sources, none of which were subject to the tonnage fee. The main reasons for the difference between reported and billed emissions were that several electric utilities and paper mills had emissions of sulfur dioxide and nitrogen oxides that exceeded the 5,000 ton cap per pollutant, and carbon monoxide is not subject to the fee. Emissions such as carbon dioxide and other greenhouse gases, are currently reported but are not billed.

Table 7 shows the stationary source operation permit fees assessed by permit type. In 2012-13, 2,284 sources with operation permits were assessed almost \$6.7 million in operation permit fees, including: (a) 374 sources with federal op-

Table 6: Emissions Assessments for Stationary Sources with Federal Operation Permits, 2013-14

Pollutant	Actual Tonnage (2013 Tons of Emissions)	Assessed Tonnage (2013 Billable Tons of Emissions)	Fiscal Year 2013-14 Assessed Revenues \$35.71/ton
A. Tonnage Fee by Pollutant Type			
Sulfur Dioxide	108,986	67,560	\$2,412,561
Nitrogen Oxides	56,044	52,645	1,879,960
Particulate Matter	19,089	13,233	472,564
Particulate Matter 10	11,288	0	0
Volatile Organic Compounds (VOC)	23,184	16,270	580,992
Other Pollutants (HAP, CFC, and TRS) *	10,473	4,378	155,341
Carbon Monoxide	<u>42,394</u>	<u>0</u>	<u>0</u>
Subtotal Tonnage Fee	271,458**	154,086	\$5,502,418
B. Base Fee			
	Fee Amount	Number of Sources	Total Amount Assessed
< or = 10 tons of billable emissions	\$ 900	70	\$63,000
> 10 tons and < or = 25 tons	1,300	68	88,400
> 25 tons and < or = 50 tons	1,600	69	110,100
> 50 tons and < or = 80 tons	2,300	56	128,800
> 80 tons	\$3,000	<u>146</u>	<u>438,000</u>
Subtotal Base Fee		409	\$828,600
C. Flat Fee			
	Fee Amount	Number of Sources	Total Amount Assessed
MACT = Maximum Achievable Control Technology	\$960	136	\$130,560
NSPS = New Source Performance Standards	960	134	128,640
PSD = Prevention of Significant Deterioration	1,500	91	136,500
EGU = Electric Generating Unit	46,980	<u>12</u>	<u>563,760</u>
Subtotal Flat Fee		373	\$959,460
Total Assessments			\$7,290,478***

*HAP = Hazardous Air Pollutants; CFCs = Chlorofluorocarbons; TRS = Total reduced sulfur, sulfur trioxide and hydrogen sulfide.

**Actual tonnage includes 249,246 tons reported by federally-regulated sources and 22,202 tons reported by state-regulated sources. State-regulated sources are not subject to the tonnage-based fee.

***Table 6 and Table 7 data for federally-regulated sources differs slightly, primarily because DNR established emissions, base, and flat fees in January, 2014 (Table 6), and compiled permit type in August, 2014 (Table 7).

eration permits were assessed \$5.6 million; and (b) 1,910 state-regulated sources were assessed \$1.1 million. In 2013-14, the first year that the increased fees were assessed under 2013 Act 20, 2,384 sources were assessed \$8.6 million in operation permit fees, including: (a) 412 sources with federal operation permits were assessed \$7.3 million; and (b) 1,972 state-regulated sources were assessed \$1.3 million. However, the Table 6 data for federally-regulated sources are slightly lower, including assessments of \$7.29 million for 409 sources because of variation in how DNR maintains and provides data.

Expenditures. In 2014-15, DNR is authorized

funding of \$7,351,000 with 66.25 positions to administer the federally-regulated operation permit program. Of the positions, 56.5 are located in the Bureau of Air Management, and the remaining 9.75 work in the Division of Air, Waste and Remediation and Redevelopment divisionwide management, Division of Enforcement and Science, and Division of Customer and Employee Services. In 2014-15, DNR is authorized funding of \$1,592,100 with 12.0 positions to administer the state-regulated operation permit program. Table 8 shows operation permit fee revenue collections and expenditures for 2008-09 through 2013-14, with separate columns for federally-regulated and state-regulated fees

Table 7: Stationary Source Operation Permit Fees Assessed by Permit Type, 2012-13 and 2013-14

Permit Type Assessed	2012-13	2012-13	2013-14	2013-14
	Number of Permit Type	Assessed Revenues	Number of Permit Type	Assessed Revenues
Federally-Regulated Sources Permits				
Federal Operation Permit	349	\$5,515,139	383	\$7,177,966
Other FOP Requirements *	<u>25</u>	<u>67,729</u>	<u>29</u>	<u>122,172</u>
Subtotal Federally-Regulated Sources	374	\$5,582,868	412	\$7,300,138**
State-Regulated Sources Permits				
Synthetic Minor (SM80)				
Federally Enforceable State Operating Permit (FESOP)	129	\$513,700	129	\$521,500
SM80 Other than FESOP *	<u>16</u>	<u>35,200</u>	<u>17</u>	<u>29,000</u>
Subtotal Synthetic Minor (SM80)	145	\$548,900	146	\$550,500
Synthetic Minor				
Federally Enforceable State Operating Permit	325	\$106,671	328	\$137,437
Registration Operation Permit (ROP)	208	70,000	207	82,800
General Operation Permit (GOP)	339	105,600	345	138,000
State Operation Permit (SOP)	<u>74</u>	<u>24,265</u>	<u>152</u>	<u>60,800</u>
Subtotal Synthetic Minor	946	\$306,536	1,032	\$419,037
Natural Minor				
Registration Operation Permit	322	\$96,600	349	\$139,600
General Operation Permit	2	600	2	800
State Operation Permit	81	24,227	81	32,900
Other SOP Requirements *	<u>414</u>	<u>124,200</u>	<u>362</u>	<u>144,800</u>
Subtotal Natural Minor	819	\$245,627	794	\$318,100
Total State-Regulated Sources	1,910	\$1,101,063	1,972	\$1,287,637
Total All Operation Permit Fees	2,284	\$6,683,931	2,384	\$8,587,775
Number Exempt from Permit and Fees	381		416	

*"Other" can include sources operating under a permit for which they have applied prior to DNR action on the permit application, or operating under some other type of permit provision but included by DNR in the listed category.

**Table 6 and Table 7 data for federally-regulated sources differs slightly, primarily because DNR established emissions, base, and flat fees in January, 2014 (Table 6), and compiled permit type (Table 7) in August, 2014.

Table 8: Air Operation Permit Revenue Collections and Expenditures

Year	Federally-Regulated Permits		State-Regulated Permits		Total Operation Permits	
	Revenue	Expenditures	Revenue	Expenditures	Revenue	Expenditures
2008-09	\$5,822,000	\$8,420,200	\$671,200	\$529,700	\$6,493,200	\$8,949,900
2009-10	8,140,700	7,591,200	1,120,100	1,587,500	9,260,800	9,178,700
2010-11	6,411,000	7,122,400	1,165,800	1,193,000	7,576,800	8,315,400
2011-12	6,568,000	6,358,400	1,034,000	897,400	7,602,000	7,255,800
2012-13	5,890,300	5,951,300	1,092,100	876,600	6,982,400	6,827,900
2013-14	7,281,900	5,765,200	1,222,200	865,600	8,504,100	6,630,800

and expenditures. Actual revenue collections differ from the assessed amounts shown in Tables 5, 6, and 7 because some fees were received in the fiscal year following the year assessed. Table 1 shows base funding amounts and authorized levels for the program revenue appropriations.

In 2014-15, the Bureau of Air Management is planning for work with 53 FTE, or 94%, of the 56.5 staff authorized under the federally-regulated operation permit appropriation. DNR is allocating 28 FTE of the 56.5 authorized staff related to federally-required operation permits to activities related to permit review and approval of Title V sources. Another 25 staff perform federal Title V program implementation activities such as: (a) ambient air modeling quality assurance when specified in an operation permit; (b) supervision; (c) administrative processing of permits; (d) compliance and enforcement; (e) emissions inventory; (f) development of multi-pollutant control strategies, best available retrofit technology, reasonably available control technology, and best available control technology for federally-regulated sources to meet Clean Air Act requirements; and (g) administrative support. The remaining 3.5 positions are anticipated to be vacant during 2014-15.

During 2014-15, DNR is planning for work in the Bureau of Air Management from 11.5 FTE of the 12 positions authorized from state-regulated operation permit fees. DNR is allocating the positions to perform the following functions for non- Title V sources: (a) permit review and approval; (b) implementation and enforcement of permits, including efforts related to sand mines; (c) administrative rule development; (d) preparation of materials for persons and sources subject to state-regulated permits; (e) ambient air quality modeling for permitted sources; (f) emissions inventory; and (g) ambient air modeling at industrial sand mining and processing plants (beyond the two positions funded from the segregated environmental management account).

Demonstration of Program Sufficiency

States are required to regularly demonstrate to EPA that the operation permit program meets federal requirements. In 2004, EPA published a Notice of Deficiency (NOD) for the Wisconsin federal Title V air operation permit program, in which EPA determined that the state's program did not comply with the Clean Air Act. EPA identified several deficiencies in the operation of the program. Wisconsin took several actions to eliminate the backlog of operation permit applications, separate the air operation permit fee appropriation into separate federally-regulated and state-regulated sources fees, demonstrate adequate staffing and funding levels, and make information technology improvements. In February, 2006, EPA formally determined that Wisconsin had resolved each of the deficiencies.

States are required to demonstrate to EPA that the emissions fees assessed by the state for federally-regulated sources will be sufficient to support the Title V program for at least four years. DNR provided a report to EPA, to demonstrate adequacy of fees through 2007-08, to help resolve the NOD issued in 2004. In the spring of 2013, DNR planned to submit a four-year fee adequacy demonstration report to EPA after the 2013-15 biennial budget was enacted with the fee changes described earlier. In the fall of 2014, DNR was still in the process of preparing a fee adequacy report which it hoped to submit to EPA by early 2015.

Other Air Permits and Fees Administered by DNR

Asbestos Abatement Fees

DNR is responsible for administering asbestos abatement regulations in conformance with EPA requirements. Persons who remove asbes-

tos-containing material as part of nonresidential demolition or certain renovation activities must follow asbestos abatement regulations to minimize the release of asbestos fibers into the air. Renovations are subject to DNR asbestos regulations if the amount of asbestos-containing materials exceeds minimum thresholds specified in administrative code. People must use a company or person certified by the Department of Health Services to perform asbestos investigation and abatement.

Persons must notify DNR at least 10 days before they perform asbestos abatement. Persons who are required to submit notification of asbestos abatement and demolition activity can either submit the information through the Internet-based system or submit a paper notification form. DNR reviews the notices for compliance with EPA requirements.

DNR collects asbestos inspection and construction permit exemption review fees from these persons. While the actual fee amounts are established in administrative rule NR 410, they cannot exceed statutory maximums. The current statutory maximum fees include: (a) \$700 for a combined asbestos inspection fee and construction permit exemption review fee if the combined square and linear footage of friable (readily crumbled or brittle) asbestos-containing material involved in the project is less than 5,000; or

(b) \$1,325 if the combined square and linear footage is equal to or greater than 5,000. Table 9 shows that the fees set in administrative rule are less than the \$700 maximum for small- (\$135) or medium-sized (\$400) projects.

DNR is authorized to initiate enforcement action against persons who do not comply with asbestos abatement regulations. The Department may also issue citations for violations of a small number of asbestos abatement laws.

DNR administrative rule fee changes effective January 1, 2011, increased asbestos inspection fees to the amounts shown in Table 9. Three additional fees include: (a) \$100 for DNR review of a revised notice of an asbestos renovation or demolition activity; (b) \$100 for DNR inspection of a property proposed to be used for a community fire safety training project for which the Department requires inspection; and (c) a requirement for payment of the required fee after the asbestos renovation or demolition if advance notice and advance payment of the fee was not made as required. DNR administrative rules also authorize the Department to charge for the costs it incurs for laboratory testing for a nonresidential asbestos demolition and renovation project.

DNR received 3,529 notifications for asbestos abatement and demolition projects in 2012-13 (including 1,745 original and 1,784 revisions

Table 9: Asbestos Combined Inspection and Construction Permit Exemption Fees

Size of Asbestos Project	Combined Fee Set in Rule Before 2011	Statutory Maximum Fee	Combined Fee Set in Rule as of 2011
Small (< 160 square feet, 260 linear feet)	\$75	\$700	\$135
Medium (= or > 160 square feet, 260 linear feet and < 1,000 combined feet)	225	700	400
Large (= or > 1,000 and < 5,000 combined feet)	400	700	700
Extra large (= or > 5,000 combined feet)	750	1,325	1,325
Notification revision	0*	100	100
Community fire safety training burn	0*	100	100

* Fee did not exist prior to 2009 Act 28.

of notifications) and 3,760 in 2013-14 (including 1,774 original and 1,986 revisions). The number of notifications included 262 for community fire safety training project burns in 2012-13 and 279 in 2013-14, for which a \$100 fee is charged. DNR staff, and counties and municipalities under contract with DNR, reported to EPA that they inspected 297 asbestos abatement projects in federal fiscal year 2012 and 279 projects in federal fiscal year 2013 before and after abatement activities.

The various asbestos abatement fees are deposited in a DNR program revenue appropriation. The Department uses the various asbestos abatement revenues to administer asbestos abatement regulations in conformance with EPA requirements, to hire contractors to conduct inspections of asbestos abatement activities and to provide training.

DNR collected asbestos abatement fees totaling \$698,700 in 2012-13 and \$733,200 in 2013-14. DNR program expenditures totaled \$383,000 in 2013-14. In 2014-15, DNR is authorized base funding of \$528,300 with 4.0 PR positions for asbestos abatement activities. DNR transferred asbestos abatement fees from the appropriation balance to the general fund totaling \$214,700 in 2012-13 and \$204,900 in 2013-14, as part of the Department's obligations under the 2011-13 and 2013-15 biennial budget acts.

Ozone-Depleting Substances Fees

While Clean Air Act regulations work to reduce levels of ground-level ozone, and resulting detrimental health effects, ozone in the stratosphere (or upper atmosphere, approximately six to 30 miles above the earth) is considered beneficial. Stratospheric ozone filters the sun's harmful ultraviolet radiation. Depletion of stratospheric ozone increases ultraviolet radiation, and has been associated with harmful health effects and global climate change.

The federal Clean Air Act Amendments of 1990 required the phase-out of production and sale of chemicals that deplete stratospheric ozone. The production of certain Class I ozone-depleting chemicals was phased out by 2001, and the production of certain Class II chemicals is being phased out between 2015 and 2030. Since 1992, people must recapture and recycle certain ozone-depleting chemical substances, may not knowingly vent refrigerants from household appliances, commercial refrigerators and air conditioners, and must remove certain ozone-depleting substances from products prior to disposal of the products.

Since 1993, DNR administers rules related to the disposal of any equipment containing ozone-depleting refrigerants. The DNR program prohibits knowing or negligent releases of ozone-depleting refrigerants. The federal Clean Air Act provisions on stratospheric ozone are somewhat more comprehensive than Wisconsin law but the two laws are generally consistent.

DNR collects annual registration fees from persons who remove ozone-depleting refrigerants (chlorofluorocarbons or CFCs) from motor vehicles and appliances such as refrigerators and air conditioners during salvage operations. Annual fees are also collected from persons who transport appliances for salvage. These revenues are deposited in a program revenue appropriation and are used to administer CFC regulations to ensure that CFC removal activities do not release CFCs into the air.

DNR collected ozone-depleting refrigerants fees totaling \$160,500 in 2012-13 and \$147,900 in 2013-14. DNR program expenditures totaled \$59,600 in 2013-14. In 2014-15, DNR is authorized base funding of \$125,100 with 1.5 PR positions for ozone-depleting refrigerant activities. This reflects the Department's July, 2014, deletion of 0.5 vacant position as part of the Department's obligation to delete 32.1 positions agencywide under the 2013-15 biennial budget act. DNR transferred ozone-depleting fees from the

appropriation balance to the general fund totaling \$124,100 in 2012-13 and \$20,200 in 2013-14, as part of the Department's obligations under the 2011-13 and 2013-15 biennial budget acts.

Air Monitoring Activities

DNR operates a statewide air monitoring program to: (a) determine the ambient air quality levels statewide; (b) identify areas where air quality standards are not being achieved; (c) measure the environmental impact of air pollutants; and (d) evaluate the effectiveness of efforts and control strategies to improve air quality. Data from the monitoring networks is collected and analyzed to ensure quality and used for air quality reporting and planning purposes.

DNR operates several networks of air quality monitors at numerous permanent sampling sites throughout the state. During 2014, DNR operated 38 monitoring sites throughout the state. DNR collected data on several different pollutants at most of the sites. In addition, DNR processed data collected by others at 24 other sites, including 22 industrial (13 of which are industrial sand operations) and two tribal sites. In 2014, DNR collected data on: (a) ozone at 27 monitoring sites; (b) PM2.5 (fine particulate matter) at 18 sites, 14 of which also collected continuous hourly data on PM2.5 concentrations; (c) PM10 at seven sites, three of which collected continuous data, five of which collected filter-based data (one collected both); (d) nitrogen oxides at three sites, plus one tribal site; (e) sulfur dioxide at five sites, plus one tribal site; (f) carbon monoxide at two sites; (g) toxic air pollutants at four sites; (h) continuous gaseous mercury at two sites, plus one tribal site; and (i) lead at one site.

Monitors at 18 PM2.5 monitoring stations collect a discreet sample for a 24-hour period from midnight to midnight, every day, every third day or every sixth day, according to a nationwide sampling schedule. The filter is collected after the 24-hour period and analyzed to determine the average PM2.5 reading. No sampling is performed during the two or five day interim period until a new filter collects another 24-hour PM2.5 reading on the third or sixth day. In addition, continuous PM2.5 monitors are located at 14 of the 18 monitoring locations and provide continuous measurement of the PM2.5 concentrations at those stations 24 hours a day, seven days a week. Measurements from the continuous PM2.5 monitors are updated and reported hourly on the DNR Air Management program web site.

DNR air monitoring efforts in 2014 included: (a) performing continuous PM2.5 monitoring at 14 sites; (b) implementing and using the PM2.5 monitoring network to answer questions about visibility and regional haze issues; (c) performing continuous monitoring of fine particulates and other pollutants to aid in calculating the air quality index DNR uses to inform the public about ambient air quality on a daily basis; (d) maintaining the posting of monitoring data on the DNR web site on an hourly basis, so that people who are most likely to be affected by air pollution, such as families with asthmatic children, could take actions to minimize the impacts of air pollution on their health; (e) implementing revised federal sulfur dioxide and nitrogen oxides monitoring requirements; (f) supporting tribal entities with air monitoring needs; and (g) operating atmospheric deposition monitors.

Ozone monitoring is providing the data used to determine attainment status for the ozone standards and provides specialized information on days where ozone levels exceed standards. DNR performs an annual review of monitoring locations every January, solicits public comment and submits a monitoring plan to EPA.

Under 2013 Act 20, \$70,000 GPR in 2013-14, and \$30,000 GPR, annually beginning in 2014-15 was appropriated to DNR for the specific purpose of funding the construction, operation, and maintenance of an air quality monitoring station in a county identified in its entirety as a nonattainment area for the 2008 eight-hour national ambient air quality standard for the purpose of assessing ozone concentrations under federal regulations. Sheboygan County is the only county that meets the budget language definition. An ozone air quality monitoring station was installed and operation began in April, 2014.

In addition to the air quality monitors, DNR's other monitoring activities during 2014 included: (a) operating a network of 24 meteorological stations, which are used to evaluate the impact of weather on the ambient concentrations of pollutants being monitored; and (b) performing atmospheric deposition monitoring at seven precipitation monitors and three mercury deposition monitoring sites as part of the Department's participation in the National Atmospheric Deposition Program, a collaborative research effort of several states, federal agencies, and non-governmental research organizations. DNR also collects air quality samples for the U.S. Department of Homeland Security biowatch program. The details of that activity are classified.

Compliance and Enforcement

EPA has delegated compliance and enforcement responsibilities related to Clean Air Act provisions in Wisconsin to DNR. DNR performs activities such as: (a) inspecting stationary sources to ensure compliance with emission limits, permit restrictions and operating requirements; (b) reviewing stack emissions test results or witness stack tests to determine if a source is in or out of compliance; (c) investigating complaints received from citizens; and (d) taking enforcement action when necessary to obtain compliance. The Department also submits a variety of compliance data to EPA to assist in maintaining a national database of air program compliance and enforcement information.

Table 10 shows the number of inspections made by DNR's Air Management program at Wisconsin facilities for the past 10 years. The enforcement process includes issuance of a letter of noncompliance or a notice of violation for more serious violations. While DNR does not track the number of various types of violations, examples of violations are failure to submit a report, failure to construct or operate according to the permit, failure to obtain a permit before construction or operation, failure to monitor, or failure to submit compliance certification information, failure to notify DNR before removing asbestos, violations

Table 10: Inspection and Compliance, 2004-05 to 2013-14

Fiscal Year	Number of Inspections	Noncompliance Rate	Letters of Noncompliance	Notices of Violation
2004-05	299	25%	102	185
2005-06	376	29	80	209
2006-07	402	20	73	151
2007-08	418	20	58	154
2008-09	431	23	102	115
2009-10	357	12	55	82
2010-11	275	13	37	60
2011-12	257	13	39	35
2012-13	250	14	29	22
2013-14	263	17	33	23

of emissions requirements, and open burning.

Other Regulated Pollutants

Mercury Emissions

Mercury is a toxic, persistent pollutant that accumulates in the food chain. Mercury emissions in the air fall onto the earth's surface through rain and snow and enter lakes, streams and other water bodies. Once it reaches the water, mercury turns into a toxic form that concentrates in fish and animal tissues. People are exposed to mercury primarily by eating fish. EPA has acted to cut emissions of mercury from large industrial sources.

EPA established federal mercury emission control requirements for new and existing coal-fired power plants, effective May, 2005. In response to legal challenges, on February 8, 2008, the United States Court of Appeals for the District of Columbia vacated the clean air mercury rule as insufficiently stringent.

In February, 2012, EPA issued mercury and air toxics standards for coal- and oil-fired electric utilities, effective April 16, 2012, with compliance required beginning April 16, 2015. One-year extensions of the deadline are permitted by request to, and approval by DNR. In April, 2013, EPA updated mercury and air toxics standards with emissions limits for coal- and oil-fired power plants built in the future.

DNR mercury emission rules in administrative code Chapter NR 446, apply to air contaminant sources which emit mercury. NR 446 changes effective December 1, 2008, related to mercury emissions from coal-fired power plants. The seven regulated utilities under the 2008 changes are Dairyland Power Cooperative, Madison Gas and Electric Company, Manitowoc Public Utilities, Northern States Power of Wis-

consin, We Energies, Wisconsin Power and Light Company, and Wisconsin Public Service Corporation.

NR 446 establishes a method for calculating a mercury emissions baseline, based on the mercury content of the fuel input. Large major electric utilities are required to reduce their mercury emissions by at least 40% from the 2005 baseline mercury emissions, beginning January 1, 2010. These major utilities include Dairyland Power Cooperative, We Energies, Wisconsin Power and Light Company, and Wisconsin Public Service Corporation. NR 446 also establishes requirements and methods for reporting annual mercury emissions by major utilities.

Utilities are required to submit a report to DNR of annual emissions, beginning with calendar year 2010. Data reported by the major utilities is available for calendar year 2010 through 2013 emissions. The utilities reported that they are in compliance with the required 45% reduction from the 2005 baseline. In 2012, DNR compilation of data showed a 65% reduction from the 2005 emission baseline in 2011, with total mercury emissions of 1,300 pounds. As of the fall of 2014, DNR was reviewing reports submitted by utilities in 2013 and 2014.

NR 446 requires that, by April 16, 2016 (changed from January 1, 2015, to conform with federal timelines), coal-fired power plants greater than 150 megawatts in generation capacity must achieve a 90% mercury emission reduction or limit the concentration of mercury emissions to 0.0080 pounds of mercury per gigawatt-hour of electricity produced. By the same date, small coal-fired power plants (with capacity greater than 25 MW and less than 150 MW) must reduce their mercury emissions to a level defined as best available control technology (BACT). NR 446 provides that these requirements can be met through a multipollutant compliance option where emissions of nitrogen oxide and sulfur dioxide are reduced by 2015, and mercury reduc-

tions are phased in at 70% control in 2015, 80% in 2018, and 90% in 2021.

Greenhouse Gas Emissions

Carbon dioxide and other greenhouse gases affect the planet's climate, with environmental and human health consequences. Major human-related sources of carbon dioxide emissions are the burning of coal, oil, and gas. These sources include power plants, motor vehicles, and other industrial combustion sources. According to EPA, in 2014 the process of generating electricity is the largest source of greenhouse gas emissions, representing roughly one-third of all greenhouse gas emissions in the United States.

In April, 2007, the U.S. Supreme Court ruled that greenhouse gases are air pollutants covered by the Clean Air Act, and that EPA must determine whether emissions of greenhouse gases from new motor vehicles cause or contribute to air pollution which may reasonably be anticipated to endanger public health or welfare, or whether the science is too uncertain to make a reasoned decision. On December 7, 2009, EPA issued an endangerment finding that stated the current and potential future concentrations of carbon dioxide and five other greenhouse gases threaten the public health and welfare of current and future generations. The EPA finding also stated that the combined greenhouse gas emissions from new motor vehicles and new motor vehicle engines contribute to greenhouse gas emissions that threaten public health and welfare. On June 26, 2012, the U.S. Court of Appeals - D.C. Circuit, upheld the endangerment finding for passenger vehicles and permitting for stationary sources.

On May 13, 2010, EPA issued a final rule called the greenhouse gas (GHG) tailoring rule to define when federal operation permits are required for new and existing industrial sources that emit greenhouse gases. It also established thresholds for the amount of greenhouse gas emissions that would be considered significant for purposes

of requiring federal operation permits for newly-constructed or modified sources. On June 23, 2014, the U.S. Supreme Court overturned the tailoring rule. The court stated that EPA lacked the authority to require a source to obtain a permit based solely on greenhouse gas emissions, but that EPA could regulate greenhouse gas emissions if an air permit is already required for emissions of other regulated pollutants. In July, 2014, EPA notified states that it would not enforce permit provisions that require sources to obtain permits solely on the basis of their greenhouse gas emissions.

DNR promulgated rule revisions, effective September 1, 2011, for construction and operation permits related to EPA's emission standards for greenhouse gas emissions, and the emission thresholds for determining whether facilities are major or minor sources. In addition, under 2011 Wisconsin Act 171, DNR may only consider carbon dioxide emissions from the burning or decomposition of organic material, other than fossil fuels, in determining whether a construction permit or operation permit is required, or whether best available control technology is required, for greenhouse gas emissions if the carbon dioxide emissions are considered in a manner consistent with federal regulations.

DNR administrative rules in NR 407, effective September 1, 2011, were intended to comply with EPA rules defining when operation permits are required for new and existing industrial sources that emit greenhouse gases. Under the rule, emissions of greenhouse gases at stationary sources are subject to regulation if, on or after July 1, 2011, the source emits or has the potential to emit 100,000 tons per year or more of greenhouse gas on a carbon dioxide equivalent basis (a way of measuring greenhouse gas emissions defined in the rule). DNR estimates up to approximately 100 sources in Wisconsin have potential emissions exceeding the threshold, of which approximately 80 were already subject to permitting requirements because of emissions of

other pollutants.

After the June, 2014, U.S. Supreme Court ruling that EPA cannot require permits based solely on greenhouse gas emissions, DNR is no longer considering greenhouse gas emissions when determining whether a facility is a major source under the federal operation or construction permit program. DNR found that six facilities, all of which were ethanol plants, were considered major sources solely because of their greenhouse gas emissions, and will no longer need to make that consideration. DNR had issued major source operation permits to two of the six facilities. DNR is discussing with those facilities whether they want their permit revised to be a synthetic minor source operation permit (a state permit that contains conditions that limit potential emissions to less than 100% of the major source thresholds, but allows the emissions to be greater than 80% of the major source threshold).

On October 30, 2009, EPA issued a final rule called the greenhouse gas reporting rule requiring large sources to annually report their greenhouse gas emissions to EPA. Suppliers of fossil fuels or industrial greenhouse gases, manufacturers of vehicles and engines, and facilities with 25,000 metric tons or more per year of greenhouse gas emissions are subject to the reporting requirements. Information is available for sources required to report greenhouse gas emissions for calendar years 2010 through 2012. In September, 2013 (the most recent reporting year available) 149 Wisconsin facilities reported greenhouse gas emissions to EPA for 2012, totaling approximately 54.8 million metric tons on a carbon dioxide equivalent basis (an EPA-specified method of measuring various greenhouse gas emissions in terms of the amount of carbon dioxide that would create the same amount of emissions).

On June 2, 2014, EPA proposed a rule to reduce carbon dioxide emissions by U.S. fossil fuel-powered electric generating units (power plants) by approximately 30% nationwide by

2030. EPA proposed guidelines for states to follow in developing plans to reduce greenhouse gas emissions from these power plants. EPA accepted public comments during the fall of 2014, and plans to issue a final rule in June, 2015.

Clean Air Interstate Rule

EPA issued the federal Clean Air Interstate Rule (CAIR) in March, 2005, to address the issue of emissions from power plants being transported through the air from one state to another in the eastern United States. On July 11, 2008, the U.S. Court of Appeals for the District of Columbia vacated all of the Clean Air Interstate Rule.

On July 6, 2011, EPA finalized a Cross-State Air Pollution Rule (CSAPR) to replace the CAIR. The rule required 27 states, including Wisconsin, to reduce power plant emissions that contribute to ozone and fine particle pollution in other states. In response to legal challenges, on August 21, 2012, the U.S. Court of Appeals for the District of Columbia Circuit vacated the rule, saying the rule exceeded EPA's authority. On April 24, 2014, the U.S. Supreme Court reversed the U.S. Court of Appeals. In the fall of 2014, the Supreme Court was considering a motion from the federal government to lift the stay on the CSAPR.

Acid Rain

Acid rain is formed when emissions of sulfur dioxide and nitrogen oxides undergo chemical changes in the atmosphere and return to the earth's surface as acid rain, causing damage to lakes, forests, other ecosystems, and buildings. Power plants are estimated to account for approximately two-thirds of sulfur dioxide and one-fourth of nitrogen oxide emissions. Emissions of these substances often travel hundreds of miles.

The Clean Air Act Amendments of 1990 focus on reducing national power plant emissions of sulfur dioxide from approximately 20 million to

10 million tons annually in two phases, beginning in 1995 and applying to 111 power plants nationwide with a generating capacity and emissions rate above specified levels. Six Wisconsin plants were affected, including Edgewater, La Crosse/Genoa, Nelson Dewey, North Oak Creek, Pulliam and South Oak Creek. A power plant is allotted emissions allowances equal to the number of tons of sulfur dioxide it is allowed to emit. Power plants may either reduce their emissions or acquire allowances from other facilities to achieve compliance.

The federal acid rain program also limits nitrogen oxides emissions. Limitations on nitrogen oxides emissions are based on the amount of fuel put into a boiler. The specific numerical nitrogen oxides limit is also dependent on the technical design category of the boiler.

Wisconsin enacted significant controls in 1985 to reduce acid rain, requiring the state's major electric utilities to reduce emissions of sulfur dioxide and nitrogen oxides that have resulted in a more than two-thirds reduction in sulfur dioxide emissions from 1985 amounts. While coal-burning electrical utilities account for most of the sulfur dioxide emissions in Wisconsin, pulp and paper mills are also major emitters. Some Wisconsin's electric utilities subject to federal sulfur dioxide emissions allowances have sold emissions allowances under these provisions.

Other DNR Activities

Air Quality-Related Voluntary Initiatives

DNR air program staff work with other organizations in developing several voluntary initiatives intended to improve air quality. Some examples of the initiatives that DNR worked on during the 2013-15 biennium are:

1. The Wisconsin Partners for Clean Air program in southeastern Wisconsin seeks voluntary actions by business and government organizations to reduce emissions that cause ground level ozone by approximately two tons per summer day of ozone-related emissions.

2. The Green Tier program encourages regulated facilities to achieve superior environmental performance by offering regulatory flexibility through negotiated agreements.

3. DNR worked with several industries to improve environmental performance, reduce air emissions, and simplify the reporting of emissions. Examples of industries are agribusiness, food processing, brewing, military, energy, wood products, paper, printing, transportation, small business, and other manufacturing types.

4. DNR used EPA funding to work with surrounding states to develop an environmental results program for autobody refinishing shops. The program helps autobody shops understand air emissions requirements and improve their environmental performance.

5. DNR used a federal CMAQ grant to complete fleet training projects intended to reduce emissions, especially from diesel trucks, by employing eco-driving techniques that encourage more energy-efficient and fuel-efficient methods of driving.

Small Business Environmental Assistance Program

The federal Clean Air Act Amendments of 1990 require states to operate a small business assistance program which includes technical assistance for businesses, a compliance advisory panel and a small business ombudsman. Under 2011 Act 32, effective in 2011-12, the Small Business Clean Air Assistance program was moved from the former Department of Commerce to DNR.

During 2013-14, DNR expanded the program to provide assistance in other environmental regulations, especially waste and water. DNR changed the name of the program to the Small Business Environmental Assistance program.

DNR primarily allocates one position in the Bureau of Air Management for air regulations and two positions in the Sustainability and Business Support Section to other environmental regulations. The Department funds the air management position with stationary source fees received from federally-regulated sources under the Title V operation permit program, and the other two positions from the segregated environmental management account.

The program provides technical assistance by working as a liaison between small businesses and state (such as DNR) and federal (such as EPA) regulating agencies. DNR staff develop informational publications, answer compliance questions, respond to regulatory inquiries, coordinate environmental compliance workshops, and direct businesses to other technical assistance providers. DNR designates a staff person to work as a small business advisor to connect small businesses with DNR staff and information they need, make recommendations about DNR regulations that may affect small businesses, and facilitate resolution of disputes involving small businesses.

Under 2011 Act 32, the Small Business Environmental Council was transferred from the former Department of Commerce to DNR. The Council consists of eight members appointed by the Governor, legislative leadership, and DNR. The Council is required to advise DNR concerning the small business environmental assistance program. The Council meets quarterly to work on air, waste, and water issues such as to review and comment on: (a) how DNR provides information to small businesses; (b) how proposed administrative rules will impact small businesses; and (c) how DNR can best assist small busi-

nesses in trying to comply with environmental regulations. DNR staff in the small business environmental assistance program staff the Council.

Federal Clean Diesel Emission Reduction Grant Program

In 2008 through 2014, DNR received federal funds under CMAQ and the federal American Recovery and Reinvestment Act of 2009 for diesel emission reduction activities in certain types of vehicles and equipment. Funded types include trucks, school buses (including school bus replacements), municipal on-road and municipal off-road vehicles, cement trucks, refrigeration trailers, construction equipment, agricultural equipment, and switcher locomotives at rail yards (the locomotives move railroad cars around at rail yards from one train to another). The program funds truck idling reduction units which provide heat, air conditioning, or electricity to the truck tractor while the truck is stationary, in order to reduce idling of the truck engine when the truck is parked. The program has also funded exhaust retrofits, engine repowers, and school bus replacements.

Between 2008 and September 30, 2014, DNR used the funds for 143 grant awards totaling \$4,774,700 to fund 813 diesel idling reduction devices or retrofits. Of the 813 units funded, the largest type were 294 truck idle reduction units, and 223 were school bus idle reduction units, exhaust retrofits, or replacements. In June, 2014, DNR submitted an application to EPA for \$133,098 in federal diesel emission reduction funding for October 1, 2014, through September 30, 2015.

Gasoline Vapor Recovery Equipment Removal Grant Program

Under 2013 Act 20, a gasoline vapor recovery equipment removal grant program was created to reimburse gasoline station owners or opera-

tors for the costs of removing Stage II vapor recovery equipment that is no longer required by EPA. DNR is appropriated \$1,000,000 SEG from the petroleum inspection fund in 2013-14, in a biennial appropriation. The program requirements include: (a) eligible grant applicants are owners or operators of a gas station who remove the Stage II vapor recovery equipment from the gas station on or after April 16, 2012; (b) the gas station must be located in Kenosha, Kewaunee, Manitowoc, Milwaukee, Ozaukee, Racine, Sheboygan, Washington, or Waukesha County; (c) the maximum grant is 50 percent of eligible costs of removing the system, or \$8,000, whichever is less; and (d) grants are to be awarded in the order eligible applications are received.

The statutes specify eligible costs of removal of the system. These costs include: (a) labor and parts associated with electrical work or programming required to convert an existing fuel dispenser from operating with vapor recovery to operating without vapor recovery; (b) labor and parts for replacing hanging hardware on the dispenser (such as the hose, nozzle, and connectors); (c) costs of new hanging hardware in certain situations; and (d) costs of certain testing of the equipment.

DNR processed 391 grant applications for \$588,142 in approved costs in 2013-14, and paid \$511,786. The remaining amounts were paid in 2014-15. In addition, as of July 1, 2014, DNR was processing 11 applications. DNR estimates there are over 800 active gas stations that would be eligible to apply for grants under the program. DNR anticipates that all or most of the remaining funds will be spent during 2014-15.

Department of Transportation Activities

Wisconsin's motor vehicle inspection and maintenance program, in operation since 1984,

requires that most vehicles in southeastern Wisconsin be inspected to ensure that they comply with emission standards and that pollution control equipment is operational. The state Department of Transportation (DOT) administers the program through a contract with a private firm, while DNR sets the emission standards. The program operates in the state's seven moderate non-attainment counties under the eight-hour ozone standard (Kenosha, Milwaukee, Ozaukee, Racine, Sheboygan, Washington and Waukesha). Six of the seven counties (all but Sheboygan) have been redesignated as attainment.

The seven counties continue to be subject to the inspection maintenance program as part of Wisconsin's state implementation plan. Before the state could end the vehicle inspection and maintenance program, it would have to submit a SIP revision to EPA demonstrating how the counties would maintain their attainment status without the inspection maintenance program, and how emissions reductions would be obtained from other sources than vehicles.

Vehicles are required to be tested every other year, beginning in the third year after the vehicle's model year, and, for vehicles more than five years old, upon a change of ownership. Certain vehicles, however, are not required to be tested. Specifically, gasoline-powered vehicles older than model year 1996 and diesel-powered vehicles older than model 2007 cannot be tested using current testing methods and so are exempt. In addition, vehicles of model year 1996 to 2006 that are over 8,500 pounds and vehicles of model year 2007 or newer that are over 14,000 pounds are also exempt from testing.

There is no fee paid by the vehicle owner for the initial test, although vehicle owners are responsible for the cost of any required repairs. Vehicles that fail an emissions test must be repaired and pass a subsequent test.

Beginning in July, 2012, the testing process

was changed from a centralized to a decentralized system. Currently, testing may be performed at any of about 200 approved motor vehicle service stations. DOT's contractor coordinates the system for approving the facilities and providing testing equipment. The contractor also pays service centers \$2 per test conducted, or \$4 per test if the service center also provides vehicle regis-

tration renewal at the time of the test. DOT pays the contractor \$2.6 million per year in transportation fund SEG for these services. Previously, emissions testing was conducted at a few centralized service centers located throughout the testing counties (nine facilities at the time of closure).