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. The U.S. Environmental Protection Agency (EPA) is responsible for federal implementation of the Clean Air Act. The Clean Air Act called for a gradual implementation of many of its provisions over many years.

EPA establishes air quality standards for various air pollutants, and designates areas in states that do not meet the standards. These areas are called "nonattainment areas." EPA issues regulations that require states to reduce emissions of ozone precursors, nitrogen oxides, particulate matter and other pollutants over several years. In general, states are required to: (a) develop and submit to the federal government a series of implementation plans describing the programs and controls the state will utilize to reduce emissions and attain acceptable air quality levels; and (b) implement the plans to attain specific air quality levels by established dates or risk further federal requirements and eventually sanctions.

The Clean Air Act also: (a) created stricter standards on emissions from motor vehicles; (b) called for the use of alternative clean fuels; (c) created additional controls on air emissions at industrial facilities; and (d) established 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.

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 issues construction and operation permits for air emission sources, monitors air quality across the state, and enforces air quality standards. The Department of Transportation (DOT) administers certain provisions regarding vehicle inspections and other transportation control measures.

Federal clean air requirements are having major impacts on individuals and businesses in Wisconsin. In particular, DNR has submitted a series of plans to EPA that outline the measures the state will take to reduce emissions of ozone and particulate matter, especially in the southeastern portion of the state. DNR has initiated several programs and instituted several controls necessary to create plans that would reduce ozone and particulate matter emissions and meet national standards for ozone and particulate matter.

The Clean Air Act requires states to implement a permit program for certain large stationary sources of air pollutants. DNR established and operates a program to issue permits to new and existing stationary sources of air emissions.

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 issuance of air emission permits, compliance and monitoring activities, development of state implementation plans in compliance with federal requirements, special air studies, other air management programs, and funding sources for DNR air management programs.

National Ambient Air Quality 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 we 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.

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.

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. If EPA adopts an air quality standard, then DNR must adopt a standard for the pollutant.

DNR adopts primary and secondary ambient air quality standards by administrative rule. Generally, state law requires DNR to adopt the federal standard. This is discussed in the Chapter 2 section on state implementation plan development.

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 (NOx) 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

Volatile organic compounds 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. While VOCs are not listed as criteria air pollutants, EPA and state efforts have targeted VOCs for reduction as part of smog control efforts.

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 NOx. In addition to being a component of ozone, NOx 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, and is comprised of tiny pieces of solid particles and liquid droplets that refract light and create haze or brown clouds. Particulate matter can enter the lungs through the mouth and nose and cause negative health effects. Examples of sources of particulate matter include trucks, power plants, industrial processes, crushing and grinding operations, windblown dust, wood stoves, unpaved roads, agricultural plowing, and forest fires.

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 $1/1000^{th}$ of a millimeter. There are 25,400 micrometers in an inch. A human hair is approximately 70 micrometers in diameter.)

Fine particles, known as PM2.5, 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.

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.

Currently, ozone and PM2.5 are two air contaminants for which some Wisconsin counties have been or are in nonattainment. The status of ozone attainment and nonattainment designations for Wisconsin counties are described in a later section on ozone. The status of particulate matter attainment and nonattainment designations for Wisconsin counties is described in a later section on particulate matter.

The 1990 Clean Air Act Amendments established planning procedures and penalties for states that do not achieve air quality standards by the applicable attainment date. Areas that fail to attain the air quality standards by the required time may

be faced with additional mandatory requirements.

States are required to develop state implementation plans (SIP) 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 requirements.

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.

One-Hour Standard

In 1978, EPA established a one-hour ozone standard of a concentration of 0.12 parts per million (ppm). Violation of the standard determined whether a region was in nonattainment. An area would be considered in violation of the one-hour standard if the number of days in which the standard was exceeded is greater than three during a three-year period.

Eleven Wisconsin counties were designated as being in nonattainment of the one-hour ozone standard. These counties were: (a) Kenosha, Milwaukee, Ozaukee, Racine, Washington and Waukesha were designated as being in severe nonattainment; (b) Door and Walworth Counties were designated as marginal; (c) Manitowoc and Kewaunee Counties were designated as moderate; and (d) Sheboygan County was designated as serious, and later reclassified as moderate.

In 1996, Kewaunee, Sheboygan, and Walworth Counties were redesignated as attainment. In 2003, Door and Manitowoc Counties were redesignated as attainment. EPA revoked the one-hour standard, effective June 15, 2005. EPA finalized approval, effective June 23, 2009, that the Milwaukee nonattainment area attained the one-hour ozone standard.

1997 Eight-Hour Standard

EPA adopted an eight-hour ozone standard in July, 1997, to replace the one-hour standard. 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). An area is considered to meet the 1997 eight-hour ozone standard if the average of the fourth highest eight-hour concentrations during each of three consecutive years is less than 0.085 ppm and violates it if the measurement is equal to or greater than 0.085 ppm or 85 ppb.

The United States Supreme Court issued a decision in February, 2001, that upheld EPA's authority to set the 1997 eight-hour standard. EPA issued final nonattainment designations for the eight-hour ozone standard in April, 2004.

In 2004, 10 counties in Wisconsin were designated as in nonattainment of the 1997 eight-hour ozone standards. These counties were: (a) Kenosha, Milwaukee, Ozaukee, Racine, Washington, and Waukesha counties were included in one moderate nonattainment area; (b) Sheboygan County was designated a separate moderate nonattainment area; and (c) Door, Kewaunee, and Manitowoc counties were designated as separate basic nonattainment areas, the category of least severe nonattainment.

EPA redesignated Kewaunee County as attainment effective May 21, 2008. EPA redesignated Manitowoc and Door Counties as attainment

effective July 12, 2010. EPA redesignated Kenosha, Milwaukee, Ozaukee, Racine, Washington, and Waukesha Counties as attainment effective July 31, 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.

2008 Eight-Hour Standard

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

Wisconsin submitted a recommendation to EPA in March, 2009, for all counties in the state to be designated as attainment of the 2008 eight-hour ozone standard. EPA completed nonattainment designations for the 2008 eight-hour ozone standard on April 30, 2012, and May 31, 2012. EPA designated Sheboygan County and the portion of Kenosha County east of Interstate 94 as nonattainment. States will have to submit state implementation plans by May, 2015, showing how they will meet the 2008 eight-hour ozone standards. DNR anticipates the current federal and state requirements will enable the two Wisconsin nonattainment areas to meet the 2008 standards without additional regulations.

Future Federal Actions

EPA is required to review the science supporting the national ambient air quality standards every five years. EPA has indicated it will review the 2008 ozone standard in 2013, and may potentially propose a revision to the standard by the end of 2013.

Particulate Matter Attainment

Standards Before 2006

Particulate matter standards address PM2.5 (fine particles that are 2.5 micrometers in diameter or less) and PM10 (inhalable coarse particles that are less than 10 micrometers and larger than 2.5 micrometers). EPA made initial designations of PM10 nonattainment areas in 1991, designating all of Wisconsin as in attainment, and has not changed the Wisconsin designation for PM10 since then.

In 1997, EPA established PM2.5 standards. In December, 2004, EPA designated all of Wisconsin as being in attainment of the 1997 PM2.5 standards.

2006 Standards

In September, 2006, EPA revised national ambient air quality standards for particulate matter. EPA reduced the PM2.5 24-hour average threshold from the 1997 standard of 65 micrograms per cubic meter to 35 micrograms per cubic meter. EPA retained the 1997 PM2.5 annual average standard of 15 micrograms per cubic meter. EPA retained the 1997 PM10 24-hour average standard of 150 micrograms per cubic meter. EPA revoked the PM10 annual average standard of 50 micrograms per cubic meter.

EPA requires states to establish monitoring sites and collect data on fine particulate matter. EPA also specifies the types of data that states must collect and that EPA will use to determine whether an area is to be designated as in nonattainment of the standard. For example, an area will meet the 24-hour standard if the 98th percentile of 24-hour PM2.5 concentrations in a year, averaged over three years, is less than or equal to the standard of 35 micrograms per cubic meter.

On October 8, 2009, based on 2006 to 2008 data, EPA issued final designations of areas in nonattainment of the 2006 PM2.5 standards, which included Milwaukee, Racine, and Waukesha Counties, effective December 14, 2009. States with areas that are designated in nonattainment of the 2006 PM2.5 standard needed to submit a state implementation plan by December 14, 2012 (three years after the effective date of the designation), that describes steps the state will take to reduce PM2.5 emissions, and come into attainment of the standard. States are allowed to request a "clean data finding" if monitored PM2.5 concentrations in the nonattainment areas are below the standard. States are required to meet the standards by December, 2014.

DNR submitted a clean data finding request to EPA on March 11, 2011. On April 24, 2012, EPA proposed to approve the clean data finding. Final EPA action on the DNR request is anticipated by early 2013.

DNR submitted a request to EPA on June 5, 2012, for redesignation of the three counties from nonattainment to attainment. The clean data finding and the redesignation request were based on monitoring data from 2008 through 2010. DNR indicates the three counties have met the PM2.5 standard since 2010.

Proposed Future Standards

On June 29, 2012, EPA proposed revisions to the PM2.5 annual average standard from the current 15 micrograms per cubic meter to a level within a range of 12 to 13 micrograms per cubic meter. EPA intended to issue rules by approximately December, 2012.

State Implementation Plan Requirements

States are required 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 great 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 will have to implement more controls. As a result, to date, Wisconsin's SIP places more stringent controls on ozone precursor emissions in the state's ozone nonattainment counties.

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. The SIP must include the following general provisions.

1. Enforceable emissions limitations, control requirements, and schedules to achieve compliance with the Act.

2. Systems to monitor, compile and analyze data on air quality.

3. A permit program and a fee schedule to cover the costs of permitting.

4. Provisions that prohibit emissions which contribute significantly to nonattainment of an air quality standard or cause significant deterioration of air quality or visibility.

5. Applicable controls on interstate and international air pollution.

6. The assurance of adequate personnel, funding and authorities under state law to implement and enforce the SIP.

7. The required installation of monitoring equipment by stationary sources, reports on the

monitored emissions and correlation of the monitored emissions to emission limitations.

8. Enforcement authority and procedures.

9. Provisions providing for the revision of the plan as required.

10. Requirements for consultation with local governments on applicable provisions and public notice if air pollutant levels exceed standards.

11. Air quality modeling to predict the effect of emissions on air quality standards.

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 for instance, 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 eighteen 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.

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. These categories of pollutant sources include: (a) stationary sources, which generally include fixed sources of pollution, such as factories, power plants, and other business facilities; (b) mobile sources, which generally include any motor vehicle equipment that is capable of emitting any air pollutant while moving, such as automobiles, buses, trucks and motorcycles; and (c) area sources, which encompass all other sources too small and numerous to regulate individually, generally including paints, solvents, asphalt paving, bakeries, gas stations, autobody finishing shops, degreasing supplies, farm equipment, pesticides, small graphic arts shops, and consumer products.

Stationary Sources

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. These larger 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, al-

though 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 are classified as highway vehicles (cars, trucks, and motorcycles) and off-road engines such as construction equipment, snowmobiles, all-terrain-vehicles, marine engines, chain saws, and lawn mowers.

Despite current emissions controls, 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.

Vehicular pollution can be reduced through: (a) purifying the fuel; (b) reducing exhaust and evaporative emissions; (c) reducing vehicle travel; or (d) improving vehicle flow on the highway system. 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. Clean fuels, to be used in clean-fueled vehicle fleets, may include methanol, ethanol, or other alcohols (including any mixture containing 85% or more by volume of alcohol with gasoline), reformulated gasoline, certain diesel, natural gas, liquified petroleum gas, hydrogen or electricity.

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.

RFG contains oxygenates as a method of reducing carbon monoxide and toxics. In the past, oxygenates were additives such as ethanol or ethers such as methyl tertiary butyl ether (MTBE). In part due to concerns over ground water contamination, effective August 1, 2004, Wisconsin banned the use of MTBE as the oxygenate component in reformulated gasoline sold in the state. EPA subsequently revoked the requirement that RFG must contain oxygenates (additives) such as ethanol or MTBE.

In Wisconsin, the six counties of Kenosha, Milwaukee, Ozaukee, Racine, Washington, and Waukesha are subject to the reformulated gasoline requirements. The only way the requirement would be removed for these counties would be 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 will not automatically end when the counties achieve attainment of the ozone standard.)

Phase 1 reformulated gasoline requirements were effective in January, 1995. Phase 2 RFG requirements were effective in January, 2000, and required further refinement of the components of reformulated gasoline to provide additional reductions in ozone pollutants. The Department of Safety and Professional Services (formerly Department of Commerce before July 1, 2011) is responsible for testing the content of gasoline to determine if it meets federal requirements.

Under the eight-hour ozone standard designations effective in June, 2004, the six counties in severe nonattainment of the prior one-hour standard, and subject to requirements to use RFG, were designated as being in moderate nonattainment of the eight-hour standard. Sheboygan County was the only additional county designated as in moderate nonattainment of the eight-hour standard. The Governor could request EPA approval to make the sale of reformulated gasoline mandatory in Sheboygan County. (As of November, 2012, the Governor had not done so.)

The Clean Air Act Amendments of 1990 require certain centrally-fueled fleets of ten or more motor vehicles to operate clean fuel vehicles and use clean fuels. This generally involves the use of vehicles fueled with alternatives to petroleum such as natural gas and electricity.

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. Facilities selling less than 10,000 gallons per month and independent marketers selling less than 50,000 gallons per month are exempt.

The requirement for installation of Stage II controls was phased-in from 1993 through 1995. The state submitted the elements of its vapor recovery program to EPA as part of the state's 1992 SIP requirements. DNR's compliance program enforced the requirements that owners or operators install the required stage II equipment.

On May 9, 2012, EPA published a finding, effective immediately, that determined the use of onboard refueling vapor recovery was in widespread use for gasoline-powered motor vehicles. EPA also waived the requirement that current and former ozone nonattainment areas classified serious and above must implement Stage II vapor recovery systems on gasoline dispensing pumps. EPA further 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.

For moderate or worse ozone nonattainment areas, the Clean Air Act requires the state to demonstrate that current vehicle usage, emissions, congestion levels and other factors are consistent with the levels used by the state for the purpose of demonstrating future attainment of air quality standards. If the current levels exceed the levels projected, then the state must implement transportation control measures as part of their overall air quality plan to reduce emissions.

EPA adopted regulations for heavy-duty diesel engines for highway vehicles that went into effect with model year 2007 vehicles that came into the market in mid-2006. The EPA also adopted regulations effective June, 2006, that required the use of ultra-low sulfur diesel fuel in highway diesel fuel. The fuel must contain levels of sulfur 97 percent less than previous levels (a decrease from 500 parts per million to 15 ppm), and became available at gas stations in October, 2006.

EPA and the U.S. Department of Transportation implemented a national program of greenhouse gas emission standards for new passenger cars, light-duty trucks, and medium-duty passen-

ger vehicles. On May 7, 2010, EPA issued final rules effective July 6, 2010, for model years 2012 to 2016. On December 1, 2011, EPA and the U.S. DOT proposed rules intended to extend the greenhouse gas emission standards to model years 2017 to 2025 for passenger vehicles.

On September 15, 2011, EPA and U.S. DOT issued final greenhouse gas and fuel economy standards, effective November 14, 2011, for medium- and heavy-duty engines and vehicles. The standards generally begin as voluntary standards for model year 2014, and become mandatory for most model year 2016 medium- and heavy-duty engines.

Area Sources

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 began to adopt regulations for nonroad engines in 1995. 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. 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, sold beginning in mid-2007. The emissions standards apply to all new engines sold in the United States and any imported engines manufactured after the standards begin. 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. The sulfur content requirement for fuel for these engines dropped from approximately 3,000 parts per million to 500 parts per million in 2007 and to 15 parts per million in 2010 for most off-road applications. Some of the largest engines and locomotives have a few additional years to comply.

EPA phased in emission standards for model year 2006 through 2012 vehicles for the exhaust of recreational vehicles such as snowmobiles, off-highway motorcycles and all-terrain-vehicles. Recreational marine diesel engines over 50 horsepower used in recreational boats became subject to phased emissions standards in 2006 through 2009, depending on the size of the engine. EPA is phasing in emission standards for marine diesel engines above 800 horsepower and locomotives between 2008 and 2014.

In September, 2008, EPA issued rules that require emission reductions for certain nonroad engines and equipment and marine engines and vessels. The rules require emissions reductions for 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). This includes engines used in lawnmowers, garden equipment, utility vehicles, generators, and other types of construction, farm, and industrial equipment. The rules also require emission reductions for marine spark-ignition engines and vessels, beginning with the 2010 model year. This includes outboard en-

gines, personal watercraft, and inboard engines used in speedboats and recreational watercraft. The EPA rule announcement indicated that, upon full implementation, the new emission standards will result in a 35 percent reduction in hydrocarbon and nitrogen oxide emissions from the exhaust of new engines.

In December, 2009, EPA issued rules that require the phasing in of emission reductions for large marine diesel engines, such as on ocean-going vessels, between 2011 and 2016.

Air Toxics

EPA administers a separate regulatory framework for 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 cause adverse environmental and ecological effects. Air toxics include certain heavy metals, chemicals and pesticides.

EPA is required to regulate 188 hazardous air pollutants (HAPs). Toxics are regulated through a two-phase strategy. The first phase is based on 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.

Wisconsin actions related to adoption of emission controls on toxic air contaminants are discussed in the next chapter on state activities.

Required Controls

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 ten 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. Requirements under an area source program will reduce toxic air emissions of the thirty most serious urban area source pollutants. Standards are also set for municipal waste incinerators and facilities handling chemicals whose accidental release would threaten public health or the environment.

EPA completed promulgation of maximum achievable control technology (MACT) standards for all major sources of the 188 HAPs in 2005. Facilities must generally achieve compliance within three years of promulgation of a standard. The last compliance date for major sources was October 1, 2008.

EPA was under a court order to complete standards for 50 area source categories by June 15, 2009. On March 21, 2011, EPA announced it had completed the required emissions standards. Facilities are required to achieve compliance within three years. 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.

Residual risk standards are to be set within eight years after a MACT standard is established for a source category (nine years after the first round of MACT standards). The first MACT standards were completed in the fall of 1993. 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 changes; (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 directly administers an early reduction program that allows an existing facility to receive a six-year extension to meet MACT standards if the facility achieves a 90% reduction in emissions (95% for hazardous particulates) prior to the time that the standard is proposed, for a total compliance period of ten years. As of November, 2012, no facilities in Wisconsin have opted for an extension under this program.

Accidental Releases

EPA administers a regulatory program to address accidental or catastrophic releases of highly toxic air emissions. EPA has identified a list of 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. Facilities are required to identify possible hazards and develop risk management plans to be submitted to EPA. A federal Chemical Safety and Hazard Identification Board investigates accidents and makes recommendations regarding accident prevention.

Urban Air Toxics Strategy

EPA completed a final urban air toxics strategy in July, 1999, that 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 continues to use it to develop emission standards for area source categories.

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.

Permits

The Clean Air Act Amendments of 1990 require sources that emit air pollution to obtain a construction (new source) permit before beginning construction of the air pollution source and an operation permit to operate the source. 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.

A permit includes information about which pollutants are being released, establishes detailed limits on the emissions of air contaminants, establishes a maximum increase over a baseline of emissions 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.

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.

EPA must administer an operation permit program if the state fails to do so. Wisconsin administers an EPA-approved operation permit program that became effective in April, 1995. A federal operation permit 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) ten tons per year of any federal HAP; or (c) 25 tons per year of all combined federal HAPs.

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.

Major new sources of air pollutants in nonattainment areas are subject to more stringent new source review requirements. 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.

Certain industries are subject to emission limits for specific pieces of equipment. EPA is authorized to identify categories of industrial pollutant sources and establish specific emission standards for equipment used by that category. The emission standards are based on the best system of emission reduction achievable, taking into account: (a) the cost of achieving the reduction; (b) energy requirements; and (c) non-air quality health and environmental impacts. As EPA promulgates standards, DNR is required by state law to adopt those standards as administrative rules. These equipment standards are incorporated into air permits. The standards are referred to as new source performance standards.

EPA Rules

Mercury

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 promulgated a clean air mercury rule (CAMR), effective May, 2005, that, for the first time, established federal mercury emission control requirements for new and existing coal-fired power plants. The rule established standards of performance for power plants, and created a market-based cap-and trade program. States were required to submit a plan to EPA by November, 2006, which described how the state would implement and enforce the mercury emission reduction requirements. 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.

An April, 2010, consent decree required EPA to issue mercury emission standards for coal- and oil-fired power plants. On February 16, 2012, EPA issued mercury and air toxics standards for coal- and oil-fired electric utilities, effective April 16, 2012, with compliance required beginning in April, 2015. In August, 2012, EPA issued a partial stay of the standards for new sources for three months to reconsider portions of the rule. The standards for existing sources remained in effect.

Wisconsin action related to the federal and state mercury emission reduction rules is described in the next chapter on state air management activities.

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, the process of generating electricity is the largest source of carbon dioxide emissions, representing 41 percent of all carbon dioxide emissions in the United States in 2006.

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 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 emis-

sions are subject to the reporting requirements. Sources were required to report their 2010 greenhouse gas emissions to EPA by September, 2011, and report their 2011 greenhouse gas emissions by September, 2012. In Wisconsin, 137 facilities reported greenhouse gas emissions to EPA for 2010, totaling approximately 56.4 million metric tons on a carbon dioxide equivalent basis (an EPA-specified method of measuring greenhouse gas emissions).

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. CAIR covered 28 eastern states, including Wisconsin, and the District of Columbia. CAIR was intended to reduce interstate transport of ozone and fine particulate matter from power plants. It had a goal of reducing sulfur dioxide and nitrogen oxides emissions by up to 70 percent when fully implemented in 2015. CAIR included the establishment of individual state emissions budgets and an EPA-administered cap and trade system to cap power plant emissions.

In response to legal challenges, on July 11, 2008, the U.S. Court of Appeals for the District of Columbia vacated all of the Clean Air Interstate Rule. The Court ruled that EPA's approach of establishing regionwide emission caps with no state-specific quantitative contribution determinations or emissions requirements was fundamentally flawed. The Court retained the requirement that EPA reduce emissions from interstate transport.

On July 6, 2011, EPA finalized a Cross-State Air Pollution Rule 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.

Regional Haze

EPA promulgated regional haze regulations in 1999 that were intended to reduce emissions affecting air quality in national parks and wilderness areas. States were required to submit state implementation plans to EPA by December 17, 2007, to address regional haze, and were required to develop a Best Available Retrofit Technology (BART) rule that will reduce emissions from certain large stationary sources. On January 9, 2009, EPA responded to a lawsuit by issuing a finding of failure to submit all or a portion of their regional haze SIP for 37 states, including Wisconsin, by the required 2007 deadline. Acting under a November 9, 2011, consent decree, EPA approved Wisconsin's regional haze SIP on August 7, 2012.

Wisconsin action related to the federal regional haze requirements is described in the next chapter on state air management activities.

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, effective in 1995 and 2000. A power plant is allotted emissions allowances equal to the number of tons of sulfur dioxide it is allowed to emit. Power plants are given the option to reduce their emissions or acquire allowances from other facilities to achieve

compliance. An emissions cap requires the maintenance of achieved reductions.

Phase I requirements began in 1995 and applied to 111 power plants 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. During Phase II, effective January 1, 2000, these plants were required to further reduce sulfur dioxide emissions, and in general, all power plants are subject to emissions allowance requirements. This phase establishes an annual cap on sulfur dioxide emissions nationally at 8.95 million tons, beginning in 2010, and reduces nitrogen oxides emission rates. Generally, new plants need to obtain allowances from existing plants or from EPA sales or auctions. Utilities may obtain additional emissions allowances from EPA by following EPA requirements.

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.

Stratospheric Ozone Depletion

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. Federal stratospheric ozone regulations are implemented by EPA and are not delegated to the states. Some states, including Wisconsin, have implemented programs to protect stratospheric ozone.

Chlorofluorocarbons (CFCs) and several other chemicals have been identified as a cause of the destruction of the stratospheric ozone layer. CFCs drift into the upper atmosphere and release chlorine that destroys the ozone layer.

The 1990 Amendments banned nonessential CFC-containing consumer products, beginning in 1992 or 1994 depending on the type of product. Examples of banned products include party streamers, noise horns, noncommercial cleaning fluids for electronic and photographic equipment, aerosol products or other pressurized dispensers and plastic foam products.

The 1990 Amendments and subsequent federal law changes phased out the production and sale of most Class I chemicals by 2001. Examples of Class I chemicals are CFCs, halons, methyl chloroform, carbon tetrachloride and methyl bromide. In general, Class II chemicals will be restricted beginning in 2015 with a complete ban effective in 2030. The primary Class II chemical category is hydrochlorofluorocarbons (HCFCs), commonly used as a refrigerant, and considered significantly less damaging to the upper ozone layer than CFCs.

Since 1992, Class I and Class II substances must be recaptured and recycled. It is prohibited to knowingly vent refrigerants from household appliances, commercial refrigerators and air conditioners. Since 1994, substances contained in bulk in products must be removed prior to disposal of the products, and the products containing those substances must be equipped to facilitate recapture of the substances.

CHAPTER 2

STATE AIR MANAGEMENT ACTIVITIES

DNR Air Management Organizational Structure

The implementation of air quality programs in Wisconsin is conducted by DNR's Bureau of Air Management in the Division of Air, Waste, and Remediation & Redevelopment, with support from staff in the Department's other programs. The Bureau of Air Management consists of five sections in the central office in Madison. 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 industrial source emission inventory.

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 air quality statewide, provides support for air quality forecasting, and studies 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 fine particulate matter, develops plans and 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 budgets and work plans, administers grants, provides rule oversight, performs outreach and communication, and handles finance, data and personnel management.

The air management program also has seven statewide standing 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 Department used to convene Clean Air Act Task Force meetings, but, for the past several years, the Secretaries have not reappointed members and the meetings have been conducted as open forums for discussion when major policy issues and federal initiatives are being developed or implemented. The Air Management program also holds informational meetings on certain significant or controversial issues or proposed administrative rules.

DNR Funding

Appropriations

DNR is authorized a total of $19.9 million with 160.5 positions for air management activities in 2012-13. Approximately half of the staff is located in the Madison central office and the other half is in the DNR regional offices (located in Eau Claire, Green Bay, Fitchburg, Milwaukee, Rhinelander and Spooner). Table 1 lists funding and positions authorized for DNR air management programs. Within the Division of Air, Waste, and Remediation & Redevelopment (AWaRe) the Bureau of Air Management is authorized $17.4 million with 148.25 permanent positions to conduct monitoring, permitting, planning and compliance activities. During 2012-13, the Bureau is work planning for approximately 113 FTE of staff effort from the 148.25 authorized positions, and anticipates holding approximately 35 positions vacant during 2012-13, based on available federal and state revenues.

The Division of AWaRe is authorized 3.0 positions from federally-regulated stationary source fees for divisionwide program management.

The Division of Enforcement and Science is

Table 1: 2012-13 DNR Air Management Authorized Funding and Positions

Source	Fund Source	Amount	Positions
Bureau of Air Management			
Program Revenue (PR)			
Stationary Source Fees -- Federally-Regulated Sources	PR	$6,376,300	56.50
Stationary Source Fees -- State-Regulated Sources	PR	2,386,300	20.00
New Source Construction Permit Fees	PR	2,243,600	19.50
Asbestos Abatement Fees	PR	563,800	4.00
Ozone-Depleting Substance Fees	PR	158,000	2.00
Other Program Revenues	PR	84,500	0.00
Federal Clean Air Grants*	FED	4,031,000	40.00
Petroleum Inspection Fund -- Segregated Revenue (SEG)	SEG	1,489,200	5.50
General Purpose Revenue (GPR)	GPR	67,700	0.75
Subtotal Bureau of Air Management		$17,400,400	148.25
Division of AWaRe, Divisionwide Management			
Stationary Source Fees -- Federally-Regulated Sources	PR	441,000	3.00
Division of Enforcement and Science			
Stationary Source Fees -- Federally-Regulated Sources	PR	106,900	1.00
Federal Clean Air Grants*	FED	127,100	1.50
Division of Customer and Employee Services			
Stationary Source Fees -- Federally-Regulated Sources	PR	185,300	3.25
Federal Indirect Cost Reimbursement	FED	469,200	0.00
Petroleum Inspection Fund	SEG	908,500	1.00
Bureau of Cooperative Environmental Assistance			
Stationary Source Fees -- Federally-Regulated Sources	PR	229,700	2.50
Total DNR Air Management Funding		$19,868,100	160.50

* The federal clean air grant amounts include funding from the U.S. Environmental Protection Agency.

Table 2: Revenues for DNR's Air Management Programs - 2010-11 and 2011-12

Source	2010-11 Revenue	2010-11 % of Total	2011-12 Revenue	2011-12 % of Total	Total 2010-11 and 2011-12	% of Total
Stationary Source Operation Permit Fees*						
- Federally-Regulated Sources	$6,195,400	30.3%	$6,533,900	37.9%	$12,729,300	33.8%
- State-Regulated Sources	1,165,800	5.7	1,034,000	6.0	2,199,800	5.9
Federal Clean Air Act Grants	7,671,500	37.5	4,166,400	24.2	11,837,900	31.5
Petroleum Inspection Fund	2,423,400	11.9	2,397,700	13.9	4,821,100	12.8
Permit Review and Enforcement Fees	1,803,600	8.8	1,923,800	11.2	3,727,400	9.9
Asbestos Abatement Fees	512,700	2.5	616,800	3.6	1,129,500	3.0
Ozone-Depleting Substances Fees	160,500	0.8	156,400	0.9	316,900	0.8
General Purpose Revenue	61,900	0.3	67,700	0.4	129,600	0.3
Other Program Revenues	444,400	2.2	320,800	1.9	765,200	2.0
	$20,439,200	100.0%	$17,217,500	100.0%	$37,656,700	100.0%

*Additional emission fee revenues were collected by DNR and transferred to the Department of Commerce for administration of the Small Business Clean Air Assistance Program. These transfers totaled $197,500 in 2010-11 for 2.0 positions and $34,100 in 2011-12, to close out the Commerce appropriation after the responsibilities were transferred to DNR in 2011 Act 32.

authorized 2.5 positions from air funding sources for law enforcement. The Division of Customer and Employee Services is authorized 0.5 position from air funding sources for legal, administrative and information technology services, and is authorized 3.75 positions from air funding sources for customer service and licensing, and communication and education strategy. The Bureau of Cooperative Environmental Assistance is authorized 2.5 positions from federally-regulated stationary source fees.

Revenue Source Overview

The state's air management programs are funded from several sources, as shown in Table 2. Revenues for DNR air management programs from all sources (including state revenues and federal grant allocations) were approximately $20.4 million in 2010-11 and $17.2 million in 2011-12. Almost 40% of revenues in the two-year period came from stationary source operation permit fees paid by federally-regulated and state-regulated sources. Almost 54% of air program positions were funded from stationary source fees during the two years. Stationary source fees, federal Clean Air Act grants, and the petroleum inspection fund account for 84% of program funding. DNR also collects other air pollution fees related to construction permit review fees, asbestos abatement inspections and the regulation of ozone depleting refrigerants.

Stationary Source Fees - Operation Permits

DNR administers for EPA the federal operation permit program known as the Title V permit program. As described in the previous chapter, permits are issued under the Title V program to stationary sources that emit over a certain threshold of pollutants. Federal requirements include greater oversight and more detailed compliance requirements for sources with these permits. This paper refers to Title V permits, and associated revenues listed in Table 1 and 2, as federally-regulated sources. DNR also issues non-Title V permits to sources that emit less than the Title V program pollutant thresholds. Many owners or operators of stationary sources that would otherwise be federally-regulated request a non-Title V permit, and agree to voluntarily limit emissions to less than Title V thresholds, in order to not be subject to the amount of federal oversight that occurs in the Title V program. This paper refers to these permits and fees as state-regulated sources.

The Clean Air Act Amendments of 1990 re-

quired 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.

Wisconsin's air emissions tonnage fee system began with assessment of fees in 1992-93 for calendar year 1992 emissions. 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. These revenues are shown separately in Tables 1, 2 and 3.

In the 2011-13 biennium, federally-regulated sources that had billable emissions of at least five tons were billed an emissions fee of $35.71 per ton of emissions. Pollutants assessed the fees include the criteria pollutants (carbon monoxide is exempted), hazardous air pollutants, and other regulated 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 20 different pollutants in 2011-12. In Wisconsin, the largest volume of emissions is generated by larger utilities, paper-related industries and large chemical plants. A portion of the total emissions were assessed the emissions tonnage fee. The emissions fee for federally-regulated sources has an annual cap of 5,000 tons per pollutant per facility. For emissions between 1992 and 1998, the annual cap was 4,000 tons per pollutant per facility.

Table 3: Stationary Source Operation Permit Fees - Fee Rate, Emissions, and Fees Assessed ($ Millions)

Year of Emissions	Fee Fee Rate Per Ton	Billable Tons	Fees for Federally Regulated Sources	Fees for State-Regulated Sources	Total Fees Assessed
1992	$18.00	278,607			$5.01
1993	29.30	279,638			8.19
1994	30.07	279,394			8.40
1995	30.92	285,291			8.82
1996	31.77	273.506			8.69
1997	32.65	291,184			9.51
1998	33.19	280,959			9.33
1999 (1)	33.80	289,154			9.77
2000 (2)	35.71	285,628			10.20
2001	35.71	276,354			9.87
2002	35.71	272,727			9.74
2003	35.71	272,766			9.74
2004	35.71	268,207			9.58
2005 (3)	35.71	265,938	$8.80	$0.69	9.49
2006	35.71	254,423	8.47	0.66	9.13
2007	35.71	248,869	8.29	0.72	9.01
2008	35.71	218,047	7.79	0.70	8.49
2009 (4)	35.71	188,093	6.72	1.34	8.06
2010	35.71	188,467	6.73	1.10	7.83
2011	35.71	178,472	6.37	1.10	7.47

(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) Beginning with emissions in 2005, the fee is 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.

Table 3 shows the stationary source fees for the calendar years 1992 (assessed in 1992-93) through 2011 (assessed in 2011-12). The table includes the fee rate per ton of billable pollutants, the billable tons, and the total fees assessed. The fees for 1994 through 1999 were adjusted 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. Beginning with 2005 emissions, facilities subject to state operation permit requirements paid fees under a separate fee structure.

In 2011-12, a total of 372 facilities with federal operation permits were assessed stationary source fees totaling $6.37 million for approximately 178,500 tons of billable pollutants that they emitted. An additional 1,833 facilities with operation permits required under state, but not federal law, or allowed under federal law to obtain a state permit in lieu of a federal permit, were assessed $1.10 million in fees deposited in the state sources operation permit appropriation.

In 2012-13, expenditure authority is provided for 86.25 positions from annual stationary source operation permit fees. The DNR positions (shown in Table 1) include 67.25 positions funded from stationary source operation permit fees for federally-regulated sources and 20.0 positions funded from stationary source emissions fees for sources subject to state, but not federal, operation permit requirements. Of the 86.25 DNR positions, 76.5 are located in the Bureau of Air Management, and the remaining 9.75 work in the Bureau of Cooperative Environmental Assistance, Division of Air and Waste divisionwide management, Division of Enforcement and Science, and Division of Customer and Employee Services.

Table 4 lists the stationary source emissions tonnage fee assessed on federally-regulated facilities in 2011-12 for calendar year 2011 emissions, by type of pollutant. Table 5 lists the total amount of emissions from Wisconsin stationary sources from 2002 through 2011, as reported annually by federally-regulated and state-regulated facilities to DNR. For 2011 emissions, 178,472 of the reported 324,375 tons, or 55%, of emissions were subject to the stationary sources emissions 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, carbon monoxide is not subject to the fee,

Table 4: Emissions Assessments for Stationary Sources with Federal Operation Permits, 2011-12

Pollutant	Actual Tonnage (2011 Tons of Emissions)	Assessed Tonnage (2011 Billable Tons of Emissions)	Fiscal Year 2011-12 Assessed Revenues $35.71/ton
Sulfur Dioxide	142,930	82,046	$2,929,865
Nitrogen Oxides	65,241	59,352	2,119,460
Particulate Matter and PM10	34,552	15,542	554,999
Volatile Organic Compounds (VOC)	24,191	16,068	573,793
Other Pollutants (HAP, CFC and TRS)	13,650	5,464	195,105
Carbon Monoxide	43,811	0	0
Total	324,375	178,472	$6,373,222*

*Paid by 372 federally-regulated sources. In addition, $1,097,100 was assessed to 1,833 state-regulated sources, including $590,400 assessed to 144 facilities with federally enforceable state operation permits who were assessed $4,100 each, and $506,700 assessed to 1,689 facilities with state operation permits who were assessed $300 each (state operation permits also includes general and registration operation permits).

and state-regulated facilities were not assessed based on tons of emissions. Emissions such as carbon dioxide and other greenhouse gases, are currently reported but are not billed.

Stationary sources regulated under state statutes rather than federal regulations pay an operation permit fee that is structured differently than for federally-regulated sources. The types of state operation permits are described in a subsequent section on the operation permit program.

Table 6 shows the stationary source operation permit fees assessed by permit type in 2010-11 and 2011-12. Facilities with federal operation permits pay a fee of $35.71 per ton of certain emissions. Under the provisions of 2009 Act 28, holders of state operation permits pay 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 ma-

Table 5: Reported Air Emissions from Stationary Sources, 2002 Through 2011 (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
2002	250,224	140,830	24,571	10,103	30,941	44,968	12,884	113	592	515,226
2003	255,711	124,022	26,090	11,697	31,581	47,024	15,184	110	705	512,124
2004	251,938	116,832	26,552	11,144	31,513	50,693	15,999	86	632	505,389
2005	244,305	112,401	28,476	13,428	32,342	59,396	14,196	92	641	505,277
2006	230,284	100,137	26,707	12,554	30,884	49,127	14,919	97	658	465,367
2007	203,550	95,045	25,162	12,481	29,911	48,263	15,293	119	600	430,424
2008	193,440	88,416	23,226	12,967	27,840	44,395	13,804	80	602	404,770
2009	160,510	69,621	21,272	12,003	23,453	38,826	12,073	33	524	338,315
2010	163,366	68,650	23,214	12,783	24,707	42,059	12,671	47	534	348,031
2011	142,930	65,241	21,835	12,717	24,191	43,811	13,006	40	604	324,375

*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 = Chloroflorocarbons (CFC-12, HCFC-141B, and HCFC-22)
TRS = Total reduced sulfur, sulfur trioxide and hydrogen sulfide

jor source subject to the federally-regulated sources emissions tonnage fee. Holders of other state operation permits (also including general and registration operation permits) paid an annual fee of $300.

Under 2009 Act 28, sources exempt from an operation permit are also exempt from paying a fee. In 2010-11, this included 363 stationary sources, and in 2011-12, included 370 sources.

Federal Revenue

EPA provides the state with grants for general program operations associated with implementing Clean Air Act provisions, based on an agreed 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 41.5 permanent federal positions in 2012-13, of which

Table 6: Stationary Source Operation Permit Fees Assessed by Permit Type, 2010-11 and 2011-12

	2010-11		2011-12	
Permit Type Assessed	Number of Permit Type	2010-11 Assessed Revenues	Number of Permit Type	2011-12 Assessed Revenues
Federal Operation Permit	362	$6,730,152	372	$6,373,270
Federally Enforceable State Operation Permit	153	627,300	144	590,400
State Operation Permit	865	259,500	996	298,800
General Operation Permit	282	84,600	286	85,800
Registration Operation Permit	429	128,700	407	122,100
Total Permit and Fees	2,091	$7,830,252	2,205	$7,470,370
Number Exempt from Permits and Fees	363	$0	370	$0

40.0 are in the Bureau of Air Management and the remaining 1.5 are in the Division of Enforcement and Science.

Petroleum Inspection Fund

The segregated (SEG) petroleum inspection fund receives revenues from the 2¢ per gallon petroleum inspection fee assessed on all petroleum products entering the state. The fund is primarily used for the petroleum environmental cleanup fund award (PECFA) program. (See the Legislative Fiscal Bureau informational paper entitled, "Petroleum Environmental Cleanup Fund Award (PECFA) Program.") Appropriations from the 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 cooperative environmental assistance. DNR is authorized 6.5 petroleum inspection fund positions for air program activities in 2012-13.

Construction Permit Review Fees

DNR collects program revenue (PR) fees from source owners and operators who are required to obtain a permit for construction or modification of a facility. DNR uses the revenues for staff activities related to reviewing and issuing the permits. In 2012-13, DNR is authorized 19.5 positions for construction permit review activities. DNR collected construction permit fees totaling $1,803,600 in 2010-11 and $1,923,800 in 2011-12.

Asbestos Abatement Fees

Persons must notify DNR before they perform asbestos abatement as part of nonresidential demolition and certain renovation activities. 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 statutory maximum fees were increased in 2009 Act 28 and include: (a) $700 ($400 prior to enactment of 2009 Act 28) 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 ($750 prior to enactment of 2009 Act 28) if the combined square and linear footage is equal to or greater than 5,000.

DNR promulgated administrative rule fee changes effective January 1, 2011, to increase asbestos inspection fees to the amounts shown in Table 7. In addition to the asbestos inspection fee changes enacted in 2009 Act 28, the act also enacted three new fees, including: (a) $100 for DNR review of a revised notice of an asbestos

Table 7: Asbestos Combined Inspection and Construction Permit Exemption Fees

Size of Asbestos Project	Combined Fee Set in Rule Before 1/1/11	Statutory Maximum Fee Before July, 2009	Statutory Maximum Fee as of July, 2009	Combined Fee as of 1/1/11
Small (< 160 square feet, 260 linear feet)	$75	$400	$700	$135
Medium (= or > 160 square feet, 260 linear feet and < 1,000 combined feet)	225	400	700	400
Large (= or > 1,000 and < 5,000 combined feet)	400	400	700	700
Extra large (= or > 5,000 combined feet)	750	750	1,325	1,325
Notification revision	0*	0*	100	100
Community fire safety training burn	0*	0*	100	100

* Fee did not exist prior to 2009 Act 28.

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) require payment of a fee equal to the combined asbestos inspection fee and construction permit exemption review fee for DNR inspection of a property for which an advance notice of asbestos renovation or demolition was not made as required.

DNR administrative rules effective July 1, 2005, authorize the Department to charge for the costs it incurs for laboratory testing for a nonresidential asbestos demolition and renovation project.

The Department uses the various 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 is authorized 4.0 PR positions for asbestos abatement activities. Under 2009 Act 28, beginning in 2010-11, two federally-funded positions were converted to program revenue received from asbestos abatement fees.

DNR collected asbestos abatement fees totaling $512,700 in 2010-11 and $616,800 in 2011-12. DNR transferred asbestos abatement fees to the general fund totaling $80,300 in 2010-11 and $214,700 in 2011-12, as part of the Department's obligations under the 2009-11 and 2011-13 biennial budget acts.

Ozone-Depleting Substances Fees

DNR collects annual registration fees from persons who remove ozone-depleting refrigerants (chloroflorocarbons 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 used to administer CFC regulations to ensure that CFC removal activities do not release CFCs into the air. DNR is authorized 2.0 program revenue positions for regulation of ozone depleting substances.

DNR collected ozone-depleting refrigerants fees totaling $160,500 in 2010-11 and $156,400 in 2011-12. DNR transferred ozone-depleting refrigerants fees to the general fund totaling $29,300 in 2010-11 and $125,400 in 2011-12, as part of the Department's obligations under the 2009-11 and 2011-13 biennial budget acts.

Other Program Revenues

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 Permits

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

DNR administers a construction (or new source review) permit program and an operation permit program. Both permit types outline all of the air pollution requirements that apply to a source, including emission limits and operating conditions to ensure that the source is in compli-

ance with federal and state air pollution requirements. DNR permit review staff are located in each of the five DNR geographic regions. They are assigned to permit sources within specific counties in the regions.

During 2003 through 2006, DNR undertook a permit streamlining initiative to make the air permitting process more efficient and more responsive to the economic development needs of the state, while maintaining protection of public health and the environment. In 2003 Wisconsin Act 118, a number of changes were made to the DNR construction permit and operation permit programs. Act 118 also created registration permits, general permits, and exemptions from certain permits. In 2005 Wisconsin Act 25 and 2009 Act 28, changes were made in fee and permit provisions. DNR also promulgated administrative rules to implement these provisions.

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.

Construction Permits (New Source Review)

All new, modified, reconstructed, relocated or replaced air pollutant sources which are not exempt from construction permit requirements under administrative code Chapter NR 406 are required to obtain a construction permit before beginning construction. A construction permit allows a company to build, initially operate and test the air pollution source. The permit expires after 18 months and can have one 18-month extension under certain instances. 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.

Construction permit activities are funded from program revenue 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 2012-13, DNR is authorized $2,243,600 with 19.5 positions to administer the construction permit program. DNR collected construction permit fee revenues totaling $1,803,600 in 2010-11 and $1,923,800 in 2011-12. The average fee was approximately $20,600 per permit in 2011-12. This is an increase from the $8,500 average fee in 2009-10, primarily because of construction permit fee increases that went into effect on January 1, 2011.

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. The rules also create a requirement that applicants who withdraw or stop work on an application would have to pay for review work completed to that point. As of the fall of 2012, DNR was in the process of revising administrative rules for construction permits to ensure consistency with federal requirements.

DNR issued 123 construction permits in 2010-11 and 88 in 2011-12. Approximately four-fifths of the permits are for facilities in attainment areas and one-fifth are for facilities in non-attainment areas. DNR issued 4,614 construction permits between 1988 and June 30, 2012. As of July 1, 2012, DNR was processing 75 construction permit applications.

In 2011-12, DNR issued construction permits in an average of 72 days after the receipt of a complete application. It took an average of 162 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 specific 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.

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. In 2011-12, DNR issued 26 exemptions to these requirements to obtain a construction permit.

Owners or operators may also apply, with payment of a fee, for an exemption to construc-

tion permit requirements for activities or operations such as: (a) certain equipment used for testing or research; and (b) a modification to a stationary source which is regulated by a plant-wide applicability limitation. DNR issued 18 exemptions to these construction permit requirements in 2011-12.

DNR rules, effective June 1, 2007, allow a person to begin construction, reconstruction, replacement, or modification of a stationary source prior to issuance of a construction permit if the person shows that beginning the activity prior to the issuance of the permit is 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. Construction permit waivers allow a facility to begin on-site preparation such as site clearing, grading, dredging or landfilling prior to receiving a construction permit when necessary to avoid undue hardship. 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 2011-12, DNR issued 30 of these waivers.

Owners or operators are exempt from paying a construction permit fee, but not from the requirement to obtain a construction permit, if the entire facility meets one of the following criteria: (a) is required to obtain an operation permit under state, but not federal, law, and is covered by a registration permit; or (b) is required to obtain an operation permit under state, but not federal, law, and is covered by a general permit.

Operation Permits

Permits. DNR administers an operation permit program for stationary sources. EPA granted interim approval for Wisconsin administration of the Title V program for sources subject to greater federal oversight in March, 1995, and full approval effective November 30, 2001. DNR also administers an operation permit program for facilities that are required under state, but not federal, law to obtain a permit, or for major sources regulated under federal Title V that want to reduce emissions enough to be regulated under the state permit program.

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, in January, 1998, DNR rules exempted certain grain handling facilities from obtaining operation permits. DNR issues federal operation permits (FOP) for major sources and federally-enforceable state operating permits (FESOP) for synthetic minor sources (an option for a major source that wants to reduce emissions enough to become a minor source).

After DNR receives an operation permit application, 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 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 2012, 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 issued 630 initial FOPs as of June 30, 2012. An additional 11 new FOP applications were in the public comment phase. DNR issued 1,744 FESOPs as of June 30, 2012, including 841 initial FESOPs and 903 revisions to and renewal of those FESOPs. The operation permit is issued for operations at the entire facility and is valid for five years. As of June 30, 2012, DNR issued 1,018 renewal FOPs and FESOPs out of 1,609 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, 2012, 122 SOPs were issued and an additional 20 had reached the public notice and comment phase of review.

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. In August, 2006, the Department began making available a conflict resolution process on technical issues related to permit applications. As of July, 2012, the process had been used twice (none since 2008).

DNR promulgated rules, effective June 1, 2007, to exempt minor sources from the requirement to obtain an operation permit if the emissions from the sources do not present a significant 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.

Operation Permit Fees. There are 76.5 operation permit related Bureau staff funded from stationary sources emissions fee revenues, including 56.5 staff related to federally-required permit activities and 20 staff for activities related to operation permit issuance for sources that are required under state, but not federal, law to obtain a permit. During 2012-13, DNR is planning for work with 53.5 of the 56.5 positions, based on available revenues. DNR is allocating 22.5 of the 56.5 staff related to federally-required operation permits to activities related to permit review and approval. Another 31 staff perform federal Title V program implementation activities such as ambient air modeling quality assurance when specified in an operation permit; supervision; administrative processing of permits; compliance and enforcement; emissions inventory; 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 administrative support.

During 2012-13, DNR is planning for work from nine of the 20 positions authorized from fees from operation permits of sources under state regulation, and utilized the positions for other than Title V program regulatory functions, based on available.

Prior to calendar year 2005, stationary sources that were required to obtain an air operation permit were required to pay an air emissions tonnage fee of $35.71 per ton for billable emissions of at least five tons. Under 2005 Act 25, changes were made in the operation permit fee structure. The Division of Air and Waste 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.

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.

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, and the fees are deposited in the federal sources appropriation. Fees for state operation permits are deposited in the state sources appropriation. Under the provisions of 2009 Act 28, holders of state operation permits pay 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. Holders of other state operation permits (also including general and registration operation permits) pay an annual fee of $300.

The 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.

General Permits

Under 2003 Act 118, DNR promulgated administrative rules, effective September 1, 2005, for 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, 2012, DNR had issued four general permits to cover almost all nonmetallic mineral processing facilities, printers, asphalt plants, and crushers. A total of 958 general permits have been issued to owners or operators of stationary sources as of July 1, 2012.

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 $300. 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

Under 2003 Act 118, DNR promulgated administrative rules, effective September 1, 2005, for 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, 2012, DNR had issued 561 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 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.

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 $300. 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.

Monitoring

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 2012, DNR operated 39 monitoring sites throughout the state. At most of the sites, DNR collected data on several different pollutants. In addition, DNR processed data collected by others at 15 other sites, including 13 industrial and two tribal sites. In 2012, DNR collected data on: (a) ozone at 26 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, one of which also collected continuous data; (d) nitrogen oxides at three sites; (e) sulfur dioxide at four sites; (f) carbon monoxide at one site; (g) toxic air pollutants at two sites; (h) continuous gaseous mercury at three sites; 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 2012 included to: (a) perform continuous PM2.5 monitoring at 14 sites; (b) implement and use the PM2.5 monitoring network to answer questions about visibility and regional haze issues; (c) perform 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) maintain 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) implement revised federal sulfur dioxide and nitrogen oxides monitoring requirements; (f) support tribal entities with air monitoring needs; and (g) operate 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.

In addition to the air quality monitors, DNR's other monitoring activities during 2012 include: (a) operate a network of 22 meteorological stations, which are used to evaluate the impact of weather on the ambient concentrations of pollutants being monitored; and (b) perform atmospheric deposition monitoring at seven precipitation monitors and six mercury deposition monitoring sites as part of the Department's participation in the National Atmospheric Deposition Program, a collaborative research effort of sever-

al 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 to: (a) inspect stationary sources to ensure compliance with emission limits, permit restrictions and operating requirements; (b) review stack emissions test results or witness stack tests to determine if a source is in or out of compliance; (c) investigate complaints received from citizens; and (d) take 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 8 shows the number of inspections made by DNR's Air Management program at Wisconsin facilities in 2004-05 through 2011-12. 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 of emissions requirements for particulate matter or volatile organic compounds, and open burning.

State Implementation Plan Development

During the 1990s, Wisconsin 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.

Under Wisconsin law, 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.

DNR may not submit a state implementation plan to EPA that includes a control measure or strategy that imposes or may result in regulatory

Table 8: Inspection and Compliance, 2004-05 to 2011-12

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

requirements unless the Department has first promulgated the control measure or strategy as an administrative rule. Under 2003 Wisconsin Act 118, 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 chairperson 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 in developing and implementing 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.

Rate-of-Progress Demonstration Plan

DNR submitted a series of rate-of-progress state implementation plan revisions to EPA which demonstrated the state had achieved required milestones of reducing VOC emissions from stationary, mobile and area sources from the 1990 base level of emissions through 2009. EPA accepted the rate-of-progress plans for Manitowoc and Door Counties and has received, but not acted on, the 2009 plans for the Milwaukee-Racine area and Sheboygan.

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.

The Lake Michigan Air Directors Consortium (LADCO) was organized by Wisconsin, Illinois, Indiana, Michigan, and EPA in 1989 to implement a major study of regional ozone pollution and how best to control it in the Lake Michigan region. Ohio has since officially joined as a LADCO state. 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 2011 and 2012, Wisconsin continued to work 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 develop a comprehensive plan 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, developing a 2011 emissions inventory, analyzing data, conducting research, and updating computer models that are used to prepare state implementation plans in the LADCO states.

Wisconsin is working with LADCO states and the states of Minnesota, Iowa, and North Dakota to update regional visibility computer modeling to use in regional haze SIP submittals.

Deadlines

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 the current federal and state requirements will enable the two Wisconsin nonattainment areas (Sheboygan County and Kenosha County east of I-94) to meet the 2008 standards without additional regulations.

Wisconsin was required to submit a PM2.5 SIP by December 14, 2012, (three years after the effective date of the designation), that describes steps the state will take to reduce PM2.5 emissions in the designated nonattainment areas of Milwaukee, Racine, and Waukesha Counties, and come into attainment of the standard.

DNR submitted a clean data finding request to EPA on March 11, 2011, in which DNR indicated monitored PM2.5 concentrations in the nonattainment areas are below the standard. On April 24, 2012, EPA proposed to approve the clean data finding. As of November, 2012, EPA was in the process of taking final action on the DNR request.

DNR submitted a request to EPA on June 5, 2012, for redesignation of the three counties from nonattainment to attainment for PM2.5. The clean data finding and the redesignation request were based on monitoring data from 2008 through 2010. DNR indicates the three counties have met the PM2.5 standard since 2010. States are required to meet the standards by December, 2014.

EPA approved Wisconsin's regional haze state implementation plan on August 7, 2012. DNR is required to submit minor SIP changes in 2013 or 2014, and a major SIP in 2018.

Adoption of Federal Air Quality Standards and Nonattainment Areas

Air Quality Standards

Under state statutes, DNR must take certain actions before the state adopts ambient air quality standards. If EPA adopts an air quality standard, the statutes require DNR to promulgate by administrative rule a similar standard. 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, DNR is required 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.

Nonattainment Areas

Under 2003 Act 118, statutory modifications were made to the process by which the DNR identifies counties as part of nonattainment areas. After February 6, 2004, 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, the Clean Air Act might require that all of a metropolitan statistical area must be designated, so 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.

Further, DNR is required, when it issues documents which define or list specific nonattainment areas or which recommend that areas be designated as nonattainment areas, to 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.

At least 60 days before the Governor is required to make a submission to EPA on a nonattainment designation, the Department is required to provide a report to the Legislature's environment committees. 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 committee submits 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.

EPA Notice of Deficiency

On March 4, 2004, EPA published a Notice of Deficiency (NOD) for the Wisconsin federal Title V air operating permit program, in which EPA determined that the state's program did not comply with the Clean Air Act. Wisconsin was required to fully address the deficiencies identified by EPA by September 4, 2005, or face sanctions. EPA could impose the following sanctions: (a) withdraw federal approval for Wisconsin to administer the operating permit program and assume federal responsibility for administering the program; (b) reduce federal highway aids to the state; and (c) place more stringent requirements on industrial sources in the southeastern Wisconsin ozone nonattainment area.

EPA's NOD identified several deficiencies in the Wisconsin program, including related to: (a) ensuring fees were sufficient to cover the costs of the state's Title V program; (b) ensuring Title V program funds were used solely for Title V permit program costs; (c) failing to issue operating permits to all of the required regulated sources within the time required by the Clean Air Act; and (d) failing to properly implement its

Title V program in several respects.

Wisconsin took the following actions to resolve the deficiencies: (a) DNR eliminated the backlog of federal operation permits by December 30, 2004; (b) DNR eliminated the backlog of federally enforceable state operation permits by December 31, 2005; (c) DNR promulgated administrative rules for general permits and registration permits, effective September 1, 2005; (d) the 2005-07 budget provided funds for information technology improvements to further streamline the air permitting system; (e) the 2005-07 budget separated the air operation permit fee appropriation into a separate Title V federally-regulated sources appropriation and a non-Title V state sources appropriation; and (f) DNR demonstrated to EPA that it could provide adequate staffing and funding levels to operate a Title V program.

On February 16, 2006, EPA formally determined that Wisconsin had resolved each of the deficiencies identified in the NOD for Wisconsin's operation permit program. EPA further determined that the removal of the NOD status meant that EPA would not invoke sanctions against the program and would not administer any portion of the state's operation permit program.

State Actions Related to Air Toxics

Hazardous Air Pollutant Rule

Hazardous air pollutant administrative rules, contained in chapter NR 445, have regulated air toxics emitted by facilities since 1988. NR 445 regulates emissions of 535 substances above a certain threshold. The state rule focuses on the substance emitted rather than the source of the emissions.

When the 1990 federal Clean Air Act Amendments were enacted, they included a list of air toxics subject to federal standards for emissions from certain categories of sources. The state rule went through major revisions effective July 1, 2001, and 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.

Facilities were required to come into compliance with NR 445 requirements between June 30, 2006, and June 30, 2007, depending on when the facility was built. Under NR 445, facilities must identify air toxics emitted by the facility, quantify emissions, and reduce or control emissions under specified conditions.

Under NR 445, 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 created 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.

Greenhouse Gas Emissions

In 1999 Act 195, a voluntary emission reduction registry program was enacted related to certain greenhouse gas emissions. DNR promulgated administrative rule NR 437, effective November, 2002, to implement the program. The Department registered certain emissions reductions or avoided emissions of greenhouse gases and other air contaminants between June, 2004, and December 31, 2008. DNR stopped registering new emission reductions because of the then-pending federal mandatory greenhouse gas reporting rule, and other voluntary registry options available on a nationwide basis.

DNR adopted administrative rule changes in chapter NR 407, effective September 1, 2011, 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 are subject to the rule, of which approximately 80 were already subject to permitting requirements because of emissions of other pollutants.

Asbestos Abatement

DNR is responsible for administering asbestos abatement regulations in conformance with EPA requirements. Persons who perform demolition or certain renovations including the removal of asbestos-containing material 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, and must pay fees for asbestos inspection and construction permit exemption.

DNR received 3,213 notifications for asbestos abatement and demolition projects in 2010-11 (including 1,813 original and 1,400 revisions of notifications) and 3,161 in 2011-12 (including 1,719 original and 1,442 revisions). The number of notifications included 227 for community fire safety training project burns in 2010-11 and 240 in 2011-12, for which a $100 fee is charged, effective July, 2009. DNR staff, and counties and municipalities under contract with DNR, inspected 311 asbestos abatement projects in 2011-12 before and after abatement activities.

DNR reviews the notices for compliance with EPA requirements. DNR received EPA funding in 2008 to help convert an old notification system to an Internet-based system. DNR began using the system in December, 2009. Under the system, 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 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.

Ozone-Depleting Refrigerants

Wisconsin administers two programs to reduce emissions of ozone-depleting refrigerants (CFCs). The Department of Agriculture, Trade and Consumer Protection administers rules, ef-

fective in 1991, related to the: (a) installation, repair, and servicing of mobile air conditioners and refrigerated trailer systems; (b) recycling of CFCs removed from mobile air conditioners; and (c) the labeling of ozone-depleting substances. DNR administers rules, effective in 1993, related to the disposal of any equipment containing ozone-depleting refrigerants.

The former Department of Commerce (Department of Safety and Professional Services as of 2011-12) administered rules, effective in 1992, related to the installation or servicing of stationary refrigeration equipment that contains ozone-depleting refrigerant. Under 2011 Wisconsin Act 146, the statutory authority for these rules under s. 101.177, was repealed, effective in April, 2012.

The DNR and DATCP programs prohibit 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.

Mercury Emissions

DNR promulgated state mercury emission rule changes in administrative code Chapter NR 446, effective October 1, 2004, that applies to air contaminant sources which emit mercury. DNR promulgated NR 446 changes effective December 1, 2008, related to mercury emissions from coal-fired power plants. The seven regulated utilities under the December 1, 2008, changes are Dairyland Power Cooperative, Madison Gas and Electric Company, Manitowoc Public Utilities, Northern States Power of Wisconsin, 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. The major utilities submitted the required reports in 2011 (for calendar year 2010 emissions) and 2012 (for calendar year 2011). The utilities reported that they achieved a 65% reduction from the 2005 emission baseline in 2011, with total mercury emissions of 1,300 pounds.

NR 446 requires that, by January 1, 2015, 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 reductions are phased in at 70% control in 2015, 80% in 2018, and 90% in 2021.

Governor's Task Force on Global Warming

Governor Doyle convened a Task Force on Global Warming through issuance of an executive order in April, 2007. The Governor directed

that the Task Force: (a) present viable, actionable policy recommendations to the Governor to reduce greenhouse gas emissions (such as carbon dioxide, nitrous oxide, and methane) in Wisconsin and make Wisconsin a leader in implementation of global warming solutions; (b) advise the Governor on ongoing opportunities to address global warming locally while growing the state's economy, creating new jobs, and utilizing an appropriate mix of fuels and technologies in Wisconsin's energy and transportation portfolios; and (c) identify specific short-term and long-term goals for reductions in greenhouse gas emissions in Wisconsin that are consistent with Wisconsin's proportionate share of the reductions that are needed to occur worldwide to minimize the impacts of global warming. DNR and the Public Service Commission (PSC) staffed the Task Force.

In July, 2008, the Task Force on Global Warming submitted a final report to the Governor. The Task Force recommended the following goals for reducing greenhouse gas emissions: (a) a return to 2005 emission levels no later than 2014; (b) a 22% reduction from 2005 levels (to be approximately equal to 1990 levels) by 2022; and (c) a 75% reduction from 2005 levels by 2050. The Task Force recommended several overall policies and over 50 detailed policies in the utility, transportation, agriculture, forestry and industry sectors. The Task Force also recommended support for a federal or regional greenhouse gas cap and trade program.

In January, 2010, identical bills 2009 Assembly Bill 649 and 2009 Senate Bill 450 were introduced to implement several Task Force recommendations. Legislative committees held hearings and worked on the bills, but neither bill was enacted.

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 2011-13 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. DNR worked with auto, scrap and waste recyclers to reduce mercury emissions by removing auto mercury switches or other mercury-containing devices prior to crushing or shredding.

3. DNR worked with communities to reduce use of mercury-containing products.

4. The Environmental Cooperation Pilot Program, and the successor Green Tier program, encourage regulated facilities to achieve superior environmental performance by offering regulatory flexibility through negotiated agreements.

5. DNR worked with the dry cleaning industry to improve environmental performance, reduce air emissions, and simplify the reporting of emissions.

6. 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 their air program requirements and improve their environmental performance.

7. 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.

8. DNR worked on a research study lead by the University of Wisconsin - Stevens Point on winter-time air quality levels in Grand Rapids in Wood County. The study analyzed the role of wood smoke in affecting local air quality.

Small Business Clean Air 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. Prior to 2011-12, the former Department of Commerce was statutorily authorized to assist DNR in administering a small business stationary source clean air technical assistance and environmental compliance program. Commerce staff provided non-regulatory services to small businesses (employing 100 or fewer individuals) to help them comply with clean air requirements.

Under 2011 Wisconsin Act 32, the Department of Commerce was repealed. The act also repealed the requirement that Commerce assist DNR in providing small business clean air assistance, and deleted the two former Commerce positions. Act 32 maintained the requirement that DNR administer the program. No additional positions were authorized in DNR.

During the 2011-13 biennium, DNR air staff provide 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 publications, answer compliance questions, conduct on-site consultations, 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 ombudsman 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 clean air assistance program. The Council meets quarterly to work on issues such as to review and comment on: (a) how DNR provides information to small businesses; (b) whether the information is readable by people with no technical training; and (c) whether small businesses have difficulty in trying to comply with air regulations. In 2012, the Council is also working on other environmental regulatory programs, in addition to air programs.

DNR primarily allocates two positions in the Bureau of Air Management to staff the program. The Department funds the positions with stationary source fees received from federally-regulated sources under the Title V operation permit program.

Diesel Truck Idling Reduction Grant Program

In 2008 to 2010, DNR received federal funds under CMAQ and the federal American Recovery and Reinvestment Act of 2009 for diesel emission reduction activities. The idling reduction units 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.

Between 2008 and June 30, 2012, DNR used

the funds for 134 grant awards totaling $4,581,400 to fund 796 diesel idling reduction devices or retrofits on 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). Of the 796 units funded, 293 were truck idle reduction units, and 217 were school bus idle reduction units, exhaust retrofits, or replacements.

In June, 2012, DNR submitted an application to EPA for $212,559 in federal diesel emission reduction funding for October 1, 2012, through September 30, 2013. Federal program requirements are the same as for the previous grants.

Gasoline Vapor Recovery Activities

The 1990 federal Clean Air Act Amendments required gasoline station operators located in moderate or worse one-hour ozone nonattainment areas to install stage II vapor recovery systems on gasoline dispensing equipment. In Wisconsin, this applied to the counties of Kenosha, Kewaunee, Manitowoc, Milwaukee, Ozaukee, Racine, Sheboygan, Washington, and Waukesha. Wisconsin also required the installation of gasoline vapor recovery systems at larger facilities statewide, based on the control of toxic emissions associated with gasoline vapors.

DNR operated a state-funded grant program between 1995-96 and 1998-99, with $19.9 million from the segregated petroleum inspection fund, to reimburse most of the costs of the design, acquisition and installation of Stage II equipment at 733 fuel dispensing facilities in ozone nonattainment areas in eastern and southeastern Wisconsin. The grant program was not a requirement of the Clean Air Act.

As described in the chapter on federal requirements, on May 9, 2012, EPA waived the requirement that current and former ozone nonattainment areas classified serious and above must implement Stage II vapor recovery systems on gasoline dispensing pumps. 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 authorizes 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. As of September, 2012, DNR had issued information and procedures for gas stations to follow if they choose to remove the Stage II vapor recovery systems.

EPA's May, 2012, action also 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. As of September, 2012, DNR had drafted revisions to the state ozone state implementation plan regarding removing the state rule which had required the systems, from the state's ozone plan.

Acid Rain

Wisconsin enacted significant controls in 1985 Act 296 to reduce acid rain. This law required Wisconsin's major electric utilities to meet average annual emission limits, beginning in 1993, and set annual goals for emissions of sulfur dioxide and nitrogen oxides that have resulted in a more than a two-thirds reduction in sulfate emissions from 1985. The annual goal for sulfur dioxide emissions after 1992 is 250,000 tons from major utility sources and 75,000 tons from other large sources. As shown in Table 5, total sulfur dioxide emissions reported in the state were 163,366 tons in 2010, and 142,930 tons in 2011.

Wisconsin's effort to reduce acid rain has primarily been through the reduction of sulfur dioxide emissions from stationary sources. Coal-burning electrical utilities account for most of the sulfur dioxide pollution in Wisconsin. Pulp and paper mills are also major contributors with natural and other sources emitting smaller amounts.

Wisconsin's utilities affected under Clean Air Act Amendment Phase I requirements generally will have excess sulfur dioxide emission allowances and are in a position to make use of the emissions trading provision of the federal Act. Utilities in Wisconsin have sold emissions allowances under these provisions.

Activities of Other Agencies

Motor Vehicle Inspection and Maintenance

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 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 registration 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).

Diesel Truck Idling Reduction Grant Program

The Department of Safety and Professional Services (DSPS) administers a diesel truck idling reduction grant program to provide financial assistance to eligible freight motor carriers to purchase and install idling reduction technology. Idling reduction units 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 main goals of the program are to help Wisconsin motor carriers reduce air pollution emissions and fuel consumption.

The program was created in 2005 Wisconsin Act 25, and is authorized to provide grants between July 1, 2006, and June 30, 2015. The program was administered by the Department of Commerce prior to 2011-12. The Department of Commerce was repealed under 2011 Wisconsin Act 32, and the program was transferred to the Department of Safety and Professional Services (the former Department of Regulation and Licensing).

The grant program is appropriated $1,000,000 SEG in each of 2011-12 and 2012-13 from the petroleum inspection fund, and $76,000 SEG annually with 1.0 position for administration.

The former Department of Commerce and current DSPS awarded $6,851,200 in 473 awards for 1,865 idling reduction units in 2006-07 through 2011-12. The awarded funding includes $4,851,200 SEG from the petroleum inspection fund and $2,000,000 received by Commerce under the federal American Recovery and Reinvestment Act of 2009 (ARRA) from EPA. DSPS accepted applications for 2012-13 awards in the summer of 2012, and planned to make the first awards by the end of 2012.

Eligible applicants under the state-funded program are common motor carriers, contract motor carriers, and private motor carriers that transport freight, are headquartered in Wisconsin, and own and operate the truck. Federal regulations also allowed use of ARRA funds for leased trucks, if the owner of the truck approved installation of the diesel idling reduction unit.

Grants are used to pay up to 50% of the costs the applicant has incurred or will incur to purchase and install an idling reduction unit on a truck tractor that is owned and operated by the applicant, and that has a post-1998 diesel truck engine. Use of the idling reduction unit must result, in the aggregate, in a decrease in the emissions of one or more air contaminants (as defined under air pollution requirements in chapter 285 of the statutes) from the truck tractor on which the idling unit is installed, or in a decrease in the use of energy by that truck tractor. Grants cannot be used to pay shipping, installation, operation and maintenance costs or to purchase accessories. DSPS may not award to any one applicant more than 20% of the total amount appropriated for grants in a fiscal year. Award recipients must pay 50% of eligible costs for each idling reduction unit covered by the grant, and may not pay that portion of costs from grants, loans, or other financial assistance from the state or local governments. Grant recipients must collect information relating to the operation and performance of each idling reduction unit covered by a grant, and must report the information to DSPS.