



# Air Management Programs

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# Air Management Programs

## Introduction

In 1990, Congress adopted the first comprehensive modifications to the federal clean air law since the 1970s. The Clean Air Act Amendments of 1990: (a) created stricter standards on emissions from motor vehicles; (b) called for the use of alternative clean fuels; (c) created additional controls on industrial facilities; and (d) established other control measures. In general, states are required to: (a) develop and submit to the federal government a series of implementation plans which describe 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 federal Environmental Protection Agency (EPA) is responsible for federal implementation of the Clean Air Act. In order to comply with the requirements of the amended Act, Wisconsin adopted 1991 Wisconsin Acts 302 and 269. The 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 administrative rules in the NR 400 series. It issues necessary construction and operation permits for air emission sources, monitors air quality across the state and enforces air quality standards. The Department of Transportation (DOT) and regional planning commissions assist in the administration of certain provisions regarding

vehicle inspections and other transportation control measures.

The Clean Air Act Amendments of 1990 called for a gradual implementation of many of its provisions. EPA issued regulations during the 1990s that require states to reduce emissions of ozone, nitrogen oxide, particulate matter and other pollutants over several years. 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 in reducing ozone emissions in the southeastern portion of the state. DNR has initiated several programs and instituted several controls necessary to create plans that would reduce ozone emissions and move the state toward meeting national ozone standards. DNR has also 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.

MAJOR FEDERAL CLEAN AIR ACT REQUIREMENTS

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**National Ambient Air Quality Standards**

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Under the Clean Air Act, the Environmental Protection Agency (EPA) establishes national ambient air quality standards (NAAQS) based on scientific determinations of the threshold levels of air contaminants below which no adverse effects will be experienced by humans or the environment. 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, emissions standards are established 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 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 any adverse impact on human health; and (b) secondary standards establish the air quality required to prevent any adverse impacts on vegetation, property, or other aspects of the environment.

EPA has adopted air quality standards for six "criteria pollutants," including ozone, sulfur dioxide, nitrogen dioxide, particulate matter (solid or liquid matter suspended in the atmosphere) that is less than 10 microns in diameter (PM10) or less than 2.5 microns in diameter (PM2.5), 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. However, under 2003 Wisconsin Act 118, 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. If EPA modifies a federal air quality standard, DNR must alter the corresponding standard unless it makes a finding that the modified standard would not protect the public health or welfare, and if the finding is supported with specific written documentation. In 1987 EPA abolished the primary and secondary standard for total suspended particulate matter, but DNR retained the secondary standard based on public welfare concerns.

**Ozone**

Ozone is a primary component of smog, which is a widespread and persistent urban pollution problem. Large industrial facilities, motor vehicles and a variety of small sources that in total result in sizeable emissions, all play a role in ozone formation. 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. Air pollution sources do not directly emit ozone, but do emit air contaminants that are precursors to ozone. Ozone is created when volatile organic compounds (VOCs) and nitrogen oxides (NOx) react in hot sunlight to create ozone.

### **Volatile organic compounds**

VOCs are emitted from many sources, including solvents used by industry, household products 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 oxide**

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. Examples of sources of particulate matter include trucks, power plants, industrial processes, crushing and grinding operations, windblown dust, wood stoves, unpaved roads and agricultural plowing. Particulate matter that is 10 microns or smaller (PM10) can cause nose

and throat irritation and bronchitis, respiratory and cardiovascular problems for susceptible people. Fine particulate matter that is 2.5 microns or smaller (PM2.5) 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.

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## **Nonattainment Areas**

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Areas are designated 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. Different categories of nonattainment are established for ozone and carbon monoxide based on the degree of the area's pollution problem. The more severe the air quality problem and, therefore, corresponding nonattainment classification, 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 is the main air contaminant for which Wisconsin counties are in nonattainment. A region is considered in nonattainment for ozone if a violation of the ozone standard occurs within the region. The boundaries of a region can be determined on the basis of demonstrated air quality monitoring data. However, in large metropolitan areas, the boundary of the nonattainment area must include the entire metropolitan statistical area.

Ozone nonattainment area classifications were established by the 1990 Clean Air Act Amendments, based on the severity of each area's ozone problems under a one-hour ozone standard. The categories, from least contaminated to the most contaminated, are: (a) marginal; (b) moderate; (c) serious; (d)

severe; and (e) extreme. Six Wisconsin counties were designated as being in severe nonattainment of the national one-hour ozone standard, including: Kenosha, Milwaukee, Ozaukee, Racine, Washington and Waukesha. (The one-hour standard is described further in the section about ozone.) Under the one-hour standard, Manitowoc County was designated as a moderate ozone nonattainment area. Door County was designated as a "marginal rural transport" county, and was not required to meet certain requirements placed on the other ozone nonattainment counties. Effective June 16, 2003, EPA redesignated Manitowoc and Door counties as being in attainment of the one-hour standard. Walworth, a marginal nonattainment county, and Kewaunee and Sheboygan, moderate nonattainment counties, were redesignated as in attainment in August, 1996.

On April 15, 2004, EPA designated ten Wisconsin counties as being in nonattainment with the eight-hour ozone standard, effective June 15, 2004. (The eight-hour standard is described further in the section about ozone.) These counties are: (a) Kenosha, Milwaukee, Ozaukee, Racine, Washington, and Waukesha counties were designated as one moderate nonattainment area; (b) Sheboygan was designated as a separate moderate nonattainment area; and (c) Kewaunee, Manitowoc and Door counties were each designated as separate basic nonattainment areas (the lowest category of nonattainment). When EPA designated the eight-hour nonattainment areas, it revoked the one-hour standard, effective June 15, 2005. EPA was sued by industry and environmental groups on its designation of eight-hour nonattainment areas and on its implementation rule for the eight-hour standard. As of January 1, 2005, the suit was pending.

Wisconsin has one remaining area designated for nonattainment. A portion of the City of Milwaukee is in nonattainment of the secondary total suspended particulate matter standard that DNR retained after EPA abolished the federal primary and secondary standards in 1987.

EPA was required to designate PM2.5 (fine particulate matter) nonattainment areas by December 31, 2004. On December 17, 2004, EPA announced nonattainment areas located in 30 states. All of Wisconsin was designated as being in attainment of the PM2.5 standard.

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## State Implementation Plan Requirements

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The specific control measures used by states to achieve compliance with national ambient air quality standards are adopted 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, the Wisconsin's SIP generally places more stringent controls on ozone pollutant emissions in the state's six severe ozone nonattainment counties.

The plans, required under the Clean Air Act, contain specific deadlines for submission 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 that is required to submit a SIP does not submit a SIP, or submits a SIP that is judged to be inadequate to achieve attainment of the standards, EPA may 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.

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### **Types of Pollutant Sources**

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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, gas stations 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 lawn mowers, paints, solvents, asphalt paving, bakeries, autobody finishing shops, degreasing supplies, farm equipment, pesticides, small graphic arts shops, and consumer products. Area sources are regulated as a group. Nonroad engines can either be mobile or area sources and include industrial engines powered by gasoline, liquid propane gas or compressed natural gas, off-road vehicles, snowmobiles, all-terrain-vehicles and diesel marine engines.

### **Stationary Sources**

Many of the Clean Air Act requirements for stationary sources apply only to those facilities that

emit pollutants greater than a certain quantity. These larger emitters of pollutants are referred to as major sources and often emit substantial quantities of sulfur dioxide and nitrogen oxide. The definition of a major source varies with the pollutant and the severity of the pollution in the area in which the facility is located. For example, a facility emitting 50 tons per year of a pollutant in a highly-polluted area may be a major source subject to regulation, but the same facility located in a less polluted area may not have to meet as stringent regulatory requirements as the same source would have to meet in a nonattainment area. Minor stationary sources include all facilities that are not categorized as a major source. Major sources are the primary facilities subject to the requirements of the Act, although provisions exist for the application of restrictions to minor sources in certain cases.

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

### **Mobile Sources**

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 and 90% of carbon monoxide in urban areas.

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, diesel, natural gas, liquified petroleum gas, hydrogen or electricity.

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 must also contain oxygenates to reduce carbon monoxide and toxics. Oxygenates are additives such as ethanol or ethers such as methyl tertiary butyl ether (MTBE). RFG sold in Wisconsin uses ethanol as the oxygenate. Effective August 1, 2004, 2003 Wisconsin Act 45 banned the use of MTBE as an oxygenate in reformulated gasoline sold in Wisconsin.

In Wisconsin, six counties with a status of severe nonattainment of the one-hour ozone standard (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 areas are specified in the Clean Air Act amendments. (The RFG requirement will not automatically end when the counties achieve attainment of the one-hour 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 Commerce 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 one-hour standard 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 January 1, 2005, 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 are 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 required installation of stage II controls was phased-in over the three years of 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. DNR's current compliance efforts focus on the proper operation and maintenance of existing required systems.

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. For severe areas, the Act requires a state to offset increases in vehicle emission due to increased vehicle miles traveled over a 1990 base level. These demonstrations occur as part of the annual process of the development of transportation plans by the Wisconsin Department of Transportation. DNR submitted the required transportation control measure planning requirements to EPA as part of the State's 1992 SIP submittal.

EPA has adopted regulations for heavy-duty diesel engines for highway vehicles that will go into effect with model year 2007 vehicles that will come into the market in mid-calendar year 2006. EPA is also requiring the use of ultra-low sulfur diesel fuel beginning in June, 2006.

### **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 adopted regulations for non-road engines, beginning in 1995, which 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.

In May, 2004, EPA adopted final rules to place pollution controls on heavy-duty nonroad diesel engines. The rules will limit emissions of nitrogen oxides, hydrocarbons and carbon monoxide. Requirements and the implementation timeline vary depending on the type of engine or vehicle. The phase-in of the engine requirements will begin with model year 2008 engines, sold beginning in mid-2007. The emissions standards will 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 used in forklifts, electric generators, airport baggage transport vehicles, certain farm and construction uses, warehouses, and ice-skating rinks.

Emission standards for recreational vehicles such as snowmobiles, off-highway motorcycles and all-terrain-vehicles will be phased in beginning in 2006. Recreational marine diesel engines over 50 horsepower used in recreational boats will have to begin meeting phased emissions standards beginning in 2006, depending on the size of the engine.

on ozone because of the widespread problem with smog in the United States. EPA established a one-hour ozone standard of a concentration of 0.12 parts per million (ppm). Violation of the standard currently determines whether a region is in nonattainment. An area violates the one-hour standard if the number of days in which the standard was exceeded exceeds three during a three-year period.

EPA adopted an eight-hour ozone standard of a concentration of 0.8 ppm in July, 1997. An area is considered to be violating the eight-hour standard if the average of the fourth highest eight-hour concentrations during each of three consecutive years is equal to or greater than 0.85 ppm. (The 0.85 ppm is due to the rounding method used by EPA). In response to a court challenge, the United States Supreme Court issued a decision in February of 2001 that upheld the eight-hour standard.

EPA did not designate nonattainment areas for the eight-hour ozone standard in the appropriate time period as required by the Clean Air Act. As required by the terms of a settlement agreement with several environmental groups related to a lawsuit over the eight-hour ozone standard, EPA issued final nonattainment designations for the eight-hour ozone standard on April 15, 2004, and the designations went into effect June 15, 2004. There are 10 counties in Wisconsin that are designated as eight-hour ozone nonattainment areas. They are: Door, Kenosha, Kewaunee, Manitowoc, Milwaukee, Ozaukee, Racine, Sheboygan, Washington and Waukesha.

For the ozone one-hour standard nonattainment areas, control requirements apply to the two air pollutants that are precursors of ozone, VOCs and NOx. The Clean Air Act Amendments allow for states to petition for a waiver from the NOx requirements if they can show NOx control measures do not help ozone nonattainment areas attain national ozone standards. Preliminary modeling results in Wisconsin demonstrated that NOx reductions in high ozone areas of Chicago and Milwaukee can exacerbate the ozone problems in

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### **Ozone**

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Most EPA and state efforts to date have focused

areas immediately downwind of these metropolitan areas while having positive impacts on ozone in areas further downwind that are, for the most part, already in attainment. Wisconsin requested a waiver on any further NO<sub>x</sub> reductions and EPA approved the waiver in February, 1996.

EPA is requiring states to reapply for a NO<sub>x</sub> waiver if the state's want the waiver under the new eight-hour ozone standards. DNR analysis of computer chemical transport model data indicates that the state could probably not justify requesting a NO<sub>x</sub> waiver under the eight-hour standard. Thus DNR will likely not reapply for a NO<sub>x</sub> waiver.

Under the reasonable further progress provision of the Clean Air Act, the state was required, by 1996, to submit a 15% reduction plan of ozone forming VOCs from a 1990 base level of emissions, adjusted for any emission reduction accruing from Clean Air Act mandated controls implemented between 1990 and 1996. EPA approved the Wisconsin plan in 1996.

In addition, beginning in 1996, the state was required to implement plans to achieve an additional 3% annual reduction in VOCs in the state's severe nonattainment counties. The "rate-of-progress" requirement continues annually thereafter until the area reaches attainment or until the required attainment date in 2007 for the state's severe nonattainment counties.

For severe ozone nonattainment areas, state rate-of-progress plans are required to meet milestone year VOC emission reductions. Beginning with emissions in 1996 and every third year thereafter (1999, 2002, 2005 and the 2007 attainment deadline), the state must demonstrate that the VOC emission reductions for the preceding period have been achieved. EPA guidance allows NO<sub>x</sub> reductions as a substitute for VOC reductions for rate of progress milestones beginning in 1999. Wisconsin has met the 1996, 1999 and 2002 milestones. These activities are described further in Chapter 2 in the section on ozone and state implementation plan development.

If the rate-of-progress milestone is not met, the state must: (a) have the area reclassified to the next higher nonattainment classification; (b) implement additional approved measures to meet the next milestone (these measures must be able to go into effect without further legislative actions or administrative rules); or (c) adopt an economic incentive program. An economic incentive program may include: (a) emission fees; (b) a system of marketable permits; (c) state fees on the sale or manufacture of products contributing to ozone; (d) requirements to reduce vehicle miles traveled; or (e) other transportation control measures.

### **Ozone Attainment Deadlines**

The 1990 Amendments establish categories of ozone nonattainment based on the severity of the pollution problems. Deadlines to achieve compliance are established to provide areas with the greatest pollution problem the longest time to reduce those pollution levels.

Six Wisconsin counties were designated as being in severe nonattainment of national one-hour ozone standards. The designated counties were Kenosha, Milwaukee, Ozaukee, Racine, Washington and Waukesha and are required to meet an attainment deadline of 2007. States were required to submit state implementation plans for the one-hour ozone standard by December, 2000. (The Wisconsin plan submitted in December, 2000, and approved in October, 2001, is discussed in the next chapter on state activities.)

Effective June 15, 2004, ten Wisconsin counties are designated as being in nonattainment of the national eight-hour ozone standards. The counties are Kenosha, Milwaukee, Ozaukee, Racine, Washington, Waukesha and Sheboygan (these seven are in moderate nonattainment), and Kewaunee, Manitowoc, and Door counties (these three are in basic nonattainment). States will have to submit state implementation plans for the new eight-hour ozone standard by June, 2007. Attainment will be required in 2009 for the basic nonattainment areas and in 2010 for the moderate nonattainment areas.

## **Failure to Attain Air Quality Standards**

The 1990 Amendments establish planning procedures and penalties for states that do not achieve air quality standards by the applicable attainment date. For Wisconsin, this would currently apply to the requirements established for the counties in nonattainment for ozone. If the state's nonattainment areas fail to attain the national ozone standard by the required deadline, DNR must submit a revised state implementation plan prescribing control measures necessary to meet the air quality standards, including measures prescribed by EPA. Generally, attainment under the revised SIP would be required within five years, although EPA may extend the period to 10 years.

If severe ozone nonattainment areas fail to meet air quality standards, then each major stationary source will be assessed an annual fee of \$5,000 (adjusted for inflation) for each ton of VOC emissions which the source emitted in excess of 80% of a baseline amount. (Wisconsin promulgated an administrative rule that would assess the fee beginning in 2008 in areas that are not in attainment. The fee is described in Chapter 2.) In addition, VOC reduction requirements of 3% per year will continue to apply to the area until the standard is obtained. In severe ozone nonattainment areas, if the ozone level is above a specified threshold or if the area has failed to meet its most recent emission reduction milestone, the new source review standards for extreme nonattainment areas will be applied (including lower tonnage thresholds to be a regulated source and higher offset ratios) for new or modified sources.

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## **Particulate Matter**

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In July, 1997, EPA adopted a new national ambient air quality standard for fine particulate matter 2.5 microns or less (PM2.5) in addition to

the existing standard for particulate matter 10 microns or less (PM10). The current PM10 standard is an annual average of 50 micrograms per cubic meter and a daily average of 150 micrograms per cubic meter. The new PM2.5 standard is a 24-hour average of 65 micrograms per cubic meter and an annual average of 15 micrograms per cubic meter.

To determine if an area meets the annual PM2.5 standard, EPA collected data on the yearly average PM2.5 levels for three consecutive years. If the average of the three yearly averages is less than 15 micrograms per cubic meter, the area meets the standard. To determine an area's attainment status for the 24-hour standard, EPA calculated the 98<sup>th</sup> percentile monitored concentration, and if the averages of those concentrations for a three-year period are less than 65 micrograms per cubic meter, the area meets the standard.

EPA required states to establish monitoring sites and collect data on fine particulate matter. Wisconsin's PM2.5 monitoring network began operating in 1999.

The PM2.5 standard was challenged in court. The U.S. Supreme Court issued a decision in February of 2001 that upheld the PM2.5 standard. EPA was required to identify nonattainment areas that do not meet the PM2.5 standard by the end of 2004. On December 17, 2004, EPA announced the designation of PM2.5 nonattainment areas in 30 states, with an effective date of February, 2005. All of Wisconsin was officially designated as being in attainment.

Those areas that do not meet the PM2.5 standard will need to take steps to reduce fine particulate matter emissions, submit a state implementation plan within three years after the date of designation (approximately February, 2008), and come into attainment within five years after the date of designation, or in approximately 2010. As long as Wisconsin remains in attainment with the PM2.5 standard, these planning requirements will not apply in the state.



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## Air Toxics

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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.

The 1990 Clean Air Act Amendments established a list of 189 hazardous air pollutants (HAPs) that must be regulated within 10 years. EPA has deleted one pollutant from the list and may delete or add a substance if scientific data demonstrates that such a change is appropriate. 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 will require 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.

Prior to 1990, Wisconsin had adopted several provisions related to the control of the emission of toxic air contaminants. As a result, until 2004, 437 toxic chemicals were regulated under state law. The state list partially overlapped with the federal list of 188 HAPs. DNR promulgated administrative rule changes, effective July 1, 2004, to the air toxics rule, also known as the hazardous air pollutant rule. The revised administrative rule NR 445 currently includes 535 substances. No state rule exists for 27 toxics on the federal list but the state enforces the federal standard for these toxics. (The state rule is 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 was required to adopt maximum achievable control technology (MACT) standards for all major sources of the 188 HAPs by November 15, 2000. Between 1993 and August 17, 2004, EPA issued or delisted 92 air toxics standards for many major industrial sources, including chemical plants, steel mills, lead smelters, as well as some categories of smaller sources such as dry cleaners. As a standard is adopted, facilities must achieve compliance within three years, with the possibility of a one-year extension. Industrial source categories required to meet the standards will be phased-in over 10 years.

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 has not issued any residual risk standards as of the fall of 2004. EPA proposed a residual risk standard for coke oven batteries in August, 2004, and is negotiating court-ordered deadlines for other standards. DNR anticipates that in 2005, EPA will propose four standards with no further controls and three standards with additional controls.

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. No facilities in Wisconsin have yet 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 was required to complete a final urban air toxics strategy by June, 1999. It completed the final

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 released a final workplan for implementing an air toxics strategy in October, 2001. As of January 1, 2005, EPA was in litigation over the strategy and had not reached agreement with litigants over the strategy for promulgating area source standards. EPA has begun work on developing 22 area source standards.

The urban air toxics strategy will target reductions in the emission of these pollutants in urban areas from major industrial sources, smaller stationary sources and cars and trucks. The strategy describes activities that will be undertaken to set emission standards for HAPs, develop local and community-based initiatives to focus on specific pollutants and community risks, conduct additional monitoring and research and educate and obtain input from affected people about the strategy.

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### **Permits**

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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. 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, NO<sub>x</sub> 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 a federal air toxics regulation, and many facilities subject to federal new source 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.

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## **Acid Rain**

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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 three-quarters of sulfur dioxide and one-third 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 ten million tons annually in two phases: the first phase effective in 1995 and the second in 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 apply to power plants which have a generating capacity and emissions rate above specified levels. Each regulated plant holds one emissions allowance for every ton of sulfur dioxide emitted each year, beginning January 1, 1995. The Amendments established the number of emissions allowances for 111 affected plants, including six Wisconsin plants (Edgewater, La Crosse/Genoa, Nelson Dewey, North Oak Creek, Pulliam and South Oak Creek). Plants that reduce emissions below the levels established in the Clean Air Act will create excess allowances. The facilities may use the excess allowances as follows: (a) retain, or bank, them to meet future electricity demand or for use during Phase II; (b) use the allowances at another plant under common ownership; or (c) sell them to another electric utility or other buyer.

During Phase II, effective January 1, 2000, the plants regulated under Phase I are required to further reduce emissions, and in general, all power plants will be subject to emissions allowance requirements. This phase establishes an annual cap on emissions nationally at 8.9 million tons, to be distributed by EPA, although provisions exist for EPA to distribute an additional 0.53 million tons in bonus allowances for a 10-year period. Generally, new plants will need to obtain allowances from existing plants or from EPA sales or auctions, although certain new plants will be allocated limited allowances in an initial EPA distribution. 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.

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## Stratospheric Ozone Depletion

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The federal Clean Air Act Amendments of 1990 require 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.

While ground-level ozone has detrimental health effects and is regulated under nonattainment provisions of the Clean Air Act, 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 and is considered a factor in potential global climate change. Increased ultraviolet radiation has been associated with: (a) increased incidence of eye cataracts; (b) increases in cases of blindness; (c) increased skin cancer deaths; (d) depression of human immune systems and resulting increases in infectious diseases; and (e) reductions in phytoplankton, a base food source in the ocean's food chain.

Chlorofluorocarbons (CFCs) and several other chemicals have been identified as a cause of the destruction of the stratospheric ozone layer. These chemicals are generally used: (a) in refrigeration and air conditioning; (b) in foam packaging and insulation; (c) as solvents or aerosol propellants; (d) for soil fumigation; and (e) for produce sterilization. CFCs drift into the upper atmosphere and release

chlorine that destroys the ozone layer.

The 1990 Amendments and subsequent federal law changes phased out the production and sale of most Class I chemicals by 1996, and the rest by 2001. Class I chemicals include, at a minimum, 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.

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

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. Labeling is required for all containers containing products made with Class I or Class II substances.

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## Mercury

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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 enters 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.

In January, 2004, EPA proposed a clean air mercury rule that would reduce mercury emissions from power plants for the first time. EPA intends to finalize a mercury emissions rule in March, 2005. EPA proposed two alternatives for reducing nationwide emissions of mercury. One approach would require power plants to install controls known as "maximum achievable control technology" to reduce mercury emissions. A second approach would create a market-based "cap and trade" program.

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### DNR Air Management Organizational Structure

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The implementation of air quality programs in Wisconsin is conducted by DNR's Bureau of Air Management in the Air and Waste Division, with support from staff in the Department's other programs. The Bureau of Air Management consists of seven 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 seven sections are: (a) the Compliance and Enforcement Section coordinates the program's efforts to ensure that industry and others comply with clean air laws; (b) the Emission Inventory and Small Source Section manages DNR's process of obtaining annual reports of air emissions, and coordinates DNR's efforts related to asbestos abatement, refrigerant recovery, stage two vapor recovery and small sources emissions; (c) the Environmental Analysis and Outreach Section analyzes air quality issues, including air toxics, health issues and air quality, and provides public information and outreach; (d) the Monitoring Section plans and executes a program of monitoring air quality statewide; (e) 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; (f) the Regional Pollutant and Mobile Source Section develops state implementation plans for major air pollutants such as ozone and fine particulate matter and develops plans and programs related to motor vehicles and motor vehicle fuels; and (g) the Management Section prepares budgets and workplans, administers grants, provides rule oversight, and handles finance, data and personnel management.

The air management program also has eight 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 emission inventory; (e) stationary source modeling; (f) air modeling field operations; (g) air monitoring technical support and data management; and (h) maximum achievable control technology (MACT).

DNR convenes a 16-member Clean Air Act Task Force to obtain input from potentially affected parties and agencies involved in the state's effort to meet federal requirements. The task force is appointed by the Secretary of DNR and is made up of four members each from the following areas: local government; industry and labor; transportation; and environment, health and civic. The Task Force also includes the Permits and Fees Committee. In addition, other committees are sometimes convened with DNR staff and interested persons that advise the committees on specific issues. The Clean Air Act Task Force and its

committees provide technical advice to the Natural Resources Board on the state's options in meeting federal requirements relating to air quality issues.

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### DNR Funding

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DNR is authorized a total of 173.5 positions for air management activities in 2004-05. 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, Madison, Milwaukee, Rhinelander and Spooner). Table 1 lists funding and positions authorized for DNR air management programs. The Bureau of Air Management is authorized 159.75 positions to conduct monitoring, permitting, planning and compliance activities. In addition, the Bureau received federal grants to provide temporary funding for 3.0 positions that end June 30, 2005, for a total of 162.75 positions in the Bureau. The Air and Waste Division is authorized 3.0 positions for divisionwide program management. The Division of Enforcement and Science is authorized 2.5 positions for law enforcement. The Division of Administration and Technology is authorized 0.50 position for legal, administrative and information technology services, and in addition, is allocated \$636,700 in federal air grants to support the activities of accounting, legal, human resources, and information technology positions. The Division of Customer Assistance and External Relations is authorized 7.75 positions for customer service and licensing, cooperative environmental assistance and communication and education strategy.

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

**Table 1: 2004-05 DNR Air Management Authorized Funding and Positions**

Source	Fund Source	Funding	Positions
<b>Bureau of Air Management</b>			
Program Revenues			
Stationary Source Emission Fees	PR	\$8,685,100	87.50
New Source Construction Permit Fees	PR	1,737,400	19.50
Asbestos Abatement Fees	PR	431,200	2.00
Ozone-Depleting Substance Fees	PR	125,900	2.00
Other Program Revenues	PR	100,000	0.00
Federal Clean Air Grants	FED	3,101,700	43.00 *
Petroleum Inspection Fund	SEG	1,291,700	5.00
General Fund	GPR	<u>53,400</u>	<u>0.75</u>
Subtotal Bureau of Air Management		\$15,526,400	159.75
<b>Air and Waste Division Management</b>			
Stationary Source Emission Fees	PR	392,200	3.00
<b>Division of Enforcement and Science</b>			
Stationary Source Emission Fees	PR	78,500	1.00
Federal Clean Air Grants	FED	109,000	1.50
<b>Division of Administration and Technology</b>			
Federal Indirect Cost Reimbursement	FED	636,700	0.00
Petroleum Inspection Fund	SEG	588,200	0.50
<b>Division of Customer Assistance and External Relations</b>			
Stationary Source Emission Fees	PR	641,200	6.75
Petroleum Inspection Fund	SEG	<u>177,800</u>	<u>1.00</u>
Total DNR Air Management Funding		\$18,150,000	173.50

\*In addition, DNR received federal clean air grants to provide temporary funding for three project positions that end June 30, 2005 in the Bureau of Air Management.

grant allocations) were approximately \$19.4 million in 2002-03 and \$21.1 million in 2003-04, or an average of \$20.2 million per year over the two years. Almost half (49.1% in the two-year period of 2002-03 and 2003-04) of revenues for DNR air management programs come from stationary source emissions tonnage fees. Emission tonnage fees, along with federal Clean Air Act grants, the petroleum inspection fund and permit fees account for over 95% of program funding. DNR also collects other air pollution fees related to asbestos inspections and the regulation of ozone depleting refrigerants.

*Stationary Source Emissions Tonnage Fee.* The Clean Air Act Amendments of 1990 require states to assess fees based on the tonnage of emissions generated by a facility. The fees may only be used for the implementation of Clean Air Act

**Table 2: Revenues for DNR's Air Management Programs - 2002-03 and 2003-04**

Source	2002-03 Revenues	2002-03 % of Total	2003-04 Revenue	2003-04 % of Total	Total 2002-03 and 2003-04	% of Total
Stationary Source Emission Fees*	\$9,282,900	47.8%	\$10,582,300	50.2%	\$19,865,200	49.1%
Federal Clean Air Act Grants	4,886,600	25.2	5,097,100	24.2	9,983,700	24.7
Permit Review and Enforcement Fees	2,293,900	11.8	2,570,900	12.2	4,864,800	12.0
Petroleum Inspection Fund	2,038,700	10.5	2,014,400	9.6	4,053,100	10.0
Asbestos Abatement Fees	268,200	1.4	275,300	1.3	543,500	1.3
Ozone-Depleting Substances Fees	106,600	0.5	105,500	0.5	212,100	0.5
General Purpose Revenue	62,700	0.3	50,900	0.2	113,600	0.3
Other Program Revenues	481,600	2.5	377,500	1.8	859,100	2.1
	\$19,421,200	100.0%	\$21,073,900	100.0%	\$40,495,100	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 totaling \$199,700 in 2002-03 and \$196,000 in 2003-04, for 2.0 positions.

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 adopted an air emissions tonnage fee system consistent with the Clean Air Act amendments, beginning with calendar year 1992 emissions, assessed in 1992-93. Wisconsin adopted an annual cap of 4,000 tons per pollutant per facility. In 1999 Wisconsin Act 9, the annual cap was increased to 5,000 tons per pollutant per facility, effective with 1999 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.

Table 3 shows the fee rate per ton of billable pollutants for the calendar years 1992 (assessed in 1993-94) through 2004 (to be assessed in 2004-05). 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. Table 3 also shows the number of billable tons of emissions for each year and the total emission fees assessed.

In 2004-05, the DNR is authorized 98.25 PR positions from air emissions tonnage fees (out of the 121.75 total program revenue positions shown in Table 1). In addition, the emissions fees support two positions in the Department of Commerce, described in a later section on the small business

**Table 3: Stationary Source Emission Fee Rate and Billable Tons**

Year of Emissions	Fee Rate Per Ton	Billable Tons	Emission Fees Assessed (\$ millions)
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 *	33.80	289,154	9.77
2000 **	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	N.A.	N.A.
Average 1992-2003		280,434	\$8.94

\*Beginning in 1999, the emission fee cap increased from 4,000 to 5,000 tons per pollutant per year.

\*\*1999 Act 9 eliminated the annual inflationary adjustment factor after 2000.



clean air assistance program.

In 1999 Wisconsin Act 9, a performance-based emission fee system was created effective with calendar year 2001 emissions assessed in 2001-02 (in the spring of 2002). DNR was required to promulgate administrative rules to implement the provision, and base the fees on a five-year rolling average of the amount of emissions by the facility and other criteria. In 2001 Act 16, the provision was modified to specify that the fee per unit of emissions would be based on the previous year's emissions instead of basing it on a five-year rolling average of emissions. DNR implemented the Act 16 requirement by assessing the \$35.71 per ton flat fee against the prior year's reported emissions and not promulgating rules that contain other performance-based emission fee provisions.

Table 4 lists the emissions tonnage fee assessed in 2003-04 for calendar year 2003 emissions. A total of 60 different pollutants can be billed. Of the 60 pollutants, facilities emitted and were assessed on 24 different pollutants. A total of 1,274 facilities had billable emissions of at least five tons and paid fees for the billable pollutants that they emitted. In Wisconsin, the largest volume of emissions is generated by larger utilities, paper-related

**Table 4: Assessments for 2003-04 Stationary Source Emissions**

Pollutant	Actual Tonnage (2003 Tons Of Emissions)	Assessed Tonnage (2003 Billable Tons of Emissions)	Fiscal Year 2003-04 Assessed Revenues \$35.71/ton
Sulfur Dioxide	255,968	114,918	\$4,103,722
Nitrogen Oxides	124,909	93,877	3,352,348
Particulate Matter	26,804	25,693	917,497
Volatile Organic Compounds (VOC)	33,339	31,914	1,139,649
Other Pollutants (HAP, CFC and TRS)	23,415	6,364	227,258
Carbon Monoxide	<u>47,592</u>	<u>0</u>	<u>0</u>
TOTAL	512,027	272,766	\$9,740,474

industries and large chemical plants. A portion of the total emissions were assessed the emissions tonnage fee. For 2003 emissions, 272,766 of the 512,027 tons, or 53%, of emissions were subject to the emissions tonnage fee.

Table 5 lists the total amount of emissions from Wisconsin stationary sources from 1994 through 2003, as reported under requirements of the state permit program. Total reported emissions decreased in 2001 primarily because of economic conditions, with several industrial plant closures or plants operating at less capacity or hours than in 2000. Although total reported emissions have

**Table 5: Reported Air Emissions from Stationary Sources (Tons Per Year)\***

Calendar Year	Sulfur Dioxide	Nitrogen Oxides	Particulate Matter	Volatile Organic Compounds	Carbon Monoxide	Hazardous Air Pollutants	CFCs	TRS	TOTAL
1994	248,505	149,923	25,816	44,825	67,066	27,496	180	636	564,447
1995	250,612	154,852	34,400	46,380	47,388	29,760	89	695	564,176
1996	257,615	163,569	32,795	45,968	48,952	22,445	93	677	572,114
1997	295,460	162,988	35,067	44,981	50,504	23,671	54	781	613,506
1998	289,352	166,821	28,865	43,317	50,865	20,963	73	701	600,957
1999	268,113	157,879	28,458	42,652	52,758	20,509	69	722	571,160
2000	256,718	186,389	29,786	41,501	69,712	17,451	75	677	602,309
2001	247,148	153,914	24,993	34,631	41,540	5,189	116	564	508,095
2002	250,458	142,038	25,499	33,736	45,822	19,400	114	935	518,002
2003	255,968	124,909	26,804	33,339	47,592	22,598	111	706	512,027

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

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

TRS = Total reduced sulfur, sulfur trioxide and hydrogen sulfide

increased, billable emissions showed a further slight decrease in 2002 and 2003.

EPA has raised questions about the emissions tonnage fees in the notice of deficiency it issued about the program in 2004. This is discussed in a later section on the EPA notice of deficiency.

Wisconsin promulgated a rule in Chapter NR 410.06 of the administrative code that would assess an annual fee for stationary sources which emit or have the potential to emit 25 tons per year of VOCs and which are located in the six counties of southeastern Wisconsin that are in severe nonattainment of the one-hour ozone standard beginning in calendar year 2008 (assessed in 2007-08) if the nonattainment areas do not meet the national one-hour ozone standards. The fee would be assessed in each calendar year until the area is redesignated as an attainment area for the one-hour standard. The fee would equal \$5,000 per ton of VOCs emitted by the source during the previous calendar year in excess of 80% of the baseline amount, computed under procedures specified in the rule. The fee would be assessed by DNR at the same time as the annual emissions tonnage fee and would be deposited in the general fund.

*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 PM<sub>2.5</sub> in the air, to study air pollutants deposited in the Great Lakes and to study climate change. DNR is authorized 44.5 federal positions in 2004-05, of which 43 are in the Bureau of Air Management and the remaining 1.5 are in the Division of Enforcement and Science. In addition, DNR is receiving federal air grants that fund 3.0 project positions in the Bureau of Air Management and that expire June 30, 2005.

*Federal Indirect Cost Reimbursement.* Federal indirect revenues are the portion of federal grants

received by the Department for general administrative or overhead costs such as accounting, human resources, legal services, information technology and rent. In 2001 Act 16, \$944,000 in expenditure authority and 5.5 positions in the Division of Administration and Technology were converted from stationary source emission fees to funding from federal indirect cost reimbursement in each of 2001-02 and 2002-03. The Department allocated federal indirect revenues from federal air grants to the Division totaling \$475,000 in 2001-02 and \$552,900 in 2002-03 (which meant that federal indirect revenues from non-air federal grants funded a portion of administrative overhead costs that had previously been funded from stationary source emission fees). During the 2001-03 biennium, DNR discontinued allocating any federally-funded positions specifically to air management support. DNR allocated federal indirect revenues from federal air grants to the Division of Administration and Technology and to the Division of Customer Assistance and External Relations totaling \$651,900 in 2003-04 and \$636,700 in 2004-05.

*Petroleum Inspection Fund.* The segregated petroleum inspection fund receives revenues from the 3¢ 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. Appropriations from the fund are used for air management activities related to mobile source pollution control, vapor recovery from fuel storage and distribution systems, pollution prevention and cooperative environmental assistance. DNR is authorized 6.5 petroleum inspection fund positions in 2004-05.

*Permit Review and Enforcement 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 2004-05, DNR is authorized 19.5 positions for construction

permit review activities.

*Asbestos Abatement Fees.* DNR collects program revenue asbestos inspection and permit exemption review fees from persons who perform asbestos abatement as part of nonresidential demolition and certain renovation activities. Persons must notify DNR before they perform asbestos abatement and must pay fees that have a statutory maximum of \$400 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 \$750 if the combined square and linear footage is equal to or greater than 5,000. In addition, under 2003 Act 33, DNR is authorized to charge for the costs it incurs for laboratory testing for a nonresidential asbestos demolition and renovation project. DNR held public hearings in October, 2004, on proposed administrative rule changes that would implement the statutory fee changes, and intends to submit the proposed rules to the Legislature in the spring of 2005. The Department uses the 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 2.0 positions for asbestos abatement activities.

*Ozone-Depleting Substances Fees.* DNR collects program revenue annual registration fees from persons who remove ozone-depleting refrigerants (chlorofluorocarbons or CFCs) from motor vehicles and appliances such as refrigerators and air conditioners during salvage operations. Annual fees are also collected from persons who transport appliances for salvage. These revenues are used to administer CFC regulations to ensure that CFC removal activities do not release CFCs into the air. DNR is authorized 2.0 positions for regulation of ozone depleting substances.

*Other Program Revenues.* DNR receives a small amount of program revenues from other state

agencies. This primarily includes grants from the Wisconsin Department of Transportation (DOT) from funds provided to the Wisconsin DOT from 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.

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## Air Permits

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While federal 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 compliance 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.

In 2003 Wisconsin Act 118, a number of changes were made to the DNR construction permit and operation permit programs, including to the requirements for permits, public comment period, and timeline for processing permit applications. Act 118 also created exemptions from permits, registration permits and general permits.

### 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 rule 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 current fee schedule went into effect in January, 2000. 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 2004-05, DNR is authorized \$1,737,400 with 19.5 positions to administer the construction permit program. In 2003-04, DNR collected \$2,570,900 in permit fee revenues. In 2004-05, the average fee is approximately \$13,000 to \$14,500 per permit review.

DNR conducted an average of 210 construction permit reviews per year for new or expanded facilities in 2000-01 through 2003-04, including 202 in 2002-03 and 177 in 2003-04. Approximately four-fifths of the reviews are for facilities in attainment areas and one-fifth are for facilities in nonattainment areas. DNR issued 2,254 construction permits between 1993 and December 16, 2004.

In fiscal year 2003-04, DNR issued construction permits in an average of 99 days after the receipt of a complete application (4.5 months on average after receipt of the initial application). 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.

2003 Act 118 reduced the amount of time allowed for DNR processing of a construction permit for a major source by 30 days, to 180 days if there is no hearing, or to 240 days if there is a public hearing. The amount of time allowed for DNR processing of a construction permit for a minor source is 120 days if there is no hearing, or 180 days if there is a public hearing.

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.

Act 118 directed DNR to promulgate rules to 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 act also directed DNR to promulgate rules to 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. DNR held public hearings on proposed administrative rules and intends to send them to the Legislature in early 2005 for review and approval.

In August, 2004, EPA sent DNR a letter that raised concerns with whether several Act 118 provisions would comply with EPA requirements for construction permits and operation permits. EPA instructed DNR to promulgate regulations that are consistent with the Clean Air Act, amend the statutes to bring them into compliance with the Clean Air Act, or provide EPA with an Attorney General's opinion that the provisions would not prevent DNR from fully implementing and enforcing its' EPA-approved operation permit and construction permit program.

### **Operation Permits**

DNR administered a state-authorized operation permit program from 1985 to 1992 and issued 350 permits under the program. In 1992, DNR submitted new operation permit rules to EPA to meet the Clean Air Act Amendments. The Department began issuing operation permits in late 1994 and EPA granted interim approval to the program on March 6, 1995. The program is generally known as the Title V program, after the subchapter of federal EPA regulations. EPA granted full approval for Wisconsin's administration of the operation permit program effective November 30, 2001.

DNR allocates approximately 23.4 staff to

operation permit review and approval activities. Operation permit staff are funded from emissions tonnage fee revenues. However, during the fall of 2004, DNR was devoting approximately 17 staff to operation permit review and approval activities and allocated the other 6.4 staff to the Department's air permit improvement initiative streamlining efforts. Expenditure authority for a total of 100.25 staff (including two Commerce staff) is provided from emissions tonnage fee revenues. In addition to operation permit review, other Title V program implementation activities involve compliance, supervision, modeling, emissions inventory, and administrative support.

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).

DNR conducts the review, public comment and public hearing processes simultaneously with the similar processes for the construction permit and under similar timelines as for the construction permit. After DNR makes a decision to issue or deny the operation permit, EPA has 45 days to review, comment and agree with DNR's decision or object.

DNR issued 535 FOPs as of December 15, 2004, and 35 FOPs remain to be issued, of which 31 have reached the public notice and comment phase of processing. In January, 2004, DNR identified 148 FOPs remaining to be issued and committed to issuing all of them by December 31, 2004. As of December 15, 2004, DNR was on schedule to

complete the 148 identified FOPs by December 31, 2004. During 2004, DNR identified four additional FOP applications due to construction at new or existing sites. DNR will complete the FOP reviews after construction is completed on these four projects.

DNR issued 620 FESOPs as of December 15, 2004. Another 145 remain to be issued. Of these remaining permits to be issued, 72 have reached the public notice and comment phase.

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 December 15, 2004, 70 SOPs were issued and 607 were waiting to be issued, of which 20 had reached the public notice and comment phase of review.

The federal deadline for DNR issuance of these permits was April, 1998, three years after EPA approval of the program. Few states met the EPA deadline for issuance of federal permits. DNR indicates that permit review and analysis has taken approximately twice as long as estimated early in the program. DNR has required an average of approximately 250 to 300 hours per permit instead of 120 estimated initially, and many complex permits have required additional review time. As long as a source submitted an application within the required application deadline in 1994 or 1995, the source may continue to operate until DNR issues the permit. The operation permit is issued for operations at the entire facility and is valid for five years.

Under 2003 Act 118, DNR is required to notify an applicant for an operation permit, before issuing the permit, of any proposed emissions monitoring requirement. 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.

Under statutory requirements in place before 2004, DNR issued three general operation permits (GOP) where all sources within a specific industry would have the same applicable emission limits. The Department has issued GOPs for rock crushers, ethylene oxide sterilizers at hospitals and small boilers.

In March, 2004, EPA published a Notice of Deficiency (NOD) for the operating permit program in Wisconsin, in which EPA determined that the state's operating permit program does not comply with the requirements of the Clean Air Act. The NOD is described in a later section.

### **General and Registration Permits**

2003 Act 118 requires that DNR promulgate administrative rules to establish registration permits that authorize construction or operation or both of stationary sources with low actual or potential emissions. The rules will specify a simplified application process, criteria for identifying categories of sources whose owners may choose to obtain registration permits, and general requirements. The rules may exempt persons who qualify for a registration permit from the requirement to obtain a construction permit.

DNR is also required to promulgate administrative rules for the issuance of general permits authorizing the construction or operation or both for similar stationary sources. The rules must include criteria for identifying eligible categories of sources and permit requirements.

A person may petition DNR to make a determination that a type of stationary source meets the criteria for a registration permit or a general permit. DNR is required to provide a written response to the petition within 30 days indicating whether the type of source meets the applicable criteria. If the type of source meets the criteria, DNR shall, within 365 days after receiving

the petition, issue the registration permit or general permit.

DNR may not promulgate rules that conflict with the federal Clean Air Act. DNR held public hearings on proposed administrative rules for registration and general permits in November, 2004, and intends to send them to the Legislature in early 2005 for review and approval.

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### **Monitoring**

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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 2004, DNR operated 41 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 four other sites. In 2004, DNR collected data on: (a) ozone at 32 monitoring sites; (b) PM2.5 (fine particulate matter) at 20 sites, nine of which collected continuous data on PM2.5 concentrations (in addition, one continuous PM2.5 monitor was added in the fall of 2004); (c) PM10 at six sites, one of which collects continuous data; (d) total suspended particulate matter at nine sites; (e) nitrogen oxide at three sites (plus one additional site for a portion of 2004 in support of a University of Wisconsin research project); (f) sulfur dioxide at three sites (plus one additional site for a portion of 2004 in support of a University of Wisconsin research project); (g) carbon monoxide at two sites;

and (h) toxic air pollutants at seven sites. In addition, during 2004, DNR collected air quality samples for the U.S. Department of Homeland Security biowatch program. The details of that activity are classified.

The 20 PM2.5 monitors collect a discreet sample for a 24-hour period, then the filter is collected and analyzed to determine the average PM2.5 reading, no sample is done for two to five days, and a new filter collects another 24-hour PM2.5 reading. The nine continuous PM2.5 monitors must all be located at one of the 20 PM2.5 monitoring locations, and allow measurement of the PM2.5 concentrations during every part of the day instead of obtaining one reading for the 24-hour period.

The majority of DNR air monitoring efforts in 2004 related to implementing: (a) the PM2.5 monitoring network and monitoring to answer questions about visibility and regional haze issues; and (b) continuous monitoring of fine particulates to aid in calculating the air quality index DNR uses to inform the public about ambient air quality on a daily basis. During 2004, DNR placed a high priority on expanding the network of continuous PM2.5 monitors from six to nine, and in posting the data on the DNR web site on an hourly basis, so that people who are most likely to be affected by air pollution could take actions to minimize the impacts of air pollution on their health.

Ozone monitoring is providing the data used to determine attainment status for the new 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 performs other monitoring activities. The Department operates a network of 24 meteorological stations, which are used to evaluate the impact of weather on the ambient concentrations of pollutants being monitored. DNR

used to conduct a biomonitoring program to evaluate the potential adverse effects of air pollution on bioindicators. For example, the program examined the impacts of ozone, sulfur dioxide and nitrogen oxide on crops, trees and other plants. DNR discontinued operating the biomonitoring program in 2003.

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### **Compliance and Enforcement**

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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.

DNR's Air Management program performed 282 inspections at Wisconsin facilities in 2001-02, 279 in 2002-03 and 298 in 2003-04. Inspections found noncompliance issues during 23% of the inspections, ranging from minor recordkeeping violations to more serious emissions violations. DNR issued 101 notices of violation in 2001-02, 159 in 2002-03 and 95 in 2003-04. DNR also issued 118 letters of noncompliance in 2001-02, 145 in 2002-03 and 113 in 2003-04. During 2001-02 through 2003-04, the largest category of violation was related to procedural violations (such as 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). The second largest category of violation related to asbestos (such as failure to notify DNR before removing asbestos

and asbestos rules violations), followed by violations related to particulate matter, volatile organic compounds and open burning.

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### **State Implementation Plan Development**

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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 related to ozone 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 (2) the measures are necessary in order to comply with percentage emission reductions required under the Act. 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 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 pollutant emissions and overall ozone levels in the nonattainment area.

### **Rate-of-Progress Demonstration Plan**

DNR inventoried actual emissions of VOCs from all stationary, mobile and area sources and first submitted it as part of its 1992 SIP requirements. In late 1993, DNR submitted a 1996 rate-of-progress SIP revision to EPA describing actions the state planned to implement to achieve the 3% annual VOC reduction beginning in 1996, known as the "15% VOC reduction plan." In March, 1996, Wisconsin became the first state to receive EPA approval of its 15% VOC reduction plan.

The 1990 level of emissions in the state was 341 tons per day, so the state was required to reduce VOC emissions by 51.2 tons per day, beginning in 1996. The 1996 plan allocated the reduction as follows: (a) 51% (26.3 tons per day) from mobile sources; (b) 36% (18.4 tons) from area sources; and (c) 13% (6.5 tons) from industrial sources. Federal programs to reduce VOC emissions included reformulated gasoline, clean fuel fleets and revised motor vehicle emission standards. Wisconsin program elements included rules defining VOC RACT (reasonably available control technology) for major sources, enhancement to the vehicle inspection and maintenance programs, stage 2 gasoline fuel vapor recovery, solvent limits for various coatings applications and some voluntary industrial solvent regulation enhancements.

DNR has sent letters to EPA indicating that the state had achieved the required milestones of reducing VOCs in 1996 by 15% from the 1990 base level of emissions. In 2000, DNR completed an analysis of emissions that demonstrated that the state met the emissions milestone for 1999 of reducing VOC emissions by 9% from 1996 to 1999.

In 2003, DNR completed an analysis of emissions that demonstrated that the state met the emission milestone of reducing VOC emissions by 9% from 1999 to 2002.

In 1997, DNR submitted a 1999 rate-of-progress SIP revision to EPA describing actions the state planned to begin implementing in 1999 to achieve the required additional 3% annual reduction in VOCs in the state's severe nonattainment counties. In the 1999 plan, DNR projected that VOC emission control measures in the 1996 plan, along with additional emission reductions from adopted federal programs, would be sufficient to reach the 1999 rate-of-progress. EPA did not take action on the DNR submittal. In late 2000, DNR included the 2002, 2005 and 2007 rate-of-progress SIP revisions with the one-hour attainment demonstration plan described in a following section. In October, 2001, EPA approved the rate-of-progress plans.

### **Interstate Cooperative Efforts**

Many states and interested persons believe that the generation of ozone-forming pollutants in one area can be partially responsible for violations in another area. This is due to emissions transported by wind from one area to another. Wisconsin has worked with neighboring states for several years to study regional air quality issues and to formulate approaches to responding to the issues.

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 1996, recognizing that long-range ozone transport exists, EPA, 37 states and private industry groups undertook a national study, known as the Ozone Transport Assessment Group (OTAG), of the impact of the inter-regional transport issue on individual state's planning and ozone reduction efforts. The study used the LADCO computer model and data from states in the study area to determine the level of ozone being transported to and from the 37 eastern states (North Dakota to Texas and all of the states eastward) and identify the types of sources and geographic areas of ozone emissions and pollution.

In 2003 and 2004, Wisconsin continued to work with LADCO and the federally-recognized Indian tribes to develop regional approaches to address requirements related to ozone nonattainment, PM2.5 nonattainment and regional haze. The states are trying to use one computer model that covers the geographic area included in the member states to develop a regional control program that addresses all of these air quality issues at once, instead of addressing one pollutant and one area at a time. In addition to these efforts, Wisconsin is also working with 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.

### **One-Hour Attainment Demonstration Plan**

The state was required to submit an attainment demonstration plan to EPA for the one-hour ozone standard by December, 2000. In late 2000, DNR submitted a one-hour ozone attainment demonstration plan to EPA, as supported by administrative rules promulgated by the Department. In October, 2001, EPA approved the plan. As noted earlier, when EPA designated eight-hour nonattainment areas in April, 2004, it revoked the one-hour standard effective June 15, 2005. However, EPA is being sued over implementation of the eight-hour standard.

The one-hour attainment demonstration plan

includes elements that, when implemented, are expected to:

1. Demonstrate improved air quality sufficient to attain the one-hour standard by 2007.

2. Achieve the federally-mandated, rate-of-progress deadlines for reducing VOC and NOx emissions in the milestone years of 2002, 2005 and 2007.

3. Establish VOC and NOx emission budgets for mobile, area and stationary sources in 2002, 2005 and 2007.

4. Set an ozone season NOx emission rate for five specific electric generation facilities for each year of 2002 through 2007.

5. Establish enforceable rate-of-progress control measures to meet the contingency requirement by setting the 2003, 2006 and 2007 emission rates for the five electric generation facilities.

6. Establish reasonable available control technology (RACT) requirements for VOC emissions from industrial cleaning operations in southeastern Wisconsin.

7. Revise DNR administrative rules to establish a federally mandated excess emissions fee of \$5,000 per ton of VOC for major source emissions in southeastern Wisconsin if this area remains in nonattainment for ozone in 2008.

### **2003 Act 118 Provisions**

Under 2003 Act 118, statutory modifications were made to the process by which the DNR identifies counties as part of nonattainment areas and proposes revisions to the state implementation plan. Effective 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, if the county is part of a metropolitan statistical area that is required to be designated).

Act 118 also requires that before DNR issues documents which define or list specific nonattainment areas or which recommend that areas be designated as nonattainment areas, and at least 60 days before the Governor is required to make a submission to EPA on a nonattainment designation, the Department provide a report to the Legislature's environment committees. The report would 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.

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### **EPA Notice of Deficiency**

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On March 4, 2004, EPA published a Notice of Deficiency (NOD) for the Wisconsin Title V air operating permit program, in which EPA determined that the state's program does not comply with the Clean Air Act. Wisconsin must fully address the deficiencies identified by EPA by September 4, 2005 (18 months after the NOD was published) 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. EPA's findings include:

1. Wisconsin has failed to demonstrate that its Title V operating permit program requires owners or operators of federally-regulated sources to pay fees that are sufficient to cover the costs of the state's Title V program.

2. Wisconsin is not adequately ensuring that its Title V program funds are used solely for Title V permit program costs.

3. Wisconsin has not issued operating permits to all of the required regulated sources within the time required by the Clean Air Act.

4. Wisconsin has failed to implement properly its Title V program in several respects, including issuance of Title V permits that contain terms that do not have certain underlying applicable requirements, that do not contain all applicable requirements, and that do not make certain requirements federally enforceable.

On June 4, 2004, DNR sent EPA a written response to the NOD, in accordance with a requirement that the state respond to EPA within 90 days. The DNR response included the following major points:

1. DNR presented information to demonstrate that it believes that the current emissions fee structure met the federal "presumptive minimum" in previous fiscal years and will do so again in 2004-05.

2. DNR described its October, 2003, implementation of a redeployment plan to align the air program's resources with funding sources. DNR indicated that the analysis showed that current staffing levels of 87.5 positions would be adequate to accomplish Title V activities over the

next four fiscal years, assuming implementation of permit streamlining and information technology improvements.

3. DNR provided information about a workload analysis it conducted to determine the staff resources that will be required for the air program's Title V operation permit activities over the next four years. DNR stated its intent to finish the first issuance of all federal operation permits (FOPS) for Title V major sources by December 31, 2004. DNR also stated its intent to finish the first issuance of all permits for federally enforceable state operating permits (FESOPs) for synthetic minor sources (a major source that wants to reduce emissions enough to become a minor source), and any backlog of renewals for major or synthetic minor sources by June 30, 2008.

4. DNR described other potential procedural changes it would make in issuance of permits or inclusion of conditions in permits. It also stated that it may seek changes to administrative rules or statutes related to including conditions from expired construction new source review permits in operation permits, combining construction and operation permits, and identifying federally-enforceable or state-only enforceable permit conditions.

In EPA's August 5, 2004, response to DNR's June letter, EPA stated that DNR's June letter did not adequately address how Wisconsin will correct the deficiencies identified by EPA. EPA stated that: (1) DNR's next submittal should contain a status report on its budget request for information technology improvements; (2) Wisconsin must complete the issuance of all initial FESOPs by March 4, 2006; (3) DNR must describe its Title V program costs, how the fees it currently collects cover these costs, and how DNR will collect additional fees in the future to cover anticipated cost increases; (4) DNR must promulgate an administrative rule or a memorandum of agreement if it wants to issue combined operation and construction permits; and (5) DNR's next

submittal should include a schedule for when DNR plans to submit any regulatory changes. As of January 1, 2005, DNR has not sent EPA a response to its August 5, 2004, letter.

EPA has stated that Wisconsin must complete all corrections of the deficiencies identified in the NOD by September 4, 2005, or face sanctions (including the withholding of some federal highway funds, and more stringent emission requirements for stationary sources). If Wisconsin does not correct all of the deficiencies by March 4, 2006, EPA will be obligated to promulgate, administer and enforce all or part of the operation permit program in Wisconsin.

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## 2004 Legislative Audit

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In February, 2004, the Legislative Audit Bureau (LAB) completed an evaluation of the DNR's air management programs. The LAB evaluation included the following findings: (a) Wisconsin is among the slowest states in the nation to issue operation permits; (b) the process for issuing construction and operation permits could be streamlined; (c) DNR does not consistently follow federal and state enforcement guidelines; and (d) program management could be improved.

The Legislative Audit Bureau made several recommendations, including that DNR should: (a) correct annual emission fees billing errors; (b) assign additional permit engineers from other regions to issue operation permits in the Southeast Region, to help eliminate the backlog; (c) further streamline the operation permit program; (d) ensure that facilities have properly applied for permits; (e) review facilities whose operation permits have completed the public comment period process, to determine whether the permit can be issued or whether additional work is needed because of the delay in issuing the permit; (f) implement a procedure to ensure that facilities

submit appropriate renewal permit applications in a timely manner; (g) revise the expedited review process for construction permits in order to avoid situations where delays caused by the applicant hinder DNR's ability to meet expedited review deadlines; (h) reevaluate the potential of implementing construction permit streamlining recommendations made by its 1998 workgroup; (i) improve the facility inspection process; (j) improve compliance with federal policy and develop procedures to track high-priority violations; (k) implement procedures to more accurately track compliance certification submission dates; (l) develop procedures to accurately identify all after-the-fact permits issued and take appropriate enforcement action; (m) establish additional performance measures that facilitate the assessment of program outcomes; (n) improve its data systems; and (o) report to the Joint Legislative Audit Committee by September 1, 2004, with follow up information.

DNR submitted a September 1, 2004, report to the Joint Legislative Audit Committee that included information about ongoing initiatives DNR has undertaken to address LAB recommendations. The report described the following DNR responses to the LAB recommendations: (a) DNR corrected emission fees billing errors; (b) DNR assigned staff located outside of the Southeast Region to review operation permits in the Southeast Region; (c) DNR continues to implement permit streamlining changes in the operation permit program; (d) DNR is establishing procedures to verify whether facilities have properly applied for permits; (e) DNR will implement procedures to notify facilities of the need for timely permit renewal applications; (f) DNR is reviewing the construction and operation permit programs and the changes made by 2003 Act 118, to implement changes to be more efficient and effective; (g) DNR updated its inventory of facilities subject to federal inspection policies and distributed a guidance memo to DNR staff that outlines inspection selection priorities; (h) DNR identified database modifications necessary

to better track compliance; (i) DNR modified its tracking system to identify after-the-fact construction permits so they can be identified for compliance follow up; (j) DNR will reevaluate its current list of performance measures and its approach to setting measures; and (k) DNR described a data integration action plan that will help streamline the permit review process. DNR included a copy of a request DNR submitted to the Department of Administration in August, 2004, for additional funding under s. 16.515 of the statutes for information technology improvements (external contracts, hardware, software, and DNR information technology staff) and external contractors to write construction and operation permits. As of December 15, 2004, DOA had not forwarded the request to the Legislature's Joint Committee on Finance for review.

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### **Legislative Reports**

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Under 2003 Act 118, DNR was directed to submit several reports to the Legislature's environment committees. These reports include:

1. DNR was required to submit a report by September 1, 2004, which summarized the Department's efforts on air permit streamlining and made recommendations related to permit streamlining. DNR submitted a report on September 1, 2004, that described the Department's stationary source permit streamlining framework that use regulatory tools based on the level of emissions, types of sources, whether some sources will need individualized permits, or whether facilities meet the federal definition of a major source. The Department described elements it may include in its streamlining efforts, including permit exemptions, registration permits, general permits, bubble permits (an individually-negotiated permit that caps the overall emission levels from a facility), individual permits, and other alternative regulatory approaches.

2. DNR is required to submit a report by March 1, 2005, which summarizes the state's existing and pending state implementation plans, including analysis of any requirements in the plans that may not have been necessary to obtain EPA approval and recommendations to revise the plans to remove these requirements.

3. DNR is required to submit a report by March 1, 2005, which identifies best practices for emissions monitoring to minimize inconsistencies in monitoring requirements within the state and the requirements imposed by other states and EPA.

4. DNR is required to submit a report by March 1, 2005, which identifies information that DNR will require in air pollution control permit applications that will reduce overall permitting costs and approval times and minimize inconsistencies in application requirements within the state and with the requirements imposed by other states and EPA.

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## Other Issues

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### Hazardous Air Pollutant Rule

Effective July 1, 2004, administrative rule changes to the air toxics rule in chapter NR 445, also known as the hazardous air pollutant rule, regulate 535 substances. No state rule exists for 27 toxics on the federal list but the state enforces the federal standard for these toxics. Under NR 445, facilities must identify air toxics emitted by the facility, quantify emissions, and reduce or control emissions under specified conditions. 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 the rule changes, most new compliance requirements will be written into the operation permit during the normal permit renewal or issuance cycle. The rule contains a provision for facilities to certify that they are in compliance with the new NR 445 requirements rather than revise operation permits or obtain a construction permit.

### Voluntary Emission Reduction Registry

In 1999 Act 195, a voluntary emission reduction registry program was enacted. DNR promulgated administrative rule NR 437, effective November 1, 2002, to implement the program. On June 30, 2004, the Department began to register emissions reductions or avoided emissions of greenhouse gases or air contaminants or carbon sequestration, if the emissions reduction or avoided emission occurs before required by law. Greenhouse gases include carbon dioxide, methane, nitrous oxide, hydrofluorocarbons, perfluorocarbons, sulfur hexafluoride or any other gas that traps heat in the atmosphere. Air contaminants include particulate matter, mercury, lead and the ozone precursors nitrogen oxides and volatile organic compounds. Carbon sequestration is the establishment or enhancement of a carbon reserve, which is a system that takes in and stores more carbon from the atmosphere than it releases to the atmosphere.

NR 437 establishes protocols for quantifying baseline emissions, that is, the average annual amount or rate of a greenhouse gas or air contaminant emitted before an emission reduction or avoidance action is taken, or the amount of carbon stored before a carbon sequestration project is undertaken. As of December 20, 2004, ten companies have registered 39,234,521 tons of

emission reductions. Over 38.8 million tons of the registered emission reductions are carbon dioxide tons registered by one major utility.

### **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. Persons must notify DNR before they perform asbestos abatement, and must pay asbestos inspection fees and a construction permit exemption fee.

DNR receives approximately 2,600 notices of asbestos abatement and demolition projects per year. DNR reviews the notices for compliance with EPA requirements and enters information about the notices into a nationwide database. DNR staff and counties and municipalities under contract with DNR inspect approximately 750 active abatement projects and conduct pre- and post-abatement inspections.

DNR is authorized to initiate enforcement action against persons who do not comply with asbestos abatement regulations. The Department may also issue citations for violations of a small number of asbestos abatement laws. DNR is also required to enter all regulated project notifications into a database that is provided to EPA for inclusion in a nationwide database.

### **Ozone-Depleting Refrigerants**

Wisconsin administers three programs to reduce emissions of ozone-depleting refrigerants (CFCs). The Department of Agriculture, Trade and Consumer Protection administers rules, effective 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. The Department of Commerce administers rules, effective in 1992, related to the installation or servicing of stationary refrigeration equipment. DNR administers rules, effective in 1993, related to the disposal of any equipment containing ozone-depleting refrigerants.

The three state 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.

### **Motor Vehicle Inspection and Maintenance**

Wisconsin's motor vehicle inspection and maintenance program (I/M), in operation since 1984, requires that 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 I/M through a contract with a private firm, while DNR sets the emission standards. Currently, the program operates in the state's six severe nonattainment counties under the one-hour ozone standard (Kenosha, Milwaukee, Ozaukee, Racine, Washington and Waukesha) and in Sheboygan County.

Vehicles are required to be tested every other year, and, for vehicles more than six years old, upon a change of ownership. However, due to a change made in 2003 Act 220, vehicles are exempt from testing until the fourth year following the vehicle's model year. Prior to that act, vehicles were first subject to testing in the second year following the model year. This change reduced the number of vehicles that must be tested annually by about 140,000, so that currently a little over 700,000

vehicles are tested annually. There is no fee paid by the vehicle owner for the test, although vehicle owners are responsible for the cost of any required repairs.

In addition to these newer vehicles, the following vehicles are also exempt from testing: (a) vehicles with a model year of 1967 or earlier; (b) vehicles with a gross vehicle weight rating over 10,000 pounds; (c) vehicles exempt from registration; (d) vehicles powered with diesel fuel; and (e) motorcycles and mopeds. Vehicles that fail an emissions test must be repaired and pass a subsequent test, or receive a waiver, prior to being registered. A waiver is issued if the vehicle continues to fail after repairs are done costing in excess of limits established by DNR, or if testing staff determine that compliance cannot be achieved with repairs.

As noted above, emissions tests are conducted by a private contractor. The 2003-05 biennial budget act provided \$14.2 million in each year of the biennium to pay the cost of the testing contract. For 2003-04, this amount was provided with \$7.9 million from the transportation fund and \$6.3 million in federal congestion mitigation and air quality improvement funds. In 2004-05, however, the program is no longer eligible for these federal funds. Consequently, the budget act paid the full cost of the program from the transportation fund in that year, but also created a transfer of \$6.3 million from the petroleum inspection fund to the transportation fund to replace the federal funds.

In addition to the exemption created by 2003 Act 220, the act created another change to the program. Prior to being exempted from testing by Act 220, newer vehicles had fairly low test failure rates, indicating that the exemption created by the Act is not likely to result in significant vehicle emission increases. However, since it was anticipated that there would be at least some increase in vehicle emissions as the result of the exemption, Act 220 also created a program to offset this effect by providing grants to school districts or

school bus companies for the purchase of diesel oxidation catalysts (pollution control devices) for existing school buses. According to DOT's administrative rules effective September 1, 2004, the Department will provide funding on a one-time basis for the purchase of 300 of the devices in the nonattainment counties, which is the number that DNR determined would be needed to offset the effect of the Act 220 exemption. The funding for making these grants will come from savings resulting from the reduced I/M testing volume associated with the exemption.

### **Gasoline Vapor Recovery Grants**

In addition to federal requirements for gasoline station operators located in moderate or worse ozone nonattainment areas to install stage II vapor recovery systems on gasoline dispensing equipment, Wisconsin also requires the installation of gasoline vapor recovery systems at larger facilities statewide. This requirement is based on the control of toxic emissions associated with gasoline vapors. DNR operated a grant program, funded from the segregated petroleum inspection fund, to reimburse most of the costs of the design, acquisition and installation of Stage II equipment at fuel dispensing facilities in ozone nonattainment areas in eastern and southeastern Wisconsin. The grant program was not a requirement of the Clean Air Act. DNR was authorized to award grants on or before December, 31 1995, or June 30, 1996, depending on the type of facility. Vapor recovery grants reimbursed actual expenditures based on the type of vapor recovery system installed, with a maximum grant of \$37,250. The program provided approximately \$19.9 million in grants to 733 fuel-dispensing facilities. The last awards were paid in 1998-99.

### **Small Business Clean Air Assistance Program**

The Clean Air Act Amendments of 1990 require states to establish a program to assist small businesses in complying with the requirements of the Act. The Wisconsin program is administered by



DNR and the Department of Commerce. Commerce is appropriated \$196,000 in 2004-05 with two positions to administer the program. The program is funded from emissions tonnage fees collected by DNR.

The focus of the Small Business Clean Air Assistance Program is to assist small businesses in complying with the technical and environmental provisions related to the Clean Air Act. Small businesses are those which: (a) are owned or operated by a person that employs 100 or fewer individuals; (b) are owned by a small business concern as defined under federal code; (c) emit less than 50 tons per year of any regulated pollutant; and (d) emit less than 75 tons per year of all regulated pollutants in total. For ozone related pollutants, only those businesses located in the state's ozone nonattainment areas and emitting between 25-50 tons of ozone related pollutants would be eligible for the program. The program's provisions allow for the exemption of assistance and services to small businesses that have sufficient technical and financial capabilities to meet the requirements of the Clean Air Act. However, as long as program resources allow, program services will be offered to all businesses, beyond those defined above.

#### **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 these initiatives 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. A diesel school bus retrofit program in southeastern Wisconsin is using EPA-approved

technologies to retrofit diesel school buses and reduce emissions of VOCx, NOx, particulates, air toxics and carbon monoxide

3. DNR has 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.

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

5. The environmental cooperation pilot program encourages regulated facilities to achieve superior environmental performance by offering regulatory flexibility through negotiated agreements.

6. DNR has worked with foundries to identify changes to the casting process that will reduce benzene emissions.

7. DNR participated in the development of an award program to recognize hot mix asphalt facilities that achieve environmental excellence, including emissions and odor control.

8. DNR has worked with the dry cleaning industry to improve environmental performance and reduce air emissions.

9. DNR has worked with the pulp and paper industry to promote voluntary actions that reduce unwanted byproducts from the manufacturing process, including reducing emissions of several air toxics.

10. DNR is working with several counties in south central Wisconsin and the Fox Valley on an initiative called "Clean Air Faster." The initiative is intended to voluntarily reduce emissions of the precursors of ozone, and has a goal of helping the involved counties maintain attainment of the eight-hour ozone standard.

## **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 50% reduction in sulfate emissions from 1980. 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.

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 Act. Utilities in Wisconsin have sold emissions allowances under these provisions.

## **Mercury Emissions**

In response to a petition filed in May, 2000, by several environmental organizations, sportfishing groups, lake associations and lawmakers, the Natural Resources Board directed DNR to develop administrative rules to regulate mercury emissions to the air. In December, 2000, the Board directed that the Department present proposed rules to the Board that protect public health and the environment, but are cost effective, reasonable, and do not interfere with the ability of utilities to meet the state's energy needs.

DNR held public hearings on proposed rules in September and October of 2001. DNR convened a

Citizen Advisory Committee to review public comments received at the public hearings and make recommendations for addressing areas of concern and controversy. The Committee included environmental, industrial, utility and tribal interests. In September, 2002, the Citizen Advisory Committee sent a report to the Natural Resources Board. The report discussed issues of concern related to the proposed rules for further evaluation, presented the various perspectives of stakeholder members of the committee and recommended that the Department use the report along with other public input to determine what revisions to the proposed rules might be appropriate. In addition, DNR established a Technical Advisory Group to evaluate technical merits of the proposed rule. The Technical Advisory Group did not reach agreement on how to present the efforts of the group.

The Natural Resources Board adopted a mercury emission rule in June, 2003. In August, 2003, the Senate Committee on Environment and Natural Resources and the Assembly Committee on Natural Resources each adopted a motion requesting DNR to consider modifications to the mercury rule. In June, 2004, the Natural Resources Board approved modifications to the rule, and in July, 2004, the Legislature completed its review and approval of the rule.

On October 1, 2004, mercury emission rule changes in Chapter NR 446 of the administrative code went into effect. Major electric utilities are required to submit a report to DNR by October 1, 2005, that includes information about baseline mercury emissions calculated using procedures contained in the rule. By October 1, 2007, each major utility must submit a compliance plan demonstrating how the utility will achieve a 40% reduction in baseline mercury emissions by January 1, 2010.

Beginning January 1, 2008, no owner or operator of a major utility may cause, allow or permit mercury emissions from stationary sources

of 25 megawatts or greater of the major utility on an annual basis in an amount which exceeds the calculated level of annual mercury emissions for those units, as determined by DNR under procedures specified in the rule.

By October 1, 2011, each major utility must submit a compliance plan demonstrating how the utility will achieve a 75% reduction in baseline mercury emissions by January 1, 2015.

The administrative rule also includes the mercury emission reduction goal of DNR to encourage major utilities to achieve the maximum amount of mercury emission reductions reasonably achievable from all stationary sources of the major utilities in the state. The rule states that DNR's objective is to work with the major utilities to achieve an 80% reduction in mercury emissions by 2018, as measured from the baseline mercury emissions for the major utilities' stationary sources, as determined by the Department under procedures specified in the rule.

The mercury rule requires DNR to submit reports to the Natural Resources Board and to the

Legislature by January 1, 2006, January 1, 2009, and January 1, 2013. In each report, DNR is required to evaluate the scientific and technology developments related to mercury emissions, evaluate whether the mercury emission requirements are achievable, make recommendations for rule changes or other actions based on scientific and technology developments, and assess the impact of the compliance alternatives on mercury concentrations in locally affected water bodies.

In addition, the rule requires DNR to report to the Natural Resources Board and to the Legislature within six months after the date that a federal regulation is promulgated or that a federal law is enacted that has mercury reduction requirements for mercury emission sources affected by the state rule. Finally, the rule requires that, if a federal emission standard limiting mercury emissions from a major utility is promulgated, DNR shall adopt a similar standard, including administrative requirements that are consistent with the federal administrative requirements. The revised state standard could not be more restrictive than the federal standard for emission limitations.



## APPENDIX

### Summary of Clean Air Act Requirements Affecting Wisconsin

#### Ozone Nonattainment Area Requirements

##### 2007 Attainment Deadline

Kenosha, Milwaukee, Ozaukee, Racine,  
Washington & Waukesha Counties Control Measures

Reduce Ozone-Forming Emissions by Specified Percentages  
Install Vapor Recovery Gas Pumps  
Expand Vehicle Inspection Program  
Require Clean Fuel Vehicle Fleets  
Use Reformulated Gasoline  
Adopt Transportation Control Measures  
Reduce Area Source Emissions  
Expand New Facility Emission Requirements

#### Statewide Requirements

Conduct Emissions Inventories	Vehicle Emission Standards
Regulate Toxic Pollutants	Implement Regional Ozone Control Strategies
Control Acid Rain	Enhance Enforcement
Expand Permit Program	Expand Monitoring
Regulate Stratospheric Ozone Depleting Chemicals	Conduct Air Quality Research
Regulate Industrial Emissions	Reduce Emissions from Urban Buses