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air management programs

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Introduction

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

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

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

Overview of Federal Clean Air Act Requirements

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

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

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

Department of Natural Resources Air Management Organizational Structure

The implementation of air quality programs in

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

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

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

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

National Ambient Air Quality Standards and Nonattainment Areas

Federal Standards

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

Under ambient air standards, the concentration of pollution below the standards is considered acceptable. The standards are set based on the amount of time of exposure, in recognition that individuals can tolerate higher levels of exposure

to pollutants for short periods of time compared to prolonged exposure. Where air pollution exceeds the standards, EPA requires states to establish plans to reduce air emissions sufficiently to improve air quality to meet and maintain the ambient air quality standard. In addition, where the standards are met, the Clean Air Act includes requirements for some pollutants in order to prevent the deterioration of air quality. EPA is required to review the science supporting the national ambient air quality standards every five years and either propose changes or recommend that no changes be made.

Criteria Pollutants

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

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

Major sources of ozone formation are large industrial facilities, electric utilities, motor vehicles and a variety of small sources that in total result in sizeable emissions. Individuals exposed to high ozone concentrations may experience a significant health risk, especially the elderly, young children, and people with respiratory difficulties. Health studies have shown exposure to moderate levels of ozone causes increased respiratory problems, such as asthma and emphysema, and leads to permanent changes in lung structure. Ozone can also damage crops, trees, rubber, fabrics and other materials.

Sulfur Dioxide. Major sources of sulfur dioxide (SO_2) are power plants, industrial facilities, and heavy equipment and vehicles that burn fuel with a high sulfur content. SO_2 is a component of 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 acidic compounds, which causes damage to lakes, forests, other ecosystems and buildings.

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

Nitrogen Oxides. Major sources of nitrogen oxides (NO_x) are power plants, factories, other industrial combustion sources and automobiles. The criteria pollutant nitrogen dioxide is one type of NO_x. In addition to being a component of ozone, NO_x is a component of particulate matter and acid rain.

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

There are two categories of particulate matter. Inhalable coarse particles, known as PM10, include particles that have aerodynamic diameters (term for measuring the diameter of an irregularly shaped particle) less than or equal to 10 micrometers in diameter. PM10 particles can cause nose and throat irritation and bronchitis, respiratory and cardiovascular problems for susceptible people. (A micrometer, also known as a micron, is $1/1000^{th}$ of a millimeter. There are 25,400 micrometers in an inch. A human hair is approximately 70 micrometers in diameter.) PM10 usually results from actions such as crushing, grinding, or agricultural

plowing, or from wind-blown dust.

Fine particles, known as PM2.5, are 2.5 micrometers or smaller in diameter, and can penetrate more deeply into the lungs compared to larger particles. EPA studies show that fine particles are more likely than coarse particles to contribute to health effects such as premature deaths and hospital admissions, and at lower concentrations than PM10. Fine particles, such as those found in smoke or haze, can be emitted in forest fires, or can form through chemical processes when gases emitted from power plants, certain industries, and automobiles react in the air.

Nonattainment Areas

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

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

Currently, ozone, PM2.5, and sulfur dioxide are air contaminants for which some Wisconsin counties have been or are in nonattainment. Background on the standards and nonattainment designations issued prior to 2019 can be found in previous versions of the Legislative Fiscal Bureau's Informational Paper entitled, "Air Management Programs."

Ozone Attainment

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

EPA issued ozone standards in 1978, 1997, 2008, and 2015. For the 2008 eight-hour ozone standard of 0.075 parts per million, or 75 parts per billion, in Wisconsin, all of Sheboygan County was approved for attainment status in July, 2020, and the portion of Kenosha County east of Interstate 94 remains the only nonattainment area. In August 2019, the area was reclassified as "serious" nonattainment after failing to meet the standards of its previous attainment date. DNR has submitted, and EPA preliminarily approved, a request to designate the area to attainment based on data from 2017-19, but the area in early 2020 recorded an apparent violation of the standard before the designation was published. As of October 1, 2020, the re-designation process for both Kenosha County and the greater three-state Chicago area had been paused by EPA.

In October, 2015, EPA issued the current eight-hour ozone standard of 0.07 parts per million (ppm), or 70 parts per billion (ppb). EPA issued final designations of nonattainment areas on May 1, 2018, effective on August 3, 2018. The Wisconsin areas follow a contour along the Lake Michigan shoreline, were designated according to road boundaries, and include portions of Door, Manitowoc, Sheboygan, Ozaukee, Milwaukee, and Kenosha Counties. EPA designated these areas as marginal nonattainment. These areas will be

required to attain the 2015 ozone standards by August 3, 2021, three years after the effective date of the designation. Currently, DNR is promulgating rules that would incorporate the 2015 ozone NAAQS into state administrative code. Permits issued for facilities in these areas would require more stringent emissions limits for NO_x and VOCs. Detailed descriptions of the boundaries of the nonattainment areas are available on the DNR website.

In June, 2020, the Door County area, which encompasses an area around Newport State Park, was designated as attainment. However, in July, 2020, the D.C. Circuit Court of Appeals ruled the EPA had not properly made certain initial area designations for the 2015 ozone standard. As a result, the EPA is required to re-evaluate. EPA's current designations for Wisconsin remain in place pending that re-evaluation.

Particulate Matter Attainment

EPA made initial designations of PM10 nonattainment areas in 1991, designating all of Wisconsin as attainment. EPA has not changed the Wisconsin designation for PM10 since then. The PM10 standard in effect since 1997 is a 24-hour average of 150 micrograms per cubic meter.

EPA established standards for PM2.5 in 1997, 2006, and 2012. EPA requires states to establish monitoring sites and collect data on fine particulate matter. EPA specifies the types of data that states must collect. EPA uses the data to determine whether an area is to be designated as nonattainment.

In December, 2012, EPA revised the PM2.5 annual average standard to 12 micrograms per cubic meter, and retained the 24-hour average threshold of 35 micrograms per cubic meter. In December, 2014, EPA issued final designations of attainment areas for the 2012 annual PM2.5 standard, and classified all of Wisconsin as attainment. DNR promulgated administrative rule changes effective January 1, 2018, to adopt the federal 2012 PM2.5 standards. As of October, 2020, all of Wisconsin remains designated attainment of the PM2.5 standard.

Sulfur Dioxide Attainment

In 2010, EPA established a sulfur dioxide (SO_2) one-hour standard of 0.075 ppm (75 ppb), and DNR promulgated administrative rule changes to adopt the federal SO_2 standards, effective August 1, 2016. In 2013, EPA designated a portion of Oneida County as nonattainment, including the City of Rhinelander and nearby areas. DNR submitted an attainment demonstration for Oneida County to EPA on January 22, 2016, which is still under review by EPA as of October, 2020. Also, in August, 2020, EPA notified Wisconsin of its intention to designate Outagamie County as nonattainment for the 2010 SO_2 NAAQS, except for the parts of the county that are Oneida Tribal lands. EPA is to complete the Oneida County review and the official designation of Outagamie County by December 31, 2020. The remaining areas of Wisconsin are designated as attainment.

State Requirements

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

If EPA modifies an air quality standard that was in effect in 1980, statutes require DNR to modify the corresponding state standards unless the Department finds that the modified standard would not provide adequate protection for public health and welfare. DNR is only allowed to make this finding if the finding is supported with written documentation that includes specific information related to: (a) a public health risk assessment; (b) an analysis of population groups subjected to the air contaminant; (c) an evaluation of options for

managing the risk; and (d) a comparison of the proposed standard with standards in Illinois, Indiana, Michigan, Minnesota, and Ohio.

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

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

Statutes require that when DNR issues documents that define or list specific nonattainment areas or that recommend that areas be designated as nonattainment areas, the Department must first hold a public hearing and receive public comment. DNR may not issue the documents related to the nonattainment areas until at least 30 days after the public hearing.

Statutes require that, at least 60 days before the Governor is required to make a submission to EPA on a nonattainment designation, DNR must provide a report to the Legislature's committees on the environment. The report must contain a description of the proposed nonattainment area and supporting documentation. DNR must respond to any comments from the legislative committees, but legislative approval is not required before DNR issues its list or recommendation, or before the Governor makes a submission to EPA. From July, 2018, through June, 2020, DNR submittals to the Legislature included the proposed ozone attainment designations for Sheboygan, Kenosha and Door Counties.

State Implementation Plans

Federal Requirements

The Clean Air Act requires states to achieve compliance NAAQS through the development of, and revisions to, a "state implementation plan" (SIP). The SIP is a series of documents and regulations that identify 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 air quality standards by specified deadlines for each classification of nonattainment. Areas with worse air quality classification have to implement more controls.

The SIP must include provisions for: (a) enforceable emissions limitations; (b) air quality monitoring programs; (c) an air permit program and fees to cover the cost of permitting; (d) prohibition of emissions that contribute significantly to nonattainment of an air quality standard or deterioration of air quality; (e) applicable controls on interstate air pollution transport; (f) demonstration of adequate personnel, funding, and state statutory authority; (g) requirements for monitoring by stationary sources; (h) enforcement authority and procedures; (i) procedures for revising the plan; (j) requirements for consultation and notification of local governments; and (k) air quality modeling to predict the effect of air emissions on air quality standards.

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

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

Sanctions for Deficient State Implementation Plans

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

Sanctions include: (a) a requirement that new industrial projects provide emission offsets at a ratio of up to two tons of emission reductions to one ton of new emission increases; (b) the withholding of federal highway aids, except for: (1) projects principally for safety improvements and (2) a specific list of project types that 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 determined to be deficient.

On March 6, 2017, EPA issued a finding that Wisconsin failed to make a required SIP submission to meet certain requirements of the nonattainment new source review permitting program for the 2008 ozone NAAQS. DNR submitted the SIP to EPA on July 19, 2018, and EPA approved the plan in May, 2019.

Wisconsin Actions

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

Wisconsin's SIP addresses ozone, particulate matter, regional haze, and emissions of other regulated pollutants. From September, 2018, to August, 2020, the state submitted SIP components to EPA that include: (a) a maintenance and enforcement plan for the 2015 ozone NAAQS, known as an "infrastructure SIP"; (b) a second 10-year ozone maintenance plan for the Door County, Kewaunee County, Manitowoc County, and Milwaukee-Racine 1997 8-hour maintenance areas; (c) rule changes affecting lithographic printing; (d) the attainment designation requests for Sheboygan and Kenosha Counties for 2008 ozone standard; (e) the attainment designation request for Door County for the 2015 ozone standard; (f) baseline emissions inventories for the 2015 ozone standard nonattainment areas; and (g) limited administrative orders affecting a small number of regulated entities.

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

State statutes specify that DNR may not submit a state implementation plan to EPA that includes a control measure or strategy that imposes

or may result in regulatory requirements unless the Department has first promulgated the control measure or strategy as an administrative rule. DNR must submit a state implementation plan and a report describing the plan to the Legislature's environmental committees for review at least 60 days before the Department is required to submit the SIP to EPA. DNR is required to respond to any comments from the legislative committees but legislative approval is not required before DNR issues its list or recommendation, or before the Governor makes a submission to EPA.

The statutes authorize DNR to use the administrative rule process to develop and implement SIP modifications. Examples of DNR rules related to the SIP process include 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; and (f) monitoring requirements.

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.

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

EPA regional haze regulations promulgated in 1999 are intended to reduce emissions affecting air quality in national parks and wilderness areas. DNR submitted a five-year progress report for Wisconsin's regional haze SIP to EPA on March 17, 2017, and EPA approved it on June 15, 2018. Wisconsin is also required to submit a new 10-year regional haze SIP by July, 2021.

In December, 2018, EPA issued final rules describing what states have to do to implement the 2015 ozone standards. DNR submitted a required SIP component to EPA in August, 2020, describing baseline emissions. DNR also has submitted an infrastructure SIP showing how the agency has sufficient statutory and rule authority and resources to implement, maintain, and enforce the 2015 ozone standards, although EPA has not given approval to this SIP component. The next required submittal is a certification of the state nonattainment new source review program, due on August 3, 2021, which is also the date the state must be in attainment with 2015 ozone standards.

Interstate Cooperative Efforts

Wisconsin works with neighboring states to study regional air quality issues and to respond to issues related to the transport of emissions by wind from one area to another. Regional transport of air pollutants can be partially responsible for violations of air quality standards in other areas of the country.

The Lake Michigan Air Directors Consortium (LADCO) is an organization of Wisconsin, Illinois, Indiana, Michigan, Ohio, and Minnesota that studies regional ozone pollution and how best to control it in the Lake Michigan region. LADCO consists 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 2019 and 2020, Wisconsin worked with LADCO, federally-recognized Indian tribes, the U.S. National Park Service, the U.S. Forest Service, and the U.S. Fish and Wildlife Service to address issues related to the 10-year regional haze

SIP due in July, 2021. LADCO also provided technical assistance in support of Wisconsin's ozone emissions inventory development and attainment planning. Further, the group functions as a forum for states to cooperate on ozone-related planning issues, particularly the multi-state area surrounding Chicago.

Types of Pollutant Sources

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

Stationary Sources

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

Larger potential emitters of pollutants are referred to as major sources, and often emit substantial quantities of air contaminants such as sulfur dioxide and nitrogen oxide. The definition of a major source varies with the pollutant and the severity of the pollution in the area in which the facility is located. For example, a facility emitting 50 tons per year of a pollutant in a highly polluted area may be a major source subject to regulation, but the same facility located in a less polluted area may not have to meet regulatory requirements as stringent as the same source would have to meet in a nonattainment area. Minor stationary sources include all facilities 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. EPA has adopted guidelines setting a generic method of controls that will meet the requirements for specified industrial categories. The facilities that must install control equipment are determined based on: (a) the amount of pollution emitted by the facility; (b) the severity of the pollution problem in the nonattainment area; and (c) the industrial category of the facility. The emission limits are referred to as reasonably available control technology (RACT).

Mobile Sources

Mobile sources generally include any motor vehicle equipment that is capable of emitting any air pollutant while moving. Mobile sources include highway vehicles such as automobiles, buses, trucks, and motorcycles. Although emissions controls programs have been implemented, mobile sources of air pollution continue to be the largest single source of ozone-forming pollutants and carbon monoxide emissions.

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

Under federal law, in the most severely polluted areas, gasoline sold for vehicle use must be modified to reduce emissions. Federal law requires use

of reformulated gasoline (RFG) in areas of the state experiencing significant ozone problems. The fuel must provide specified year-round reductions in emissions of toxic air pollutants and summertime reductions in VOCs and NO_x. The components of RFG must meet certain refining and processing requirements.

In Wisconsin, the six counties of Kenosha, Milwaukee, Ozaukee, Racine, Washington, and Waukesha are subject to the reformulated gasoline requirements. The RFG requirement did not end when the counties achieved attainment of the 1997 ozone standard because the Clean Air Act amendments specifically require the use of RFG in the Milwaukee-Racine Consolidated Metropolitan Statistical Area.

The Clean Air Act requires certain centrally fueled fleets of 10 or more motor vehicles to operate clean-fuel vehicles and use clean fuels. This involves the use of vehicles that meet certified low-emission vehicle emission standards.

EPA has adopted, and continues to develop, regulations for tailpipe and evaporative emissions from vehicles, including: (a) use of ultra-low sulfur diesel fuel in heavy-duty diesel engines for highway vehicles; (b) greenhouse gas emission standards for new passenger cars, light-duty trucks, and medium-duty passenger vehicles; and (c) greenhouse gas and fuel economy standards for medium- and heavy-duty engines and vehicles. The requirements vary by model year and type of vehicles.

Area Sources

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

EPA regulates 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. DNR is currently promulgating rules to conform with updated federal control technology guidelines for reasonably available control technology for VOCs from miscellaneous metal and plastic parts coatings and industrial adhesives.

Nonroad Engines

EPA regulates emissions from nonroad engines such as recreational vehicles, industrial equipment, lawn mowers and garden equipment, off-highway vehicles, construction equipment, farm equipment and marine engines. In Wisconsin, these regulations primarily affect small-engine manufacturing plants.

EPA regulations for heavy-duty nonroad diesel engines limit emissions of nitrogen oxides, hydrocarbons, carbon monoxide, and particulate matter, and include significant reductions in the allowable sulfur content for fuel. Requirements and the implementation timeline vary by type of engine and began with model year 2008. These engines include certain engines over 25 horsepower such as those used in forklifts, electric generators, airport baggage transport vehicles, certain farm and construction uses, warehouses, and ice-skating rinks.

EPA regulations phased in emission standards between 2006 and 2018, depending on the type of engine, for the exhaust of: (a) recreational vehicles such as snowmobiles, off-highway motorcycles and all-terrain vehicles; (b) recreational marine diesel engines over 50 horsepower used in

recreational boats; (c) marine diesel engines above 800 horsepower and locomotives; (d) small nonroad spark-ignition engines rated below 25 horsepower used in household and commercial applications, such as lawnmowers, garden equipment, utility vehicles, generators, and other types of construction, farm, and industrial equipment; (e) marine spark-ignition engines and vessels, including outboard engines, personal watercraft, and inboard engines used in speedboats and recreational watercraft; and (f) large marine diesel engines, such as on ocean-going vessels.

DNR Revenues and Expenditures

DNR is authorized base funding of $16.9 million with 142.75 positions for air management activities in 2020-21. Approximately half of the staff is located in the Madison central office and the other half is in the DNR regional and subregional offices located throughout the state. Table 1 lists the funding sources and amounts, and positions authorized for DNR air management programs.

Within the Environmental Management Division, the Bureau of Air Management is authorized $15.1 million with 130.75 permanent positions to conduct monitoring, permitting, planning and compliance activities. During 2020-21, the Bureau is planning for approximately 101.25 full-time equivalent (FTE) positions of staff effort. These positions include central office staff and regional staff in the air management program. The program anticipates holding an equivalent of 3.0 FTE positions vacant during 2020-21, based on available federal and state revenues. As of December 1, 2020, 18.0 state-funded positions were vacant.

The Environmental Management Division is authorized 3.0 positions from federally-regulated

Table 1: 2020-21 DNR Air Management Authorized Funding and Positions

Source	Fund Source	Amount	Position
Bureau of Air Management			
Program Revenue			
Stationary Source Fees – Federally-Regulated Sources	PR	$5,868,900	54.00
Stationary Source Fees – State-Regulated Sources	PR	1,387,600	12.00
New Source Construction Permit Fees	PR	2,149,400	19.50
Asbestos Abatement Fees	PR	607,100	4.00
Ozone-Depleting Substance Fees	PR	140,400	1.50
Federal Clean Air Grants	FED	3,427,700	34.00
Petroleum Inspection Fund – Segregated Revenue (SEG)	SEG	1,423,600	4.75
Environmental Management Account – (SEG)	SEG	114,900	1.00
Subtotal Bureau of Air Management		$15,119,600	130.75
Division of Environmental Management			
Stationary Source Fees --- Federally-Regulated Sources	PR	$428,300	3.00
Law Enforcement			
Stationary Source Fees – Federally-Regulated Sources	PR	$99,000	1.00
Federal Clean Air Grants	FED	158,400	1.50
Internal and External Services Programs			
Stationary Source Fees – Federally-Regulated Sources	PR	$464,700	5.75
Federal Indirect Cost Reimbursement	FED	545,800	0.00
Petroleum Inspection Fund	SEG	94,300	0.75
Total DNR Air Management Funding		$16,910,100	142.75

stationary source fees for division-wide program management. The Bureau of Law Enforcement is authorized 2.5 positions from air funding sources. The Internal Services Division and External Services Division are authorized 6.5 positions from federal and state air funding sources for legal, administrative services, customer service and licensing, communication and education strategy, and to assist businesses in meeting environmental requirements.

DNR's air management activities are funded from several sources, as shown in Table 2. Revenues from all sources were $13.6 million in 2018-19 and $14.9 million in 2019-20. Approximately 80% of funding for the program during the two years came from state-assessed stationary source operation permit fees, federal Clean Air Act grants, and the segregated petroleum inspection fund.

Approximately 38% of revenues in the two-year period of 2018-19 and 2019-20 came from stationary source operation permit fees paid by federally-regulated and state-regulated sources. Over 53% of air program positions were funded from stationary source fees during the two years, including 75.75 PR positions authorized from stationary source operation permit fees paid by these regulated sources. These fees are discussed in detail in a subsequent section related to operation permits and fees.

EPA provides the state with grants for general program operations associated with implementing Clean Air Act provisions, based on an agreed-upon work plan between EPA and DNR. EPA also provides funds for specific purposes such as to purchase air monitors to determine ambient levels of particulate matter in the air, to study air pollutants deposited in the Great Lakes and to monitor air toxics. DNR is authorized 35.5 permanent federal positions in 2020-21, of which 34.0 are in the Bureau of Air Management and the remaining 1.5 are in Bureau of Law Enforcement.

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

DNR has 5.50 segregated (SEG) petroleum inspection fund (PIF) positions for air program activities in 2020-21 (4.75 are in the Bureau of Air Management, and 0.75 are in the Internal Services and External Services Divisions). DNR appropriations from the petroleum inspection fund are

Table 2: Revenues for DNR's Air Management Programs - 2018-19 and 2019-20

Source	2018-19 Actual	2018-19% of Total	2019-20 Actual	2019-20% of Total	Total 2018-19 and 2019-20	% of Total
Stationary Source Operation Permit Fees						
- Federally-Regulated Sources	$4,410,800	32.5%	$4,189,700	28.1%	$8,600,500	30.2%
- State-Regulated Sources	1,093,200	8.1	1,179,400	7.9	2,272,600	8.0
Federal Clean Air Act Grants	4,011,100	29.6	5,268,400	35.4	9,279,500	32.6
Petroleum Inspection Fund	1,497,800	11.0	1,423,600	9.6	2,921,400	10.3
Permit Review and Enforcement Fees	1,483,400	10.9	1,736,800	11.7	3,220,200	11.3
Asbestos Abatement Fees	767,400	5.7	836,800	5.6	1,604,200	5.7
Ozone-Depleting Substances Fees	156,000	1.2	131,400	0.9	287,400	1.0
Environmental Management Account	143,300	1.0	114,900	0.8	258,200	0.9
Other Program Revenues	2,500	<0.1	2,500	< 0.1	5,000	<0.1
	$13,565,500	100.0%	$14,883,500	100.0%	$28,449,000	100.0%

Note: Federal grants and state-assessed fees include actual revenues. Petroleum inspection fund, environmental management account, and general purpose revenues include authorized funding in both years.

used for air management activities related to mobile source pollution control, air emission reduction from fuel storage and distribution systems, pollution prevention, and department-wide activities related to air management.

In addition, DNR is authorized $30,000 PIF SEG annually to construct and operate an ozone air quality monitoring station in Sheboygan County that meets certain criteria, as well as a sulfur dioxide monitoring site beginning January 1, 2020. Prior to 2017-18, the air monitoring station in Sheboygan County was funded from general purpose revenue (GPR). The petroleum inspection fund receives revenues from the 2¢ per gallon petroleum inspection fee assessed on petroleum-based fuel products entering the state. [For more information about the petroleum inspection fund, see the Legislative Fiscal Bureau's informational paper entitled, "Petroleum Environmental Cleanup Fund Award (PECFA) Program."]

The DNR Air Management program is authorized 1.0 position from the segregated environmental management account of the environmental fund. The position is responsible for permitting, monitoring, and compliance related to industrial sand mining operations. [See the Legislative Fiscal Bureau's informational paper entitled, "Environmental Management Account."]

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

Air Emissions Reporting

Owners or operators of stationary sources of air emissions are required to provide DNR information related to their annual amount of emissions of various air contaminants. DNR compiles the information and is required to report it to EPA. DNR also uses the data to develop state implementation plans required by EPA and assess emission fees to stationary sources.

Owners or operators are required to submit data to DNR every spring for air emissions of the prior calendar year. DNR administrative rules include requirements for reporting procedures and minimum reportable amounts that vary by type of air contaminant. Table 3 lists the total amount of emissions from Wisconsin stationary sources from 2010 through 2019, as reported annually by federally-regulated and state-regulated facilities to DNR. The total tons of reported emissions declined from 347,325 tons in 2010 to 122,351 tons in 2019.

Air Construction Permits and Fees

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

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

Table 3: Reported Air Emissions from Stationary Sources, 2010 Through 2019 (Tons Per Year)*

Calendar Year	Sulfur Dioxide	Nitrogen Oxides	Particulate Matter**	Particulate Matter 10**	Volatile Organic Compounds	Carbon Monoxide	Hazardous Air Pollutants	CFCs	TRS	Total
2010	163,366	68,620	22,904	12,589	24,701	42,053	12,566	47	479	347,325
2011	142,930	65,261	21,874	13,058	24,247	42,668	12,859	1	543	323,441
2012	107,498	55,556	20,675	11,702	23,483	42,661	8,051	0	541	270,167
2013	108,986	56,044	19,089	11,288	23,184	42,394	9,947	0	525	271,457
2014	85,255	53,558	21,601	13,270	23,734	41,299	9,270	1	578	248,566
2015	61,683	70,682	17,548	9,646	26,142	49,310	11,229	2	601	246,843
2016	33,714	41,338	15,891	9,013	22,623	32,366	3,357	9	526	158,837
2017	29,995	42,074	17,831	9,658	22,334	34,464	2,527	1	557	159,441
2018	26,819	38,075	16,161	8,209	21,996	31,615	2,100	0	779	145,754
2019	19,927	31,971	13,863	7,394	21,075	26,188	1,150	0	782	122,351

*Tonnage figures are based on reported emissions of regulated stationary sources.
**PM includes particles at or below 100 microns in size. PM10 includes particles 10 microns or smaller. EPA and DNR require separate reporting of PM and PM10 and use different methods to calculate emissions of each.
CFCs = Chlorofluorocarbons (CFC-12, HCFC-141B, and HCFC-22)
TRS = Total reduced sulfur, sulfur trioxide and hydrogen sulfide

Types of activities that may require a permit include: (a) use of adhesives, paints, inks or other solvents that cause emissions of VOCs and hazardous air pollutants (HAPs); (b) fuel use, excluding electricity, that results in emissions of carbon monoxide, sulfur dioxide, NO_x 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 auto body refinishing; (b) food products and nondurable goods; (c) chemical, rubber, and plastic products; (d) paper, printing, and publishing; (e) lumber, wood products, and wood furniture; (f) primary metals industry; (g) health services; (h) combustion sources; and (i) road paving material production.

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

The federal construction permit requirements vary depending on whether 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 that are required to obtain construction permits in areas meeting the air quality standards are facilities that have the potential to emit over 250 tons per year of any criteria pollutant, or over 100 tons per year in specified source categories.

Under federal and state requirements, certain major sources in attainment areas are required to meet "best available control technology" (BACT) emissions limitations specified in the DNR permit on a case-by-case basis. Certain facilities in nonattainment areas must install equipment with emission controls based on a "lowest achievable emission rate" (LAER) standard. This standard is the most stringent control technology and is

determined by: (a) the most stringent emission limitation achieved in practice within an industry; or (b) the most stringent emission limit contained in any state plan. In addition, facilities in nonattainment areas must provide specified offsets to proposed increased emissions. Offsets are emission reductions obtained from other sources of air pollution in the nonattainment area. The Clean Air Act Amendments of 1990 apply these requirements to smaller sources of pollution.

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

DNR issued 89 construction permits in 2018-19 and 65 in 2019-20. DNR has issued a total of 5,069 construction permits between 1988 and June 30, 2020. As of July 1, 2020, DNR was processing 42 construction permit applications. From July, 2012, through June 30, 2020, during which time Sheboygan County and a portion of Kenosha County were designated as nonattainment for ozone, four construction permits in 2018-19 and two in 2019-20 were issued to facilities in those two areas.

Revenues and Expenditures

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

In 2020-21, DNR is authorized funding of $2,149,400 with 19.5 positions to administer the construction permit program. Table 4 shows construction permit fee revenues and expenditures for 2012-13 through 2019-20. On July 1, 2020, the account had a cash balance of $2.23 million.

Table 4: Air Construction Permit Revenue and Expenditures

Year	Revenue	Expenditures
2012-13	$2,205,800	$1,507,200
2013-14	1,961,200	2,103,500
2014-15	2,382,000	2,024,900
2015-16	1,849,600	1,713,000
2016-17	1,841,700	1,955,800
2017-18	2,128,500	1,401,600
2018-19	1,483,400	1,421,100
2019-20	1,736,800	1,781,600

DNR administrative rules establish construction permit fees for reviewing applications to construct or modify sources of air pollutants. The fees, last revised effective January 1, 2011, cover actions such as review of major or minor source construction, modifications to sources, expedited review, modeling analysis, revisions to a permit, emissions testing, and determination of exemption from a construction permit or certain permit requirements. Applicants who withdraw or stop work on an application have to pay for review work completed to that point. The average fee was approximately $21,010 per permit in 2018-19 and $20,833 in 2019-20.

Timeline for Permit Issuance

In 2019-20, DNR issued construction permits in an average of 58 days after the receipt of a complete application, excluding two permit applications with special circumstances, each of which had an issuance time of greater than 300 days. It took an average of 134 days from the time of the initial receipt of the application to issuance of the permit. However, the time varies widely, depending on the size and complexity of the source, the applicant's timeline, the quality of the application materials, whether the applicant requests expedited review and whether a public hearing is held regarding the application.

DNR is generally required to process a construction permit within 180 days of receiving a

completed application if there is no public hearing, or 240 days if there is a hearing. The time allowed for processing a construction permit for a minor source is typically 120 days after the application is complete if there is no public hearing, or 180 days if there is a hearing.

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

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

Other Construction Permit Requirements

DNR administrative rules exempt minor sources from the requirement to obtain a construction permit if the emissions from the sources do not present a significant hazard to public health, safety or welfare, or to the environment. The rules require payment of a determination or application fee, and provide: (a) an exemption from construction permit requirements for certain facilities that have actual emissions of pollutants less than certain specified levels (depending on the type of source), and that are not subject to additional control requirements such as federal hazardous air pollutant standards; and (b) an exemption from construction permit requirements for projects not exceeding certain maximum theoretical emissions. Examples of exempt sources are certain grain storage facilities, motor vehicle refinishing shops, graphic arts operations, and painting or coating operations. DNR issued 41 exemptions to minor sources from the requirements to obtain a construction permit in 2018-19 and 37 in 2019-20.

Owners or operators may also apply, with payment of a fee, for an exemption to, or modification of, certain construction permit requirements for activities or operations such as: (a) exemptions for certain equipment used for testing or research; (b) a modification to a stationary source regulated by a plant-wide applicability limitation; and (c) minor modifications at major stationary sources. DNR issued six of these permit exemptions or modifications in 2018-19 and seven in 2019-20. Most of these were for exemptions for research and testing equipment.

A person may request a waiver to the requirement to obtain a construction permit before beginning construction, reconstruction, replacement, or modification of a stationary source if the person shows that beginning the activity prior to the issuance of the permit is necessary to avoid undue hardship. Construction permit waivers allow a

facility to begin on-site preparation such as site clearing, grading, dredging or landfilling prior to receiving a construction permit when necessary to avoid specified situations of undue hardship. The Department is required to act on the waiver request within 15 days of receipt of the request. A statutory $300 fee is assessed for the waiver request. In 2018-19, DNR issued 11 waivers, and in 2019-20, the Department issued 10.

DNR promulgated administrative rule changes effective December 1, 2015, to streamline the construction permit process for certain sources, and to revise the definition of "commence construction" for minor source construction permits. The rules include: (a) an exclusion for minor sources that allows specified pre-construction activities to proceed before the construction permit is issued; (b) allowance for revocation of certain construction permits at closed facilities without providing written notice and without waiting 21 days; and (c) an exemption for certain restricted-use engines. On October 1, 2020, new provisions of Chapter NR 406 took effect to align the definition of "commence construction" with the federal definition. DNR has submitted the rule to EPA for approval into the SIP. DNR recommends that permit applicants not rely on the rule until EPA approves the SIP revision.

Air Operation Permits and Fees

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

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

While federal air permit requirements are generally only applicable to major sources, state law authorizes Wisconsin to also regulate minor stationary sources. DNR also issues non-Title V permits to sources required to obtain a permit under state law, but not federal law. This paper refers to these permits and fees as state-regulated sources.

An operation permit: (a) includes information about which pollutants are being released; (b) outlines all of the air pollution requirements that apply to a source: (c) establishes detailed limits on the emissions of air contaminants; (d) establishes a maximum increase over a baseline of emissions; (e) includes operating conditions to ensure that the source is in compliance with federal and state air pollution requirements; and (f) 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. Before DNR issues a permit to a stationary source, the source must demonstrate that it will meet federal and state standards.

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 code Chapter NR 407.

Federally-Regulated Operation Permits

A federal operation permit (FOP) is required for all facilities defined as major sources, many sources subject to federal air toxics regulation,

and many facilities subject to federal new source emission standards. Generally, major sources for operation permits include facilities that have the potential to emit any one of the following: (a) over 100 tons per year of any criteria pollutant in attainment areas and in marginal or moderate ozone nonattainment areas for any criteria pollutant, or 50 tons per year of VOC or NO_x in serious nonattainment areas, or 25 tons per year of VOCs or NO_x in severe nonattainment areas; (b) 10 tons per year of any federal HAP; or (c) 25 tons per year of all combined federal HAPs. Examples of federally-regulated sources are large factories and power plants. DNR categorizes some permits as federal operation permits if the source is in the process of applying for a FOP, or is currently operating under a state operation permit or construction permit while it applies for a FOP.

State-Regulated Operation Permits

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

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

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

2. SM-FESOP. These sources may choose to obtain a FESOP that contains federally enforceable conditions that limit potential emissions to less than 80% of the major source threshold.

3. SM-ROP. These sources may obtain a registration operation permit (ROP), discussed in a subsequent section, that contains federally enforceable conditions that limit potential emissions to either less than 25%, or less than 50% of the major source threshold.

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

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

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

criteria:

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

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

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

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

Number of Permits Issued

In total, DNR has issued 643 initial federal operation permits (FOP) as of June 30, 2020. An additional six new or renewal FOP applications were in the public comment phase. DNR issued 879 initial FESOPs as of June 30, 2020. The operation permit is issued for operations at the entire facility and is valid for five years. As of June 30, 2020, DNR issued 1,675 renewals (938 FOPs and 737 FESOPs) out of 2,318 applications received.

In addition to the FOPs and FESOPs, DNR issues state operation permits (SOP) for minor sources not subject to federal permit requirements. Examples of minor sources are some rock crushers, drycleaners and smaller boilers. As of July, 2020, 131 initial SOPs and 57 SOP renewals were issued and no additional applications were in the public notice and comment phase of review.

Timeline for Permit Issuance

After DNR receives an operation permit application, the Department has 20 days to provide the applicant with written notice of any additional information required to determine if the source, upon issuance of the permit, will meet state requirements. After the applicant provides the information, DNR has 15 days to notify the applicant whether the information satisfies the Department's request. After DNR determines the application is complete, a DNR air management permit reviewer prepares an analysis of the complete application, and prepares a preliminary determination on the approvability of the application. (There is no statutory timeline for this review.)

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

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

General Permits

DNR administrative rules authorize the issuance of general operation permits and general construction permits for similar categories of

stationary sources. The rules: (a) include criteria for identifying eligible categories of sources and permit requirements; and (b) may exempt persons who qualify for a general operation permit from a construction permit.

As of June 30, 2020, DNR had issued four general permits to cover almost all nonmetallic mineral processing facilities, printers, and asphalt plants. A total of 1,292 general permits have been issued to owners or operators of stationary sources.

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

Holders of a general permit pay an annual fee of $400. General permit fees are deposited in the state stationary sources appropriation. A source with a general permit does not pay construction permit fees, but is subject to general construction permit requirements.

Registration Permits

DNR administrative rules authorize issuance of registration operation permits and registration construction permits that authorize construction or operation, or both, of stationary sources with low actual or potential emissions. DNR has issued 4 different registration permits. The Type A registration permit for minor sources not exceeding 25% of major-source thresholds for criteria and hazardous pollutants was issued in 2006. The Type C permit for printers was issued in 2007, and is currently under revision. The Type B permit, limiting actual emissions to 50% of major-source thresholds for criteria and hazardous pollutants, was issued in 2016. The Type G permit for Green Tier sources was issued in February of 2019. DNR has granted coverage under a registration permit to 988 facilities as of June 30, 2020.

An owner or operator may apply for a registration permit if the source has actual emissions not exceeding the annual threshold for each pollutant, and slightly different thresholds for certain printing facilities. The registration operation permit allows the owner or operator to construct, modify or replace equipment without obtaining a construction permit, as long as the facility continues to comply with all conditions of the registration permit after the change.

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

Holders of a registration operation permit pay an annual fee of $400. Registration permit fees are deposited in the state stationary sources appropriation.

Under 2013 Act 20, DNR issued the Type B registration permit, effective February 23, 2016, authorizing the construction or operation, or both, for any stationary source with actual emissions that do not exceed 50% of any applicable major source threshold established under the federal Clean Air Act. The provision is subject to a requirement that DNR may not take action under air pollution requirements that conflicts with the federal Clean Air Act. As of June 30, 2020, DNR issued 120 Type B registration permits under this provision.

Exemptions

Minor sources are exempt from the requirement to obtain an operation permit if the emissions from the sources do not present a significant hazard to public health, safety, or welfare, or to the environment. Examples of exempt sources are painting or coating operations, graphic arts operations, motor vehicle refinishing shops, certain dry cleaning operations, gasoline-dispensing facilities, grain storage facilities, grain processing facilities, and facilities with lesser maximum theoretical emissions.

Under the requirements of 2013 Act 20, DNR promulgated administrative rules effective December 1, 2015, to exempt natural minor sources from the requirement to obtain a state operation permit. The rules define a natural minor source as: (a) not a major source, which is required to obtain a federal operation permit; (b) not a synthetic minor source, which has federally enforceable permit conditions that limit emissions so the source does not have to obtain a federal operation permit); or (c) not a "part 70" source, which is subject to certain federal permitting requirements. Natural minor sources are exempt from paying the $400 annual operation permit fee for state-regulated sources. As of June 30, 2020, 30 natural minor sources were exempt from the requirement to obtain a state operation permit under the provision.

Under the requirements of 2013 Act 20, DNR informs state-regulated facilities about the benefits of obtaining a registration operation permit or an exemption from an operation permit. DNR does this through: (a) a webpage that describes the permit options available to facilities; (b) emails to facilities; and (c) presentations to stakeholders.

Revenues and Expenditures

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

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

Wisconsin's air emissions tonnage fee system began with assessment of fees in 1992-93 for calendar year 1992 emissions. The fee structure has been changed in several subsequent biennial budget acts. Additional detail about past fee structures can be found in previous versions of the informational paper entitled, "Air Management Programs" on the Legislative Fiscal Bureau's website.

Beginning in 2005-06, separate appropriations exist for revenues assessed for operation permits for each of federally-regulated sources and state-regulated sources. The statutes require that the fees deposited in each of the two appropriations be used for the following: (a) the costs of reviewing and acting on applications for operation permits; (b) implementing and enforcing operation permits, except for court costs or other costs associated with an enforcement action; (c) monitoring emissions and ambient air quality; (d) preparing rules and materials to assist persons who are subject to the operation permit program; (e) modeling ambient air quality; (f) preparing and maintaining emission inventories; (g) any other direct and indirect costs of the operation permit program; and (h) costs of any other activities related to stationary sources of air contaminants.

Federally-Regulated Sources. Effective in 2013-14 for calendar year 2013 emissions, through 2020-21, sources that are required to obtain an operation permit under federal law continue to pay an annual air emissions tonnage fee of $35.71 per ton. In addition, all federally-regulated sources pay an annual base fee, based on the tons of actual billable emissions from the facility in the prior calendar year as follows: (a) $900 if the source emitted not more than 10 tons of billable emissions in the prior calendar year; (b) $1,300 if the source emitted more than 10 tons but not more than 25 tons in the prior calendar year; (c) $1,600 if the source emitted more than 25 tons but not more than 50 tons in the prior calendar year; (d) $2,300 if the source emitted more than 50 tons and not more than 80 tons in the prior calendar year; and (e) $3,000 if the source emitted more than 80 tons per year in the prior calendar year.

Finally, federally-regulated sources pay an annual flat fee only if they meet applicable criteria. The flat fees include:

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

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

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

4. Sources pay $46,980 if the source is an electric utility with an electric generating unit (EGU), is privately-owned, and is a coal-fired generating unit. This includes some of the largest sources of air pollutants in the state. The fee does not apply to publicly-owned electric generating units.

State-Regulated Sources. State-regulated sources do not pay an annual fee based on the air emissions tons. Rather, a source pays an annual fee of $4,100 if the operation permit limits the source's potential to emit so that the source is not a major source, and the operation permit includes federally enforceable conditions that allow the amount of emissions to be at least at least 80% and less than 100% of the amount that results in the source being classified as a major source subject to the federally-regulated sources emissions tonnage fee. All other sources required to have a state operation permit pay an annual fee of $400. This includes holders of a general or registration operation permits. An owner or operator of a stationary source that is exempt from the requirement to obtain an operation permit does not pay a fee.

Annual Fees Assessed. Table 5 shows the total operation permit fees assessed by year, the emissions fee rate per ton, the number of billable tons of emissions, the fees assessed based on the tonnage rate, and the flat or base fees assessed to federally-regulated or state-regulated sources. In 2019-20, these sources were assessed fees totaling nearly $4 million.

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

Year of Emissions	Year of Assessment	Fee Rate Per Ton	Billable Tons	Tonnage Fees ($ millions)	Flat or Base Fees ($ millions)	Total Fees Assessed ($ millions)
1992	1992-93	$18.00	278,607	$5.01		$5.01
1993	1993-94	29.30	279,638	8.19		8.19
1994	1994-95	30.07	279,394	8.40		8.40
1995	1995-96	30.92	285,291	8.82		8.82
1996	1996-97	31.77	273,506	8.69		8.69
1997	1997-98	32.65	291,184	9.51		9.51
1998	1998-99	33.19	280,959	9.33		9.33
1999 (1)	1999-00	33.80	289,154	9.77		9.77
2000 (2)	2000-01	35.71	285,628	10.20		10.20
2001	2001-02	35.71	276,354	9.87		9.87
2002	2002-03	35.71	272,727	9.74		9.74
2003	2003-04	35.71	272,766	9.74		9.74
2004	2004-05	35.71	268,207	9.58		9.58
2005 (3)	2005-06	35.71	265,938	9.49		9.49
2006	2006-07	35.71	254,423	9.13		9.13
2007	2007-08	35.71	248,869	9.01		9.01
2008	2008-09	35.71	218,047	8.49		8.49
2009 (4)	2009-10	35.71	188,093	6.72	$1.34	8.06
2010	2010-11	35.71	188,467	6.73	1.10	7.83
2011	2011-12	35.71	178,472	6.37	1.10	7.47
2012	2012-13	35.71	155,630	5.56	1.10	6.66
2013 (5)	2013-14	35.71	154,086	5.50	3.08	8.58
2014	2014-15	35.71	145,171	5.18	3.07	8.25
2015	2015-16	35.71	118,348	4.23	3.01	7.24
2016	2016-17	35.71	91,793	3.28	2.89	6.17
2017	2017-18	35.71	89,404	3.19	2.82	6.02
2018	2018-19	35.71	84,003	3.00	1.60	4.60
2019	2019-20	35.71	70,162	2.51	1.47	3.98

(1) Beginning in 1999, the emission fee cap increased from 4,000 to 5,000 tons per pollutant.
(2) 1999 Wisconsin Act 9 eliminated the annual inflationary adjustment factor after 2000.
(3) For emissions in 2005 through 2008, the tonnage fee was paid for federally-regulated or state-regulated sources.
(4) Beginning with emissions in 2009, state-regulated sources pay a flat fee rather than a tonnage-based fee. Tons are shown for federally-regulated sources.
(5) Beginning with emissions in 2013, federally-regulated sources pay a tonnage fee and a base fee, and certain federally-regulated sources also pay a flat fee. The column for flat or base fees includes federally-regulated and state-regulated sources.

Table 6 lists the operations permit fees assessed on federally-regulated facilities in 2018-19 for calendar year 2018 emissions and in 2019-20 for calendar year 2019 emissions. The table includes three sections. First, it shows the tons assessed the emissions tonnage fee, by type of pollutant. Federally-regulated sources that had billable emissions of at least five tons were billed an emissions fee of $35.71 per ton of emissions. In 2019-20, a total of 368 facilities with federal operation permits were assessed stationary source fees totaling $3.98 million in emissions tonnage fees for approximately 70,200 tons of billable pollutants that they emitted. Second, it shows the annual base fee, based on the tons of actual billable emissions. Third, it shows the annual flat fee paid by some federally-regulated sources that meet applicable criteria.

Table 6: Emissions Assessments for Stationary Sources with Federal Operation Permits, 2018-19 and 2019-20

Pollutant	Actual Tonnage (2018 Tons of Emissions)	Assessed Tonnage (2018 Billable Tons of Emissions)	Fiscal Year 2018-19 Assessed Revenues $35.71/ton	Actual Tonnage (2019 Tons of Emissions)	Assessed Tonnage (2019 Billable Ton of Emissions)	Fiscal Year 2019-20 Assessed Revenues $35.71/ton
A. Tonnage Fee by Pollutant Type						
Sulfur Dioxide	26,819	25,016	$893,321	19,927	19,465	$695,099
Nitrogen Dioxide	38,075	33,718	1,204,068	31,971	28,200	1,007,028
Particulate Matter	16,151	7,993	285,420	13,863	7,014	250,468
Particulate Matter 10	8,209	0	0	7,394	0	0
Volatile Organic Compounds (VOC)	21,996	14,560	519,926	21,075	13,708	489,495
Other Pollutants (HAP, CFC, and TRS)*	2,879	2,716	96,977	1,932	1,775	63,389
Carbon Monoxide	31,615	0	0	26,188	0	0
Subtotal Tonnage Fee	145,744**	84,003	$2,999,712	122,350**	70,162	$2,505,479

	Fee Amount	2018-19 Number of Sources	2018-19 Total Amount Assessed	Fee Amount	2019-20 Number of Sources	2019-20 Total Amount Assessed
B. Base Fee						
< or =10 tons of billable emissions	$900	64	$57,600	$900	76	$68,400
>10 tons and < or = 25 tons	1,300	54	70,200	1,300	47	61,100
>25 tons and < or =50 tons	1,600	62	99,200	1,600	58	92,800
>50 tons and < or = 80 tons	2,300	49	112,700	2,300	52	119,600
>80 tons	$3,000	143	429,000	$3,000	135	405,000
Subtotal Base Fee		372	$768,700		368	$746,900
C. Flat Fee						
MACT = Maximum Achievable Control Technology	$960	139	$133,440	$960	131	$125,760
NSPS = New Source Performance Standards	$960	156	149,760	960	151	144,960
PSD = Prevention of Significant Deterioration	$1,500	87	130,500	1,500	84	126,000
EGU = Electric Generating Unit	$46,980	9	422,820	$46,980	7	328,860
Subtotal Flat Fee		391	$836,520		373	$725,580
Total Assessments			$4,604,932			$3,977,959

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

**Actual tonnage includes tons reported by federally- and state-regulated sources. Approximately 70.5% of tons are from federally-regulated sources and approximately 29.5% are from state-regulated sources. State-regulated sources are not subject to the tonnage-based fee.

Pollutants assessed the fees include the criteria pollutants (carbon monoxide is exempted), hazardous air pollutants, and most other regulated pollutants under the Clean Air Act, such as ozone-depleting pollutants. A total of 93 different pollutants can be billed. Of the 93 pollutants, Wisconsin facilities emitted and were assessed on 18 different pollutants in 2019-20. In Wisconsin, the largest volume of emissions is generated by larger utilities, paper-related industries, and large chemical plants.

Table 6 includes all of the tons of emissions reported by federally-regulated and state-regulated sources, as also shown in Table 3, including 145,744 tons in 2018 and 122,350 tons in 2019. DNR reports that approximately 70.5% of reported tons were from federally-regulated sources, and 29.5% were from state-regulated sources. Of the reported emissions, in 2019 (2019-20 assessments), 70,162 tons were subject to the emissions tonnage fee paid by federally-regulated sources (57% of all tons reported by federally-regulated and state-regulated sources). The main reasons for the difference between reported and billed emissions were that several electric utilities and paper mills had emissions of sulfur dioxide and nitrogen oxides that exceeded the 5,000-ton cap per pollutant, and carbon monoxide is not subject to the fee. Emissions such as carbon dioxide and other greenhouse gases are currently reported but are not billed.

Table 7 shows the stationary source operation permit fees assessed by permit type. In 2018-19, 2,250 sources with operation permits were assessed $5.8 million in operation permit fees, including: (a) 372 sources with federal operation permits were assessed over $4.6 million; and (b) 1,878 state-regulated sources were assessed over $1.2 million. In 2019-20, 2,247 sources were assessed $5.1 million in operation permit fees, including: (a) 368 sources with federal operation permits were assessed $4.0 million; and (b) 1,879 state-regulated sources were assessed $1.2 million.

Expenditures. In 2020-21, DNR is authorized funding of $6,860,900 with 63.75 positions to administer the federally-regulated operation permit program. Of the positions, 54.0 are located in the Bureau of Air Management, and the remaining 9.75 work in the Environmental Management division-wide administration, Bureau of Law Enforcement, and Internal and External Services Divisions. In 2020-21, DNR is authorized funding of $1,387,600 with 12.0 positions to administer the state-regulated operation permit program. Table 8 shows operation permit fee revenue collections and expenditures for 2012-13 through 2019-20, with separate columns for federally-regulated and state-regulated fees and expenditures. Actual revenue collections differ from the assessed amounts shown in Tables 5, 6, and 7 because some fees were received in the fiscal year following the year assessed. Table 1 shows 2020-21 funding amounts and authorized levels for the program revenue appropriations.

In 2020-21, the Bureau of Air Management is planning for 36.35 FTE for work specific to federally-regulated operations permits. DNR is allocating 10.80 FTE related to federally-required operation permits to activities related to permit review and approval of Title V sources. Another 25.55 staff perform federal Title V program implementation activities such as: (a) ambient air modeling quality assurance when specified in an operation permit; (b) supervision; (c) administrative processing of permits; (d) compliance and enforcement; (e) emissions inventory; (f) development of multi-pollutant control strategies, best available retrofit technology, reasonably available control technology, and best available control technology for federally-regulated sources to meet Clean Air Act requirements; and (g) administrative support. In addition, 3.0 positions are planned to be held vacant to cover required 3% vacancy turnover reductions. Filling additional

Table 7: Stationary Source Operation Permit Fees Assessed by Permit Type, 2018-19 and 2019-20

Permit Type Assessed	2018-19 Number of Permit Type	2018-19 Assessed Revenues	2019-20 Number of Permit Type	2019-20 Assessed Revenues
Federally-Regulated Source Permits				
Federal Operation Permits	372	$4,604,932	368	$3,977,959
State-Regulated Source Permits				
Synthetic Minor (SM80)				
Federally Enforceable State Operating Permit (FESOP)	120	$473,500	110	$453,000
Synthetic Minor				
FESOP	307	$122,800	300	$120,000
Registration Operation Permit (ROP)	284	113,600	316	126,400
General Operation Permit (GOP)	429	171,600	438	175,200
State Operation Permit (SOP)	16	6,400	2	800
Subtotal Synthetic Minor	1,036	$414,400	1,056	$422,400
Natural Minor				
Registration Operation Permit	422	$168,800	441	$176,400
General Operation Permit	4	1,600	4	1,600
State Operation Permit & Other SOP *	296	118,400	268	107,200
Subtotal Natural Minor	722	$288,800	713	$285,200
Total State-Regulated Sources	1,878	$1,176,700	1,879	$1,160,600
Total All Operation Permit Fees	2,250	$5,781,632	2,247	$5,138,559
Number Exempt from Permit and Fees	1,445		1,539	

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

Table 8: Air Operation Permit Revenue Collections and Expenditures

	Federally-Regulated Permits		State-Regulated Permits		Total Operation Permits	
Year	Revenue	Expenditures	Revenue	Expenditures	Revenue	Expenditures
2012-13	$5,890,300	$5,951,300	$1,092,100	$876,600	$6,982,400	$6,827,900
2013-14	7,281,900	5,765,200	1,222,200	865,600	8,504,100	6,630,800
2014-15	7,265,900	6,127,900	1,227,000	418,400	8,492,900	6,546,300
2015-16	5,121,300	5,852,200	1,433,500	872,200	6,554,800	6,724,400
2016-17	3,882,600	5,235,400	1,029,200	904,700	4,911,800	6,140,100
2017-18	6,195,800	5,271,700	1,493,500	839,900	7,689,300	6,111,600
2018-19	4,410,800	5,616,600	1,093,200	973,300	5,504,000	6,589,900
2019-20	4,189,700	5,057,900	1,179,400	1,387,600	5,369,100	6,445,500

positions currently vacant, both for federally-regulated sources and for other areas in the Bureau of Air Management, would depend on DNR identifying needs in future work planning and sufficient revenue to fill the positions.

During 2020-21, DNR is planning for work in the Bureau of Air Management from 12.0 FTE of the 12.0 positions authorized from state-regulated operation permit fees. DNR is allocating the positions to perform the following functions for non Title V sources: (a) permit review and approval; (b) implementation and enforcement of permits, including efforts related to sand mines; (c) administrative rule development; (d) preparation of materials for persons and sources subject to state-regulated permits; (e) ambient air quality modeling for permitted sources; (f) emissions inventory; and (g) ambient air monitoring at industrial sand mining and processing plants, in addition to one position funded from the segregated environmental management account.

Demonstration of Program Sufficiency

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

States are required to demonstrate to EPA that the emissions fees assessed by the state for federally-regulated sources will be sufficient to fully self-support the Title V program. EPA requires delegated state programs to monitor fee adequacy as part of their operations, and when necessary to propose fee adjustments to keep it fully funded. Any fee adjustment made, along with a fee adequacy showing, must be submitted for EPA approval. DNR last provided a fee adequacy report to EPA in February, 2017, along with other updates to information about how the Title V air permit program meets federal requirements and collects adequate fees. EPA last approved updates to Wisconsin's Title V program, including the fee adequacy showing, in a federal register notice on December 9, 2019.

Other Air Permits and Fees Administered by DNR

Asbestos Abatement Fees

DNR is responsible for administering asbestos abatement regulations in conformance with EPA requirements. Persons who remove asbestos-containing material as part of nonresidential demolition or certain renovation activities must follow asbestos abatement regulations to minimize the release of asbestos fibers into the air. Renovations are subject to DNR asbestos regulations if the amount of asbestos-containing materials exceeds minimum thresholds specified in administrative code.

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

DNR collects asbestos inspection and construction permit exemption review fees from

Table 9: Asbestos Combined Inspection and Construction Permit Exemption Fees

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

these persons. The actual fee amounts are established in administrative code Chapter NR 410, and cannot exceed statutory maximums. The statutory maximum fees include: (a) $700 for a combined asbestos inspection fee and construction permit exemption review fee if the combined square and linear footage of friable (readily crumbled or brittle) asbestos-containing material involved in the project is less than 5,000; or (b) $1,325 if the combined square and linear footage is equal to or greater than 5,000.

Table 9 shows that the fees set in administrative rule are less than the $700 maximum for small- ($135) or medium-sized ($400) projects. Three statutory fees include: (a) $100 for DNR review of a revised notice of an asbestos renovation or demolition activity; (b) $100 for DNR inspection of a property proposed to be used for a community fire safety training project for which the Department requires inspection; and (c) a requirement for payment of the required fee after the asbestos renovation or demolition if advance notice and advance payment of the fee was not made as required. DNR administrative rules also authorize the Department to charge for the costs it incurs for laboratory testing for a nonresidential asbestos demolition and renovation project.

DNR 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 received 1,821 notifications for asbestos abatement and demolition projects in 2018-19 (including 830 original, 938 revisions of notifications, 37 after-the-fact or on hold, and 16 cancelled notifications) and 1,722 in 2019-20 (including 750 original, 924 revisions, 35 after-the-fact or on hold, and 13 cancelled notifications). The number of notifications included 162 for community fire safety training project burns in 2018-19 and 129 in 2019-20, for which a $100 fee is charged. DNR staff, and counties and municipalities under contract with DNR, reported to EPA that they inspected 419 asbestos abatement projects in federal fiscal year 2018 and 478 projects in federal fiscal year 2019 before and after abatement activities. DNR has recently completed a database update that removed notifications related to asbestos-related activities regulated by the Department of Health Services, which significantly lowered the number of projects.

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

DNR collected asbestos abatement fees totaling $767,400 in 2018-19 and $836,800 in

2019-20. DNR program expenditures were $485,900 in 2018-19 and $531,900 in 2019-20. In 2020-21, DNR is authorized $607,100 with 4.0 PR positions for asbestos abatement activities.

Ozone-Depleting Substances Fees

While Clean Air Act regulations work to reduce harmful levels of ground-level ozone, the regulations also work to slow depletion of ozone in the stratosphere approximately six to 30 miles above the earth. Stratospheric ozone filters the sun's harmful ultraviolet radiation. Depletion of stratospheric ozone increases ultraviolet radiation, and has been associated with harmful health effects.

The federal Clean Air Act Amendments of 1990 required the phase-out of production and sale of chemicals that deplete stratospheric ozone between 2001 and 2030. Persons are required to recapture and recycle certain ozone-depleting chemical substances, and may not knowingly vent refrigerants from household appliances, commercial refrigerators and air conditioners. Certain ozone-depleting substances must be removed from products prior to disposal of the products. Federal rules finalized in November, 2016, require compliance with requirements for refrigerant evacuation, appliance maintenance and leak repair.

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

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

DNR collected ozone-depleting refrigerants fees totaling $156,000 in 2018-19 and $131,400 in 2019-20. DNR program expenditures were $113,200 in 2018-19 and $72,200 in 2019-20. In 2020-21, DNR is authorized base funding of $140,400 with 1.5 PR positions for ozone-depleting refrigerant activities.

Air Monitoring Activities

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

DNR operates several networks of air quality monitors at numerous permanent sampling sites throughout the state. During 2020, DNR operated 35 monitoring sites throughout the state. DNR collected data on several different pollutants at most of the sites as shown in Table 10. In addition, DNR processed data collected by others at 10 other sites, including eight industrial (seven of which are industrial sand operations) and two tribal sites.

Monitors at all 17 PM2.5 monitoring stations collect continuous samples on an hourly basis 24 hours a day. Measurements from the continuous PM2.5 monitors are updated and reported hourly on the DNR web site.

Table 10: DNR Number of Air Monitoring Sites, by Type of Pollutant Monitored

Pollutant	Number of Monitoring Sites
Ozone	29 (plus 2 special purpose sites and 2 tribal sites)
PM2.5	17 (plus 1 special purpose site and 2 tribal sites)
PM10	8 (7 of them collected continuous data, 1 collected filter-based. 1 of 8 collected both.)
Sulfur dioxide	6 (plus 1 tribal site)
PM2.5 (chemical makeup of particles)	4
Nitrogen dioxide	2 (plus 2 special purpose and 1 seasonal)
Continuous gaseous mercury	2
PMcrs (measures a different type of coarse particulates between 2.5 and 10 micrometers)	7 (plus 1 tribal site)
Reactive oxides of nitrogen	3 (plus 2 during high-ozone seasons)
Carbon monoxide	2
Toxic air pollutants	2
Metals	2
Lead	None

DNR air monitoring efforts in 2020 included: (a) performing monitoring of the chemical composition of PM2.5 from at least two sites; (b) streamlining the monitoring efforts to create operational efficiencies; (c) performing continuous monitoring of fine particulates and other pollutants to aid in calculating the air quality index DNR uses to inform the public about ambient air quality on a daily basis; (d) maintaining the posting of monitoring data on the DNR web site on an hourly basis, so those most likely to be affected by air pollution, such as families with asthmatic children, could take actions to minimize the impacts of air pollution on their health; (e) implementing federal ozone, sulfur dioxide and nitrogen oxides monitoring requirements; (f) supporting tribal entities and private stakeholders with air monitoring needs; and (g) operating atmospheric deposition monitors.

In late April, 2020, through late July, 2020, the air management program began sampling for per- and polyfluoroalkyl substances (PFAS). PFAS are found in firefighting foams and various consumer products or food packaging, and research shows them to be hazardous to human health. The chemicals are primarily associated with groundwater and surface water contamination but may also be released in the air. Air sampling occurred at seven existing National Atmospheric Deposition Program monitoring sites. The air program and the Wisconsin State Lab of Hygiene are partnering on sample preparation, collection, shipment, analysis and data interpretation to support the state's sampling plan.

Ozone monitoring provides the data used to determine attainment status for the ozone standards and provides specialized information on days during which ozone levels exceed standards. As required by federal rule, DNR performs an annual review of and solicits public comment on a monitoring network plan submitted to EPA by July 1.

Federal rules require Wisconsin to have an enhanced ozone monitoring (EOM) plan. DNR reports EOM plans give states discretion to determine what monitoring would be most useful to establish policies to address ozone pollution in impacted areas. Wisconsin's EOM plan consists of using specialized equipment designed to provide data to help DNR understand ozone development that impacts Wisconsin, particularly as it affects counties along the Lake Michigan shoreline.

Beginning in 2013-14, funding was appropriated to DNR for the construction, operation, and maintenance of an air quality monitoring station in a county identified in its entirety as a nonattainment area for the 2008 eight-hour ambient air quality standard for the purpose of assessing ozone concentrations under federal regulations. Sheboygan County is the only county that met the statutory definition. An ozone air quality monitoring station known as the Sheboygan-Haven monitor was installed, and operation began in

April, 2014. It has been seasonally operated since then. An ozone air quality monitoring station known as the Kohler-Andrae monitor is also located in Sheboygan County.

Under 2017 Wisconsin Act 59, funding for this air monitor was converted from GPR to petroleum inspection fund SEG, and was continued at $30,000 annually. In addition, the purposes of the appropriation were expanded to fund the operation and maintenance of an air quality monitoring station in a county where a sulfur dioxide monitor has been in place for three years as a result of certain federal sulfur dioxide monitoring requirements. An air monitoring station operated in Kaukauna (Outagamie County) as of January 1, 2017, met the requirements under the Act, and DNR assumed operations of the air monitoring station on January 1, 2020 (in 2019-20).

Under 2017 Wisconsin Act 159, DNR was prohibited from including an air monitoring site located in Kohler-Andrae State Park in Sheboygan County in the state's initial monitoring network plan submitted to EPA. On June 21, 2018, EPA informed DNR that the plan was not approvable due to the omission of the Sheboygan Kohler-Andrae monitoring site. On July 27, 2018, under the provisions of 2017 Act 159, DNR submitted a revised plan to EPA that included the site. On September 20, 2018, EPA approved the revised DNR monitoring network plan.

In addition to the air quality monitors, DNR's other monitoring activities during 2020 included: (a) collecting data from 20 meteorological stations, two of which are operated by tribal partners, which are used to evaluate the impact of weather on the ambient concentrations of pollutants being monitored; and (b) performing atmospheric deposition monitoring of the chemicals occurring in precipitation at three sites (Devil's Lake, Brule River, and Trout Lake) as part of the Department's participation in the National Atmospheric Deposition Program, a collaborative research effort of several states, federal agencies, and nongovernmental research organizations. The sites at Devil's Lake, Brule River, and Trout Lake are operated and funded by DNR. The remaining four NADP sites in Wisconsin are funded and operated by independent entities within the state.

DNR also collects air quality samples for the U.S. Department of Homeland Security BioWatch program. The details of that activity are for official use only.

Compliance and Enforcement

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

Table 11 shows the number of inspections made by DNR's Air Management program at Wisconsin facilities for the past 10 years. The enforcement process includes issuance of a letter of noncompliance or a notice of violation for more serious violations. While DNR does not track the number of various types of violations, examples of violations are failure to submit a report, failure to construct or operate according to the permit, failure to obtain a permit before construction or operation, failure to monitor, or failure to submit compliance certification information, failure to notify DNR before removing asbestos, violations of emissions

Table 11: Inspection and Compliance, 2010-11 to 2019-20

Fiscal Year	Number of Inspections	Noncompliance Rate	Letters of Noncompliance	Notices of Violation
2010-11	275	13%	37	60
2011-12	257	13	39	35
2012-13	250	14	29	22
2013-14	263	17	33	23
2014-15	303	19	58	19
2015-16	283	11	34	13
2016-17	212	12	52	12
2017-18	242	23	80	41
2018-19	190	16	64	32
2019-20	217	23	66	54

requirements, refrigerant recovery violations, and open burning.

Other Regulated Pollutants

Air Toxics

The Clean Air Act requires EPA to regulate emissions of toxic substances known as hazardous air pollutants (HAPs) not covered by national ambient air quality standards. Toxic substances can potentially cause serious human health problems, or can cause adverse environmental and ecological effects. Air toxics include certain heavy metals, chemicals and pesticides.

EPA requires industries to install maximum achievable control technology (MACT). EPA identified categories of sources that emit HAPs. A major source is a facility that may emit 10 tons per year of any single HAP, or 25 tons per year of any combination of HAPs. MACT standards require the maximum achievable degree of emissions reduction, and also consider the technological feasibility and cost. 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.

EPA promulgated a boiler MACT rule with standards for certain industrial and institutional boilers that burn fuel to produce steam that provides electricity or heat. The requirements are intended to reduce emissions of several types of hazardous air pollutants. As of July, 2020, 134 Wisconsin facilities are subject to the federal boiler MACT rules. Applicable federal regulations are made a part of a facility's federal operation permit.

DNR regulates hazardous air pollutants emitted by facilities through administrative code Chapter NR 445. The rule regulates emissions of 535 substances above a certain threshold. The state rule focuses on the substance emitted rather than the source of the emissions. The rule specifies that if a federal hazardous air pollutant emission standard is promulgated for specific sources under the Clean Air Act, the federal standard applies rather than the state standard. The state enforces the federal standard for 27 toxics on the federal list but not on the state list.

Recent state and federal action have taken steps to assess potential hazardous air pollutants. In Wisconsin, the Wisconsin PFAS Action Council has released a draft report, proposing several strategies

for reducing atmospheric PFAS pollution, including: (a) encouraging development of federal air toxics standards for PFAS; (b) conducting consistent air sampling and subsequent PFAS measurements to establish baseline levels; and (c) researching the air pathway of PFAS exposure.

At the federal level, EPA since 2018 has investigated and proposed initial rule-making for ethylene oxide. Ethylene oxide, a hazardous air pollutant, is emitted from several types of industrial facilities regulated by EPA. EPA will review Clean Air Act regulations to ensure that they protect the public from significant risk from facilities that emit ethylene oxide. The agency began its review and finalized revisions of its air toxics emissions standards for miscellaneous organic chemical manufacturing and commercial sterilizers in 2020.

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

A facility is subject to fewer requirements under NR 445 if it is an incidental emitter of less than five tons per year of particulate matter and less than three tons per year of volatile organic compounds. These facilities are required to report emissions, obtain necessary permits, and comply with emissions standards.

Mercury Emissions

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

EPA administers mercury and air toxics standards for existing and new coal- and oil-fired electric utilities. EPA also administers a mercury emissions rule for industrial, commercial, and institutional boilers and process heaters.

DNR mercury emission rules in NR 446, effective in 2008, apply to air contaminant sources that emit mercury. The seven utilities with coal-fired power plants regulated under the rule are Dairyland Power Cooperative, Madison Gas and Electric Company, Manitowoc Public Utilities, Northern States Power of Wisconsin, We Energies, Wisconsin Power and Light Company, and Wisconsin Public Service Corporation. Power plants are currently generally required to comply with the federal mercury rule instead of the NR 446 requirements.

Greenhouse Gas Emissions

Carbon dioxide and other greenhouse gases are widely thought to trap heat in the atmosphere, with environmental and human health consequences. Major human-related sources of carbon dioxide emissions are the burning of coal, oil, and gas. These sources include power plants, motor vehicles, and other industrial combustion sources. According to EPA, in 2018 electricity generation and the transportation sector contributed 27% and 28%, respectively, of all greenhouse gas emissions in the United States.

EPA administers rules that define when federal operation permits are required for new and existing industrial sources that emit greenhouse gases, as part of operation permits for emissions of other regulated pollutants.

Under 2011 Wisconsin Act 171, DNR may only consider carbon dioxide emissions from the burning or decomposition of organic material, other than fossil fuels, in determining whether a construction permit or operation permit is required, or whether best available control technology is required, for greenhouse gas emissions if the carbon dioxide emissions are considered in a manner consistent with federal regulations.

DNR rules for construction and operation permits incorporate EPA's emission standards for greenhouse gas emissions, and the emission thresholds for determining whether facilities are major or minor sources. DNR estimates the amount of greenhouse gas emissions in all permit reviews, and regulates significant sources of emissions as part of federal and state construction and operation permit regulations.

EPA administers a greenhouse gas reporting rule that requires large sources to annually report their greenhouse gas emissions to EPA. Suppliers of fossil fuels or industrial greenhouse gases, manufacturers of vehicles and engines, and facilities with 25,000 metric tons or more per year of greenhouse gas emissions are subject to the reporting requirements. Information is available for sources required to report greenhouse gas emissions for 2010 through 2018. In September, 2018 (the most recent full reporting year available), 137 Wisconsin facilities reported greenhouse gas emissions to EPA totaling approximately 51 million metric tons on a carbon-dioxide-equivalent basis. (Carbon dioxide equivalent is an EPA-specified method of measuring various greenhouse gas emissions in terms of the amount of carbon dioxide that would create the same amount of emissions.)

In October, 2015, EPA issued a final rule known as the "Clean Power Plan" to reduce carbon dioxide emissions by U.S. fossil fuel-powered electric generating units (power plants) by approximately 30% nationwide by 2030. In October, 2017, EPA proposed to repeal the rule. On August 31, 2018, EPA proposed a rule known as the "Affordable Clean Energy (ACE) Rule" as a replacement for the Clean Power Plan. In June, 2019, EPA finalized the ACE rule, which establishes emissions guidelines for states to use when developing plans to limit carbon dioxide at existing coal-fired electric utility generating units (EGUs). Fourteen coal-fired electrical generating units at eight power plants in Wisconsin are subject to the rule.

The ACE rule requires states to submit plans for standards of performance for each designated facility to EPA by July, 2022. DNR requested utilities with designated facilities propose a standard of performance for each designated facility, including an emission performance rate, and an analysis supporting the proposal. DNR plans to review permit applications and issue them by February, 2022. The final permits will be a key element of the state plan submitted to EPA. DNR held public meetings to describe the rule and the state's intended implementation approach in September, 2019, and February, 2020.

Other DNR Activities

Air Quality-Related Voluntary Initiatives

DNR air program staff work with other organizations in developing several voluntary initiatives intended to improve air quality. DNR administers the Green Tier program to encourage regulated facilities to achieve superior environmental performance by offering regulatory flexibility through negotiated agreements. DNR also works with industries to improve environmental performance, reduce air emissions, and simplify the reporting of emissions. Examples of industries are agribusiness, food processing, brewing, military, energy, wood products, paper, printing, transportation, small business, and other manufacturing types.

The air program conducts monitoring with the UW System, including: (a) PFAS-related monitoring with the Wisconsin State Laboratory of Hygiene; and (b) ozone monitoring with the UW Space Science and Engineering Center. Additionally, DNR, EPA, and local community groups have deployed low-cost air quality sensors across Wisconsin and nationally. The sensor program allows users to share results on a public website and worked to create correction factors to better align low-cost sensor data with regulatory monitors.

Small Business Environmental Assistance Program

The federal Clean Air Act Amendments of 1990 require states to operate a small business assistance program that includes technical assistance for businesses, a compliance advisory panel and a small business ombudsman. To comply, DNR administers the Small Business Environmental Assistance program. The program also provides assistance in other environmental regulations, especially waste and water.

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

The program provides technical assistance to small businesses on state and federal regulations. To do so, DNR staff develop informational publications, answer compliance questions, respond to regulatory inquiries, coordinate environmental compliance workshops, and direct businesses to other technical assistance providers. DNR maintains a web page and designates a staff person to work as a small business ombudsman to connect small businesses with DNR staff and information they need, make recommendations about DNR regulations that may affect small businesses, and facilitate resolution of disputes involving small businesses. In the 2019-21 biennium, DNR program staff made contacts with 265,800 small businesses, made presentations at conferences, and created web pages to provide environmental permitting information.

The Small Business Environmental Council consists of eight members appointed by the Governor, legislative leadership, and DNR. The Council is required to advise DNR concerning the Small Business Environmental Assistance program. During the 2019-21 biennium, the Council met quarterly to discuss air, waste, and water issues of concern to small businesses. The Council monitored legislation intended to better align DNR's compliance audits with federal EPA policies, reviewed how DNR provides information to small businesses, and reviewed how proposed administrative rules may impact small businesses.

Federal Clean Diesel Emission Reduction Grant Program

In 2008 through 2020, DNR received funds under the federal Congestion Mitigation and Air Quality (CMAQ) program and the federal American Recovery and Reinvestment Act of 2009 for diesel emission reduction activities in vehicles and equipment such as trucks, school buses, refrigeration trailers, and construction or agricultural equipment. The program funds truck idling-reduction units that provide heat, air conditioning, or electricity to the cab while the vehicle is stationary, in order to reduce idling of the engine when the vehicle is parked. The program has also funded exhaust retrofits, engine repowers, and school bus replacements.

Between 2008 and September 30, 2020, DNR used the funds for 174 grant awards totaling $6,248,600 to fund 887 diesel idling-reduction devices or retrofits. Of the 887 units funded, the majority were school bus idle-reduction units, exhaust retrofits, or replacements. In June, 2018,

DNR submitted an application to EPA for $245,000 in federal diesel emission reduction funding for October 1, 2018, through September 30, 2019, for school bus replacements. DNR received, administered, and closed out this grant, providing funds to five sub-recipients who replaced 11 eligible diesel school buses.

Department of Transportation Activities

Wisconsin's motor vehicle inspection and maintenance program, in operation since 1984, requires that most vehicles in southeastern Wisconsin be inspected to ensure that they comply with emission standards and that pollution control equipment is operational. The state Department of Transportation (DOT) administers the program through a contract with a private firm, while DNR sets the emission standards. The program operates in seven previously designated moderate nonattainment counties under the 1997 eight-hour ozone standard (Kenosha, Milwaukee, Ozaukee, Racine, Sheboygan, Washington and Waukesha).

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

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

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

Beginning in July, 2012, the testing process was changed from a centralized to a decentralized system. Currently, testing may be performed at any of about 190 approved motor vehicle service stations. DOT's contractor coordinates the system for approving the facilities and providing testing equipment. The contractor also pays service centers $2 per test conducted, and $4 per test if the service center also provides vehicle registration renewal at the time of the test. DOT pays the contractor $2.6 million per year in transportation fund SEG for these services. Previously, emissions testing was conducted at nine centralized service centers located throughout the testing counties.