STATE OF WISCONSIN

Report 04-1

February 2004

An Evaluation

Air Management Programs

Department of Natural Resources

Legislative Audit Bureau

04-1
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An Evaluation

Air Management Programs

Department of Natural Resources

2003-2004 Joint Legislative Audit Committee Members

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CONTENTS

Letter of Transmittal 1

Report Highlights 3

Introduction 9

Regulatory History of Air Pollution 10
Effects of Pollution on Human Health 11
Hazardous Air Pollutants 14
Air Monitoring Efforts 16

Finances and Staffing 19

Revenues and Expenditures 19
Emission Fees 21
Comparison of State Emission Fees 23
Billing Errors 24
Staffing 25

Operation Permit Program 29

Program Requirements 29
Regulated Sources of Air Pollution 33
Satisfaction with the Operation Permit Program 36
Issuance of Operation Permits 37
Deadlines for Operation Permit Issuance 41
Factors Delaying Operation Permit Issuance 42
Deficiencies in Program Management 45
Failing to Apply for an Operation Permit 45
Failing to Issue Operation Permits 46
Renewing Operation Permits 47

Construction Permit Program 49

Purpose of Construction Permits 49
Satisfaction with the Construction Permit Program 50
Permit Issuance Workload 52
Timeliness of Permit Issuance 54
Statutory Timeliness Requirements 55
Expedited Review 60
Permit Streamlining 61

Enforcement Efforts 65

Compliance Process 65
Compliance Inspections 67
High-Priority Violations 70
DNR Management Guidance on Enforcement Cases 72

Future Considerations 75

Changes in Federal Law 75
Improving Program Management 77
Developing Additional Performance Measures 77
Improving Management Information Systems 79
Enhancing Program Accountability 81

Appendices

Appendix 1—Time Line for Regulation of Stationary Sources of Air Pollution
Appendix 2—Percentage of Monitored Days with Unhealthy Air Quality
Appendix 3—Major and Synthetic Minor Permit Issuance Rates

Response

From the Department of Natural Resources

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February 26, 2004

Senator Carol A. Roessler and
Representative Suzanne Jeskewitz, Co-chairpersons
Joint Legislative Audit Committee
State Capitol
Madison, Wisconsin 53702

Dear Senator Roessler and Representative Jeskewitz:

We have completed an evaluation of the Department of Natural Resources' (DNR's) air management programs, as requested by the Joint Legislative Audit Committee. DNR administers two separate permitting programs for controlling air pollution at 2,219 stationary facilities in Wisconsin: the operation permit program and the construction permit program. In fiscal year 2002-03, expenditures for all air management programs—including permitting, monitoring, vehicle emissions, and enforcement—totaled $17.9 million, including $13.3 million in salaries and fringe benefits for 184.0 full-time equivalent employees.

As of June 30, 2003, DNR had issued operation permits to just over half of the facilities required to obtain them. Although 1,128 permits have been issued since 1995, the number of facilities in the backlog was 1,091. Wisconsin is among the slowest states in the nation to issue operation permits, and it is the slowest among midwestern states. The Legislature recently passed 2003 Wisconsin Act 118 to streamline the permitting process and increase the number of permits issued in a timely manner. We have included additional recommendations for streamlining the operation permit process.

Although DNR has generally met statutory and administrative code timeliness standards for issuing construction permits—which are needed for new construction or facility modification—we found 40 construction permits, or 29.2 percent of all pending applications, have been backlogged for at least two years. We recommend changes to streamline the process and issue construction permits in a more timely manner.

We also found numerous examples where program management could be improved, including better emission fee billing, issuing completed permits, obtaining applications from required facilities, issuing renewal permits, inspecting facilities, and consistently following federal and state enforcement policies.

We appreciate the courtesy and cooperation extended to us by DNR staff. The agency's response follows the appendices.

Respectfully submitted,

Janice Mueller

Janice Mueller
State Auditor

JM/PS/ss

Report Highlights ■

Wisconsin is among the slowest states in the nation to issue major operation permits.

The process for issuing construction permits could be further streamlined.

DNR does not consistently follow federal and state enforcement guidelines.

Program management needs improvement.

The Department of Natural Resources (DNR) administers state and federal air management programs that regulate the emission of pollutants that have been linked to health problems in humans, as well as to smog and acid rain. As part of this responsibility, DNR is required to ensure that the 2,219 utilities, factories, and other stationary facilities it regulates are complying with the terms of their permits, and to monitor air quality throughout Wisconsin.

Representatives of regulated facilities contend that complying with Wisconsin's air pollution regulations is onerous and expensive, while representatives of environmental groups believe too little is being done to ensure compliance with state and federal air pollution laws. In response to concerns about the time DNR takes to issue permits, the fees regulated facilities are charged, the extent to which the State regulates air pollution beyond federal requirements, and DNR's approach to regulating sources of air pollution—and at the request of the Joint Legislative Audit Committee—we analyzed:

- permit backlogs, including the amount of time taken to issue operation and construction permits;
- the amount of time other states require to issue operation and construction permits;
- the equitableness of fees assessed to regulated facilities emitting varying amounts of pollutants;
- the extent to which Wisconsin has expanded upon regulatory requirements prescribed by federal law;

- air quality monitoring efforts by DNR staff; and
- compliance and enforcement efforts.

Operation Permits

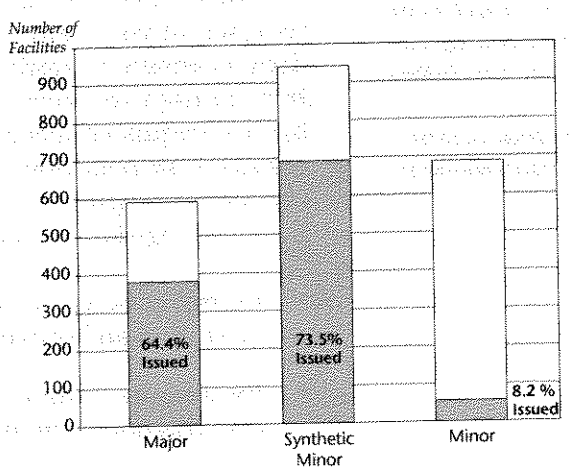
As shown in Figure 1, as of June 30, 2003, DNR had issued operation permits to 50.8 percent of the 2,219 facilities that had applied for them, including:

- 64.4 percent of federally required "major" permits, which have the highest potential air pollution emissions;
- 73.5 percent of federally required "synthetic minor" permits, which have lower potential air pollution emissions; and
- 8.2 percent of state-required "minor" permits, which have the lowest potential air pollution emissions.

In total, 1,128 permits were issued but 1,091 were backlogged.

Figure 1

Operation Permits Issued as of June 30, 2003



Under the federal Clean Air Act, Wisconsin was required to issue operation permits to all major facilities by March 1998. However,

Wisconsin issued only 64.4 percent of its major operation permits by June 30, 2003, the lowest percentage in the Midwest. By comparison, 80.9 percent of major permits had been issued nationally.

2003 Wisconsin Act 118, which took effect February 6, 2004, streamlines DNR's operation permit program and may help to address the permit backlog. DNR has also made several revisions to its plan for issuing operation permits and now anticipates issuing all federally required major permits by January 2005. No deadlines have been established for issuing either synthetic minor operation permits or minor operation permits. We make several recommendations to further streamline the operation permitting process.

Construction Permits

Wisconsin statutes and administrative rules require DNR to issue permits for new construction and facility modifications within specified time limits. DNR does not adequately track the time it takes to issue permits, but we found that, based on a random sample of 88 construction permit applications, DNR met statutory deadlines for 86.4 percent of construction permits issued. However, 29.2 percent of all construction permits pending as of June 30, 2003, had been backlogged for at least two years. DNR officials indicate that construction permits can become backlogged because some projects will be undertaken in the future, and permits for electrical generating facilities require approval from other regulatory bodies.

Because DNR has substantial flexibility in determining when an application is deemed complete and the statutory clock begins, we analyzed the time taken to issue permits from the dates applications were received. For the 88 permits in our sample, the median time was 103.5 days, including 52 permits issued within 120 days and 9 that took longer than one year.

2003 Wisconsin Act 118 reduces the time DNR is allowed for issuing construction permits. We make several recommendations to further streamline the construction permitting process.

Additional State Requirements

Wisconsin has expanded on federal air management requirements in two primary areas. First, Wisconsin regulates 293 more hazardous air pollutants than required by federal law. Of these, 94 were reported emitted by Wisconsin facilities in 2002. Three of five other midwestern states also exceed federal requirements for regulating hazardous air pollutants.

Second, Wisconsin facilities with potential emissions below federal requirements are generally required to obtain state-mandated minor operation permits. As of June 30, 2003, 687 facilities had applied for minor operation permits, but only 56 of these permits had been issued.

Enforcement Efforts

The number of facilities DNR inspects annually has generally declined over time, from 470 in fiscal year (FY) 1994-95 to 276 in FY 2002-03. DNR's records indicate that 15.0 percent of facilities have never been inspected.

In addition, DNR has failed to follow its own policies regarding enforcement against facilities that apply for construction permits after work is already complete, or against facilities that do not submit timely compliance certifications. We also found that DNR does not consistently follow federal policy in taking enforcement actions for high-priority violations. We make several recommendations to improve DNR's enforcement efforts.

Program Management

We identified a pattern of significant deficiencies in DNR program management, including:

- failing to identify 71 facilities that were required to apply for operation permits although DNR records indicate they did not, and failing to have documentation for why an additional 175 facilities may be exempt from permitting;

- failing to issue 113 operation permits even though they had already completed a public comment period and could have been issued, including 106 that could have been issued before June 30, 2002;

- failing to ensure that 49 facilities applied for renewal operation permits when required; and

- having no explanation for why 232 facilities have not reported emissions or paid emission fees, billing 11 facilities approximately $21,000 when they should not have been billed, and failing to bill 13 other facilities approximately $27,000.

In addition to the program and policy changes that recently took effect under 2003 Wisconsin Act 118, a number of proposed changes in federal law could also significantly affect the State's air management programs. Regardless of changes already enacted at the state level and additional changes that may result from efforts to modify federal requirements, DNR program management will need to be improved if Wisconsin's air management goals are to be accomplished.

Recommendations

Our recommendations address the need for DNR to:

- ☑ correct annual emission fees billing errors *(p. 25);*
- ☑ assign additional permit engineers to issue operation permits in the Southeast Region *(p. 41);*
- ☑ further streamline the operation permit program *(pp. 41* and *44);*
- ☑ ensure facilities have properly applied for permits *(p. 46);*
- ☑ issue completed permits *(p. 46);*
- ☑ ensure facilities apply for renewal operation permits *(p. 48);*
- ☑ revise the expedited review process for construction permits *(p. 61);*
- ☑ further streamline the construction permit program *(p. 63);*
- ☑ improve the facility inspection process *(p. 70);*
- ☑ improve compliance with federal policy for high-priority violations *(p. 72);*
- ☑ improve the compliance certification process *(p. 73);*
- ☑ identify after-the-fact permits and take appropriate enforcement action *(p. 74);*
- ☑ establish additional performance measures *(p. 79);*
- ☑ improve its data systems *(p. 80);* and
- ☑ report to the Joint Audit Committee by September 1, 2004, for follow-up *(p. 81).*

■ ■ ■ ■

Introduction

DNR oversees two separate programs for regulating stationary sources of air pollution.

DNR regulates stationary sources of air pollution through two separate permitting programs:

- the operation permit program, which requires facilities to obtain permits to continue operations; and
- the construction permit program, which requires facilities to obtain permits before beginning new construction or making facility modifications that may have an effect on air quality.

DNR's stationary source air pollution permits limit pollution emissions by, for example, placing restrictions on manufacturing processes, requiring the use of pollution-control devices, restricting facility expansion or modification, and specifying the raw materials that may be used in manufacturing. Permits may also require facilities to conduct emissions monitoring and to report regularly to DNR. In addition to issuing permits, DNR is responsible for ensuring regulated facilities comply with federal and state law and monitoring changes in air quality.

In March 2002, we completed an evaluation of Wisconsin's vehicle emissions testing program, a federally required program to reduce air pollutants generated by motor vehicles that is jointly administered by DNR and the Department of Transportation. Our current review focuses on stationary sources of pollution. We analyzed state and federal laws; guidance documents prepared by

the United States Environmental Protection Agency (EPA); DNR policies, procedures, and work plans; and program budgets, expenditures, and staffing levels, including an analysis of how DNR staff report their time on air management activities. We interviewed DNR staff; EPA officials; other states' air management program staff; and representatives of business, industry, and environmental organizations. We surveyed facilities regulated under DNR's air management programs and analyzed DNR's electronic databases relating to permitted facilities and regulatory oversight.

Our review was hampered by incomplete and inaccurate data maintained by DNR.

It should be noted that our review was hampered by incomplete and inaccurate data maintained by DNR. As a result, we spent a substantial amount of time improving the quality of the data needed for our analyses.

Regulatory History of Air Pollution

In 1985, Wisconsin first required facilities to obtain operation permits.

Stationary sources of air pollution have been regulated in Wisconsin since 1961, when Milwaukee County exercised its statutory authority to adopt rules for visible particulate emissions. The federal Clean Air Act of 1970, which created the first significant national air quality standards, took effect in the same year that DNR implemented Wisconsin's first statewide air pollution control program. The State has since made many changes to its air pollution program. For example, state law first required stationary facilities to obtain operation permits that define emission limits in 1985, and regulations for hazardous air pollutants were first prescribed by DNR's administrative rules in 1988. Others changes were required by federal law, including various amendments to the federal Clean Air Act. Appendix 1 provides a time line for the regulation of stationary sources of air pollution from 1961 though 1994.

To comply with the federal Clean Air Act Amendments of 1990, the Legislature enacted 1991 Wisconsin Acts 269 and 302, which:

- required an operation permit for many stationary sources of air pollution;
- established a federal hazardous air pollutant program; and
- established permitting requirements that are more stringent for areas that do not meet federal air quality standards.

The Clean Air Act Amendments require Wisconsin to develop a state implementation plan for approval by the EPA. The plan is a collection of documents and regulations that identifies measures to control emissions of regulated pollutants and demonstrates how the State will attain national air quality standards. The EPA granted Wisconsin preliminary approval of its operation permit program in March 1995, and final approval in December 2001.

Effects of Pollution on Human Health

Federal law established six pollutants that are the primary components of air pollution.

Federal law has established six "criteria" pollutants that are the primary components of air pollution. As shown in Table 1, these pollutants are generated by a variety of sources and produce negative human health effects. They also cause environmental problems such as smog and acid rain.

Table 1

Federal Criteria Pollutants

Pollutant	Examples of Pollution Sources	Examples of Potential Human Health Effects
Sulfur Dioxide	Combustion of fossil fuels	Lung inflammation, aggravation of asthma, and development of allergies
Particulate Matter	Combustion of wood and fossil fuels	Increased lung cancer risk, cardiovascular disease, increased susceptibility to lung disease, bronchitis, and reduced lung growth in children
Carbon Monoxide	Combustion of fossil fuels	Cardiovascular disease
Ozone	Power plant emissions and vapors from paint, industrial coatings, and gasoline	Increased susceptibility to lung disease, bronchitis, reduced lung growth in children, and aggravation of asthma
Nitrogen Oxides	Combustion of fossil fuels	Increased susceptibility to lung disease, aggravation of asthma, and other respiratory diseases
Lead	Metal smelters and battery manufacturing	Damage to adult nervous system, kidneys, and reproductive systems, and damage to fetus development resulting in learning defects

Recent research studies that have linked these pollutants to negative health effects include:

- a two-year study published in 2001 by private and public institutions, including the Centers for Disease Control and Prevention, which concluded that exposure to carbon monoxide and sulfur dioxide pollution increased the risk of low birth weights for pregnancies in six northeastern United States cities;

- a 2002 American Cancer Society study of medical data for 1.2 million adults, which concluded that elevated levels of particulate matter increased rates of lung cancer and cardiac disease by 4 to 6 percent; and

- a study of the effects of ozone on Wisconsin children, conducted by the Department of Health and Family Services from 1995 to 1999, which estimated that between 13,900 and 38,600 children statewide experienced lung damage from ozone and that 43 children were admitted to hospitals due to high levels of particulate matter pollution.

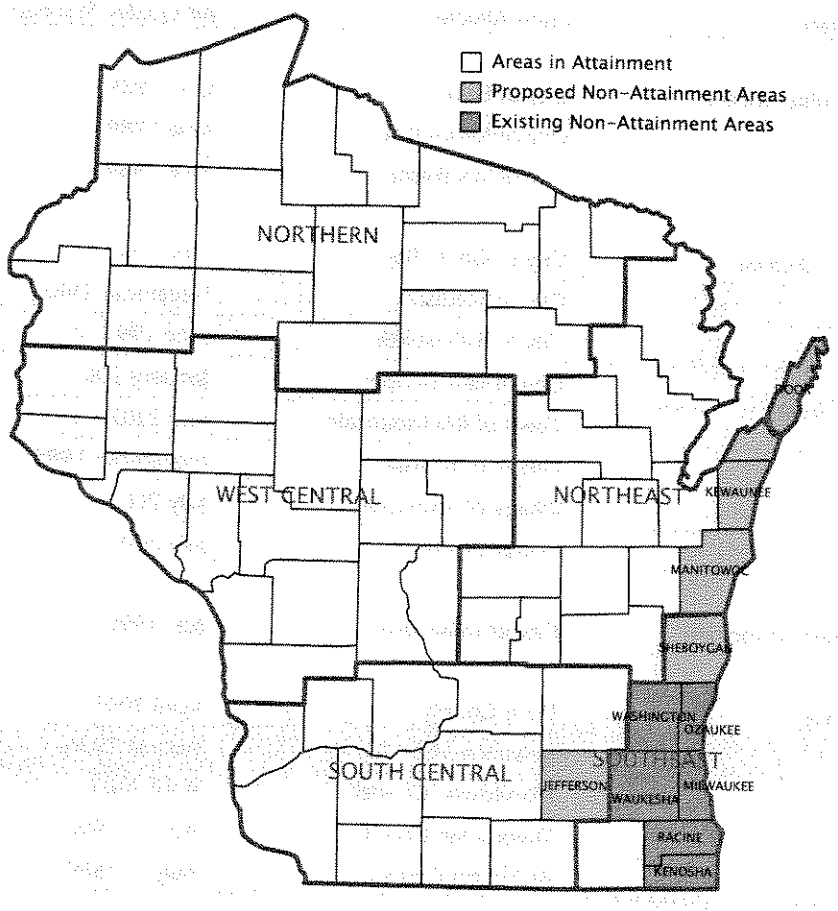
An area that fails to meet federal air quality standards for any of the six criteria pollutants may be designated a "non-attainment" area by the EPA. The air pollution control agency—which in Wisconsin is DNR—must then develop a plan to meet federal air quality standards. This plan may include testing automobile emissions, requiring more effective emission control technology for stationary facilities, and limiting the construction of certain sources of pollution. Large facilities that engage in construction or modification must obtain "emissions offsets" of the pollutant for which the non-attainment area is classified before their projects begin.

Six southeastern Wisconsin counties currently do not meet the federal ozone standard.

Figure 2 shows six counties in southeastern Wisconsin that are currently designated federal non-attainment areas for ozone, as well as five additional counties that may become non-attainment areas under a new, more stringent federal ozone standard to be implemented in 2004. Four of these additional counties—Door, Kewaunee, Manitowoc, and Sheboygan—were proposed as non-attainment areas by the Governor in July 2003. In December 2003, the EPA made a preliminary recommendation that also included Jefferson County as an ozone non-attainment area. The EPA's final designation of Wisconsin's non-attainment areas under the new ozone standard is expected to be announced in April 2004.

Figure 2

Ozone Non-Attainment Areas



Air quality has improved in 17 former non-attainment areas.

Seventeen other areas in Wisconsin—including counties, cities, towns, and villages—were at one time non-attainment areas because levels of four criteria pollutants—particulate matter, sulfur dioxide, carbon monoxide, and ozone—failed to meet federal air quality standards. However, as shown in Table 2, these areas met existing air quality standards by 2003. DNR staff attribute these air quality improvements to the use of less-polluting gasoline, better pollution-control devices on automobiles, and implementation of pollution-control technologies in stationary facilities.

Table 2

Former Non-Attainment Areas

Pollutant	Areas Affected	Date Area Met Federal Air Quality Standard
Particulate Matter	City of Beloit	June 1989
	City of Milwaukee	June 1989
	City of Waukesha	June 1989
Sulfur Dioxide	City of Green Bay	June 1991
	City of Madison	December 1986
	City of Milwaukee	June 1993
	City of Rhinelander	January 2001
	Town of Rib Mountain	July 2002
	Village of Brokaw	November 1986
	Village of Rothschild	July 2002
	Village of Weston	July 2002
Carbon Monoxide	City of Milwaukee	July 1990
Ozone	Door County	April 2003
	Kewaunee County	August 1996
	Manitowoc County	April 2003
	Sheboygan County	August 1996
	Walworth County	August 1996

Hazardous Air Pollutants

In addition to the six criteria pollutants, federal law also regulates 188 hazardous air pollutants that include benzene, chloroform, and phosphorus. The health effects of hazardous air pollutants range from irritation of the eyes, skin, and respiratory system to cancer. Under federal law, if a facility has the potential to emit 10 tons of any single federal hazardous air pollutant annually, or a combined total of 25 tons of these pollutants annually, the facility must comply with federal standards, which may include implementing controls to limit emissions.

Wisconsin regulates 293 hazardous air pollutants that are not regulated under federal law.

Wisconsin air pollution laws exceed federal requirements in the area of hazardous air pollutants. Through administrative rule, a state-mandated program regulates 293 more hazardous air pollutants than required by federal law, including sulfuric acid, nitric acid, and iodine. However, as shown in Table 3, only 94 of the 293 hazardous air pollutants regulated exclusively under state law, or 32.1 percent, were reported emitted in 2002. In contrast, 92 of the 151 hazardous air pollutants regulated under both federal and state law, or 60.9 percent, were reported emitted in 2002. It should be noted that additional hazardous air pollutants may be emitted at levels below reporting thresholds.

Table 3

Regulation and Emissions of Hazardous Air Pollutants

Method of Regulation	Number of Hazardous Air Pollutants Regulated	Number of Hazardous Air Pollutants Emitted in 2002	Percentage of Regulated Pollutants Emitted in 2002
Federal Law Exclusively	37	17	45.9%
State Law Exclusively	293	94	32.1
Both Federal and State Law[1]	151	92	60.9
Total	**481**	**203**	

[1] Includes at least 56 pollutants that Wisconsin regulates at a lower emissions threshold than is required by federal law.

All EPA Region 5 states—Wisconsin, Illinois, Indiana, Ohio, Michigan, and Minnesota—require facilities to comply with federal hazardous air pollutant standards. Four of these states, including Wisconsin, also have state hazardous air pollutant programs that regulate more pollutants than federal law does. However, other Region 5 states' programs differ from Wisconsin's in a number of ways.

The regulation of hazardous air pollutants is handled differently in other midwestern states.

For example, the other Region 5 states with state programs employ toxicologists who determine, on a case-by-case basis, whether facilities are required to implement controls for specific hazardous air pollutants. In addition, these states require only certain facilities to comply with state-mandated hazardous air pollutant regulations, whereas Wisconsin requires compliance from all permitted facilities that have hazardous air pollutant emissions above a threshold that varies by pollutant. For example, only facilities that apply for

federally required permits may undergo hazardous air pollutant assessments in Michigan, while Minnesota requires certain larger facilities, or facilities for which a citizen complaint has been received, to undergo hazardous air pollutant assessments, and Ohio requires state hazardous air pollutant assessments only of facilities that may emit more than a combined total of one ton of hazardous air pollutants annually. In all three of these states, facilities are required to limit emissions if they are found to emit a hazardous air pollutant at a level that presents a risk to human health.

In 2003, the Natural Resources Board recommended modifications to Wisconsin's hazardous air pollutant regulations that would have increased the number of pollutants regulated exclusively under state law by 138, and a separate rule that would have regulated mercury emissions. The Legislature sent both proposed rules back to DNR for revision, where they are currently pending.

Air Monitoring Efforts

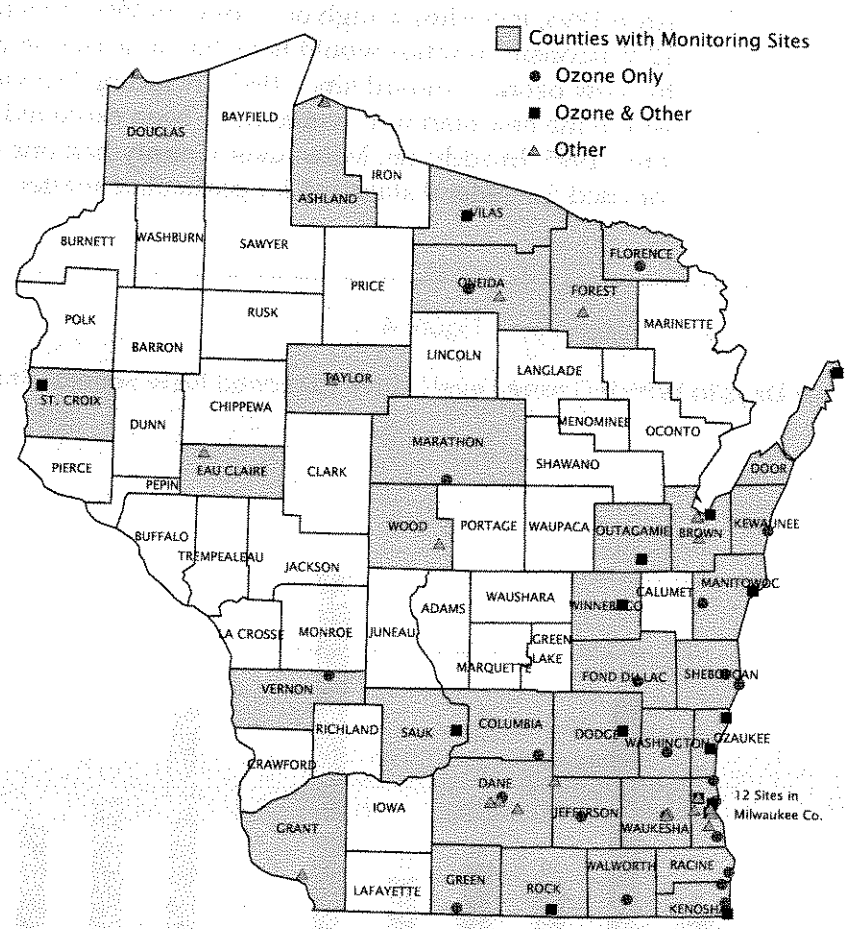
In response to budget constraints, DNR plans to eliminate 17 monitoring sites.

Federal law requires states to maintain a series of monitoring stations to measure air pollution and air quality. In 2003, DNR maintained 62 monitoring sites in 35 counties to monitor carbon monoxide, nitrogen dioxide, ozone, particulate matter, and sulfur dioxide. As shown in Figure 3, most of these sites are located in southeastern Wisconsin, including 12 sites in Milwaukee County, where ozone levels are historically high. Western Wisconsin has the fewest sites, which are maintained to provide background data. In FY 2003-04, in response to budget cutbacks and a reallocation of personnel, DNR announced plans to eliminate eight ozone monitoring and nine particulate matter monitoring sites, as well as aircraft flights for Lake Michigan ozone sampling. DNR officials indicated that the EPA has approved these changes.

The EPA has developed an air quality index that focuses on health problems people may experience within a few hours or days of breathing polluted air. It classifies daily air monitoring results into one of six categories: good, moderate, unhealthy for sensitive groups, unhealthy, very unhealthy, or hazardous. Sensitive groups include people with ailments such as asthma, angina, and anemia, as well as older adults and young children.

Figure 3

Air Pollution Monitoring Sites



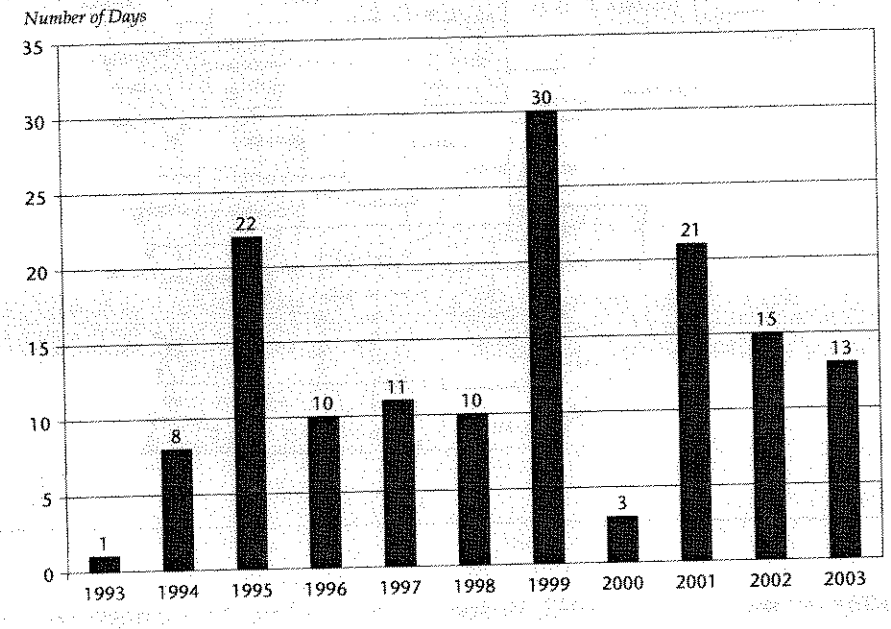
Unhealthy air was measured in Door, Kenosha, and Manitowoc counties in over 3.0 percent of the days monitored.

Since 1993, Wisconsin has had no days categorized as very unhealthy or hazardous. However, many of the monitored Wisconsin counties had days categorized as either "unhealthy for sensitive groups" or "unhealthy," as shown in Appendix 2. Several counties consistently had higher percentages of days with unhealthy air. For example, for 8 of 11 years, Door, Kenosha, and Manitowoc counties had unhealthy air quality for a total of 252 days, representing over 3.0 percent of the days monitored. In addition, both Kenosha County in 1995 and Sheboygan County in 2002 had 19 days—representing 10.3 percent of days monitored—with unhealthy air quality, which was the highest percentage in the state.

Another way to measure air quality is to examine the number of days federal air quality standards have been exceeded. As shown in Figure 4, ozone levels—which are associated with sunlight and high temperatures—in Wisconsin counties would have exceeded the EPA's new, more restrictive ozone standard for a total of 144 days since 1993, including a high of 30 days in 1999. Overall, a total of 22 Wisconsin counties would have had at least one day exceeding the new ozone standard since 1993, including Milwaukee County, where the new standard would have been exceeded for 26 days since 1993. In addition, Milwaukee County had one day in 1999 that violated the federal standard for particulate matter.

Figure 4

Cumulative Days in Which Ozone Levels Have Exceeded New Federal Standard



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Finances and Staffing ■

DNR's air management programs have three primary funding sources: emission fees assessed on facilities that are required to obtain operation permits, federal grants, and construction permit fees. Wisconsin's emission fees have remained unchanged since 2001, and in December 2002 several environmental organizations petitioned the EPA to find the State in violation of the Clean Air Act for failure to maintain fees at a level sufficient to administer the operation permit program. As a result of conversations they have had with the EPA, DNR officials believe Wisconsin will likely be found in violation, and EPA will issue a notice of deficiency in early 2004, which will identify specific deficiencies and identify remedies and sanctions that may be sought.

Our analysis shows that emission fees vary significantly among midwestern states, and DNR has made errors in emission fee billings. Although program staffing levels have declined, a recent reorganization will increase the number of DNR staff assigned to issue permits and perform compliance inspections, while it will reduce the number of staff working on monitoring and administrative rules related to hazardous air pollutants and mercury.

Revenues and Expenditures

As shown in Table 4, air management revenues have increased from $14.9 million in FY 1996-97 to $19.3 million in FY 2002-03, or by 29.7 percent. Emission fees are the largest source of these revenues.

Table 4

Air Management Revenues

Source	FY 1996-97	FY 2002-03	Percentage Change
Emission Fees[1]	$ 8,420,321	$ 9,745,845	15.7%
Federal Grants	2,792,966	4,345,233	55.6
Construction Permit Fees	1,342,600	2,293,871	70.9
Petroleum Inspection Fund	1,916,734	2,053,284	7.1
Other[2]	433,637	856,328	97.5
General Purpose Revenue	0	45,118	–
Total	**$14,906,258**	**$19,339,679**	29.7

[1] Includes fees billed during the fiscal year.
[2] Includes specialized fees, such as for ozone depleting substances, asbestos abatement, and miscellaneous revenues.

Emission fees are established by statute and are currently set at $35.71 per ton of pollutants emitted.

The Clean Air Act Amendments of 1990 require annual emission fees from regulated facilities to cover states' costs of administering the operation permit program. In Wisconsin, emission fees are established by statute and are currently set at $35.71 per ton for up to 5,000 tons per pollutant, with no additional fee for emissions exceeding this amount. The construction permit program is funded from separate fees that facilities pay when applying for construction permits. Construction permit fees vary depending on the level of modification, type of facility, control technology required, modeling requirements, and whether an expedited review is requested.

Expenditures have increased from $14.9 million in FY 1996-97 to $17.8 million in FY 2002-03.

As shown in Table 5, air management expenditures have increased from $14.9 million in FY 1996-97 to $17.8 million in FY 2002-03, or by 20.0 percent. Salary and fringe benefit costs accounted for the majority of expenditures in both years and represented 74.7 percent of total costs in FY 2002-03.

Table 5

Air Management Expenditures

Type	FY 1996-97	FY 2002-03	Percentage Change
Salaries	$ 8,293,598	$ 9,902,694	19.4%
Fringe Benefits	2,633,715	3,418,130	29.8
Contractual Services	1,485,621	2,249,493	51.4
Supplies and Services	1,949,579	1,798,757	(7.7)
Other[1]	509,356	473,730	(7.0)
Total	**$14,871,869**	**$17,842,804**	20.0

[1] Includes 2.0 positions at Department of Commerce, travel, and training expenditures.

Emission Fees

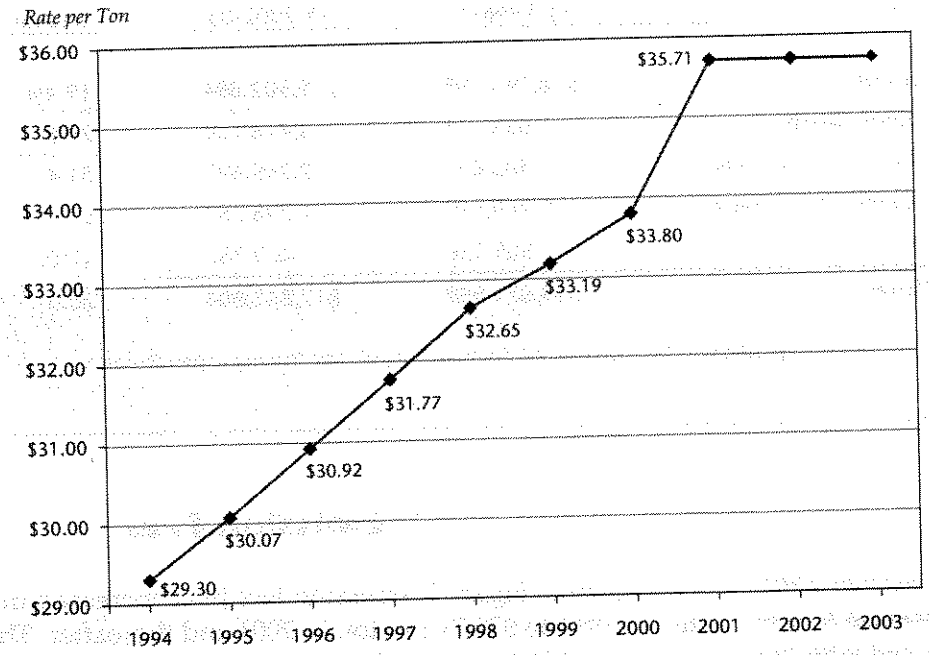
Beginning in 2001, emissions fees no longer increased with the consumer price index.

As shown in Figure 5, emission fees have increased from $29.30 per ton in 1994 to $35.71 per ton in 2001 and thereafter. This is an increase of 21.9 percent. Between 1993 and 2000, the fee increased automatically based on the annual change in the consumer price index and was capped at 4,000 tons for each pollutant. The automatic annual increase was replaced with a fixed fee of $35.71, and the cap increased to 5,000 tons for each pollutant, under 1999 Wisconsin Act 9, the FY 1999-2001 Biennial Budget Act.

Some have suggested that the current fee structure is unfair to smaller facilities, because it requires them to pay a higher rate per ton than facilities whose emissions exceed the cap. We analyzed the most recent emission fees and found that facilities below the cap emitted 25.3 percent of the billable pollutants but were billed for 41.9 percent of emission fees. On the other hand, 16 facilities with annual emissions over the 5,000 ton per pollutant cap emitted 74.7 percent of billable pollutants but accounted for 58.1 percent of the total emission fees. As a result of the cap, these 16 facilities were not billed for a total of 179,156 tons of pollutants and paid an effective rate of only $16.78 per ton, or 47.0 percent of the current fee.

Figure 5

History of Stationary Source Emission Fees
(Rate per Ton of Billable Pollutants)



Environmental organizations allege emission fees are insufficient to meet program needs.

As noted, federal law requires annual emission fees collected from facilities to cover the costs of administering the operation permit program. In December 2002, several Wisconsin environmental organizations filed a petition requesting the EPA to issue a notice of deficiency against the State for its alleged failure to maintain an emission fee structure that raises sufficient revenue to administer its operation permit program. The EPA has not yet responded to this petition, but based on conversations with the EPA, DNR officials believe that a notice of deficiency will likely be issued in early 2004. The specific deficiencies to be cited or what remedies or sanctions will be sought are not known. However, if the State fails to take sufficient action to correct program inadequacies, the EPA may enact sanctions, including increased emission offset requirements in non-attainment areas, the loss of federal highway funds, or the loss of program approval. If the EPA withdraws approval of the State's operation permit program, it has the authority to impose a federally administered program in Wisconsin.

Comparison of State Emission Fees

Air emission fees vary significantly among midwestern states.

As shown in Table 6, air emission fee structures vary significantly among EPA Region 5 states, making direct comparisons difficult. For example some states, including Wisconsin, charge all facilities a rate that is based on the number of tons of billable air pollutants that are emitted, while other states charge a flat fee as part of their rate. Also, some states charge different rates depending on the type of permit required or the type of federal pollution control technology standards required. All Region 5 states except Minnesota have established a maximum fee that a single facility may be charged.

Table 6

Comparison of Emission Fees for Major Facilities in Region 5 States[1]

State	Fee	Cap on Fee
Illinois	$18.00 per ton ($1,800 minimum)	$250,000
Indiana	$1,500 plus $33.00 per ton	$150,000 in attainment areas $200,000 in non-attainment areas
Michigan	$4,485 plus $45.25 per ton	1,000 tons per pollutant to a maximum of 4,000 tons
Minnesota	$27.61 per ton	None
Ohio	$36.30 per ton	4,000 tons per pollutant
Wisconsin	$35.71 per ton	5,000 tons per pollutant

[1] All per ton fees are based on actual annual emissions except Illinois', which is based on emission levels allowed by permit. According to Illinois officials, allowable emissions are generally two to three times the level of actual emissions.

To illustrate differences in fee structures, Table 7 shows what two hypothetical facilities would be billed in each state. Facility A is typical of many facilities that are required to be regulated under federal law: it emits 100 tons of particulate matter, 100 tons of nitrogen oxides, and 20 tons of volatile organic compounds annually. In Wisconsin, facility A would be billed the second-lowest amount, $7,856. In Michigan the same facility would be billed the highest amount, $14,440, and in Minnesota the lowest amount, $6,074.

Facility B would be one of the largest emitters in Wisconsin: it emits 27,500 tons of sulfur dioxide, 11,000 tons of nitrogen oxides, 3,000 tons of particulate matter, and 140 tons of volatile organic compounds. In Wisconsin, facility B would be billed the second-highest amount, $469,229. In Minnesota the same facility would be billed the highest amount, $1.1 million, and in Indiana the lowest amount, $150,000 in an attainment area.

Table 7

Annual Emission Fees for Hypothetical Facilities in Region 5 States

State	Facility A	Facility B
Illinois	$ 7,920 to 11,880[1]	$ 250,000
Indiana	8,760	150,000 in attainment areas 200,000 in non-attainment areas
Michigan	14,440	185,485
Minnesota	6,074	1,149,680
Ohio	8,052	407,724
Wisconsin	7,856	469,229

[1] Estimated because Illinois determines fees based on allowable emissions instead of actual emissions.

Billing Errors

Since 1996, DNR failed to bill 13 facilities and to collect approximately $27,000 in fees.

During the course of our evaluation, we analyzed annual emission fees billed from 1996 through 2003. We found that DNR failed to bill 13 facilities—including 10 from its Southeast Region—that reported annual emissions at a level exceeding the minimum threshold for billing. As a result, DNR failed to collect approximately $27,000 in emission fees, including $8,200 from a single facility.

We also identified 11 facilities that were inappropriately billed from 1996 to 2003. These facilities were not required to obtain permits and therefore were exempt from emission fees. As a result, DNR collected approximately $21,000 in emission fees that should not have been billed, including $7,500 from a single facility. DNR regional staff are provided the annual emissions inventory data for review, to ensure that all facilities are properly billed. However, neither regional staff nor central office staff identified these errors, even though they occurred over several years.

DNR cannot explain why 232 facilities have not reported emissions or paid emission fees.

Finally, we identified 232 facilities that applied for operation permits but have not reported emissions or paid emission fees. Although many of these facilities may be exempt because their emissions are below the reporting threshold, DNR officials were unable to explain either why these facilities failed to report emissions or why they should not be billed. Because none of these facilities reported emissions, we were unable to estimate the potential level of foregone revenue.

☑ Recommendation

We recommend the Department of Natural Resources:

- *determine which of the 232 facilities are required to report emissions and ensure that these facilities pay the appropriate fees;*
- *refund emission fees to the 11 facilities that should not have been billed; and*
- *establish procedures to ensure that all facilities are billed appropriately in the future.*

Staffing

Program staffing levels declined 8.1 percent from FY 1996-97 to FY 2002-03.

As shown in Table 8, overall program staffing declined 8.1 percent and staffing for the Bureau of Air Management declined 6.5 percent, from 180.00 full-time equivalent (FTE) staff in FY 1996-97 to 168.25 FTE in FY 2002-03. 2003 Wisconsin Act 33, the FY 2003-05 Biennial Budget Act, further reduced Bureau of Air Management staff by 11.50 FTE positions. As a result, the number of authorized FTE positions was reduced from 168.25 to 156.75, or by an additional 6.8 percent.

Table 8

Number of Authorized Air Management Staff
(All Funding Sources, FTEs)

Functional Location	FY 1996-97	FY 2002-03	Percentage Change
Bureau of Air Management			
Central Office	81.25	65.50	(19.4)%
Southeast Region	46.50	44.00	(5.4)
Northeast Region	17.00	19.50	14.7
South Central Region	15.00	18.75	25.0
West Central Region	11.50	13.50	17.4
Northern Region	8.75	7.00	(20.0)
Subtotal	**180.00**	**168.25**	(6.5)
Air Management Staff in Other Locations			
Air and Waste Division Management	4.00	3.00	(25.0)
Division of Enforcement and Science	1.50	2.50	66.7
Division of Administration and Technology	6.00	0.50	(91.7)
Division of Customer Assistance and External Relations	6.75	7.75	14.8
Department of Commerce	2.00	2.00	0.0
Subtotal	**20.25**	**15.75**	(22.2)
Total	**200.25**	**184.00**	(8.1)

We reviewed the number of hours DNR staff reported spending on various activities from FY 1996-97 through FY 2002-03. In FY 2002-03, Bureau of Air Management staff spent the largest percentage of time, 25.4 percent, on permit-related activities, as shown in Table 9. From FY 1996-97 through FY 2002-03, the number of hours spent on permits increased 17.8 percent, while the number of hours spent on compliance and enforcement activities decreased 16.8 percent.

Table 9

Air Management Staff Work Effort[1]
(Number of Hours Reported)

Activity	FY 1996-97	FY 2002-03	Percentage of FY 2002-03 Total	Percentage Change
Permits	68,116	80,256	25.4%	17.8%
Administration	58,692	61,404	19.4	4.6
Monitoring and Research	64,397	60,571	19.2	(5.9)
Compliance and Enforcement	63,681	53,013	16.8	(16.8)
Planning and Policy Development	28,181	25,944	8.2	(7.9)
Mobile Sources	14,476	11,199	3.5	(22.6)
Other	11,724	11,142	3.5	(5.0)
Outreach and External Assistance	6,709	6,966	2.2	3.8
Non-Air Management Activities	874	5,426	1.7	520.8
Total	**316,850**	**315,921**	**100.0%**	(0.3)

[1] Includes both full-time employees and limited-term employees.

In August 2003, DNR reorganized the Bureau of Air Management to more closely align its functions and funding sources. As part of this reorganization, approximately 21 FTE positions funded by emission fees were reassigned to new functions within the Bureau. According to DNR officials, the reorganization will increase the number of staff assigned to issue permits and perform compliance inspections, while it will reduce the number of staff working on air monitoring and policy development, particularly related to mercury, climate change, ozone, and hazardous air pollutants.

■ ■ ■ ■

Program Requirements
Regulated Sources of Air Pollution
Satisfaction with the Operation Permit Program
Issuance of Operation Permits
Deadlines for Operation Permit Issuance
Deficiencies in Program Management
Renewing Operation Permits

Operation Permit Program ■

An operation permit is intended to consolidate all of a regulated facility's air pollution control requirements into a single document. The type of permit a facility must obtain depends on the amount of its potential emissions, pollutant type, and whether it is located in an attainment or a non-attainment area. Like most state and local air pollution permit authorities nationwide, Wisconsin has not met federally mandated deadlines for issuing operation permits. Nonetheless, facilities that have submitted operation permit applications are authorized to continue operation while DNR completes its review. DNR anticipates completion of the remaining major operation permits by January 2005, nearly seven years after the federal deadline. By reducing or eliminating permitting requirements on some regulated facilities, 2003 Wisconsin Act 118 will likely reduce permitting delays, but additional efforts will be needed to ensure that permits are issued in a more timely fashion. Program management deficiencies have resulted in facilities failing to apply for permits and in DNR failing to issue completed operation permits.

Program Requirements

An operation permit program is required by federal law.

The Clean Air Act Amendments of 1990 required state and local air pollution control agencies to implement operation permit programs to ensure compliance with federal air pollution laws and to improve enforcement. The primary components of a federally mandated operation permit include:

- site-specific limits on the amount of criteria pollutants and hazardous air pollutants that may be emitted;
- emissions tracking and reporting mechanisms;
- specification of mandatory pollution control technologies for reducing air pollution;
- monitoring, testing, and record-keeping requirements to ensure compliance with emission limits and other air pollution control requirements;
- requirements for self-reporting violations and submitting an annual certification that a facility has met all applicable permit requirements;
- a mechanism for making the terms of a permit federally enforceable; and
- annual fees to be paid by regulated facilities.

Wisconsin's operation permit program includes federal and state requirements.

The EPA is responsible for promulgating regulations that establish the minimum elements of the federally mandated operation permit program and for reviewing, approving, and overseeing state and local permit programs. Once federally mandated permit programs have been approved by the EPA, state and local agencies are responsible for establishing and implementing them, issuing permits to stationary sources of air pollution, collecting fees to cover program costs, and ensuring that facilities comply with permit requirements. Because Wisconsin's operation permit program also incorporates additional state requirements, DNR issues several types of permits.

"Major" facilities have the largest emissions potential and must obtain federal permits from DNR.

In Wisconsin, facilities with the largest potential to emit pollutants are known as "major" sources and are required to obtain federal operation permits from DNR. These permits may be enforced by either the State or the federal government, but the EPA allows states to enforce them in almost all instances.

"Synthetic minor" facilities voluntarily reduce emissions to become eligible for State permits.

Both state and federal law allow facilities that would otherwise require major operation permits to qualify for less-restrictive federally enforceable state operation permits, which are commonly called "synthetic minor" permits, by voluntarily reducing emissions through, for example, limited hours of operation or changes in materials used in production. Facility operators often prefer this option, because synthetic minor facilities are subject to less-extensive inspection and reporting requirements.

Although most facilities receive permits that are specifically tailored to their operations, DNR has the authority to issue general operation permits to categories of facilities that have similar operations and emission potentials. These permits contain the same requirements and conditions as individual permits, but the application and review process is substantially simplified. DNR has issued general operation permits for rock and gravel crushers, hospital sterilization systems, and small heating units.

"Minor" facilities are regulated only under state law because their potential emissions are below federal thresholds.

In Wisconsin, facilities with potential emissions below federal thresholds, known as "minor sources," may be required to obtain state-mandated minor operation permits, which may only be enforced by the State. This is an area in which Wisconsin regulations exceed the requirements of federal law.

Facilities may also be exempted from the operation permit program, either because they do not meet the emissions thresholds that require a permit or because of a categorical exemption. Examples of categorically exempt facilities include low-capacity combustion furnaces, grain drying and storage facilities, graphic arts operations, coin-operated dry cleaners, crematories, laboratories, municipal drinking water facilities, and emergency generators. 2003 Wisconsin Act 118, which took effect in February 2004, also requires DNR to exempt from permitting requirements those facilities that do not present a significant threat to public health or the environment. How this requirement will be implemented by DNR and the number of facilities that will be exempted are not known at present.

As noted, the criteria for determining what type of permit a facility must obtain depends on the amount of its potential emissions, pollutant type, and whether it is located in an attainment or a non-attainment area. For example, facilities located in an air quality attainment area are considered major if they have the potential to emit:

- 100 tons or more per year of any single criteria air pollutant; or
- 10 tons or more per year of any single hazardous air pollutant, or 25 tons or more per year of any combination of the 188 hazardous air pollutants that are federally regulated.

In Wisconsin, minor permits are required for facilities that have the potential to emit:

- 40 tons or more per year of sulfur dioxide or carbon monoxide;
- 25 tons or more per year of nitrogen oxides, particulate matter, or volatile organic compounds; or
- more than the limits established for one or more of the 444 hazardous air pollutants regulated by the State.

All EPA Region 5 states issue major and synthetic minor permits to facilities that are required to comply with the Clean Air Act, and four of five other Region 5 states require minor permits for facilities that emit lower levels of pollutants. The other states' minor permit programs vary significantly. For example:

- Ohio and Illinois require facilities to obtain minor permits at significantly lower emission levels than Wisconsin's thresholds;
- Indiana's minor permit thresholds are similar to or lower than Wisconsin's;
- Minnesota's minor permit thresholds are higher than Wisconsin's; and
- Michigan does not require state minor permits.

In addition:

- minor permits generally do not need to be renewed in Illinois and Minnesota, while Wisconsin, Indiana, and Ohio require renewal; and
- in Minnesota, minor operation permits are required for only three criteria pollutants: sulfur dioxide, particulate matter, and lead. In contrast, Wisconsin, Indiana, Illinois, and Ohio require minor operation permits for facilities that emit any of the six criteria pollutants, if thresholds are met.

Regulated Sources of Air Pollution

As of June 30, 2003, 2,219 facilities were required to obtain operation permits.

As of June 30, 2003, based on DNR's best available information, 2,219 stationary facilities were required to obtain operation permits, as shown in Table 10. DNR estimates that 590 of these facilities, or 26.6 percent, require a major operation permit.

Table 10

Number of Stationary Facilities Subject to Operation Permit Requirements
As of June 30, 2003

Region	Major	Synthetic Minor[1]	Minor	Total	Percentage of Total
Southeast	218	210	186	614	27.7%
Northeast	127	155	200	482	21.7
South Central	92	148	125	365	16.4
West Central	101	136	104	341	15.4
Northern	52	67	72	191	8.6
Portable[2]	0	226	0	226	10.2
Total	**590**	**942**	**687**	**2,219**	**100.0%**

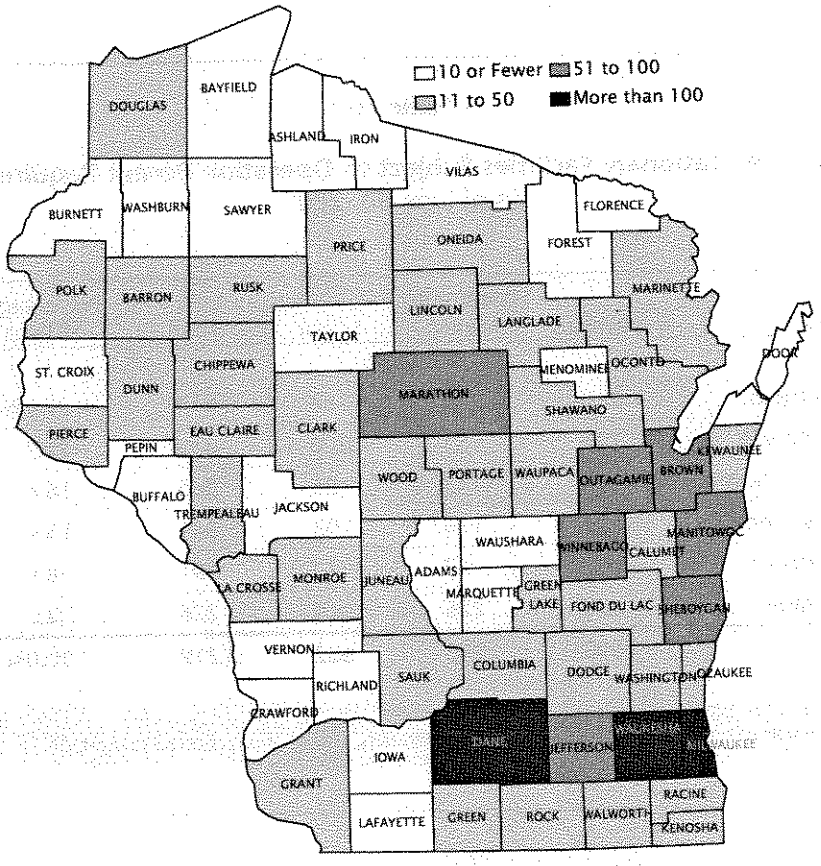
[1] Includes general permits.
[2] Portable facilities include road building machinery and are not assigned to a region.

More than one-quarter of regulated facilities are located in DNR's Southeast Region.

More than one-quarter of these facilities are located in DNR's Southeast Region, including 218 of 590 major facilities (36.9 percent). The higher percentage of major facilities in the Southeast Region is partially due to lower emissions thresholds for major permits in non-attainment areas. Stationary facilities are located throughout Wisconsin but tend to be clustered around metropolitan areas, including the Fox Valley, Madison, and Milwaukee. As shown in Figure 6, Milwaukee, Waukesha, and Dane counties have more than 100 facilities that have applied for permits.

Figure 6

Number of Facilities That Have Applied for Operation Permits, By County
(Excluding Portable Facilities)



For calendar year 2002, a total of 1,950 facilities reported air pollution emissions to DNR.

A total of 1,950 facilities reported air pollution emissions for calendar year 2002, as shown in Table 11. Nonmetallic minerals industries, which include gravel and rock crushers and other excavating businesses, accounted for the largest number of reporting facilities but a small percentage of reported pollutants. In contrast, the paper and allied products and the electric, gas, and sanitary industries, which accounted for approximately the same number and percentage of facilities, reported 85.4 percent of the statewide emissions of criteria pollutants.

Table 11

Facilities Reporting Air Pollution Emissions
Calendar Year 2002

Facility Type	Number of Facilities Reporting	Percentage of Total Facilities	Tons of Criteria Pollutants	Percentage of Reported Pollutants
Nonmetallic Minerals	228	11.7%	3,933	0.8%
Fabricated Metal Products	174	8.9	5,131	1.0
Food Products	150	7.7	5,754	1.1
Industrial Machinery and Equipment	128	6.6	5,182	1.0
Paper and Allied Products	119	6.1	108,671	21.1
Lumber and Wood Products	116	5.9	5,757	1.1
Printing and Publishing	115	5.9	2,809	0.5
Electric, Gas, and Sanitary Services	106	5.4	330,489	64.3
Petroleum and Coal Products	106	5.4	4,960	1.0
Primary Metal Industries	89	4.6	13,129	2.6
Rubber and Plastics Manufacturing	83	4.3	1,978	0.4
Transportation Equipment Manufacturing	64	3.3	3,274	0.6
Electronics Equipment Manufacturing	56	2.9	1,412	0.3
Stone, Clay, and Glass Products	53	2.7	8,710	1.7
Furniture and Fixtures	52	2.7	1,260	0.2
Chemical Manufacturing	47	2.4	2,107	0.4
Wholesale Trade Goods	43	2.2	589	0.1
Hospitals and Health Services	37	1.9	496	0.1
Educational Institutions	24	1.2	4,160	0.8
Miscellaneous Manufacturing	23	1.2	290	0.1
Heavy Construction Industries	21	1.1	303	0.1
Other Industry[1]	116	5.9	3,493	0.7
Total	**1,950**	**100.0%**	**513,887**	**100.0%**

[1] Includes all other facilities, occupations, and establishments not included in categories listed.

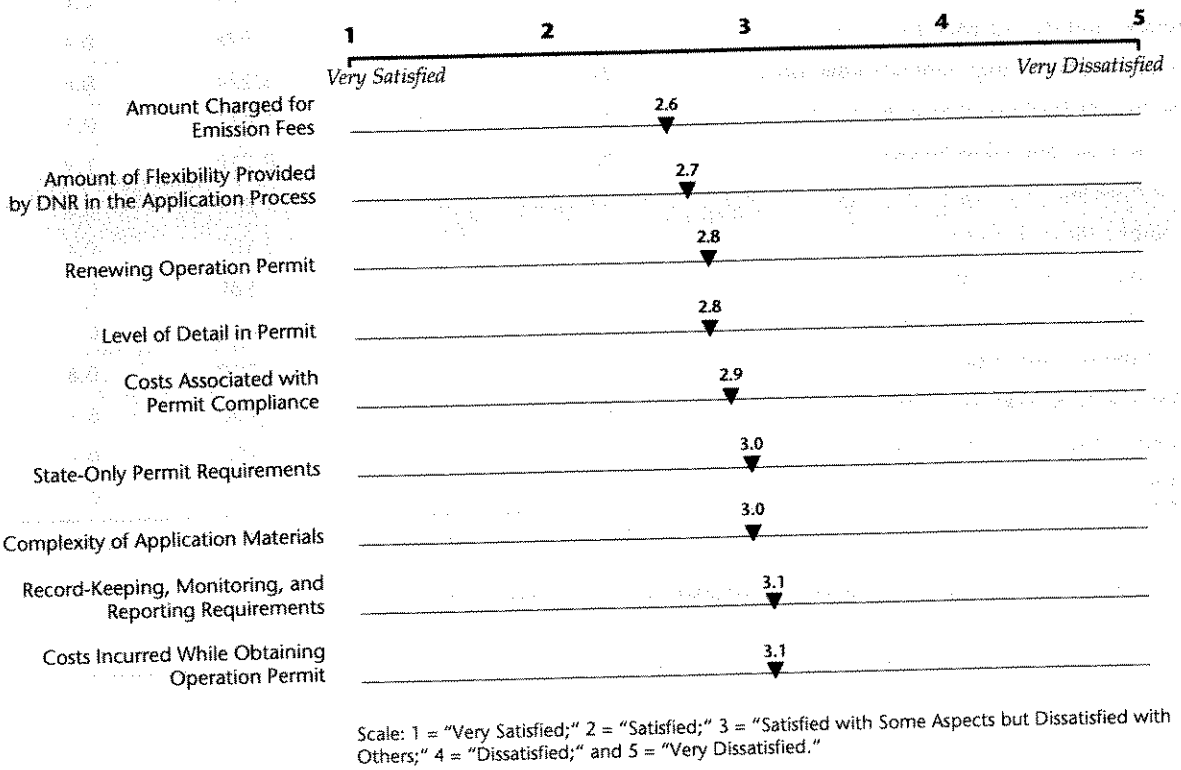
Satisfaction with the Operation Permit Program

Survey respondents were slightly more satisfied than dissatisfied with DNR's operation permit program.

To gain an understanding of regulated facilities' level of satisfaction with the operation permitting process, we surveyed 153 randomly selected operators of facilities that had applied for operation permits. We received 81 responses to our survey. As shown in Figure 7, respondents reported the highest level of satisfaction with the amount charged for emission fees, while costs incurred while obtaining an operation permit and record-keeping, monitoring, and reporting requirements had the lowest levels of satisfaction. Overall, the average level of satisfaction was 2.9, which indicates that respondents were slightly more satisfied than dissatisfied with the operation permit program.

Figure 7

Regulated Facilities' Satisfaction with the Operation Permit Program



Scale: 1 = "Very Satisfied;" 2 = "Satisfied;" 3 = "Satisfied with Some Aspects but Dissatisfied with Others;" 4 = "Dissatisfied;" and 5 = "Very Dissatisfied."

Regulated facilities were most concerned with record-keeping, monitoring, and reporting requirements.

In addition to asking regulated facilities about their level of satisfaction with topics related to the operation permit program, we also asked facilities to identify a single topic of greatest concern. Approximately 36 percent of respondents identified record-keeping, monitoring, and reporting requirements associated with operation permits. As shown in Table 12, respondents were least concerned about the level of detail in the permit.

Table 12

Regulated Facilities' Greatest Concern with the Operation Permit Program

Topic	Number of Responses	Percentage of Total Responses
Record-Keeping, Monitoring, and Reporting Requirements	29	36.3%
Complexity of Application Materials	15	18.8
Costs of Compliance	10	12.5
Renewing Operation Permit	10	12.5
Costs Incurred While Obtaining Operation Permit	7	8.7
State-Only Permit Requirements	4	5.0
Emission Fees	3	3.7
Level of Detail in Permit	2	2.5

Twenty-six percent of respondents who included written comments cited the amount of time it takes DNR to issue an operation permit as a concern. Some respondents indicated they will incur additional costs and will have to rehire consultants to update applications they were required to submit from 1994 through 1998, because submitted information is often outdated by the time DNR begins its review.

Issuance of Operation Permits

As of June 2003, DNR had issued permits to just over one-half of facilities that applied.

As of June 30, 2003, DNR had issued operation permits to 50.8 percent of the 2,219 facilities that applied for operation permits. As shown in Table 13, permits were issued to 64.4 percent of the major facilities and 73.5 percent of the synthetic minor facilities, but only 8.2 percent of the state minor facilities. In total, the backlog was 1,091. The Clean Air Act allows facilities that have submitted a timely application for an operation permit to continue to operate while DNR processes the application. However, the extent of the backlog raises program management questions.

Table 13

Issuance of Operation Permits
As of June 30, 2003

Permit Type	Number of Facilities	Number of Permits Issued	Number of Facilities in Backlog	Percentage Issued
Synthetic Minor[1]	942	692	250	73.5%
Major	590	380	210	64.4
Minor	687	56	631	8.2
Total[2]	**2,219**	**1,128**	**1,091**	50.8

[1] Includes general operation permits.
[2] In addition, 52 permits were issued to facilities that are no longer in operation.

In 2002, facilities subject to state minor permits reported only 1.2 percent of total statewide pollutant emissions.

During the operation permit program's early years, DNR made a priority of issuing synthetic minor permits rather than major permits, because doing so reduced the number of facilities requiring major permits. State-mandated minor permits were not made a priority because there is no federally mandated deadline associated with them, and facilities requiring state minor permits typically report a small percentage of all pollutants emitted annually. In 2002, the state minor permit facilities reported only 1.2 percent of total air pollution emissions. 2003 Wisconsin Act 118 will likely reduce the number of facilities requiring state-mandated minor permits. DNR officials indicate they will defer issuing minor permits until work is completed on issuing major and synthetic minor permits.

DNR's Southeast Region has issued a smaller percentage of permits than other regions.

As shown in Table 14, DNR has issued major permits to 85.9 percent of major facilities in the South Central Region and 82.7 percent of major facilities in the Northeast Region, but only 41.7 percent of major facilities in the Southeast Region. According to DNR officials, the Southeast Region has fallen behind in issuing operation permits for several reasons:

- much of the region is a non-attainment area with additional permitting requirements;
- the region contains the largest number of facilities and has the greatest operation permit and compliance workload; and

- many facilities in the region are older and larger industrial sources that require more complex pollution-control solutions.

Table 14

Major and Synthetic Minor Permits Issued to Facilities in Each Region
Through June 30, 2003

Region	Major Permits		Synthetic Minor Permits[1]			
	Number of Facilities	Number of Permits Issued	Number of Facilities	Number of Permits Issued	Percentage of Major Permits Issued	Percentage of Synthetic Minor Permits Issued
South Central	92	79	148	91	85.9%	61.5%
Northeast	127	105	155	131	82.7	84.5
Northern	52	37	67	53	71.2	79.1
West Central	101	68	136	92	67.3	67.6
Southeast	218	91	209	104	41.7	49.8
Total	**590**	**380**	**715**	**471**	64.4	65.9

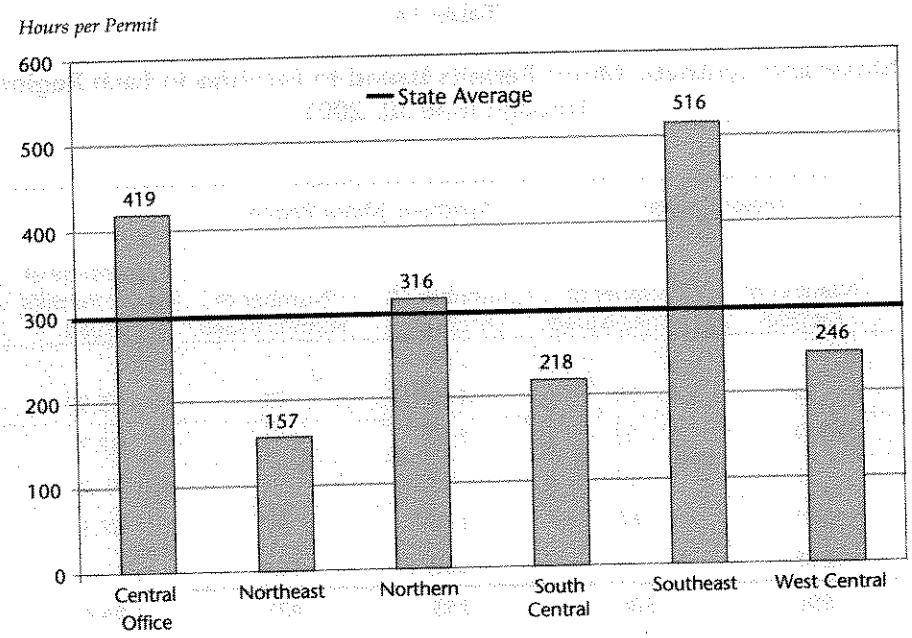
[1] Does not include general operation permits because they are not assigned to a region.

More time is spent on each permit in the Southeast Region than in other DNR regions.

We found that 35.5 percent of facilities in the Southeast Region require major permits, compared to only 23.2 percent in the rest of the state. Because major permits are generally more complicated than other permits, they represent additional workload that may contribute to the Southeast Region's lag in issuing initial operation permits. We also found that, on average, permit engineers in the Southeast Region spend more time per permit than staff in other regions. As shown in Figure 8, the amount of time DNR spent working on initial operation permits averaged 298 hours statewide, and 516 hours in the Southeast Region.

Figure 8

Average Number of Hours to Issue an Initial Operation Permit
(FY 1996-97 through FY 2002-03)



According to DNR officials, the amount of time needed to issue a permit is affected by the completeness of a facility's application; the existence of outstanding construction permits; the complexity of the facility's operations; whether it is subject to hazardous air pollutant or technology-based pollution control requirements; and negotiating with the facility if computer models show that the facility does not meet air quality standards.

We reviewed DNR time-reporting data and found that the average number of hours per permit declined 41.8 percent statewide, from a high of 359 hours in FY 1997-98 to a low of 209 hours per permit in FY 2002-03. In the Southeast Region the average declined 43.9 percent in this period, from 583 hours to 327 hours per permit. DNR officials expect regional and statewide average permitting time to continue to decline because work has been completed on the initial permits for many of the largest and most complicated facilities.

Backlogs may hamper efforts to reduce emissions and achieve compliance with federal air quality standards.

If facilities that are waiting for operation permits do not install required pollution-control equipment prior to being issued a permit, the large backlog of permits in the Southeast Region may hamper the air management program's goal of reducing emissions to achieve compliance with federal air quality standards. Because facilities can continue to operate as long as they have applied for a permit, there is little incentive for them to request that DNR expedite processing of their initial operation permits. However, without a valid operation permit, DNR cannot ensure that a facility has implemented all of the necessary control technologies to limit pollution. Although 2003 Wisconsin Act 118 will likely reduce the number of facilities requiring operation permits, and thereby reduce DNR's workload, we believe that additional steps can be taken to address the permit application backlog.

☑ Recommendation

We recommend the Department of Natural Resources:

- *streamline permitting requirements for those minor air pollution sources that will continue to be required to obtain permits under recent revisions to state law; and*
- *assign additional permit engineers from other regions to work on issuing operation permits in the Southeast Region, to help eliminate the backlog.*

Deadlines for Operation Permit Issuance

Wisconsin is among the slowest states in the nation to issue major operation permits.

Under the federal Clean Air Act, the EPA gave interim approval to Wisconsin's permit program in March 1995, and DNR was to have issued all of the State's major operation permits no later than March 1998. However, as of June 30, 2003, only 64.4 percent of Wisconsin's major permits had been issued, and the State had the lowest issuance rate in Region 5, as shown in Table 15. Appendix 3 shows permit issuance rates nationally. Overall, 80.9 percent of major permits had been issued nationally. Only six states, the District of Columbia, and 26 local agencies had issued all of their major permits as of June 30, 2003.

Table 15

Major Permit Issuance Rates in EPA Region 5 States
As of June 30, 2003

State	Number of Facilities	Number of Permits Issued	Percentage of Permits Issued
Illinois	728	591	81.2%
Indiana	741	566	76.4
Michigan	470	401	85.3
Minnesota	336	243	72.3
Ohio	705	606	86.0
Wisconsin	**590**	**380**	**64.4**
Total	**3,570**	**2,787**	78.1

On December 16, 2002, DNR proposed a time line to the EPA for addressing the permit backlog. DNR proposed to prioritize its future permit work so that permits for facilities emitting at least 90 percent of the total criteria pollutants in Wisconsin would be issued by December 31, 2003. To achieve the 90 percent goal, DNR identified priority facilities based on their level of reported emissions, toxicity of emissions, and public interest in the permit. However, recognizing that this goal would not be achieved, DNR submitted a new proposal in October 2003. Under the new plan, DNR estimates it will finish work on outstanding major permits by January 2005. To achieve this goal, DNR managers intend to dedicate few resources to issuing synthetic minor and renewal permits. As a result, the backlog for synthetic minor permits will remain and the number of permits needing renewal will increase. In addition, there are currently no plans to address the backlog of state minor permits.

Factors Delaying Operation Permit Issuance

In response to growing concerns over delays in issuing operation permits nationwide, the EPA's Office of the Inspector General completed a review in March 2002 of state and local air pollution control agencies' progress in issuing operation permits. The Inspector General evaluated permitting programs in six selected states, including Wisconsin, to identify the reasons for the delays.

The Inspector General concluded that the initial issuance of major operation permits nationwide was delayed by:

- the need to develop laws and regulations and to train staff;
- the need to update information before permitting work could begin, because almost all applications were received within a short period of time and because permitting authorities could not issue permits as fast as applications were received;
- delays by the EPA in issuing program guidance; and
- prioritization of synthetic minor permits over major permits.

The Inspector General attributed ongoing delays in the issuance of operation permits to insufficient funding and staffing, overly complex regulations and limited guidance from EPA, competing state priorities, and the use of operation permit staff to issue construction permits.

We identified several factors that influence the amount of time DNR takes to issue operation permits in Wisconsin. First, because DNR received most operation permit applications from 1995 through 1997, it has often been necessary to request additional information from facilities because information in the application is outdated. DNR permit engineers have also indicated that many initial applications were incomplete and that the process has been delayed by requests for additional information from the applicant.

Public hearings can increase the time needed for permit issuance, but few permits require a hearing.

Second, public hearings—which may be requested by anyone—increase the time required to issue an operation permit. This occurs not only because the permit engineer must respond to comments made at public hearings before finalizing a permit, but also because the time spent preparing for and attending hearings reduces the amount of staff time available to work on other permits. Permit engineers have indicated that requests for public hearings occur more frequently in the South Central Region. They attribute this frequency to a more actively engaged public in this region. We were unable to verify that public hearings occur more frequently in the South Central Region because DNR was unable to provide reliable statistics on the number of permits that went through the formal hearing process. Nonetheless, DNR staff agreed that only a small

percentage of operation permits are taken to a formal public hearing. 2003 Wisconsin Act 118 limits public hearing requests to only those who may be affected by issuance of the permit.

Third, DNR and the regulated facilities often spend considerable time negotiating modeling results. Modeling is conducted to predict the effect a facility's emissions will have on air quality. These negotiations often result in modifications to operations, including the height of stacks or the use of raw materials, so the facility can meet air quality standards. Every iteration requires DNR modeling staff to re-run the models with the new parameters to verify that air quality standards will be met. From FY 1996-97 through FY 2002-03, DNR staff reported they spent an average of 2,923 hours per year on modeling for operation permits.

Other Region 5 states allow facilities to conduct their own modeling before submitting an application to the permitting agency. In most cases, officials verify modeling results without repeating the modeling analysis. In two Region 5 states, officials indicated that allowing a facility to conduct the modeling as part of the application reduces the amount of time spent reviewing permit applications and negotiating modeling results. In Illinois, the permitting authority established simplified modeling requirements for state-mandated permits.

Finally, several DNR permit engineers believe that DNR requires too much information in preliminary determinations and repeats much of the information found in a permit. A preliminary determination contains a comprehensive description of the facility, a discussion of air quality effects and modeling results, and a discussion of applicable federal and state air pollution control requirements. Some permit engineers believe they spend unnecessary time writing these documents and that the length of the permit could be reduced by eliminating the repetition of administrative code language. In addition, one survey respondent noted that its permit included 40 pages of redundant language that resulted in unnecessary complexity.

☑ Recommendation

We recommend the Department of Natural Resources:

- *assess options that would reduce the amount of staff time spent on modeling, including allowing facilities to perform their own modeling, or eliminate modeling requirements for minor permits;*

- *evaluate the amount of information contained in permits and preliminary determinations, with the goal of eliminating duplicate calculations, reducing the repetition of administrative code language, and simplifying descriptive language that duplicates information found in the permit application; and*

- *encourage facilities to submit electronic permit applications, to facilitate accurate data entry into DNR's information systems.*

Deficiencies in Program Management

During our review, we identified several deficiencies with DNR's management of the operation permit program. These deficiencies have resulted in facilities failing to apply for the necessary permits and in DNR failing to issue completed operation permits.

Failing to Apply for an Operation Permit

We identified 71 facilities that DNR records indicate did not apply for required permits.

We identified 71 facilities that were required to apply for an operation permit under state and federal law but did not, according to DNR records. As a result, these facilities, which reported emitting approximately 1,100 tons of pollutants in 2002, may be emitting more pollutants than would have been allowed under a permit. In addition, both federal and state law provide that facilities failing to apply for permits could face substantial financial penalties or be closed and may not be afforded the immunity granted to facilities that have applied for permits. DNR officials could neither explain why these facilities had apparently never applied for permits or why DNR was unaware of this issue prior to our inquiries.

We also identified 24 facilities that had applied for operation permits but whose applications were not assigned to a permit engineer for processing or counted as facilities in need of a permit for federal and state reporting purposes, either because DNR failed to properly record applications in its permit database or because facilities never completed their applications. DNR officials were unable to explain how these failures occurred.

Finally, we identified 175 facilities that have not applied for permits but have reported emissions of regulated pollutants. While many of these facilities may be exempt from permitting requirements because their potential emissions do not exceed permitting thresholds, DNR was unable to provide documentation that verifies these facilities are exempt.

☑ Recommendation

We recommend the Department of Natural Resources:

- *verify which facilities have failed to submit permit applications as required and take appropriate action;*
- *determine which facilities have appropriately submitted applications but were not placed into the permitting process or assigned to a permit engineer; and*
- *document which facilities are exempt from permitting requirements, and the specific reasons for an exemption.*

Failing to Issue Operation Permits

DNR failed to issue 113 operation permits even though they had already gone through public comment.

Typically, DNR issues final operation permits shortly after the close of the public comment period. However, as of June 30, 2003, we identified 113 draft operation permits that DNR failed to issue after the public comment period had expired. Among these are 106 permits that had been backlogged for more than one year after the close of the public comment period.

DNR officials gave two primary reasons for the agency's failure to issue these permits. First, in some cases the responsible permit engineer had left DNR or switched jobs, and another permit engineer was not assigned to complete the permit. Second, before FY 2002-03, DNR credited engineers for issuing operation permits at the time permits went to public hearing, rather than when they were issued. The permit engineers favored this system; however, DNR's failure to follow up on credited but unissued permits demonstrates inadequate management of permit workload and permit tracking and suggests a need for improved communication between the regional permit engineers who prepare the permits and DNR's central office.

☑ Recommendation

We recommend the Department of Natural Resources:

- *review the 113 facilities whose permits have been through the public comment process, to determine whether the permits can be issued or whether additional work is needed because of the delay in issuing the final permit; and*