
AGENCY PERFORMANCE REPORT

1996

POLLUTION CONTROL AGENCY

Final Format Prepared : January 28, 1997

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AGENCY : POLLUTION CONTROL AGENCY**MISSION**

The authorities of the MPCA were set out in statute when the Minnesota Legislature created the agency in 1967. In recent years, we have adopted statements of our mission and goals that reflect our vision of environmental protection for the 1990s.

The mission of the Minnesota Pollution Control Agency is to protect Minnesota's environment to secure the quality of life of its citizens.

GOALS

- To ensure that there is clean, clear, odorless air; fishable and swimmable waters; uncontaminated soil and ground water; and sustainable ecosystems.

In 1967, the Minnesota Legislature created a new state agency to protect the air, waters and land of our great state. The goal was to make it possible for Minnesotans to use and enjoy the lakes and rivers, the forests, the plains and the natural resources, without impairing their purity. The Legislature gave authority to the MPCA to begin controlling pollution problems in the state three years before the first Earth Day and the establishment of the U.S. Environmental Protection Agency (EPA).

Working with the Legislature, EPA, local governments, industry, environmentalists, educators and the public, the MPCA has made Minnesota a national model of environmental protection. Now, as then, the MPCA serves Minnesota by examining the quality of the state's environment, developing rules that protect the public's health and the environment, and helping local government, industry and individuals meet their environmental responsibilities.

The MPCA has achieved much in the 29 years of its existence only because public support for a clean environment has been constant, overcoming financial constraints and encouraging the cooperation of the people and organizations who are regulated. As we conclude our third decade, we find that eliminating the obvious pollution sources clears the way for finding the less obvious but still serious dangers to our health and our air, water and land.

The MPCA protects the environment and the public health by developing regulations, providing education, giving technical assistance, forming partnerships and taking steps to enforce the regulations when necessary. Our job is to prevent and limit pollution caused by businesses, organizations and individuals to protect human health and the environment. The agency is organized into four program divisions, one regional division and one support division. The programs are Air Quality, Ground Water and Solid Waste, Hazardous Waste, and Water Quality. For the purposes of this report, however, the Ground Water and Solid Waste and the Hazardous Waste Divisions are presented together under the program section "Protection of the Land." The Regional Operations Division supports agency programs in five offices located throughout Minnesota and provide local perspectives on pollution issues. The Administrative Services Division includes the agency's staff functions as well as the Environmental Planning and Review Office and the Public Information Office. Legal counsel is provided by the Office of the Attorney General. The director of the Office of Environmental Assistance is appointed by the MPCA commissioner. Also, a Citizens Board, consisting of eight members appointed by the Governor and the MPCA commissioner, provides a public forum for agency decisions on controversial environmental issues with considerable public interest.

Under a strategic planning initiative begun in 1996, the agency is exploring new structure options for the MPCA that will improve our service delivery and accomplishment of our mission. More on the strategic planning efforts is described in the section on "Ways to Improve Program Outcomes."

The agency has, over the years, faced many challenges in applying these broad goals to its day-to-day activities. One response to these challenges has been to develop more specific statements that describe how the agency could achieve its mission and goals. With growing responsibilities and often conflicting public interests, the benefit of well-defined directions for the agency is increasingly clear.

After months of hard work and the assistance of MPCA employees and customers including regulated industries, environmentalists and local government partners, the agency adopted a forward-looking plan in the fall of 1994. The level of participation by customers in developing the plan and the resulting long-term directions make this a useful management tool.

This year, the MPCA began a process to examine the systems under which the agency operates. This process, called systems analysis, was guided by a consultant and involved the participation of employees and external customers. The outcome of this strategic planning process is a method by which the agency can set objectives, improve its products and restructure its organization, as necessary, to reach the environmental goals established in 1994. At the conclusion of the first phase of this effort, the MPCA had isolated four key strategies through which it could better accomplish its mission. These strategies are as follows.

Shared Goals:

The MPCA will develop common goals in cooperation with the customers of all types to establish a broad plan for action to protect Minnesota's environment. From a common base of information, a participatory process involving customer and agency staff will be used to develop shared environmental goals for the state. Goals will be clear and understandable to all customers and staff. The goal-setting process will foster shared responsibility for actions to achieve the goals. And, the goals, actions and achievements will be widely communicated to the public.

Environmental Outcomes:

The MPCA will build a comprehensive process for measuring the environmental outcomes of our activities. We will use this information in alliance with our customers to identify mutually desired environmental outcomes and to align our internal resources and processes to best achieve those results. We will emphasize outcomes focused on the prevention of pollution and the achievement of a sound economy, a healthy environment and a high quality of life. We will seek to modify our internal and external activities, including our rules, permits, communications and allocation of resources, to be more outcome based. And, we will use a full range of appropriate rewards and penalties to work toward desired environmental outcomes with our customers.

Situational Alliances:

We will form alliances with a broad spectrum of customers to achieve shared environmental goals. The role of the MPCA and other alliance participants will vary depending on the needs, expertise and resources of each. We will foster trust within our alliances by opening our programs and processes to all participants. We will provide our staff with additional training and skills to develop appropriate alliances, to promote participation, and to work effectively in the alliance environment. Mutually establish criteria for determining which alliances should be formed first, how success of alliances will be measured, and how the MPCA will be accountable for developing alliances when opportunities are present.

Learning Organization:

The MPCA will become a learning organization; that is, it will continually expand its capacity to seek and embrace new ideas and change for the future. We will use "systems thinking" to approach problems because we recognize that the agency is an interconnected part of a larger system of environmental management. We will develop staff skills to enhance leadership, teamwork and collaboration. We will ensure that environmental goals are shared internally, then establish clear boundaries on projects to give staff the freedom to act in support of those goals. We will establish feedback systems involving both staff and customers to provide performance accountability and mutual learning opportunities.

EMPLOYEE PARTICIPATION

The agency has standing committees comprised of employees from all levels in each of the bargaining units in our organization. The purpose of these committees is to develop indicators and performance measures of environmental achievement, level of compliance, stakeholder confidence, cost effectiveness and timeliness of programs. Employees were offered the opportunity to serve on these committees and were responsible for developing the measures, devising a method to collect and analyze data and recommending on how the information may be used in modifying the operation of the agency.

In addition to this ongoing commitment, employees participated in an extensive effort (17 days of meetings) to identify the issues and barriers related to improving the delivery of the agency's programs and services. This effort occurred concurrently with the planning period for the agency's 1996 performance report. In the winter of 1996, several teams of employees will be formed to address the agency's newly developed Strategic Plan and develop solutions to the problems shared during its planning process.

Although the exclusive representatives did not specifically name employees of each unit to represent them in this process, all bargaining units were represented. Arrangements have been made to share the information with the exclusive representatives and address any issues to their satisfaction.

In developing performance measures for the 1996 Performance Report, staff were involved in various ways. In some programs, staff were assigned to teams to develop the measures and in others, management developed proposed measures and then solicited staff input and made changes accordingly.

Date : January 28, 1997

Agency Expenditure Summary

F.Y. 1996

NAME	(in thousands \$)	% of \$	FTE	% of FTE
AGENCY: POLLUTION CONTROL AGENCY	\$76,030	100.0%	789	100.0%
PROGRAM: PROTECTION OF THE AIR	\$16,408	21.6%	147	18.6%
PROGRAM: PROTECTION OF THE WATER	\$15,753	20.7%	213	26.9%
PROGRAM: PROTECTION OF THE LAND	\$32,441	42.7%	317	40.1%

Agency : POLLUTION CONTROL AGENCY

Program : PROTECTION OF THE AIR

EXPENDITURES AND STAFFING :

	<u>(\$ in Thousands)</u>	<u>Percent of Department</u>
Total Expenditure	\$16,408	21.58%
From Federal Funds	\$1,819	
From Special Revenue Funds	\$14,589	
Number of FTE Staff:	147	18.63%

GOALS :

The Air Pollution Control Program is designed to protect ambient air quality. The program's primary goal is clean, clear air. The mission of the program is to improve and maintain air quality to protect human health and the environment.

- To assess the risk to human health and the environment from air pollution. (M.S. 116.42-.45; 116.454)
- To minimize or abate the impacts of air pollution by providing direction in the development of rules and programs. (M.S. 116.01; 116.07, subds. 2 and 4)
- To protect Minnesotans and the environment from exposure to air pollutants from mobile and nonindustrial (area) sources. (M.S. 116.60-.65; 116.70-.74)
- To limit pollution from industrial point sources in an efficient and effective manner. (M.S. 116.07, subds. 2 and 4; 116.07, subd. 4a; 116.07, subd. 4d; 116.081)
- To conduct a comprehensive, effective and timely program for compliance determination and enforcement. (M.S. 116.07, subds. 2 and 4; 116.07, subd. 4a; 116.07, subd. 4d; 116.081)
- To help industry and small businesses reduce emissions and comply with air-quality regulations by providing user-friendly compliance assistance services. (M.S. 116.95-116.99)

DESCRIPTION OF SERVICES :

ENVIRONMENTAL ASSESSMENT

Assessing environmental and human health and providing direction

Air-quality monitoring is one of the best ways to assess the impacts that air emissions have on human health and the environment. In addition to providing basic information about the quality of the air in Minnesota, monitoring data can help identify where the air program has been effective and where additional effort is needed to reduce air pollution. A minimum number of monitoring sites in Minnesota is required by the U.S. Environmental Protection Agency (EPA), and these sites are part of a national trends network. Recently, the monitoring activity has begun shifting its focus from the more traditional pollutants, like sulfur dioxide and particulates, to highly toxic air pollutants. In addition, the program operates a monitoring program for acid deposition and for mercury deposition.

To help ensure that all of the requirements of the federal Clean Air Act Amendments of 1990 are met, it is necessary to develop new rules and programs, to revise and improve existing rules and to develop plans for reducing air pollution in areas where air-quality standards are not met. Providing direction also involves identifying and proposing legislative changes that might be needed to fully implement the Clean Air Act, the overarching federal legislation to protect and improve air quality. The Act and EPA's subsequent regulations have many specific requirements that are required of states. Careful planning and direction are needed to meet these requirements in ways that are best for Minnesota. Most new rules and programs required by the Act are now in place. One of the major thrusts of this activity is now to improve and streamline rules and programs to ensure that standards are met while easing burdens on the regulated community. State implementation plans are the agreements that states make with EPA to implement the requirements of the Act and to demonstrate that standards for air quality are being met. These state implementation plans include enabling statutes, rules, permits and administrative orders.

POINT SOURCE POLLUTION

Regulatory compliance program for industrial sources of pollution

Conducting the regulatory program for industrial point sources is the largest activity of the Air Pollution Control Program. This activity includes permitting, compliance determination, enforcement and small-business technical assistance.

The permitting program is responsible for issuing permits controlling air pollution to industrial point sources to protect public health and the environment. Changes required by the Act have dramatically increased the number of sources required to have a permit in Minnesota. The compliance program determines the compliance status of industrial point sources through the review of emissions testing, Continuous Emissions Monitoring (CEM) data, other enhanced monitoring data and inspections. This program maintains a database of source-specific compliance information, tracks permit and enforcement actions and annual emissions and collects air-quality fees from reported annual emissions.

The Enforcement Program inspects facilities, enforces laws, and, where appropriate, collects civil monetary fines for noncompliance with state and federal air-quality regulations. The enforcement program also is responsible for regulating compliance with regulations for asbestos renovation/demolition and chlorofluorocarbons (CFCs).

Small-business technical assistance is a new program that is a component of the regulatory program for point sources. This program provides assistance to small-business owners on the new requirements of the Clean Air Act and includes an ombudsman who will act on behalf of small-business owners and a Small Business Assistance Council to advise on assistance efforts.

NONPOINT SOURCES OF POLLUTION

The primary programs responsible for reducing pollution from nonpoint air sources are the Motor Vehicle Emissions Inspection Program, transportation planning activities, the Indirect Source Permit Program and the Noise Pollution Program.

To help meet standards for air quality in the Twin Cities, the Legislature authorized the Motor Vehicle Emission Inspection Program in 1988. The Clean Air Act requires a commitment to continue this program in order to maintain air-quality standards into the future. In addition to reducing emissions of carbon monoxide, the program reduces hydrocarbons that contribute to ozone formation and toxic air pollutants such as benzene and formaldehyde.

Transportation planning involves the review of transportation-related development projects to ensure that air quality will not be severely affected. New conformity provisions of the Clean Air Act and the Intermodal Surface Transportation Efficiency Act greatly expanded the transportation planning and review process.

The Indirect Source Permit Program issues permits before construction begins for certain projects that affect motor vehicle traffic that could degrade air quality. Typical projects include freeway expansions, shopping malls, sports facilities and mixed land-use development.

The Noise Pollution Program was established to help reach compliance with state noise standards. Staff participate in the environmental review and permitting of projects that create noise such as highway construction. Staff also assist local units of government with monitoring and resolving noise issues. A separate staff position funded through an agreement with the Metropolitan Airports Commission (MAC) works solely on issues related to airport noise.

BACKGROUND INFORMATION :

MEASURE TYPES: ACTIVITIES (A), EFFICIENCY (E), OUTPUT (O), OUTCOMES (OC), OTHER DATA (OD), UNIT COSTS (UC), WORKLOAD (W)

DATA BASED ON: CALENDAR YEAR (CY), FISCAL YEAR (FY), FEDERAL FISCAL YEAR (FFY), BIENNIUM YEARS (BY)

<u>Type</u>	<u>Based</u>	<u>Measure</u>	<u>1994-95</u>	<u>1995-96</u>
	FY	Benzene concentration in Mpls. (parts per billion)	.84	N/A
	FY	Average concentration of formaldehyde in Mpls. and St. Paul	1.92	N/A

PROGRAM DRIVERS :

Clean Air Act Amendments of 1990: The single factor that influences the extent and direction of many activities of

the Air Quality Division is the 1990 Amendments to the federal Clean Air Act. The Act required states to implement air-emission fees to pay for the bulk of the program's activities. This requirement was authorized by the Legislature in 1991. The Act expand the number of air pollutants that must be regulated from 6 to more than 190. In addition, the number of sources subject to regulation has increased dramatically. In 1990, the Air Pollution Control Program regulated approximately 1000 industrial point sources.

The Act requires that the regulatory program for point sources be supported by fees on the emissions of air pollutants. In 1992, a total of 1115 sources reported emissions of 446,000 tons. Over the last few years, total emissions have gone down, while the number of sources required to report has increased by almost 45%.

This Act is the driving force behind the vast majority of this program's activities. These activities include most of the permitting and compliance and enforcement programs, all of the programs related to motor vehicle emissions, all of the air-quality planning activities, much of the toxics program and most of the monitoring program.

Training, Outreach and Assistance: Over the last two years, the Air Quality Division has undertaken a major initiative on training and education for the new permitting program that began in 1995. That effort has included developing and conducting training sessions around the state and the development and distribution of numerous informational materials. In addition, the Small Business Assistance Program, approved by the legislature, has begun offering technical assistance on how small-business owners can comply with the new federal air-quality requirements.

Special Pollution Issues: There are a few special pollution issues that have become an important focus of this program. These issues are: exposure to toxic air pollutants, acid rain and mercury. The agency has had a monitoring and research program for acid rain for some time. Now, the monitoring staff are trying to determine if the federal acid rain program will protect Minnesota resources. The air program is developing the capability of measuring ambient levels of toxic air pollutants and has several monitoring sites in place. Mercury is an environmental problem that requires more study and the air program is actively working with other agency programs to better understand this problem.

Nonattainment Status: Several areas of the state, primarily in the Twin Cities, are still classified by the EPA as not meeting all air-quality requirements and standards. As long as these areas remain classified as "nonattainment," stringent emission reduction programs will be required and restrictions affecting economic development will be in place that otherwise would not be needed. In addition, the people living and working in these areas are more at risk due to the air-quality problems. A major goal of the air program is to successfully address the air-quality issues in these areas and have EPA reclassify them as meeting requirements and standards.

Air Toxics Strategy: Title III of the Clean Air Act Amendments requires new controls and permits for sources emitting any of 189 toxic air pollutants. To implement this program and to ensure that the resulting controls will sufficiently protect public health and the environment, the agency developed, and the air program is implementing, a new Air Toxics Strategic Plan.

New Federal Air Quality Standards: Currently, the federal ozone and particulate matter standards are being met in Minnesota, however, the margin of safety is small. Also, EPA has announced plans to propose new standards in November 1996. Along with the potential change in the standards, EPA is considering extending emission reduction requirements to all states in the eastern United States, regardless of attainment status. This change would bring with it many new and potentially expensive regulations that would affect not only industry, but also motorists and individuals.

Motor Vehicle Pollution: The changes in nonpoint source pollution required by the Act affect the most people and may be the least understood. Motor vehicles are one of the largest sources of emissions of carbon monoxide, nitrogen oxides, compounds that react to form ozone and toxic air pollutants such as benzene and formaldehyde. Motor vehicles travelled over 42 billion miles in Minnesota last year. The number of motor vehicles and the number of total miles travelled is increasing. Both of these factors lead to increased congestion and air pollution.

Nationwide, about 60% of the carcinogenic toxic pollutants, 60% of the carbon monoxide and 40% of the ozone or smog-producing pollutants come from motor vehicles. As a result, the Clean Air Act Amendments added new and significant requirements for motor vehicle inspection programs to reduce motor vehicle emissions, required the use of oxygenated and other "clean" fuels, and enhanced transportation planning requirements to lower motor vehicle emissions. All of these measures are essential in order to reduce motor vehicles' impact on human health and the environment.

Toxic Air Pollution: There are dozens of chemicals in air that may be toxic, but standards have been developed only for those that are widely released and have adequate health and environmental effects data, such as sulfur dioxide. Pollutants that do not have specific standards are generally called "toxic air pollutants." The federal Clean Air Act and subsequent actions by EPA have resulted in the development of technology-based performance standards for certain industries. The MPCA is evaluating these standards and developing a program for the application of them in Minnesota. To help evaluate the health risk from toxic air pollutants, the Minnesota Department of Health is developing Health Risk Values (HRVs) that will serve as exposure guidelines for toxic air pollutants.

The MPCA has been measuring the ambient concentrations of a limited number of toxic air pollutants for several years, mostly in the Twin Cities and at a limited number of locations. Last biennium, the legislature provided funding and direction to set up a statewide network for monitoring toxic air pollutants. That network is now operational and statewide data will soon be available.

Data from monitoring conducted to date shows that for most toxic pollutants, ambient concentrations appear to be below levels considered to be of concern by the Health Department. However, concentrations for two pollutants, benzene and formaldehyde, two potential carcinogens, are consistently measured at or above levels of concern, suggesting a potential health risk for people living in urbanized areas. Benzene is component of gasoline. It is released to the air from gasoline vaporization from cars, gas stations and other fuel handling operations. It is also released as a combustion product of gasoline and wood fuels and is a component of some solvents. Formaldehyde is emitted directly from cars and other combustion sources, and is formed in the air on smoggy summer days from other air pollutants.

- Goal 1** : To assess the risk to human health and the environment from air pollution.
- Objective 1** : To meet all health-based, federal and state air-pollution standards throughout Minnesota as soon as possible.

Measure 1 : Number of days when air-quality standards were exceeded

	<u>C.Y.1990</u>	<u>C.Y.1993</u>	<u>C.Y.1994</u>	<u>C.Y.1995</u>	<u>C.Y.1996</u>	<u>C.Y.1997</u>
Number of days standards were exceeded						
Actual	5	0	5	2		
Target	0	0	0	0	0	0

DEFINITION :

This measure tracks the number of days when air quality exceeded federal and state air-quality standards for pollutants that are routinely measured. The pollutants tracked by this measure are: sulfur dioxide; carbon monoxide; ozone; nitrogen oxides; fine particulate matter (PM10); total particulate matter (TSP); and lead. Multiple exceedances of the same or different pollutant on the same day are counted.

RATIONALE :

Air-quality standards are set by state and federal regulations to be protective of human health and the environment. One of the most important ways to help meet the air program's goal of assessing the effect of air-pollution emissions on human health is to determine how often standards for air quality are not being met. The source of this data is the air program's ambient monitoring network. The data are regularly assessed to ensure their quality. Data are presented for calendar years rather than fiscal years because data are reported by all states to EPA by calendar year. Data from 1996 were not available at the time this report was prepared.

DATA SOURCE :

These data are collected by the National and State and Local Air Monitoring System (NAMS and SLAMS) operated by the agency. The data are reported to EPA.

DISCUSSION OF PAST PERFORMANCE :

This measure demonstrates a steady improvement in air quality in Minnesota, the result of many years of effort by agency staff and the regulated community to develop, apply and comply with regulations to reduce emissions and improve air quality.

PLAN TO ACHIEVE TARGETS :

In 1994, a monitoring site in St. Paul registered multiple exceedances of the fine particulate matter standard (PM10). Emission requirements for the sources that affected that monitor were amended and the problem was corrected, as is evident in the 1995 monitoring data. The goal for this activity is to record no exceedances of standards.

OTHER FACTORS AFFECTING PERFORMANCE :

There are two factors that affect air quality that are not under direct control of the air program. First, natural factors can have a significant effect on air quality. For example, forest fires hundreds of miles away can increase particulate levels in Minnesota. In addition, weather can affect air quality. Dry, warm weather can result in higher levels of particulates and ozone. Cool weather with temperature inversions can lead to increased levels of carbon monoxide. Second, the number of motor vehicles operating in Minnesota is still on the rise, as is the annual number of vehicle miles travelled and the amount of congestion on highways and major streets. All of these conditions can result in higher emissions of air pollutants. While there are a number of activities in place that help reduce motor vehicle pollution, these activities do not have a direct effect on the number of vehicles and the number of vehicle miles travelled.

Goal 1 : To assess the risk to human health and the environment from air pollution.
Objective 1 : To meet all health-based, federal and state air-pollution standards throughout Minnesota as soon as possible.

Measure 2 : Number of days when the Pollution Standards Index (PSI) was exceeded 100 (Unhealthy Levels) and 50 (Moderate Levels)

	<u>C.Y.1992</u>	<u>C.Y.1993</u>	<u>C.Y.1994</u>	<u>C.Y.1995</u>	<u>C.Y.1996</u>	<u>C.Y.1997</u>
PSI >100 Twin Cities						
Actual	1	0	4	3		
Target					0	0
PSI >100 Duluth						
Actual	0	0	0	0		
Target					0	0
PSI >100 St. Cloud						
Actual	0	0	0	0		
Target					0	0
PSI >100 Rochester						
Actual	0	0	0	0		
Target					0	0
PSI >50 Twin Cities						
Actual	60	69	108	87		
PSI >50 Duluth						
Actual	4	3	3	3		
PSI >50 St. Cloud						
Actual	ND	8	13	2		
PSI >50 Rochester						
Actual	10	6	4	0		

DEFINITION :

The Pollutant Standards Index (PSI) is used nationally as an overall assessment of air quality for a given day in a given city. It considers short-term levels of the "criteria" pollutants carbon monoxide, nitrogen dioxide, ozone, and particulate, and sulfur dioxide from all available monitors in an area. The highest daily monitored level relative to the ambient standard for each pollutant is chosen to represent the PSI for that day. A score of 100 on the PSI scale corresponds to the ambient air standard. If the PSI for a day is less than 100, no short-term ambient standards were exceeded on that day. Air quality is considered to be "Unhealthful" if the PSI is greater than 100. Air quality is considered to be "Moderate" if the PSI is between 50 and 100. When the PSI is below 50, the air quality is considered to be good. ND indicates that no data was available for that year.

RATIONALE :

This provides an overall numerical indicator of short-term, worst case, air quality for a geographic area. The daily PSI is used by EPA as a national environmental indicator and performance measure. It should be noted that the PSI does not account for the chronic or long-term effects caused by air pollutants. The program goal for this measure is to have no days with a PSI in the unhealthful category and to continue to reduce the days when the PSI is in the moderate category.

DATA SOURCE :

Short-term monitoring for criteria pollutant levels is routinely conducted by the MPCA in the Twin Cities, Duluth, Rochester, and St. Cloud. Not all pollutants are measured in all locations. It is likely, however, that the levels of pollutants not monitored are low, and would therefore not contribute to the PSI for that locale.

DISCUSSION OF PAST PERFORMANCE :

Since 1990 there have been very few days which the PSI would describe as unhealthy ($PSI > 100$). These days on which one or more of the short-term standards for the criteria pollutants were exceeded. Although the frequency of moderate air quality ($PSI > 50$) days in all locations has dropped significantly since 1980, they still occur frequently in the Minneapolis/St. Paul area. These improvements in air quality are due to careful planning, specific permit limitations for some facilities, programs that target specific problems and federal regulations required by the Clean Air Act.

PLAN TO ACHIEVE TARGETS :

Minnesota is well on its way to achieving compliance with short-term standards for criteria pollutants. This is evidenced by very few days currently with PSI greater than 100. It is clear from the number of moderate PSI days in the Minneapolis/St. Paul area that measured pollutant levels there remain elevated. The particulate and carbon monoxide levels in the Minneapolis/St. Paul area are responsible for most of these moderate or unhealthy days. Plans are in place to continue improvements for these pollutants.

Goal 1 : To assess the risk to human health and the environment from air pollution.
Objective 1 : To meet all health-based, federal and state air-pollution standards throughout Minnesota as soon as possible.

Measure 3 : Levels of air pollution

	<u>C.Y.1992</u>	<u>C.Y.1993</u>	<u>C.Y.1994</u>	<u>C.Y.1995</u>	<u>C.Y.1996</u>	<u>C.Y.1997</u>
Average levels of carbon monoxide (ppm)						
Actual	4.90	4.76	6.18	4.64		
Target	9.0	9.0	9.0	9.0	9.0	9.0
Low site levels of carbon monoxide (ppm)						
Actual	3.68	4.08	3.60	3.50		
Target	9.0	9.0	9.0	9.0	9.0	9.0
High site levels of carbon monoxide (ppm)						
Actual	7.50	6.4	10.10	7.20		<9.0
Target	9.0	9.0	9.0	9.0		9.0
Average levels of lead (micrograms/cubic meter)						
Actual	0.182	0.100	0.066	NA		
Target	1.5	1.5	1.5	1.5	1.5	1.5
Low site levels of lead (micrograms/cubic meter)						
Actual	0.032	0.008	0.010	NA		
Target	1.5	1.5	1.5	1.5	1.5	1.5
High site levels of lead (micrograms/cubic meter)						
Actual	0.620	0.337	0.340	NA		<1.5
Target	1.5	1.5	1.5	1.5	1.5	1.5
Average levels of nitrogen oxides (ppm)						
Actual	0.0188	0.0198	0.0205	0.0198		
Target	0.053	0.053	0.053	0.053	0.053	0.053
Low site levels of nitrogen oxides (ppm)						
Actual	0.0165	0.0182	0.0190	0.0180		
Target	0.053	0.053	0.053	0.053	0.053	0.053
High site levels of nitrogen oxides (ppm)						
Actual	0.0210	0.0210	0.0220	0.0215		
Target	0.053	0.053	0.053	0.053	0.053	0.053

POLLUTION CONTROL AGENCY**1996 Agency Performance Report****Average levels of ozone****(ppm)**

Actual	0.091	0.077	0.078	0.106		
Target	0.12	0.12	0.12	0.12	0.12	0.12

Low site levels of ozone**(ppm)**

Actual	0.087	0.067	0.067	0.93		
Target	0.12	0.12	0.12	0.12	0.12	0.12

High site levels of ozone**(ppm)**

Actual	0.093	0.090	0.090	0.114		
Target	0.12	0.12	0.12	0.12	0.12	0.12

Average levels of fine**particulates****(micrograms/cubic meter)**

Actual	23.19	22.36	23.52	23.41		
Target	50	50	50	50	50	50

Low site levels fine**particulates****(micrograms/cubic meter)**

Actual	17.93	17.35	16.25	17.60		
Target	50	50	50	50	50	50

High site levels fine**particulates****(micrograms/cubic meter)**

Actual	30.97	30.76	39.32	35.30		<50
Target	50	50	50	50	50	50

Average levels of sulfur**dioxide (ppm)**

Actual	0.0046	0.0037	0.0029	0.0019		
Target	0.03	0.03	0.03	0.03	0.03	0.03

Low site levels of sulfur**dioxide (ppm)**

Actual	0.0020	0.0012	0.0010	0.00		
Target	0.03	0.03	0.03	0.03	0.03	0.03

High site levels of sulfur**dioxide (ppm)**

Actual	0.0110	0.0070	0.0060	0.0050		
Target	0.03	0.03	0.03	0.03	0.03	0.03

DEFINITION :

This measure reports ambient air-quality monitoring data from sites in Minnesota. Listed is the average, lowest values and the highest values of representative monitoring sites for each year. The target is the standard for each particular pollutant.

RATIONALE :

There are federal and state ambient air-quality standards for six air pollutants. These standards are set to protect public health. States like Minnesota monitor for these pollutants at numerous locations. Most states, Minnesota included, locate monitoring sites in urban areas or in places near sources of air pollution.

This data is indicative of trends and is best used for that purpose. It does not necessarily indicate whether the standards for particular pollutants are being exceeded. That information is reported in a different measure. This information is used by EPA as a national environmental indicator and is useful for state by state comparisons.

DATA SOURCE :

This data is collected and maintained by the MPCA and is reported to EPA annually. Complete data for 1996 was not available at the time this report was prepared.

DISCUSSION OF PAST PERFORMANCE :

At this time, all standards and goals are being met and exceeded by a considerable margin. For most pollutants, the trend is that of declining concentrations. While the MPCA does not have a specific goal of preventing increases in air pollution when all relevant standards are otherwise being met, increases would serve as an early warning and further analysis may be needed to prevent new air-quality problems.

PLAN TO ACHIEVE TARGETS :

All standards are being met. It should be noted that EPA has announced intentions to change the ozone and particulate matter standards. This would change the targets.

- Goal 1** : To assess the risk to human health and the environment from air pollution.
Objective 2 : To reduce acid deposition to environmentally safe levels as soon as possible.

Measure 1 : Acid Deposition Levels

	<u>C.Y.1992</u>	<u>C.Y.1993</u>	<u>C.Y.1994</u>	<u>C.Y.1995</u>	<u>C.Y.1996</u>	<u>C.Y.1997</u>
Average sulfate deposition at all sites (wet, kg/ha)						
Actual	9.82	8.07	7.70	6.94		
Target	11	11	11	11	11	11
Highest sulfate deposition at all sites (wet, kg/ha)						
Actual	15.21	12.42	10.10	11.82		
Target	11	11	11	11	11	11
Lowest sulfate deposition at all sites (wet, kg/ha)						
Actual	5.94	4.87	4.98	3.50		
Target	11	11	11	11	11	11

DEFINITION :

This measure presents wet sulfate deposition in kilograms per hectare as measured at acid deposition monitoring sites in Minnesota. The monitoring sites are located around the state, but are concentrated in northeastern Minnesota, where the aquatic resources are most sensitive to acid deposition. Wet sulfate deposition is the amount of sulfate (acid) deposited in total annual precipitation (rain and snow). A hectare is a metric measure of land area, like an acre. The target is the state acid deposition standard, 11 kilograms per hectare.

RATIONALE :

The statute for the Acid Deposition Standard and Control Plan was established in July 1986 to protect sensitive Minnesota resources. The standard limits the amount of sulfate deposited in precipitation to an annual total of 11 kilograms per hectare (10 pounds per acre). This standard was designed to keep precipitation above pH 4.7, which was found to be the minimum pH needed to protect the most sensitive lakes in the state.

DATA SOURCE :

Precipitation chemistry is monitored at sites operated by the MPCA Acid Deposition Program and the National Atmospheric Deposition Program.

DISCUSSION OF PAST PERFORMANCE :

Sulfate deposition was below the standard until 1990. From 1990 through 1995 one or more monitoring sites have exceeded the annual standard with the highest levels recorded in 1992. Deposition is highest in east central Minnesota and along the north shore of Lake Superior. Although some sites remain above the standard, sulfate deposition, averaged across all sites has gradually declined since 1985. Annual fluctuations are likely weather related and are due to fluctuations in precipitations amounts. It is clear that the target for this measure, the acid deposition standard, has not been met as evidenced by the data measured at the highest reporting site. There does appear to be trend since 1992 of a reduction in deposition levels.

PLAN TO ACHIEVE TARGETS :

Maintaining deposition below the standard is dependent both on achieving emission targets of acid deposition precursors (sulfur dioxide emissions) in Minnesota and on the 1990 Clean Air Act Amendments. The acid rain provisions of the Act mandate a 50 percent (10 million ton) reduction in nationwide sulfur dioxide emissions by the year 2000. Approximately 90 percent of the acid deposition falling in Minnesota comes from sources outside the state. Therefore it is critical for reductions to occur in other states, as required by the Act. Whether these reductions will be sufficient to record deposition below the standard is currently unknown. The MPCA will continue to support a network to monitor deposition chemistry.

Goal 1 : To assess the risk to human health and the environment from air pollution.

Objective 2 : To reduce acid deposition to environmentally safe levels as soon as possible.

Measure 2 : Emissions of Sulfur Dioxide

	<u>C.Y.1992</u>	<u>C.Y.1993</u>	<u>C.Y.1994</u>	<u>C.Y.1995</u>	<u>C.Y.1996</u>	<u>C.Y.1997</u>
Sulfur dioxide emissions in thousands of tons						
Actual	110	118	120	112		
Target	<194	<194	<194	<194	<194	<194

DEFINITION :

This measure reports the emissions of sulfur dioxide in thousands of tons from industrial point sources -- primarily power plants -- in Minnesota.

RATIONALE :

The statute for an Acid Deposition Standard and Control Plan required that statewide emissions of sulfur dioxide, the primary precursor to acid deposition, be limited to no more than 194,000 tons per year by 1992.

DATA SOURCE :

This data is from the MPCA Emission Inventory System.

DISCUSSION OF PAST PERFORMANCE :

The emission goal has been met. This has been accomplished primarily through cost-effective measures, such as fuel switching to low-sulfur coal at the major power plants.

PLAN TO ACHIEVE TARGETS :

It is expected that statewide sulfur dioxide emissions will continue to be well below the target limit.

Goal 2 : To minimize or abate the impacts of air pollution by providing direction in the development of rules and programs.

Objective 1 : To eliminate the areas where air-pollution standards are not met as soon as possible.

Measure 1 : Number of areas where air-quality standards are not met and number of residents in these areas.

	<u>F.Y.1990</u>	<u>F.Y.1994</u>	<u>F.Y.1995</u>	<u>F.Y.1996</u>	<u>F.Y.1997</u>	<u>F.Y.1998</u>
Number of Nonattainment Areas						
Actual	10	7	7	4		
Target					2	0
Number of People Living in Nonattainment Areas						
Actual	2,495,000	2,437,000	2,350,000	2,350,000		

DEFINITION :

EPA designates areas not meeting air-quality standards as nonattainment areas. This designation is triggered by measured violations of standards for air quality. For some pollutants with large numbers of sources (like motor vehicles), the EPA will designate entire metropolitan areas as nonattainment areas. For pollutants more likely associated with an isolated source or a few sources, the size of the nonattainment area is established by computer modeling.

RATIONALE :

Nonattainment designation includes additional regulatory requirements that are not required in attainment areas. The additional regulatory requirements results in more hurdles for businesses to locate or expand in nonattainment areas; thus hampering economic development. Nonattainment designation also means a greater potential for a public health risk.

To redesignate an area from nonattainment to attainment, EPA requires a demonstration that the area currently meets standards (demonstrated through monitoring and computer modeling) and that the area will continue to meet standards well into the future (demonstrated by computer modeling). To reduce pollution in a nonattainment area, the primary sources of the pollutant must be identified, new emission reduction limits must be developed and federally enforceable administrative orders must be issued to require the sources to meet the new emission limits.

The number of areas designated nonattainment has a direct impact on the need to develop new rules and programs. Nonattainment designation also impacts the activity levels of the permitting and compliance programs.

DATA SOURCE :

The data for this measure come from the agency and demonstrate the program's success in cleaning up polluted areas.

DISCUSSION OF PAST PERFORMANCE :

In 1980, Minnesota had multiple nonattainment areas for sulfur dioxide, particulate matter, carbon monoxide and a single nonattainment area for ozone. By 1990, EPA had changed the ozone standard, doing away with that nonattainment area, and had switched from a total particulate standard to a fine particulate standard. These changes account for the differences in the number of nonattainment areas between 1980 and 1990. Recent redesignations to attainment status since the last performance report include: the Twin Cities for sulfur dioxide; Pine Bend and St. Paul Park for sulfur dioxide; a portion of Eagan for lead; and Rochester for fine particulate matter.

The current nonattainment areas include the Twin Cities for carbon monoxide, a portion of St. Paul for fine particulate matter and Rochester for sulfur dioxide. We are in the process of developing the necessary plans and demonstrations to reduce and maintain emissions below levels that violate standards in these three areas.

PLAN TO ACHIEVE TARGETS :

The air program's goal is to complete and submit redesignation requests to the EPA of all the remaining nonattainment areas in the next two years.

OTHER FACTORS AFFECTING PERFORMANCE :

Three factors have the potential of affecting the air program's goal. First, the analysis of the Twin Cities carbon monoxide situation is not complete, and it is not certain that a demonstration meeting EPA requirements can be prepared in the near term. Second, recent violations of the standard for fine particulate matter were recorded in St. Paul, and further work is needed before it is possible to know when a redesignation request can be ready. Finally, EPA may change the ozone standard and create a new nonattainment area in Minnesota.

Goal 2 : To minimize or abate the impacts of air pollution by providing direction in the development of rules and programs.

Objective 2 : To reduce health risk from exposure to toxic air pollutants by adopting federal standards into state regulation and conducting risk reviews of standards.

Measure 1 : Number of Federal Standards Promulgated, Adopted Into State Rules and Reviewed for Health Risk

	<u>F.Y.1993</u>	<u>F.Y.1994</u>	<u>F.Y.1995</u>	<u>F.Y.1996</u>	<u>F.Y.1997</u>	<u>F.Y.1998</u>
NESHAPs promulgated by EPA						
Actual	0	3	8	6		
Number Adopted into State Rule						
Actual	0%	0%	100%	100%		
Target					100%	100%
Number Reviewed for Health Risk by MPCA						
Actual	0%	0%	9%	0%		
Target					100%	100%

DEFINITION :

National Emission Standards for Hazardous Air Pollutants (NESHAPs) are standards that EPA has developed to regulate the emissions of toxic pollutants that do not have specific ambient air-quality standards. The NESHAPs do not undergo a federal review for health risk prior to promulgation by EPA.

RATIONALE :

The 1990 Clean Air Act Amendments required EPA to promulgate NESHAPs for approximately 174 different categories of industrial facilities. It is anticipated that compliance with NESHAPs should result in significant reductions in the emissions of toxic air pollutant emissions in Minnesota.

In January 1994, the agency's plan for implementing the air toxics provisions of the Act included 1) reviewing and commenting on all proposed NESHAPs that affect Minnesota sources; 2) adopting all promulgated NESHAPs into Minnesota statutes so that MPCA has the authority to enforce all NESHAPs that are delegated for enforcement by EPA; and 3) subjecting each source category standard (NESHAP) proposed by the EPA to a health and environmental review before adopting the standard as a state rule. This original plan has not been changed as of October 1996. However, the MPCA may want to change this part of the toxics strategy.

DATA SOURCE :

The source of data is EPA and agency records.

DISCUSSION OF PAST PERFORMANCE :

The target for adoption of NESHAPs into state rules is being met. Draft guidance on the procedures to be used in conducting health and environmental review of the federal standards was made available to interested parties in November 1994. This draft document was subsequently updated as of November 1995 to include a prioritization scheme for selecting NESHAPs to review. Also, the Minnesota Health Department is developing health risk values for pollutants in ambient air that will be used as part of reviewing the standards. However, problems have been encountered in the MPCA's health-based reviews of NESHAPs.

In drafting the guidance document for these reviews a number of data gaps have been identified and it is unlikely these data gaps will be filled in any time soon. Examples include chemicals for which there are no ambient-air guideline values (air concentration limits (ACLs) or health risk values (HRVs) and chemicals which have not been evaluated for ecological impacts.

Health-based reviews, even relatively simple reviews such as that conducted for the Dry Cleaner NESHAP, are very time consuming and technically difficult. The Dry Cleaner NESHAP was considered relatively simple and straightforward (single chemical, small facilities that are similar in emissions), yet it took 600+ staff hours and approximately one year to complete.

EPA has promulgated 17 NESHAPs since the 1990 CAAA were enacted while the MPCA has only been able to conduct one health-based review.

Technical problems were encountered in the review of the Halogenated Solvent Cleaners NESHAP. These problems include assessing potential health and environmental impacts from facilities that are variable in size and have very different processes; emit multiple toxic air pollutants which are not covered by the NESHAP; and affected by more than one NESHAP.

To date, MPCA has been evaluating its ability to overcome these problems and whether health-based review of NESHAPs should continue to be part of the air-toxics strategy.

PLAN TO ACHIEVE TARGETS :

The air program is currently assessing the objective to conduct health-based reviews of NESHAPs given the technical problems that have been encountered in conducting the review for the Halogenated Solvent Cleaners NESHAP, the other air toxics work that is being required of air program staff, and the commitment required to conduct health-based reviews in a timely and efficient manner.

Goal 2 : To minimize or abate the impacts of air pollution by providing direction in the development of rules and programs.

Objective 2 : To reduce health risk from exposure to toxic air pollutants by adopting federal standards into state regulation and conducting risk reviews of standards.

Measure 2 : Emissions of Toxic Air Pollutants

	<u>C.Y.1990</u>	<u>C.Y.1993</u>	<u>C.Y.1994</u>	<u>C.Y.1995</u>	<u>C.Y.1996</u>	<u>C.Y.1997</u>
Toxic Release Inventory - Millions of Pounds						
Actual	57.8	25.8	23.1	NA		
RAPIDS Point Sources						
Actual						
RAPIDS Area Sources						
Actual						
RAPIDS Mobile Sources						
Actual						
RAPIDS TOTAL						
Actual						

DEFINITION :

This measure reports the air emissions of toxic pollutants in Minnesota. The Toxic Release Inventory (TRI) as defined by state and federal law, is limited to facilities classified as manufacturing operations that manufactures or possess or uses an amount of listed chemicals over a set threshold.

RATIONALE :

One way to measure the effectiveness of a program to reduce the human health and environmental impacts from toxic air pollutants is to look at the change in the emissions of these pollutants over time. At this time, the only regularly reported inventory of toxic pollutant emissions is the TRI. Unfortunately, the TRI does not include all industrial sources nor does it include area (nonindustrial) or mobile sources. It is estimated that area and mobile sources are major contributors to the emissions of certain toxic air pollutants. Therefore, it is most desirable to have an inventory of area and mobile sources as well.

RAPIDS is the Regional Air Pollutant Inventory Development System which will be an automated and comprehensive emissions inventory system for reporting toxic pollutant emissions. RAPIDS has been developed in response to the 1986 Great Lakes Governors' Toxic Substance Control Agreement and will report data from all the Great Lakes states. The inventory system has been in development since 1991. Data for point and area source will be available starting in 1997 and for mobile sources starting, hopefully, in 1998. The MPCA will be responsible of the development of Minnesota emissions in the RAPIDS database.

DATA SOURCE :

The Toxics Release Inventory (TRI) lists pollutants reported by industry under the requirements of federal and state legislation. The TRI is prepared by the Minnesota Emergency Response Commission. While the TRI includes data in all releases to the environment, this measure reports only releases to the air.

DISCUSSION OF PAST PERFORMANCE :

The TRI data clearly shows a significant reduction in the emissions of toxic pollutants. This reduction can be attributed to a number of reasons. One of the reasons is the new requirements for the control of toxic air pollutants in the federal Clean Air Act. EPA is developing and the MPCA is helping to implement technology based standards for a number of industrial sources. Emissions from affected facilities can be expected to continue to drop as more of these standards are implemented. Other factors affecting this measure include greater awareness of toxics emissions, one of the major reasons for the TRI, and successful pollution-prevention efforts.

PLAN TO ACHIEVE TARGETS :

At this time, there is no specific goal or target set for this measure. However, the MPCA believes it is desirable to work towards a continuing reduction in the emissions of toxic air pollutants. As the air toxics program matures, goals for specific problem pollutants may be developed.

POLLUTION CONTROL AGENCY

1996 Agency Performance Report

Goal 2

Objective

Measure 1

CO2 Emissions (Millions of Tons)

Actual
Target

DEFINITION :

Tons of statewide emissions of carbon dioxide (CO2) from fossil fuel combustion sources. This measure includes emissions from industrial, mobile and area (nonindustrial) sources. The target for year 2000 is a target based on an international treaty.

RATIONALE :

Carbon dioxide is the principal gas leading to the progressive heating of the lower atmosphere and change known more generally as global warming. In the atmosphere, CO2 and other infrared-absorbing gases absorb a part of the long-wave radiation or heat that the earth must emit to space to maintain temperature, and reradiates it back to the surface. This leads to increased surface heating and changes in climate and ecological and geophysical systems. Effects that are likely in Minnesota include northward displacement of existing forest and ecosystems types; increased incidence of winter scale forest die-back; habitat and species loss; the drying up of prairie wetlands; fish species loss in Minnesota lakes and streams from cold water fishes like walleye or northern pike towards and generally decreased stream flows and lake levels and reduced pollution dilution potential in surface waters.

At a global level, CO2 accounts for about one-half of the extra radiative forcing gases or their precursors. Other greenhouse gases collectively contribute the remainder (CH4), nitrous oxide (N2O), various hydrofluorocarbons (HFCs), hydrochlorofluorocarbons (CFCs), and tropospheric ozone. Carbon dioxide is expected to be the dominant greenhouse gas throughout the next century.

: To minimize or abate the impacts of air pollution by providing direction in the development of rules and programs.

: To track global-warming emissions to aid in federal and state policy development.

Carbon Dioxide Emissions

C.Y.1990

C.Y.1992

C.Y.1993

C.Y.1994

C.Y.1995

C.Y.2000

86.8

89.7

94.6

97.3

NA

8

DATA SOURCE :

Emissions of carbon dioxide from commercial fossil fuel combustion are estimated based on the carbon content of any fossil fuel combusted, the energy content of each fuel, and an estimated average 99 percent efficiency of combustion. The sources of statewide fuel use data include MPCA Emission Inventory System, U.S. Department of Energy (USDOE), State Energy Data Report (1992); USDOE, Fuel Oil and Kerosene Sales Report (1992); USDOE, Quarterly Coal Report (1991); USDOE, Natural Gas Annual (1991); and USDOT, Highway Statistics (1990). Carbon dioxide emissions per unit of energy for each fuel are from the U.S. EPA, State Workbook (1992). The heat content of each of the commercial fossil fuels is from U.S. DOE, State Energy Data Report (1992). Data for 1995 is not yet available.

DISCUSSION OF PAST PERFORMANCE :

Since 1980, state wide CO₂ emissions from fossil fuel combustion have risen 18 percent. This growth has been concentrated principally in the transportation and electrical utilities sectors. Growth in emissions from transportation is mainly associated with the expansion of personal transportation. Total statewide vehicle miles traveled by highway vehicles have increased by about 50 percent over this period. Emissions growth in the electricity generation sector has resulted from about a 40 percent increase in electricity demand spread fairly evenly across all sectors of the Minnesota economy.

PLAN TO ACHIEVE TARGETS :

The United States is a signatory to the Framework Convention on Climate Change that commits the country to the stabilization of greenhouse gas emissions at 1990 levels. There is, as yet, no state or national plan to achieve this target. There is no specific state goal or target for this activity. The calendar year 2000 target listed is an extension of the national goal to Minnesota. There are international negotiations underway that will clarify the United States program on climate change next year. Once that occurs, states will need to set targets and develop strategies.

Goal 3 : To protect Minnesotans and the environment from exposure to air pollutants from mobile and nonindustrial (area) sources.

Objective 1 : To abate health and environmental impacts from motor vehicles

Measure 1 : Vehicle Inspection Program Statistics

	<u>F.Y.1995</u>	<u>F.Y.1996</u>	<u>F.Y.1997</u>	<u>F.Y.1998</u>	<u>F.Y.1999</u>	<u>F.Y.2000</u>
Number of Vehicles Tested						
Actual	1,465,425	974,225				
Number of Vehicles Failed						
Actual	69,015	63,565				
Tons of CO Prevented						
Actual	80,150	52,790				
Tons of HC Prevented						
Actual	5,645	3,055				

DEFINITION :

The emissions inspection of motor vehicles is a federally required program to help reduce emissions in metropolitan areas that have demonstrated difficulty meeting standards for air quality.

RATIONALE :

The best measure of the effectiveness of this activity is by looking at the number of vehicles that fail the test and the tons of pollutants that were prevented from being emitted as a result of the program. The test data is then used, along with information on the metro area vehicle fleet such as vehicle miles travelled and average speeds to calculate the tons of air pollutants that were prevented from being emitted. This calculation is performed according to EPA's specifications.

DATA SOURCE :

This data is collected from the vehicle test stations and reported by the program for reporting to EPA and the legislature.

DISCUSSION OF PAST PERFORMANCE :

The decrease in the number of cars tested is due to the exemption of the five newest model years from testing by the Minnesota legislature, beginning on July 1, 1995. The concurrent decrease in the number of cars failing the test in 1996 compared to 1995 reflects the change in the population of cars tested. The change in the tons of pollutant emissions is the result of changes made in the program and a function of the EPA model.

PLAN TO ACHIEVE TARGETS :

The goal of this activity is to provide a vehicle emission inspection program that will satisfy the requirements of the Clean Air Act and EPA, and to get the Twin Cities area redesignated as meeting air quality standards. We recently submitted the public hearing requirements for both the I/M SIP and the 1993 Periodic Carbon Monoxide Emission Inventory to EPA for review and approval. We are waiting for EPA to publish approval of the I/M SIP in the federal register. The agency is in the process of developing the information needed to prepare a redesignation request.

OTHER FACTORS AFFECTING PERFORMANCE :

There are many other factors that affect the amount of pollution emitted from motor vehicles. These include the number of vehicles on the road, the number of miles a vehicle is driven, the number of trips in a day, the length of the trips, traffic congestion, and others. This program does not affect those factors.

Goal 4 : To limit pollution from industrial point sources in an efficient and effective manner.
Objective 1 : To regulate the industrial sources that emit 95% of total industrial source emissions by 1998.

Measure 1 : Percent of industrial emissions and facilities covered by air emission permits

	<u>F.Y.1994</u>	<u>F.Y.1995</u>	<u>F.Y.1996</u>	<u>F.Y.1997</u>	<u>F.Y.1998</u>	<u>F.Y.1999</u>
Percent of pollution addressed through an air permit						
Actual	0	5%	60%			
Target				70-80%	95%	95%
Percent of facilities permitted through the air program						
Actual	0	50%	80%			
Target				85%	90%	95%

DEFINITION :

This measure tracks the percentage of the total air pollution emitted by industrial sources that are regulated by an air-emission permit.

RATIONALE :

One of the mandates of the Clean Air Act Amendments of 1990 was the requirement for all major sources of air pollution to obtain an air-emissions operating permit. Accordingly, the MPCA has made a commitment to EPA to issue operating permits to all facilities that are potentially major emission sources. Those permits, known as Part 70 permits, are intended to catalogue all applicable air-quality regulations in one facility-specific document to improve compliance. Though difficult to quantify, the premise is that there are emission reductions realized by increasing compliance with air-quality regulations.

For example: All Part 70 permits for sources with potential emissions greater than 100 tons of particulate matter, sulfur dioxide or nitrogen oxides will contain a requirement for the facility owners to demonstrate computer-modeled compliance with ambient standards. Often, this type of analysis results in lower emission limits than would be required under existing performance standards. The prohibition on violation of ambient air-quality standards has always been in effect, but compliance demonstration has not been explicitly required.

Under the agreement submitted to EPA, the MPCA plans to issue permits to the largest of the affected sources by November 15, 1997, and to all affected sources by November 15, 1999. EPA has two concerns: the amount of pollution emitted from unpermitted facilities and the number of facilities to be permitted. EPA would like to prioritize permit issuance to the largest facilities, those responsible for 80% of the emissions in the state. The number of facilities that emit most of the pollution in the state is relatively low. Approximately 10% of the air-pollutant-emitting facilities are responsible for over 80% of the air-pollutant emissions.

DATA SOURCE :

This data comes from the MPCA permitting program and the Emission Inventory System.

DISCUSSION OF PAST PERFORMANCE :

In the past, Part 70 permits were not required. Minnesota had a more simplified operating permit program that covered approximately 1,200 facilities. When complete with this latest initiative, approximately 2,500 facilities in Minnesota will hold air operating permits. The primary reason for the dramatic increase in the number of affected facilities is that the Clean Air Act Amendments of 1990 expanded the list of regulated air pollutants from a handful to almost 200.

PLAN TO ACHIEVE TARGETS :

To achieve the target, the Air Quality Division has developed a two-pronged approach. First, the division has scheduled issuance of the Part 70 permits for the very largest facilities. Staff are currently in the process of drafting permits for power plants, taconite plants, oil refineries, and pulp and paper mills. Those facilities are responsible for 70 to 80% of the criteria pollutants emitted in the state. The permits are all scheduled to be issued by June 1997.

Secondly, the division has developed several types of simplified permits for those smaller sources that are still above permitting thresholds. Those permits either exempt the facilities from the requirement to obtain a full-fledged Part 70 permit by legally restricting emissions to less than federal permitting thresholds, or provide a way to meet the Part 70 requirements in a more simplified format. The registration and general permits require very few staff resources to issue, and as a result the division has issued 80% of the permits required to be issued by November 15, 1999.

OTHER FACTORS AFFECTING PERFORMANCE :

The permits for the largest facilities will be the most controversial. For all of those permits a public notice period is required. Many may require public information meetings before issuance. MPCA staff are obligated to address every concern brought up at public meetings or submitted in writing during the public comment period. This can be an extremely resource-intensive process and makes scheduling very difficult.

Goal 4 : To limit pollution from industrial point sources in an efficient and effective manner.
Objective 2 : To issue 90% of air facility permits within six months of receiving a complete application by 1999.

Measure 1 : Percent of facility permits issued within six months of a completed application received by the MPCA.

	<u>F.Y.1994</u>	<u>F.Y.1995</u>	<u>F.Y.1996</u>	<u>F.Y.1997</u>	<u>F.Y.1998</u>	<u>F.Y.1999</u>
Permits issued in less than six months						
Actual	32%	45%	52%			
Target				75%	90%	90%

DEFINITION :

This measure tracks the percentage of all air-quality permits that are issued within six months of the MPCA staff receiving a complete permit application.

RATIONALE :

Air-quality regulations prohibit construction of major facilities or modifications until an air-quality permit is issued by the MPCA. As such, delays in permit issuance can add serious complications and cost to industrial construction projects. Problems created by permitting delays can provide an incentive for Minnesota's businesses to locate in other states. In response to concerns that have been expressed by industry, the MPCA's goal is to issue all permits that authorize construction within six months.

DATA SOURCE :

This data comes from the MPCA air-quality permit program.

DISCUSSION OF PAST PERFORMANCE :

Previously, permit issuance timelines specifically for construction were tracked. The numbers above have been estimated from data regarding all permit applications received, whether or not the applications were for construction. As can be seen from the estimates, most permit applications were not issued in less than six months.

PLAN TO ACHIEVE TARGETS :

The Air Quality Division has developed five strategies to reduce permitting time. They are: development of streamlined, simplified process called registration and general permits; development of a permit application training course for industry; a computer generated (DELTA) permit; reallocation of staffing resources; and streamlining of Minnesota Rules.

The registration and general permits were designed for small facilities that may have potential emissions that are over legally mandated permitting thresholds, but that in actuality have very low actual emissions. (Potential emissions are calculated as if the facility were operated at full capacity, 24 hours per day, year round.) The registration and general permits, like the more onerous Part 70 permits, still require compliance with all applicable regulations, but do so in a more simplified format. Minnesota business owners have welcomed this permitting approach. To date 1,650 business have applied for and 1,600 have received these permits. One of the unforeseen benefits to this program is the reduction in pollution that facilities have been willing to accomplish in order to qualify for these permits.

The permit application training course was designed to increase the quality of the permit applications received. The Clean Air Act requires all permit applications to include the information necessary to quantify facility emissions and to identify all applicable regulations. The more complete the permit applications is, the easier the permitting process. Once permitting practices are well established, the division hopes to receive permit applications that, once entered into the computer system, will become the permit itself. This will reduce staff time to just reviewing the submittal. The computer-generated permit will, ideally, be produced solely from the permit application.

To maximize productivity of the engineers' drafting permits, nearly half of the permitting staff have been assigned to develop modification/construction permits alone. In the past, individual staff time was split between total facility permit issuance and construction permit issuance.

Lastly, the division has established a committee to provide ongoing evaluation of existing Minnesota Regulations, in an effort to identify areas of the regulations that could be simplified, and yet remain effective.

OTHER FACTORS AFFECTING PERFORMANCE :

As with reissuance permits for very large, existing facilities, permits for new construction may also be controversial. Again, permits for major construction require that MPCA to seek public comments. Many may require public information meetings before permit issuance.

Goal 5 : To conduct a comprehensive, effective and timely program for compliance determination and enforcement.

Objective 1 : To conduct compliance reviews for all data submitted by permittees.

Measure 1 : Percent of compliance reviews completed

	<u>F.Y.1993</u>	<u>F.Y.1994</u>	<u>F.Y.1995</u>	<u>F.Y.1996</u>	<u>F.Y.1997</u>	<u>F.Y.1998</u>
Continuous Emissions Monitoring Quarterly Report						
Actual	100%	100%	100%	100%	100%	
Target	100%	100%	100%	100%	100%	100%
Permit-Required						
Actual	100%	100%	100%	100%	100%	
Target	100%	100%	100%	100%	100%	100%
Stack Test Reviews						
Actual	80%	67%	100%	100%		
Target					100%	100%

DEFINITION :

The number of compliance determinations, when compared with the number of potential determinations which could be made, indicate the relative comprehensiveness of the regulatory program. The goal of each program is to review at least as many submittals as it receives within a given year with minimum carryover from year to year. In general, carryover occurs only in the stack-test program.

RATIONALE :

The ability to determine the compliance status of regulated sources of pollution is the foundation of any environmental regulatory program. Applicable rules, regulations and source-specific permits require sources to submit various types of self-monitoring data. The air program's review of this data provides a determination of the compliance status of the sources as it relates to applicable rules, regulations and permit conditions.

Compliance determination provides both the permitted sources and the agency with direct measures of compliance related to emissions limitations. Emissions limitations are developed with the intention of limiting pollution. The resulting measures of compliance status, in conjunction with a viable and responsive enforcement program, should encourage compliance and lead to improved air quality.

DATA SOURCE :

The number of compliance determinations is tracked annually in program (stack testing, CEMS, etc.) databases.

Goal 5 : To conduct a comprehensive, effective and timely program for compliance determination and enforcement.

Objective 2 : To reduce total average response time for Notices of Violation (NOVs) to nine weeks and for Administrative Penalty Orders (APOs) to 14 weeks by FY 1999.

Measure 1 : Average Response Time for Issuance of NOVs and APOs

	<u>F.Y.1995</u>	<u>F.Y.1996</u>	<u>F.Y.1997</u>	<u>F.Y.1998</u>	<u>F.Y.1999</u>	<u>F.Y.2000</u>
Average Response Time for NOVs						
Actual	15 Weeks	18 Weeks				
Target			9 Weeks	9 Weeks	9 Weeks	9 weeks
Average Response Time for APOs						
Actual	22 Weeks	27 Weeks				
Target			14 Weeks	14 Weeks	14 Weeks	14 Weeks

DEFINITION :

One measure of the effectiveness of any regulatory program is the time the program takes to respond to identified noncompliance. Ultimately, the timeliness of enforcement actions will affect the integrity of the program, the responsiveness of the regulated sources, and the amount of time before pollution is controlled.

As described previously, the timeliness of agency responses to ongoing emissions noncompliance directly affects the agency's ability to limit pollution. This measure is indicative of the agency's ability to limit pollution through timely enforcement action which requires the abatement or mitigation of ongoing excess pollution.

RATIONALE :

Both NOVs and APOs contain requirements (corrective actions) that the noncompliant facility or regulated party need to complete in order to come into compliance or to help assure continued compliance if the corrective actions have already been completed. Corrective actions can range from simple submittals to complex studies or installation of equipment. Due to this variability, it is impossible to set a goal for the time required for a facility to come into compliance. Because of the case specific requirements, "due dates" are inserted into the respective enforcement documents. If the facility fails to meet the due dates, penalties may be assessed or escalated enforcement may result. It is extremely rare that facilities fail to comply with the due dates in APOs and NOVs. It is actually quite common for facilities to complete steps to come into compliance after notification of the noncompliance and prior to actual issuance of an enforcement document. The agency commonly communicates noncompliance status to the facility immediately upon discovery in order to expedite corrective action. Alternatively, the facility is immediately aware via self reporting of the noncompliance. Under certain circumstances, additional time is necessary in order to gather appropriate information prior to issuance of an NOV or APO. This may skew the overall average response time for the NOVs and APOs.

DATA SOURCE :

This data is currently extracted manually from the case development database.

DISCUSSION OF PAST PERFORMANCE :

This data only began to be tracked at the start of the calendar year 1994. The agency believes, however, that the institution of enforcement consistency measures such as the "Forum" process has, in some cases, actually increased the average response time for some enforcement actions. The forum process precedes any enforcement action and involves a presentation of the alleged violations to a team of supervisors and experienced enforcement staff. Decision is by consensus. This increase in response time, however, is offset with increased consistency realized both within and across agency regulatory programs. New goals have recently been set in order to more accurately reflect the enforcement forum process and APO procedures at the agency. Process improvements have been made to preserve consistency yet expedite NOV's and APO's. The authority to issue NOV's and APO's has been modified in order to expedite the process.

PLAN TO ACHIEVE TARGETS :

Performance under this measure will be evaluated annually to identify which activities need further improvement.

Goal 5 : To conduct a comprehensive, effective and timely program for compliance determination and enforcement.

Objective 3 : To achieve a 95% compliance rate for regulated facilities by 1998.

Measure 1 : Percent Compliance For Stack Testing and Continuous Emissions Monitoring Systems (CEMs)

	<u>F.Y.1993</u>	<u>F.Y.1994</u>	<u>F.Y.1995</u>	<u>F.Y.1996</u>	<u>F.Y.1997</u>	<u>F.Y.1998</u>
Percent of Facilities in Compliance						
Actual	87%	86%	90%	90%		
Target					95%	95%
Percent of Facilities in Compliance as Determined by CEMs						
Actual	88%	88%	93%	95%		
Target					95%	95%

DEFINITION :

This measure tracks those facilities conducting stack tests or reporting Continuous Emission monitoring (CEM) data in any given quarter for any criteria pollutant, and provides the percentage of these facilities which demonstrate compliance with applicable emission limitations as measured by a stack test or CEM.

RATIONALE :

Tracking compliance rates are measured by stack tests and CEMs is important because these methods quantify pollutant releases to the atmosphere, which can be compared directly to emission standards contained in air quality permits. The largest air emission sources in the state are required to perform one or both of these test methods. Each year approximately 400 stack tests are conducted by Minnesota companies for the purpose of demonstrating compliance with emission limits. In addition, about 70 Minnesota companies are using CEMs to demonstrate compliance.

This measure provides one identification of the effectiveness of the regulatory/enforcement program as it relates to compliance with emission limitations. In addition, this measure assists the agency in identifying specific source categories which may require additional educational and assistance or regulatory compliance resources.

Measurement of this objective provides the agency with one indication of our ability to limit pollution as it relates to emissions noncompliance. As this data will be used to target those source categories requiring more regulatory compliance attention based on noncompliance, one agency strategy will be to develop partnerships with trade associations representing these source categories with the ultimate goal of encouraging compliance through education and assistance.

DATA SOURCE :

This measure is tracked quarterly in program databases.

DISCUSSION OF PAST PERFORMANCE :

This measure has only been tracked since the start of FY 1993.

PLAN TO ACHIEVE TARGETS :

The agency intends to begin analyzing percent-of-compliance data in order to more effectively target those categories of sources with higher noncompliance. This strategy will allow the agency to allocate education and assistance and regulatory compliance resources to those categories requiring more compliance-oriented efforts. This strategy should result in improved compliance with emission limitations and more efficient use of the agency's regulatory resources.

Goal 6 : To help industry and small businesses reduce emissions and comply with air-quality regulations by providing user-friendly compliance assistance services.

Objective 1 : To achieve 100% customer satisfaction with the Small Business Compliance Assistance Program's services by the year 2000.

Measure 1 : Customer Satisfaction Ratings on Compliance Assistance Services

	<u>F.Y.1995</u>	<u>F.Y.1996</u>	<u>F.Y.1997</u>	<u>F.Y.1998</u>	<u>F.Y.1999</u>	<u>F.Y.2000</u>
Percent of Customers Satisfied With Assistance Service						
Actual		97%				
Target				99%		100%

DEFINITION :

This measure tracks the percentage of customers who are satisfied with the level and quality of service they receive from the Air Quality Small Business Assistance program's services. Roughly 267 customers were surveyed out of 1,000 total customers. The sampling was random and assumed to be representative. Next year periodic surveying will be conducted throughout the year.

RATIONALE :

The Small Business Assistance Program has been helping small businesses comply with air quality regulations since 1993. Over the last three years, the program's customers have been affected by new federal and state air quality regulations aimed at reducing emissions. Many of the program's customers have had to apply for air quality permits, often for the first time. The program provides compliance assistance in three ways: workshops; on-site visits; and a toll-free telephone technical hot line.

The program is different from other compliance programs in that it only provides assistance and does not conduct any compliance assurance activities. Because of this critical difference in mission, the program does not track compliance rates of its customers. Many of the programs interactions with its customers are anonymous. So instead of measuring compliance rates, the program measures the success of its efforts by determining how satisfied its customers were with the assistance they receive and whether or not the assistance helped them reduce their emissions. In 1995, the program began conducting a survey of customers to measure their satisfaction and to begin determining if the assistance program has been successful in reducing emissions of air pollutants.

DATA SOURCE :

Survey of assistance customers conducted by the Small Business Assistance Program.

DISCUSSION OF PAST PERFORMANCE :

This is a new measure. The first set of data is from FY 1996.

PLAN TO ACHIEVE TARGETS :

The Air Quality Program's strategy for encouraging small business to comply with new and upcoming regulations consists of providing education, outreach, pollution prevention assistance and technical compliance assistance. About 30% of these activities are in the area of pollution prevention assistance, which is accomplished primarily through a contract with the Minnesota Technical Assistance Program at the University of Minnesota.

Goal 6 : To help industry and small businesses reduce emissions and comply with air-quality regulations by providing user-friendly compliance assistance services.

Objective 2 : To increase by 5% each year the number of Small Business Compliance Assistance Program customers that reduce releases to the environment as a result of receiving assistance from the program

Measure 1 : Percent Increase in the Number of Customers Reducing Emissions as a Result of Compliance Assistance

	<u>F.Y.1995</u>	<u>F.Y.1996</u>	<u>F.Y.1997</u>	<u>F.Y.1998</u>	<u>F.Y.1999</u>	<u>F.Y.2000</u>
% of Customers Able to Reduce Emissions as a Result of Asst.						
Actual	NA	38%				
Target				48%		58%

DEFINITION :

This measure tracks the percentage of customers who are able to reduce emissions as a result of the compliance assistance provided them.

RATIONALE :

The Small Business Assistance Program has been helping small businesses comply with air quality regulations since 1993. Over the last three years, the program's customers have been affected by new federal and state air quality regulations aimed at reducing emissions. Many of the program's customers have had to apply for air quality permits, often for the first time. The program provides compliance assistance in three ways: workshops; on-site visits; and a toll-free telephone technical hot line.

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Agency : POLLUTION CONTROL AGENCY**Program : PROTECTION OF THE WATER****EXPENDITURES AND STAFFING :**

	<u>(\$ in Thousands)</u>	<u>Percent of Department</u>
Total Expenditure	\$15,753	20.72%
From Federal Funds	\$6,186	
From Special Revenue Funds	\$4,375	
General	\$5,192	
Number of FTE Staff:	213	26.92%

GOALS :

- To assess water quality to provide information and data upon which to make social, financial, technical and environmental management decisions. (M.S. 115.03)
- To prevent and control adverse effects of point and nonpoint source pollution to watersheds. (M.S. 115.03)
- To prevent and control adverse effects of nonpoint source pollution on surface waters. (M.S. 115.03)
- To prevent and control adverse effects of point source pollution to surface waters. (M.S. 115.03)

DESCRIPTION OF SERVICES :

The Water Protection Program's mission is to protect and improve the state's water quality to assure that the quality of Minnesota's lakes and streams meets or exceeds that needed to fulfill the uses desired by the citizens of Minnesota.

ENVIRONMENTAL ASSESSMENT

This service includes the assessment and evaluation of the water quality of Minnesota lakes, rivers, wetlands and streams; identification of pollution problems; and analyses of water-quality trends and the establishment of water-quality standards and designated uses for lakes and waterways through partnerships with local, state, and federal agencies, citizens and regulated parties. This service:

- *establishes ambient water quality standards and designated uses for lakes and waterways;
- *sets wastewater discharge effluent limitations;
- *conducts special studies of toxic pollutant problems;

- *conducts ambient water-quality monitoring to establish the water-quality condition;
- *provides data on more than 2,000 lakes and 4,000 miles of waterways; and
- *measures environmental outcomes resulting from pollution-control activities.

WATERSHED ASSISTANCE AND OPERATIONS

The watershed assistance and operations service focuses on the development of a statewide approach to water quality protection and restoration. The program uses partnerships with citizens, industry, local and other government agencies to direct resources. It also provides financial and technical assistance to local governments for watershed protection and improvements. This service:

- *establishes goals for maintaining and enhancing water quality for basins and develops basin management plans;
- *develops and implements the nonpoint-source management plan for the state of Minnesota in conjunction with other state, federal, and local agencies;
- *provides financial assistance to local units of government which in turn may provide assistance to private organizations and citizens;
- *provides technical assistance to local, state, and federal governmental units, private organizations and individual citizens; and
- *supports and manages water-quality projects.

NONPOINT SOURCE POLLUTION

This service protects and enhances the quality of Minnesota lakes, streams and ground water by reducing and controlling pollution from urban and rural sources. This service:

- *issues permits and certificates of compliance for feedlots;
- *provides technical assistance to counties seeking delegation of the state feedlot permit program;
- *issues permits to control storm water pollution from industrial and construction activities;
- *trains and certifies professionals to ensure that septic systems are properly designed and installed;
- *provides technical assistance for municipalities to secure financial assistance to construct and upgrade individual septic systems; and
- *builds strong alliances with counties and other local units of government to establish statewide technical standards for individual septic treatment systems.

POINT SOURCE POLLUTION

This service seeks compliance with wastewater discharge permits among industrial and municipal facilities. The agency hopes to improve service levels while maintaining or improving the level of environmental protection. This activity:

- *provides technical assistance to help facilities comply with the terms and conditions of their permits;
- *provides technical assistance and environmental review necessary for municipalities to secure financial assistance to construct, upgrade and maintain wastewater facilities;
- *issues permits that limit the discharge of new and existing facilities;
- *tracks compliance of facilities through onsite inspections, self-monitoring reports and correspondence and reports violations;
- *initiates and completes enforcement activities to return facilities back to compliance; and

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*trains and certifies that operators of WWTFs ensure the receiving waters are adequately protected.

BACKGROUND INFORMATION :

**MEASURE TYPES: ACTIVITIES (A), EFFICIENCY (E), OUTPUT (O), OUTCOMES (OC),
OTHER DATA (OD), UNIT COSTS (UC), WORKLOAD (W)**

**DATA BASED ON: CALENDAR YEAR (CY), FISCAL YEAR (FY), FEDERAL FISCAL YEAR
(FFY), BIENNIUM YEARS (BY)**

<u>Type</u>	<u>Based</u>	<u>Measure</u>	<u>1994-95</u>	<u>1995-96</u>
OD	CY	Total Kilograms of Toxic Chemicals Released Annually to Water	428335	N/A
OD	CY	Total Kilograms of all Pollutants Discharged Annually to Water	25428335	N/A
OD	CY	Total Number of Counties in Minnesota	87	87
OD	CY	Total River Miles	91944	91944
OD	CY	Number of Major River Basins	10	10
OD	CY	Total Lake Acres	3290101	3290101
OD	CY	Total Number of Lakes	11842	11842
OD	CY	Wetland Acres	7500000	7500000
OD	CY	Total River Miles Classified for Domestic Consumption	3900	3900
OD	CY	Total Lake Acres Classified for Domestic Consumption	636600	636600
OD	CY	Total Lake Superior Shore Line Miles	272	272
A	CY	Total Number of NPDES and SDS Permits	24207	25198
A	CY	Number of Major Municipal NPDES Permits	53	52
A	CY	Number of Major Industrial NPDES Permits	26	26
A	CY	Number of Minor Municipal NPDES Permits	489	488
A	CY	Number of Minor Industrial NPDES Permits	324	317
A	CY	Number of Minor Municipal SDS Permits	118	123
A	CY	Number of Minor Industrial SDS Permits	87	89
A	CY	Number of Municipal and Industrial Facilities Covered under General Permits	270	258
A	CY	Number of Sanitary Sewer Extension Permits Issued Annually	729	730
A	CY	Number of New Municipal and Industrial Permit Applications Pending (estimated)	74e	45e
A	CY	Total Number of Municipal and Industrial NPDES and SDS permits	2170	2128
A	CY	Number of Feedlot Permits and Certificates of Compliance Issued to Date	19427	20147

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A	CY	Total Number of Feedlots Requiring a Permit or Certificate of Compliance	55000e	55000e
A	CY	Number of Industrial General Storm Water Permits	2177	2211
A	CY	Number of Annual Construction Storm Water Permits	433	712
A	CY	Total Number of Storm Water Permits	2610	2923
A	CY	Number of Active Clean Lakes and Clean Water Partnership Projects	44	42
A	BY	Number of Active plus Completed Clean Lakes and Clean Water Partnership Projects	95	110

PROGRAM DRIVERS :

The Water Protection Program is employing a basin management strategy for protecting and enhancing our state waters. Basin management is an approach to water quality protection and restoration that focuses on the water resources themselves, rather than strictly on programs. This management approach assesses the quality of water within a geographical area, establishes shared goals for water quality within the area, determines the causes for nonattainment of water quality goals, prioritizes areas for corrective or preventative activities with partners, implements management practices and evaluate progress toward achieving shared water-quality goals. A basin management approach will help us focus and coordinate our efforts based on clearly defined water-quality priorities within the each of Minnesota's 10 major drainage basins.

Water-quality monitoring is the foundation of the water protection program. Water- quality assessments provide information and data which the program uses to make social, financial, technical and environmental management decisions. Current monitoring resources do a poor job of assessing water quality. As a result, the program's ability to make sound management decisions regarding the use of the state's resources is limited. A major program driver is the development of environmental measures and the proper monitoring of our water-quality resources to determine how those measures are met.

The Water-Quality Division is currently at the end of the development phase of a four year agencywide database systems project to integrate all of the agency permitting and compliance programs into one database. The water-quality portion of the DELTA project will be implemented in 1997 with a multi-year phase-in of the new system. It will take some time to get all of the existing permits into the new system, so there will be a period of transition where relevant data may be stored in multiple systems.

One of the primary goals for the new database is to streamline the water-quality permitting and compliance determination process. Also, DELTA will provide all staff with access to information about any facility in whom water-quality is interested. DELTA has also been designed so that each agency program will be able to see which other agency programs have activities at any given site or facility. This is what we mean by designing an integrated system. This ability will allow each staff person to get a comprehensive picture of all MPCA activities at all facilities of interest.

The integrated database will enable the agency to be more responsive to requests for information from our customers. The information will be more timely and more complete.

Goal 1 : To assess water quality to provide information and data upon which to make social, financial, technical and environmental management decisions.

Objective 1 : To develop and implement measures by which water quality may be assessed in all river basins by 2002.

Measure 1 : Number of river basins for which biocriteria has been developed.

	<u>C.Y.1994</u>	<u>C.Y.1995</u>	<u>C.Y.1996</u>	<u>C.Y.1997</u>	<u>C.Y.1998</u>	<u>C.Y.1999</u>
River basins						
Actual	1	1	2			
Target	1	1	2	3	4	5

DEFINITION :

Biocriteria provide a basis for measuring the diversity and health of aquatic communities. As such, they serve as biologic benchmarks or expectations, analogous to traditional water quality standards which establish benchmarks or expectations for water chemistry. Biocriteria are ecoregion-specific, reflecting local climate, soils, topography, etc., and can be developed for various organisms, typically fish and macroinvertebrates. By characterizing streams that have little or no human impact, comparisons can then be made of other streams, showing the degree of degradation, if any.

RATIONALE :

Biocriteria are increasingly being seen as essential environmental yardsticks, providing a direct measure of the health of water resources and serving as an important complement to traditional water chemistry measures.

DATA SOURCE :

MPCA biocriteria documents.

DISCUSSION OF PAST PERFORMANCE :

The use of biocriteria and biological monitoring is relatively new, and the appropriate tools are still being developed. The MPCA has started by establishing biocriteria for fish in two of the state's 10 basins.

PLAN TO ACHIEVE TARGETS :

The MPCA has made a significant commitment to biological water-quality monitoring. Biocriteria are currently being developed for fish and macroinvertebrates in the St. Croix River basin, and successive years will see the work continue in other parts of the state. Funding sought during the 1997 legislative session will make it possible to complete the process by 2002.

OTHER FACTORS AFFECTING PERFORMANCE :

A lack of funding would delay completion. Weather, particularly rainfall that leads to high water levels, can delay monitoring.

Goal 1 : To assess water quality to provide information and data upon which to make social, financial, technical and environmental management decisions.

Objective 2 : To have completed at least one year of stream monitoring which allows reliable statements about stream water-quality, for each of the state's 10 basins by 2004.

Measure 1 : Number of basins for which at least one year of integrated stream monitoring at statistically selected sites has been completed.

	<u>C.Y.1994</u>	<u>C.Y.1995</u>	<u>C.Y.1996</u>	<u>C.Y.1997</u>	<u>C.Y.1998</u>	<u>C.Y.1999</u>
Number of basins						
Actual	0	0	1	2		
Target					3	4

DEFINITION :

Integrated, statistically based monitoring uses the combined tools of biology, chemistry, habitat, and flow at statistically selected sites to provide a comprehensive and reliable picture of water quality in a given area.

RATIONALE :

Water-quality monitoring has traditionally consisted of water chemistry measurement at a fixed number of sites chosen for a variety of specific reasons. As a consequence, the resulting data has both been limited in scope and not representative of the regions. Integrated, statistically based monitoring uses a broader range of tools to give a more complete picture of the water resource, and takes into account both point and nonpoint sources of pollution. Through the use of randomly chosen sites in a given area, this method gives a reliable picture of overall water quality in a basin or throughout the state as a whole.

DATA SOURCE :

MPCA basin information documents.

DISCUSSION OF PAST PERFORMANCE :

The MPCA has begun integrated monitoring lately with projects in the Minnesota River and Red River basins. With an appropriation from the 1995 Legislature, the agency began its first statistically based monitoring project in 1996, using biology, chemistry, habitat, and flow in the St. Croix River basin.

PLAN TO ACHIEVE TARGETS :

Existing funding will allow work to continue at a rate of approximately one basin every other year. Additional funding sought this year would allow the agency to complete the process by 2004.

OTHER FACTORS AFFECTING PERFORMANCE :

A lack of funding would delay completion. Weather, particularly rainfall that leads to high water levels, can delay monitoring.

Goal 1 : To assess water quality to provide information and data upon which to make social, financial, technical and environmental management decisions.

Objective 3 : To increase the number of lakes monitored by Citizen Lake Monitoring Program (CLMP) volunteers to 780 by 2002.

Measure 1 : Number of lakes monitored by CLMP volunteers.

	<u>C.Y.1994</u>	<u>C.Y.1995</u>	<u>C.Y.1996</u>	<u>C.Y.1997</u>	<u>C.Y.1998</u>	<u>C.Y.1999</u>
Number of lakes monitored by volunteers						
Actual	554	645	680			
Target			660	695	710	735

DEFINITION :

Under the Citizen Lake Monitoring Program (CLMP), lakeshore residents and other interested citizens monitor lakes by performing simple measurements of water clarity using Secchi disks.

RATIONALE :

The resulting data forms the broadest set of information currently available on Minnesota lakes and plays an important part in analyzing lake water quality trends in the state. The CLMP provides essential water quality data and, equally important, involves Minnesota citizens directly in the protection of their local water resources. This measure is a modification of the measure under objective 1-5, in the 1994 Performance Report.

DATA SOURCE :

CLMP participation records.

DISCUSSION OF PAST PERFORMANCE :

An awards program, begun in 1994 to recognize long-term volunteers, has introduced the program to a wider audience and increased interest in participation.

PLAN TO ACHIEVE TARGETS :

The CLMP is widely recognized as a simple, cost-effective program for obtaining good, basic water-quality data. This has made it possible to recruit a greater number of volunteers.

Goal 2 : To prevent and control adverse effects of point and nonpoint source pollution to watersheds.

Objective 1 : To reduce the annual daily loading of suspended solids in the Minnesota River to 88 mg/l by 2010.

Measure 1 : The average annual daily concentration of suspended solids in the Minnesota River at Mankato.

	<u>C.Y.1980</u>	<u>C.Y.1990</u>	<u>C.Y.1995</u>	<u>C.Y.2000</u>	<u>C.Y.2005</u>	<u>C.Y.2010</u>
Average annual daily concentration of suspended solids						
Actual	147	110	110			
Target		110	110	100	95	88

DEFINITION :

Suspended solids in water interfere light penetration, add to sediment and may reduce aquatic habitat. Solids also carry nutrients that can cause algal blooms and other toxic pollutants harmful to fish. This measure replaces the one under objective 1-1, from the 1994 Performance report. Because river flow is dependent upon precipitation quantity and timing, one cannot identify a discrete year as being the characteristic or baseline year for the Minnesota River basin. For that reason, the decade from 1971 through 1980 was examined and the average annual condition in the river at the median flowrate of 2590 cfs was chosen to represent the "baseline year." The average annual concentration of suspended solids in the river at a median flowrate of 2590 cfs during the decade of 1971 through 1980 was 147 mg/l.

RATIONALE :

Sediment loads in the Minnesota River impair both recreational and fishing uses of the river. A reduction in the amount of suspended solids in the river, should result in expanded recreational and fishing opportunities.

Sediment load increases with river flow rate. In order to properly compare relative sediment loads, the flow rate of 2,590 cfs (the historic median) was selected. The decade of 1971-1980 will be used as the baseline. The objective will be achieved if the annual daily sediment concentration in the river averages 88 mg/l over the 2001-2010 decade at a flow of 2590 cfs.

DATA SOURCE :

United States Geological Survey data obtained from the monitoring station near Mankato.

DISCUSSION OF PAST PERFORMANCE :

There was a 25 percent reduction in annual daily sediment load in the river between the decades of 1971-1980 and 1986-1995.

PLAN TO ACHIEVE TARGETS :

The target will be achieved by working with local, state and federal organizations to encouraging both urban and rural people in the Minnesota River basin to adopt practices which reduce the amount of sediment carried into the river.

OTHER FACTORS AFFECTING PERFORMANCE :

Land-use practices can be affected by a number of factors other than the education efforts. For example, the amount of highly erodible land which farmers take out of production is affected by such things as soil productivity, crop prices, the availability of state and federal programs which pay farmers to take such land out of production, etc.

Goal 2 : To prevent and control adverse effects of point and nonpoint source pollution to watersheds.

Objective 2 : 70 percent of stream miles in the Minnesota River basin and 80 percent of stream miles in the Red River of the North basin are fishable by the year 2005.

Measure 1 : Percent of stream miles that exceed an Index of Biotic Integrity (IBI) value of 30.

	<u>C.Y.1994</u>	<u>C.Y.1996</u>	<u>C.Y.1998</u>	<u>C.Y.2000</u>	<u>C.Y.2002</u>	<u>C.Y.2004</u>
Minnesota River Stream Miles Exceeding an IBI Value of 30						
Target			50%	55%	61%	68%
Red River of North Stream Miles Exceeding an IBI Value of 30						
Target			50%	55%	60%	65%

DEFINITION :

See glossary.

RATIONALE :

The federal Clean Water Act requires, among other things, that all streams be fishable. Using the IBI to characterize the state of the fish community in streams in the basin will allow the agency to assess the health of those streams in a scientifically valid way. Because it is impossible to control all of the factors that affect stream health (such as toxic spills, significant changes in watershed land use, etc.), the target of 70 percent is a reasonable goal. This measure is a modification of the one under objective 1-4, from the 1994 Performance Report.

DATA SOURCE :

Minnesota Pollution Control Agency and Minnesota Department of Natural Resources joint stream surveys conducted in the basin.

DISCUSSION OF PAST PERFORMANCE :

An IBI for the Minnesota River and Red River of the North basins were recently developed, but a survey of randomly selected sites is not yet complete. This measure is being proposed for future use.

PLAN TO ACHIEVE TARGETS :

It is anticipated that the target will be achieved as a result of the Governor's 10-year initiative to clean up the Minnesota River by working with local, state, and federal partners to control point and nonpoint pollution sources. The creation and implementation of basin plans for the Red River of the North will assist the agency in reaching the target for this area.

OTHER FACTORS AFFECTING PERFORMANCE :

As a result of water pollution control programs, progress has been gradual but significant. For Minnesota lakes having eight or more years of water quality data, approximately 45 percent of assessed lake acres have shown improvement, while 50 percent have remained unchanged and less than five percent have shown degradation.

- Goal 2** : To prevent and control adverse effects of point and nonpoint source pollution to watersheds.
- Objective 3** : To increase the percent of the assessed lake acres in the basins of the Minnesota River, Lake Superior and Red River of the North that are swimmable to 45 percent, 85 percent and 95 percent, respectively.
- Measure 1** : Percent of Minnesota River, Lake Superior and Red River of the North lake acres that are swimmable.

	<u>C.Y.1994</u>	<u>C.Y.1996</u>	<u>C.Y.1998</u>	<u>C.Y.2000</u>	<u>C.Y.2002</u>	<u>C.Y.2004</u>
Minnesota River Basin assessed lake acres that are swimmable						
Actual	28%	33%				
Target			33%	39%	39%	
Red River Basin assessed lake acres that are swimmable						
Actual	88%	88%				
Target			88%	91%	91%	92%
Lake Superior Basin assessed lake acres that are swimmable						
Actual	78%	78%				
Target			78%	81%	81%	83%

DEFINITION :

Suitability for swimming is determined by the concentrations of phosphorus and chlorophyll-a or on water clarity. Appropriate criteria are determined for each ecoregion. This measure represents the condition at specific sites for which the MPCA has data, and cannot be generalized to the entire basin.

RATIONALE :

Ecoregion-specific criteria are set so that the lake is suitable for recreation. Pollution-control measures are based on what is needed to meet those criteria.

DATA SOURCE :

Data is from MPCA lake monitoring efforts and, Citizen Lake Monitoring Program (CLMP) and the 305(b) Report.

DISCUSSION OF PAST PERFORMANCE :

Progress has been gradual but significant. For Minnesota lakes having eight or more years of water quality data, approximately 45 percent of assessed lake acres have shown improvement, while 50 percent have remained unchanged and less than five percent have shown degradation.

PLAN TO ACHIEVE TARGETS :

Plans for all 10 basins in Minnesota will be developed that identify and prioritize problems and address these problems in priority order.

OTHER FACTORS AFFECTING PERFORMANCE :

Nonregulatory approaches are likely to be more effective in the long term, but their short-term effectiveness is largely unknown. Other societal factors, such as development and resource use, could also affect performance. In addition, year-to-year climatic variations can produce short-term water-quality variations.

Goal 2 : To prevent and control adverse effects of point and nonpoint source pollution to watersheds.

Objective 4 : 80 percent of assessed river miles in the Lake Superior and Red River of the North basins are fishable by 2005.

Measure 1 : Percent of assessed river miles that meet water quality standards for aquatic life.

	<u>C.Y.1994</u>	<u>C.Y.1996</u>	<u>C.Y.1998</u>	<u>C.Y.2000</u>	<u>C.Y.2002</u>	<u>C.Y.2004</u>
Lake Superior Assessed River Miles						
Actual		71%				
Target			71%	75%	75%	78%
Red River of North Assessed River Miles						
Actual		71%				
Target			71%	75%	75%	78%

DEFINITION :

Support of fish and other aquatic life is determined by comparing monitored water chemistry data against water quality standards. This measure represents the condition at specific sites for which the MPCA has long-term data, and cannot be generalized to the entire basins.

RATIONALE :

One of the 4 main goals for the MPCA is fishable, swimmable waters. Water quality standards are set so that water is of adequate quality for these uses. Pollution control measures are based on what is needed to maintain these standards and expectations.

DATA SOURCE :

Measurements are based on data from the routine ambient monitoring program, with samples taken once a month for ten months of the year at a fixed set of "milestone" sites. This data, with other related data, is compiled and reported in the 1996 Basin Information Documents and 305(b) Report.

DISCUSSION OF PAST PERFORMANCE :

As a result of water pollution control programs, progress has been gradual but significant. Over the past ten years, for milestone sites across the state, approximately 30 percent of assessed river miles have shown improvement, while 65 percent have remained unchanged and five percent have shown degradation.

PLAN TO ACHIEVE TARGETS :

Within the next 5 years, all 10 of the basins in Minnesota will be assessed. Basin plans will be developed which identify and prioritize problems in each basin. The basin plans will also contain implementation plans for addressing the problems in priority order as resources allow.

OTHER FACTORS AFFECTING PERFORMANCE :

Implementation tools include both regulatory and nonregulatory approaches. While it is likely that nonregulatory approaches are most appropriate for certain types of problems and likely to be more effective in the long term, their short-term effectiveness is largely unknown. Other societal factors, such as development and resource use, could also affect performance. In addition, year-to-year climatic variations can produce short-term water quality variations.

Goal 3 : To prevent and control adverse effects of nonpoint source pollution on surface waters.

Objective 1 : Process all feedlot permits and certificates of compliance applications in six weeks or less by 1999.

Measure 1 : Number of permits processed versus number of permits processed in six weeks or less.

	<u>C.Y.1995</u>	<u>C.Y.1996</u>	<u>C.Y.1997</u>	<u>C.Y.1998</u>	<u>C.Y.1999</u>	<u>C.Y.2000</u>
Permit Process Timeline						
Actual	4.2	4.0e				
Target		4	3	2	1	

DEFINITION :

State law, Minn. Stat. ch. 115.03 requires the MPCA to issue permits or certificates of compliance and take enforcement action to require that nonpoint sources of pollution discharge wastes at a level at or below applicable pollution standards.

RATIONALE :

The sooner the operators knows what is expected, the sooner proper pollution control measures can be implemented. The feedlot permit application review procedure can assist a feedlot operator in the planning process, from both a water quality and farm management perspective.

DATA SOURCE :

Data was collected by staff engineers based on a sampling of permit applications processed. An application is logged when received by the feedlot unit and the date is entered when the permit or certificate of compliance is signed.

DISCUSSION OF PAST PERFORMANCE :

Historically, the agency permits took 12 weeks or more to review routine permits and many customers were displeased with this processing time.

PLAN TO ACHIEVE TARGETS :

The processing time has improved continuously due to an increase of staff in 1995 and a concerted effort on the part of staff to explain the permitting process to engineers and farmers.

OTHER FACTORS AFFECTING PERFORMANCE :

Incomplete applications must be returned to the customer for further information which causes an increase in review time.

Goal 3 : To prevent and control adverse effects of nonpoint source pollution on surface waters.

Objective 2 : Maintain the amount of eroded sediment prevented annually.

Measure 1 : Estimated amount of sediment prevented from entering surface waters annually.

	<u>C.Y.1994</u>	<u>C.Y.1995</u>	<u>C.Y.1996</u>	<u>C.Y.1997</u>	<u>C.Y.1998</u>	<u>C.Y.1999</u>
Sediment (in thousand cubic yards)						
Actual	554221e	549416e	461472e			
Target	554221	549416	461472	461472	461472	461472

DEFINITION :

The Clean Water Act requires construction activities that disturb five or more acres to apply for storm water runoff NPDES permit for construction activity. The purpose of this permit is to control erosion and sedimentation. The amount of sediment controlled is dependent on the amount of construction activity in the state. The measure is based on the amount of construction activity annually as determined by the number of applications received, with an expected sediment control efficiency rate of 94 percent.

RATIONALE :

State law, Minn. Stat. ch. 115.03, requires that the MPCA control nonpoint sources of pollution. The measure is representative of the amount of pollution controlled from construction activities as a result of the program.

DATA SOURCE :

Construction stormwater NPDES applications and acreages tracked in the stormwater data base.

DISCUSSION OF PAST PERFORMANCE :

Construction stormwater permits were first available in 1994. Although this goal has been reached, increasing development and other factors may challenge this achievement over time.

PLAN TO ACHIEVE TARGETS :

An effective temporary erosion and sediment control plan developed in accordance with the requirements of the permit, is estimated to be 93 percent effective in preventing sediment from entering waters of the state.

OTHER FACTORS AFFECTING PERFORMANCE :

Soil types, weather, slope and vegetation all factor into the amount of sediment that can leave the site. Economic growth and new development will have the greatest impact on this objective.

Goal 3 : To prevent and control adverse effects of nonpoint source pollution on surface waters.

Objective 3 : To prevent or limit pollution of ground water from business septic systems by increasing the number of systems in compliance by 50 percent annually.

Measure 1 : Number of business septic systems in compliance with the law.

	<u>C.Y.1994</u>	<u>C.Y.1995</u>	<u>C.Y.1996</u>	<u>C.Y.1997</u>	<u>C.Y.1998</u>	<u>C.Y.1999</u>
Number of improvements to business septic systems.						
Actual	30	30	75			
Target			75	112	168	253

DEFINITION :

The MPCA will measure future success by the number of known facilities that meet requirements and recommended best management practices (BMPs). This is a direct measure of success in keeping undesirable wastes out of septic systems and, therefore, the ground water.

RATIONALE :

Septic systems are not designed for the treatment and disposal of business wastes. The goal of the program is to update the disposal system so that wastes will not adversely effect ground water.

DATA SOURCE :

The data source will be running logs maintained by MPCA staff. The numbers reflect those retrofits or closures that are reported by owners and local building and zoning officials. The actual number of retrofits and closures may be higher because reporting is not mandatory.

DISCUSSION OF PAST PERFORMANCE :

Program success depends on assistance by and to local governmental officials. These may be staff from building inspections, health, fire marshal, and/or planning and zoning. Good relationships currently exist with MPCA staff, but would be greatly enhanced by the addition of staff in the regional locations. User-friendly BMP fact sheets, presentations and other contacts with trade associations and installers and voluntary compliance, given limited staff resources, has resulted in a high rate of compliance for new installations. To succeed with the estimated thousands of existing facilities that are not complying will require additional staff resources.

PLAN TO ACHIEVE TARGETS :

To achieve this objective, staff are preparing an Underground Injection Control (UIC) primary package to assist owners and local government. The agency will also contact businesses and conduct inspections. MPCA staff may develop additional BMPs with regional and stakeholder input, directly assist owners and local governments, and coordinate with the federal UIC program.

OTHER FACTORS AFFECTING PERFORMANCE :

The program has and will continue to work with other MPCA and other state agencies, such as, the Minnesota Department of Health (MDH). The MPCA UIC program may regulate these same facilities. An active and successful agency program reduces the EPA permitting and enforcement presence in Minnesota and helps Minnesota small business owner and local governments meet with EPA requirements. Federal UIC regulations currently being drafted will impose new requirements for closure and monitoring for many of these facilities. The MPCA will need to modify its requirements and recommendations when these changes are adopted.

Most commercial industrial facilities with septic tanks are owned by small businesses and local governments, direct monitoring, and/or cleanup of soil and ground water may be prohibitively costly.

Goal 3 : To prevent and control adverse effects of nonpoint source pollution on surface waters.

Objective 4 : Process certificates and licenses for individual sewage treatment systems in two weeks or less.

Measure 1 : The average number of days to issue a certificate or license.

	<u>C.Y.1995</u>	<u>C.Y.1996</u>	<u>C.Y.1997</u>	<u>C.Y.1998</u>	<u>C.Y.1999</u>	<u>C.Y.2000</u>
Average number of days to permit issuance						
Actual	2	3				
Target	14	14	14	14	14	14

DEFINITION :

Individual Sewage Treatment Systems (ISTS) means a sewage treatment system, or part thereof, serving a dwelling, or other establishment, or group thereof, and using sewage tanks or advanced treatment followed by soil treatment and disposal. An individual sewage treatment system includes holding tanks and privies. The time needed to issue certificates and licenses after receiving an application includes review of training records, bonding, insurance and experience requirements.

RATIONALE :

State law, Minn. Stat. 115.56, requires the PCA to license ISTS personnel including persons who design, construct, install, inspect and service individual sewage treatment systems.

DATA SOURCE :

The date the application is received is recorded by staff in the unit. Applications that are not complete are returned to the applicant on the same day.

DISCUSSION OF PAST PERFORMANCE :

Since December 31, 1996, the processing time has continuously improved due to a concerted effort by MPCA staff. After the initial influx was processed, turnaround time has exceeded the requirement of 60 days. A certification data base was developed in 1996 and will be available for use in early 1997. The use of this data base has streamlined the certification process resulting in faster turnaround time.

PLAN TO ACHIEVE TARGETS :

The ISTS service will continue to devote resources to maintain the turnaround time of two weeks.

OTHER FACTORS AFFECTING PERFORMANCE :

An updated computer data base and the allocation of trained staff has greatly affected the performance of this important target.

Goal 3 : To prevent and control adverse effects of nonpoint source pollution on surface waters.

Objective 5 : To control an additional 300,000 tons of manure per year.

Measure 1 : Additional tons of manure controlled annually.

	<u>C.Y.1994</u>	<u>C.Y.1995</u>	<u>C.Y.1996</u>	<u>C.Y.1997</u>	<u>C.Y.1998</u>	<u>C.Y.1999</u>
Number of tons of manure controlled						
Actual	545,000	263,000				
Target			300,000e	300,000e	300,000e	300,000e

DEFINITION :

Minn. R. ch. 7020.0500, subp. 1, requires the owner of a proposed or existing feedlot with more than 50 animal units to apply for a permit. State law, Minn. Stat. ch. 115.03, requires the PCA to issue permits or certificate of compliance and take enforcement action to require nonpoint sources of pollution to discharge wastes at a level at or below applicable pollution standards. Each animal type (beef, dairy, hog, chicken and turkey) produces a certain amount of manure each day. The number of animal units from the additional sites permitted annually, multiplied by the amount of manure they produce each year gives the number of tons of manure controlled.

RATIONALE :

The permit requires that proper pollution control measures be taken to keep manure out of the waters of the state.

DATA SOURCE :

Information on permits and certificates of compliance are kept in the AGWASTE computer data base.

DISCUSSION OF PAST PERFORMANCE :

Since 1993 there has been an eight-percent increase in the amount of manure controlled each year. The program permits approximately 1,000 additional sites annually.

PLAN TO ACHIEVE TARGETS :

The program covers an additional 1,000 sites annual which results in the control of an additional 300,000 tons of manure being controlled annually.

OTHER FACTORS AFFECTING PERFORMANCE :

A change in the agricultural climate could shift the priority of feedlot animals. This would change the amount of manure produced and, therefore, controlled in a year.

Goal 4 : To prevent and control adverse effects of point source pollution to surface waters.
Objective 1 : Maintain the gains in limiting the amount of conventional pollutants, Biochemical Oxygen Demand (BOD) and Total Suspended Solids (TSS), discharged by point sources to below the permitted levels.

Measure 1 : Total million kilograms of BOD and TSS discharged from all point sources.

	<u>C.Y.1994</u>	<u>C.Y.1995</u>	<u>C.Y.1996</u>	<u>C.Y.1997</u>	<u>C.Y.1998</u>	<u>C.Y.1999</u>
Total Million BOD kilograms discharged						
Actual	10.98	7.63	7.21			
Target			21.22	21.22e	21.22e	21.22e
Total Million TSS kilogram discharged						
Actual	14.02	10.82	11.45			
Target			162.11	162.11e	162.11e	162.11e

DEFINITION :

The targeted amount is the total mass allowed in the permit. If the discharged amount is below the permitted level, in general, water quality is protected.

RATIONALE :

State law requires that the MPCA issue permits and take enforcement action to require that point sources discharge wastes at a level at or below applicable pollution standards. (M.S. 115.03). This measure is a modification of the ones under objectives 1-3 from the 1994 Performance Report. The new measure focuses on how pollutant discharge levels compare to specific targets. Objective 1-3, Measure 3: Amount of toxic compounds discharged by industrial and municipal point sources has been dropped as a measure in the 1996 report and is instead reported as background information for the program.

DATA SOURCE :

Permittees are required to periodically monitor the effluent quality from the wastewater treatment facility. The permittees then are required to report results from analysis done by certified laboratories periodically on the Daily Monitoring Reports which is stored in a national data base, the Permit Compliance System (PCS). Total permitted masses for years prior to 1996 are not available.

DISCUSSION OF PAST PERFORMANCE :

The level of pollutants discharged into Minnesota waters has decreased over the last 25 years due to the construction of new treatment facilities for municipalities. Over one billion dollars has been spent to build these facilities. The passing of the federal Clean Water Act provided extensive permitting authority to require limits to pollution from industrial and municipal sources. Compliance and enforcement activities continue to monitor and motivate facilities into compliance.

PLAN TO ACHIEVE TARGETS :

The MPCA limits the amount of pollutants discharged, provides technical and financial assistance, encourages pollution prevention, provides training to improve efficiency of operation, and reviews facilities for State Revolving Fund loan program to upgrade treatment systems for municipal facilities. Industrial facilities are encouraged to participate in pollution prevention, and upgrade through capital expenditures to improve the wastewater treatment. Agency staff have developed a self-audit checklist for permittees and other entities to perform self evaluations for improved compliance with permit limitations and other environmental requirements. Permit limitations on pollutants are established to protect the receiving waters.

OTHER FACTORS AFFECTING PERFORMANCE :

There is a constant dynamic between reducing the amount of pollutants released into Minnesota waters from existing point sources and the needs for cities and industries to expand. Increased effectiveness in removing pollutants may be offset by a growing number of sources. Nature, such as the flood of 1993, may also increase pollutant loadings by increasing water volumes, increasing erosion and disabling treatment facilities. The measure was changed this year to reflect the performance from point sources from the entire state.

Goal 4 : To prevent and control adverse effects of point source pollution to surface waters.
Objective 2 : Ensure that 97 percent of major point sources meet environmentally protective requirements.

Measure 1 : Percent of major point sources in significant compliance with their permits.

	<u>C.Y.1994</u>	<u>C.Y.1995</u>	<u>C.Y.1996</u>	<u>C.Y.1997</u>	<u>C.Y.1998</u>	<u>C.Y.1999</u>
Point sources in compliance with effluent limits						
Actual	97%	96%	97%			
Target	97%	97%	97%	97%	97%	97%

DEFINITION :

Major point sources are defined by federal law, according to their size and potential for impact. Major point sources of pollution contribute over 70 percent of all point source wastewater discharges to state waters. Each major point source has a permit which limits the amount of pollutants they may release. Compliance with the permit limits protects water quality. Compliance data is obtained from monitoring and reporting requirements in the permit. Significant compliance is determined by federal criteria, established by EPA.

RATIONALE :

State law requires that the MPCA limits discharges from point sources so that they do not harm the environment. Compliance data is the way we determine if the discharges are limited.

DATA SOURCE :

Self reporting of data analyzed by a certified laboratory and by standardized methodologies is used to determine the level of compliance.

DISCUSSION OF PAST PERFORMANCE :

Over the last 25 years a billion dollars was invested in wastewater treatment facilities in the state of Minnesota resulting in considerable improvement in wastewater treatment. This is evident by the high degree of compliance from the major point source dischargers. Staff continue to encourage compliance through award programs and discourage noncompliance through enforcement actions.

PLAN TO ACHIEVE TARGETS :

Continuation of effective training programs, technical and financial assistance, and enforcement when required are tools to encourage a high level of compliance. However, with reduced resources and staffing levels more efficiencies must be achieved to provide the incentive necessary. The objective is to maintain compliance through efficiencies and voluntary action because program has lost significant amounts of federal and state resources, which reduces the efforts to track permittee activities and take corrective action if problems occur. Permit fees now cover only about 30 percent of the cost of issuing and following a permit through to compliance. Additionally, there is a limit to the efficiencies that can be achieved.

OTHER FACTORS AFFECTING PERFORMANCE :

A number of the municipal facilities were constructed over 20 years ago and through funding from state and federal grants and loans. As these facilities deteriorate, they will be less able to meet performance standards. An expanding economy and population place additional loadings on these facilities. Expansions, replacement and skilled personnel will be necessary to continue the high level of compliance. Continued federal and state support through grants and loans will help to improve the level of performance.

Agency : POLLUTION CONTROL AGENCY

Program : PROTECTION OF THE LAND

EXPENDITURES AND STAFFING :

	<u>(\$ in Thousands)</u>	<u>Percent of Department</u>
Total Expenditure	\$32,441	42.67%
From Federal Funds	\$7,143	
From Special Revenue Funds	\$23,719	
From Agency Funds	\$121	
General	\$1,446	
From Gift Funds	\$12	
Number of FTE Staff:	317	40.12%

GOALS :

- To continuously assess the condition of Minnesota's ground water. (M.S. 115.03; 103H.175; 103H.251)
- To prevent contamination and degradation of the environment around motor vehicle salvage yards. (M.S. 116.66)
- Minimize the impact of solid waste on the environment. (MN Statutes 115A)
- To clean up old tire dumps and promote wise management of waste tires. (MN Statutes 115A)
- To prevent or minimize contamination of soil and water caused by petroleum or other hazardous substances from storage tanks. (No Statutes Cited)
- To prevent adverse impacts on human health and the environment caused by the generation, transportation, storage, or treatment of hazardous wastes, including household hazardous wastes and "special" hazardous wastes. (Minn. Stat. Chp. 115A, 116, and 325E)
- To minimize the effect of spills and other environmental emergencies on public health and the environment. (No Statutes Cited)
- Minimize the impact of past solid waste disposal on the environment. (M.S. 115A)
- To investigate contamination, clean up sites and return the land to productive use. (M.S. 115B)
- To provide accurate and current data on actual and potential contamination sources to agency customers. (M.S. 115B)

- To investigate facilitating the evaluation, minimization, or correction of petroleum contamination impacts to soil and water caused by leaking underground storage tank systems. (Minn. Stat. Ch 115C)

DESCRIPTION OF SERVICES :

The mission of the MPCA programs for solid and hazardous waste management and ground water protection is to prevent, minimize or correct the release of solid and hazardous wastes to Minnesota's water, air and land. The activities and policies of two of the MPCA's divisions, Ground Water and Solid Waste Division and Hazardous Waste Division, are covered in this section of the Performance Report.

ENVIRONMENTAL ASSESSMENT

In this part of the program, the MPCA collects and assesses environmental data and develops and evaluates programs and policies to respond to environmental conditions. This activity includes, but is not limited to:

- maintaining data bases of environmental data and information on wastes generated and managed;
- *assessing fees based on volume of wastes generated;
- *evaluating and improving existing program operations and environmental rules;
- *tracking emerging issues in the areas of solid waste and hazardous waste management and ground water protection;
- *developing alternatives to manage special wastes (used oil, fluorescent bulbs, batteries, etc.) that encourage reuse and recycling instead of disposal; and
- *providing financial and technical assistance to key partners in the protection of the land from waste contamination.

WASTE MANAGEMENT AND PREVENTION

The purpose of the waste management and prevention program is to manage wastes properly so that contamination of the environment is prevented. Success in this program ensures that ground water, Minnesota's primary supply of drinking water, is protected from contamination.

The activities of this program include but are not limited to:

- *adminstrating the state and federal rules for solid waste and hazardous waste and proposing modifications, when necessary, to reduce the administrative burdens of these rules;
- *issuing permits for solid-waste facilities; hazardous-waste treatment, storage or disposal facilities; and large aboveground storage tank facilities;
- *providing financial and technical assistance to local governments;
- *assisting in the development and maintenance of collection systems for hazardous waste and special wastes (batteries, fluorescent bulbs, used oil, etc.) from businesses and households;
- *providing education and training to facility operators and certifying solid-waste facility operators;
- *monitoring for compliance and enforcing federal and state laws where necessary;
- *providing oversight of the management of waste tires generated and brought into Minnesota so that they do not become a contamination source;
- *working with tank owners and operators to reduce the risk of leaks for storage tank systems;
- *encouraging manufacturers to reduce the use of toxic substances in their products and educating consumers on

purchasing, disposal and management of these products; and

*working with responsible parties to investigate and plan the cleanup of contaminated sites.

CLEAN UP ACTIVITIES

In the Ground Water and Solid Waste Division, this activity occurs through the Superfund program and the Closed Landfill program.

The Superfund focuses on eliminating or reducing risk from contaminated soil, surface water and ground water. By partnering with responsible parties contaminated sites can more quickly be returned to productive or otherwise beneficial use. The Voluntary Investigation and Cleanup program provides oversight and technical assistance to property owners who voluntarily investigate sites and take steps to protect human health and the environment based on the anticipated use of the site in exchange for certain assurances regarding present and future cleanup liability. The Superfund activity also includes file searches, which provide information about known locations of hazardous-waste sites, old dumps, active landfills, hazardous-waste generators, registered and leaking underground storage tanks, chemical spills and agency enforcement actions.

Closed solid waste landfills were removed from the Superfund program in the 1994 legislative session. The goal of this program is to manage environmental contamination, and maintain all 106 closed landfills as efficiently as possible.

The Hazardous Waste Division ensures that all releases from petroleum tanks are investigated and cleaned up so that the environment and human health are not compromised. The Department of Commerce ensures that those responsible for the releases have adequate financial resources to undertake the investigation and cleanup efforts when necessary. Since 1993, the MPCA has selected petroleum storage facilities with more than one million gallons of storage capacity as a priority for investigating possible ground-water contamination and initiating cleanups. These facilities include but are not limited to refineries, pipeline terminals, and railroad yards. Contamination has been found at all of the facilities which have been investigated so far.

EMERGENCY RESPONSE AND READINESS

The goal of the Emergency Response Team is to respond to emergencies effectively and efficiently, prevent unplanned releases; and ensure that companies and responders are adequately prepared for an environmental emergency. The Emergency Response Team consists of five response staff, a hydrogeologist, and a supervisor in the MPCA Central Office; one full time responder in Brainerd and one in Rochester; and small percentages of staff time in Duluth, Detroit Lakes and Marshall. Approximately 2,000 incidents are reported to the MPCA Emergency Response Team each year. To reduce the impact of spills and environmental emergencies on human health and the environment, the program provides the following services:

- *oversight of immediate response to environmental emergencies (spills) and longer term cleanup of spills;
- *contracting cleanup services when the responsible party is unable or unwilling to take appropriate action;
- *inspection and evaluation of the measures in place at facilities to prevent or respond to environmental emergencies;
- *assistance for local public safety officials during major incidents;
- *providing opportunities for networking and practicing emergency response with other agencies and companies;
- *planning emergency response with potential responsible parties and other responders and conducting numerous

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critiques of responses after they have occurred.

*encourage spill prevention through existing communication channels and in the exercises conducted; and

*enforcing the law in the event of a preventable spill which resulted in environmental damages.

BACKGROUND INFORMATION :

**MEASURE TYPES: ACTIVITIES (A), EFFICIENCY (E), OUTPUT (O), OUTCOMES (OC),
OTHER DATA (OD), UNIT COSTS (UC), WORKLOAD (W)**

**DATA BASED ON: CALENDAR YEAR (CY), FISCAL YEAR (FY), FEDERAL FISCAL YEAR
(FFY), BIENNIUM YEARS (BY)**

<u>Type</u>	<u>Based</u>	<u>Measure</u>	<u>1994-95</u>	<u>1995-96</u>
A	CY	Number Of Wells Sampled In Statewide Baseline Network (Biennium CY 93-94 & CY 95-96)	388	643
A	FY	Number of Ground Water And Solid Waste Policy Analysis Reports Submitted to Legislature	5	5
W	FY	Participants in Facility Operator Training (Annual Solid Waste Seminar And Solid Waste Facility Operator Training Sessions)	520	725
W	CY	Underground Storage Tanks (Active)	25,550	23,122
O	CY	Underground Tanks (Removed or closed in place)	21,150	22,496
W	CY	Aboveground Storage Tanks (Active)	17,835	16,365
O	CY	Aboveground Storage Tanks (Removed or closed) (cumulative)	1,675	1,897
O	CY	Contracting companies certified to install and/or remove underground storage tanks	286	191
W	FY	Release cleanups waiting	20	18
W	FY	Number of LOGs	350	350
W	FY	Number of SQGs	4,000	4,000
W	FY	Number of VSQGs	25,000e	25,000e
W	FY	Tons of hazardous waste generated by LQGs	410,000	410,000
W	FY	Tons of hazardous waste generated by SQGs	21,000	21,000
W	FY	Tons of hazardous waste generated by VSQGs	9,900	9,900
W	CY	Treatment, storage and disposal facilities. In 1981 there were over 100 facilities in the state that needed treatment, storage or disposal (TSD) permits. Through closures and changes in operating practices, only this many TSDs need permits today.	N/A	36
O	CY	Number of educational opportunities provided to owners/operators and installers	N/A	46
W	CY	Applications received for new solid waste facilities	34	22
W	CY	Open solid waste facilities	204	222

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O	CY	Contaminated water volume flowing from solid waste facilities, if no liners and covers are constructed (million gallons)	60.4e	58.9e
O	CY	Contaminated water volume flowing from solid waste facilities if liners and covers are constructed (million gallons)	29.8e	21.8e
O	CY	Compost produced from municipal solid waste (tons)	N/A	29,443
O	CY	Solid waste compost produced which is utilized (tons)	N/A	14,200 e
O	CY	Coal ash produced (cubic yards)	N/A	400,000e
O	CY	Coal ash produced which is utilized (cubic yards)	N/A	192,000e
W	CY	Number of solid waste facilities required to have monitoring systems	N/A	75
O	CY	Number of facilities with adequate monitoring systems installed	N/A	54
O	CY	Number of solid waste facilities with ground water contamination exceedances	13	14
O	CY	Number of facilities with exceedances brought back in compliance with corrective action	0	1
W	CY	Volume of methane produced at solid waste facilities (billion cubic feet)	4.8	5.0
O	CY	Volume of methane destroyed or recovered by collection systems (billion cubic feet)	1.3	1.8
A	FY	Percent of closed landfills receiving notice of compliance (106 closed landfills eligible)	0%	35%
A	FY	Closed landfills undergoing design and/or construction (cumulative)	13	20
A	FY	Percent of eligible closed landfills reimbursed for past cleanup expenses (17 closed landfills eligible)	0%	64%
O	FY	Volume of leachate flowing from closed landfills, following construction of covers (million gallons)	91	85
O	FY	Volume of methane recovered by collection systems (billion cubic feet)	1.8e	2.0
O	FY	Number of closed landfills with remediation completed	3	8
W	FY	Number of sites needing investigation and/or cleanup which are anticipated to be discovered	75	70
A	FY	Number of preliminary site investigations completed annually	16	47
A	FY	Number of Superfund sites active in the cleanup process	162	175
A	FY	Number of Superfund sites with cleanup remedy constructed (cumulative)	72	73
A	FY	Number of Superfund sites undergoing remedial actions annually	75	60
W	FY	Number of emergencies or imminent hazards resolved annually	103	123
W	FY	Number of applicants to the Voluntary Investigation and Cleanup Program	142	125

POLLUTION CONTROL AGENCY			1996 Agency Performance Report	
W	FY	Number of property transfer file evaluation requests for information	1201	984
O	FY	Underground storage tanks (active)	N/A	25,550
O	FY	Underground tanks (removed or closed in place)	N/A	21,150
O	FY	Aboveground storage tanks (active)	N/A	17,835
O	FY	Aboveground storage tanks (removed or closed in place)	N/A	1,675
O	FY	Releases reported	N/A	7,600
O	FY	Reimbursement claims paid to date (million dollars)	N/A	136.6
W	FY	Cumulative leaking petroleum storage tanks sites reported in Minnesota since 1987	8,100	9,000
W	FY	Percentage of leaking tank sites which have been reported, that have been investigated by MPCA staff and that were ultimately closed.	N/A%	67%%
OD	FY	Number of incidents reported to the MPCA Emergency Response Team each year under Minn. Stat. 115.061	1,800	2,000

PROGRAM DRIVERS :

Ground Water Monitoring:

A need for information regarding ground-water quality and flow has long been recognized as a basic need but has always been hampered by limited funding. A better understanding of the resource is essential both to plan for its current and future protection and use in a sustainable manner as well as to understand the impacts of past activities. Well-designed initiatives allow the agency to focus efforts on critical areas of ground-water impacts. Monitoring and assessment of baseline water-quality needs to focus on priority areas of heavy ground-water use or vulnerability. Modeling, or computer simulation, of ground-water flow is also important in evaluating known ground-water contamination and projecting its future spread.

Ground water is affected by numerous activities of many different departments and agencies. The result is a need to monitor our ground water in a systematic fashion and to ensure that all the parties communicate and understand each others' programs and needs to the greatest extent possible. Facilitating the coordination and communication between all the parties is a major commitment of this program.

Toxics in Products:

Toxics in products and packaging affect waste management decisions and, ultimately, public health and the environment. To date, the costs of properly managing the disposal of these materials is borne by state, local governments and the consumer. The Legislature has targeted certain toxic metals by establishing limits of introduction and presence allowable in an item. Minnesota is an active participant with a group of northeastern states that facilitates the review and reductions of heavy metals in packaging. Heavy metals are known to be present in municipal solid waste (MSW) compost, and fly ash and air emissions from MSW combustor facilities. Reductions in heavy metals in products and packaging will have the long-term effect of reducing the rate of deposition of heavy metals in soils and water. Key to reducing heavy metals in the environment is recognizing full environmental costs of a product, including disposal and environmental impact.

Motor Vehicle Wastes:

Storing and processing scrapped motor vehicles as a source of used parts and recyclable material have benefits to

society as well as potential environmental effects. Over the past few years the MPCA has worked with salvage-yard operators to improve the collection, handling and disposal of antifreeze, motor oil, fuels and batteries. In addition, it is recommended that mercury switches from automobiles be removed as they are salvaged. Excellent progress has been made by working with the Automobile Recyclers of Minnesota (ARM). However, not all salvage yards are members of ARM. At least 50% of the known yards that handle motor vehicle hulks do not possess permits and therefore may not practice currently accepted practices for proper collection, handling and disposal of fluids. An unpublished study by the agency shows that yards that follow best management practices have significantly lower concentrations of chemical contaminants in runoff water and sediments after a rain event. Therefore, the MPCA will work with the owners and operators of scrap and salvage yards to promote these practices.

The use, maintenance and repair of motor vehicles also generates a variety of wastes, including used oil and filters, antifreeze, paint, batteries, brake fluid, power steering fluid, transmission fluid, etc. In accord with one of the strategies developed during the recent strategic planning process, the agency has entered into a partnership agreement with the industry to assist their members in understanding how to properly manage these wastes.

Customer Focus:

The agency regulates large numbers of small businesses that have little knowledge of environmental impacts and requirements. The agency's goal is to reach these businesses with low-cost education and assistance opportunities to enable them to fulfill their responsibilities under the law, and to provide cost effective, convenient collection opportunities for hazardous waste.

Shared Resources Among State and County Programs:

The MPCA runs the hazardous-waste programs in the 80 counties of Greater Minnesota and has oversight authority in the Twin Cities seven metro counties. The seven metropolitan-area counties have the authority to run hazardous-waste programs of their own that are consistent with state rules, and some Greater Minnesota counties are beginning to be interested in participating. The agency works closely with the counties in developing, interpreting and enforcing hazardous-waste rules and defining the roles and responsibilities of each level of government to cost-effectively provide the best possible customer service.

Collection of Fees:

A significant difficulty for the MPCA is that the legislative directive to collect fees from hazardous-waste generators and facilities in the amount of the appropriation supporting the program is incompatible with the goal of encouraging generators to reduce the amount of waste they produce. Also, the amount of the fees is not the primary impetus toward reduction: rather, it is the cost of disposal.

Hazardous Waste Recycling Facilities:

New rules being drafted that are applicable to recyclers and other presently exempt waste management activities could result in up to 50 additional permits. These permits will be targeted to the risks associated with the waste-management activity; therefore, many will be significantly simplified.

Solid Waste Management:

The program is a complex blend of technical, political, economic and now, judicial factors. Waste management facilities of all types are difficult to site and expensive to build and operate. Permitting involves technical as well as political issues to be resolved. Recently, the U.S. Supreme Court has deeply affected this program, rendering decisions that affect waste designation and the disposal of ash from municipal solid waste incinerators.

Waste Tire Management Program:

The agency has succeeded in cleaning up the known tire dumps across Minnesota. The future challenge is to manage waste tires as they are generated, and regulate the 125 permitted transport, storage and processing facilities and take enforcement action against illegal activities. Additional tire dumps continue to be discovered and require cleanup.

Tanks Program:

State law requires owners and operators of storage tanks to upgrade their tanks and to install devices to detect and prevent releases. The high degree of diversity among the tank owners makes it difficult to inform them of the requirements and achieve the program's goal of voluntary compliance.

Information Access to Environmental Data.:

In its Property Transfer Program, the MPCA has significant data on about 79,000 sites that may pose an environmental threat. Providing quality information when it is requested by individuals or business owners allows them to make an informed decision about potential liabilities associated with a property. Our customers require that the data be collected and maintained in a way that makes it easy to respond to queries..

Demand for Fairness in Superfund:

State and federal streamlining actions and economic development pressures are significantly changing cleanup programs. Three factors have changed the structure and function of existing cleanup programs: 1) continued decrease in the level of federal funding; 2) increased interest of local governments in redeveloping industrial property; and 3) demand for fairness in the Superfund program. In response, the program is being redesigned to include the following:

- * the development of risk-based approach to cleanup which focuses on reducing or eliminating the level of contamination in soil, surface water and ground water
- *the development of innovative means of working cooperatively with responsible parties in order to streamline the cleanup process;
- *addressing liability issues in order to render the Superfund process more fair; and
- *an increased emphasis on returning contaminated sites to productive, or otherwise beneficial, use.

Federal Requirements:

Federal Law 40 CFR Part 280, Minn. Stat. chs. 115C, and Minn. Rules Chs. 7105 and 7150 provide the impetus for the program by requiring owners/operators of underground storage tanks upgrade tanks, to install devices to detect releases, and to and report releases of petroleum immediately.

Problems with Tanks Reimbursement Program:

The reimbursement program is good at promoting cleanups but sometimes it becomes the overriding goal. For instance, if the MPCA receives more reports than can be reviewed within 120 days of receipt, the owner or operator may apply and receive reimbursement from the Department of Commerce. Because reimbursement is capped at 90%, there is the danger that owners/operators will allow their consultant free rein in investigating and cleaning up release sites without being actively involved in their consultant's decisions. In addition, even at 90% reimbursement, some smaller owner/operators cannot afford the remaining 10 percent.

Inadequate Funding for Cleanup Responses:

The leaking underground storage tank program needs adequate resources to meet our responsibilities in ensuring appropriate cleanups in the future. Insufficient funding is currently available from EPA for staff resources. The

result is often delays in approving cleanup plans of the responsible parties. Further decreases are expected, leading to increased review times. Thus, while the cleanup program is generally meeting its legislative mandates, federal and state funding cuts will severely hamper the ability to meet those goals in the future. The challenge ahead for the leaking underground storage program is to provide the current level of customer service with possible reductions in federal funding. The program is expecting a reduction from the current \$2.4 million to \$1.4 for FY 1998 and FY 1999. Currently LUST staff are able to review and close sites at a rate which is greater than the rate in which tank releases have been reported. Also an existing statute requires staff to respond to submitted reports in 120 days or less. Although the program has tried to streamline the review process and minimize review backlog, it is expected that a reduction in federal funding will prevent the agency from achieving this level of customer service in the future. Also, the agency expects an increase in release reports over the next few years as more tank owners strive to meet new federal regulations for underground storage tanks.

Sunsetting of a Cleanup Program:

Moving the storage tank program from a cleanup program to a prevention program will be difficult because of the same lack of resources. At present there are only 6.5 outreach and inspection staff to educate 7,300 owners of 16,000 facilities. Some federal funds have been provided to start up prevention programs for underground storage tanks. However, this is not nearly enough to implement an adequate prevention program.

Most Companies Are Unprepared For Spills:

The MPCA Emergency Response program has focused on responding to incidents as they occur. It is now changing to a balanced program of emergency prevention, emergency preparedness (both for potential spillers and state staff) and emergency response. Even though we received some additional resources from the Legislature last year, there is still not nearly enough for what is needed for response, let alone to make the transition to prevention and preparedness. With more staff, inspections could take place routinely before spills occur, and the agency could provide better, proactive training on spill prevention and response training for facilities and local government.

The Emergency Response and Preparedness program is driven by the immediate and urgent need to respond to the unpredictable occurrence of major incidents. When they occur all other activities of the group stop. The ongoing need to be able to respond effectively drives the Emergency Response Team (ERT) to act on preparedness issues between major incidents. The requests of responsible parties and local officials for guidance and oversight of cleanups drive the ERT involvement in medium and small incidents.

Minn. Stat. ch. 115E now requires major facilities to prevent incidents and to be prepared to respond to what might happen at their sites. Major spills or other events (toxic clouds, chemical fires, unstable abandoned waste, etc.) can create environmental emergency conditions. A Governor's Executive Order and an internal MPCA effort of contingency planning has greatly improved the MPCA's leadership and capability to provide a comprehensive response to environmental emergencies.

Goal 1 : To continuously assess the condition of Minnesota's ground water.

Objective 1 : Utilize the statewide baseline sampling network to assess the condition of Minnesota's ground water, so that by 1999, levels of priority contaminants are generally understood.

Measure 1 : Comprehensive representation of average or typical ground water quality by region, from the statewide baseline network database, using other contaminants in addition to nitrate as examples.

	<u>F.Y.1994</u>	<u>F.Y.1995</u>	<u>F.Y.1996</u>	<u>F.Y.1997</u>	<u>F.Y.1998</u>	<u>F.Y.1999</u>
Map of Avg. Amts. of Contaminants in MN ground water						
Actual	NA	NA	NA			
Target				NA	NA	1

DEFINITION :

The program exists to conduct monitoring and data assessment of ground water for trend analysis, pollution problem identification and program evaluation. This objective summarizes the intent to develop a comprehensive representation of the average levels of priority contaminants and the condition of Minnesota ground water by region. The Executive Summary includes a graphic of Minnesota ground water, using nitrate levels as an example. Possible sources of nitrate in ground water which result from human activity include use of fertilizer, poorly designed or improperly maintained septic systems, and animal feedlots and waste handling. Ground water can be considered to be unimpacted or minimally impacted by human sources of nitrate if the concentration is less than 0.5 milligrams/liter (mg/L). Influence of nitrate from human activity can be suspected if the range is 0.5 to 3 mg/L. From 3 to 10 mg/L, a ground water supply can be considered impacted, but below the health risk limit of 10 mg/l that can safely be consumed daily for a lifetime. If nitrate is present above 10 mg/L, the ground water should not be consumed, especially by infants less than 6 months old.

RATIONALE :

Nitrate contamination of a well is often regarded as a first sign of deteriorating ground water quality, and therefore is an excellent indicator or predictor of potential problems with a water supply. Nitrate is generally recognized to be one of the most widespread ground water contaminants. Other contaminants to be assessed will be determined based on the evolving needs of the data users, including land use, planning and zoning entities; regulatory agencies; county health services; and the public.

DATA SOURCE :

The data source for nitrate is more than 1000 private water supply wells sampled from 1992-1996 by MPCA's Ground Water Monitoring and Assessment Program (GWMAP). Selected wells from the network will be resampled beginning in 1997.

DISCUSSION OF PAST PERFORMANCE :

The measure of average or typical ground water quality by region, from the statewide baseline network database, using nitrate as an example, is a new measure, not discussed in the 1994 Performance Report.

PLAN TO ACHIEVE TARGETS :

Currently, it is not possible to determine time trends in ground water quality from the network, because only one set of samples has been collected from each well. Plans are to resample selected wells from the network periodically to better define ground water quality in priority areas where ground water is heavily used or vulnerable to contamination. The program is also shifting emphasis from this network to more detailed evaluations of ground water quality trends in local areas, and implications of those trends on land use practices.

At this time, the quality of ground water with respect to nitrate by hydrogeologic region of the State can be generally assessed, as shown in the Figure in the Executive Summary. The nine regions depicted were determined due to their similar hydrogeology, information needs, and desired actions to achieve the goal of better ground water quality for the region. Although nitrate contamination due to human activities occurs locally throughout the state, the profile regions with elevated percentages reflect land use and geology, such as the large farms and feedlots of southwest Minnesota, the irrigated cropland of the central sandplains, and the sensitive karst geology of southeast Minnesota where the bedrock ground water sources are at or near the surface. Although not shown in the Figure in the Executive Summary, nitrate is also unequally distributed with depth below the surface.

GWMAP is a part of a comprehensive, multi-agency initiative for surface water and ground water monitoring now under development. The initiative would fund installation of ground water monitoring points needed to supplement the current well monitoring network for use in trends monitoring assessments. It would also cover field investigations and mapping of the trends study areas. These are necessary to understand the trends and their implications.

OTHER FACTORS AFFECTING PERFORMANCE :

Continuing program success will depend on: 1) continued progress in automating field procedures and data management; 2) continued partnerships with local governments in contacting well owners and securing their participation, and assisting with sampling and communication of results; and 3) developing and maintaining a sound network design for baseline and trends.

Goal 2 : To prevent contamination and degradation of the environment around motor vehicle salvage yards.

Objective 1 : Provide training and technical assistance to owners and operators of motor vehicle salvage yards, so that at least 85% have implemented Best Management Practices (BMPs) by 1999.

Measure 1 : Percent of salvage yards implementing BMPs.

	<u>F.Y.1994</u>	<u>F.Y.1995</u>	<u>F.Y.1996</u>	<u>F.Y.1997</u>	<u>F.Y.1998</u>	<u>F.Y.1999</u>
% Of Auto Salvage Yards Implementing Best Mgmt. Practices						
Actual	NA%	28%	NA%			
Target				36%	NA%	85%
Salvage Yard Owners/Operators Trained						
Actual	NA	274	NAe			
Target				75	NA	285

DEFINITION :

A soon to be published study by the MPCA shows that yards that follow best management practices have significantly lower concentrations of chemical contaminants in runoff water and sediments after a rain event. Therefore, the number of scrap yard and salvage yard groups implementing BMPs is a substitute measure for directly documenting through sampling the reduction of contamination to soils and surface waters from these sites. Routine sampling requires significant additional resources. The number of facility owners and operators trained indicates those who should know about, and can be expected to implement, relevant laws and BMPs. The numbers of operators trained and the percent of salvage yards implementing BMPs are compiled on a biennial basis and presented above under the second year of the biennium.

RATIONALE :

Storing and processing scrapped motor vehicles as a source of used parts and recyclable material have benefit to society but also has potential environmental impacts. In FY 94-95, MPCA received funding in part, to work with salvage yard operators to improve the collection, handling and disposal of antifreeze, motor oil, fuels, and batteries, and encourage the removal of mercury switches from automobiles. Progress has been made by working with the Automobile Recyclers of Minnesota (ARM). At least 9% of the evaluated yards that handle motor vehicle hulks do not possess necessary permits and do not practice currently accepted practices for proper collection, handling and disposal of fluids. Contamination is clearly evident. The majority are sites where the operator has some knowledge of laws and BMPs and but follows them to a limited extent. The resulting contamination is limited to small areas of the yard and is limited in concentration.

DATA SOURCE :

The data for FY 94-95 implementation of BMPs is from a January 1995 report to the Legislative Commission on Waste Management titled, "Motor Vehicle Salvage Facilities: A Report on the MPCA's Evaluation, Assessment and Outreach Effort". If funding is available for one-on-one technical assistance site visits, the data would be updated annually.

DISCUSSION OF PAST PERFORMANCE :

Although statutory authority was modified in the 1995 Legislative Session to require the agency to continue to provide technical assistance and environmental evaluations at salvage facilities, funding was not received for those activities in FY 96-97. The statutory authority expires on June 30, 1999

PLAN TO ACHIEVE TARGETS :

Over the past three years, the Ground Water and Solid Waste Division has been developing data and surveying environmental professionals inside and outside the agency to identify the priority among 36 pollution sources of concern. Salvage yards were identified one of the top four pollution source of high concern. After surveying operators, cities, citizens living near salvage yards, and other state agencies on strategies to address salvage yards, in mid-FY 97 the agency shifted .5 FTE to salvage yard activities by reducing training opportunities in other solid waste facility areas. The estimates for FY 98-99 illustrate progress if funding were provided for a sector-based program that would include on-site technical assistance visits to salvage yards, training seminars, and training materials for operators related to best management practices for operation, and full implementation of the environmental audit program. The agency will be working to develop alliances with other state and local agencies which inspect salvage yards to reduce duplication of activities. The statutory authority for salvage yard technical and financial assistance activities is contained in Minn. Stat. 116.66. No further statutory authority is necessary.

OTHER FACTORS AFFECTING PERFORMANCE :

The agency has increased successful adoption of BMPs by working within trade organizations, particularly ARM. However, not all salvage yards are members of ARM. As a result, the agency must work closely with the Institute of Scrap Recycling Industries and state and local units of government to reach additional facilities.

Goal 3 : Minimize the impact of solid waste on the environment.

Objective 1 : Capture 90% of the leachate generated at open landfills by the year 2002.

Measure 1 : Percent reduction of volume of leachate flowing from open landfills to ground water.

	<u>C.Y.1994</u>	<u>C.Y.1995</u>	<u>C.Y.1996</u>	<u>C.Y.1997</u>	<u>C.Y.1998</u>	<u>C.Y.2002</u>
% Reduction In Volume To Environment						
Actual	51%	63%	68%			
Target				72%	75%	90%

DEFINITION :

Precipitation enters landfills without covers and flows through disposed wastes, picking up contaminants. This mix of liquid and dissolved contaminants is leachate. As presented in the Background section for this Activity, an average of 61 million gallons per year of contaminated water could flow from open landfills to ground water if no controls are implemented. As covers are constructed, surface water entry to landfills is limited, which minimizes the production of leachate. Leachate collection systems are installed to collect leachate that is produced, and route it to a treatment facility, preventing any leachate already in the landfill from entering the ground water. The measure is the amount of leachate flowing to ground water from the open landfills with covers or liners constructed, in million gallons/year, compared to the amount of leachate estimated to flow to ground water from the landfills if no covers and liners were constructed.

This measure compares the volume of leachate to the environment estimated from the status of actual acres at disposal facilities to a theoretical volume of leachate going to the environment if no final covers or liners and leachate collection systems were built for facilities that accepted mixed municipal waste in 1994. This set of facilities is a subset of facilities regulated within the solid waste program.

RATIONALE :

The solid waste program is responsible for regulating waste disposal so that its impact on the environment is minimized. Ensuring that waste is disposed of in facilities where adequate covers and liners have been installed is critical in limiting pollution to ground water. This measure indicates the success of efforts to control ground water contamination.

The objective of a 90% capture rate was determined based on current Solid Waste Rules specifying high efficiency levels for covers and liners for areas of newly constructed waste fill area (98.5%), balanced by the fact that older areas of landfills do not have liners installed. Although specifications and performance standards for final cover systems for these areas became more protective in 1988, the majority of the facilities used for this measure had significant acreage in the older areas. In these areas, a certain amount of contaminated water will be released to the environment, even though an adequate cover is installed.

DATA SOURCE :

The amounts of acreage for this measure come from construction reports and annual reports submitted by the permittee. This information can be updated annually. The new Delta database system has the ability to store this information for retrieval.

DISCUSSION OF PAST PERFORMANCE :

This measure is a modification of a measure in the 1994 Performance Report. The actual number deviates from previous targets because the amount of data available at the time was insufficient to predict an accurate trend.

PLAN TO ACHIEVE TARGETS :

At this time, there are no anticipated changes or barriers which will impact the Agency's ability to meet its target.

OTHER FACTORS AFFECTING PERFORMANCE :

At this time, there are no factors anticipated to affect the performance of this program.

Goal 3 : Minimize the impact of solid waste on the environment.

Objective 2 : Maintain a 5% per year rate of increase in utilizing selected solid wastes for beneficial reuse in each of the next five years.

Measure 1 : Percent increase in volume used of selected materials which are the result of processing municipal solid waste and coal ash.

	<u>C.Y.1994</u>	<u>C.Y.1995</u>	<u>C.Y.1996</u>	<u>C.Y.1997</u>	<u>C.Y.1998</u>	<u>C.Y.1999</u>
% Of Compost Produced Which Is Utilized						
Actual	N/A%	48e%	53e%			
Target				58%	63%	68%
% of Coal Ash Produced Which Is Utilized						
Actual	NA%	48e%	53e%			
Target				58%	63%	68%

DEFINITION :

For compost produced by processing mixed municipal solid waste, the measure is the percent of compost produced which is utilized by the marketplace. The volume of compost produced from municipal solid waste, and the portion of this amount utilized on an annual basis, are presented in the Background section for this Activity. Compost is an organic material generated by sorting and processing certain municipal solid wastes. Compost facilities may produce either class 1 compost (which has unrestricted use) or class 2 compost (which has some restrictions on its use).

For coal ash generated by the production of electricity, the measure is the percent of ash produced by burning coal which is utilized as an alternative in various building materials such as shingles and use as a road base. The volume of coal ash produced by power plants, and the portion of this amount utilized on an annual basis, are presented in the Background section for this Activity.

RATIONALE :

The goal of the program is to minimize the impact of solid waste on the environment. One of the primary ways to minimize impact is reducing the volume of waste. If these waste materials were not beneficially reused, they would likely be landfilled, and potentially release contaminants in to the environment.

DATA SOURCE :

Amounts of municipal solid waste compost produced and utilized/marketed is reported annually by the facility. Coal ash permits for the disposal or utilization of coal ash require the facility to submit an annual report.

DISCUSSION OF PAST PERFORMANCE :

This is a new measure. It was not presented in the 1994 Performance Report.

PLAN TO ACHIEVE TARGETS :

Compost rules were revised in early 1996. One of the revisions made was to streamline the approval process for utilizing class 2 compost. The solid waste program has also formed a compost sector team to assist facilities in understanding compliance with the revised rules. The solid waste program has an ash utilization task force to assist in the evaluation and application process of pilot projects as well as evaluating the current regulatory structure.

OTHER FACTORS AFFECTING PERFORMANCE :

Factors which affect the performance of the program in this area include acceptance of the product, beneficial reuse by the marketplace, and economics.

Goal 3 : Minimize the impact of solid waste on the environment.

Objective 3 : By 2002, implement actions to monitor and control environmental releases at 100% of disposal facilities required to take remedial actions. These actions include installation of environmental monitoring systems, and implementation of remedies to control methane gas and/or ground water contamination as needed.

Measure 1 : Percent of disposal facilities with environmental monitoring systems installed; percent of those facilities where ground water contamination identified by monitoring has been remediated; percent of methane destroyed/recovered compared to volume produced.

	<u>C.Y.1994</u>	<u>C.Y.1995</u>	<u>C.Y.1996</u>	<u>C.Y.1997</u>	<u>C.Y.1998</u>	<u>C.Y.1999</u>
% Of Facilities With Adequate Monitoring Systems Installed						
Actual	N/A%	72%	82e%			
Target				94%	95%	100%
% Of Facilities With Ground Water Contamination Remediated						
Actual	0%	7%	7e%			
Target				13%	19%	27%
% Reduction Of Methane Released To Environment						
Actual	28%	36%	40e%			
Target				46%	51%	55%

DEFINITION :

Adequate monitoring of regulated facilities is needed to identify a release of contamination. The measure indicates progress in installation of monitoring systems at these facilities. Additional measures indicate success at limiting contamination being generated at the regulated facilities, once the monitoring systems have identified excessive ground water contamination or methane gas migration. The data used to calculate the percentages are contained in the Background section of this Activity.

RATIONALE :

The solid waste program is responsible for regulating waste disposal so that its impact on the environment is minimized. The program ensures that all disposal facilities required to install monitoring systems have them in place so that excessive releases of contamination are identified promptly, and corrective action is taken. The measure of the number of facilities with monitoring systems in place directly relates to the need to identify if a release of contamination is occurring. The measure of the percent of facilities where contamination release has been remediated indicates timely mitigation of contamination before much environmental harm is done.

DATA SOURCE :

Each disposal facility required to install an environmental monitoring system submits annual reports summarizing the monitoring data. These facilities also submit the data from each sampling event. Facilities are also required to report the amount of waste disposed annually, which is used to estimate the amount of methane generated and the volume of methane destroyed or recovered by an active gas system.

DISCUSSION OF PAST PERFORMANCE :

Regarding the number of open landfills requiring ground water remediation, the actual number deviates from previous targets in the 1994 Performance Report because the amount of data available at the time was insufficient to predict an accurate trend.

PLAN TO ACHIEVE TARGETS :

The number of facilities required to install monitoring systems will increase depending on the types of facilities proposed to be built and whether the rules for demolition disposal facilities are changed to require environmental monitoring.

OTHER FACTORS AFFECTING PERFORMANCE :

No factors affecting the performance of the program are anticipated at this time.

- Goal 4** : To clean up old tire dumps and promote wise management of waste tires.
- Objective 1** : Ensure that 100% of waste tires generated annually or discovered in old tire dumps are disposed of via a self-sustaining waste tire management system which conserves resources.

Measure 1 : Percentage of waste tires disposed of using a self-sustaining tire management system.

	<u>F.Y.1994</u>	<u>F.Y.1995</u>	<u>F.Y.1996</u>	<u>F.Y.1997</u>	<u>F.Y.1998</u>	<u>F.Y.1999</u>
% Of Waste Tires Generated Which Are Processed						
Actual	100%	100%	100%			
Target				100%	100%	100%

DEFINITION :

The number of waste tires generated annually by Minnesotans, and the number of these tires handled at waste tire processing facilities is what is being measured. The number of waste tires generated from FY 96 onward is approximately 4.5 million tires generated in Minnesota, along with 2 million tires generated outside Minnesota brought instate for processing. Tires are processed into tire-derived fuel or commercial products which results in the conservation of resources which would have been consumed in the absence of a supply of waste tires.

RATIONALE :

The Waste Tire program was created in 1985 to clean up existing tire dumps and to develop a relatively simple management system to handle future generation of tires. Although there are a large number of individuals and companies involved, the system is comprised of voluntary compliance and minimal enforcement oversight. This measure evaluates the success of this management system in ensuring that tires are processed and not accumulate at tire dumps.

DATA SOURCE :

The data on the number of tires is accumulated from quarterly and annual reports submitted to MPCA by waste tire transporters and waste tire processors. This information is updated annually. The number of tires processed in FY 94 and FY 95 from tire dumps came from the dump owners as well as the transporters and processors.

DISCUSSION OF PAST PERFORMANCE :

The program has cleaned up all tire dumps reported to the Agency and eligible for State cleanup assistance. Minnesota's waste tire program has been recognized as a national success and has been used as a model for the development of other states' programs. The Agency received a national Innovations Award in 1992 from the Council of State Governments for its successful approach in addressing the problem of waste tires in Minnesota. Successful cleanup of 14 million waste tires has occurred in the State since the implementation of the program. Authorized waste tire haulers transport newly generated waste tires to permitted processing facilities. Although in excess of 600 parties have been involved in some aspect of tire transport and processing, a relatively low level of enforcement work has maintained compliance. In addition, many fledgling businesses in the state have developed products and processes through the use of the grant program, which provided capital to these businesses and individuals for product development and testing. The grant program has now ended.

PLAN TO ACHIEVE TARGETS :

The Agency oversees 115 tire transporters to ensure no dumping and proper handling and disposal of tires, and ensures compliance at 11 processing and storage facilities. As needed, the Agency will take enforcement actions to achieve the goal of 100% proper management of waste tires. A continuing need remains for emergency abatement of tire dumps in instances where responsible parties cannot be found or are unable to perform the cleanup.

OTHER FACTORS AFFECTING PERFORMANCE :

A well established and stable industry has been developed to handle tires properly. However, as long as noncompliance is profitable, there will be a need for continued oversight. Existing tire dumps continue to be discovered as a result of complaints and owner self-reporting. Another factor affecting performance is the fluctuating number of tires brought into Minnesota for processing from other states. Minnesota processors have excess capacity which could accomodate this increase. The funding for overseeing waste tire management is the Motor Vehicle Transfer Fee, which sunsets June 30, 1997.

Goal 5 : To prevent or minimize contamination of soil and water caused by petroleum or other hazardous substances from storage tanks.

Objective 1 : Increase the underground storage tank compliance rate to at least 75% by December 22, 1998.

Measure 1 : Percent of underground storage tank systems in compliance with 1998 standards

UST systems in compliance with 1998 standards

Actual	48.5%	51.8%	54.2%		
Target	46.3%	47%	48%	65%	75%

DEFINITION :

This measure compares the percentage of tanks that meet the 1998 standards to the total number of registered underground storage tanks.

RATIONALE :

By December 1998, regulated underground storage tanks must be upgraded to new tank standards, removed, or closed. The program relies heavily on voluntary compliance. Owners/operators have a number of options to choose from to meet the 1998 deadline. Therefore the program expends significant effort on technical assistance and educational activities in an effort to inform the owner/operators of their options.

Underground storage tank systems can cause contamination to soil and water in a variety of ways. Overfills and spills can occur during a product delivery if the tank is filled beyond it's holding capacity. Tanks and piping may also leak due to corrosion of unprotected steel or through inadequate installation practices.

DATA SOURCE :

The program maintains a computer database to track and sort the tank registration information which contains the information on tank installation, closure, and upgrades.

As of FY 95, the program tracks these activities for 23,122 underground storage tank systems.

Educational events include owner/operator workshops, leak detection seminars, contractor certification and recertification courses. The program has conducted a total of 106 educational events since FY 94, 30 at which were conducted in FY 96.

DISCUSSION OF PAST PERFORMANCE :

Tank owners are not required to upgrade existing underground storage tank systems until December 1998. Approximately 17,000 tanks need to be upgraded or removed by that date. This would require an average of about 400 tanks per month to be upgraded or removed during this time frame. At the current rate of upgrading, the deadline will not be met. To this end, the program has and will continue to educate tank owners and operators of the 1998 deadline.

Past experience by the program has indicated that owners/operators have benefited by attending the educational units sponsored by the program. However, there are over 10,000 tank owners who would potentially benefit from technical assistance training. Seeking to find a variety of methods to provide this training has been a challenge. Experience has shown that large to middle sized tank owners are able to attend educational events sponsored by the program. However, due to owner staffing complications, some middle to small owners are unable to leave their facility to attend an educational event. To better serve this population, the program conducts mailings such as manuals, booklets, and other reference materials to these owners.

PLAN TO ACHIEVE TARGETS :

The Program will continue to rely on voluntary compliance by tank owners. The Program is striving to encourage early compliance thereby reducing the strain on resources as 1998 draws near. The program is trying to incorporate 1998 upgrading information into all of our outreach activities, including discussing it at workshops and in our newsletters.

In FY 1994 and FY 1995, the U.S. EPA provided funding to develop and present seminars for tank owner/operators. This funding is not available in the future. However, the Program is confident that owner/operators are willing to pay a small fee to attend the seminars and is actively pursuing this options. The small fee may not cover the Programs total costs associated with the seminars. Thus the number of training events will decrease in future years. The Program is also working closely with industry groups and building alliances with those groups to help work on this issue.

OTHER FACTORS AFFECTING PERFORMANCE :

As 1998 approaches, the demand on contractors will increase dramatically. There is a wide spread concern that there will not be enough available contractors to do the upgrading work. Thus many owners will be out of compliance with the rules because of the contractor shortage.

Goal 5 : To prevent or minimize contamination of soil and water caused by petroleum or other hazardous substances from storage tanks.

Objective 2 : Permit 50% of the approximately 75 major aboveground storage tank facilities in the state by 1999 to require adequate safeguards.

Measure 1 : Percent of major aboveground storage tank facilities with individual permits issued.

Major AST facilities with individual permits issued

Actual	0%	0%	0%		
Target	0%	6%	12%	20%	26%

DEFINITION :

This measure is the percent of major (greater than 1,000,000 gallon total capacity, all tanks) aboveground storage tank facilities that have received individual permits from the Program. Liquid storage permits are required by Minn. Rules ch. 7100. Permitted tanks must have containment which is reasonably impervious to the substance stored, or alternative safeguards approved by the Program.

RATIONALE :

Aboveground storage tanks can develop leaks in their floor through which tens or hundreds of thousands of gallons may escape into the ground. Tanks may also be overfilled or rupture. Additionally, many leaks occur at the loadout areas. Major aboveground storage tank facilities represent 85% of all hazardous liquid storage in the state.

DATA SOURCE :

The Program maintains a database which tracks and records information on the aboveground storage tanks, including data such as type of overfill protection, internal inspection records, and other pertinent information.

DISCUSSION OF PAST PERFORMANCE :

In 1994, the Program began to concentrate on bringing major aboveground tank facilities into compliance. Owners of about 75 major facilities were contacted and instructed to assess their safeguards and upgrade them as needed.

PLAN TO ACHIEVE TARGETS :

The Program is currently negotiating permits with about 15 of the major aboveground tank facilities that have been determined to be in sensitive environmental locations or otherwise represent high priority spill risks, to assist the facilities in designing and implementing reasonable programs that include schedules for tank and containment upgrading, when needed, inspection and maintenance programs, and leak testing of tanks and pipelines, where necessary.

OTHER FACTORS AFFECTING PERFORMANCE :

Success in developing a cooperative, partnership approach with industry to spill and leak prevention will be an important factor. Also maintenance of sufficient staff resources for permit development and oversight.

- Goal 6** : To prevent adverse impacts on human health and the environment caused by the generation, transportation, storage, or treatment of hazardous wastes, including household hazardous wastes and "special" hazardous wastes.
- Objective 1** : To ensure that, through FY 1997, cleanup activities are underway or completed at all sites of significant releases due to improper management of hazardous waste.

Measure 1 : Hazardous waste sites identified and being cleaned up

Number of new release sites identified

Actual	17	17		
Target			16	15

Number of release sites where cleanups have been completed

Actual	30	10		
Target			12	12

DEFINITION :

A release site is an area where hazardous waste has been improperly managed and potentially threatens human health or the environment. Cleanup activity includes actions to investigate and treat or remove hazardous waste at the release site. As hazardous waste release sites are identified it is a direct benefit to the environment and a service of the hazardous waste program to oversee the clean up of released hazardous waste. A data base of active hazardous waste cleanup projects is maintained within the hazardous waste program. New release site information would be available from this list as well as the number of remediations implemented over time. The Agency is beginning to track additional cleanup information such as type and quantity of contaminant and media impacted that will be use for indicators and measuring the effectiveness of the program in reducing risk to human health and the environment.

RATIONALE :

A release site is an area where hazardous waste has been improperly managed and potentially threatens human health or the environment. Cleanup activity includes actions to investigate and treat or remove hazardous waste at the release site. As hazardous waste release sites are identified it is a direct benefit to the environment and a service of the hazardous waste program to oversee the clean up of released hazardous waste. A data base of active hazardous waste cleanup projects is maintained within the hazardous waste program. New release site information would be available from this list as well as the number of remediations implemented over time. The Agency is beginning to track additional cleanup information such as type and quantity of contaminant and media impacted that will be use for indicators and measuring the effectiveness of the program in reducing risk to human health and the environment.

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DISCUSSION OF PAST PERFORMANCE :

The list of active cleanups has steadily increased to a present count of about 60. The decrease in the number of active cleanups from 1995 to 1996 was due primarily to the tracking system catching up with previously completed cleanup sites. The number of sites is more related to the effort to locate the release sites through inspections than it is to the number of releases occurring.

PLAN TO ACHIEVE TARGETS :

Current staffing levels are adequate to achieve targets; however, if more release sites are identified than projected, or if staffing levels decrease, the Agency will target the highest risks first with the most effective assessment and mitigation methods.

Goal 6 : To prevent adverse impacts on human health and the environment caused by the generation, transportation, storage, or treatment of hazardous wastes, including household hazardous wastes and "special" hazardous wastes.

Objective 2 : To increase the compliance rate for proper hazardous waste management and proper storage.

Measure 1 : Percent of inspections showing proper hazardous waste management and storage.

Inspections

Actual	344	264		
Target			200*	200*
% of Inspections Showing Proper Mgmt (*approx range 200-250)				
Actual	89%	88%		
Target			89%	90%
Percent of Inspections Showing Proper Storage				
Actual	74%	76%		
Target			78%	80%

DEFINITION :

Inspections are a method of delivering the service of assessing and assuring compliance with environmental law by gathering objective data, by providing education, and by acting as a deterrence to violation. The hazardous waste program is designed to assure that hazardous waste is managed in a cradle-to-grave system. Compliance determinations through the use of on-site inspections are one key component within the program to identify if the cradle-to-grave concept is being implemented properly by the regulated community. Inspection activities are entered into and tracked by a computerized database.

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DISCUSSION OF PAST PERFORMANCE :

The data shows that a steady level of 88-89% of the generators and facilities inspected over the past two years were properly managing their wastes. Proper storage data shows an increase of 2% from FY 1995 to 1996. While these are good results, the Agency will look at ways of enhancing compliance rates with these measures. By gathering the data indicated above, the Agency will be better able to target its assistance and enforcement resources.

PLAN TO ACHIEVE TARGETS :

The goal in the next five years is to attain and maintain a 90% compliance rate for proper hazardous waste management. The goal for proper storage in the next five years is an increase of one to two percent per year. The long-term goal is to achieve and maintain an 80% plus compliance rate. However, as the Agency targets its inspections to the highest risk generators and to those industry types that have shown the highest potential for or actual environmental damage, the compliance rates may drop temporarily. Hopefully, this will be mitigated by targeting assistance and outreach to those same businesses. Some of the factors that may affect these targets are the economy, rule changes, and budgetary restraints.

Goal 6 : To prevent adverse impacts on human health and the environment caused by the generation, transportation, storage, or treatment of hazardous wastes, including household hazardous wastes and "special" hazardous wastes.

Objective 3 : To increase the opportunities for proper management of special wastes by at least 10% each year.

Measure 1 : Opportunities for Special Waste Management

**Number of commercial
special waste
consolidation sites**

Actual	108	225	405		
Target				600	800

**Number of VSQG
Collection Programs**

Actual	1	3	6
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DEFINITION :

Special wastes are materials that are frequently disposed of in the trash or down the drain, both legally and illegally. The Special Wastes programs seek to reduce direct releases to the air and ground in and around homes and business and also indirect environmental releases via MSW processing and disposal systems and wastewater treatment systems. Special wastes differ from the typical regulated hazardous wastes because they are either unregulated at the time of disposal by the user or are regulated materials for which the standard hazardous waste regulations present actual barriers to proper management. Among the common materials that are included in the category "Special Waste" are: Household Hazardous Wastes (HHW), Very Small Quantity Generator Wastes (VSQG) and a variety of other wastes such as batteries, used oil, fluorescent lightbulbs, Mercury-containing items and electronics that are generated, usually in very small amounts, by an extremely large number of business.

RATIONALE :

These are output measures related to the activity of developing and promoting accessible waste management options. This objective and its related measures are believed to correlate with protection of the environment and reductions of total public cost. The premise behind these measures is that an increase in accessibility of collection services will increase the amount of waste collected, an increase in the amount of waste collected will result in a decrease in the amount of waste going for uncontrolled disposal direct to the environment or to public waste management facilities, and a decrease in uncontrolled disposal of waste will result increased environmental protection and lower cost to treat wastes, control emissions and protect facilities.

The objective and measures selected for the Special Waste programs are related to the actual, difficult to quantify outcomes that the Special Waste Programs hope to achieve. In this performance report, there are no objectives or measures included for the other two main Special Waste Program activities, reducing the inherent hazards in products or promoting safe and sensible product purchase, use and storage. The Special Waste Program intends to work on developing measures to quantify the outputs related to behavior changes in the users of products and hopes to include those in future performance reports. There is no plan at this time to try to develop numerical measures of statutes or partnerships developed to change the nature of products.

The following Special Waste program outcomes are difficult to measure directly, and even where potential measures could be developed, the outcomes sought are sufficiently broad that even distinct, measurable changes would be difficult to attribute to any specific program output or group of outputs. The currently unmeasured desired outcomes of the Special Waste Program are:

Protection the environment, both long and short term, by reducing the amount and toxicity of pollutants released;

Enhancement of the health and safety of people in their homes by providing information and education on the purchase, use and storage of household chemical products; protection of workers in the waste management industry by removing hazardous products from the waste stream;

Protection of the large investments made in waste processing facilities by preventing damage due to discarded household chemicals; and

Reduction of the long-term cost of emission controls and residuals treatment for waste processing facilities.

Goal 7 : To minimize the effect of spills and other environmental emergencies on public health and the environment.

Objective 1 : To provide assistance or oversight to spills and environmental emergencies so that significant incidents are appropriately remediated in a timely manner.

Measure 1 : Number of significant incidents where the MPCA is involved.

**Incidents with MPCA
response involvement**

Actual	850	900	1000		
Target				1050	1050

RATIONALE :

The initial responders to most serious incidents have never before been involved in a serious environmental emergency before. They generally say they desire and they generally need MPCA guidance. Oversight of the long term cleanup of a spill or environmental emergency is also generally desired and usually needed.

DATA SOURCE :

Approximately 2,000 incidents are reported each year to MPCA. Beginning in 1996 the database contains a field which indicates incidents which have received MPCA involvement. For years prior to 1996, an approximate 50:50 ratio of total incidents to incidents receiving MPCA involvement is used.

DISCUSSION OF PAST PERFORMANCE :

As the numbers of incidents reported grows the percentage of incidents in which ERT can be involved will probably fall if the preparedness and effectiveness goals are maintained. More of the smaller incidents will go without MPCA involvement.

Goal 8 : Minimize the impact of past solid waste disposal on the environment.
Objective 1 : Prevent contamination release to ground water at 100% of the 106 closed landfills in Minnesota, by the year 2005.

Measure 1 : Percent reduction of the volume of leachate flowing from the 106 closed landfills to ground water.

	<u>F.Y.1994</u>	<u>F.Y.1995</u>	<u>F.Y.1996</u>	<u>F.Y.1997</u>	<u>F.Y.1998</u>	<u>F.Y.2005</u>
Percent Reduction In Volume of Leachate To Environment						
Actual	26%	31%	36%			
Target				40%	45%	100%

DEFINITION :

Precipitation enters landfills without covers and flows through disposed wastes, picking up contaminants. This mix of liquid and dissolved contaminants is leachate. With no controls implemented, an average of 132 million gallons per year of leachate could flow from closed landfills to ground water. As covers are constructed, surface water entry to landfills is limited. The measure is the amount of leachate flowing to ground water from the 106 closed landfills, in million gallons/year, compared to the amount of leachate estimated to flow to ground water from the 106 closed landfills if no covers were constructed. The annual estimated flow of leachate from closed landfills is presented in the Background section of this Activity.

RATIONALE :

The Closed Landfill Program was created during the 1994 Legislative Session to clean up, operate, and maintain closed landfills as efficiently as possible. The program has a 10 year goal for completion of all construction activities at the 106 closed landfills. Operation and maintenance of the landfills continues until there is no longer an environmental impact from the landfill. Installation of covers is a critical step in limiting and preventing pollution to ground water.

DATA SOURCE :

The data source for total leachate volume is monitoring well data summarized in the 1994 Closed Landfill Assessment Report. Construction contracts annually let by the State and the Closed Landfill Program Report prepared summarize the volume that is controlled by construction of landfill covers.

DISCUSSION OF PAST PERFORMANCE :

The Closed Landfill Program replaces Superfund as the tool to address landfill cleanup. Under Superfund, response actions were developed at approximately 13 landfills over a 10 year period. Much of the work was investigative and determining the actions that would be necessary to respond to environmental problems. Typically, cleanup of contamination did not occur. The time that it took to go from discovery of a problem to implementation of a cleanup remedy was in excess of six years at most landfills. The primary cause of the delay was the significant time required to allocate costs between the numerous Responsible Parties who used and operated the landfills. Anticipating significant program changes, the version of this measure presented in the 1994 Performance Report was projected at an optimistic level. The program had just been approved by the 1994 Legislature, and the program was just being initiated. Two years of program experience has resulted in a more realistic projection.

PLAN TO ACHIEVE TARGETS :

To meet the targets identified, a streamlined approach has been designed that efficiently allows the State to address all 106 landfills within the 10 year time frame. Work teams bringing together areas of expertise have been established for each closed landfill. Preliminary determinations were made on actions that will be needed at each site, and the sites were prioritized. A decision flow chart is used to determine the scope of work necessary at each landfill, based on the environmental setting and site conditions. Additionally, attempts have been made to develop and maintain a close working relationship with facility owners and operators to make a smooth transition from Superfund to the Closed Landfill Program.

OTHER FACTORS AFFECTING PERFORMANCE :

There are several steps that occur before a landfill facility is issued a Notice of Compliance, which is needed before the State assumes responsibility for cleaning up a landfill. The law provides the tools necessary to get landfills into the program, but the process still consumes staff resources. Activities include development of reimbursement plans, land use plans, liens, property transfer, and financial assurance transfers. After a facility enters the program, the primary activities are design and construction of the remedial actions, and long term operation and maintenance of the landfills.

Goal 8 : Minimize the impact of past solid waste disposal on the environment.

Objective 2 : Prevent methane gas migration at 100% of the closed landfills which have excessive methane gas problems, by the year 2005.

Measure 1 : Percent reduction of the volume of methane gas released from closed landfills which have excessive gas problems.

	<u>F.Y.1994</u>	<u>F.Y.1995</u>	<u>F.Y.1996</u>	<u>F.Y.1997</u>	<u>F.Y.1998</u>	<u>F.Y.2005</u>
Percent Reduction In Volume To Environment						
Actual	33%	45%	50%			
Target				58%	70%	100%

DEFINITION :

Over time, as waste in landfills decomposes, methane gas is produced. As the gas migrates from the closed landfill to adjacent property and atmosphere, an explosive situation may develop. Consequently, active gas treatment systems will be installed at the 11 closed landfills that have excessive gas migration problems. The measure is the amount of methane gas recovered at these 11 closed landfills, in billion cubic feet/year., compared to the amount of methane gas that would be released to the environment by these 11 closed landfills if no controls were implemented. Without recovery, an average of 4 billion cubic feet/year of methane would be released to the environment. The amount recovered by collection systems annually is presented in the Background section of this Activity.

RATIONALE :

The Closed Landfill Program was created during the 1994 Legislative Session to clean up, operate, and maintain closed landfills as efficiently as possible. The program has a 10 year goal for completion of all construction activities at the 106 closed landfills. Operation and maintenance of the landfills continues until there is no longer an environmental impact from the landfill. Installation of gas collection systems will limit the migration into the environment of methane gas generated by the decomposition of waste.

DATA SOURCE :

The data source for total volume of methane produced at the 11 landfills is monitoring data summarized in the 1994 Closed Landfill Assessment Report. Construction contracts annually let by the State and the Closed Landfill Program Report prepared summarize the volume that is controlled by construction of active gas treatment systems.

DISCUSSION OF PAST PERFORMANCE :

This is a new measure. It was not presented in the 1994 Performance Report.

PLAN TO ACHIEVE TARGETS :

See discussion under measure on controlling ground water contamination from closed landfills.

OTHER FACTORS AFFECTING PERFORMANCE :

See discussion under measure on controlling ground water contamination from closed landfills.

- Goal 8** : Minimize the impact of past solid waste disposal on the environment.
- Objective 3** : Complete construction of remedial actions to control ground water contamination and methane gas migration at 100% of the 106 closed landfills by the year 2005.

Measure 1 : Percent of closed landfills where remedial actions have been completed.

	<u>F.Y.1994</u>	<u>F.Y.1995</u>	<u>F.Y.1996</u>	<u>F.Y.1997</u>	<u>F.Y.1998</u>	<u>F.Y.2005</u>
% Of Closed Landfills With Remediation Complete						
Actual	0%	4%	11%			
Target				24%	37%	100%

DEFINITION :

The measure is the number of landfills for which construction of remedial actions has been completed, compared to the number (75) of closed landfills requiring remediation. The number of closed landfills with remediation completed annually is presented in the Background section of this Activity.

RATIONALE :

The Closed Landfill Program was created in the 1994 Legislative Session to clean up, operate, and maintain closed landfills as efficiently as possible. The program has a 10 year goal for completion of all construction activities at the 106 closed landfills. The measure directly evaluates the program's success at meeting this program goal.

DATA SOURCE :

The initial data source is the 1994 Closed Landfill Assessment Report. Construction contracts let by the State and the Closed Landfill Program Annual Report summarize progress in completion of construction of remedial actions.

DISCUSSION OF PAST PERFORMANCE :

The Closed Landfill Program replaces Superfund as the tool to address landfill cleanup. Under Superfund, response actions were developed at approximately 13 landfills over a 10 year period (1984-1994). In comparison, this program has a 10 year goal of completion of all construction activities needed to limit environmental contamination from 106 closed landfills.

PLAN TO ACHIEVE TARGETS :

See discussion under measure on controlling ground water contamination from closed landfills.

OTHER FACTORS AFFECTING PERFORMANCE :

See discussion under measure on controlling ground water contamination from closed landfills.

Goal 8 : Minimize the impact of past solid waste disposal on the environment.

Objective 4 : Convert a minimum of 100 acres/year of landfill acreage to productive use, in each of the next five years.

Measure 1 : Amount of acreage at 106 closed landfills converted to productive use.

	<u>F.Y.1994</u>	<u>F.Y.1995</u>	<u>F.Y.1996</u>	<u>F.Y.1997</u>	<u>F.Y.1998</u>	<u>F.Y.1999</u>
Acres At Closed Landfills Converted to Productive Use						
Actual	0	90	200			
Target				300	400	500

DEFINITION :

This measure is the number of acres of unused land at closed landfills which have been converted to productive use. Productive use includes golf courses, farmland, parkland, and recreation. This is land that is part of the permitted closed landfill that surrounds the disposal area. If this acreage is not converted to reusable land, it would be maintained as open space and/or wildlife habitat. The total estimated acreage of unused land around the 106 closed landfills which could potentially be converted to productive use is 4000 acres.

RATIONALE :

The closed landfill program's purpose is to clean up landfills. Once land is cleaned up, the intent is to reuse it in some manner. This measure tracks progress in this area.

DATA SOURCE :

The Closed Landfill Program Report prepared annually summarizes the amount of land returned to productive use, in conjunction with each site's Land Management Plan.

DISCUSSION OF PAST PERFORMANCE :

The target for this measure presented in the 1994 Performance Report has been exceeded. The program was approved by the 1994 Legislature, and was just being initiated when the targets were prepared. Two years of program experience has resulted in a more realistic projection.

PLAN TO ACHIEVE TARGETS :

The Land Management Plans developed for each landfill address the reuse potential of the land surrounding the disposal site. Implementation of these plans results in data for this measure.

OTHER FACTORS AFFECTING PERFORMANCE :

Changes in the development potential of each site may enhance or limit this measure.

Goal 9 : To investigate contamination, clean up sites and return the land to productive use.
Objective 1 : Restore approximately 200 acres of land, 200 acres of ground water, and 50 acres of surface water each year, through FY 1999.

Measure 1 : Acres of land, surface water and ground water restored.

	<u>F.Y.1994</u>	<u>F.Y.1995</u>	<u>F.Y.1996</u>	<u>F.Y.1997</u>	<u>F.Y.1998</u>	<u>F.Y.1999</u>
Acres Of Land Restored (Cumulative)						
Actual	N/A	N/A	1554e			
Target				1700	1900	2100
Acres Of Surface Water Restored (Cumulative)						
Actual	N/A	N/A	1612e			
Target				1650	1700	1700
Acres of Ground Water Restored (Cumulative)						
Actual	N/A	N/A	N/A			
Target				200	200	200

DEFINITION :

This measure tracks progress in the restoration of environmental resources after the cleanup of contamination resulting from old or abandoned hazardous material disposal and spills which resulted from business and manufacturing operations. The surface area of land and surface water in acres is reported by responsible parties conducting cleanups. Acreage of ground water restored is laterai (horizontal) extent of the previously contaminated ground water resource. The data for the measure are derived from site specific information collected and maintained by the program.

RATIONALE :

MPCA has the statutory responsibility to investigate and clean up releases of hazardous substances. The measures represent the environmental outcomes after a process of extensive investigation and cleanup in frequently complex technical site situations. The measures are the best available indication of the ecological benefits gained through investigation and cleanup of hazardous waste sites. Although the acreage may not seem significant, cleaning up sites also achieves the program goal of improving the public welfare. Site cleanup increases the property value of the site and the adjacent area, as well as removing a stigma associated with being a Superfund site.

DATA SOURCE :

This activity has developed improved indicators since the last Performance Report and is in the process of establishing a data base for data collection and management. The data are gathered from investigation reports and annual reports submitted by parties responsible for the site cleanup, and calculations made by agency site teams. Currently, data collection occurs once per year. If a data base can be successfully developed and implemented it will be updated on a continuous basis. Data gathering on a one time basis often requires estimates because going back and gathering actual individual data points is not practical given the large volume of information and number of sites.

Although there is a fixed number of known sites, it is not possible to estimate the number of unknown sites yet to be discovered. In the background section, a very rough estimate has been made to provide some context to consider for future planning. Because a number of known sites have yet to be investigated to determine the extent of contamination, and because a number of sites have yet to be discovered, the universe of land, surface water, and ground water contamination in the State is unknown. Also, the data presented here does not include sites cleaned up under the voluntary investigation and cleanup activity discussed in another objective.

DISCUSSION OF PAST PERFORMANCE :

The complexity of the issues and the stakes involved with the Superfund program can drive up costs and prolong cleanup. Of the site cleanups administered by the State, 90% have been completed. Time frames and costs have now been reduced with increased State experience in the Superfund process. In addition, the threat of active enforcement action under a strong State Superfund law has motivated many private parties to pursue a non-enforcement mode within the traditional program or within the voluntary investigation program, using a less contentious and a more streamlined, approach to cleanup offered by the agency. Acceleration of the pace has been evident on a number of sites.

PLAN TO ACHIEVE TARGETS :

The program is in transition to convert the investigation and cleanup process to a customer driven program which uses risk based approaches, which will result in streamlining and improvements in consistency. The identified environmental outcomes are directly related to the outcomes built into the risk based approach. Customer input will improve program responsiveness and is intended to result in a fairer, more effective cleanup program. The agency will improve efficiency in screening potential sites without cumbersome federal requirements for the site discovery program and reduce the amount of time in the early stages of the investigation process. Critical paths of cleanup activities will be developed for all remaining sites on the State priority list and the agency will make every effort to meet them by using all appropriate technologies and methods to facilitate and expedite cleanup.

The agency has obtained authorization from US EPA to oversee all 13 enforcement sites on the National Priority List where responsible parties have been identified, and achieve cleanup without federal review or concurrence. This authorization will eliminate the delays that have characterized the federal program, reducing administrative costs for both the agency and the responsible parties, and move more quickly to response actions which address the site contamination.

OTHER FACTORS AFFECTING PERFORMANCE :

A strong law and enforcement policy including strict joint and several liability to use with responsible parties to facilitate site investigation and cleanup will minimize State costs and encourage responsible parties to complete the cleanup activities as soon as possible. There is a strong desire among regulators and the regulated community to find ways to keep the program effective and at the same time make cleanup programs more fair.

Goal 9 : To investigate contamination, clean up sites and return the land to productive use.
Objective 2 : To reduce by 80,000 annually the number of Minnesotans at risk from exposure to contaminated environmental media, or are negatively affected by contaminated sites.

Measure 1 : Number of Minnesotans who have had their exposure to contaminated environmental media eliminated or reduced, and number of Minnesotans who are no longer negatively affected by contaminated sites.

	<u>F.Y.1994</u>	<u>F.Y.1995</u>	<u>F.Y.1996</u>	<u>F.Y.1997</u>	<u>F.Y.1998</u>	<u>F.Y.1999</u>
Minnesotans Benefitting From Env. Cleanup (Cumulative)						
Actual	NA	NA	830,000e			
Target				913,000	1,014,300	1,115,730

DEFINITION :

The number of Minnesotans whose exposure to contaminated land, surface water, or ground water has been eliminated or reduced includes the population within one mile of a site which has been cleaned up, or the number of population served by an alternative drinking water supply, when their drinking water source has been contaminated. The number of Minnesotans benefiting from a site cleanup is based on normalized population for each county residing within a one mile radius of a site, multiplied by the number of site cleanups, which is anticipated to be 25 per year.

RATIONALE :

The agency has the statutory responsibility to protect the public health and welfare. Measuring the number of Minnesotans whose public health risk has been eliminated or reduced indicates our success at fulfilling this responsibility. Risk may be actual or potential; the program reduces both.

A number of Minnesotans live with the stigma of residing in the vicinity of a hazardous waste site. This impacts their welfare, depressing property values and related quality of life. In addition to actual or potential human health risk elimination, the program measures the number of Minnesotans whose welfare benefits from the cleanup of a site.

DATA SOURCE :

The data for this measure is gathered from census data interfaced with the boundaries of a known Superfund site. For those provided with alternative water supply, the data source is the service population.

The context of the population of Minnesotans benefiting from the site cleanup is based on the known universe of sites. There are unknown sites affecting a number of Minnesotans, and this population will be quantified as sites are discovered and investigated.

DISCUSSION OF PAST PERFORMANCE :

This is a new measure. It was not included in the 1994 Performance Report.

PLAN TO ACHIEVE TARGETS :

The program projects cleanup of up to 25 sites annually through 1999.

OTHER FACTORS AFFECTING PERFORMANCE :

The program projection of 25 site cleanups annually through 1999 is contingent upon cooperation of parties responsible for site cleanups, as well as availability of State and Federal funds to clean up abandoned sites. Enhancements to the State Superfund funding structure and statutory changes that aim to create a more "fair" Superfund are critical to motivating responsible parties to cooperate on site cleanups. A viable fund balance provides a basis to threaten a responsible party that the State will clean up a site and seek reimbursement, if they are recalcitrant.

Goal 9 : To investigate contamination, clean up sites and return the land to productive use.
Objective 3 : Recycle a minimum of 500 acres of contaminated land to productive use annually over the next five years.

Measure 1 : Number of acres recycled annually under the Voluntary Investigation and Cleanup program.

	<u>F.Y.1994</u>	<u>F.Y.1995</u>	<u>F.Y.1996</u>	<u>F.Y.1997</u>	<u>F.Y.1998</u>	<u>F.Y.1999</u>
Number Of Acres Recycled						
Actual	1750e	2000e	2500e			
Target				3000	3500	4000

DEFINITION :

The measure is the number of acres of land recycled or put back into economic use under the Voluntary Investigation and Cleanup program. This land may or may not have required cleanup, depending on investigation results and planned use. It is derived from data submitted by the voluntary parties initiating the cleanup action.

RATIONALE :

One of the long standing goals of the Voluntary Investigation and Cleanup program is to recycle contaminated land to productive use. At approximately 30-40 percent of the sites entering the program, a cleanup is conducted. The number of acres recycled is a direct measurement of the program objective.

DATA SOURCE :

Voluntary parties submit information on the acreage of their sites upon entering the Voluntary Investigation and Cleanup program. The acreage data are rough calculations based upon information in the associated site files. The acreage data are compiled by staff annually by summarizing the acreage of sites receiving liability assurances from the program.

DISCUSSION OF PAST PERFORMANCE :

The previously estimated target for the measure anticipated an increase in sites coming into the program based on workload trends occurring in the early 1990's. Instead on continuing to increase at the same rate, workload growth has plateaued with erratic increases.

PLAN TO ACHIEVE TARGETS :

The Voluntary Investigation and Cleanup program staff will continue to actively market the program's services by attending national, state and local level speaking engagements, participating in local land recycling work groups and workshops, and generally being available to answer questions from developers and lenders and their respective organizations.

OTHER FACTORS AFFECTING PERFORMANCE :

A positive economic climate will provide the primary motivation for voluntary parties to investigate and clean up property. The number of voluntary parties will also be affected by the state and federal Superfund laws and programs, the type and number of sites being discovered/assessed by MPCA's Site Assessment activity, and the level of education and outreach activities undertaken by Voluntary Investigation and Cleanup program staff.

Goal 10 : To provide accurate and current data on actual and potential contamination sources to agency customers.

Objective 1 : Achieve an overall customer satisfaction rating of 95% or more from customers located in the areas of Minnesota primarily served by the Property Transfer File Evaluation program, by the year 2001.

Measure 1 : Percentage rating of overall customer satisfaction from customers located in areas of Minnesota primarily served by the File Evaluation program.

	<u>F.Y.1992</u>	<u>F.Y.1993</u>	<u>F.Y.1995</u>	<u>F.Y.1997</u>	<u>F.Y.1999</u>	<u>F.Y.2001</u>
Percentage Rating Of						
Overall Customer						
Satisfaction						
Actual		88%				
Target				90%	92%	95%

DEFINITION :

In an effort to provide maximum customer service, the program will measure both internal and external customer satisfaction by utilizing a customer satisfaction survey. Numbers of customers using the services of this program are presented in the Background section of this Activity. The program provides two services: response to requests for data, and response to requests for file evaluations. Customers of data requests will be surveyed based on their overall satisfaction on data provided from the program. Customers of file evaluation requests will be surveyed separately regarding the program's ability to provide data to meet the specific needs of environmental assessments. In 1992, a customer satisfaction survey was sent to all Property Transfer File Evaluation program customers. Of the 63 customers receiving the survey, 23 responded, providing a response rate of 37%. This past survey will be used as a benchmark to measure new survey results.

Content of the survey will include satisfaction with:

- accuracy of the data (i.e., did the accuracy of the data meet customer needs)
- currentness of the data (i.e., was the data as up to date as needed by the customer)
- format of the data (i.e., was the data displayed and arranged in a manner that met the specific needs of the customer)
- timeliness of the response (i.e., was the turnaround time of the final product acceptable)

The survey will also request suggestions for improvements.

The results of the survey will be calculated based on the number of customers responding to the surveys. Percentages will be determined for overall satisfaction as well as for specific areas as described above. In an effort to address bias that could impact the results of the survey, non-responders will be contacted to determine why they did not respond, and other considerations will be made to ensure that the survey results are statistically valid. Pertinent changes will be implemented where feasible. Where changes are not possible, an explanation will be provided.

RATIONALE :

The Property Transfer File Evaluation program was specifically established to provide assistance to customers involved in property transactions. Customers need accurate and current data to enable them to make informed decisions about real or potential environmental liabilities; therefore, customer satisfaction is directly related to the program's performance.

DATA SOURCE :

The 1992 customer satisfaction survey is a benchmark in determining overall customer satisfaction. Four months after the inclusion of maps with the Property Transfer File Evaluation report, the first follow-up survey will be conducted (second or third quarter FY1997). Followup surveys will be conducted every two years thereafter (1999 and 2001). The surveys will be administered to actual customers of the program, as well as customers making data requests, to ensure results that directly impact maximum client satisfaction.

DISCUSSION OF PAST PERFORMANCE :

Currently, the MPCA collects and maintains data on approximately 79,000 sites, with the majority of the sites being underground storage tanks, leaking underground storage tanks, spills, and hazardous waste generators. Information that pinpoints the location of a site, however, is not always collected in a way that allows the Property Transfer File Evaluation program to respond effectively to requests for information that meets real estate industry standards. As a result, the file evaluations produced are cumbersome and do not sufficiently satisfy customer needs. For example, in response to a customer request for information about potential environmental contamination in the area of a site, environmental data are provided by city or by zip code rather than visually displayed on a map. The customer must review lengthy lists and determine for themselves which real estate properties with environmental problems have close proximity to a site.

In FY 1992, the program averaged 155 data requests per month. Currently, the program averages 85 requests per month. The primary reason for this decline is because the program is unable to provide the data in the format needed by the customers. In the past, locational data was not a primary need for the program areas responsible for overseeing the sites with environmental contamination. However, location-specific data needs to be collected for these sites in order for the Property Transfer File Evaluation program to meet its customers' needs. The decline in requests is not due to a decrease in demand for the information, but due to the inability to perform data searches which yield sites with environmental problems and their specific locations. The result has been reports which fall short of meeting customer needs.

PLAN TO ACHIEVE TARGETS :

The 1992 customer survey showed that environmental data need to be accurate and current, as well as be provided on a map depicting actual and potential contaminant sources in order for the program to achieve customer satisfaction.

The primary method to achieve program targets is to acquire accurate site location information that the Agency has not collected in the past. In addition to collecting specific address information, these sites will need to be located on a map and entered into the Geographic Information System. This system is a tool utilized by the Property Transfer File Evaluation program to design maps and complete file evaluations. Specific sites to be targeted include: currently active generators of hazardous waste, registered underground storage tanks, leaking underground storage tanks, and spills of hazardous substances or petroleum products.

A follow-up survey would assist in determining the level of improvements made to date and the need for future improvements. This survey data would be used to develop an implementation plan for meeting the goal of 95% customer satisfaction.

OTHER FACTORS AFFECTING PERFORMANCE :

The need for location-specific data on all MPCA sites of known and potential contaminants is the primary factor affecting the level of customer satisfaction. Secondary factors include the need for the appropriate tools for MPCA to collect, maintain and assimilate the data. Also, the data should be provided to the public in the most cost-efficient and accessible manner available.

Goal 11 : To investigate facilitating the evaluation, minimization, or correction of petroleum contamination impacts to soil and water caused by leaking underground storage tank systems.

Objective 1 : To oversee the prompt investigation, cleanup, and closure of 8,230 petroleum tank release sites by 1999.

Measure 1 : Cumulative Number of LUST Sites Closed

**# of LUST sites which
have reached closure**

Actual

3445

4536

5772

Target

6592

7412

Goal 11 : To investigate facilitating the evaluation, minimization, or correction of petroleum contamination impacts to soil and water caused by leaking underground storage tank systems.

Objective 2 : Provide technical assistance and liability assurance needed to expedite and facilitate the development, transfer, investigation and/or cleanup of property that is contaminated with petroleum.

Measure 1 : Number of contaminated properties that have been successfully transferred or developed as a result of involvement in the VPIC Program.

Number of applications
received by VPIC

Actual	43	122	244		
Target				268	295
Benchmark				248	248

Goal 11 : To investigate facilitating the evaluation, minimization, or correction of petroleum contamination impacts to soil and water caused by leaking underground storage tank systems.

Objective 3 : To identify the major petroleum storage facilities which are contaminated, and get the responsible party to investigate and cleanup in a timely manner.

Measure 1 : Number of major facilities under investigation and cleanup oversight.

#of major facilities under
investigation & cleanup
oversight

Actual

23

29

GLOSSARY

BASIN	A tract of land in which the ground is broadly tilted toward a common point. Water which falls onto any portion of the basin is carried toward the common point by a single river system.
BIOCHEMICAL OXYGEN DEMAND (BOD)	A measure of the oxygen needed to breakdown the organic matter in the waste. BOD reduces the oxygen level in the water as the waste is degrading.
CLEAN WATER PARTNERSHIP (CWP) PROGRAM	A program created by the legislature in 1990 to protect and improve ground water and surface water in Minnesota by providing financial and technical assistance to local units of government interested in controlling nonpoint source pollution.
INDEX OF BIOTIC INTEGRITY (IBI)	
NATIONAL POLLUTANT DISCHARGE ELIMINATION SYSTEM	The national program for issuing, modifying, revoking and reissuing, terminating, monitoring and enforcing permits under the Clean Water Act.
NONPOINT SOURCE (WATER)	A nonpoint source of pollution is land-use activity that contributes to ground- or surface-water pollution as a result of runoff, seepage or percolation over a large area.
POINT SOURCE (WATER)	A point source of pollution is any discrete conveyance from which pollutants are discharged. Examples of such conveyances include pipes, channels, ditches, containers, boats, railway cars, etc.
SEDIMENT	As used in this report, sediment means tiny fragments of rock, plant material, bacteria, algae, etc. which are transported in suspension by moving water. As the velocity of the moving water is reduced, the sediment is deposited on the bottom of the stream.
STATE DISPOSAL SYSTEM	The state program for issuing, modifying, revoking and reissuing, terminating, monitoring and enforcing permits.
STATE REVOLVING FUND	The state program for providing low-interest loans to water pollution control projects.
TOTAL SUSPENDED SOLIDS (TSS)	A measure of the material suspended in the wastewater. Total Suspended Solids cause interference with light penetration, buildup of sediment and potential reduction in aquatic habitat. Solids also carry nutrients that cause algal blooms and other toxic pollutants harmful to fish.

APPENDIX**AGENCY : Measures Deleted From the 1994 Performance Report**

The 1994 Performance Report was the first completed by the MPCA. Based on comments we received from the Office of the Legislative Auditor and the Department of Finance, substantial changes have been made in the 1996 document. In particular, certain measures that were proposed in the 1994 report and were determined to be less than adequate by the reviewers, have been either modified, used as background measures or removed altogether. Where 1994 measures have been slightly changed or used in a different fashion, the changes is justified in the program section.

The appendix contains those measures from the previous report that we've decided are no longer necessary to include in this report. Each measure is listed under the program name and the page number from the 1994 Performance Report is also given as a reference.

Program: Water Pollution Control**Deleted Measure and Page Number in the 1994 Report:**

Number of citizen participation activities and partnership projects underway, p. 10

Number of permanent automated, ambient and other monitoring sites, p. 12

Number of compliance inspection completed at major and minor point sources, p. 21

Program: Air Pollution Control**Deleted Measure and Page Number in the 1994 Report:**

Number of air pollution monitoring sites for criteria pollutants, p. 28

Number of monitoring sites for special air pollutants, p. 29

State implementation plan development and rulemaking, p. 31

Environmental benefits of permitting, p. 33

Program: Ground Water and Solid Waste Management**Deleted Measure and Page Number in the 1994 Report:**

Average or expected ground-water quality, p. 47

Shrinking waste tire piles and managing new generation of tires, p. 54

Program: Hazardous Waste Management**Deleted Measure and Page Number in 1994 Report:**

Permitted facilities, p. 66

Education and technical assistance provided to regulated community, p. 66

Complaints received and inspections conducted, p. 67

Consolidation of special wastes by type, p. 70

Collection of wastes from VSQG's, p. 71

Amount of mercury or other toxics prevented from entering solid waste as a result of reductions, p. 73

Program: Policy and Operations Support

APPENDIX

Deleted Measure and Page Number in 1994 Report:

Public involvement and approval ratings, p. 87

Public awareness and participation, p. 88

Environmental assessments prepared for public review, p. 89