POLLUTION PREVENTION SUMMARY REPORTS

as submitted by
members of the

Interagency Pollution Prevention Advisory Team

July 1995

POLLUTION PREVENTION *Right From The Start*

For more information on pollution prevention activities in Minnesota State Government, please contact:

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520 Lafayette Road Second Floor
St. Paul, Minnesota 55155-4100
(612) 215-0210

Order of Pollution Prevention
Summary Reports

Dept. of Administration
Dept. of Agriculture
Dept. of Corrections
Office of Environmental Assistance
Dept. of Health
Dept. of Human Services
Metropolitan Council including:
Transit Operations and Wastewater Services
Military Affairs
Metropolitan Mosquito Control District
Dept. of Natural Resources
Pollution Control Agency
Dept. of Public Service
State University System
Dept. of Transportation
University of Minnesota
Board of Water and Soil Resources

STATE OF MINNESOTA

EXECUTIVE DEPARTMENT

EXECUTIVE ORDER 91-17
PROVIDING FOR THE IMPLEMENTATION OF
POLLUTION PREVENTION BY STATE GOVERNMENT

I, ARNE H. CARLSON, GOVERNOR OF THE STATE OF MINNESOTA, by virtue of the authority vested in me by the Constitution and the applicable statutes, do hereby issue this Executive Order:

WHEREAS, Minnesota state agencies release pollution into the environment through their operations, regulate activities in the state that release pollution, and purchase items and set specifications that may lead to the release of pollution; and

WHEREAS, pollution prevention reduces pollution at its source rather than treating or controlling pollution after it has been created; and

WHEREAS, pollution prevention often results in cost savings and increased efficiencies as well as enhanced environmental protection; and

WHEREAS, the Minnesota Toxic Pollution Prevention Act, Minnesota Statutes, Chapter 115D, specifies that it is the policy of the state to encourage pollution prevention; and

WHEREAS, there is considerable potential for pollution prevention in state government;

NOW, THEREFORE, I hereby order state departments and agencies to take additional steps to prevent pollution:

1. All departments and agencies of the State of Minnesota shall give priority to preventing pollution at its source of generation.

2. An Interagency Pollution Prevention Advisory Team shall be established to:

   (a) promote regular communication and cooperation between state agencies in preventing pollution;

   (b) provide guidelines for state agencies in meeting the requirements of (4) through (6) below;

   (c) review state agency progress reports;

   (d) serve as a clearinghouse of information on progress made by state agencies in preventing pollution;

   (e) encourage the implementation of pilot projects in which state government can serve as a model;

   (f) promote efficiency in governmental efforts by reducing overlap of activities and by encouraging the sharing of innovative ideas; and

   (g) make recommendations for enhancing pollution prevention in state government.

3. The Interagency Pollution Prevention Advisory Team shall be chaired by a representative of the Office of Waste Management. All state agencies shall cooperate with the team in the execution of this order. The team shall include but

not be limited to representatives of the departments of Administration, Agriculture, Corrections, Health, Human Services, Military Affairs, Natural Resources, Public Safety, Public Service, Transportation, Pollution Control Agency, Office of Strategic and Long-Range Planning, Community College System, State University System, Technical College System, University of Minnesota, Metropolitan Airports Commission, Metropolitan Council, Metropolitan Mosquito Control Commission, Metropolitan Transit Commission, and Metropolitan Waste Control Commission. The team shall meet regularly.

4. Heads of state agencies that generate significant quantities of hazardous waste or use significant quantities of toxic chemicals shall develop policy statements indicating that pollution prevention is a priority. These agencies shall also undertake activities to reduce their generation of hazardous waste and use of toxic chemicals.

5. Heads of state agencies that regulate activities in the state which generate significant quantities of hazardous waste or use significant quantities of toxic chemicals, or whose policies have important effects upon such activities, shall develop policy statements indicating that pollution prevention is a priority. These agencies shall also undertake efforts to integrate pollution prevention into their regulatory and policy activities.

6. State agencies, subject to (4) and (5) above, shall prepare summary reports annually on their progress in preventing pollution with the first reports to be completed by July 1, 1992. At a minimum, these reports shall include a description of steps taken to integrate pollution prevention into agency activities, a summary of plans for future activities to prevent pollution, and an estimate of environmental and economic benefits, when applicable, which have resulted from preventing pollution.

7. State agencies whose purchasing policies or specifications result in the generation of significant quantities of hazardous waste or the use of significant quantities of toxic chemicals shall, in cooperation with the Department of Administration, investigate

opportunities to encourage pollution prevention through their purchasing policies and specifications.

8. Information on progress of state agencies in preventing pollution shall be included in the Pollution Prevention Evaluation Report to the Legislature required by Section 115D.10 of the Minnesota Toxic Pollution Prevention Act.

9. State agencies are encouraged to apply for the annual Governor's Award for Excellence in Pollution Prevention, as authorized by Section 115D.06 of the Minnesota Toxic Pollution Prevention Act. A special award category for excellence in pollution prevention shall be established for state agencies.

10. The Office of Waste Management shall provide technical assistance to state agencies in the implementation of this order.

Pursuant to Minnesota Statutes 1990, Section 4.035, subd. 2, this Order shall be effective fifteen (15) days after publication in the State Register and filing with the Secretary of State and shall remain in effect until rescinded by proper authority or it expires in accordance with Minnesota Statutes 1990, Section 4.035, subd. 3.

IN TESTIMONY WHEREOF, I have set my hand this sixteenth day of September, 1991.

Arne H. Carlson

ARNE H. CARLSON
Governor

Filed According to Law:

Joan A. Growe

JOAN ANDERSON GROWE
Secretary of State

STATE OF MINNESOTA
DEPARTMENT OF STATE
FILED
SEP 16 1991
Joan Anderson Growe
Secretary of State

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STATE OF MINNESOTA

Department of Administration

MINNESOTA DEPARTMENT OF ADMINISTRATION

FY 95 POLLUTION PREVENTION

SUMMARY REPORT

Department of Administration

STATE OF MINNESOTA
Office Memorandum

Date: October 24, 1995

To: Edward Garvey, Director
Office of Environmental Assistance

From: Elaine S. Hansen, Commissioner
Voice: 296-1424
TTY/TDD: 297-4357
FAX: 297-7909

Subject: FY 95 Admin Pollution Prevention Report

Attached is the "Minnesota Department of Administration FY 95 Pollution Prevention Summary Report." This report fulfills the requirements of the "Governor's Executive Order 91-17 Providing for the Implementation of Pollution Prevention by State Government." Examples of Administration's efforts to avoid and reduce the generation of hazardous wastes within state government are documented.

attachment

CONTENTS

EXECUTIVE SUMMARY

The Minnesota Department of Administration FY 95 Pollution Prevention Summary Report fulfills the requirements of the "Governor's Executive Order 91-17 Providing for the Implementation of Pollution Prevention by State Government." Department of Administration (Admin) activities which avoid or reduce the generation of toxic discards are summarized in accordance with pollution prevention as defined by Minnesota Statutes Section 115D.03 Subd. 8. Pollution prevention is defined as "eliminating or reducing at the source the use, generation or release of toxic pollutants, hazardous substances, and hazardous wastes."

Administration's policy (Exhibit 1) and priorities (Exhibit 2) for Environmental Materials Management (EMM) include pollution prevention as a top priority. Admin's Plant Management Division implements its Mission Statement (Exhibit 3) "to deliver consistent quality services to ensure clean, safe and environmentally-sound buildings, grounds and operations." The Mission Statement incorporates environmental stewardship as a core value: 1. conservation of resources, 2. prevention of pollution, 3. promotion and education, and 4. integration into all work places and services. Admin's Division of Plant Management also incorporates pollution prevention into its mission statement and is requiring pollution prevention responsibilities in all employee position descriptions.

DEPARTMENT OF ADMINISTRATION POLLUTION PREVENTION CONTACT

Lynne H. Markus
Administrator, State Government Resource Recovery Program
Plant Management Division - Resource Recovery Office
50 Sherburne Avenue, Room 309
St. Paul, MN 55155

Voice: (612) 296-9084
TTY: (612) 296-6280

POLICY STATEMENT

Admin specifically addresses pollution prevention as a top priority of the "Department of Administration Policy on Environmental Materials Management" (Exhibit 1) and the "Minnesota Department of Administration Priorities for Environmental Materials Management" (Exhibit 2).

The Environmental Materials Management (EMM) policy encourages pollution prevention and promotes the preferred waste management practices listed in Minnesota Statutes, Section 115A.02 during the acquisition, use, maintenance and discard of materials. The EMM policy and priorities integrate environmental concepts into two categories: resource conservation options, including pollution prevention, and resource discard options. Displayed in Exhibit 2 as the largest portion of an inverted triangle, resource conservation options receive more emphasis than the discard option.

According to the priorities, the EMM policy is to first avoid and reduce waste toxicity and volume by maximizing the following resource conservation options: reliance upon renewable resources, reuse and waste reduction, and pollution prevention.

After the potential for resource conservation has been maximized, resource discard options can be considered in the following, descending order of priority: waste recycling, yard and food waste composting, municipal solid waste composting and incineration, and hazardous waste disposal.

Information regarding Admin's EMM activities other than pollution prevention, such as reduction, reuse, recovery or recycling of solid waste; and the collection, transportation, treatment, storage or disposal of hazardous waste are not reviewed in this report.

POLLUTION PREVENTION ACTIVITIES

NEW ACTIVITIES

Examples of Admin's pollution prevention activities initiated in fiscal year 1995 are provided below.

I. **Plant Management Division** conducted the following new activities:

A. Provided a Resource Recovery Office representative to assist with the planning and judging of the first annual pollution prevention awards program for state employees and with planning of two pollution prevention workshops for state agencies sponsored by the Office of Environmental Assistance's Interagency Pollution Prevention Advisory Team.

B. Provided a Grounds Services representative to participate on a Public Lands Task Force, a state-wide panel composed of interested citizens and state agency staff. The purpose is to develop a plan to assure the application of sustainable agriculture practices and integrated pest management on all lands owned by the state.

II. **Print Communications (PrintComm)** conducted the following new activities:

A. The Micrographics and Records Center implemented the following activities:

1. Initiated a pilot program reusing waste aqueous ammonia in the duplication process.

2. Installed a water flow meter in the processing area, reducing water consumption by 58 percent.

B. The Printing Services completed the following improvements:

1. Replaced mold-producing carpets with tile.

2. Added a silver recovery unit to the film processor.

3. Added an air filtration system to the film processor to remove amines, ammonia, sulphur dioxide, formaldehyde and volatile organic compounds (VOC's) from the room without venting them outside.

III. **Travel Management Division** conducted the following new activities:

A. Replaced the use of a clay-based absorbent with a reusable product to manage chemical and oil spills. As a result, hazardous waste amounts discarded through the state's contract vendor are reduced.

B. Initiated testing of a new purifying automotive filter system to extend the life of the motor oil in the vehicle and to reduce the frequency of filter replacement.

POLLUTION PREVENTION ACTIVITIES

ONGOING ACTIVITIES

Admin divisions continue pollution prevention activities initiated in previous years. Examples are presented below.

I. **Building Code Division** continued the following activities:

A. Administered and enforced indoor air quality standards of the Minnesota State Mechanical Code in state-owned facilities and public schools.

B. Provided training that included environmental quality aspects of the Minnesota State Mechanical Code to more than 2,500 municipal building officials, inspectors, design professionals and contractors in FY 95.

C. Participated in contractor selection for completing retrofits of building lighting systems to achieve more efficient power consumption in buildings and to decreased levels of pollution at power plants.

D. Enforced new language reducing the use of lead-based solder in the construction of water piping.

E. Enforced the flame-spread rating for materials contained in interior finishes in order to reduce the spread of fire and toxic fumes.

II. **Building Construction Division** continued the following activities:

A. Continued to plan for avoiding the use of asbestos and lead in new state building construction.

B. Continued research on the use of natural, fiber-based building materials, adhesives, carpeting, upholstery, to achieve good indoor air quality.

C. Coordinated testing, removal and replacement of underground fuel storage tanks.

D. Encouraged building contractors to recycle scrap materials generated on state remodeling and construction projects.

III. **Intertechnologies Group** continued to require vendors to comply with federal and state refrigerant recovery requirements through Computer Operations Division efforts.

IV. **Minnesota Governor's Council on Developmental Disabilities** included environmental printing guidelines with requests for bids for print materials or graphic design work.

V. **Minnesota Office on Volunteer Services** continued to use environmentally appropriate paper and ink for printing projects.

VI. **Plant Management Division** continued the following activities:

A. Represented Admin on the Interagency Pollution Prevention Advisory Team through the efforts of the Resource Recovery Office staff.

B. Coordinated departmental pollution prevention information through coordination the Resource Recovery Office.

C. Revised all Plant Management Division employee position descriptions, requiring each employee to be individually accountable for achieving environmental stewardship as a function of their job responsibilities.

D. Used walnut chips with shot peening equipment to remove paint and gasket materials. This method of removal eliminates the need for chemical removal of paint and gasket material.

E. Removed all known underground fuel storage tanks and, with one exception, replaced them with above ground tanks.

F. Completed the separation of sewer and storm water systems within the Capitol Complex.

G. Rebuilt several parking lots and structures to meet water diversion guidelines.

H. Recycled incandescent light bulbs to prevent disposal in solid waste.

I. Coordinated building lighting retrofits with Division of Building Construction and Northern States Power Company to make power consumption more efficient and to decrease pollution levels.

J. Used janitorial products in Building Services operations that are appropriate to discard in sewers.

K. Used chemicals packaged as concentrates to reduce packaging waste by 85 percent in Building Services and Groundskeeping operations.

L. Expanded pollution prevention practices during the planting and care of landscaping by Grounds Services.

VII. **Real Estate Management Division** continued the use of soy-based ink for printing of office forms.

VIII. **Risk Management Division** requested soy-based ink for printing orders.

IX. **Travel Management Division's** staff continued the following activities:

A. Purchased and instituted the use of a water-based parts cleaner.

B. Purchased a freon recovery unit to recover automotive refrigerants, R-12 and R-134 A.

C. Purchased bulk oil in 55 gallon drums or 500 gallon bulk containers and filled reusable quart bottles.

D. Changed car wash soap, power washer soap, and degreasers to biodegradable products.

E. Drained oil filters for 24 hours to qualify containers for solid waste recycling instead of handling as a hazardous waste.

F. Purchased ethanol for use in state vehicles.

G. Used a Freon recovery unit to prevent CFC's from being vented into the atmosphere.

H. Initiated a new program in July 1994 with the purchase of 10 vehicles capable of running on a fuel mixture of 85% alcohol and 15% no-lead fuel.

I. Furnished fuel for 20 E-85 vehicles being purchased by the Department of Transportation and expanded the furnishing of fuel to federal and local governments.

J. Purchased re-refined oil for use and testing in state vehicles.

X. **Minnesota Office of Volunteer Services** continued to use soy-based inks for all of its stationery, brochures and other publications.

XI. **Print Communications Division (PrintComm)** continued the following activities:

A. The Micrographics and Records Center implemented the following pollution prevention activities:

1. Continued implementation of pollution prevention procedures identified by Minnesota Technical Assistance Program's 1994 onsite analysis of Micrographic Services Unit operations occurred.

2. Recovered laser printer cartridges and printer typing ribbons for reuse and recycling.

3. Reduced hazardous waste generation resulted from handling of anhydrous ammonia to achieve proper ventilation of the duplication area and from extensive employee safety and usage training in Micrographic Services Unit.

4. Reduced silver waste generation in the Micrographic Services Unit during silver recovery during the processing procedures.

B. PrintComm's Printing Services continued its pollution prevention activities.

1. Used agri-tech ink to reduce need for volatile organic chemical solvents and to reduce use of petroleum-based inks.

2. Reduced the use of toxic chemicals contained in the imaging/camera process.

3. Educated and influenced state agency printing customers to comply with environmental printing practices.

ACTIONS TO INTEGRATE POLLUTION PREVENTION INTO REGULATORY AND POLICY ACTIVITIES

NEW ACTIVITIES

Examples of Admin's fiscal year 1995 regulatory and policy activities for pollution prevention are provided below.

Building Codes and Standards initiated the following new regulatory activities:

A. Participated on a task force for the development of voluntary residential ventilation standards.

B. Promulgated rules to provide recycling space in public buildings, effective March 1995.

C. Administered and enforced rules adopted in the 1994 Minnesota State Mechanical code to permit the use of new, alternative refrigerants. The resulting new ventilation rates parallel the current industry standard for acceptable indoor air quality.

ACTIONS TO INTEGRATE POLLUTION PREVENTION INTO REGULATORY AND POLICY ACTIVITIES

ONGOING ACTIVITIES

Admin continued to incorporate pollution prevention and environmental materials management within its divisional restructuring and during the development of regulations and policies.

I. **Building Code Division** continued to facilitate pollution prevention through rules review and promulgation.

II. **Plant Management Division** continued the activities listed below.

A. Continued implementation of the division's Mission Statement and Quality Operations Planning encompassing pollution prevention and other environmental concepts.

B. Revised and updated employee position descriptions as a continuous process requiring each employee to be individually accountable for achieving environmental stewardship as a function of their job responsibilities. Employees are to follow state and federal requirements and shall identify opportunities to implement the following values:

1. Conservation of energy and environmental resources.

2. Prevention of pollution.

3. Promotion, education and integration of environmental stewardship into all work places and services.

C. Coordinated with the Minnesota Pollution Control Agency regarding proper toxic waste reduction and management of hazardous and problem wastes.

II. **PrintComm** continued to integrate pollution prevention policies into it's activities.

A. Followed state guidelines on pollution prevention activities with special emphasis in the Printing and Micrographics units.

B. Adhered to Minnesota Statutes 16B.122 regarding environmental printing within the Division and through Printing Services' promotions to other agencies. This action promotes the use of white and pastel paper in place of colored papers and fostered the use of vegetable-based ink.

C. Maintained testing of recycled black ink on all presses to eliminate waste ink disposal.

D. Continued pollution prevention actions by Micrographics and the Records Center are listed below:

1. Communicate to employees all new pollution prevention information and methods resulting from meetings and training sessions through the efforts of the Microfilm Supervisor/unit safety officer.

2. Implement any new policies and regulations issued that are appropriate to the unit in conjunction with management and agencies.

3. Conduct meetings between management and staff on compliance with new polities and regulations for the immediate implementation of new policies.

4. Work with the vendors for alternative chemicals that would be of a more environmentally-sound nature.

INCORPORATION OF POLLUTION PREVENTION INTO PROCUREMENT ACTIVITIES

NEW ACTIVITIES

Examples of Admin's incorporation of new pollution prevention during fiscal year 1995 procurement activities are listed below.

I. **Materials Management Division** initiated the following contracts for state agencies:

A. Added a solvent free paint (Glidden Lifemaster 2000) to a state contract that is available to all state agencies and cooperative purchasing program members.

B. Contracted to purchase 25 variable fuel vehicles which use 85 percent ethanol fuel. Of this total, 9 vehicles will be used by state agencies and 16 vehicles will be used by local governments.

II. **Materials Management and Plant Management Divisions** joined the Office of Environmental Assistance and other state agencies to cosponsor two "Workshops on Environmental Purchasing for Minnesota State Agencies" held on December 7, 1994, in St. Cloud and on December 15, 1994, in St. Paul. Speakers and exhibits were provided in addition to planning and publicizing the events.

III. **PrintComm** initiated the new procurement activities listed below.

A. "Woodworking for Wildlife" was featured with a spiral binding to replace the prior, perfect-bound, glue binding.

B. A new mailing list service catalog was printed on chlorine-free, 20 percent post-consumer recycled paper.

IV. **Travel Management Division** initiated the following new activities.

A. Purchased and instituted the use of a water-based parts cleaner.

B. Purchased a freon recovery unit to recover automotive refrigerants, R-12 and R-134 A.

C. Purchased bulk oil in 55 gallon drums and 500 gallon containers to fill reusable quart bottles.

D. Purchased ethanol for use in state vehicles.

E. Initiated a new program in July 1994 with the purchase of 10 vehicles capable of running on a fuel mixture of 85 percent alcohol and 15 percent no-lead fuel.

F. Furnished fuel for 20 E-85 vehicles being purchased by the Department of Transportation and expanded the furnishing of fuel to federal and local governments.

G. Purchased re-refined oil for use and testing in state vehicles.

INCORPORATION OF POLLUTION PREVENTION INTO PROCUREMENT ACTIVITIES

ONGOING ACTIVITIES

Admin's divisions continued the following procurement activities.

I. **Intertechnologies' Computer Operations Division** continued activities listed below.

A. Refilled small spray bottles with glass/desk cleaner from gallon containers to avoid aerosol can use in the Intertechnologies Group's Building, Business Management and Control Division.

B. Required vendors to comply with refrigerant recovery statutes for air conditioner refill or replacement.

II. **Materials Management Division** continued the following activities:

A. Specified soy ink to reduce volatile organic compounds from petroleum-based inks.

B. Specified no-lead paint for traffic marking and equipment painting.

C. Continued to coach state agencies on their responsibilities for complying with Minnesota Statutes 16B.122 regarding use of soy ink and nonchlorine bleached paper.

D. Provided a state hazardous waste management contractor who arranges for previously incinerated latex paint to be manufactured into caulking compound and mastics.

E. Recovered and reinked state agencies' printer toner cartridges through Central Stores in coordination with MINNCOR-FARIBAULT and the Resource Recovery Office.

F. Worked with MnDOT to purchase lead-free traffic marking paint, specify lead-free heavy equipment painting, and purchase alternative de-icing products containing less salt.

G. Specified the use of soybean ink, where possible, to reduce the use of petroleum-based inks, which release volatile organic chemicals.

H. Avoided acquiring or marketing hazardous property in the Federal Surplus Property program.

III. **PrintComm** continued coordination with state offices to improve environmentally-responsible procurement.

PrintComm's Printing Services worked with Materials Management Division and the Resource Recovery Office to establish and promote uniform procedures to implement Minnesota Statutes Section 16B.122 (regarding agencies' responsibilities for using products such as soybean ink and nonchlorine bleached paper) and guide PrintComm customer service staff and Materials Management staff and agency customers.

PLANNED POLLUTION PREVENTION ACTIVITIES

Admin is working to improve existing pollution prevention awareness, achievement, and measurement.

I. **Building Codes and Standards** will continue to develop and enforce rules to facilitate pollution prevention.

A. Provide for additional direct assistance and expand training opportunities to municipal building officials, inspectors, design professionals and contractors regarding the environmental quality aspects of the Minnesota state mechanical code.

B. Develop rules to satisfy the intent of 1994 legislation regarding lead abatement in residential construction.

C. Study methods of incorporating Radon Mitigation standards into the Minnesota State Building Code.

Contact: Tom Joachim, Director, Building Codes and Standards Division, telephone number (612) 296-7037; TTY/TDD Relay (612) 297-5353.

II. **Admin** will continue to work with the departments of Finance and Employee Relations to improve the State's business data systems. The Statewide Systems Project will have a significant impact upon the ability to calculate environmental and economic benefits related to pollution prevention activities. The project will allow better identification of product purchases and changes in purchasing and inventory management.

III. **Plant Management Division** will continue to expand pollution prevention activities.

Promote an improved understanding and application of pollution prevention using informational tools and services from the Resource Recovery Office and other agencies.

Contact: Lynne Markus, Administrator, State Government Resource Recovery Program, telephone (612) 296-9084; TTY/TDD Relay (612) 296-6280.

IV. PrintComm Division will expand and continue pollution prevention activities.

Employees will proceed with the ongoing pollution prevention activities listed below.

A. During FY 96, an alcohol substitute for the offset press will be in use. This will eliminate the use of alcohol in the offset press fountains and will clear the air of all hazardous vapors.

B. Micrographics and Records Center will continue to implement pollution prevention programs as follows:

1. Communicate to employees all new pollution prevention information and methods resulting from meetings and training sessions through the efforts of the Microfilm Supervisor/unit safety officer.

2. Implement any new policies and regulations issued that are appropriate to the unit in conjunction with management and agencies.

3. Conduct meetings between management and staff on compliance with new policies and regulations or on immediate implementation of new procedures.

4. Work with vendors for alternative chemicals that would be more environmentally-sound.

C. Printing Services will conduct the following activities:

1. Secure agency compliance with environmental printing statutes.

2. Continue exploration of new agri-tech inks to be used in expanded applications.

3. Continue exploration and influencing of firms to produce environmentally-sound, high speed, duplicating supplies (toner, ink cartridges, papers).

4. The use of recycled black ink is being tested on all presses. All waste inks are now being recycled, eliminating the need to dispose of any inks.

D. The Bookstore will award a printing contract for "The State Register" requesting use of agri-tech based ink and alternatives to perfect-binding for larger issues.

Contact: Kathi Lynch, Director, PrintComm, telephone number (612) 297-2553; TTY/TDD Relay (612) 282-5077.

V. **Travel Management Division** will conduct the following activities:

A. Institute an electronic fleet management information system to increase operational efficiencies and reduce waste.

B. Research a pilot project using electric vehicles as a public-private joint venture.

C. Expand the rerefined oil program to include more travel management vehicles.

D. Expand the use of oil filtering systems for state vehicles.

E. Collect information to purchase a system for asbestos containment during brake-washing consistent with new OSHA regulations.

Contact: Mike Higgens, Director, Travel Management Division, telephone (612) 296-9998; TTY/TDD Relay (612) 296-5659.

ESTIMATED BENEFITS

Admin's employees and services to state agency customers provide environmental and economic benefits such as the examples provided below:

I. **Materials Management Division** documents monetary savings achieved by a contractor's change in operations.

The state hazardous waste management contractor sends discarded latex paint to a company that manufactures caulking compounds and mastics. Previous state costs of $800 per drum for incineration costs have been reduced to $200 per drum due to recycling the material into products.

II. **Plant Management Division** activities provide pollution prevention benefits to the state.

A. Escalated efforts with Northern States Power Company has improved energy efficiency in state-owned and wholly-leased buildings. Direct benefits for the buildings include light fixtures and ballasts that are more environmentally sound. Improved lighting uses less material and phosphor in the production of bulbs. Electronic ballasts have life expectancies of two to three times that of the existing ballasts and contain less solid waste when they are disposed. These projects are expected to reduce net energy use by 25 percent.

B. Use of concentrated cleaning chemicals reduced packaging waste by 85 percent.

III. **PrintComm** activities have achieved pollution prevention benefits.

Continue testing the use of a solvent-free wash on offset presses, started in June 1994. The VOCs in most washes are 80 percent to 90 percent. In this solvent-free wash, which is biodegradable, the VOCs are 1 percent to 6 percent. If successful, it would result in a reduction in the number of barrels of hazardous waste generated by the printing operation.

IV. **Travel Management Division's** use of fuel and oil has generated pollution prevention benefits.

A. Purchases of ethanol for use in state vehicles has continued since 1984. Since the beginning of the program, the purchase of 1,920,000 gallons of ethanol has saved approximately 192,000 gallons of oil-dependent fuel and avoided the pollution resulting from its use. The benefits from the use of ethanol and E-85 are reduced vehicle emission pollutants and use of oil-dependent fuel.

B. The use of rerefined oil reduces virgin oil use, reduces pollution, and provides consumer demand for products made from discarded oil.

AREAS OF NEEDED ASSISTANCE

Promotion and clarification of pollution prevention is necessary to improve its everyday application. Agencies would benefit by the development of a standard protocol applying environmental concepts and quantifying environmental and economic benefits. For example, there continues to be a tendency to erroneously substitute solid waste reduction and recycling in place of pollution prevention which is the "eliminating or reducing at the source the use, generation or release of toxic pollutants, hazardous substances, and hazardous wastes. Sharing of pollution prevention management should continue through the Interagency Pollution Prevention Advisory Team and interagency workshops.

KEY POLLUTION PREVENTION CONTACTS AND RESOURCES

Plant Management Division
State Government Resource Recovery Program
State agency waste reduction (toxic & solid waste) and recycling
Contact: Lynne H. Markus
Telephone: (612) 296-9084; TTY/TDD Relay: (612) 296-6280

Print Communications Division
Agency compliance with environmental printing statutes; expanded application of new agri-tech inks
Contact: Kathi Lynch
Telephone: (612) 297-2553; TTY/TDD Relay: (612) 282-5077

Volatile organic chemical solvent alternatives for printing
Contact: Gordon Plum
Telephone: (612) 296-8700; TTY/TDD Relay: (612) 282-5077

Travel Management Division
Shop operations
Contact: Dave Rausch
Telephone: (612) 296-8318; TTY/TDD Relay: (612) 296-5659

Administration and fleet management
Contact: Michael Higgins
Telephone: (612) 296-9997; TTY/TDD Relay: (612) 296-9998

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EXHIBIT 1

MINNESOTA DEPARTMENT OF ADMINISTRATION
POLICY ON
ENVIRONMENTAL MATERIALS MANAGEMENT

WHEREAS,

The Department of Administration recognizes that environmental attention during the management of materials can conserve resources, prevent pollution, increase efficiency and result in cost savings during the purchase, inventory, use, maintenance, treatment and disposal of goods.

Minnesota Statutes, Section 16B.121 mandates that state purchases of commodities and services shall apply and promote the preferred waste management practices listed in Minnesota Statutes, Section 115A.02, with special emphasis on reduction of the quantity and toxicity of materials in waste. Bid specifications also shall consider the product's durability, reusability, and ability to be recycled and marketed through the state's resource recovery program.

Minnesota Statutes, Section 115D.02 specifies that it is the policy of the state to encourage pollution prevention. Pollution prevention includes, but is not limited to, "eliminating or reducing at the source the use, generation, or release of toxic pollutants, hazardous substances and hazardous wastes."

THEREFORE, BE IT RESOLVED THAT

The Department of Administration has established "Priorities for Environmental Materials Management" to conserve resources and to avoid and minimize waste and pollution during the acquisition, use, maintenance, and discard of goods.

All Divisions shall provide administrative and managerial support to integrate the attached "Priorities for Environmental Materials Management" into all programs and shall designate a representative to the Department of Administration's Environmental Coordinators Committee. Facilitated by the Resource Recovery Office, this committee will communicate and encourage the implementation of resource conservation, waste reduction, pollution prevention and other environmentally-preferred activities associated with the acquisition, use, maintenance and recovery of materials for reuse, recycling and composting.

Dana B. Badgerow
Commissioner
Department of Administration

December 31, 1992
Date

ANNUAL STATE GOVERNMENT
POLLUTION PREVENTION SUMMARY REPORT

1995

Fulfilling the requirements of Governor's Executive Order 91-17 Providing for the Implementation of Pollution Prevention by State Government

Submit by July 1, 1995 to:

Pollution Prevention in State Government
MN Office of Environmental Assistance
520 Lafayette Rd. N., Second Floor
St. Paul, MN 55155
Attn: Paul Moss

1. Agency Minnesota Department of Agriculture

   Contact Name Edward M. Chromey Jr.

   Contact Address 90 west Plato Boulevard

   St. Paul, MN 55107

   Contact Telephone (612) 297-8052

2. **POLICY STATEMENT**
Attach agency's or department's most recent pollution prevention policy statement.

POLICY STATEMENT

In compliance with Executive Order 91-7, pollution prevention is a priority for the Minnesota Department of Agriculture. The department's objective is to undertake activities to reduce the generation of hazardous waste and use of toxic solvents and pesticides. The primary goal is to prevent pollution at its source and to reduce waste and emissions, that can have an adverse impact on the environment.

Gene Hugoson, Commissioner — **Date** 7/21/95

Edward M. Chromey Jr.
Task Force Chairperson — **Date** 7/25/95

3. **POLLUTION PREVENTION ACTIVITIES DURING THE FISCAL YEAR**
Describe activities undertaken to prevent pollution and hazardous waste generated by agency or department (July 1995 - June 1995). Agencies may also note other relevant ongoing activities.
(Use additional sheets as appropriate)

In the past twelve months the Department of Agriculture has continued to make pollution prevention ideas a priority within its divisions.

A. The Energy and Sustainable Agriculture Program (ESAP) is in the process of publishing its ***Greenbook '95.*** The Greenbook is an annual summary of demonstration grant projects and results, on-farm research, loan program, and a selection of essays on different aspects of sustainable agriculture. This publication also provides practical information on Minnesota farmer efforts to create new farming systems. Greenbook '95 will be available in July. A copy of this book can be obtained by contacting Dr. Mary J. Hanks at the Minnesota Department of Agriculture (612) 296-1277.

B. The Agriculture Planning and Development Division began to implement the Agriculture Best Management Practices Loan Program. The first of ten million dollars under this program was allocated among forty-five counties to assist them in implementing the agricultural practice goals of their local water plans. Questions about this program should be directed to Paul Burns at 296-1488.

C. In the Information Services Division the toner containers for the Xerox 5090 Duplicator are now recyclable. Recyclable and recycled paper are the only types of paper now available in the copy room.

D. To help in the reduction of non recyclable glass containers from reaching the land fills the Laboratory Services Division is using the NOWPAK system for obtaining bulk quantities of Methylene Chloride. The use of the nitrogen combustion analyzer has eliminated the use of heavy metal catalysts on all routine nitrogen testing of fertilizer. Crude protein analysis of feed which doesn't require phosphorus and calcium determinations is performed on the nitrogen analyzer. These two factors have resulted in an estimated reduction of 65 to 75 % of the use of heavy metal catalysts in the analytical work of the agronomy laboratory.

E. Included with this summary is a report put out by the MDA Market Development and Promotion Division. The combined effort between the MDA and other state agencies to help reduce the amount of carbon monoxide(CO) generated from vehicles was a success in keeping Minnesota within the Federal Environmental Protection Agency (EPA) CO guidelines again this year. The use of motor pool vehicles that run on 85% ethanol fuels as a demonstration project is still being done by the department.

4. **ACTIONS TO INTEGRATE POLLUTION PREVENTION INTO REGULATORY AND POLICY ACTIVITIES**

Describe efforts by agency or department to integrate pollution prevention into regulatory and policy activities (July 1994 - June 1995). Agencies may also note other relevant ongoing activities.
(Use additional sheets as appropriate)

A. The use of oxygenated fuels in the metro area during the winter months is one program that has proven to reduce the levels CO emissions from automobiles. This program is to become state wide by October 1 of 1997.

B. The Federal Clean Air Act Amendments of 1990 require the 10 county twin cites metro area to use only gasoline containing oxygen from October 1 to January 31 in a effort to reduce ambient CO levels. The MDA has worked closely with the Minnesota Pollution Control Agency (MPCA) and Department of Public Safety (DPS) to implement this program which has eliminated CO violations since the programs inception in 1992. The MDA is now working with MPCA to respond to a request by the EPA to submit testimony concerning the impact of the year-round use of ethanol in ozone levels.

C. The Agronomy Services Divisions continuing Waste Pesticide Collection Program has seen 4600 participants since its inception. Continuance of this program helps to eliminate access pesticides from being discarded illegally.

5. **INCORPORATION OF POLLUTION PREVENTION INTO PROCUREMENT ACTIVITIES**

Describe efforts to investigate opportunities to encourage pollution prevention through agency/department purchasing policies and specifications (July 1994 - June 1995). Agencies may also note other relevant ongoing activities.
(Use additional sheets as appropriate)

A. By purchasing chemicals within the Laboratory Services Division in smaller quantities disposing of unwanted chemicals will be greatly reduced. This has the potential to save the laboratory approximately $7,000.00 annually in hazardous waste disposal costs.

B. The Department of Agriculture began a comprehensive recycling program in January. For the first three months of this year we have recycled an average 37% of our total generated waste.

6. **PLANNED POLLUTION PREVENTION ACTIVITIES**
Summarize agency or department plans for pollution prevention activities for at least the next fiscal year (July 1995 - June 1996). Include key contacts and telephone numbers for projected activities.
(Use additional sheets as appropriate)

A. The Laboratory Services Division is investigating how other chemicals that are purchased in large quantities can be bought in the NOWPAK packaging system. Contact Ed Chromey at 297-8052 for more information about the NOWPAK packaging system.

B. The Agronomy Services Division will continue to offer its Waste Pesticide and Waste Pesticide Container Collection Programs to all counties throughout the state of Minnesota. To find out more information about these programs you can contact Joe Spitzmueller or Stan Kaminiski at 1-800-657-3986 or 297-7102.

C. The Marketing Division has a hotline (1-800-846-FUEL) for people to call if they have questions about the oxygenated fuel program. The use of oxygenated fuels within the metro area will be come year-round on October 1, 1995. The whole state will become part of this program on October 1, 1997. For more information contact Larry Johnson at 297-4654.

7. **ESTIMATED BENEFITS**
Estimate environmental and economic benefits which have resulted from agency's or department's pollution prevention activities.
(Use additional sheets as appropriate)

A. By purchasing the Nitrogen Combustion Analyzer the need to create hazardous waste from the Kjeldhal apparatus has been greatly reduced. This has reduced the amount of exposure by analysts to highly toxic chemicals. The economic befits can be found by the amount of time it takes to run samples on the nitrogen combustion analyzer versus the Kjeldhal apparatus. The NOWPAK packaging system used by the Environmental Analysis Section has reduced the amount of non-recyclable glass that will end up in landfills.

B. The economic benefits to the state result from the doubling of value realized when corn is processed into ethanol and byproducts. This increase in value is distributed to rural communities in the form of higher corn prices, new jobs, and an expanded tax base. There is also an offsetting benefit to the state from reducing the amount of crude oil imports needed. The environmental impact is seen as reduced levels of CO, hydrocarbons, and carbon dioxide (CO2) the most prevalent greenhouse gas.

C. By using sustainable agriculture techniques in farming the amount of pesticides that end up in our rivers, lakes and streams has been reduced.

D. The Waste Pesticide Collection Program has collected over 200,000 pounds of unwanted pesticides this season. This is the first season that highly toxic dioxin containing materials could be collected and disposed of properly . This lessens the potential for accidental release of these banned materials into our environment.

8. **AREAS OF NEEDED ASSISTANCE**

Highlight areas in which additional pollution prevention assistance is needed by agency or department.

The continued support of our legislature to keep the programs that the department is currently involved with is beneficial in helping to eliminate the pollution of our environment.

9. **KEY POLLUTION PREVENTION CONTACTS AND RESOURCES**

Describe areas in which agency or department can assist other state agencies or departments in preventing pollution. Include contact names and telephone numbers.

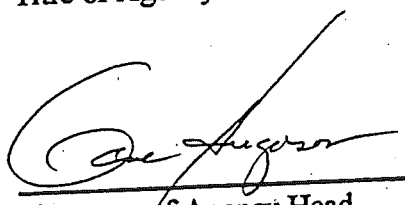
The personnel listed below can help answer any questions you have concerning areas that have been discussed in this report.

A.	Dr. Mary J. Hanks	Energy and Sustainable Agriculture	(612) 296-1277
B.	Edward Chromey	Laboratory Services Division	(612) 297-8052
C.	Stan Kaminski	Waste Pesticide Collection Program	(612) 297-1062
D.	Joe Spitzmueller	Waste Pesticide Container Program	(612) 297-5296
E.	Larry Johnson	Minnesota Ethanol Commission	(612) 297-4654
F.	Paul Burns	Agricultural BMP Loan Program	(612) 296-1488

10. **Signature of Agency or Department Head**

GENE HUGOSON
Name of Agency Head

COMMISSIONER, MINNESOTA DEPARTMENT OF AGRICULTURE
Title of Agency Head



Signature of Agency Head

7/21/95
Date

11. In order that this Pollution Prevention Summary Report may be more usable to others, please note the pages in the report on which the following topics are discussed.

ANNUAL STATE GOVERNMENT POLLUTION PREVENTION SUMMARY REPORT

1995

Fulfilling the requirements of Governor's Executive Order 91-17 Providing for the Implementation of Pollution Prevention by State Government

Submit by July 1, 1995 to:

Pollution Prevention in State Government
MN Office of Environmental Assistance
520 Lafayette Rd. N., Second Floor
St. Paul, MN 55155
Attn: Paul Moss

1. Agency: MINNESOTA DEPARTMENT OF CORRECTIONS

Contact Name: JAMES G. DYKES

Contact Address: 1450 Energy Park Drive

St. Paul, Minnesota 55108-5219

Contact Telephone: (612) 643-3581

2. **POLICY STATEMENT**
Attach agency's or department's most recent pollution prevention policy statement.

See attached cover.

3. **POLLUTION PREVENTION ACTIVITIES DURING THE FISCAL YEAR**

Describe activities undertaken to prevent pollution and hazardous waste generated by agency or department (July 1994 - June 1995). Agencies may also note other relevant ongoing activities.

(Use additional sheets as appropriate)

The Department of Corrections is in the process of streamlining its industry programs. The results from these merging programs will be elimination of wood refinishing at two sites.

All institutions pollution prevention policies are in compliance with our Department Pollution Prevention Policy.

All materials in the institutions are screened by the Safety Officers for Hazardous or Toxic materials.

Glue used in industry laminating process is water based.

The Department continues to have a very strong recycling program.

Hiring a Safety Administrator to ensure compliance and to keep prevention at the forefront of Departmental goals.

Industry sandblasting process replaced silica sand with metal grit. New solvent used on a trial basis is environmentally friendly.

4. **ACTIONS TO INTEGRATE POLLUTION PREVENTION INTO REGULATORY AND POLICY ACTIVITIES**

Describe efforts by agency or department to integrate pollution prevention into regulatory and policy activities (July 1994 - June 1995). Agencies may also note other relevant ongoing activities.

(Use additional sheets as appropriate)

Revised Departmental pollution prevention policies are on file at each institution.

Staff training is conducted at all sites to ensure compliance with our Department Pollution Prevention Policy.

The Safety Officers review all material safety data sheets to ensure that departmentally we purchase the least toxic and polluting products.

5. **INCORPORATION OF POLLUTION PREVENTION INTO PROCUREMENT ACTIVITIES**

Describe efforts to investigate opportunities to encourage pollution prevention through agency/department purchasing policies and specifications (July 1994 - June 1995). Agencies may also note other relevant ongoing activities.
(Use additional sheets as appropriate)

Purchases orders are monitored to ensure that the least toxic, hazardous and polluting products are being used.

Department buyers purchase recycled products whenever possible.

Department industry uses recycled products whenever possible.

Information is passed from the joint Safety Officers meeting to the institutions on products safety and procurement as well as other information relevant to pollution prevention.

6. **PLANNED POLLUTION PREVENTION ACTIVITIES**

Summarize agency or department plans for pollution prevention activities for at least the next fiscal year (July 1995 - June 1996). Include key contacts and telephone numbers for projected activities.
(Use additional sheets as appropriate)

Continued upgrading and compliance with Departments Pollution Prevention Policy.

More staff training to ensure compliance with pollution prevention policies at work as well as outside of work.

More of an effort to make the recycling program stronger.

Devise promotions and strategies to raise awareness of pollution prevention at home and at work.

7. **ESTIMATED BENEFITS**

Estimate environmental and economic benefits which have resulted from agency's or department's pollution prevention activities.
(Use additional sheets as appropriate)

Purchasing recycled products and materials for our industry has been a significant savings.

Efforts to date have produced staff more aware of pollution prevention.

MCF-Faribault received a PCA award for it's handling of hazardous waste.

8. **AREAS OF NEEDED ASSISTANCE**

Highlight areas in which additional pollution prevention assistance is needed by agency or department.

Funding for departments to have the screening process put in place for pollution prevention training and purchasing.

Set goals and timetables for state departments to purchase and use only environmentally safe products and materials.

9. **KEY POLLUTION PREVENTION CONTACTS AND RESOURCES**
Describe areas in which agency or department can assist other state agencies or departments in preventing pollution. Include contact names and telephone numbers.

The Office of Waste Management should continue to sponsor pollution prevention seminars.

Incorporate all interested parties into IPPAT.

Solicit more funding for Pollution Prevention and awareness programing.

10. **Signature of Agency or Department Head**

Frank W. Wood
Name of Agency Head

Commissioner of Corrections
Title of Agency Head

Frank W. Wood
Signature of Agency Head

7/24/95
Date

ANNUAL STATE GOVERNMENT
POLLUTION PREVENTION SUMMARY REPORT

1995

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Submit by July 1, 1995 to:

Pollution Prevention in State Government
MN Office of Environmental Assistance
520 Lafayette Rd. N., Second Floor
St. Paul, MN 55155
Attn: Paul Moss

1. Agency Minnesota Office of Environmental Assistance

   Contact Name Paul Moss

   Contact Address 520 Lafayette Rd. N., Second Floor

   St. Paul, MN 55155

   Contact Telephone (612) 296-3417

2. **POLICY STATEMENT**
   Attach agency's or department's most recent pollution prevention policy statement.

   See attached.

3. **POLLUTION PREVENTION ACTIVITIES DURING THE FISCAL YEAR**
Describe activities undertaken to prevent pollution and hazardous waste generated by agency or department (July 1994 - June 1995).
(Use additional sheets as appropriate)

The Office of Environmental Assistance generates little hazardous waste directly through its activities (except for fluorescent bulbs and batteries) since its activities are solely office-based. OEA staff do implement numerous solid waste source reduction activities, including reusing waste paper, making two-sided copies, using ceramic cups for meetings, using remanufactured printer cartridges, and using water-based correction fluid instead of solvent-based fluid. OEA computers are cleaned with pressurized carbon dioxide instead of chlorofluorocarbons. OEA audio, video, and digital tapes are reused, as well as computer discs. OEA staff have a broad and active office recycling and food waste composting program. OEA staff make a conscious attempt to conserve energy by turning off lights, computers, printers and copiers at close of business hours, but recognize that use of occupancy sensors and daylighting features would assist in cutting OEA energy usage.

4. **ACTIONS TO INTEGRATE POLLUTION PREVENTION INTO REGULATORY AND POLICY ACTIVITIES**
Describe efforts by agency or department to integrate pollution prevention into regulatory and policy activities (July 1994 - June 1995).
(Use additional sheets as appropriate)

The Office of Environmental Assistance is a non-regulatory agency and therefore does not engage in regulatory activities concerning pollution and hazardous waste. The OEA concentrates on pollution prevention policy and outreach activities. Activities promoting pollution prevention included: hosting the National Roundtable of State Pollution Prevention Programs in November 1994, sponsoring the Fifth Annual Minnesota Conference on Pollution Prevention (June 1995) with attendance of over 500, Fifth Annual Governor's Awards for Excellence in Pollution Prevention (June 1995), sponsoring an Industrial Paint and Powder Coating Exposition on October 20, 1994 attended by several hundred industry representatives, sponsoring the Minnesota Waste Wise program with the Minnesota Chamber of Commerce, successfully concluding the Minnesota-50 Program for voluntary reductions in releases to the environment of 17 key toxic chemicals by Minnesota companies and awarding 28 Pollution and Waste Prevention Assistance Grants. OEA's pollution prevention staff has published and distributes numerous factsheets on pollution prevention. OEA staff serves as coordinator for Interagency Pollution Prevention Advisory Team activities and conducted 2 workshops on Environmentally

Responsible Purchasing for Minnesota Public Agencies in December 1994, attended by several hundred staff from state and local governments. Each year the OEA publishes a special multi-page issue of its newsletter Resource devoted to pollution prevention, which is sent to over 5,000 individuals throughout the state. OEA coordinated the MN GREAT! program in early 1995, a pollution prevention recognition program for state employees that recognized 21 teams of employees for excellence in pollution prevention.

The OEA provides an annual grant to fund the pollution prevention activities of the Minnesota Technical Assistance Program (MnTAP), a 17-person program located at the University of Minnesota that provides extensive technical assistance to companies and agencies without charge. MnTAP pollution prevention assistance includes telephone assistance, site visits, workshops, fact sheets, case studies, a library and clearinghouse, a student intern program, a materials exchange, speakers, and other activities.

The OEA distributes Source Reduction Now, a detailed guide to implementing source reduction programs in companies and agencies. The printed guide is accompanied by a training video. The OEA has also published many fact sheets and case studies on solid waste source reduction, which includes minimizing the toxicity of products as well as solid waste reduction. The OEA provides source reduction technical assistance and training to local governments and coordinates the Counties and Cities Interested in Source Reduction and Recycling Council (CISRR) to promote networking and coordination among local government source reduction assistance providers. The OEA provides telephone assistance, site visits in cooperation with MnTAP, training and conference speakers. OEA and MnTAP are responsible for statewide coordination and promotion of materials exchanges through coordinating the Minnesota Materials Exchange Alliance, and by publishing and distributing thousands of copies of the Materials Exchange Catalog.

5. **INCORPORATION OF POLLUTION PREVENTION INTO PROCUREMENT ACTIVITIES**

Describe efforts to investigate opportunities to encourage pollution prevention through agency/department purchasing policies and specifications (July 1994 - June 1995).
(Use additional sheets as appropriate)

The OEA attempts to procure office supplies that do not generate pollution. This includes purchasing remanufactured laser printer cartridges. Printing orders request vegetable oil-based inks. OEA does not set specifications. In late 1994, the OEA published and distributed hundreds of copies of an Environmentally

Responsible Government Procurement Guide in cooperation with the Solid Waste Management Coordinating Board.

6. **PLANNED POLLUTION PREVENTION ACTIVITIES**

Summarize agency or department plans for pollution prevention activities for at least the next fiscal year (July 1995 - June 1996). Include key contacts and telephone numbers for projected activities.
(Use additional sheets as appropriate)

Key planned pollution prevention activities during the next fiscal year include:, sponsoring the Sixth Annual Minnesota Conference on Pollution Prevention in June 1996, sponsoring the 1996 Governor's Awards for Excellence in Pollution Prevention in June 1996, submitting the 1996 Toxic Pollution Prevention Evaluation Report to the Minnesota Legislature, and implementing 28 new pollution prevention grants to communities, local governments, and businesses. Rules are also being developed for combined pollution prevention and source reduction grant rounds. Contacts for more information on OEA pollution prevention activities are: Paul Moss (215-0243) and Kevin McDonald (215-0242).

Key planned pollution prevention activities for the Minnesota Technical Assistance Program (MnTAP) include increased emphasis on providing site visits, sponsoring pollution prevention workshops for businesses, continuing to publish the quarterly Source newsletter, continuing its student internship program and increased focus on solid waste source reduction. For more information on MnTAP pollution prevention activities contact Robert Lundquist at 627-4557.

7. **ESTIMATED BENEFITS**

Estimate environmental and economic benefits which have resulted from agency's or department's pollution prevention activities.
(Use additional sheets as appropriate)

Most of the waste generated by the OEA and MnTAP is internal office waste. The OEA and MnTAP have focused the vast majority of their efforts to assisting other organizations and companies to prevent pollution. It is difficult to exactly ascertain the environmental and economic benefits which have resulted from these OEA and MnTAP pollution prevention and solid waste source reduction activities. However, data from pollution prevention surveys, OEA and MnTAP case studies, MnTAP student intern projects, winners of the Governor's Awards for Excellence in Pollution Prevention, winners of MN GREAT! awards and other sources indicate that pollution prevention consistently leads to significant economic as well as environmental benefits. For example, MnTAP estimates that

15 internship projects since 1990 have resulted in more than 1.2 million pounds of reductions in projected annual waste or emissions and projected annual savings of approximately $650,000. Economic benefits result from decreased raw material costs, more efficient use of raw materials, lowered waste management and pollution control costs, lowered potential liabilities, and often higher quality products.

8. **AREAS OF NEEDED ASSISTANCE**
Highlight areas in which additional pollution prevention assistance is needed by agency or department.

There are no additional areas in which additional pollution prevention assistance is needed by the OEA.

9. **KEY POLLUTION PREVENTION CONTACTS AND RESOURCES**
Describe areas in which agency or department can assist other state agencies or departments in preventing pollution. Include contact names and telephone numbers.

Pollution prevention in state government, local government, general pollution prevention information:
Paul Moss, OEA, 215-0243 or Kevin McDonald, 215-0242

Pollution prevention planning, pollution prevention opportunities for state agencies, pollution prevention site visits: Robert Lundquist, MnTAP, 627-4557.

Solid waste source reduction, using the Source Reduction Now manual:
Ken Brown, 215-0241.

Materials exchange: Kevin O'Donnell, 215-0235

10. Signature of Agency or Department Head

Edward Garvey
Name of Agency Head

Director
Title of Agency Head

Edward A. Garvey 7/6/95
Signature of Agency Head Date

11. In order that this Pollution Prevention Summary Report may be more usable to others, please note the pages in the report on which the following topics are discussed.

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POLLUTION PREVENTION POLICY STATEMENT

MINNESOTA OFFICE OF ENVIRONMENTAL ASSISTANCE

Pollution prevention means eliminating or reducing pollution at its source. This includes utilizing raw materials and other resources more efficiently, substituting benign substances for hazardous ones, and producing products without toxic constituents. Pollution prevention helps to protect human health, strengthen our economy, and preserve our environment.

The Minnesota Office of Environmental Assistance (OEA) gives priority consideration to pollution prevention in its programs and activities as required by Governor's Executive Order 91-17. The OEA is committed to excellence and leadership in preventing waste and pollution and strives to be a model for other agencies and organizations. We believe that pollution prevention in our workplace will lead to healthier and more efficient employees, saving of public funds, and less waste introduced into the environment.

The OEA stresses the preventive approach as the preferred approach for environmental protection in its policy-making activities. In reports, testimony, and strategic planning, the OEA staff will promote pollution prevention as the top of the environmental protection hierarchy.

Each member of the OEA staff is responsible for preventing pollution by reducing their own waste generation at work. Specifically, staff are directed to give consideration and preference to pollution prevention options when purchasing supplies and equipment, traveling to meetings, using equipment in the office, photocopying documents, and in ordering office furniture.

The OEA will demonstrate cost-effective alternatives that reduce all environmental impacts in its office and lease agreements. It will also work cooperatively with other tenants to promote the prevention approach building-wide.

The OEA will also build partnerships with all stakeholders to promote the preventive approach to environmental protection. These stakeholders include other state agencies, local governments, businesses and business groups, schools and higher educational institutions, financial and economic development institutions, non-profit organizations and citizens.

In order to pursue and monitor this pollution prevention policy and as part of the OEA's participation in Minnesota Waste Wise, a coordinating team with representatives from each unit is established that will meet regularly to discuss and stimulate the increased implementation of pollution prevention activities at the OEA. This team will measure the effectiveness of its efforts and will meet with the OEA director at least quarterly for updates about the OEA's progress.

Edward A. Garvey

Edward Garvey
Director, Office of Environmental Assistance
June 30, 1995

ANNUAL STATE GOVERNMENT
POLLUTION PREVENTION SUMMARY REPORT

1995

Fulfilling the requirements of Governor's Executive Order 91-17 Providing for the Implementation of Pollution Prevention by State Government

Submit by July 1, 1995 to:

Pollution Prevention in State Government
MN Office of Environmental Assistance
520 Lafayette Rd. N., Second Floor
St. Paul, MN 55155
Attn: Paul Moss

1. Agency: Health

Contact Name: Al Tupy

Contact Address: 717 Delaware St. SE, P.O. Box 9441

Minneapolis, MN 55440

Contact Telephone: (612) 623-5680

2. **POLICY STATEMENT**
Attach agency's or department's most recent pollution prevention policy statement.

3. **POLLUTION PREVENTION ACTIVITIES DURING THE FISCAL YEAR**
Describe activities undertaken to prevent pollution and hazardous waste generated by agency or department (July 1994 - June 1995). Agencies may also note other relevant ongoing activities.
(Use additional sheets as appropriate)

During on-site audits of labs in the Certification program, brochures are distributed on MnTAP services.

Continued reduction of the chemicals used in the labs to minimize final disposal waste stream.

Also continuing activities from previous report.

4. **ACTIONS TO INTEGRATE POLLUTION PREVENTION INTO REGULATORY AND POLICY ACTIVITIES**
Describe efforts by agency or department to integrate pollution prevention into regulatory and policy activities (July 1994 - June 1995). Agencies may also note other relevant ongoing activities.
(Use additional sheets as appropriate)

See Item 3.

5. **INCORPORATION OF POLLUTION PREVENTION INTO PROCUREMENT ACTIVITIES**

Describe efforts to investigate opportunities to encourage pollution prevention through agency/department purchasing policies and specifications (July 1994 - June 1995). Agencies may also note other relevant ongoing activities.
(Use additional sheets as appropriate)

Coordinating inventory and purchasing activities.

6. **PLANNED POLLUTION PREVENTION ACTIVITIES**

Summarize agency or department plans for pollution prevention activities for at least the next fiscal year (July 1995 - June 1996). Include key contacts and telephone numbers for projected activities.
(Use additional sheets as appropriate)

Continuous reviewal of current practices to eliminate additional wastes.

7. **ESTIMATED BENEFITS**

Estimate environmental and economic benefits which have resulted from agency's or department's pollution prevention activities.
(Use additional sheets as appropriate)

MDH continues to work with Administration on a project to convert to an energy efficient lighting system and improve the energy use of the ventilation/heating system.

8. **AREAS OF NEEDED ASSISTANCE**

Highlight areas in which additional pollution prevention assistance is needed by agency or department.

9. **KEY POLLUTION PREVENTION CONTACTS AND RESOURCES**
Describe areas in which agency or department can assist other state agencies or departments in preventing pollution. Include contact names and telephone numbers.

10. Signature of Agency or Department Head

Anne Barry Christine Rice for Anne Barry
Name of Agency Head

Acting Commissioner of Health
Title of Agency Head

Christine Rice for Anne Barry 6/27/95
Signature of Agency Head Date

11. In order that this Pollution Prevention Summary Report may be more usable to others, please note the pages in the report on which the following topics are discussed.

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STATE OF MINNESOTA

Office Memorandum

DEPARTMENT : HEALTH

DATE : 7-6-92

TO : Division Directors, Assistant Division Directors and Executive Office Staff

FROM : Marlene E. Marschall
Commissioner

PHONE : 623-5460

SUBJECT : Pollution Prevention Policy

In compliance with Governor Arne H. Carlson's Executive Order 91-17 providing for the implementation of pollution prevention by state government, the Minnesota Department of Health (MDH) makes pollution prevention a priority. The MDH objective is to undertake activities to reduce the generation of hazardous wastes and use of toxic chemicals. The primary goal is to prevent pollution at its source and reduce waste emissions, minimizing their adverse impact on air, water and land.

Please notify your staff of this policy, all employees are encouraged to identify and implement pollution prevention procedures and substitute nonhazardous materials in all operations whenever possible.

The MDH supports cooperation and coordination with other agencies for the purpose of promoting pollution prevention, including participation on the state Interagency Pollution Prevention Advisory Team.

This policy is effective immediately.

MEM:AT

POLLUTION PREVENTION SUMMARY REPORT

MINNESOTA DEPARTMENT OF HUMAN SERVICES

JULY 1995

Interagency Pollution Prevention Advisory Team

1. Agency and Contact Name

Central Office	Glenn Olson	(612) 297-8742
AH-GWAH-CHING Center	Joe Casey	(218) 547-8376
Anoka-Metro RTC	Corwin Randleman	(612) 422-4372
Brainerd RHSC	Gregory Hight Virginia Paul	(218) 828-2656 828-2247
Cambridge RHSC	Ray Harsted	(612) 689-7200
Faribault RC	Frank McHugo	(507) 332-3400
Fergus Falls RTC	Char Sheridan	(218) 739-7238
Moose Lake RTC	Mark Tabara	(218) 485-5300
St. Peter RTC	Chuck Petry	(507) 931-7226
Willmar RTC	Dave Smith	(612) 231-5100

2.Policy Statement

POLICY STATEMENT

The Department of Human Services is committed to excellence and leadership in protecting the environment. In keeping with this policy, our objective is to reduce waste at its source. We strive to minimize the adverse impact on the air, water and land through excellence in pollution prevention. By successfully preventing pollution at its source, we can achieve cost savings, increased operational efficiencies, improve the quality of our services and maintain a safe and healthful work place for our employees.

The Department of Human Services' environmental guidelines include the following:

Environmental protection is everyone's responsibility. It is valued and displays commitment to the Department.

Preventing pollution by reducing and eliminating the generation of waste at the source is a prime consideration in operations. The Department is committed to identifying and implementing pollution prevention opportunities through encouragement and involvement of all employees.

Technologies and methods which substitute non-hazardous materials and utilize other source reduction approaches will be given top priority in addressing all environmental issues.

The Department seeks to demonstrate its citizenship by adhering to all environmental regulations. We promote cooperation and coordination between government, industry and the public toward the shared goal of preventing pollution at its source.

3. Pollution Prevention Activities During FY95

The Department of Human Services (DHS) Central Office, the administrative branch of the department, continues to focus its attention on the reduction of the amount of paper used, to increase the amount of paper recycled and to reduce vehicular travel for daily commuting and travel for meetings.

Central Office has implemented tele-commuting. Staff, who have job duties conducive to home office application, have been identified and will be tele-commuting at least one day a week. The pollution prevention from the elimination of the daily commute should be substantial.

The Department of Human Services' inter-active two way satellite link to other metropolitan and non-metropolitan Minnesota agencies continues to be a success. This satellite technology has reduced travel time, vehicle use and its subsequent pollution and also provide the opportunity for a paper-less exchange of ideas.

DHS continues its vendor contract to rebuild and recharge laser printer cartridges. The rebuild contract will eliminate the disposal of up to eight cartridges during a cartridge life cycle. Two sided copying continues to be emphasized in the copy areas.

Food service areas of DHS have reduced waste through the elimination of plastic used in meal preparation.

Energy efficient lighting has been installed in many DHS facilities.

The Regional Treatment/Human Services Centers have been expanding their pollution prevention efforts in a number of different areas. Staff awareness training has brought the pollution prevention issue to all departments.

All facilities continue to recover and recycle their waste oil and some use it as a fuel in their power plants. Reusable spill control products will eliminate the land filling of oil contaminated materials. Solvents are being recycled by outside contractors.

X-ray solutions are being recycled or sent off site for recycling and silver recovery. In some cases, x-ray operations have been eliminated. Mercury and mercury solutions are also being sent off site for recycling. Latex/water based paint are being substituted wherever possible.

Client/resident work programs are contributing to the reuse of materials and the reduction of waste being land filled. Recycling is integrated into patient work programs which enable residents to perform meaningful work for pay while reducing the amount of material deposited in a landfill.

AH-GWAH-CHING continues to recycle the lime recovered from its water treatment plant. The lime is now used as an fertilizer additive and applied to local potato fields.

CFC recyclers have been purchased for some facilities and staff licensed in their use. Local contractors are hired to recycle CFCs at facilities without their own recycling units.

4. Actions To Integrate Pollution Prevention Into Policy

Reviews of waste generation by department and the development of waste management plans have brought about changes in operations and pollution prevention committees are being established to monitor and eliminate, where possible, waste generation and to oversee the purchase of user/environmentally safe products and chemicals.

Many facilities have participated in Waste Reduction week activities and encourage employees to reduce waste whenever possible.

5. Incorporation of Pollution Prevention Into Procurement

Purchasing policies are being reviewed to find alternatives to products that are non-recyclable or hazardous. Worked continues with vendors to find more environmentally sound products and packaging.

Pollution prevention\waste management committees be working with the facility material control departments to change purchasing policies and rewrite contracts to specify non-polluting products.

All copy paper contains recycled material and plastic bags are made of recycled materials.

6. Planned Pollution Prevention Activities

Increasing the awareness of pollution prevention in planned. Articles about pollution prevention are included in the campus papers at several facilities. The closure of the Moose Lake Regional Treatment Center has completely eliminated the generation of waste from that facility.

7. Estimated Benefits

Client/resident work programs are one of the economic benefits of the pollution prevention programs. The recycling of metal, plastic and paper provides meaningful work and an income to those people. The facility resident work program continue to processed thousands of tons of paper saving solid waste fees and generating income for residents.

The continued substitution of reusable diapers and underpads at St. Peter has resulted in the reduction of bed linen service by 25%, a 35% reduction in solid waste and a cost savings of $.20 per unit.

Other economic benefits include the recycling of aluminum and using the proceeds to fund activities. The upgrading of lighting at facilities has resulted in up to a 75% reduction in electric power consumption for lighting.

Although accurate numbers are not kept, the environmental benefits of the various programs are substantial. Thousands of tons of reusable materials are being diverted from the waste stream and converted into useful products. Fewer potentially hazardous materials are being used or lower amounts are being produced resulting in less material to be disposed of.

The increased use of the computerized programs (CHIEF Software) for preventative maintenance (PM) continues to reduced the amount of paper used. St. Peter has saved 26 reams of paper per year by backing up the PM's electronically rather than in hard copy. They are also using the computer to compile data and then send the disk rather than the paper copy for review. The Computer Information Management Systems at St. Peter is allowing the disks to be replaced with the modem/phone line. This will eliminate the use of the disk transfer.

8. Areas of Needed Assistance

Some outstate facilities are having difficulty recycling their reusable materials. Because of the small weights/quantities or the preparation needed it has not been feasible to recycle some products (institutional metal food containers).

Annual State Government Pollution Prevention Summary Report

1995

Fulfilling the requirements of Governor's Executive Order 91-17 Providing for the Implementation of Pollution Prevention by State Government

Submit by July 1, 1995 to:

Pollution Prevention in State Goverment
MN Office of Environmental Assistance
520 Lafayette Road N, Second Floor
St. Paul, MN 55155
Attn: Paul Moss

1. **Agency:** Metropolitan Council

Contacts: Michael Nevala (Environmental Services)
(612) 229-2065

John Bryan (Transit Operations)
(612) 349-5080

Address: 230 E. Fifth Street
St. Paul, MN 55101-1634

2. **Policy Statement**

Effective July 1, 1994, the Metropolitan Waste Control Commission and the Metropolitan Transit Commission were abolished by the Minnesota Legislature. All duties were transferred to the Metropolitan Council. The Council is the successor entity with respect to all the former Commissions' interests and obligations.

In view of this reorganization, the 1995 annual Pollution Prevention (P2) Report is being presented as a single submittal. In previous years, three reports had been prepared—one each for Transit, Environmental, and the "core" Council. Separate sections within the response categories will distinguish between activities unique to each of the operating divisions.

The Council's revised P2 Policy is provided as Attachment 1.

3. Pollution Prevention Activities During the Fiscal Year

Metropolitan Council Environmental Services (MCES)

The MCES operates nine wastewater treatment plants and over 500 miles of interceptor sewers in the seven-county Metropolitan area, treating approximately 300 million gallons of wastewater daily.

Paint Shop

The Paint Shop at the Metropolitan Wastewater Treatment Plant (Metro Plant) continues in its relevant on-going P2 activities such as **direct-to-metal, water-based paints and epoxies** which eliminate the use of approximately 1,000 gallons of solvent-based primer and 100 gallons of paint thinner per year. **Cleaning and paint removal alternatives** have eliminated the generation of almost 4,000 pounds per year of sand blast media as hazardous waste. Black Diamond and Blast-Ox media do not exceed hazardous waste levels when analyzed for Toxicity Characteristic Leaching Procedure (TCLP). A baking soda based blast media, Armex, is also in use.

The Paint Shop received a Special Recognition award from the Minnesota Government Reaching Environmental Achievements Together (MN GREAT!) program for its achievements in P2. A description of this activity and award is included as Attachment 2.

Laboratory

The Quality Control Laboratory at the Metro Plant continues in its on-going relevant P2 activities of **micro-analytical techniques, automation, and super-critical fluid extraction.** However, none of these advances have been approved by the regulatory agencies for use in standard analytical methods.

Operations

Training in P2 for a few hundred people has taken place at the Metro Plant. Forty-minute introductory sessions were presented to five operators' shifts, two maintenance groups, and administration, construction, and quality control personnel. The five operators' shifts also received a second round of P2 training, including the "Source Reduction Now" video.

A project of **water conservation** which uses treated effluent in place of well water has resulted in savings of water, permit fees, and electricity to operate the pumps. This project received an MN GREAT! award for its achievements in P2. A description of this award is included in Attachment 2.

Dry-cell batteries that are currently standard issue contain less that 0.0025% mercury and therefore are not hazardous wastes. The Metro WWTP warehouse normally dispenses 3,000 pounds of AAA, AA, C, D, and 9V alkaline batteries in a year which now can be handled as regular solid waste. Nickel-cadmium batteries which are no longer capable of being recharged are being accumulated for recycling through U.S. Filter in Roseville. A small project is underway to test the feasibility of using Ray-O-Vac rechargeable alkaline batteries. An accumulation of spent batteries pre-dating the mercury limitations and spent specialty batteries was manifested as hazardous waste under the state contract by Aptus. A total of eleven drums, weighing approximately 3,000 pounds was shipped. The batteries which could not be handled locally were shipped for recycling to Recovery & Reclamation in Pecos, Texas.

Beneficial Reuse of Residual Solids

The on-going **ash utilization** program incorporates the ash from incinerated biosolids into flowable fill, cement, structural fill, and asphalt projects. In 1994 a total of 18, 586 tons was utilized from the Metro Plant. An additional 6,998 tons of ash from the Seneca WWTP was used to make **NutraLime**, a soil amendment for agricultural and horticultural applications.

N-Viro Soil is an on-going program which produces a mixture of alkaline admixtures and biosolids, also used for agricultural and horticultural applications. In 1994, 5,130 dry tons of biosolids from the Seneca WWTP were blended into approximately 36,000 wet tons of N-Viro Soil.

Industrial Waste Division

The Industrial Waste Division is responsible for the Pretreatment Program and currently regulates more than 850 industrial discharge permit holders. The Division carries out inspection, monitoring, permitting, and enforcement activities. Beginning with a grant from the U.S. EPA in 1991, Industrial Waste has practiced a comprehensive P2 program including planning, training, assessment, and education for both industry and the general public. Through the Division, the Metropolitan Council is represented on the state-wide P2 Task Force.

In this past year, an ad hoc group—consisting of representatives from MCES, Office of Environmental Assistance (OEA), Minnesota Technical Assistance Program (Mn TAP), and Dakota County—has visited several **dental clinics** to discuss P2 and the handling of mercury-laden amalgam waste. Following this initiative, brochures that describe P2 and the proper handling of dental wastes were developed and distributed to clinics throughout the seven-county Metropolitan area. A brochure is included as Attachment 3.

Representatives from MCES and OEA have developed and distributed the **"No Dumping" flyer** to over 200,000 residents of St. Paul and Minneapolis as an insert to utility bills. This flyer alerts people to the hazards of using certain household chemicals and of disposing of them to the sewer system. Citizens are urged to read labels, consider alternatives, use everything up, and call the counties for more information. A flyer is included as Attachment 4.

The entire MCES, with an emphasis on the work of the Industrial Waste Division, is a recipient of an honorable mention **1995 Minnesota Governor's Award for Excellence in Pollution Prevention**. A copy of the award certificate and related article is presented as Attachment 5.

Other

The various site-specific **recycling programs** are continuing. Used office paper is collected for recycling, usually through the program run by the state Department of Administration. Industrial grade scrap metal, used (drained and crushed) oil filters, and used automotive batteries are collected to be recycled. Programs to collect newsprint, aluminum cans, some plastics, and glass containers generate petty cash for maintaining employee break areas or for charitable contributions.

Used fluorescent lamps have been stored until the past year. These are now being recycled through the new Recyclights, Inc. facility in Bloomington. This operation is an example of the marketplace successfully catching up with expanded regulatory requirements.

Within the **environmental audit program** administered by MCES staff conducting audits have looked for opportunities to suggest evaluation of chemical usage and storage with the goal of P2. Consolidation of storage within a facility and evaluation of chemical use which may result in reduction of hazardous wate generation are two concepts which the environmental audit program has suggested for consideration at MCES facilities. The environmental audit program will continue to seek out opportunities to make P2 recommendations in the conduct of audits.

Metropolitan Council Transit Operations (MCTO)

Chemical Study

During 1993 the Transit Operations completed a very intensive **study of the chemicals** that were used by each facility. This study indicated which chemicals add to the waste that is considered hazardous waste. The MCTO has reviewed all of the listed chemicals that are used by the agency and has followed the recommendations of the consultant. This includes the removal of all chemicals for which safety data sheets could not be obtained. MCTO has recently hired an industrial hygienist to oversee this process and insure that the study findings are implemented.

Waste Reduction

MCTO has been **recycling** paper, cardboard, and metals since 1990. In addition to these recycling efforts the MCTO has also removed all items that are considered hazardous like fluorescent and HID bulbs, oil filters, waste oil, etc. from the landfill waste stream.

Chlorinated Fluorocarbon Concerns

During the past year, the MCTO has been recovering all **chlorinated fluorocarbons** that are used in its cooling systems. The MCTO has installed an absorption cooling system at its Overhaul Facility with cooling performance comparable with the standard roof top cooling units. The reason that this type of system was chosen is that no chlorinated fluorocarbons are used in the cooling process.

Air Emissions

In 1992, the MCTO did a complete **emission inventory of all stack and ventilators** in all facilities that are controlled by the MCTO. By doing this inventory, MCTO was able to pinpoint the largest emission problems and has started to reduce the amounts of emissions at our facilities. The first emission that was reduced has been the sulfur from the stacks of the boilers by switching from #5 heating oil to #2 heating oil. During the Winter of 1994-95, staff hired a consultant to complete all emission permits that were required by the MPCA.

Alternate Fuels

The MCTO is currently evaluating **alternate fuels** for its bus fleet. This evaluation will look at using ethanol, ethanol mixture, or liquid natural gas as fuels or the installation of carbon trap systems on the existing fleet. This program is scheduled for completion in 1995. A full report of findings and recommendations will be made.

4. Actions to Integrate Pollution Prevention into Regulatory and Policy Activities

Metropolitan Council Environmental Services (MCES)

P2 continues to be a topic of discussion and item of implementation in the overall operations of the MCES. The training of the Metro Plant personnel and continued dialogue within the Regional Communications Group (Plant Area Managers) are evidence of the integration of P2 into day-to-day activities.

Although P2 is something that is not an enforceable pretreatment regulation, the Industrial Waste Division has incorporated P2 observations, comments, and suggestions into its inspections of permittees.

MCES has participated in a subgroup of the Interagency Pollution Prevention Advisory Team in discussions with the Environmental Quality Board on legislation to include P2 as a part of the Minnesota Sustainable Development Initiative. In addition, the Council's Pollution Prevention Staff Committee members monitor Council referrals for opportunities to promote pollution prevention particularly in conjunction with community comprehensive plans.

Metropolitan Council Transit Operations (MCTO)

MCTO does not have regulatory activities therefore, no activity in this area has occurred. Internally, MCTO is working on controlling the types and amounts of chemicals that are used by the maintenance personnel at the agency. This project, while complete, has turned into an ongoing commitment of the agency.

5. Incorporation of Pollution Prevention into Procurement Activities

Metropolitan Council Environmental Services (MCES)

The Metropolitan Council was one of several sponsors for the "Workshop on Environmentally Responsible Purchasing for Minnesota Public Agencies," held twice in December 1994. Staff input was provided for the conference planning and approximately twelve staff were in attendance.

A good deal of time and attention of the Metropolitan Council has been devoted to issues regarding its own reorganization, particularly in "common denominator" areas such as human resources, information technology, and purchasing. At this point, new ideas in P2 procurement have been devoted to the purchase of unbleached paper products. Assistance has been provided in specifications for purchasing new dry-cell batteries and disposing of old ones. Procurement is involved with the selection process for new, acceptable used oil absorbents.

Metropolitan Council Transit Operations (MCTO)

The Purchasing Department along with the Maintenance Division has implemented the Chemical Audit that was completed in 1993. These recommendations included centralized purchasing of all chemicals that are used by MCTO.

6. Planned Pollution Prevention Activities

Metropolitan Council Environmental Services (MCES)

The Paint Shop future activities and inventory are being driven by compliance with increasingly strict air pollution regulations under the federal Title V air emissions permitting program. This will limit the amount of volatile organic carbons (VOCs) and hazardous air pollutants that can be released to the atmosphere. A new combination spray paint booth and sand blast unit is being designed which will scrub VOC's and capture blast media. The blast waste will be passed through a cyclone which will separate the paint waste from the media , or shot, allowing the latter to be reused. Paints and other coatings will contain fewer VOCs.

A construction specifications standardization task force has been meeting to provide uniform specs for all MCES construction projects. This group has been introduced to P2 and has been provided with several copies of Resource Efficient Building: Reducing Materials Use, Toxicity and Waste in Design and Construction authored by the Waste Reduction Institute for Training and Applications Research (WRITAR) and sponsored by the Office of Environmental Assistance.

MCES Operations has been investigating various used oil absorbent alternatives to clay-based "floor-dry." Currently, oil absorbent without free liquids can be disposed of as solid waste. Stricter state and federal regulations will require that the abosrbents be tested against the TCLP criteria unless recycled. The Metro Plant used nine tons of floor-dry last year. More effective absorbent or reusable absorbent will decrease this volume. The Minnesota Department of Transportation (MnDOT) has undertaken a very comprehensive evaluation of absorbent and has been very generous about sharing their findings.

The Council's Pollution Prevention Staff Committee will evaluate P2 performance and communicate with employees and Council members regarding hazardous materials issues, precautions and alternatives (contact: Wayne Nelson, 291-6406).

Metropolitan Council Transit Operations (MCTO)

During 1995 and 1996, MCTO will focus on phasing out the use of chemicals that are not needed or duplicated under different brand names. MCTO will also be instituting a more central control on the purchase of any chemicals that are used by the agency. It is estimated that this entire process will be completed by the end of 1996.

During 1995, MCTO will be continuing its study of alternate fuels in their fleet of buses. This study is being used to look at different types of fuels and mechanical systems that are used on the fleet. The Director of Bus Maintenance, Steve Morris is in charge of this project and can be reached at 349-5000.

MCTO is also evaluating the use of absorption cooling systems to cool their buildings instead of the standard mechanical systems. This project is being used to test the reliability of systems that do not contain either CFC's or HCFC's. This project should be completed after the cooling season in 1995. The System Facility Engineer, John Bryan, is in charge of this project and can be reached at 349-5080.

7. Estimated Benefits

Metropolitan Council Environmental Services (MCES)

Measurable economic benefits in facility operations include $26,000 per year in the Paint Shop and $5,000 over that past three years with the water conservation program.

Although the MCES pays contractors for the beneficial use of residual solids, the cost is still somewhat less expensive than disposal, particularly in light of tipping fees and transportation costs outside of the Metro Area. If the Industrial Waste Division's pretreatment program was not in place and enforced, it is possible that higher concentrations of heavy metals would require more complex and expensive handling of biosolids and residual solids.

Metropolitan Council Transit Operations (MCTO)

The MCTO is anticipating that savings will be realized by reducing the size of the chemical inventory the agency currently maintains and the possible reduction of hazardous by-products by the elimination of certain chemicals that produce hazardous wastes.

The alternate fuel program for the buses may lead to reduced maintenance for some of the tested fuels. At this time no projections can be made for the anticipated savings, if any.

With absorption cooling, the MCTO is expecting to see lower operating costs and lower maintenance costs while at the same time reducing the dependency on CFC's. Final results on this study will be released in the Spring of 1996.

8. Areas of Needed Assistance

Metropolitan Council Environmental Services (MCES)

The Interagency Pollution Prevention Advisory Team (IPPAT) has been the focal point of assistance provided to the public agencies covered by the Governor's Executive Order. Paul Moss of OEA has done an outstanding job of arranging for applicable quarterly meetings and in being responsive to the needs of member agencies. Video-tapes, resource manuals, and other types of information have been readily available through IPPAT. IPPAT has sponsored the procurement workshop and the MN GREAT! program. OEA and MnTAP always do an outstanding job of organizing and presenting the annual P2 Conference.

Within the MCES, P2 has always been a grass roots effort and that is exactly the level where the most gains can be implemented. At the Council level there have always been resolutions or administrative policies committing the organization to P2. Expanded education of management staff would enhance the connection between the P2 policies and the P2 implementation and likely lead to continued benefits due to P2.

Metropolitan Council Transit Operations (MCTO)

At this present time the MCTO does not require any additional assistance.

9. Key Pollution Prevention Contacts and Resources

Metropolitan Council Environmental Services (MCES)

The Council (and its predecessor agencies) is a member of the IPPAT created—along with this summary report requirement—by Executive Order 91-17. In the past year, the team has compiled and distributed to its member agencies a resource manual which lists contacts by pollution prevention expertise. A page from the manual with MCES and MCTO listings is included with this report as Attachment 6.

Metropolitan Council Transit Operations (MCTO)

Alternate Fuel Testing	Steve Morris, Director Equipment Maintenance (612) 642-2615

10. Signature of Agency or Department Head

Richard Johnson Richard L. Johnson

Name

Associate Regional Administrator, Metropolitan Council

Title

June 26, 1995

Signature *Date*

METROPOLITAN COUNCIL

ADMINISTRATIVE PROCEDURES MANUAL

Section 2 Page 2.11.1 Date Approved 5/30/95
Subject Pollution Prevention Dept. Responsible Administration

POLICY: The Metropolitan Council will support pollution prevention by participating in the efforts outlined in the Minnesota Toxic Pollution Prevention Act of 1990, pursuant to executive order 91-17, which provides for the implementation of pollution prevention by state government. To this end the following environmental guidelines are hereby established.

- The Council is committed to identifying and implementing pollution prevention opportunities through the encouragement and involvement of all employees as well as the users of its regional operations, programs, services and systems. Preventing pollution by reducing and eliminating the generation of toxic waste or emissions at the source will be a consideration in the development of Council policies and in the management of its regional operations, programs, services and systems.

- Technologies and methods which substitute non-hazardous materials or use other source reduction approaches will be given careful consideration in addressing all environmental issues.

- The Council seeks to adhere to all environmental regulations. It will promote cooperation and coordination toward the shared goal of pollution prevention with other governmental agencies and Minnesota citizens, particularly the users of its regional operations, programs, services and systems.

DEFINITION: Pollution prevention is defined as reducing pollutants at the source rather than controlling them after they have been created.

PROCEDURE: The Council's participation will be coordinated through a staff committee with the following responsibilities:

- Represent the Council's planning, administration and operating activities which currently include the regional housing and redevelopment authority, transit operations and wastewater services;

- Encourage policy development that minimizes unnecessary use of toxic materials and requires financial responsibility for the proper disposal of these materials;

- Audit toxic wastes subject to Council control;

♦ Evaluate and recommend the safest and most cost-effective measures to abate the use of toxic wastes subject to Council control;

♦ Monitor operations, purchasing and building maintenance activities to discourage the use or generation of toxic materials by Council employees or on Council premises or through the activities of vendors that provide supplies or services to the Council;

♦ Prepare annual pollution prevention reports to the Office of Environmental Assistance pursuant to the executive order;

♦ Maintain a resource list indicating deployment at the various Council work locations of staff with specialized pollution prevention expertise; and

♦ Promote pollution prevention by encouraging the involvement of all Council employees as well as the users of its regional operations, programs, services and systems.

MN GREAT! AWARD RECIPIENTS
APRIL 1995

Metropolitan Airports Commission, Minneapolis- St. Paul International Airport Runway Paint Substitution [Special Recognition]

Project Team: Neil Anderson, JoAnn Brown, Mark Carlson, Toni Howell, Michael J. Kaluzniak, Dennis Luoto, Lawrence Mason, Nicholas Muntean, Richard Nehm

Project Summary: Typically, the products used in runway striping painting operations include toluene-based solvents, lead-based paint and a reflective medium. By incorporating the use of an airless hydraulic sprayer and modifying the application procedure, team members were able to employ the use of alternative products which are less toxic.

Results: Reduction of release of 3,100 pounds of lead and 36,500 pounds of solvent into the environment.

Metropolitan Council Wastewater Services - Metro Plant, Service Water Conservation Project

Project Team: Wayne Anderson, David Kellesvig, Stephen Oslos, The Pipe Shop

Project Summary: Over the past three years, groundwater has been conserved by utilizing effluent water in place of well water whenever possible. The work necessary to implement water conservation consisted of modifications of existing pipes and hydrants to reroute effluent water within the plant.

Results: A 35% reduction in the use of well water from 1991 to 1994. Approximately $3,600 has been saved in the cost of electricity to operate well pumps. $1,890 has been saved in annual fees for permitted appropriation of groundwater.

Metropolitan Council Wastewater Services - Metro Plant, Maintenance Division, Paint Shop, Clean Air, Low VOC Maintenance Painting Project [Special Recognition]

Project Team: Reinhard Alexejew, Herlyn Fritz, Alan Hanson, Bill Meservey, Harland Olson, Ronald Ritchie, Richard Scheel

Project Summary: Paint shop staff took many steps to prevent pollution, including elimination of solvent-based primer by use of direct-to-metal paint, use of "universal thinner," use of polystyrene paint arrestors dissolved in thinner, use of proprietary blasting media which does not exceed heavy metal threshold limits for hazardous waste, epoxy reuse utilizing overnight refrigeration, and consolidation of spray gun thinner with regular thinner.

Results: Total annual savings were $26,602 from the above measures. Over 1,000 gallons of primer and thinner was not used. Also decreased emission of volatile organic compounds and improvements to worker health and safety.

MN Department of Administration - Travel Management Division, Aqueous Based Solvent System Project

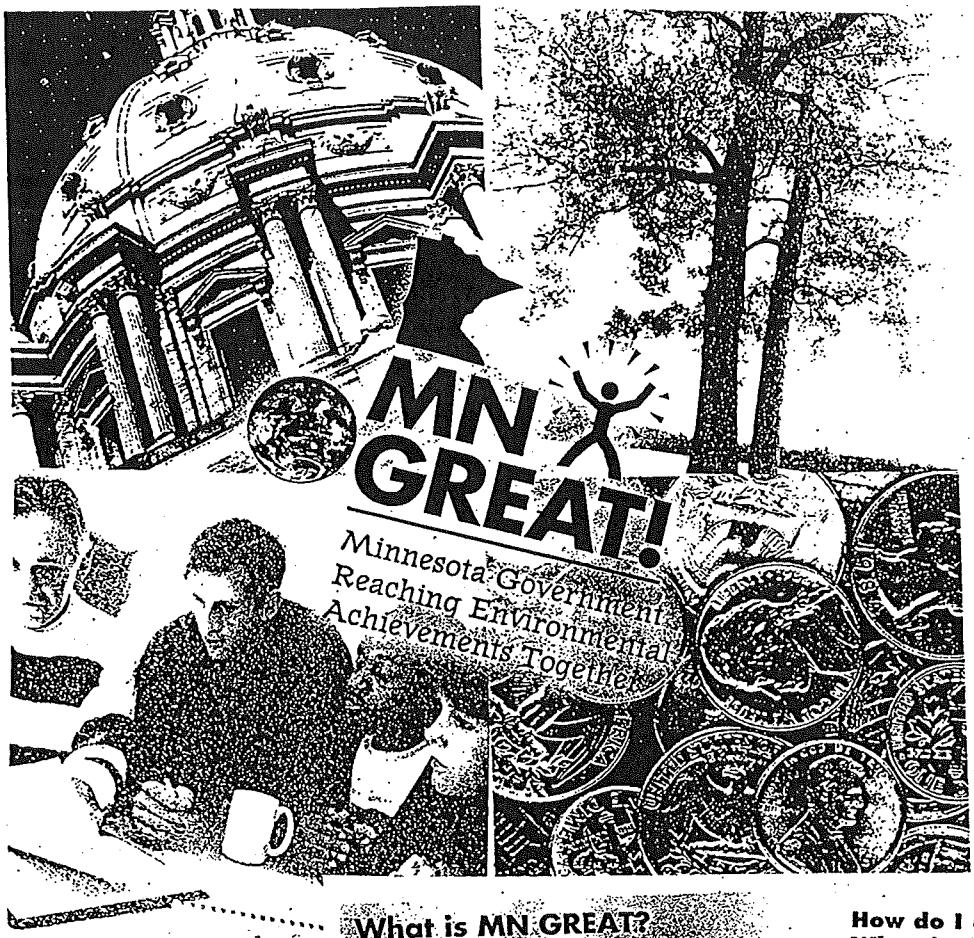
Project Team: Susan Burkhardt, David Przybylski, David Rausch

Project Summary: An aqueous based cleaner/degreaser solvent was tested as a substitute for Stoddard Solvent, a hazardous and combustible parts cleaner, in removing oils, grease and soils from automotive parts.

Results: Eliminated entirely the use of Stoddard Solvent (60 gallons per year) at the Travel Management Division automotive shop. Now using a non-toxic, non-flammable and ozone safe aqueous based cleaner which can be filtered and cleaned though a standard automotive oil filter and does not require disposal. Petroleum byproducts of the new cleaning process are recycled.

MN Department of Administration - Plant Management Division/Energy Management Services, State of Minnesota/NSP Energy Retrofit Project

Project Team: Renee Gavin, Rebecca Henderson, Jack Ikola, Conrad Miller Vicki Reed, Rajan Thomas, Gary Trull



What is MN GREAT?

MN GREAT! is a new awards program established to recognize environmental achievements by state employees. It focuses on pollution prevention, an environmental approach encouraged by state policy. Pollution prevention reduces or eliminates the generation of wastes, and leads to significant environmental as well as economic benefits.

Who can apply?

Any Minnesota state agency employee or group of employees is eligible, including staff from Metropolitan agencies, University of Minnesota; state university system, and technical and community colleges.

What kind of projects are eligible?

Emphasis is on activities that eliminate or reduce at the source the use, generation, or release of toxic pollutants, hazardous substances and hazardous wastes. Other activities eligible for consideration include solid waste source reduction, energy conservation, water conservation, procurement activities that prevent pollution and waste, transportation management programs, educational programs or tools, management activities that include pollution and waste prevention in employee job responsibilities, and programs that encourage employee and/or union involvement in pollution and waste prevention. *Note that these awards focus on recognizing efforts that prevent the generation of all types of waste and lead to efficient use of resources. These awards do not recognize waste recycling or waste management efforts.*

Only projects that have been at least partially implemented are eligible for this award.

How do I apply? When is the application due?

You may apply for yourself or you may nominate someone else. To apply, simply submit the following information (there is no application form):

1. Name(s), Position, Agency, Address, Telephone number, Fax number, Signature(s) of person(s) being nominated

2. Describe the project or program, including its environmental benefits and economic benefits. If at all possible, specific quantities of waste reduced and money saved should be included in the application. Please summarize the project on no more than one side of one page. Additional information may be attached to this one-page summary if necessary.

3. Please submit your application no later than February 14,1995 to:

Pollution Prevention in State Government
Minnesota Office of Environmental Assistance
1350 Energy Lane
St. Paul, MN 55108

Who will judge the applications?

The Interagency Pollution Prevention Advisory Team, established by Governor Arne Carlson by Executive Order in 1991, will choose seven independent judges to evaluate the applications and select winners. These judges will represent state agencies, local government, industry and environmental groups.

What can I win?

Awards consist of a certificate of recognition, a special mug and a letter of commendation to the agency head on the employee's behalf. Some agencies may also provide additional recognition for their employees.

What if I have questions?

Feel free to contact the Minnesota Office of Environmental Assistance at (612) 642-0484 or (800) 657-3843, or your agency's representative on the Interagency Pollution Prevention Advisory Team for more information about these awards.

1995 MINNESOTA

GOVERNOR'S AWARDS

FOR EXCELLENCE IN POLLUTION PREVENTION

Awarded to

Metropolitan Council Wastewater Services

Honorable Mention

June 7, 1995

Arne H. Carlson

Arne H. Carlson
Governor

Attachment 5

Metropolitan Council Wastewater Services

St. Paul

Type of Organization:
Public utility assistance provider

Project:
Assisting business and the public to prevent pollution

Metropolitan Council
Wastewater Services

Wastewater treatment plants play an increasingly important role in preventing pollution. By promoting and practicing pollution prevention, they maximize treatment capacity, reduce difficult-to-treat influents in wastewater, meet stringent federal and state wastewater discharge limits, and increase overall efficiency.

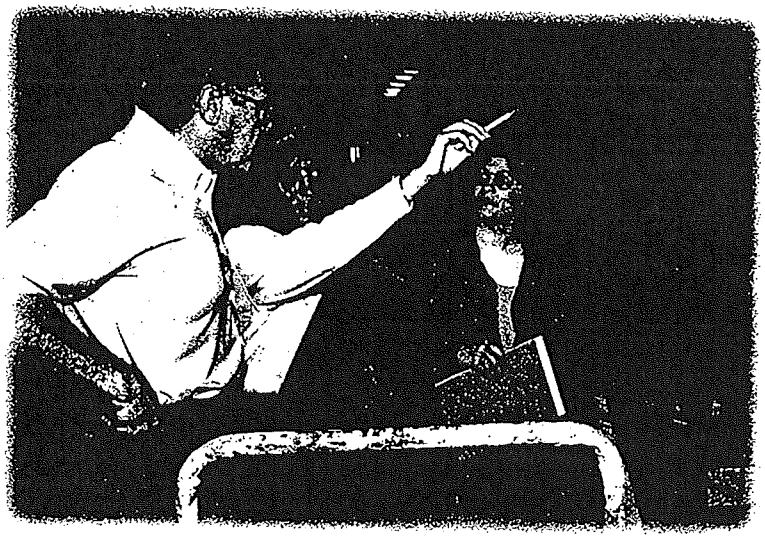
Metropolitan Council Wastewater Services (MCWS), St. Paul, the public agency responsible for treating wastewater in the Metropolitan Area, is a leader among sewage treatment operations in actively incorporating pollution prevention into its activities. The agency started a formal pollution prevention program in 1991 with a grant from the U.S. Environmental Protection Agency and has more than doubled this investment with its own budget commitment.

The MCWS has incorporated pollution prevention into its operations and helped industry and the public in the following ways:

- MCWS's Industrial Waste Pretreatment Program provides pollution prevention assistance to many of its 850 industrial waste discharge permit holders. The staff has conducted a survey, started a program to help permittees prevent pollution, established a Pollution Prevention Advisory Committee, held staff training and workshops for other sewage treatment plants, worked with dental clinics on mercury restriction, and distributed an educational flyer to more than 200,000 Twin Cities residents.

- Top administrators promote pollution prevention whenever possible. The message is also presented in all the agency's communications vehicles, including newsletters, brochures, fact sheets, videos, reports, speeches, exhibits and public education.

- MCWS has incorporated pollution prevention into its own operations. For example, a water conservation program has saved one million gallons of ground water per year since 1991, saving over $5,000 in electricity and water fees. Also, the metro plant's paint shop redesigned its processes to prevent pollution, saving $26,000 per year.



Pollution Prevention Summary Report

Department of Military Affairs

July 1995

STATE OF MINNESOTA
DEPARTMENT OF MILITARY AFFAIRS
POLLUTION PREVENTION SUMMARY REPORT
1995

Submitted to the State of Minnesota, Office of Waste Management on July 1, 1995, to meet the requirements of the Governor's Executive Order 91-77.

1. INTRODUCTION

Preventing pollution is one of the Department of Military Affairs top priorities. The current emphasis on pollution prevention is necessary to meet state and national pollution prevention policy goals, reduce long-term liabilities of waste disposal, save money by reducing the raw material purchases and waste treatment and disposal costs, and in so doing protect our communities and the environment in which we live.

Pollution prevention is a cost-effective means of meeting environmental objectives in an era when Army installations are simultaneously subject to stricter standards for pollution control, public criticism of their environmental record, and declining budgets. The costs of failing to prevent pollution are dramatically evident; at some installations, cleanup costs are estimated in the hundreds of millions of dollars.

The Departments of Military's exposure to risk increases directly with the volume of hazardous substances and materials in use and increase to a lesser extent as a result of other materials used and the solid waste generated. Reducing these long-term liabilities requires a positive commitment, a sound plan, and an aggressive program for modifying past attitudes toward the conservation of all materials. Reducing liabilities also requires actively searching for opportunities to reduce the amount of waste generated and the use of toxic materials, fuels, and chemicals while still accomplishing the Department of Military Affairs mission.

The Department of Military Affairs presently oversees operations of two Air National Guard (MNANG) facilities located in Minneapolis and Duluth, one Army Aviation Support Facility (AASF) located in St. Paul, 61 Minnesota National Guard (MNARNG) armories located throughout the state, 16 (MNARNG) Organizational Maintenance Shops (OMS), one Combined Support Maintenance Shop (CSMS), a Mobilization and Training Equipment Site (MATES), and Camp Ripley Training Center. (see attachment 1)

2. POLICY STATEMENT

The Department of Military Affairs is committed to actively protecting the environment in all of our activities. We intend to accomplish the following items.

* provide a clean and safe environment in our community
* ensure a safe and healthy workplace for our staff
* comply with all applicable laws and regulations
* efficiently accomplish our mission
* reduce future liability for waste disposal
* reduce waste management costs

To accomplish these objectives, we will implement programs for reducing or eliminating generation of waste through source reduction and other pollution prevention methodologies.

This policy extends to air, wastewater, solid and hazardous wastes. In addition to meeting these objectives, there are other important benefits to pollution prevention.

The Department of Military Affairs is committed to reducing its production of waste by weight and toxicity. As part of this commitment, the Department of Military Affairs gives priority to source reduction. Where source reduction is not feasible, other pollution prevention methods such as recycling will be implemented. The wastes that are produced will be converted to useful products or used beneficially, when possible. Remaining wastes for which no pollution prevention option is warranted will be effectively treated (to decrease volume or toxicity) and responsibly managed.

The Department of Military Affairs will select waste management methods that minimize present and future effects on human health and the environment. Pollution prevention is recognized as a responsibility of *all* of our staff. The Department of Military Affairs is committed to identifying and implementing pollution prevention opportunities through solicitation, encouragement, and involvement of all employees.

The MNARNG believes strongly that it is important to continue our proactive approach in keeping with the Army National Guard (ARNG) Environmental Vision:

The Army National Guard is committed to promoting military readiness, national stability, and environmental stewardship. Our vision is to lead the way in protecting and enhancing our resources while maintaining the highest degree of military readiness.

3. POLLUTION PREVENTION ACTIVITIES DURING THE FISCAL YEAR

a. **Committees.** The Department of Military Affairs has three working Environmental Quality Control Committees (EQCC) and one Energy Action Committee consisting of National Guard commanders and State supervisors assuring the integration of sound environmental principals in all facets of MNARNG activities. These committees oversee all environmental policies as well as most environmental projects which the MNARNG is performing or involved.

The Environmental Quality Control General Officers Steering Committee (EQCGOSC) is composed of commanding officers of both Air and Army National Guard. This committee coordinates and directs joint environmental missions of Air and Army National Guard and generates appropriate policy to accomplish these missions.

The two Environmental Protection Committees (EPC) (Air National Guard) operating at the Duluth and Minneapolis air bases, and the Environmental Quality Control Committee (EQCC) (Army National Guard) applies these environmental policies to their particular areas and projects. These committees use experts regularly as it balances change driven by environmental issues including pollution prevention.

The Army National Guard's Energy Action Committee is tasked to provide the guidance necessary to implement all phases of energy management within the MNARNG facilities and its activities. The primary mission of the Minnesota State Energy Committee is to maximize the effective use of energy resources available to the state through the development, implementation, and execution of energy conservation programs.

The goals of the Committee are to:

a. Ensure that each military organization in the State of Minnesota incorporate the efficient use of energy in the mission emphasis of the organization.

b. Increase energy conservation awareness at all levels through the use of handouts, posters, letters, bulletins, checklist, etc.

c. Develop policies, programs, guidelines and educational opportunities for energy conservation use throughout the State.

d. Provide energy management guidance in specific energy areas, i.e. electricity, natural gas, fuel, etc. Power down of management responsibility to individual organizations.

e. Continue to regularly meet and review energy conservation matters.

b. **Training.** The Department of Military Affairs uses several different methods to educate and train field soldiers and state employees of their responsibility for implementing pollution prevention methodologies.

MNARNG Regulation 200-3, Hazardous, Infectious and Special Waste Management Requirements is a hands-on tool that has been provided to all MNARNG facilities throughout the state. This regulation is a simple way to reference and implement pollution prevention methods at each facility. Currently MNARNG 200-3 is in the process being revised to address new and ever changing policies and guidelines.

Training videos are also being used to help educate individuals of their responsibilities for ensuring pollution prevention measures are followed. The National Guard's Most Wanted is a 20 minute video that was filmed and produced in July 1994. This video is used to stress awareness in simple straight forward terms. 10 1/2 Steps to Facility Compliance With Hazardous Waste Generator Requirements is a one hour video that will be released in August of 1995. This video will build off the first tape taking compliance issues to a greater level. Pollution prevention is addressed as the 1/2 step.

Scheduled for September of 1995 is a day long classroom training session that will accomplish three things. First, it will be used to distribute the 10 1/2 steps to compliance video. The video will be viewed and a question/answer period will follow. Second, new updates of regulation MNARNG 200-3 will be distributed. Third, individuals responsible for hazardous waste and pollution prevention will be given an opportunity to ask and have questions answered.

Throughout the previous year, site assistance visits occurred at most MNARNG armories and OMS's. The emphasis of these visits was to help address compliance issues and to point out areas where corrective actions were needed.

c. **Solvent Use.** The Department of Military Affairs continues the use of a toll service company to provide a solvent recycling service that provides one type of non-halogenated solvent that meet the specifications of the process operators. This reduces the volume of solvent used and eliminates the unlimited combinations of solvents for disposal. Maintenance facility chiefs were also required to justify the use of this equipment. In reviewing there need prior to adding there shop to the contract an additional forty percent (40%) reduction in use was achieved.

The Minnesota Air National Guard has replaced many of their solvent systems with systems that use hot water and biodegradable detergent. Eight aqueous parts washers have been installed in various maintenance shops in 1995 and an additional fourteen are to be received and installed in 1996. This operation has produced far less hazardous waste in the form of sludge. The MNARNG continued to purchase aqueous parts washers and make technological changes to make older model parts washers more efficient. (see attachment 2)

d. **Shop Towels.** The MNARNG generates approximately 2,000 pounds of shop towels (rags) per year in performing its mission. The rags were managed as a hazardous, special waste

The previous exit lights were 25 watt fixtures with a consumption of 109,500 kilowatt hours per year. The replacement lights are 7 watt fixtures with a total consumption of 30,660 kilowatt hours per year for a savings of 78,840 kilowatt hours.

Camp Ripley Military Training Site is planning to install automation systems in six of the permanently occupied buildings (MATES, CSMS, RTSM, USPFO warehouse, USPFO, TACC). These automation system will be used to monitor and control building air temperatures and hot water boiler temperatures. With this system in place, the amount of energy needed to heat the building in the winter and cool the building in the summer can be substantially reduced.

n. Controlled Humidity Storage Facility. Camp Ripley Training Site serves as a major training area for National Guard units from throughout the nation. The MATES serves as a facility within the training site where units can obtain equipment to use while they are here for annual training periods and weekend drills. The MATES facility is responsible for servicing all equipment used at the training site. Maintenance produces large amounts of waste oils and other liquid products that are extracted and replaced during maintenance. Currently, Camp Ripley Training Site is seeing a reduction in the amount of troop activity. To reduce maintenance man-hours, workbay time consumption, and production of waste liquids the MNARNG is going to "mothball" a portion of its fleet. The Controlled Humidity Storage Facility allows the MNARNG to store vehicles in a environment that will keep them out of the weather elements. This facility also allows the vehicles to remain operational in the event of a large mobilization of MNARNG troops.

o. Small Boar Weapons Cleaner. The Department of Military Affairs is in the process of purchasing two small boar weapon cleaners in 1995. With this technology weapons can now be cleaned with high pressure water instead of solvents. Steam, the combination of moisture, heat and pressure provides the means for immediate removal of contaminants from a given surface, cleaning it thoroughly, coupled with immediate spotless drying. The MINI-MAX Cleaner with ARMA-SOL is the cleaner being purchased. There are no hazardous waste associated with this cleaning process. The Department will continue to purchase this technology with the anticipation of eliminating solvents that need to be disposed of as hazardous waste.

4. ACTIONS TO INTEGRATE POLLUTION PREVENTION INTO REGULATORY AND POLICY ACTIVITIES

The Department of Military Affairs generates policy and regulations directing its employees on the requirements and expectations of the duties they perform. Some of these regulations have been referenced in the policy portion of this report. These regulations are continually being reevaluated and updated to reflect changes in federal, state and local authority requirements yet allowing department personnel to efficiently and safely accomplish their mission. These regulations are available on request. Some of the environmental directives or regulations consist of:

a. MNGR 750-1 (Equipment Maintenance Support Plan)

b. MNGR 470-70 (Armory Control and Management)

c. MNGR 385-10 (Command Safety Program)

d. Camp Ripley Environmental Regulation

e. MNGR 200-1 (Environmental Protection and Enhancement)

f. MNGR 200-2 (Environmental Review of Actions)

g. Environmental Quality Pesticide Management Plan

h. MNGR 200-3 (Hazardous and Special Waste Management)(revised September 1995)

i. MNGR 200-4 (Infectious Waste Management)

5. INCORPORATION OF POLLUTION PREVENTION INTO PROCUREMENT ACTIVITIES

The Department of Military Affairs performs both state and federal missions. Procurement of items through state system is accomplished following policies of the Minnesota State Department of Administration. These activities can be reviewed in the State's Department of Administration summary reports.

The Department of Military Affairs also performs activities described as their federal mission. These activities are supported by the United States Property and Fiscal Office (USPFO) using federal dollars. USPFO purchasing policies are changing to follow rules stipulated by Executive Order 12873, October 20th 1993, Federal Acquisition, Recycling, and Waste Prevention. (see attachment 6) The change in purchasing allows for pollution prevention goals being met. Examples include technology purchases being approved when a return of economic benefit is demonstrated. The USPFO also established a system to track funds obtained through the sale of MNARNG recyclable material. It was then determined that these funds should be returned to the MNARNG facility generating the funds. This plan was called the Management Plan/Standard Operating Procedure/Accounting Policy for the Collection and Distribution of Recovery and Recycling Funds. These funds were directed to be managed in the following way:

a. Reimburse program cost (recycling), if any.

b. Pollution abatement/pollution prevention/hazardous waste minimization.

c. Energy conservation projects.

Requests for purchase of items are made through the Facilities Management Office.

6. PLANNED POLLUTION PREVENTION ACTIVITIES

a. Department of Military Affairs staff continue to evaluate existing department pollution prevention projects and activities. Technologies and proposals in the implementation of pollution prevention goals and proposed activities will continue to be reviewed.

b. The Department of Military Affairs will continue to research pollution prevention opportunities, changes in procedures and the purchase of technology that works for the Department.

c. The Department of Military Affairs will continue to implement and maintain pollution prevention activities that have been previously addressed in section three of this report.

7. ESTIMATED BENEFITS

The principal environmental benefit to date is the heightened awareness of the department's process operators and commanders in the reduction of waste solvents and heavy metal laden waste disposed of by the MNARNG. Solvents enter the environment through

evaporation with resulting impacts to air quality. Heavy metals enter the environment through paint abrasion, wear and equipment cleaning, and all may impact soils and water quality. The movement of these spent solvents and heavy metal laden waste to a proper handling facility still result in potential environmental impacts and potential department liability.

Reducing and eliminating hazardous waste and particular waste streams will ultimately have economic benefits for the Department of Military Affairs. Transporting these waste materials is in itself expensive and carries with it a future economic liability. There may be short term economic cost increases, but the Department is confident that the long term benefits will outweigh these costs. The Department is presently collecting information for the evaluation of the P2 projects implemented.

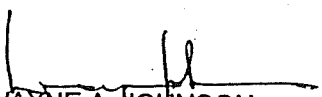
8. AREAS OF NEEDED ASSISTANCE

Pollution prevention assistance that would benefit the Department of Military Affairs most noticeably would be direct funding and staffing. Understanding that this may not be an option, a clearing house of information (pilot projects, system changes, Minnesota Technical Assistance Program reports, etc.) would be a worthy activity. The State presently has the MPCA, Offices of Environmental Assistance, and MNTAP expending energy addressing this issue. The work products of these agencies should be centrally located if not coordinated to meet their customers needs.

9. KEY POLLUTION PREVENTION CONTACTS AND RESOURCES

Minnesota Department of Military Affairs also operates under the guidance and policies of the National Guard Bureau. To assist the MNARNG in meeting these goals, a pollution prevention update is circulated throughout the states and territories. This document is designed to share pollution prevention successes and also failures.

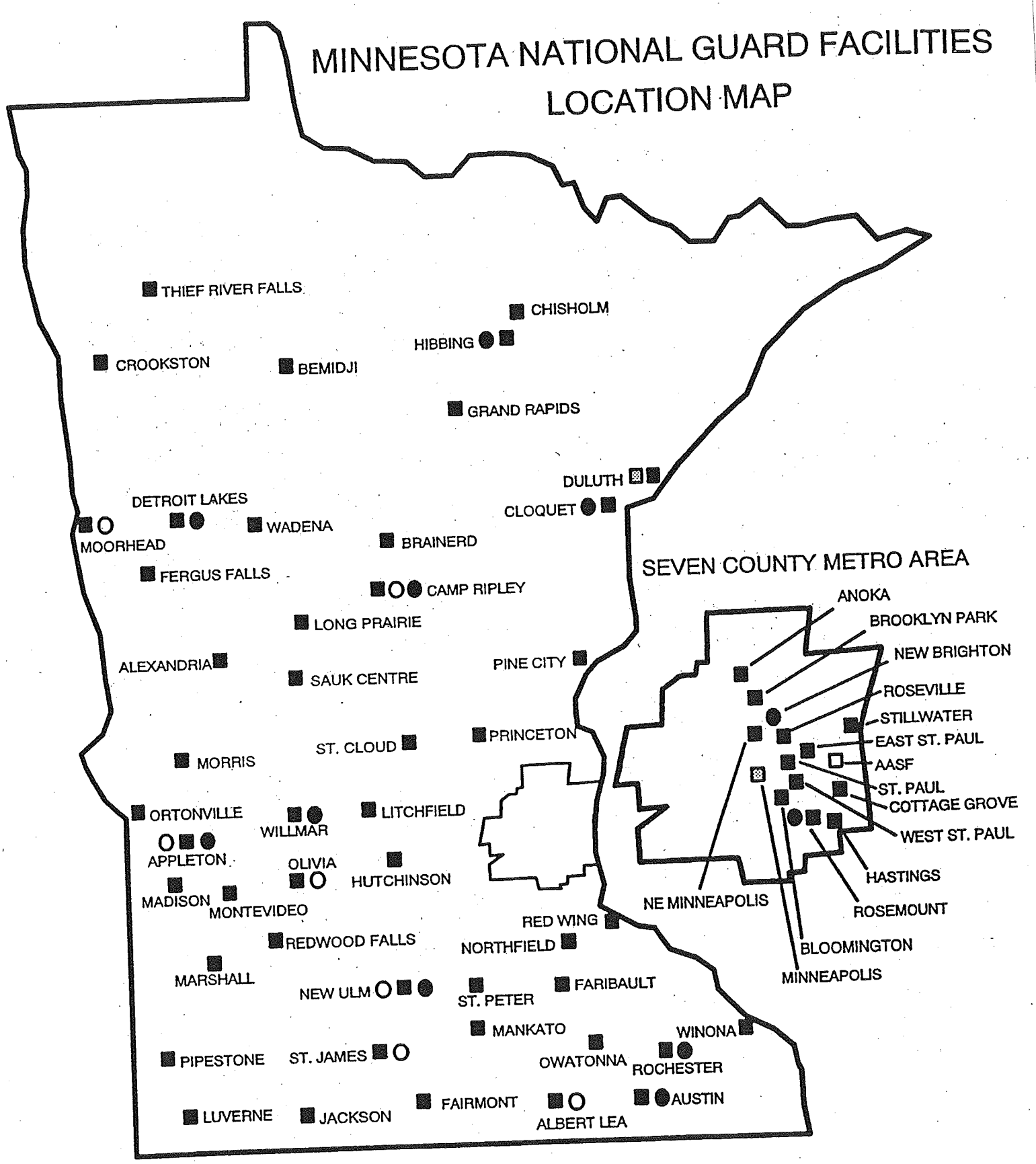
Informational and educational exchange and forums do assist in meeting environmental goals. However, we as a State agency need to continue improving before being described as environmentally green. Working groups could be formulated to review department functions and inform State agencies of activities being performed that can be considered sources of pollution.



WAYNE A. JOHNSON
Colonel, Infantry, MNARNG
Facilities Management Officer

Department of Military Affairs
Facilities Management Office
Attention: Mr. Scott P. Albers
PO Box 348, Camp Ripley
Little Falls, Minnesota 56345-0348
(612) 632-7566

MINNESOTA NATIONAL GUARD FACILITIES LOCATION MAP

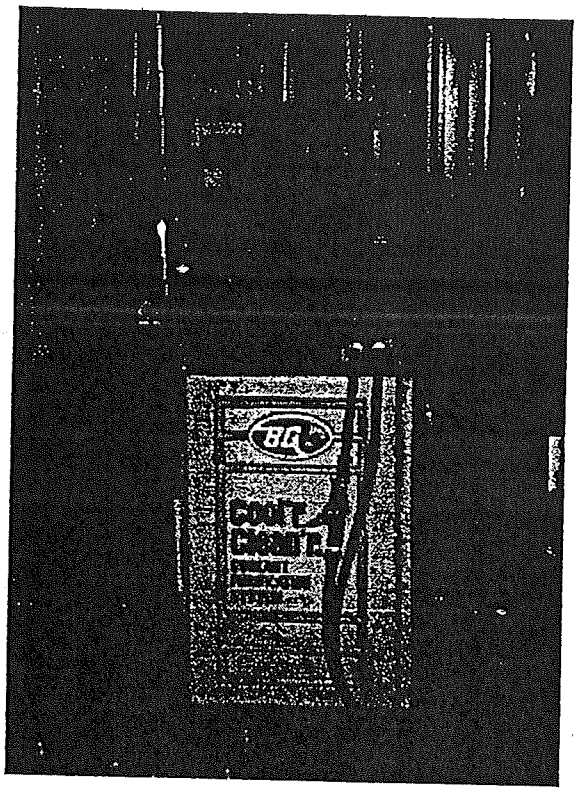


LEGEND

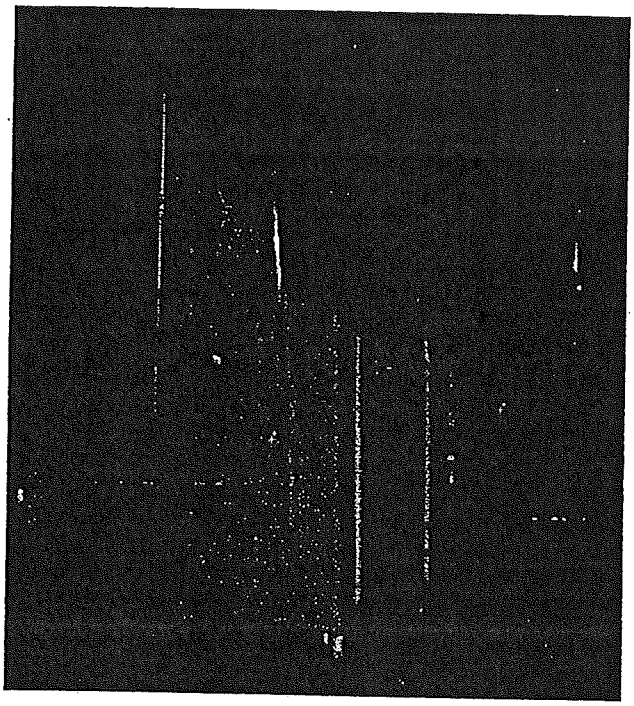
- NATIONAL GUARD T.C.C
- ARMY AVIATION FLIGHT FACILITY
- AIR NATIONAL GUARD BASE
- ORGANIZATIONAL MAINTENANCE SHOP
- MOTOR VEHICLE STORAGE BUILDING

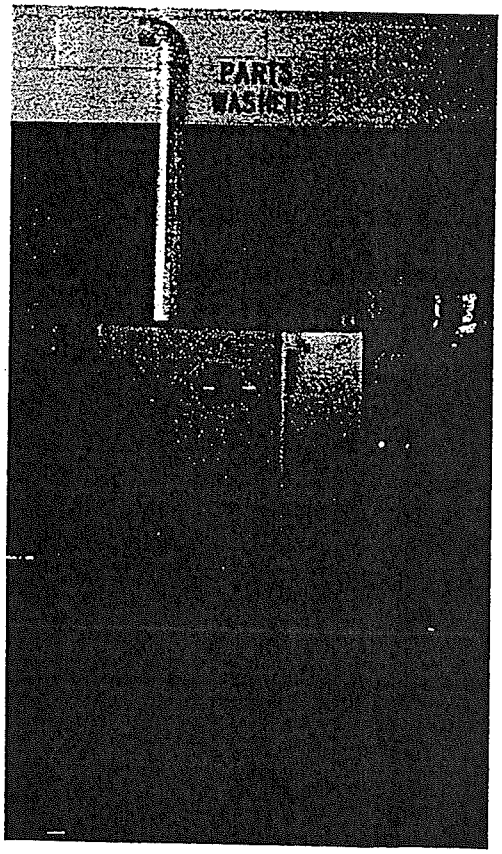
N

Attachment 1

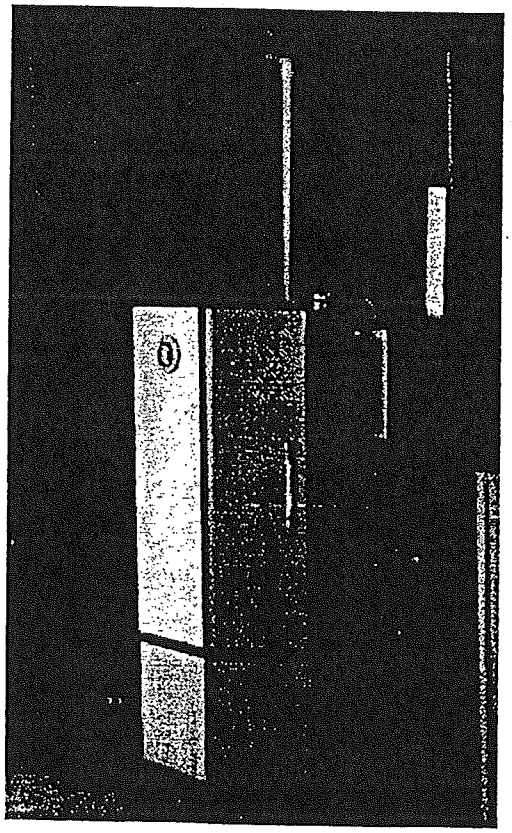


Antifreeze
Recycling
Unit



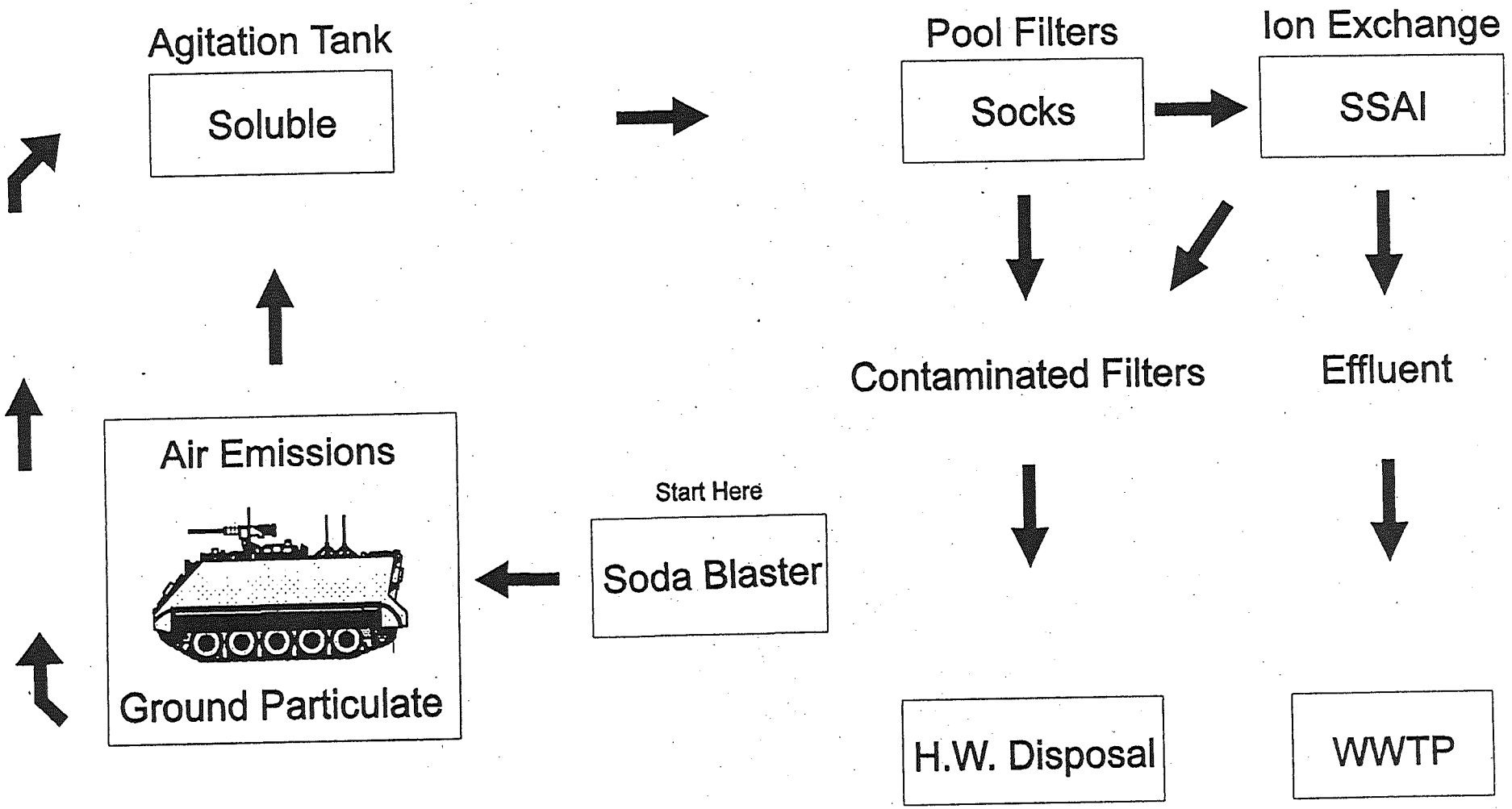


Attachment 2

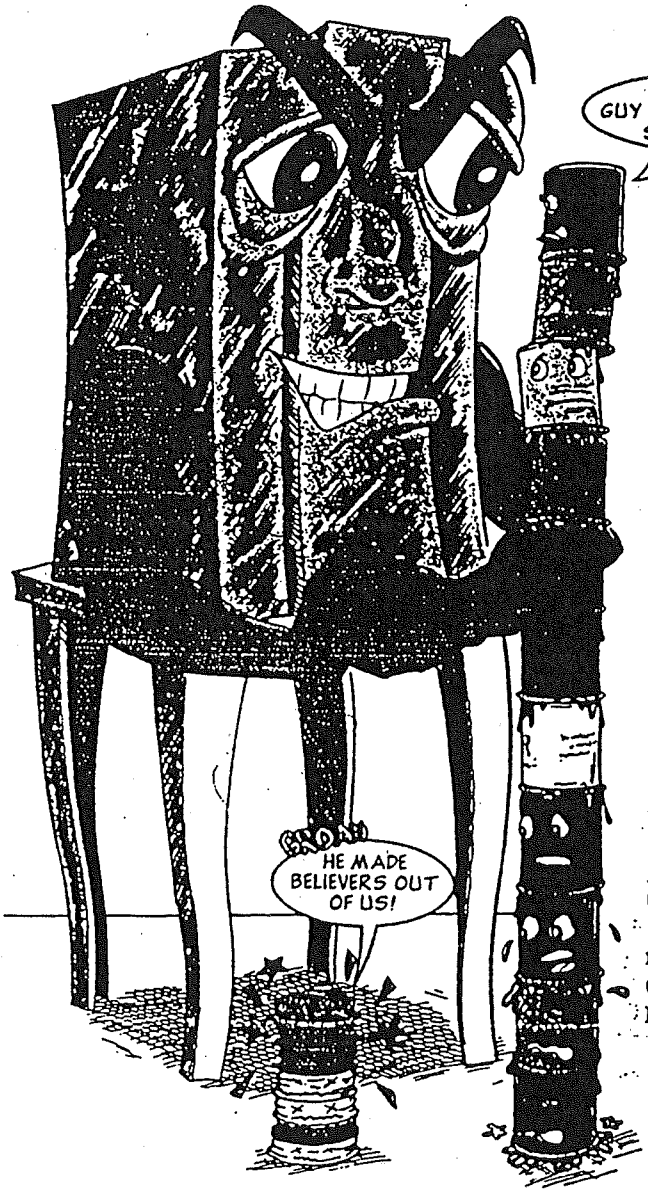


Aqueous
Parts
Washers

Sodium Bicarbonate Paint Removal And Pretreatment Operation



Attachment 3



The EPA and DOD handwriting is on the wall: It's illegal to toss used oil filters into a landfill.

It's easy to understand since one quart of used oil can pollute 250,000 gallons of water.

Jump on the recycle, anti-pollution bandwagon now by ordering an oil filter press or crusher. You'll find them listed in the GSA New Item Introductory Schedule, March 1994, on Page 51.

These presses crush oil filters flat.

The oil crushed out of the filter drains into the crusher's waste oil tank.

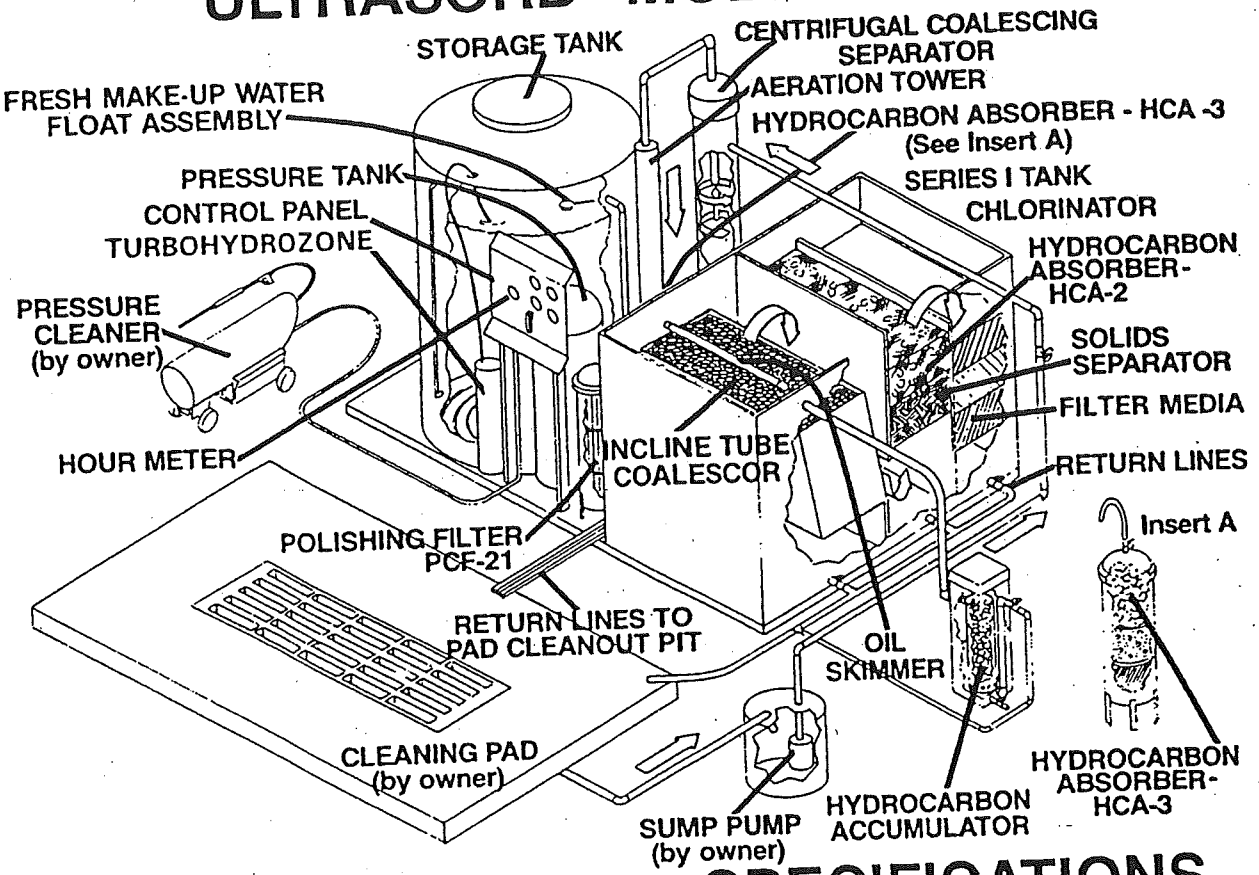
Then put that oil into your used oil holding tank.

In some areas, the filters can be recycled. Check with your local EPA office.

FEB 95

Attachment 4

ULTRASORB® MODEL SM



SPECIFICATIONS

Model	Ultrasorb® SM
Size	4'W x 9'L x 7'4"H
Flow Rate	1 to 16 GPM
Operating Pressure	20 - 40 PSI
Pressure Pump	1/2 HP - 110V - 10.6 Amps - Stainless
Hour Meter	Electric
Processing Pump	1/3" HP 110V - 10 Amps - Centrifugal
Storage Tank	Polyethylene (550 gallons)
Series I Tank	1/2" PVC Thermo-Welded - UV Protected
Piping	PVC - UV Protected
Finish - Skid	Two-part Urethane (3 mils)
Skid	1/4" SA-36 Steel (4' x 9')
Weight	1,505 LBS
Polishing Filter	Stainless Steel (1 micron)
Make-up Water Valve	3/4" NPT to Ball Float
Gauges	Standard Glycerin Filled
Valves	PVC-Ball
Tubing	Ridged Poly
Pressure Tank	30 Gallons Fiberglass
Make-Up Water Supply Fitting	3/4" NPT to Ball Float
Supply to Pressure Cleaner	3/4" NPT
Chlorinator	Auto Tablet Adjustable Flow Type
Turbohydrozone™	1# Per Day Ozone 1 CFM
Macro Aerator	Porous Polymer Hose 1 CFM
Auto Oil Skimmer	PVC Automatic
Hydrocarbon Absorber	Stainless Steel (RGF filter media)
Coalescing Centrifugal Separator	PVC Polypropylene
Multimedia Filter	Carbon, AA, Volcansorb
Air Compressor	1/12 HP - 115 V - 2.5 Amps

Manufacturer reserves the right to make changes without notice

SM's Standard Features:

Polishing Filters — RGF's Poly-Micro H-D Foam™ cartridges are long lasting 1 micron hardened poly foam filters that are cleaned by a unique in-housing reverse flow flushing system.

Series I — Custom fabricated of 1/2" thermo-welded UV protected PVC.

Incline Tube Coalescor — Over 400 square feet of RGF's Unique high efficiency 60° incline tube coalescor. Superior solids separator and oil coalescing.

Turbohydrozone™ — RGF's heavy duty high output ozone generator produces over 1 lb. per day of ozone at one CFM. Superior to any other system on the market, will oxidize organics, VOC's, bacteria, viruses, algae, odors, etc.

Multi-Media Filter — Over 200 lbs. of media, including over 100 lbs. of carbon (for VOC's), 50 lbs. ion-exchange (for metals), 50 lbs. of of Volcansorb for solids - plus hydro-carbon absorbing foams.

Options & Accessories

See your RGF Certified System integrator for a complete catalog of environmental products and components.

The ULTRASORB® SYSTEM is a new generation of skid-mounted, packaged water-processing systems developed by RGF.

ULTRASORB® was designed to avoid EPA permitting and monitoring problems by simply avoiding contaminated water discharge through recycling.

Distributed by:

Attachment 5

RGF Environmental Systems, Inc. • A Member of the RGF Environmental Group • 1-800-842-7771 • Fax (407) 848-9454 (407) 848-1826

3875 Fiscal Ct., West Palm Beach, Florida 33404

Atlanta, GA Boston, MA Princeton, IL Sacramento, CA London, UK

RECORD:1336
TYPE:executive order
DOCUMENT NO.:12873
DATE:10-20-93
CHAPTER:3 -- The President
TITLE:Federal Acquisition, Recycling, and Waste Prevention
TEXT:

WHEREAS, the Nation's interest is served when the Federal Government can make more efficient use of natural resources by maximizing recycling and preventing waste wherever possible; WHEREAS, this Administration is determined to strengthen the role of the Federal Government as an enlightened, environmentally conscious and concerned consumer;

WHEREAS, the Federal Government should—through cost-effective waste prevention and recycling activities—work to conserve disposal capacity, and serve as a model in this regard for private and other public institutions; and

WHEREAS, the use of recycled and environmentally preferable products and services by the Federal Government can spur private sector development of new technologies and use of such products, thereby creating business and employment opportunities and enhancing regional and local economies and the national economy;

NOW, THEREFORE, I, WILLIAM J. CLINTON, by the authority vested in me as President by the Constitution and the laws of the United States of America, including the Solid Waste Disposal Act, Public Law 89 - 272, 79 Stat. 997, as amended by the Resource Conservation and Recovery Act (``RCRA''), Public Law 94 - 580, 90 Stat. 2795 as amended (42 U.S.C. 6901 - 6907), and section 301 of title 3, United States Code, hereby order as follows:

PART 1 -- PREAMBLE Section 101. Consistent with the demands of efficiency and cost effectiveness, the head of each Executive agency shall incorporate waste prevention and recycling in the agency's daily operations and work to increase and expand markets for recovered materials through greater Federal Government preference and demand for such products. Sec. 102. Consistent with policies established by Office of Federal Procurement Policy (``OFPP'') Policy Letter 92 - 4, agencies shall comply with executive branch policies for the acquisition and use of environmentally preferable products and services and implement cost-effective procurement preference programs favoring the purchase of these products and services. Sec. 103. This order creates a Federal Environmental Executive and establishes high-level Environmental Executive positions within each agency to be responsible for expediting the implementation of this order and statutes that pertain to this order.

Attachment 6

PART 2 – DEFINITIONS For purposes of this order: Sec. 201. ``Environmentally preferable'' means products or services that have a lesser or reduced effect on human health and the environment when compared with competing products or services that serve the same purpose. This comparison may consider raw materials acquisition, production, manufacturing, packaging, distribution, reuse, operation, maintenance, or disposal of the product or service. Sec. 202. ``Executive agency'' or ``agency'' means an Executive agency as defined in 5 U.S.C. 105. For the purpose of this order, military departments, as defined in 5 U.S.C. 102, are covered under the auspices of the Department of Defense. Sec. 203. ``Postconsumer material'' means a material or finished product that has served its intended use and has been discarded for disposal or recovery, having completed its life as a consumer item. ``Postconsumer material'' is a part of the broader category of ``recovered material''. Sec. 204. ``Acquisition'' means the acquiring by contract with appropriated funds for supplies or services (including construction) by and for the use of the Federal Government through purchase or lease, whether the supplies or services are already in existence or must be created, developed, demonstrated and evaluated. Acquisition begins at the point when agency needs are established and includes the description of requirements to satisfy agency needs, solicitation and selection of sources, award of contracts, contract financing, contract performance, contract administration and those technical and management functions directly related to the process of fulfilling agency needs by contract. Sec. 205. ``Recovered materials'' means waste materials and by-products which have been recovered or diverted from solid waste, but such term does not include those materials and by-products generated from, and commonly reused within, an original manufacturing process (42 U.S.C. 6903 (19)). Sec. 206. ``Recyclability'' means the ability of a product or material to be recovered from, or otherwise diverted from, the solid waste stream for the purpose of recycling. Sec. 207. ``Recycling'' means the series of activities, including collection, separation, and processing, by which products or other materials are recovered from the solid waste stream for use in the form of raw materials in the manufacture of new products other than fuel for producing heat or power by combustion. Sec. 208. ``Waste prevention,'' also known as ``source reduction,'' means any change in the design, manufacturing, purchase or use of materials or products (including packaging) to reduce their amount or toxicity before they become municipal solid waste. Waste prevention also refers to the reuse of products or materials. Sec. 209. ``Waste reduction'' means preventing or decreasing the amount of waste being generated through waste prevention, recycling, or purchasing recycled and environmentally preferable products. Sec. 210. ``Life Cycle Cost'' means the amortized annual cost of a product, including capital costs, installation costs, operating costs, maintenance costs and disposal costs discounted over the lifetime of the product. Sec. 211. ``Life Cycle Analysis'' means the comprehensive examination of a product's environmental and economic effects throughout its lifetime including new material extraction, transportation, manufacturing, use, and disposal.

PART 3 -- THE ROLE OF THE FEDERAL ENVIRONMENTAL EXECUTIVE AND AGENCY ENVIRONMENTAL EXECUTIVES Sec. 301. Federal Environmental Executive. (a) A Federal Environmental Executive shall be designated by the President and shall be located within the Environmental Protection Agency (``EPA''). The Federal Environmental Executive shall take all actions necessary to ensure that the agencies comply with the requirements of this order and shall generate an annual report to the Office of Management and Budget (``OMB''), at the time of agency budget submissions, on the actions taken by the agencies to comply with the requirements of this order. In carrying out his or her functions, the Federal Environmental Executive shall consult with the Director of the White House Office on Environmental Policy. (b) Staffing. A minimum of four (4) full time staff persons are to be provided by the agencies listed below to assist the Federal Environmental Executive, one of whom shall have experience in specification review and program requirements, one of whom shall have experience in procurement practices, and one of whom shall have experience in solid waste prevention and recycling. These four staff persons shall be appointed and replaced as follows: (1) a representative from the Department of Defense shall be detailed for not less than one year and no more than two years; (2) a representative from the General Services Administration (``GSA'') shall be detailed for not less than one year and no more than two years; (3) a representative from EPA shall be detailed for not less than one year and no more than two years; and (4) a representative from one other agency determined by the Federal Environmental Executive shall be detailed on a rotational basis for not more than one year. (c) Administration. Agencies are requested to make their services, personnel and facilities available to the Federal Environmental Executive to the maximum extent practicable for the performance of functions under this order. (d) Committees and Work Groups. The Federal Environmental Executive shall establish committees and work groups to identify, assess, and recommend actions to be taken to fulfill the goals, responsibilities, and initiatives of the Federal Environmental Executive. As these committees and work groups are created, agencies are requested to designate appropriate personnel in the areas of procurement and acquisition, standards and specifications, electronic commerce, facilities management, waste prevention, and recycling, and others as needed to staff and work on the initiatives of the Executive. (e) Duties. The Federal Environmental Executive, in consultation with the Agency Environmental Executives, shall: (1) identify and recommend initiatives for government-wide implementation

0A (TABLE START) 0Athat will promote the purposes of this order, including: ..... (A) the development of a federal plan for agency implementation of this order and appropriate incentives to encourage the acquisition of recycled and environmentally preferable products by the Federal Government;..... (B) the development of a federal implementation plan and guidance for instituting economically efficient federal waste prevention, energy and water efficiency

programs, and recycling programs within each agency; and ..... © the development of a plan for making maximum use of available funding assistance programs; (TABLE END)

(2) collect and disseminate information electronically concerning methods to reduce waste, materials that can be recycled, costs and savings associated with waste prevention and recycling, and current market sources of products that are environmentally preferable or produced with recovered materials;
(3) provide guidance and assistance to the agencies in setting up and reporting on agency programs and monitoring their effectiveness; and
(4) coordinate appropriate government-wide education and training programs for agencies.
Sec. 302. Agency Environmental Executives. Within 90 days after the effective date of this order, the head of each Executive department and major procuring agency shall designate an Agency Environmental Executive from among his or her staff, who serves at a level no lower than at the Deputy Assistant Secretary level or equivalent. The Agency Environmental Executive will be responsible for:
(a) coordinating all environmental programs in the areas of procurement and acquisition, standards and specification review, facilities management, waste prevention and recycling, and logistics; (
b) participating in the interagency development of a Federal plan to:

(1) create an awareness and outreach program for the private sector to facilitate markets for environmentally preferable and recycled products and services, promote new technologies, improve awareness about federal efforts in this area, and expedite agency efforts to procure new products identified under this order;
(2) establish incentives, provide guidance and coordinate appropriate educational programs for agency employees; and
(3) coordinate the development of standard agency reports required by this order;
(c) reviewing agency programs and acquisitions to ensure compliance with this order.

PART 4 – ACQUISITION PLANNING AND AFFIRMATIVE PROCUREMENT PROGRAMS Sec. 401. Acquisition Planning. In developing plans, drawings, work statements, specifications, or other product descriptions, agencies shall consider the following factors: elimination of virgin material requirements; use of recovered materials; reuse of product; life cycle cost; recyclability; use of environmentally preferable products; waste prevention (including toxicity reduction or elimination); and ultimate disposal, as appropriate. These factors should be considered in acquisition planning for all procurements and in the evaluation and award of contracts, as appropriate. Program and acquisition managers should take an active role in these activities. Sec. 402. Affirmative Procurement Programs. The head of each Executive agency shall develop and

implement affirmative procurement programs in accordance with RCRA section 6002 (42 U.S.C. 6962) and this order. Agencies shall ensure that responsibilities for preparation, implementation and monitoring of affirmative procurement programs are shared between the program personnel and procurement personnel. For the purposes of all purchases made pursuant to this order, EPA, in consultation with such other Federal agencies as appropriate, shall endeavor to maximize environmental benefits, consistent with price, performance and availability considerations, and shall adjust bid solicitation guidelines as necessary in order to accomplish this goal. (a) Agencies shall establish affirmative procurement programs for all designated EPA guideline items purchased by their agency. For newly designated items, agencies shall revise their internal programs within one year from the date EPA designated the new items. (b) For the currently designated EPA guideline items, which are: (i) concrete and cement containing fly ash; (ii) recycled paper products; (iii) re-refined lubricating oil; (iv) retread tires; and (v) insulation containing recovered materials; and for all future guideline items, agencies shall ensure that their affirmative procurement programs require that 100 percent of their purchases of products meet or exceed the EPA guideline standards unless written justification is provided that a product is not available competitively within a reasonable time frame, does not meet appropriate performance standards, or is only available at an unreasonable price. (c) The Agency Environmental Executives will track agencies' purchases of designated EPA guideline items and report agencies' purchases of such guideline items to the Federal Environmental Executive. Agency Environmental Executives will be required to justify to the Federal Environmental Executive as to why the item(s) have not been purchased or submit a plan for how the agencies intend to increase their purchases of the designated item(s).

(d) Agency affirmative procurement programs, to the maximum extent practicable, shall encourage that:

(1) documents be transferred electronically,

(2) all government documents printed internally be printed double-sided, and

(3) contracts, grants, and cooperative agreements issued after the effective date of this order include provisions that require documents to be printed double-sided on recycled paper meeting or exceeding the standards established in this order or in future EPA guidelines. Sec. 403. Procurement of Existing Guideline Items. Within 90 days after the effective date of this order, the head of each Executive agency that has not implemented an affirmative procurement program shall ensure that the affirmative procurement program has been established and is being implemented to the maximum extent practicable. Sec. 404. Electronic Acquisition System. To reduce waste by eliminating unnecessary paper transactions in the acquisition process and to foster accurate data

collection and reporting of agencies' purchases of recycled content and environmentally preferred products, the executive branch will implement an electronic commerce system consistent with the recommendations adopted as a result of the National Performance Review.

PART 5 – STANDARDS, SPECIFICATIONS AND DESIGNATION OF ITEMS
Sec. 501. Specifications, Product Descriptions and Standards. Where applicable, Executive agencies shall review and revise federal and military specifications, product descriptions and standards to enhance Federal procurement of products made from recovered materials or that are environmentally preferable. When converting to a Commercial Item Description (CID), agencies shall ensure that environmental factors have been considered and that the CID meets or exceeds the environmentally preferable criteria of the government specification or product description. Agencies shall report annually on their compliance with this section to the Federal Environmental Executive for incorporation into the annual report to OMB referred to in section 301 of this order.

(a) If an inconsistency with RCRA Section 6002 or this order is identified in a specification, standard, or product description, the Federal Environmental Executive shall request that the Environmental Executive of the pertinent agency advise the Federal Environmental Executive as to why the specification cannot be revised or submit a plan for revising it within 60 days.

(b) If an agency is able to revise an inconsistent specification but cannot do so within 60 days, it is the responsibility of that agency's Environmental Executive to monitor and implement the plan for revising it. Sec. 502. Designation of Items that Contain Recovered Materials. In order to expedite the process of designating items that are or can be made with recovered materials, EPA shall institute a new process for designating these items in accordance with RCRA section 6002(e) as follows.

(a) EPA shall issue a Comprehensive Procurement Guideline containing designated items that are or can be made with recovered materials.

(1) The proposed guideline shall be published for public comment in the Federal Register within 180 days after the effective date of this order and shall be updated annually after publication for comment to include additional items.

(2) Once items containing recovered materials have been designated by EPA through the new process established pursuant to this section and in compliance with RCRA section 6002, agencies shall modify their affirmative procurement programs to require that, to the maximum extent practicable, their purchases of products meet or exceed the EPA guideline standards unless written justification is provided that a product is not available competitively, not available within a

reasonable time frame, does not meet appropriate performance standards, or is only available at an unreasonable price.

(b) Concurrent with the issuance of the Comprehensive Procurement Guideline required by section 502(a) of this order, EPA shall publish for public comment in the Federal Register Recovered Material Advisory Notice(s) that present the range of recovered material content levels within which the designated recycled items are currently available. These levels shall be updated periodically after publication for comment to reflect changes in market conditions. Sec. 503. Guidance for Environmentally Preferable Products. In accordance with this order, EPA shall issue guidance that recommends principles that Executive agencies should use in making determinations for the preference and purchase of environmentally preferable products.

(a) Proposed guidance shall be published for public comment in the Federal Register within 180 days after the effective date of this order, and may be updated after public comment, as necessary, thereafter. To the extent necessary, EPA may issue additional guidance for public comment on how the principles can be applied to specific product categories.

(b) Once final guidance for environmentally preferable products has been issued by EPA, Executive agencies shall use these principles, to the maximum extent practicable, in identifying and purchasing environmentally preferable products and shall modify their procurement programs by reviewing and revising specifications, solicitation procedures, and policies as appropriate. Sec. 504. Minimum Content Standard for Printing and Writing Paper. Executive agency heads shall ensure that agencies shall meet or exceed the following minimum materials content standards when purchasing or causing the purchase of printing and writing paper:

(a) For high speed copier paper, offset paper, forms bond, computer printout paper, carbonless paper, file folders, and white woven envelopes, the minimum content standard shall be no less than 20 percent postconsumer materials beginning December 31, 1994. This minimum content standard shall be increased to 30 percent beginning on December 31, 1998.

(b) For other uncoated printing and writing paper, such as writing and office paper, book paper, cotton fiber paper, and cover stock, the minimum content standard shall be 50 percent recovered materials, including 20 percent postconsumer materials beginning on December 31, 1994. This standard shall be increased to 30 percent beginning on December 31, 1998.

(c) As an alternative to meeting the standards in sections 504(a) and (b), for all printing and writing papers, the minimum content standard shall be no less than 50 percent recovered materials that are a waste material byproduct of a finished product other than a paper or textile product which would otherwise be

disposed of in a landfill, as determined by the State in which the facility is located.

(1) The decision not to procure recycled content printing and writing paper meeting the standards specified in this section shall be based solely on a determination by the contracting officer that a satisfactory level of competition does not exist, that the items are not available within a reasonable time period, or that the available items fail to meet reasonable performance standards established by the agency or are only available at an unreasonable price.

(2) Each agency should implement waste prevention techniques, as specified in section 402(d) of this order, so that total annual expenditures for recycled content printing and writing paper do not exceed current annual budgets for paper products as measured by average annual expenditures, adjusted for inflation based on the Consumer Price Index or other suitable indices. In determining a target budget for printing and writing paper, agencies may take into account such factors as employee increases or decreases, new agency or statutory initiatives, and episodic or unique requirements (e.g., census).

(3) Effective immediately, all agencies making solicitations for the purchase of printing and writing paper shall seek bids for paper with postconsumer material or recovered waste material as described in section 504©. Sec. 505. Revision of Brightness Specifications and Standards. The General Services Administration and other Federal agencies are directed to identify, evaluate and revise or eliminate any standards or specifications unrelated to performance that present barriers to the purchase of paper or paper products made by production processes that minimize emissions of harmful byproducts. This evaluation shall include a review of unnecessary brightness and stock clause provisions, such as lignin content and chemical pulp requirements. The GSA shall complete the review and revision of such specifications within six months after the effective date of this order, and shall consult closely with the Joint Committee on Printing during such process. The GSA shall also compile any information or market studies that may be necessary to accomplish the objectives of this provision. Sec. 506. Procurement of Re-refined Lubricating Oil and Retread Tires. Within 180 days after the effective date of this order, agencies shall implement the EPA procurement guidelines for re-refined lubricating oil and retread tires.
(a) Commodity managers shall finalize revisions to specifications for re-refined oil and retread tires, and develop and issue specifications for tire retreading services, as commodity managers shall take affirmative steps to procure these items in accordance with RCRA section 6002.
(b) Once these items become available, fleet managers shall take affirmative steps to procure these items in accordance with RCRA section 6002. Sec. 507. Product Testing. The Secretary of Commerce, through the National Institute of Standards and Technology (``NIST''), shall establish a program for testing the performance of products containing recovered materials or deemed to be

environmentally preferable. NIST shall work with EPA, GSA and other public and private sector organizations that conduct appropriate life cycle analyses to gather information that will assist agencies in making selections of products and services that are environmentally preferable.
(a) NIST shall publish appropriate reports describing testing programs, their results, and recommendations for testing methods and related specifications for use by Executive agencies and other interested parties. (b) NIST shall coordinate with other Executive and State agencies to avoid duplication with existing testing programs.

PART 6 -- AGENCY GOALS AND REPORTING REQUIREMENTS Sec. 601. Goals for Waste Reduction. Each agency shall establish a goal for solid waste prevention and a goal for recycling to be achieved by the year 1995. These goals shall be submitted to the Federal Environmental Executive within 180 days after the effective date of this order. Progress on attaining these goals shall be reported by the agencies to the Federal Environmental Executive for the annual report specified in section 301 of this order. Sec. 602. Goal for Increasing the Procurement of Recycled and Other Environmentally Preferable Products. Agencies shall strive to increase the procurement of products that are environmentally preferable or that are made with recovered materials and set annual goals to maximize the number of recycled products purchased, relative to non-recycled alternatives. Sec. 603. Review of Implementation. The President's Council on Integrity and Efficiency (``PCIE'') will request that the Inspectors General periodically review agencies' affirmative procurement programs and reporting procedures to ensure their compliance with this order.

PART 7 -- APPLICABILITY AND OTHER REQUIREMENTS Sec. 701. Contractor Operated Facilities. Contracts that provide for contractor operation of a government-owned or leased facility, awarded after the effective date of this order, shall include provisions that obligate the contractor to comply with the requirements of this order within the scope of its operations. In addition, to the extent permitted by law and where economically feasible, existing contracts should be modified. Sec. 702. Real Property Acquisition and Management. Within 90 days after the effective date of this order, and to the extent permitted by law and where economically feasible, Executive agencies shall ensure compliance with the provisions of this order in the acquisition and management of federally owned and leased space. GSA and other Executive agencies shall also include environmental and recycling provisions in the acquisition of all leased space and in the construction of new federal buildings. Sec. 703. Retention of Funds. Within 90 days after the effective date of this order, the Administrator of GSA shall develop a legislative proposal providing authority for Executive agencies to retain a share of the proceeds from the sale of materials recovered through recycling or waste prevention programs and specifying the eligibility requirements for the materials being recycled. Sec. 704. Model Facility Programs. Each Executive department and major procuring agency shall

establish model facility demonstration programs that include comprehensive waste prevention and recycling programs and emphasize the procurement of recycled and environmentally preferable products and services using an electronic data interchange (EDI) system. Sec. 705. Recycling Programs. Each Executive agency that has not already done so shall initiate a program to promote cost effective waste prevention and recycling of reusable materials in all of its facilities. The recycling programs implemented pursuant to this section must be compatible with applicable State and local recycling requirements. Federal agencies shall also consider cooperative ventures with State and local governments to promote recycling and waste reduction in the community.

PART 8 -- AWARENESS Sec. 801. Agency Awards Program. A government-wide award will be presented annually by the White House to the best, most innovative program implementing the objectives of this order to give greater visibility to these efforts so that they can be incorporated government-wide. Sec. 802. Internal Agency Awards Programs. Each agency shall develop an internal agency-wide awards program, as appropriate, to reward its most innovative environmental programs. Winners of agency-wide awards will be eligible for the White House award program.

PART 9 -- REVOCATION, LIMITATION AND IMPLEMENTATION Sec. 901. Executive Order No. 12780, dated October 31, 1991, is hereby revoked. Sec. 902. This order is intended only to improve the internal management of the executive branch and is not intended to create any right or benefit, substantive or procedural, enforceable at law by a party against the United States, its agencies, its officers, or any other person. Sec. 903. The policies expressed in this order, including the requirements and elements for effective agency affirmative procurement programs, shall be implemented and incorporated in the Federal Acquisition Regulation (FAR) within 180 days after the effective date of this order. The implementation language shall consist of providing specific direction and guidance on agency programs for preference, promotion, estimation, certification, reviewing and monitoring. Sec. 904. This order shall be effective immediately.

WILLIAM J. CLINTON
THE WHITE HOUSE,
October 20, 1993.

SOURCE:Editorial note: For the President's statement on signing this order, see the Weekly Compilation of Presidential Documents (vol. 29, p. 2115). For his strategy on the Federal Government's procurement and use of recycled products, see p. 634.

ANNUAL STATE GOVERNMENT POLLUTION PREVENTION SUMMARY REPORT

1995

Fulfilling the requirements of Governor's Executive Order 91-17 Providing for the Implementation of Pollution Prevention by State Government

1. Agency: **Metropolitan Mosquito Control District**

Contact Name: **Marcus Peterson**

Contact Address: **2099 University Avenue West**

St. Paul, Minnesota 55104-3431

Contact Telephone: **(612) 645-9149 / 643-8399 extension 204**

2. **MMCD POLLUTION PREVENTION POLICY STATEMENT**

The Metropolitan Mosquito Control District is committed to protecting the environment. It is the policy of the District to significantly reduce and whenever possible, eliminate, the release of toxic pollutants and the generation of hazardous and other wastes.

When wastes or releases cannot be avoided, we are committed to minimizing any undesirable impacts on the air, water and land.

By successfully preventing pollution at its source, we can improve the quality of the environment we live in and maintain a safe and healthy work place for our employees.

Environmental protection is everyone's responsibility. The MMCD is committed to being a good neighbor and operate in strict compliance with federal, state, and local environmental laws. Meeting this commitment requires the cooperative effort of all MMCD employees.

Technologies and methods that substitute nonhazardous materials and utilize other source reduction approaches will be given top priority in addressing all environmental issues.

3. POLLUTION PREVENTION ACTIVITIES DURING FISCAL YEAR

Fleet Management:
MMCD has made changes in the fleet maintenance procedures effective May, 1995. The mileage between oil changes on District owned vehicles is 5000 miles, for light use. The intent is to reduce the amount of used oil, used oil filters and used oil absorbents generated.

Solid Waste Reductions:
In keeping with the MMCD's goal of reducing amount of waste material sent to landfills, the largest amount is from control material packaging. All of the packaging is; recycled ie. cardboard boxes and plastic jugs, sent to incinerator ie. empty material sacks, or sold at auction ie. pallets. Each location is set up to recycle glass, paper, aluminum, wet and dry cell batteries, toner and laser printer cartridges, florescent bulbs and cardboard.

Evaluation of Control Materials:
All of the control materials that MMCD uses have been analyzed and determined not to be "hazardous" according to federal and state definitions.

4. ACTIONS TO INTEGRATE POLLUTION PREVENTION INTO REGULATORY POLICY ACTIVITIES

By selecting control materials which are high in environmental compatibility, MMCD has reduced the risk of pollution, and has eliminated significant costs associated with storing, transporting, and disposing of hazardous wastes.
Representatives from MMCD attended the Pollution Prevention workshop to gather information and ideas that we could implement.

5. INCORPORATION OF POLLUTION PREVENTION INTO PROCUREMENT ACTIVITIES

The District is committed to "Zero Generation" of hazardous or toxic chemicals targeted for reduction in the Minnesota-50 Project by December 1995. In keeping with this goal the District adopted the statement below for inclusion in all bids for control materials which are purchased by the District.

> A. **INERT INGREDIENTS:** The District's intent is not to purchase any material which contains any of the inert ingredients listed by the United States Environmental Protection Agency (EPA) as " Inerts of Toxicological Concern" (List 1), or "Potentially Toxic Inerts/High Priority for Testing" (List 2), this information must be presented on the product label, as required by law. Complete listings of both List 1 and List 2 may be obtained from the Federal Register, Vol. 54, No.224, November 22, 1989, pages 48314-48316.

The material to be bid shall NOT contain xylene and shall be naphthalene depleted in its inert ingredients. Upon award of the bid the MMCD shall request in writing from the manufacturer that the product does not contain any "Inerts of Toxicological Concern or Interest", and that the product is xylene free and naphthalene depleted.

6. PLANNED POLLUTION PREVENTION ACTIVITIES

The District is continuing to monitor fleet maintenance procedures to minimize the generation of waste streams from maintenance operations. Each vehicle is monitored for gas consumption, oil usage, and scheduled maintenance. Oil changes are scheduled according to vehicle usage. The heavy usage oil change interval is 3000 miles, the light use oil change interval is at 5000 miles. The District is working with MnDOT on the selection and testing process for oil sorbents used in shops to comply with the new rules that MPCA proposed for 1995.

The District is continuing to look for ways reduce usage of materials; recapturing and reusing the ethyl alcohol is reducing our waste, copying both sides of paper and reusing single sided paper reduces paper.

The District is checking with vendors, for alternate packaging of control materials to minimize use of natural resources, pesticide containers cannot be reused therefore recycling is the best we can do with them. Purchasing materials with post consumer content is being done.

7. ESTIMATED BENEFITS

The District will generate less used oil waste by increasing the miles between changes and purchase less new oil and filters. this savings will probably be offset by the new rules relating to disposal of used oil sorbents.

8. AREAS OF NEEDED ASSISTANCE

9. KEY POLLUTION PREVENTION CONTACTS AND RESOURCES

For help finding recyclers of pesticide containers or related wastes contact Marcus Peterson at 770-2455 or John Thompson at 645-9149.

3. **POLLUTION PREVENTION ACTIVITIES DURING THE FISCAL YEAR**
Describe activities undertaken to prevent pollution and hazardous waste generated by agency or department (July 1994 - June 1995). Agencies may also note other relevant ongoing activities.

* DNR received an MN GREAT! Award for the "Reduction in Aerosol Cans in a DNR Repair Shop." The repair shop purchased aerosol containers designed for reuse with the use of compressed shop air. Now the shop can purchase cleaners and penetrating fluids in bulk, leading to a reduction in aerosol cans, the propellants used to charge these cans, and reduction in the packaging materials. An honorable mention was received for "Enforcement of Water Pollution Violations". Conservation Officers are becoming more involved in preserving water quality and preventing contamination of water resources. DNR Enforcement's focus on education and voluntary compliance has resulted in increased compliance with Minnesota's water quality laws and increased awareness of water quality issues. DNR also received a special recognition for "Landscaping with Native Plants Project." Environmentally-sound landscaping with native plants at the DNR headquarters, has resulted in the abstinence of herbicides, pesticides, mowing equipment, and irrigation.

* DNR was able to use the services of the MnTAP student intern program. Research was asked to be done on 11 possible pollution prevention waste options in relation to equipment, and equipment repair shops. The title of the report is "Waste Reduction at a Vehicle Maintenance Facility." (MnTAP has not finished its complete review of this report for copy right information etc. A completed report will be available by the first of August.) These options will be reviewed with DNR management for possible implementation. A brief review of the options and possible recourse for the DNR is as follows:

Option #1: Using Remanufactured Parts

The remanufacturing process yields environmental, energy, and economic benefits. To remanufacture a part, about one-fifth of the energy is used in comparison to making a new part. For each pound of new material used in remanufacturing, five to nine pounds of used core is saved and reused. Top grade remanufactured parts, will generally cost half that of new parts. The research focused on major automakers that represented the greatest number of DNR vehicles and on the part's suppliers who are known by and are near DNR shops throughout the state. Only the top grades of remanufactured parts were considered. One advantage of using remanufactured parts is that manufacture

flaws can be corrected by the continuous improvements in design and production in the remanufacturing process. This would make the remanufactured part more reliable than a new part. Non-electrical remanufactured parts such as water pumps, brakes, and clutches are deemed as reliable as new. Auto manufactures will warranty most of their remanufactured parts the same as new. In comparison, popular parts store jobbers located throughout the state offer warranties that will meet or exceed warranties of major auto manufactures. The report suggestions likely to be followed are:

~ The DNR should mandate the use of non-electrical remanufactured parts, since starters, alternators, and generators reputedly have a higher incidence of failure.

~ The quality of the remanufactured part is integral: the highest grade or line of parts that meet or exceed OEM specifications should be required.

~ At a minimum, all worn-out parts should be traded in at the time that a replacement part is purchased, and if the parts supplier will not accept the used part, a core broker should be located, since core supply is integral for remanufacturing capacity.

(The DNR may expand on this by mandating the use of electrical remanufactured parts on nonessential equipment such as commuter vehicles where backup vehicles are available. Emergency equipment and specialized equipment would be required to use new electrical components to minimize equipment down time. The savings (50%) of using remanufactured parts may likely balance out the cost for the labor to reinstall the warrantied part. If the economics for using remanufactured parts compares to using new parts, then the true benefit would be on our environmental resources.)

Option #2: Using Low Sulfur Diesel Fuel

After the 10/1/93 federal mandate to use low sulfur diesel fuel, reports of fuel system failures were followed by sales literature stressing the need for aftermarket fuel additives or conditioners to increase the lubrication value of the new fuel. The report states that the reason for the increased incidence of fuel pump failure was not clear but may be due to a combination of factors including inherently reduced lubricity, initially poor fuel quality, and the incompatibility of old nitrate seals with the chemical composition of the new fuel. The Cummins Engine Company conducted a study showing that the sulfur impurities in the fuel increases wear. The apparent reduction in wear or lubricity with increasing

sulfur content is due to the increase in nitrogen and polar compounds, not the sulfur. This leads to the second contributing factor, poor fuel quality, especially when the new fuel first became available. EPA's National Vehicle & Fuel Emissions Lab stated that fuels marketed in the first few months of the change to low sulfur diesel fuel may have varied greatly in quality. The Cummins study concurred. Third, was the older nitrate seals not having the flexibility to adjust to the lower aromatic characteristics of the new fuel. Once the seals were replaced with new seals, reports of seal failures subsided. The report does show that the Canadian crude oil sold in Minnesota has poor lubricity. This being the case, some refineries blend in additive packages to enhance lubricity prior to the fuel being marketed. The report suggestions likely to be followed are:

~ Contact the fuel supplier to determine whether the low sulfur diesel fuel is sufficiently conditioned for lubricity and cold weather starts.

~ If the source of fuel or the blending of the pre-market additives is unknown, the use of an additive should be considered.

~ The supplier should recommend an additive or specify the conditioning needs based on the characteristics of their fuel.

Option #3: <u>Lengthening Equipment Service Cycles</u>

DNR requested research on extending oil change intervals as a waste reduction option. Fluid testing was researched to extend oil change intervals (OCI). This proved cost prohibitive for the DNR. Oil characteristics were reviewed, identifying synthetic oil as a likely candidate to extend OCI. Due to the state agencies mandate to use rerefined oil, this option was dropped. The Cummins Engine Company research finds that the short term savings with extending OCI are offset by a loss in engine life: doubling the OCI reduced the miles to overhaul by half. Major oil companies offer oil monitoring programs to extend OCI with the purchase of their products. One company will do a cost free survey to see if your fleet will qualify for the program. The next consideration for OCI was aftermarket filtration systems. Of these, the by-pass systems looked the most promising with the capability of removing particles down to 3-20 microns (Traditional full-flow systems filter particles greater than 40-60 microns). One filtration system claims permanent liquid filtration. The least expensive system of $166 (without shipping and installation) would prove prohibitive for most of DNR's fleet (3-8 years/90,000 miles). Likely candidates for extending OCI with the use of a filtration system are vehicles logging many miles and vehicles that will be kept by the fleet and overhauled. The Alaska Health Project and EPA are researching the different technologies discussed and are finding that extending

OCI is possible. DNR will receive a copy of the project report when completed. The report suggestions likely to be followed are:

~ Obtain the final report of the Alaska Health Project's study and determine whether any of the filtering systems evaluated would be appropriate for vehicles in the DNR fleet given the cost of the system and pay-back period given the expected life of the vehicle in the fleet.

(DNR will look at extending OCI on some vehicles by following the vehicle manufacturer's recommended oil change intervals instead of the across the board 3,000 mile oil change presently used. Depending on the season and driving conditions, some oil changes can go 7,500 miles.)

Option #4: Managing Used Oil

The incentive to reduce this waste is to conserve natural resources and to eliminate any liabilities associated with the DNR's "cradle to grave" responsibility for this waste. Although a licensed hauler is used to handle this waste, the DNR retains liability should the waste be improperly disposed of or spilled and should the hauler become insolvent. This waste stream is one of the greatest in volume. This waste may be recycled and reused as the same product, burned for energy recovery, or used as a process feedstock. Rerefined oil is widely available for diesel and for gasoline engines. Safety-Kleen operates a refinery in Indiana that produces rerefined oil. The report suggestions likely to be followed are:

~ Mandate the use of rerefined oil when available to create a market for recycling.

~ Reduce the source of used oil by extending service intervals where feasible.

(DNR will explore the possibility of closing the used oil loop with using a vendor such as Safety-Kleen. DNR will evaluate the economics of paying for the used oil removal, repurchasing the rerefined oil, in comparison with the DNR's present oil purchases. Availability of the vendor to pick up used oil at DNR's statewide regional locations, and DNR procedures to have outline shops consolidate the used oil at regional locations will be evaluated.)

Option #5: Minimizing Antifreeze Waste

The antifreeze that the DNR uses in its vehicles contains ethylene glycol, rust inhibiters, lubricants, anti-foaming agents, and as a waste may contain benzene and lead. DNR has already modified its service schedule such that antifreeze is not flushed and filled with new material on a regular basis. If the antifreeze is deemed clean the water-to-glycol ratio is adjusted by adding new antifreeze until it is capable of protecting against freezing down to -35 F. On-site recycling of DNR's used antifreeze with owned equipment may not be financially feasible due to the small scale of waste generated. MPCA recommends mobile service companies to recycle used antifreeze. The antifreeze is recycled on-site restoring the coolant to ASTM standards. The coolant recycling waste filter can be disposed of with the automotive filter waste, and the gallon on oily sludge waste obtained per 55 gallon barrel can be disposed of with the used oil. At one DNR shop location a savings of 66% could be expected for recycling in comparison to purchasing new antifreeze. The report suggestions likely to be followed are:

~ Mandate the purchase of recycled antifreeze to create a market for recycling, if it is not recycled on-site.

~ Use a mobile on-site antifreeze service.

Option #6: <u>Minimizing Solvent Waste</u>

Solvent waste is one of the largest waste streams both in volume and disposal costs. The parts washing systems used at the Grand Rapids facility do not permit on-site filtration and reuse of the solvent, which could dramatically reduce the consumption of solvent. Alternative parts washing systems studied are stoddard solvent systems permitting on site filtration and reuse, and aqueous systems that eliminate stoddard solvents completely. Petroleum-based solvents may contain trichloroethylene and tetrachloroethylene, which pose health and environmental risks. The National Emission Standards for Hazardous Air Pollutants (NESHAP) regulate such use of halogenated solvents in concentrations greater than 5% by weight. Safety-Kleen is of the opinion that their solvent does not exceed this standard, but independent laboratory testing should be obtained to demonstrate compliance with this rule. MnDOT is researching different parts washing systems that will reduce solvent consumption by 90%, and will forward the results to DNR when completed. If DNR purchased two aqueous systems, it would take a nine month payback period to recover the cost of purchasing the equipment. After the nine month

period had elapsed, the DNR would save $115/month in the reduced operating costs and waste disposal. The report suggestions likely to be followed are:

~ Postpone selection of the parts washing system until the Minnesota DOT concludes their evaluation of parts washing systems.

~ Renegotiate lease with Safety-Kleen to replace current systems with those that allow continuous filtration and reuse of solvent.

~ Request independent laboratory reports from Safety-Kleen or a written warranty stating that their solvent meets the new NESHAP rules as interpreted by the MPCA.

~ In absence of warranty from Safety-Kleen assuring compliance with NESHAP, immediately apply for proper MPCA permits or switch to aqueous system.

(DNR has switched all repairs shops from the Safety-Kleen solvent 140 {containing halogenated solvents less than 5% by weight} to the 150 solvent which contains no halogenated solvents. DNR is also evaluating a new Safety-Kleen service to clean the stoddard solvent without removing it from the repair shop.)

Option 7#: <u>Minimizing Used Filter Waste</u>

Filters must be treated as hazardous waste as they may contain oil, transmission fluid, fuel, and associated contaminants of lead, cadmium, etc. There are financial, environmental, and liability-related incentives for minimizing this waste. The current method of management is to drain the filters, and store them in a labeled 55-gallon drum for pick-up by the waste hauler. The recycler then crushes and hot washes the filters, skims and reclaims the oil for energy, and sales the metal to a smelter for reuse. In the recycling process, an additional 20 gallons of oil are reclaimed from a 55 gallon barrel of used oil filters increasing liability exposure. Ways to reduce filter waste include extending service cycles, eliminating the filter waste entirely with reusable filters, and using an on-site oil filter crusher to reduce the volume generated. Used oil filters are not widely available or endorsed by most engine manufactures. An on-site oil filter crusher could remove more oil and reduce the volume of filters. The waste hauler bases their charge on volume instead of mass which could save DNR on oil filter disposal costs by crushing the filters. The crusher payback period could be shortened by consolidating filters to one location. The report suggestions likely to be followed are:

~ Purchase an oil filter crusher after deciding whether it is feasible to consolidate waste and determine its desired capacity.

~ If consolidation produces larger quantities of waste filters, contact scrap metal dealers to obtain remuneration for the value of metals and reduce disposal costs.

Option 8#: <u>Minimizing Tire Waste</u>

Used tires are not problematic unless they are improperly managed. Since the waste is already recycled to the extent that the market permits, the only alternatives are to improve these markets through consumer pressure, and to reduce the waste generated by extending the tire life. A procurement policy that encourages the purchase of materials that are recycled materials such as tire waste creates a greater demand for reused tire material. Encouraging the purchase of retread tires would reduce this waste stream. Tires may be retread two or three times. At least 2/32" of tread on rear tires and 4/32" of tread for front tires casings is required to be able to retread the tires. Retailers retread and sell as many retread tires as there are casings available. The cost of a retread tire is anywhere from 30% to 50% of that of a new tire, and the rubber compound that is used in the retreading process will extend the life of a retread beyond that of a new tire. Another way to reduce this waste is through a maintenance program. The report suggestions likely to be followed are:

~ Implement a policy of purchasing products made from recycled materials to encourage the recycling of tire material.

~ Implement a policy of purchasing retread tires where feasible to encourage the re-use of tire material.

~ Do not overload the vehicle as it may cut the tire life by 30%.

~ Do not mix tire size or construction.

~ Do not exceed the speed rating of the tire: the tires load index as shown on the side of the tire specifies the maximum speed at which the tire is safe for extended use.

~ Keep wheels balanced and inspect and correct any tire wear problems such as feathering, cupping, or one-side wear, which indicate needed alignment corrections.

~ Automotive Fleet suggests inspection for uneven wear every 4,000-6,000 miles.

~ Continue to rotate tires at a minimum of every 15,000 miles.

Option 9#: Managing Battery Waste

Spent lead-acid vehicle batteries are hazardous waste by virtue of their characteristics: they contain corrosive acid and lead. The minimization option available is already being utilized: the batteries are recycled to the extent available. One should also receive assurances by means of a written contract or warranty that the waste is being properly managed at the recycling facility. The report suggestions likely to be followed are:

~ Store batteries in room without floor drain, seal the drain, or use curbing to prevent run-off of leaks.

~ Store batteries on an un-reactive surface made of chemically compatible materials. Wood shelving covered with a heavy polypropylene is a less expensive alternative to a container or tray specifically made for storage of batteries.

~ Store any cracked or leaking batteries in sealed plastic pails.

~ Keep a "Used Lead-Acid Battery Log" that shows that batteries are inspected weekly for leaks, and shows their final disposition.

~ If transportation of the batteries is not done by a contractor, follow the transportation requirements that pertain to the type and weight of the load, and bracing and containing the load. See MPCA fact sheet, "Transporting Spent Lead Acid Batteries." (11/93)

Option 10#: Minimizing Floor Sorbent Waste

DNR currently uses a sorbent made with recycled newsprint treated with a petroleum surface modifier. This sorbent is a good selection. It is a renewable resource, is not dusty, although its light weight permits it to be blown about if the garage doors are raised. Attention to good housekeeping practices will minimize its use and weaknesses: avoid spills by properly placing collection pans, reduce transfers of materials in the shop, and minimize use of sorbent through reuse of partially used sorbent. (Cross contamination of sorbent that contains hazardous

material should be avoided.) Any sorbent containing hazardous material should be collected separately and managed as hazardous waste. The report suggestions likely to be followed are:

~ Maximizing use of sorbent with tools/training for recovery of liquids as liquids.

~ Encourage mechanics to practice good housekeeping by minimizing trips and distance during material transfer in shop, and avoid spills.

~ Continue to use newsprint-based sorbent until better alternative sorbent is selected.

~ Participate with MnDOT in their sorbent study and use results for selection of new sorbent.

~ Reduce volume of sorbent that needs to be managed as hazardous waste by segregating any sorbents containing hazardous materials.

~ Label and place in shop secondary sorbent containers for used sorbent (containing no hazardous materials) and encourage its use.

Option 11#: Minimizing Aerosol Waste

Packaging waste is greatly minimized since the products may be purchased in bulk quantities, and in some cases, in refillable containers. Aerosol containers generate more waste than refillable containers due to the packaging and material delivery problems. A survey of the stock room and mechanic's work areas showed a great variety of aerosol cleaners. The variety is due to manufacturers' representatives leaving samples of their products for trial at the shop, and due to preferences that the mechanics have for one material over another. The products generally performed one of the following tasks: brake cleaner, cutting tool coolant, anti-seize, lock de-icer, starting fluid, and degreaser. In some cases, there were several brand names that performed the same task, and contained the same or similar ingredients. In other cases, one product contained hazardous materials and the other that performed the job equally as well was non-hazardous. Purchasing atomizers (about $25), the same material available in bulk quantities for use in an atomizer or pump bottle is about half the cost of using aerosols. The report suggestions likely to be followed are:

~ Educate shop workers about hazardous characteristics of materials, and encourage economy of use if their continued use is necessary.

~ Create a shop policy of refusing samples containing hazardous ingredients from sales people to gain better control over materials that are used and will require disposal.

~ Replace hazardous materials with their less hazardous counterparts where available: use any of the non-chlorinated brake cleaners identified above instead of Curtis Brake Clean.

~ Minimize use of materials containing halogenated solvents such as Kar Gasket Remover and Bowman Cutting Tool Coolant and search for suitable alternatives.

~ Buy materials in bulk when available, or purchase in refillable pump bottles instead of aerosols.

~ Develop a purchasing guide that reduces the number of material types used in the facility.

~ Reduce current inventory by using materials in stock instead of disposing of them.

~ Purchase materials only as needed and reduce inventory.

* The publication "Resource Efficient Building" sponsored by MNTAP was routed to all regional construction managers. This guide will help managers to reduce material use, toxicity, and waste in building design, and construction.

* The DNR central office and all regional headquarters have recycling programs for batteries, paint, aluminum cans, glass, plastic, cardboard, laser & ribbon cartridges, and all types of paper. Recycled paper and soy ink are used wherever possible.

* DNR has purchased an alternative fuel vehicle. The 85% Ethanol powered Ford Taurus is stationed close to an ethanol fueling station in St. Paul.

* Discipline equipment sharing is encouraged through the use of regional equipment pools. This practice saves disciplines needed program dollars and reduces the need for new equipment purchases.

* The DNR Inventory management unit conducts an annual inventory of chemicals on hand before new purchases are to be made. New pesticide purchases are only for the amount required for the specific job at hand. Ongoing training is also provided for management of hazardous chemicals and spills.

* DNR has been actively replacing its regulated underground fuel storage tanks. Sixty-seven tanks have been removed entirely. This past year, funds have been allocated to replace the remaining fifty-nine tanks. Groundwater contamination from petroleum has been greatly reduced by this program.

* DNR has been actively recapping old wells to reduce ground water contamination from polluted surface water. It is estimated that 800-1000 potential wells from old homesteads on DNR owned property, remain to be identified. Four hundred and ten wells have been identified for sealing and an estimated 227 wells have been sealed.

* Office equipment is placed in the Surplus Property Inventory listing for redistribution to other locations.

* Training has been provided for DNR construction managers on the proper handling and disposal of lead.

* DNR staff attended two workshops (St. Could - 12/7/94, Twin Cities - 12/14/94) on "Environmentally Responsible Purchasing for Minnesota State Agencies"

4. ACTIONS TO INTEGRATE POLLUTION PREVENTION INTO REGULATORY AND POLICY ACTIVITIES

Describe efforts by agency or department to integrate pollution prevention into regulatory and policy activities (July 1994 - June 1995). Agencies may also note other relevant ongoing activities.

* Recommendations from the MNTAP report "Waste Reduction at a Vehicle Maintenance Facility" will be reviewed and presented at a meeting with the Regional Field Service Supervisors. All recommendations approved will become regulatory for DNR use.

* DNR Operational Order No. 59, "Pest Control, Pesticide Use & Pesticide Management by Employees on Department Administered Lands or Public Waters" is designed to reduce pesticide pollution by encouraging a conservative and thoughtful approach to pesticide use. Specific pesticide use proposals, reviews, and approvals are all required within this order, resulting in a more precise prescription for the use of pesticides best suited to the task and least likely to generate a pollution problem. This order also mandates a standing Pesticide Review Committee which will continue to monitor pesticide use in the Department and advise the Department regarding pesticide issues.

* DNR Operational Order No. 90, "Hazardous Substances and Hazardous Wastes" has also been an effective tool in reducing the potential for pollution. This order directs supervisors to review the available inventory of hazardous substances for possible applicability before additional purchases are made.

* Repair shops are mandated to use non-clay based floor dry product in order to reduce ash resulting from incineration of clay-based products.

* The DNR has complied with Federal and State mandates requiring the use of rerefined oil. This oil has only been available for diesel engine applications. Research will be conducted on the specifications and availability of rerefined oil for gasoline engines now available through Safety-Kleen.

5. **INCORPORATION OF POLLUTION PREVENTION INTO PROCUREMENT ACTIVITIES**

Describe efforts to investigate opportunities to encourage pollution prevention through agency/department purchasing policies and specifications (July 1994 - June 1995). Agencies may also note other relevant ongoing activities.

* DNR Operational Order No. 90 states that hazardous substances cannot be purchased until such substances currently on hand have been consumed. Further the policy requires that hazardous substances are to be purchased only in the amount needed for a particular job.

* Most of the purchasing done by DNR is through state contracts established by the Department of Administration. The dedication of the Department of Administration in addressing pollution prevention when developing vendor contracts has been helpful not only to DNR, but all state agencies.

6. **PLANNED POLLUTION PREVENTION ACTIVITIES**

Summarize agency or department plans for pollution prevention activities for at least the next fiscal year (July 1995 - June 1996). Include key contacts and telephone numbers for projected activities.

* Review MNTAP's intern report ("Waste Reduction at a Vehicle Maintenance Facility") suggestions with Regional Field Service Supervisors for implementation recommendations. (Contact Mike Rhodes, DNR Fleet Maintenance Specialist, at 218 327-4163 for more information.)

* Research the possibility of closing the used oil loop with a vendor such as Safety-Kleen (Safety-Kleen will pickup used oil, re-refine the oil, and sell it back

to the consumer). Check the oil specifications for re-refined diesel and gasoline engine oil, and availability with other vendors. (Contact Mike Rhodes, DNR Fleet Maintenance Specialist, at 218 327-4163 for more information.)

* Select bulk, nonhazardous repair shop chemicals for use in aerosol cans charged with shop air. (Contact Mike Rhodes, DNR Fleet Maintenance Specialist, at 218 327-4163 for more information.)

* Follow the vehicle manufacture recommended oil change intervals instead of the across the board 3,000 mile oil change presently used. Depending on the season and driving conditions, some oil changes can go as long as 7,500 miles. (Contact Mike Rhodes, DNR Fleet Maintenance Specialist, at 218 327-4163 for more information.)

* Setup model pollution prevention repair shops (St. Paul and Grand Rapids Repair Shops) with the MNTAP report suggestions. Use these two repair shops as training centers to train and upgrade the remaining 61 repair shops and there personal on the new shop and equipment service procedures. (Contact Mike Rhodes, DNR Fleet Maintenance Specialist, at 218 327-4163 for more information.)

* Implement contracts to replace the remaining 59 regulated fuel storage tanks. (Contact Mark Wallace, DNR Facility Manager, at 612 282-2505 for more information.)

* Continue well identification from the 800-1000 potential wells, and recap wells that have been identified. (Contact Dan Zwilling, DNR Hydrogeolegist, GW Unit, at 612 296-0427 for more information.)

* The DNR will continue to support the Interagency Pollution Prevention Advisory Team as much as possible. (Contact Mike Rhodes, DNR Fleet Maintenance Specialist, at 218 327-4163 for more information.)

7. ESTIMATED BENEFITS

Estimate environmental and economic benefits which have resulted from agency's or department's pollution prevention activities.

* Steps we take now as an agency to minimize waste will not only have immediate benefits, but have economic benefits for future generations including the future economic and environmental liability (Superfund) cost reduction by an estimated hundred of thousands of dollars by the pollution prevention measures today.

* Employee health and ozone benefit by switching the parts washer solvents at the DNR repair shops to a less hazardous solvent. The new Safety-Kleen 150 solvent has no toxic halogenated solvents.

* Save on aerosol can waste in the repair shops by using stainless steel containers designed for reuse. The use of these containers will save on the use of the propellants used to charge aerosol cans, the cans themselves, and the reduction in packaging materials. Depending on the chemicals used, the shop can save almost half or more on the cost of using aerosol cans.

8. AREAS OF NEEDED ASSISTANCE

Highlight areas in which additional pollution prevention assistance is needed by agency or department.

* Continued services from the Minnesota Office of Environmental Assistance, and the Minnesota Technical Assistance Program.

* The research and analysis from the Department of Transportation pollution prevention team for repair shop and equipment waste stream evaluations.

* Funding for a position in DNR specifically designed to research, audit, and incorporate additional pollution prevention activities.

9. **KEY POLLUTION PREVENTION CONTACTS AND RESOURCES**
Describe areas in which agency or department can assist other state agencies or departments in preventing pollution. Include contact names and telephone numbers.

CONTACT NAME	LOCATION	PHONE	POLLUTION EXPERTISE
Dave Kircher	St. Paul	(612) 282-5538	Procurement
Ed Brekke-Kramer	New Ulm	(507) 359-6063	Pesticides
Terry Lahti	St. Paul	(612) 297-3650	Hazardous Material
Mike Rhodes	Grand Rapids	(218) 327-4163	Fleet Equip. Repair
Tim Soby	St. Paul	(612) 772-7556	Recycling/Surplus

10. Signature of Agency or Department Head

Rodney W. Sando
Name of Agency Head

Commissioner
Title of Agency Head

Signature of Agency Head 7/7/95
Date

11. In order that this Pollution Prevention Summary Report may be more usable to others, please note the pages in the report on which the following topics are discussed.

Index:

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10. Signature of Agency or Department Head

Rodney W. Sando
Name of Agency Head

Commissioner
Title of Agency Head

by Ronald Nargang Deputy 7/7/95
Signature of Agency Head Date

ANNUAL STATE GOVERNMENT
POLLUTION PREVENTION SUMMARY REPORT

1995

Fulfilling the requirements of Governor's Executive Order 91-17 Providing for the Implementation of Pollution Prevention by State Governments

1.	**AGENCY**	Minnesota Pollution Control Agency
	CONTACT NAME	Eric Kilberg, Pollution Prevention Program Coordinator
	CONTACT ADDRESS	520 Lafayette Road North, Saint Paul, Minnesota 55155-4194
	CONTACT TELEPHONE	612/296-8643 (Twin Cities Metropolitan Calling Area) 1-800-657-3864 (Toll-free from Greater Minnesota)
	CONTACT FAX	612/297-8676
	INTERNET ADDRESS	ERIC.KILBERG@PCA.STATE.MN.US

2. POLICY STATEMENT

"The Minnesota Pollution Control Agency (MPCA) considers pollution prevention - eliminating or reducing pollutants at the source - to be an essential component of its environmental programs. Pollution prevention principles will be integrated into all of the MPCA's programs, including environmental review, permit issuance, facility inspection, enforcement, rules development, and site remediation. Agency staff will promote pollution prevention with clients and will consider favorably pollution prevention proposals made by clients, whenever possible." - August 18, 1993.

3. POLLUTION PREVENTION ACTIVITIES DURING THE FISCAL YEAR

Activities Undertaken to Reduce Generation of Hazardous Wastes and Use of Toxic Chemicals - Not Applicable. Our activity is primarily field inspections and office work. The agency's use of hazardous chemicals is quite minimal. Vehicle maintenance is provided by Central Motor Pool or other state facilities. We do no manufacturing, or other industrial activity, and use of laboratory chemicals is minimal.

4. ACTIONS TO INTEGRATE POLLUTION PREVENTION INTO REGULATORY AND ACTIVITIES

A. Minnesota River Basin Multimedia Inspection Project

During FY 94 and 95, MPCA conducted multimedia (air, water, solid and hazardous waste) compliance inspections of facilities in the Minnesota River Basin. Referrals were made of facilities to MnTAP for technical assistance opportunities. Notices of Violation were issued to some facilities, and these documents included specific references to P2 opportunities and to MnTAP. Enforcement negotiations being presently undertaken will include pollution prevention considerations.

B. Lake Superior Partnership Multimedia Inspection Project

During Fiscal Year 95, the MPCA Duluth Regional Office continued the multimedia inspection project with inspections of facilities in the Region, all of them in the Lake Superior Basin.

C. Lake Superior Initiative Project

In an effort to experiment with new approaches to compliance and prevention, the Hazardous Waste Division formed an advisory group to suggest ways to encourage and promote pollution prevention among small business hazardous waste generators. The advisory group, made up of generators, government, chamber reps and economic development specialists noted that most small businesses are skeptical of pollution prevention because they do not see it as a business opportunity. The advisory group suggested outreach to small businesses to promote the economic advantages of pollution prevention.

D. Pollution Prevention Staff Team

In late 1994, the Pollution Prevention Staff Team was disestablished and replaced by an Agency planning team that included management representatives from all programs of the MPCA, the Office of Environmental Assistance, and the Minnesota Technical Assistance Program. This team began a process, nearing completion, to identify specific pollution prevention projects to help integrate pollution prevention into program activities. These are expected to include involving flexible permits, rules review, pollution prevention technical assistance and supplemental environmental projects (SEPs) which will be funded by the Pollution Prevention Incentives to States grants awarded to the MPCA by the U. S. Environmental Protection Agency.

E. Annual Pollution Prevention Progress Reports

1994 Progress Report Form The MPCA is responsible for implementing the regulatory aspects of the Toxic Pollution Prevention Act (TPPA) of 1990. The 1994 Progress Report Form, instructions to accompany the form, and related materials were revised and distributed to TRI reporters on July 29, 1994.

Progress Report Assistance MPCA presented sessions on progress report completion during MnTAP's Pollution Prevention seminar in May, 1995 and during the 5th Annual Pollution Prevention Conference in June of 1995. The MPCA's Pollution Prevention Program Coordinator provided technical assistance to 230 progress report filers during FY 1995.

1994 Progress Report Review The Agency conducted review of Progress Reports submitted in October, 1994. As in previous years, resources have not been appropriated by the Legislature to conduct a complete review of all progress reports and resolve all deficient reports. All 1994 Progress Reports have been or will be reviewed to determine whether they are in compliance and what the nature of deficiencies is. No effort will be made to resolve deficient reports unless all reports are first reviewed. This screening review is expected to be complete by July 31, 1995.

Pollution Prevention Progress Report Data Base. Funds have not been appropriated for this purpose. The MPCA applied for a grant from the Office of Environmental Assistance to enable the establishment and operation of a database, but the grant was not approved.

F. NATIONAL POLLUTION PREVENTION ROUNDTABLE FALL 1994 CONFERENCE

MPCA Staff organized the Regulatory Integration Track of the National Pollution Prevention Roundtable Fall Conference that was held in Minneapolis in November of 1994.

5. INCORPORATION OF POLLUTION PREVENTION INTO PROCUREMENT ACTIVITIES

Members of the Waste Reduction and Recycling Committee (WRRC) investigated the feasibility of ordering organic solvent-free desk cleaner through the State procurement channels. While the committee was successful in obtaining purchase approval for one Division of MPCA after extensive efforts, that approval apparently does not apply generally, and the process was time-consuming.

6. PLANNED POLLUTION PREVENTION ACTIVITIES

A. Minnesota River Basin Multimedia Inspection Project.

As part of the concluding phases of the Minnesota River Basin project, enforcement negotiations between noncompliant facilities and the MPCA are expected to be concluded. At one facility in particular, opportunity appears to exist, and the MPCA will actively encourage the reporting facility to propose a P2 project as a Supplemental Environmental Project to be included as part of the Enforcement Settlement.

B. LAKE SUPERIOR INITIATIVE

Under the Lake Superior Initiative, the MPCA will implement an approach developed in conjunction with the advisory group and the School of Business at the University of Minnesota, Duluth. This will involve site visits during FY '96, by small business colleagues and/or business students to "sell" the concept of pollution prevention to business owners/managers.

C. REGULATORY REVIEW PROJECT

During FY 95, the MPCA will conduct a detailed review of Air Quality Division Regulations to identify those rules, regulations, and procedures that are prohibitive or inhibitive to pollution prevention. The experiences of this review will be applied to other media programs as well.

D. SUPPLEMENTAL ENVIRONMENTAL PROJECTS

During FY 95, the MPCA will develop guidance for the application to pollution prevention-based Supplemental Environmental Projects (SEPs) to be included in enforcement settlements

7. ESTIMATED BENEFITS

One very significant result of MPCA efforts is that over 200 manufacturing facilities in Minnesota that reported on the Toxic Chemical Release Inventory in 1988 have ceased use of toxic chemicals or are no longer using those chemicals in reportable quantities.

8. AREAS OF NEEDED ASSISTANCE

Annual Pollution Prevention Progress Report Review MPCA staff continues to find that progress report review and enforcement requires more resources than have been allocated to the Agency for this purpose. A minimum of two additional full-time equivalent employees will be required to fully complete review of all progress reports, every year, and prepare letters to the facilities advising them how deficient reports can be corrected.

Pollution Prevention Progress Report Data Base. Funds have not been appropriated for subject database. Such a data base would markedly increase the efficiency and effectiveness of the program, and would result in much information being available to the public and businesses. An estimated $20,000 would be required for this data base,

Purchase of Environmentally Friendly Products through State Purchasing System. Procedures need to be established to allow State Agencies to purchase alternative office supplies and other materials that are free from toxic chemicals, and/or are made without such chemicals.

9. KEY POLLUTION PREVENTION CONTACTS AND RESOURCES

See attached list.

10. SIGNATURE OF AGENCY COMMISSIONER

CHARLES W. WILLIAMS
NAME

COMMISSIONER
TITLE

SIGNATURE DATE

MINNESOTA DEPARTMENT OF PUBLIC SERVICE
POLLUTION PREVENTION SUMMARY REPORT
1995

Submitted to Fulfill the Requirements of Governor's Executive Order 91-17, Providing for the Implementation of Pollution Prevention by State Government.

1. Agency — MN Dept. of Public Service
   Contact — Karen Santori
   Contact Address — 200 Metro Square Building
   121 7th Place East
   St. Paul, Minnesota 55101-2145
   Contact Telephone — (612) 296-0391
   (612) 297-1959 (fax)

2. Policy Statement

The Department of Public Service considers protection of the environment to be a high priority. We provide leadership in developing, advocating and implementing equitable, cost-effective policies regarding energy, telecommunication and standards for weights and measures. In the area of energy policy, protection of the environment through reduction of pollution associated with traditional energy sources is a major goal of the Department. We are committed to lead by example through the reduction of energy use, the use of toxic pollutants and the generation of hazardous waste in our own Department.

3. Pollution Prevention Activities During the Fiscal Year

The Department supports an aggressive in-house recycling program. The program provides for the collection of several grades of paper as well as cans, plastic and glass. To further expand our recycling efforts and reduce pollution generated in the workplace, the Department has taken the following steps:

- we encourage double-sided copies, whenever possible.
- we return computer toner cartridges to the vendor and then purchase the refurbished cartridges.
- we purchase a grade of paper that exceeds the state guideline regarding post-consumer waste content.
- we provide ceramic beverage mugs for use in all meetings.
- we request all printing jobs be completed using soy-based ink, whenever possible.
- Weights and Measures staff paint hand weights by brush rather than by aerosol spray paint.

- agency vehicles receive frequent emissions testing.
- petroleum laboratory waste is returned to the petroleum company for further refining and the remainder is added to vehicle tanks.

4. Actions to Integrate Pollution Prevention into Regulatory and Policy Activities

The Department is engaged in a number of initiatives and programs to reduce energy use and develop and promote alternative energy sources.

Institutional Conservation Program - Grants Program/Loan Program.

The goal of the Institutional Conservation Program is to reduce energy consumption in eligible institutional buildings. It provides funds to implement energy conservation measures in schools and hospitals. For the Cycle 17 Grant Program, the Department has approved $839,040 for 349 energy conservation projects. For the Loan Program, from July 1994 to June 1995 the Department has approved $6,835,771 for 410 energy conservation projects that will save 91,504 MMbtus of gas/oil and 9,708,871 kWh of electricity.

Solar/Wind Project.

The goal of this project is to document the wind and solar resources in the Buffalo Ridge areas of southwestern Minnesota. The Department has installed equipment at five sites and is recording wind, solar and temperature data. Each site monitors global horizontal solar radiation. The information collected during this study will be used to analyze the benefits of combining solar electric technologies with wind generating resources.

The first full year of wind and solar resource data was compared to concurrent utility demand information from two of Minnesota's utilities. This analysis shows that some Minnesota utilities may be able to effectively combine wind and solar resources to help meet peaks in electrical demand. The analysis also shows that some utilities have peaks in electrical demand that typically occur late in the day, making it difficult for those utilities to use the solar portion of a combine solar/wind system to meet peaks in demand. The results of this analysis will be presented at the 25th American Solar Energy Society's Conference in July of 1995.

Wind Resource Assessment Program.

This program was initiated in 1981. The goal of this program is to record and analyze wind resource data. During this fiscal year, 26 different sites throughout Minnesota were being monitored. The wind speed data is used to estimate annual and average annual wind power density for each site. The wind power density data has been combined with land use and topographical information using GIS (Geographic Information System) technology. Through the use of GIS technologies and computer

modeling techniques, color maps have been generated that show estimated wind power densities for all areas of the State based on the available wind resource data collected at specific sites.

Tall Tower Study.

This program will conduct research to determine the wind shear (increase in wind speed with increasing heights) parameters that should be used when estimating the available wind energy at heights above the heights used in the ongoing MN Wind Resource Assessment Program (WRAP). Wind resource monitoring at six elevations will be done using existing communication towers. Wind resource monitoring through WRAP has typically been done at one height elevation. For this study, each elevation will have a wind vane and two anemometers to monitor the wind resource. The extensive data collected through this program will be used to establish and analytical method of converting data collected at one level to levels above or below the monitored level.

Wind Resource Implementation and Education Program.

This program was initiated in FY 95. The goal of this program is to add interested School Districts in the southwest corner of Minnesota to the Wind Resource Assessment Program. If the results of the data gathering are favorable, then an engineering analysis would be completed with possible financing for the installation of wind energy system at the School District site through the Institutional Conservation Program. The School District's staff and students would be trained in the monitoring equipment's operation and maintenance.

Energy Information Center.

The Energy Information Center serves energy consumers and features a toll-free "hotline" staffed by full-time Energy Information Specialists. The Energy Information Center answers questions, provides advice, and mails publications on energy conservation and renewable energy technologies. The Energy Information Center responded to 47,225 of inquiries and distributed 130,258 publications during FY 95. The Department estimates that 2.2×10^{12} Btu's are saved as a result of the contacts and publications distributed.

Minnesota Energy Code.

The Department has completed a two-year project funded by the U.S. Environmental Protection Agency to enhance enforcement of the lighting standards in Minnesota's energy code. The final report titled Commercial Building Lighting Standards Implementation was published in November 1994, and is available from the Department's Energy Information Center at 296-5175.

The final report concluded that currently only 50 percent of new and remodeled buildings in the State comply with the code's lighting requirements. Those in compliance mostly do so to take advantage of utility rebate programs. If full compliance with the lighting standards could be achieved, the minimum energy savings in buildings built and remodeled in a single year are projected to be 32,500 MMh. This amount of electricity costs $1,950,000, and would save the environment 35,000 tons of CO^2.

ALTERNATIVE FUEL (NON-GASOLINE VEHICLES)

The Department has undertaken several activities to promote the use of alternative fuel vehicles in Minnesota. These alternative fuels such as compressed natural gas (CNG), liquefied petroleum gas (LPG), and high concentration ethanol (E-85) all emit lower levels of carbon monoxide and, thereby, reduce a major source of urban air pollution. Use of these fuels also reduces the environmental risks associated with petroleum spills and leakage. The activities undertaken by DPS to date include:

- helping the state motor pool secure ten E-85 flexible fuel Luminas and an E-85 fueling station at the motor pool. DPS monitors vehicle use, driving characteristics, and vehicle emissions. DPS is also the primary operator of two of these vehicles.

- providing grants to four out-state communities to develop E-85 fleets and fueling facilities. This has created a statewide network of E-85 fueling stations so that vehicles can use this fuel throughout the state.

- preparing a report to the state Legislature about alternative fuel vehicle technology, its benefits, and how state policy could be changed to encourage the growth of these technologies.

- initiating the ***Clean Fuels Minnesota*** program. This voluntary partnership program matches fleet vehicle users with alternative fuel vehicles suited for their specific operation. The formal kickoff of this activity was held at the State Capitol in April of 1995.

- developing a new motor fuel tax structure that removes the financial penalty for using some of the alternative fuels. This new tax structure was enacted through the Omnibus Tax bill of 1995.

- securing commitments from GM to locate three prototype E-85 S-10 pickup trucks in Minnesota for cold weather operational testing.

INDUSTRIAL POLLUTION PREVENTION

The Department assisted the Dana Corporation in securing a substantial grant for pollution prevention activities. This National Industrial Competitiveness through Energy, Efficiency, Economy -- NICE3 -- was given to modify a metal heat treating process to reduce energy consumption, to recycle atmospheric gases used in the process, and to eliminate much of the carbon monoxide emission associated with the industrial process. If successful, this process can be used at metal processing plants throughout the country.

ENVIRONMENTAL COSTS

The 1993 Minnesota Legislature required the Public Utilities Commission to "quantify and establish a range of environmental costs associated with each method of electricity generation." The law further requires each utility to use the values in conjunction with other external factors when evaluating new sources of electric generation in all proceedings before the Commission. The statute required the Commission to develop interim values by March 1, 1994.

The Department proposed a range of environmental cost values for six air emissions: mercury, carbon dioxide (CO_2), volatile organic compounds (VOC), particulates, sulfur dioxide (SO_2), and nitrous oxides (NO_X). The Commission adopted the Department's recommendations for all of the emissions except for mercury. The Commission did not assign an interim value for mercury.

A contested case proceeding is now being used to determine final environmental cost values. The Department recommended non-zero values for CO_2, VOC_2, NO_X and particulates (PM-10). The Commission has not yet made a decision about final environmental cost values.

ELECTRIC INTEGRATED RESOURCE PLANNING

The Department of Public Service is committed to the development of cost-effective, environmentally sound renewable energy production in Minnesota. Integrated Resource Planning provides a planning forum for regulators, environmental and consumer groups, renewable-energy and conservation advocates and electric utilities to meet our need for electricity. In regards to NSP's resource plan, the Department has recommended that the Commission:

- explicitly approve NSP's planned installation of 100 MW of wind turbines.
- require NSP to submit a proposal for a biomass demonstration project in its 1995 IRP. The DPS recommended that NSP select the biomass technology after considering the results of the Minnesota Power-Wisconsin Power and

Light whole-tree burning feasibility study and NSP's alfalfa biomass gasification and feasibility study.

- require NSP to submit a plan outlining how the Company will implement cost-effective PV applications and develop information for owners of remote cabins and other facilities on how they can use stand-alone PV systems instead of line extensions to meet their electric needs.

- The Commission explicitly approved NSP's planned installation of 100 MW of wind. Although the Commission did not require the Company to submit a biomass demonstration project proposal, 1994 legislation that was enacted after the DPS made its recommendation will require NSP to construct 125 MW of biomass technology by the year 2002.

For Interstate Power, the DPS recommended that the Commission require the Company to:

- include in its next resource plan a report that discusses the potential for ethanol-fired combustion turbines and whole-tree burning technology in its next filing.

- include in its next resource plan a report on the effect of the Company's transmission project in the Buffalo Ridge area on the availability of wind power from this area.

For Minnesota Power, the Department recommended that the Commission require the Company to file a complete renewables study in its next plan.

For Cooperative Power, the Department recommended that the Commission require the Cooperative to include the following in its next resource plan:

- an analysis of a planning scenario in which it adds a 25 MW wind project on or before 2001;

- an analysis of a potential purchase from or diversity agreement with Manitoba Hydro;

- a discussion of the technical feasibility, capital costs and operating costs of ethanol-fired combustion turbines; and

- an assessment of the options, for wind participation projects.

For United Power Association, the Department recommended that the Commission require the Association to include the following in its next resource plan:

- an update on its efforts in the areas of photovoltaic and land-fill gas powered fuel cells;
- an evaluation of the technical feasibility, capital costs and operating costs of ethanol-fired or co-fired combustion turbines; and
- a discussion of the potential for an additional diversity agreement with or a purchase from the Manitoba Hydro Electric Board.

CONSERVATION IMPROVEMENT PROGRAM - ELECTRIC

The Department oversees utility investment in conservation and demand-side management through implementation of Conservation Improvement Programs (CIP). Investor-owned electric utilities are required to invest 1.5 percent of their gross operating revenue into energy conservation projects. By increasing the energy efficiency of its customers, a utility can reduce the emissions created by traditional electric generation sources, such as coal, natural gas or petroleum distillates. The reductions in energy consumption resulting from electric conservation improvement programs have increased significantly.

While the CIP program focuses primarily on improving energy efficiency, the Commissioner has also used this program to promote renewable energy. Some examples:

- The Commissioner required OTP to monitor wind speeds at five different sites and use the information to determine the best location for a 10 MW wind farm.
- The Commissioner approved NSP's proposal for a photovoltaic demonstration project at the Science Museum.
- The Commissioner approved Minnesota Power's Solar Resource Assessment project which is being conducted in conjunction with EPRI and 13 other utilities to assess the solar resource in different parts of the country.
- The Commissioner approved MP whole-tree burning feasibility study that was done jointly with Wisconsin Power and Light.

Further, after requiring NSP, MP and IPC to file new renewable CIP project during the 94-95 biennial CIP period, the Commissioner approved the following projects:

- The Commission allowed a two-year, million dollar photovoltaic project for NSP consisting of technology testing, demonstration, monitoring and market assessment.

- a renewable technology grant project for MP's C&I customers;

- a 5-10 kW grid-connected photovoltaic installation in Interstate's Minnesota service territory.

CONSERVATION IMPROVEMENT PROGRAM - GAS

In addition to the electric CIP program, the Department oversees the gas CIP program. Seven investor-owned gas utilities offer CIP programs subject to Commissioner approval. The utilities are required to spend .5 percent of their gross operating revenues. The Commissioner has used the CIP process to promote sound gas conservation practices which will continue to reduce or stabilize energy consumption growth. The following are some of the Commissioner-approved projects which will reduce pollution emissions.

The Commissioner has approved low-income building weatherization projects for Interstate Power Gas Company, Minnegasco, Peoples Natural Gas Company, Western Gas Utilities, Inc., and Northern States Power (Gas) utilities.

The Commissioner has approved high-efficiency gas furnace/setback thermostat programs for Interstate, Minnegasco, Peoples Natural Gas Company, and Western Gas Utilities, Inc.

The Commissioner has approved a Minnegasco water-heating rebate project for low-income customers.

The Commissioner has approved Minnegasco's and Northern States Power's State of Minnesota Retrofit projects for more efficient energy systems in state-owned or leased building.

The Commissioner has approved an efficient water heater rebate project and high efficiency furnace rebate project for Northern Minnesota Utilities.

The Commissioner has approved a low-income electric-to-gas water heater exchange program and furnace/water heater tune and clean project for Great Plains Natural Gas Company.

OIL AND BATTERY RECYCLING

The Weights and Measures Division continues to work with the Pollution Control Agency, posting information for consumers regarding proper disposal sites for waste oil and lead acid batteries. This activity helps to increases the collection of these materials and reduces the chance that they will become hazardous wastes through improper disposal.

PETROLEUM STORAGE TANK EDUCATION

This Division created a pamphlet to educate storage tank owners on the proper maintenance of petroleum storage tanks to prevent contamination. In the past, approximately 400 tanks a year were emptied due to contamination. This material is then treated a hazardous waste. Through this educational effort, the number of tanks emptied due to contamination has been reduced to 300 for the first full year of the program.

OXYGENATED FUELS PROGRAM

The Department continues the enforcement of this program, as directed by Minnesota Statute, which requires gasoline to be oxygenated in the Twin Cities metro area from October 1 through January 31 every year. The program will extend year round beginning in October 1995 and statewide in 1997. This program has a 97 percent compliance rate which is due largely to a strong government-industry cooperative effort.

6. Planned Pollution Prevention Activities.

The Department will continue its numerous efforts to reduce energy use and as a result, pollution to the environment. This will be accomplished through consumer education and the development and promotion of alternative energy sources.

Agency Contacts

Wind/Solar Projects, Rory Artig (612) 297-2326
Energy Information Center, Phil Smith (612) 296-5175
Institutional Grant/Loan Program, Rich Huelskamp (612) 297-1771
Conservation Improvement Programs
Electric, Chris Davis (612) 296-7130
Gas, Luther Thompson (612) 296-1065
Petroleum Storage, Rick Johnson (612) 639-4010
Oxygenated Fuels, Sherry Mullenmaster (612) 639-4010

7. Estimated Benefits.

Following is a summary of just some of the measurable benefits of DPS conservation improvement programs for electric and gas utilities. Actual kWh savings in 1994 and projected kWh savings for 1995 achieved through Conservation Improvement Programs for each investor-owned electric utility is provided below:

	1993 Actual Energy Savings (kWh)	1994 Actual Energy Savings (kWh)	1995 Projected Energy Savings (kWh)
Interstate	8,869,405	6,370,665	9,951,637
MP	29,688,088	10,851,000	21,866,387
OTP	7,371,451	8,930,933	8,049,436
NSP	265,480,000	334,020,000	349,732,000
Total	311,408,944	360,172,598	389,599,460

As a result of the actual and projected 1993, 1994 and 1995 kWh savings, the following emissions were avoided:

Avoided Emissions due to Electric CIP

	lbs/kWh	Total 1993 tons	Total 1994 tons	Total 1995 tons
SO_2	0.0043	669.5	714.1	801.5
Nitrogen Oxides	0.0078	1,215.3	1,441.5	1,542.0
PM-10	0.0009	138.7	161.8	174.4
CO_2	2.9	451,158.3	529,492.0	569,049
Mercury	4.5313E-07	0.07	0.08	0.09

The gas CIP program also reduces pollution emissions by promoting conservation programs geared toward a reduction in energy consumption. Estimated Mcf savings through Conservation Improvement Programs for each gas utility are provided below:

Mcf Savings

	1994/95	1995/96
Interstate	12,444	13,118
Minnegasco	234,243	259,105
Great Plains	4,047	4,105
Northern Minnesota Utilities	6,645	6,645
Northern States Power-Gas	388,091	435,114
Peoples	30,257	33,868
Western	1,535	1,535

As a result of the above Mcf savings goals, the following emissions should be avoided:

	Tons/Mcf	1994/95 Total Tons	1995/96 Total Tons
SO_2	2.85E-07	0.193	0.215
Nitrogen Oxides	4.49E-05	30.409	33.832
Volatile Organic Compounds	3.34E-06	2.262	2.571
Total Solid Particulates	4.39E-06	2.973	3.308
CO_2	5.75E-02	38,945.565	43,325.675

10. Signature of Agency or Department Head

Kris Sanda
NAME OF AGENCY HEAD

Commissioner
TITLE OF AGENCY HEAD

Kris Sanda
SIGNATURE OF AGENCY HEAD

June 30, 1995
DATE

/jd

THE MINNESOTA STATE UNIVERSITIES
BEMIDJI • MANKATO • METROPOLITAN • MOORHEAD • ST. CLOUD
SOUTHWEST • WINONA • AKITA CAMPUS, JAPAN

July 1, 1995

TO: Paul Moss
Office of Environmental Assistance
520 Lafayette Road North
St. Paul, Minnesota 55155-4100

FROM: Douglas Kelley
Assistant Director of Facilities Management

SUBJECT: Pollution Prevention Progress Summary Report

As required by Executive Order 91-17, I write to report progress to date:

I. The individuals listed below have been designated by the administration at each of the 7 Minnesota State Universities to manage each campus' source reduction of hazardous wastes:

Bert Clark
Physical Plant Director
Bemidji State University
1500 Birchmont Drive N.E., Bemidji, MN 56601
(218)755-3988

Dick Markiewicz
Assistant to the Vice President for University Operations
Box 105
Mankato State University
P.O. Box 8400
Mankato, MN 56002
(507)389-2270

Bruce Kampershroer
Facilities Director
Metropolitan State University
700 E. 7th St.
St. Paul, MN 55106-5000
(612)772-7608

Dennis Mathiason
Chemistry Department Chairman
411A Hagen Hall
Moorhead State University
1104 7th Avenue South
Moorhead, MN 56563
(218)236-2138

Barbara Keller
Assistant Director of Buildings and Grounds Management
St. Cloud State University
720 4th Avenue South
St. Cloud, MN 56301
(612)255-2267

Cyndi Holm
Assistant to Vice President for Administration
Administrative Services Building 216
Southwest State University
1501 State Street
Marshall, MN 56258
(507)537-6258

Lyle Halliday
Physical Plant Director
Physical Plant
Winona State University
Sanborn and Johnson Streets
Winona, MN 55987
(507)457-5045

II. Efforts reported to date by these campus managers follow as Attachment I.

III. The individual policy statements indicating that pollution prevention is a priority have been developed by the individual insitutions as reported in Attachment I.

DK/jsl

Attachment I

cc w/Attachment I: David Hardin
Campus Pollution Prevention Managers

ANNUAL STATE GOVERNMENT POLLUTION PREVENTION SUMMARY REPORT

1995

Fulfilling the requirements of Governor's Executive Order 91-17 Providing for the Implementation of Pollution Prevention by State Government

Submit by July 1, 1995 to:

Pollution Prevention in State Government
MN Office of Environmental Assistance
520 Lafayette Rd. N., Second Floor
St. Paul, MN 55155
Attn: Paul Moss

1. Agency: Moorhead State University

Contact Name: Dr. Dennis Mathiason

Contact Address: Environmental Health & Safety Director

Moorhead, MN 56563

Contact Telephone: 218-236-2138

2. **POLICY STATEMENT**
Attach agency's or department's most recent pollution prevention policy statement.

3. **POLLUTION PREVENTION ACTIVITIES DURING THE FISCAL YEAR**

Describe activities undertaken to prevent pollution and hazardous waste generated by agency or department (July 1994 - June 1995). Agencies may also note other relevant ongoing activities.

(Use additional sheets as appropriate)

During the past year, in addition to other on-going abatement procedures and education programs we have initiated several new purchasing and waste identification procedures. We have for at least ten years reviewed chemical purchases for use in the custodial, building and maintenance, printing operations and office use areas. These reviews have resulted in many changes in items purchased or elimination of a particular item viewed to present unacceptable worker health and safety concerns. These actions have greatly reduced risk and in many cases reduced the flow of wastes from a incineration/chemical landfill route to a less costly disposal alternative.

During this year we have also tried to educate university personnel as to disposal costs and safety and environmental concerns of chemicals and substances purchased. All waste recycling programs have been continued. Potential for additional savings is reduced due to early acceptance and practice by university employees and students.

4. **ACTIONS TO INTEGRATE POLLUTION PREVENTION INTO REGULATORY AND POLICY ACTIVITIES**

Describe efforts by agency or department to integrate pollution prevention into regulatory and policy activities (July 1994 - June 1995). Agencies may also note other relevant ongoing activities.

(Use additional sheets as appropriate)

No statement.

5. **INCORPORATION OF POLLUTION PREVENTION INTO PROCUREMENT ACTIVITIES**

Describe efforts to investigate opportunities to encourage pollution prevention through agency/department purchasing policies and specifications (July 1994 - June 1995). Agencies may also note other relevant ongoing activities.

(Use additional sheets as appropriate)

As previously indicated we are going to exercise more control when it comes to purchases and use of materials. We are headed for a system where the campus user will have to share in the disposal coat of waste materials. Our objective is to within one-year have centralized purchasing in one office so that monitoring of purchases for health, safety and pollution considerations can be more readily followed. Chemicals purchased will be logged in and their ultimate use and or disposal accounted for. For example a gallon of paint purchased but not used costs more to dispose than the original cost. Not only must we incur outside costs in proper disposal of the paint but we also have to collect, package, store and account for the removal. Also we plan to have the user (departments, researchers, etc.) pay the total expense of any analytical costs incurred in identifying unproperly labeled waste materials.

Another key benefit of this purchase control will be reduced residence time of chemicals stored on campus. Long term storage of chemicals increases container damage and waste and in other cases non used due to new and better products.

6. **PLANNED POLLUTION PREVENTION ACTIVITIES**

Summarize agency or department plans for pollution prevention activities for at least the next fiscal year (July 1995 - June 1996). Include key contacts and telephone numbers for projected activities.

(Use additional sheets as appropriate)

More education related to:

-True cost of purchased materials
-Proper disposal of wastes
-Safety concerns

There will be increased monitoring and supervision of all outside contractors to make certain that excess building materials are removed at the end of a construction project. Monitoring thus far has saved the university thousands of dollars in disposal costs.

7. **ESTIMATED BENEFITS**

Estimate environmental and economic benefits which have resulted from agency's or department's pollution prevention activities.
(Use additional sheets as appropriate)

A direct benefit is the reduction in waste removal costs. Costs have decreased from nearly $25,000 annually to less than $10,000. Our main charges are associated with removal of PCB containing fluorescent ballasts, fluorescent lamps, alkaline and NiCd batteries and waste paint and solvents. These comprise 60-70% of disposal charges. Reduced exposure for our employees and students to volatile chemicals obviously means better ultimate health. Quantification of this benefit, while difficult to estimate has been widely reported in health and safety publications. Also while some replacement chemicals are more environmentally acceptable there are in some cases greater procurement costs. This additional cost reduces the overall savings.

8. **AREAS OF NEEDED ASSISTANCE**

Highlight areas in which additional pollution prevention assistance is needed by agency or department.

We need a better information dissemination approach when it comes to getting pollution abatement/prevention information to users outside of the Twin Cities area. The state should set up an interaction bulletin board on the internet. At the present time it is often easier to get information from sources outside of the state than from intrastate sources.

9. **KEY POLLUTION PREVENTION CONTACTS AND RESOURCES**
Describe areas in which agency or department can assist other state agencies or departments in preventing pollution. Include contact names and telephone numbers.

No statement.

10. Signature of Agency or Department Head

Dr. Dennis Mathiason	Dr. David Crockett
Name of Agency Head	
Environmental Health and Safety Director	Vice President of Administrative Affairs
Title of Agency Head	
Dennis Mathiason	June 28, 1995
Signature of Agency Head	Date
David Crockett	6/28/1995
Signature of Vice President	Date

11. In order that this Pollution Prevention Summary Report may be more usable to others, please note the pages in the report on which the following topics are discussed.

Index: **Page(s)**

Page(s)

Other topics:

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ATTACHMENT I

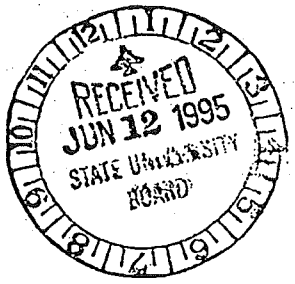
ANNUAL STATE GOVERNMENT
POLLUTION PREVENTION SUMMARY REPORT

1995

Fulfilling the requirements of Governor's Executive Order 91-17 Providing for the Implementation of Pollution Prevention by State Government.

Submit by July 1, 1995, to:

Pollution Prevention in State Government
MN Office of Environmental Assistance
520 Lafayette Rd. N., Second Floor
St. Paul, MN 55155
Attn: Paul Moss



1. Agency: St. Cloud State University

   Contact Name: Steven Ludwig/Barbara Keller

   Contact Address: Buildings & Grounds Management

   720 Fourth Avenue South

   St. Cloud, Minnesota 56301-4498

   Contact Telephone: 612-255-2266

2. **POLICY STATEMENT**

   The leadership of St. Cloud State University realizes the strong environmental impact it has and is therefore committed to developing the means to reduce its use of toxic materials, release of toxic pollutants, and generation of hazardous wastes. The University strives to reduce, and, where possible, eliminate toxic materials, damage, and waste, while recognizing that there are limits to its ability to move toward that goal. Maximum results will be achieved through the education of its employees and clientele, continued investigation and implementation of environmentally-friendly substitute products, and dedication to its recycling program.

3. **POLLUTION PREVENTION ACTIVITIES DURING THE YEAR:**

   a. Reduction in the amount of paper used and then recycling of all types of waste paper products continues to lead efforts of pollution reduction and prevention. Via a newly bid contract within the last year, disposal of refuse and recyclable materials was rolled into one agreement. The anticipated result of being able to recycle a greater variety of paper products has been achieved. Our new contract has allowed for the recycling of magazines, glossy paper, window envelopes, and all colored paper in addition to the typical office/computer paper and newsprint. This has resulted in a 30 percent increase of paper products being recycled and obviously that much less being landfilled.

Campus departments are regularly encouraged and reminded to use recycled paper products whenever possible and to use both sides of the paper when copying. The campus print shop has been successful in adapting recycled paper into their printing process.

b. Recycling in other areas continues as well. In total, the following items are recycled rather than landfilled: used kitchen grease, fluorescent light bulbs, iron/metal products, aluminum, tin cans, cardboard, vehicle and household-type batteries, waste oil, oil filters, parts washer solvent, food scraps and vehicle tires. Silver is reclaimed from photo chemicals and mercury from broken instruments, etc., is reclaimed for reuse. As building keys are returned when locks are changed the brass/metal is either melted in the campus foundry for reuse or sold to the local recycler. Laboratory glassware is autoclaved for reuse. Pallets and wood crating is returned to vendors for re-use, and styrofoam packing "peanuts" are collected and redistributed for outgoing packaging. Yard waste is collected and composted for reuse in flower beds.

c. Pleated air filters are now being used wherever possible. This type of filter is more efficient in collecting dust and, because of its design, lasts longer and therefore fewer are used.

d. Academic laboratories continue to microsize experiments. Annual participation in the University of Minnesota Chemical Safety Day program allows for the reuse of waste chemicals by other labs at the UofM, greatly reducing the amount of actual disposal.

e. The University continues to encourage use of the metrobus system via reduced fares and a shuttle service. Students who form carpools are rewarded with more convenient campus parking.

f. Following the purchase of a former meat packing plant adjacent to the University, staff salvaged equipment left in the facility. Among the items salvaged for re-use was a step controller which was re-installed on equipment in the campus indoor ice arena. This controller provides step control on three compressors and allows them to be operated at demand rather than at full capacity. In other words, the compressors can now be operated at less than 100 percent capacity as needs dictate, which translates to overall electrical consumption savings between 25 and 35 percent, greatly reduces the wear and tear on the compressors, and significantly lengthens the life expectancy of the units.

g. In an effort to improve indoor air quality, an electric Zamboni has replaced a propane-powered model in the ice arena.

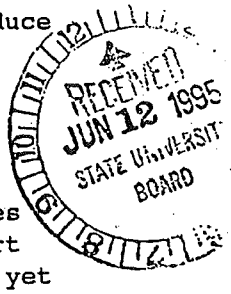
h. Refrigeration technicians have been trained on the proper removal and disposal of CFC refrigerants used in cooling systems.

4. **ACTIONS TO INTEGRATE POLLUTION PREVENTION INTO REGULATORY AND POLICY ACTIVITIES.**

a. Campus departments are continually reminded to purchase recycled paper products and use both sides of the paper when copying.

b. Housekeeping employees, as a part of annual training, are reminded to use proper dilution ratios for chemicals to avoid waste.

c. A committee has been formed to review cleaning products currently used and investigate substitute products that are less of a pollutant and safer to use. Products are purchased in bulk whenever possible to reduce packaging waste.



5. **INCORPORATION OF POLLUTION PREVENTION INTO PROCUREMENT ACTIVITIES:**

a. The size of the campus and number of departments making purchases makes the incorporation of a controlled purchasing program of pollution-smart products a monumental task. An individual or group of people has not yet been identified to undertake this program.

b. The housekeeping unit has formed a committee to review the products it uses, and investigate alternative products that are safer and result in less pollution.

6. **PLANNED POLLUTION PREVENTION ACTIVITIES:**

a. Currently battery-operated smoke detectors are used in dormitory student rooms. This results in the annual change-out of nearly 3000 nine-volt batteries. Effective July 1, 1995, funds have been appropriated to convert these smoke detectors to a hard-wired type.

b. We are currently awaiting an NSP-assisted energy audit of our facilities.

7. **ESTIMATED BENEFITS:**

Monetary benefits are difficult to determine in light of program growth hazardous disposal mandates, and cost inflation. It is felt, however, that the benefits from the implementation of safe and sound environmental practices are sizable as the education of employees and campus clientele in wise use of resources will obviously carry beyond the boundaries of the campus.

8. **AREAS OF NEEDED ASSISTANCE:**

Two areas of assistance are needed: (1) an audit of the entire campus to identify additional practices in pollution prevention needs to be done for the program to move forward, and (2) funding and staffing needs to be made available to carry out the findings of this audit.

9. **KEY POLLUTION PREVENTION CONTACTS AND RESOURCES:**

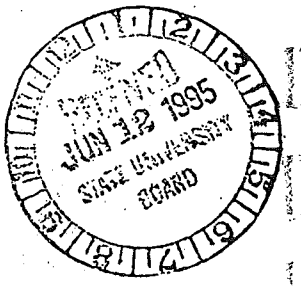
Chuck Lindgren, chief engineer, serves as the campus resource in the area of energy conservation. Mr. Lindgren can be reached by phone at (612) 255-3166. Investigation of new methods and products, and development of alternative procedures is done by Barbara Keller, Coordinator of Facilities Management. She can be reached at (612) 255-2266.

10. **SIGNATURE OF AGENCY OR DEPARTMENT HEAD:**

Name of Agency Head: Robert Bess

Title: President, St. Cloud State University

Signature Date 6/9/95



ATTACHMENT I

To: Doug Kelley

From: Lyle Halliday

Re: Pollution Prevention Report

Date: June 28, 1995

Winona State University has always maintained a strong commitment to pollution prevention. Knowing the strong impact it has environmentally will strive to reduce its use and/or generation of hazardous materials.

Recycling efforts during the past year have resulted in considerably less waste being land filled. The University continues to recycle all paper, cardboard, metal, waste oil, tires, kitchen grease, fluorescent tubes. Yard waste is taken to a compost site.

The University will continue in its program of disposing of hazardous chemicals in the University of Minnesota's chemical safety program.

The University has recently completed a complete Energy Management System expansion which will allow for maximum energy savings.

The University has recently completed mechanical retrofits to our boilers oxygen trim, heat recovery unit which will save fuel and produce less emissions of pollutants.

The University has completed the removal of three underground storage tanks for fuel oils and replaced them with new double walled tank with state of the art leak detection equipment.

The University in cooperation with the city of Winona's waste water treatment coordinator has changed cooling tower chemicals so as to avoid discharging toxic chemicals in city sewers.

The University is progressing with the planning and ultimate construction of a central chilled water plant with state of the art refrigerants and energy efficient design. When completed it will allow the discontinuance of five existing chillers that are far less energy efficient and contain CFC's that are being phased out because of their pollution potential.

ANNUAL STATE GOVERNMENT
POLLUTION PREVENTION SUMMARY REPORT

1995

1. AGENCY: Bemidji State University

CONTACT NAME: Richard B. Marsolek, Environmental Health and Safety, Coordinator

CONTACT ADDRESS: 1500 Birchmont Drive NE, Bemidji, MN 56601-2699

CONTACT TELEPHONE: 218-755-3988

2. POLICY STATEMENT

Bemidji State University is committed to excellence and leadership in protecting the environment. The University is striving to identify and implement pollution prevention opportunities through encouragement and involvement of its students and staff.

We believe that environmental protection is a top priority and should be everyone's responsibility. We are encouraging pollution prevention and waste abatement through the establishment of an Environmental Task Force. This task force, comprised of students and staff, is committed to pursuing waste abatement programs such as recycling, reuse, and purchase of recycled materials to reduce the need for disposal of waste.

Bemidji State University seeks to demonstrate its leadership role by adhering to all environmental regulations. We promote cooperation and coordination among higher education and the government toward the shared goals of preventing pollution and abating waste.

3. POLLUTION PREVENTION ACTIVITIES DURING THE FISCAL YEAR

A. Expanded recycling program to include magazines.

B. Purchased additional recycling containers to increase newspaper recycling.

C. Ordered additional recycling dumpster for collection of increasing volumes of aluminum, tin, glass, and paper from dormitory areas.

D. Continue to recycle office papers, newspaper, metal beverage containers, cardboard, glass, fluorescent light bulbs.

E. Received $25,000 grant from OEA to conduct environmental audit of campus and implement waste and energy reduction practices and policies.

F. Presently conducting trial usage of a non-hazardous, biodegradable multipurpose cleaner to determine its suitability as a replacement for currently used products.

G. Presently conducting trial usage of ultralow VOC paint to determine its suitability as a replacement for many of our currently used paints.

3. **POLLUTION PREVENTION ACTIVITIES DURING THE FISCAL YEAR**

Describe activities undertaken to prevent pollution and hazardous waste generated by agency or department (July 1994 - June 1995). Agencies may also note other relevant ongoing activities. **(Use additional sheets as appropriate.)**

a. Fluorescent bulbs have been inventoried and placed in protective storage. Bulbs are scheduled to be waste streamed and disposed of through a certified waste stream management company in FY 96.

b. Reports have been filed in a timely and accurate manner to the county of Ramsey, reporting on all hazardous waste inventories.

c. A storm water retention system has been installed, reducing the amount of run-off that would normally be going directly to the storm water system.

d. A new Ready Purge unit has been installed on the No. 1 Centravac Trane Chiller, which reduces CFC emissions by 95% of the old style OEM purge unit.

e. Pre and post season operation, set-up, and maintenance checks are performed on all generator, heating and air conditioning equipment to ensure that all equipment is operating at optimum efficiencies.

f. The construction of the Student Services/Administration Bldg. included the utilization of the latest technology in energy efficient lighting. Only low VOC paints were used during this project, and particle board products containing formaldehyde were not allowed.

g. A recycling program for paper and aluminum is in force. An evaluation/study of Metropolitan State University's recycling program has been implemented in cooperation with an Environmental Issues class, where the students will study waste steams and recycling practice at the four campus sites and submit a combined opinion on how to improve and streamline present practices.

h. An asbestos abatement management program has been identified and implemented for all present and future construction and remodeling projects.

I. Metropolitan State University staff have attended hazardous waste seminars sponsored by Ramsey County.

J. Metropolitan State continues to follow through with a proactive CFC management system.

4. **ACTIONS TO INTEGRATE POLLUTION PREVENTION INTO REGULATORY AND POLICY ACTIVITIES**
Describe efforts by agency or department to integrate pollution prevention into regulatory and policy activities (July 1994 - June 1995. Agencies may also note other relevant ongoing activities. **(Use additional sheets as appropriate.)**

a. Environmentally unfriendly substances are not allowed or put to use on Metropolitan State University's campus if safe or alternate products/vendors exist. MSDS sheets are required for substance evaluation before any product is introduced on campus.

b. Emission reporting to the MPCA is completed in a timely and accurate manner on an annual and quarterly basis for all heating and permitted equipment.

5. **INCORPORATION OF POLLUTION PREVENTION INTO PROCUREMENT ACTIVITIES**
Describe efforts to investigate opportunities to encourage pollution prevention through agency/department purchasing policies and specifications (July 1994 - June 1995). Agencies may also note other relevant ongoing activities. **(Use additional sheets as appropriate.)**

a. CFC management program has been defined and communicated to all contracted services.

b. MSDS sheets are required for all products being purchased by or for Metropolitan State University.

c. The janitorial services have been instructed to consider the use of all environmentally sound products and to look at alternatives whenever possible.

d. All painting products are to be low VOC.

6. **PLANNED POLLUTION PREVENTION ACTIVITIES**
Summarize agency or department plans for pollution prevention activities for at least the next fiscal year (July 1995 - June 1996. Include key contacts and telephone numbers for projected activities. **(Use additional sheets as appropriate.)**

a. Asbestos abatement has been identified before the remodeling or construction work will proceed for buildings A and C.

b. Further CFC management procedures will be implemented.

c. Participation in the City of St. Paul Rain Leader Disconnection program will be finalized by disconnecting roof drains and storm sewers from the sanitary system by December 1995.

d. Emission reporting, (annual/quarterly) reports to the MPCA will be filed.

e. The future construction projects which include the renovation of approximately 100,000 SF of buildings A and C will include the following:

- Will be reusing the existing structural frame rather than demolishing the total building, saving new construction materials.
- Will be reusing recycled gypsum and paper products.
- Will reuse some of the existing cabinetry.
- Will plan to reuse existing plant shrub materials by relocating them.
- Recycling centers will be located and clearly identified on each floor on completion of the A and C project.

- Electric hand dryers will be installed in all restrooms to save on the use of paper products.

- The project will include the use of water saving toilets, urinals, and faucets.

- This building project will exceed the maximum requirements of the energy code.

- Will be using occupancy sensors in as many locations as possible, and will be utilizing all LED exit lighting.

- Will be using all low VOC paints.

- Will be using high density, low E glass.

- This project will be using more hard surface flooring versus carpeting (representing a negative effect to the environment during the mfg. process).

- No vinyl wall fabric materials will be used, representing a future savings during remodeling projects (representing a negative effect to the environment during the mfg. process).

- No particle board containing formaldehyde will be used.

- This project will be reusing/refurbishing the existing elevators.

- No CFC and limited HCFC products will be used.

- Whenever appropriate, existing furnishings will be evaluated for reuse and recycling.

- All existing ductwork will be replaced in both buildings A and C.

- Base line VOC tests are to be completed at the end of the project which will establish a bench mark for future evaluations.

- The physical plant has set a goal of developing a written program to define environmentally sound and safe cleaning and maintenance procedures for the Metropolitan State University's campus's. This will be completed by January 31, 1996.

7. ESTIMATED BENEFITS

Estimate environmental and economic benefits which have resulted from agency's or department's pollution prevention activities. **(Use additional sheets as appropriate)**

a. The monetary impact of environmental programs could not be determined at this time

8. AREAS OF NEEDED ASSISTANCE

Highlight areas in which additional pollution prevention assistance is needed by agency or department.

a. None at this time.

9. KEY POLLUTION PREVENTION CONTACTS AND RESOURCES

Describe areas in which agency or department can assist other state agencies or departments in preventing pollution. Include contact names and telephone numbers.

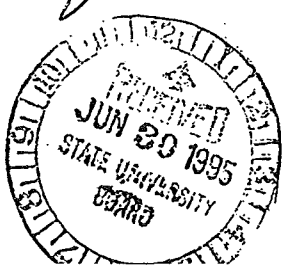
a. See Line #10.

10. Signature of Agency or Department Head

Name of Agency Head Bruce Kamperschroer

Title of Agency Head Building Maintenance Supervisor

Signature of Agency Head Bruce Kamperschroer Date 28 June 95



ANNUAL STATE GOVERNMENT
POLLUTION PREVENTION SUMMARY REPORT

1995

Fulfilling the requirements of Governor's Executive Order 91-17 providing for the implementation of Pollution Prevention by State Government.

1. Agency: Minnesota Department of Transportation

Contact Name: Bruce L. Johnson, CHMM

Contact Address: Minnesota Department of Transportation
Office of Environmental Services
3485 Hadley Avenue North
Oakdale, MN 55128

Contact Telephone: 612-779-5089

2. **POLICY STATEMENT**

WASTE STREAM MANAGEMENT POSITION STATEMENT

Mn/DOT is committed to excellence and leadership in protecting the environment. In keeping with this policy, our objective is to reduce waste and emissions. We strive to minimize adverse impact on the air, water, and land through excellence in waste stream management. By preventing wastes, we can achieve better protection of the environment, a safe and healthy work place for employees, and more efficient operations.

Mn/DOT's environmental guidelines include the following:

* Preventing pollution by reducing and eliminating the generation of waste and emissions at the source is a prime consideration in research, design, and field operations. Mn/DOT is committed to identifying and implementing pollution prevention opportunities by involving all employees. These opportunities include: new methods, technologies, and product substitution.

* Mn/DOT is committed to developing a waste stream management

system that proactively addresses the wastes that are unavoidably produced in our operations.

* Environmental protection is everyone's responsibility and is highly valued at all levels within Mn/DOT.

* Mn/DOT seeks to demonstrate its commitment by adhering to all environmental regulations. We promote cooperation and coordination between industry, government, and the public toward the shared goal of preventing pollution at its source.

3. POLLUTION PREVENTION ACTIVITIES DURING THE FISCAL YEAR

a. Materials Lab (1,1,1-Trichloroethane & Zecol): Mn/DOT is actively researching an analytical procedure which will totally eliminate to use of 1,1,1-trichoroethane and its substitute Zecol in its material labs. Several districts are purchasing analytic furnaces to be tested. The results of their use will be compared to results from the current method using 1,1,1-Trichloroethane or Zecol.

b. Maintenance shops (Stoddard solvent): Mn/DOT is actively researching substitute products/systems to reduce (by 90%) the amount of hazardous waste generated through parts washing in maintenance shops. To date the research has shown a chemical with the trade name Citrusolv 214HF coupled with a filtration recycler by Kleerflo seem to be the best option. Several solvents and systems are being evaluated in various district maintenance shops.

c. Maintenance Shop (absorbent): Mn/DOT is researching various absorbent to replace clay absorbent. Mn/DOT is searching for an absorbent that can be beneficially reused (burned for heat) after it is saturated. Corn cob, paper, wood, cork, pumice, polypropylene (reusable and launderable), peat, cellulose, polymer and clay absorbent have been used in this research. A cellulose product appears to work best for Mn/DOT applications.

d. Pavement marking/striping (latex pavement striping paint): Several Mn/DOT districts are totally using a heavy-metal-free latex pavement marking/striping paint. This eliminated an entire hazardous waste stream (lead, chrome, and toluene) generated during pavement marking and striping operations in several Mn/DOT districts.

e. Roadside management (poisonous rodent baits): Mn/DOT has installed American Kestrel nest boxes on Mn/DOT right of ways in the metro area. The purpose is to provide habitat and encourage the American Kestrel "Sparrow Hawk" to nest along the right of way. Part of the Kestrels diet is meadow voles.

Meadow voles create numerous problems with roadside vegetation. Poisonous rodent baits have been used in the past with various success. These nesting boxes will hopefully reduce or eliminate the use of such poisons.

4. **ACTIONS TO INTEGRATE POLLUTION PREVENTION INTO REGULATORY AND POLICY ACTIVITIES**

a. Mn/DOT's statewide Waste Management Team (25 people) meets quarterly and actively integrates pollution prevention into all of the Team's functions.

5. **INCORPORATION OF POLLUTION PREVENTION INTO PROCUREMENT ACTIVITIES**

a. Pavement marking/striping (heavy-metal-free latex pavement striping paint): Mn/DOT has made available to all Counties and Cities, that use Mn/DOT's striping paint contract, a heavy-metal-free latex pavement marking/striping paint.

b. Mn/DOT has developed a strategy to expedite the process of eliminating and/or reducing waste streams. This strategy is designed for involvement and input from all interested parties, including other governmental agencies, up front. It is a nine step process which ends with a full circle cost analysis and product(s) recommendation. Mn/DOT has three waste streams (sorbents, asphalt release agents, and parts washer solvents) at various stages within the process. To date the results are exceeding all expectations.

* * *

Mn/DOT's Waste Minimization/ Pollution Prevention Process:

I. Identify need. (Why do we need to eliminate/minimize this waste?)
   A. Write summary need.
      1. How large is the waste stream? (waste including but not limited to hazardous materials, hazardous waste, and toxins)
         a. Who and how many does the waste stream effect.
         b. What is the product use and cost?
      2. What are the environmental effects of the waste streams?
      3. Contact the Minnesota Pollution Control Agency.
         a. Is there any impending legislation? (i.e. a deadline for change)
         b. Are there any "targeted compounds" associated with water quality?

9. **KEY POLLUTION PREVENTION CONTACTS AND RESOURCE**

a. David J. Pehoski, CHMM, Project Manager
telephone: 612-779-5113
Pollution Prevention Expertise: Waste stream management, Environmental audits, waste minimization

b. Kim Chambers, Pollution Control Specialist
telephone: 612-779-5100
Pollution Prevention Expertise: waste minimization

c. Tom Makousky, Sr. Highway Maintenance Worker
telephone: 612-297-2874
Pollution Prevention Expertise: American Kestrel nesting boxes

10. Signature of Agency or Department Head

James N. Denn

Name of Agency Head

Commissioner

Title of Agency Head

James N. Denn 7.6.95

Signature of Agency Head Date

UNIVERSITY OF MINNESOTA

Pollution Prevention Summary Report
July 1, 1995

Prepared By
Department of Environmental Health and Safety
University of Minnesota
501 23rd Avenue S.E.
Minneapolis, Minnesota 55455-0447
(612) 626-7744

ANNUAL STATE GOVERNMENT POLLUTION PREVENTION SUMMARY REPORT

1995

Fulfilling the requirements of Governor's Executive Order 91-17 Providing for the Implementation of Pollution Prevention by State Government

Submit by July 1, 1995 to:

Pollution Prevention in State Government
MN Office of Environmental Assistance
520 Lafayette Rd. N., Second Floor
St. Paul, MN 55155
Attn.: Paul Moss

1.	Agency	University of Minnesota
	Contact Name	Bruce Backus, Assistant Director
	Contact Address	Department of Environmental Health and Safety University of Minnesota 501 23rd Avenue S.E. Minneapolis, Minnesota 55455-0447
	Contact Telephone	(612) 626-7744
	Contact Fax	(612) 626-1571
	Contact E-mail	backu001@maroon.tc.umn.edu

2. POLICY STATEMENT

UNIVERSITY OF MINNESOTA

BOARD OF REGENT'S POLICY

Page 1 of 1

CONSERVATION
Pollution Prevention and Waste Abatement
Adopted: June 11, 1992
Supersedes: Waste Abatement Policy 12/15/85

CONSERVATION

Pollution Prevention and Waste Abatement

The University of Minnesota is committed to excellence and leadership in protecting the environment. Our objective is to reduce all types of waste and emissions. We strive to minimize adverse impact on the air, water, and land through excellence in pollution prevention and waste abatement. By preventing pollution at the source, we can save resources, increase operational efficiencies, and maintain a safe and healthy work place for our students and employees. By abating those wastes that cannot be eliminated at the source, we can recover useful resources and reduce the environmental and economic burden of waste disposal.

We believe that environmental protection is everyone's responsibility. Its manifestation is valued and displays commitment to the University.

The University of Minnesota will achieve pollution prevention and waste abatement under the following guidelines. We will:

- Include the reduction of both hazardous and non-hazardous wastes and emissions at the source as a prime consideration in teaching, research, service and operations. The University is committed to identifying and implementing pollution prevention opportunities through encouragement and involvement of all students and employees.
- Give top priority to technologies and methods which substitute nonhazardous materials and utilize other source reduction approaches in addressing all environmental issues.
- Vigorously pursue waste abatement programs such as recycling, reuse, and purchase of recycled materials to reduce the need for disposal of waste that cannot be reduced at the source.
- Encourage pollution prevention and waste abatement through changes in purchasing policies and specifications.

The University of Minnesota seeks to demonstrate its leadership role in the State of Minnesota by aggressively adhering to all environmental regulations. We promote cooperation and coordination among higher education, industry, government, and the public toward the shared goals of preventing pollution and abating waste.

Therefore, be it resolved, that the Board of Regents directs the President to establish effective pollution prevention programs and to develop policies, plans and resources to achieve that goal.

3. **Pollution Prevention Activities During the Fiscal Year**
Describe activities undertaken to prevent pollution and hazardous waste generated by agency or department (July 1994 - June 1995). Agencies may also note other relevant ongoing activities. (Use additional sheets as appropriate)

The University of Minnesota Waste Abatement Committee is the central University committee coordinating activities in the area of pollution prevention and waste abatement (hazardous or toxic waste reduction, low level radioactive waste reduction, solid waste reduction, and energy use reduction). The committee is currently chaired by Dee McManus, Executive Assistant, University Services. Some items coordinated by, or reported to, the committee include the following:

- **Programs implemented in the past fiscal year:**

  - The University of Minnesota Integrated Waste Management Facility celebrated its opening with a dedication ceremony and open house on March 21, 1995. The IWMF is the central University facility for redistribution and recycling of hazardous chemicals. The IWMF is managed by the Department of Environmental Health and Safety.

  - Facilities Management and University Services (purchasing department) initiated syringe hard case (polypropylene) recycling

  - Facilities Management and University Services initiated plastic bottle (#1, #2, #5) recycling

  - Facilities Management and University Services initiated scientific catalog recycling

  - The School of Public Health reduced its annual hazardous waste generation by eighty (80) percent (a reduction of 80 kilograms annually). The solvent waste was reduced through product substitution (biodegradable scintillation cocktails for flammable cocktails (Wattenberg, Gross)), supercritical fluid extraction to save solvents (Swackhammer), capillary electrophoresis, which requires only 1 percent of the solvents of old units (Gross), and distillation of solvents for recycle (Gross).

  - The Department of Chemical Engineering, Duluth Campus, reduced the amount of hazardous waste from one teaching lab experiment by 12 percent per student. (Reduction occurred through modification of an azeotrope experiment (n-propanol and water).) The department also specifies digital thermometers, instead of mercury thermometers, when purchasing new temperature monitoring equipment for research or student experiments.

  - Environmental Health and Safety and the Waste Abatement Committee distributed notices on how to reduce amount of junk mail received by University departments

- **Programs previously implemented:**

  - Chemical source reduction: Implemented University wide, with significant success in the Department of Chemistry - Twin Cities and Department of Chemistry - Duluth. Reduction in hazardous waste from Chemistry teaching laboratories on the Twin Cities Campus alone is 6000 kilogram per year.

  - Chemical process modification: Implemented University wide with significant, but often undocumented, success. Examples include microscale chemistry, automation, supercritical fluid extraction, solid phase extraction, recovery of paint thinners and solvents from art departments - Duluth Campus, etc.

- Chemical product substitution: Implemented University wide. Examples include biodegradable scintillation cocktails instead of flammable cocktails, 6,280 kilograms reduction annually, dialysis machine sterilizer, 1,300 kilogram reduction annually, non-mercury thermometers, etc.

- Chemical redistribution: Environmental Health and Safety redistributed 1,554 kilograms of chemicals in 1994, saving the University $48,453

- The University of Minnesota recycled, reduced, or redistributed a total of 179,000 kilograms of hazardous chemicals in 1994 (includes: documented source reduction - 29,000 kg, chemical redistribution - 1550 kg, fluorescent light recycling - 39,800 kg, distillation of solvents for recovery - 5,100 kg, photofixer for silver recovery - 49, 400 kg, recycled metallic mercury - 415 kg, recycled parts washer solvent - 2,200 kg, recycled ethylene glycol - 300 kg, recycled oil - 29,700 kg, recycled oil filters - 1,970 kg, recycled lead-acid batteries - 7,600, fuel blending solvents for heat recovery - 9,900, paints blended for heat recovery - 7,300 kg, etc.)

- Reduction in mercury use and or disposal, e.g. University Services - Storehouse no longer sells mercury thermometers

- Laboratory glassware redistribution: Environmental Health and Safety redistributed $72,500 worth of glassware in 1994, which included 1,452 glass reusable syringes (valued at $48,400) in a University of Minnesota clinical blood study in Vietnam. (Environmental Health and Safety has recycled over 10,000 surplus syringes)

- Solid waste and debris recycling: Facilities Management recycled or recovered 31 percent, or 3,117,000 kilograms, of the solid waste and debris generated by the University of Minnesota Twin Cities Campus in 1994

- In 1994 and 1995 Environmental Health and Safety continued to operate the Chemical Safety Day Program (CSDP), which collects hazardous waste from State schools and governmental agencies. Chemicals suitable for redistribution are given to laboratories in the University system and the schools and governmental agencies are given a price break on these chemicals

- The University recycled 136 kilograms of Freon in 1994 (Facilities Management)

- **Pollution prevention opportunities researched in the past fiscal year:**

  - Reduction in mercury use (on-going research). In particular, a review of mercury usage and disposal in the School of Dentistry was performed by Environmental Health and Safety, in cooperation with the Metropolitan Council Environmental Services and the Minnesota Technical Assistance Program. Also, a review was made of which departments on the Minneapolis Campus disposed of mercury compounds in the past year through the hazardous waste program. (Environmental Health and Safety, University Services, Minnesota Technical Assistant Program, Facilities Management, Dental School, and University Hospital)

  - How to increase paper recycling. Information was distributed at product fairs and in newsletters. Flyers printed on paper unsuitable for recycling were sent back to the sender, along with a request from the University to use papers suitable for recycling. (Waste Abatement Committee, Facilities Management, and Environmental Health and Safety)

- Reducing water usage. Baseline data on the issue is being collected at this time. (Waste Abatement Committee and Facilities Management)

- Reducing campus mail volume. Campus mail volumes continue to increase, in spite of increased use in electronic mail. The largest generator of campus mail is Morrill Hall. (Waste Abatement Committee, University Services, and Campus Mail)

- Reducing food waste. A preliminary review of food waste generation and water usage in Food Service areas was completed. Opportunities researched include changes in eating utensils, cups, and plates, food recycling as livestock feed, food composting, and biodegradable plasticware. (Waste Abatement Committee and Food Services)

- Minnesota Waste Wise Program - Minnesota Chamber of Commerce . Opportunities for University departments to participate in the MN Waste Wise Program were reviewed by the Waste Abatement Committee. Minnesota Waste Wise is a program designed to help businesses reduce waste. At this time, it was decided that University departments would be best served by contacting the Minnesota Chamber of Commerce directly about enrolling in the program. Information about the MN Waste Wise Program will be distributed in the September 1995 release of the University of Minnesota Hazardous Chemical Waste Management Guidebook.

- Reducing solid waste generation (Facilities Management and Waste Abatement Committee)

- URI Carpet Recycling program was researched (Facilities Management and Waste Abatement Committee)

- **Awards received:**

  - 1995 Minnesota Government Reaching Environmental Achievements Together (MN GREAT) Award from the Office of Environmental Assistance and Governor Arne Carlson to the Waste Abatement Committee for efforts to prevent pollution

  - 1995 MN GREAT Award from the Office of Environmental Assistance and Governor Arne Carlson to the Department of University Services for efforts to reduce pollution through purchasing controls

  - 1995 MN GREAT Award from the Office of Environmental Assistance and Governor Arne Carlson to the Department of Art and Department of Environmental Health and Safety - Duluth for their efforts to reduce waste solvent generation by the art department

  - 1995 - Seven Wonders of Engineering Award by the Minnesota Society of Professional Engineers for the Integrated Waste Management Facility

  - 1994 National Award of Recognition from the National Safety Council to Environmental Health and Safety for development of After Hours Emergency Response Program

  - 1994 Blue Ribbon Award from the American Conference of Governmental Industrial Hygienists for graduate student, Patricia Reinke, School of Public Health, for her model, Predicting Air Concentrations Following Indoor Chemical Spills

  - 1993 Minnesota Governor's Award for Excellence in Pollution Prevention, awarded to the Department of Chemistry and the Department of Environmental Health and Safety

- 1992 Cited as a Leader in Waste Minimization by the American Chemical Society, Department of Environmental Health and Safety

- 1985 Minnesota Governor's Award for Excellence in Hazardous Waste Management, University Chemical Waste Program

- **Distinctions/unique pollution prevention accomplishments in the past fiscal year:**

  - *Prudent Practices in the Laboratory: Handling and Disposal of Chemicals*, National Academy of Science - National Research Council, will be published in September 1995. A major theme of the book is pollution prevention. It is the world standard for safe use of chemicals in laboratories and is referenced in the OSHA 1910.1450 Laboratory Safety Standard. The pollution prevention and hazardous waste management sections were drafted by Fay Thompson, Director, Environmental Health and Safety, and the mixed waste (chemical and radioactive) section was drafted by Bruce Backus, Assistant Director, Environmental Health and Safety.

  - The Department of Environmental Health and Safety hosted a delegation from Egypt, on June 6, 1995, to discuss implementation of pollution prevention programs in large institutions. The meeting was organized through the Environmental Pollution Prevention Project (EP3), which is funded by the U.S. Agency for International Development (USAID), and the Waste Reduction Institute.

  - The Minnesota Technical Assistance Program (MnTAP), established by the Office of Environmental Assistance and located in the Department of Environmental and Occupational Health, in the School of Public Health at the University of Minnesota, celebrated its 10 year celebration with an open house on June 6, 1995. MnTAP's mission is to provide technical assistance in the areas of industrial and solid waste management and pollution prevention to Minnesota's manufacturing and service industries

- **Pollution prevention education in the past fiscal year:**

  - Over 300 faculty, staff, and students were trained in pollution prevention and hazardous waste management by the Department of Environmental Health and Safety in the past fiscal year

  - The Department of Environmental Health and Safety developed fact sheets, in September 1994, on regulations which require training of employees. A separate fact sheet on pollution prevention and the Governor's Executive Order was distributed to all deans, directors, department heads, and safety officers

  - The University of Minnesota offered 477 courses on the environment in 1994 - 1995; several of the courses deal directly with pollution prevention. (The University offered 440 courses on the environment in 1993 - 1994 and 358 in 1992 - 1993.) For more information on these courses, contact Margaret R. Wolfe, Center for Urban and Regional Affairs, at (612) 625-6324.

  - The Department of Environmental Health and Safety and the Waste Abatement Committee displayed information on pollution prevention activities at the University of Minnesota at Environmental Fairs on the Minneapolis and St. Paul Campuses, April 19 - 20, 1995.

  - Information on pollution prevention (through brochures, product and environmental fairs, newsletters, catalogs, etc.) was given to hundreds of staff and students by the Department of

Environmental Health and Safety, University Services, and the Department of Facilities Management (Solid Waste Division)

- MnTAP provides technical assistance to Minnesota businesses through the following services: 1) telephone assistance, 2) site visits, 3) intern programs, 4) presentations and workshops, 5) technical publications, 6) library, and 7) materials exchange. MnTAP averages 150 calls per month and MnTAP staff visited 280 sites in 1993 and 1994

4. **Actions to Integrate Pollution Prevention Into Regulatory and Policy Activities**
Describe efforts by agency or department to integrate pollution prevention into regulatory and policy activities (July 1994 - June 1995). Agencies may also note other relevant ongoing activities.
(Use additional sheets as appropriate)

- The Regents of the University of Minnesota Policy on Pollution Prevention and Waste Abatement was approved on June 11, 1992.

- The *University of Minnesota Hazardous Chemical Waste Management Guidebook,* 4th Edition, guidance and procedure document on hazardous waste management at the University of Minnesota, devotes an entire chapter to pollution prevention techniques.

- The Department of Environmental Health and Safety developed fact sheets, in September 1994, on regulations which require training of employees. A separate fact sheet on pollution prevention and the Governor's Executive Order was distributed to all deans, directors, department heads, and safety officers, to alert them to their responsibility under the Executive Order.

- At the Provost level, the University of Minnesota is developing roles, responsibilities, and requirements matrices, which clearly define who is responsible for different functions within the University system. The Environmental Health and Safety function/responsibility matrix was approved by President Nils Hasselmo on January 10, 1995, and it includes developing waste reduction techniques resource information, for use by all levels of University staff.

5. **Incorporation of Pollution Prevention Into Procurement Activities**
Describe efforts to investigate opportunities to encourage pollution prevention through agency/department purchasing policies and specifications (July 1994 - June 1995). Agencies may also note other relevant ongoing activities.
(Use additional sheets as appropriate)

Implemented in the past fiscal year:

- Request for proposals and presentations by companies interested in becoming a chemical prime vendor for the University of Minnesota are complete. The contract will be issued in September 1995. The contract will require that vendors supply monthly sales data on the type, amount, and shipping address, of hazardous chemicals, so that the University can track chemicals delivered on campus. This will allow the University to better implement pollution prevention programs, by targeting large consumers of hazardous or toxic chemicals for reduction in usage.

- Dee McManus and Lynn Hein, University Services, made presentations at the Workshop on Environmentally Responsible Purchasing for Minnesota Public Agencies, December 7 and 15, 1994, in St. Cloud and St. Paul. Their presentations were extremely well received.

Approximately three hundred purchasing staff for state and local governmental agencies attended the workshops.

- University Services hosted a "Lab Fest" on April 27, 1995, where vendors displayed their laboratory equipment to University staff. Several of the technical presentations were on non-hazardous product substitutions for radioactive materials and toxic chemicals. A quiz on "Are you a Lab Pollution Preventor?" was distributed by University Services , along with materials on the Waste Abatement Committee, the Integrated Waste Management Facility, and redistribution of chemicals, distributed by the Department of Environmental Health and Safety. Over 1,000 University staff attended the "Lab Fest 95."

- University Services newsletter contained information on pollution prevention throughout the year

- University Services worked closely with the Department of Environmental Health and Safety to explore pollution prevention opportunities throughout the past fiscal year

- University Services received the 1995 Minnesota Government Reaching Environmental Achievements Together (MN GREAT) Award from the Office of Environmental Assistance and Governor Arne Carlson for its efforts to reduce pollution through purchasing controls

Previously implemented activities:

- The front page of University Services "University Stores Catalog" outline's Governor's Executive Order 91-17.

- The catalog notes that University Stores now stocks reagents in smaller quantity containers, so people can order only what they need for an experiment or cleaning process. This reduces the amount of surplus chemicals shipped out as waste.

- The University Stores now offers next day delivery on many stock items, so laboratories and service departments no longer need to order large quantities to avoid work or service disruptions. This reduces the amount of surplus chemicals shipped out as waste.

- Mercury thermometers in the -20 to 110 C range are no longer sold through University Stores. An alternate, non-mercury thermometer is now offered.

- Reusable/remanufactured toner cartridges are on sale through University Stores. A student study on refilled toner cartridges found that they were cheaper ($44 versus $80) and that they work better (failure rate is greater on new cartridges). Hewlett Packard and Canon now honor service guarantees on machines using refilled cartridges, providing they are refilled at certified companies.

- The University Purchasing Department complies with State Agency requirements for the purchase of materials containing post-consumer waste.

6. **Planned Pollution Prevention Activities**
Summarize agency or department plans for pollution prevention activities for at least the next fiscal year (July 1994 - June 1995). Include key contacts and telephone numbers for projected activities.
(Use additional sheets as appropriate)

The University of Minnesota will continue the following:

- Waste Abatement Committee activities. Contact: Dee McManus, (612) 625-6545
- Chemical Redistribution Program. Contact: Bruce Backus, (612) 626-7744
- Laboratory Glassware Redistribution Program. Contact: Bruce Backus, (612) 626-7744
- Researching pollution prevention opportunities. Contact: Bruce Backus, (612) 626-7744, and Dee McManus, (612) 625-6545

The University of Minnesota Waste Abatement Committee will continue to research the following for pollution prevention opportunities (Contact: Dee McManus, (612) 625-6545):

- Reducing mercury use
- Increasing paper recycling
- Reducing water usage
- Reducing campus mail volume
- Reducing food waste
- Reducing solid waste generation
- Reducing hazardous and toxic chemical waste or emissions generation
- Reducing radioactive or infectious waste generation

7. **Estimated Benefits**
Estimate environmental and economic benefits which have resulted from agency's or department's pollution prevention activities.
(Use additional sheets as appropriate)

- Chemical Redistribution 1994: 1554 kilograms, $48,450 savings
- Laboratory Glassware Redistribution 1994: $72,500 savings
- Documented Source Reduction 1994: 29,161 kilograms, $258,000 savings
(Does not include amounts reduced through source reduction in the Departments of Chemistry at Duluth, Morris, and Crookston, nor other undocumented University source reduction.)

Total estimated reduction: 30,715 kilograms
Total estimated cost savings: $378,950

8. **Areas of Needed Assistance**
Highlight areas in which additional pollution prevention assistance is needed by agency or department.

- Continued sponsorship of award programs, like the MN GREAT awards. The awards generate an excitement about pollution prevention and provide needed recognition for staff who work hard in this endeavor
- Technical Assistance - continued Office of Environmental Assistance sponsorship of workshops on pollution prevention topics that will benefit the University of Minnesota's diverse structure
- Financial - grants to research the implementation of selected pollution prevention programs

9. **Key Pollution Prevention Contacts and Resources**
Describe areas in which agency or department can assist other state agencies or departments in preventing pollution. Include contact names and telephone numbers.

Bruce Backus, Assistant Director
Department of Environmental Health and Safety
612-626-7744
Subjects: University of Minnesota Pollution Prevention Program
Chemical Redistribution Programs
Chemical Spill Response
University of Minnesota Waste Abatement Committee

Dana Donatucci, Associate Administrator
Facilities Management
612-624-8507
Subject: Solid Waste Recycling

Dianne Dorland, Associate Professor and Head
Chemical Engineering Department - Duluth Campus
218-726-7126
Subjects: Pollution Prevention in Chemical Engineering Curricula
Chemical Engineering Student Interns for Industry
Pollution Prevention in Chemical Engineering Teaching Laboratories

Mahjoub Labyad, Environmental Health Specialist
Department of Environmental Health and Safety - Duluth Campus
218-726-7273
Subjects: Small Campus Pollution Prevention Programs
Duluth Campus Chemical Management Advisory Committee

Kent Mann, Professor
Department of Chemistry
612-625-3563
Subject: Pollution Prevention in Undergraduate Chemistry Teaching Laboratories

Cindy McComas, Director
Minnesota Technical Assistance Program
612-627-4555
Subjects: Pollution Prevention Technical Assistance

Dee McManus, Executive Assistant
University Services
612-625-6545
Subjects: University of Minnesota Waste Abatement Committee, Chairperson
Pollution prevention in purchasing activities
Developing interdepartmental laboratory product review committees
Developing and sponsoring science vendor trade shows

Andy Phelan, Environmental Health Specialist
Department of Environmental Health and Safety
612-624-9613
Subject: Chemical Spill Response

Fay Thompson, Director
Department of Environmental Health and Safety
612-626-3676
Subjects: University of Minnesota Waste Abatement Committee
Administrative Support for Pollution Prevention Activities
Interdepartmental Support for Pollution Prevention Activities
University Research and Curricula on Environmental Issues
National Academy of Science and National Research Council Rewrite of *Prudent Practices in the Laboratory: Handling and Disposal of Chemicals*

Margaret R. Wolfe
Humphrey Institute Center for Urban and Regional Affairs
612-625-6324
Subjects: University Student Environmental Audit Research (U-SEARCH)
University Environmental Events Calendar
"Courses on the Environment. A Student Guide to University of Minnesota Courses on Environmental Issues on the Twin Cities Campus, 1994 - 1995"

10. Signature of Agency or Department Head

Nils Hasselmo
Name of Agency Head

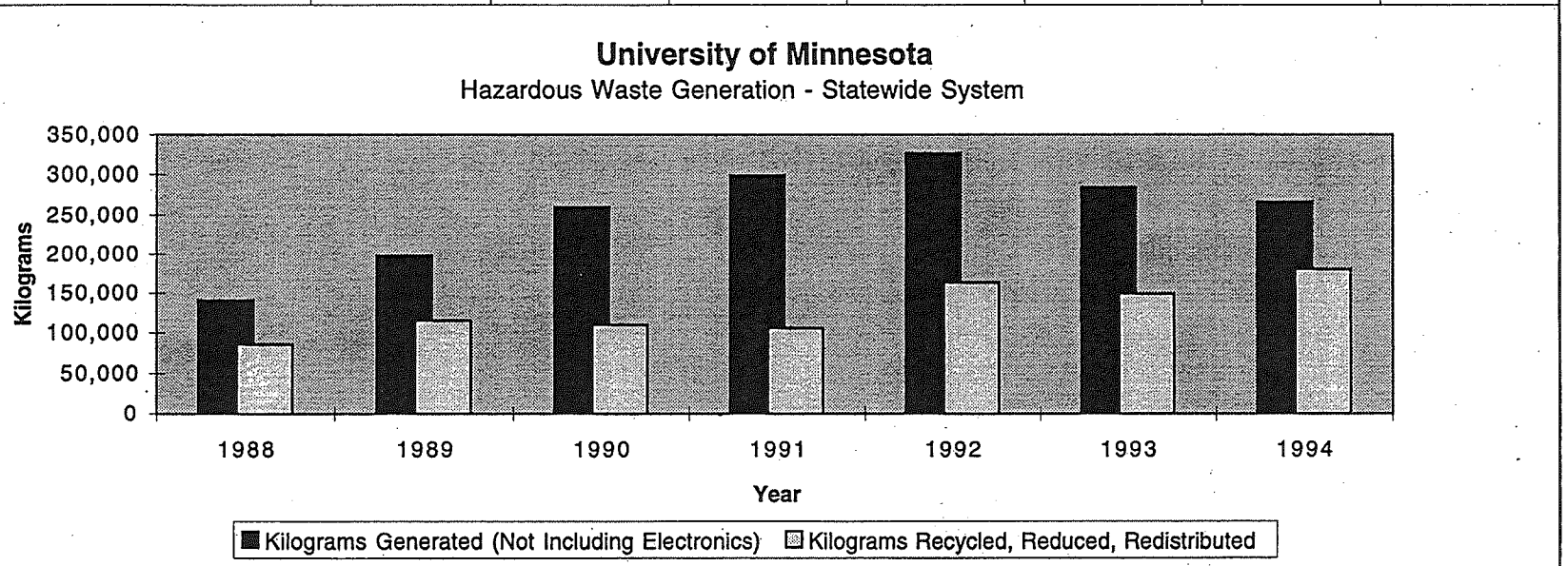
President, University of Minnesota
Title of Agency Head

Nils Hasselmo 7/13/95
Signature of Agency Head Date

The University of Minnesota is an equal opportunity educator and employer. To request this publication in alternative formats, please contact Bruce Backus at (612) 626-7744.

Contains a minimum of 20% postconsumer waste.

University of Minnesota - Hazardous Waste Generation							
Department of Environmental Health and Safety							
26-Jun-95							
Year	1988	1989	1990	1991	1992	1993	1994
Kilograms - Total Generated (Not Including Electronics)	140,891	197,159	260,065	298,142	326,092	283,887	265,609
Kilograms - Recycled, Source Reduced, and Redistributed (Not Including Electronics)	85,437	114,586	109,262	105,413	162,766	148,484	179,248
Percentage Waste Minimization (Not Including Electronics)	61	58	42	35	50	52	67
Kilograms - Total Generated (Including electronics - all electronics are recycled)	140,891	197,159	260,065	327,042	381,452	345,067	265,609



In 1994, there was a change in how electronics are reported; only scrap circuit boards are reported, instead of boards plus board containing equip.

University of Minnesota
Department Environmental Health and Safety
1-Jul-95

Chemical Redistribution			Documented Source Reduction		Laboratory Glassware Redistribution		
Year	kg Redistribute	Dollars Saved	kg Reduced	Dollars Saved	kg redistrib.	Dollars Saved	Total $ Saved
1989	1,702	$43,436	1,800	$17,784			$61,220
1990	2,567	$51,194	2,860	$28,257			$79,450
1991	1,608	$61,650	11,668	$115,280		$14,000	$190,930
1992	1,679	$64,738	23,442	$231,607			$296,345
1993	1,557	$55,354	23,868	$235,816		$3,740	$294,910
1994	1,553	$48,453	23,961	$257,926		$72,500	$378,879

Waste Abatement is:

First and foremost, a commitment to conserve resources. Conservation takes many forms:

Source Reduction

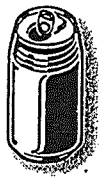
The highest goal–reducing waste at the source. Waste that is not generated does not have to be recycled, treated or disposed. Raw materials are saved.

Re-use

Replacing disposable, single-use items with reusable ones (cups, plates, silverware, etc.) saves on raw materials and reduces the volume of waste going to incineration or landfill.

Recycling

Recovering usable material from waste reduces the amount of raw materials needed. Aluminum, paper, glass and many other materials are recyclable.

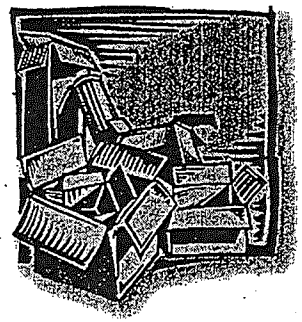


Purchasing practices

Buying products made from recycled materials assures that recycling markets exist. Purchasing and University Stores encourage the use of recycled materials by stocking these products at competitive prices.

For more information, contact:

Waste Abatement Committee, Dee McManus, Chair	625-6545
Environmental Health and Safety	626-6216
Recycling - general	625-8084
Recycling - chemical	626-1859
Purchasing, Lab Services	626-1813
Pollution Prevention Program	626-7744
University Stores	624-6543



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Printed on recycled paper
April 1995

Waste Abatement

at the University of Minnesota

Conserving resources for the future

The Waste Abatement Committee:

The Waste Abatement Committee has been active since 1989, serving an oversight function for a wide variety of departmental activities. Many waste abatement activities have been successful because of the involvement of the diverse membership of this committee. Departments and programs represented include:

- Campus Master Planning
- Chemistry
- Center for Urban and Regional Affairs
- Environmental Health and Safety
- Facilities Management
- Housing and Food Services
- Minnesota Extension Service
- Minnesota Technical Assistance Program
- Purchasing
- Student Body
- Support Services
- University Hospitals
- University Stores

The Waste Abatement Committee received a 1995 MN-GREAT! award from the Minnesota Office of Environmental Assistance for its contributions to reducing waste at the source.

The Waste Abatement Committee always welcomes new ideas and new members. For information on meeting schedules, contact Rich Straumann at 626-6216 or e-mail him at: *strau003@maroon.tc.umn.edu*

What We've Done

Purchasing

- Approximately 50% of the University paper purchases are of recycled content. This represents 180,000 reams of copy paper per year and the usage continues to grow.
- Many of the recycled paper products purchased represent 100% of the total purchases.
- Many nontoxic, non-hazardous, biodegradable substitute products for laboratories are available through University Stores. These include: scintillation "cocktails," lab glass cleaner, lab detergents, and non-mercury thermometers.
- Smaller sizes of hazardous chemicals are available and encouraged.
- Remanufactured toner cartridges represent 30% of all toner cartridge purchases on campus.

Recycling

- The Quad system, which collects cans, bottles, office paper and newspaper throughout campus has recycled over 2200 tons of waste.
- Over 1,000 tons of high grade office paper are recycled annually.
- UMD Art department reduced its solvent disposal from 60 gallons per year through in-house recycling. Spent solvent is collected and left to settle (self clean). This has resulted in reduction of 182 kg of waste solvent annually.

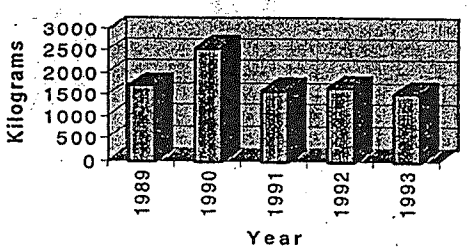
Re-Use

- The statewide University chemical redistribution program, redistributed 1,556 kg of chemicals in 1993.
- Used furniture and lab equipment are available through Recycling's electronic bulletin board on Gopher.
- Construction materials from demolished parking ramps have been 100% recycled– there were 15,000 tons of concrete and 594 tons of steel in 1993.
- Styrofoam containers for frozen biologicals are recycled and reused through University Stores.

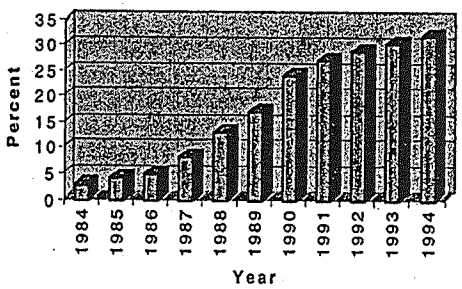
Reduce

- Chemistry Departments of the Twin Cities Campus and UMD have both redesigned lab experiments to reduce and deactivate hazardous wastes. Savings in disposal costs approximate $35,000 annually at the Twin Cities campus alone.
- Hazardous Waste generation is reduced by departments which implement product substitution process modification. This includes: Surgical Pathology's use of distillation to recover xylene in the histology lab, use of filtration products to concentrate ethidium bromide from solutions, and removal of toluene based scintillation cocktails for purchase at University Stores.

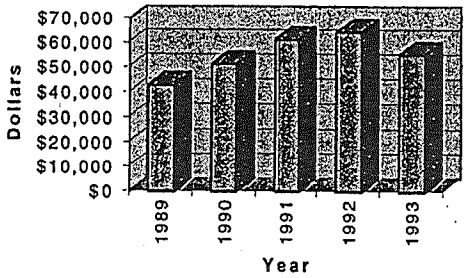
Kilograms of Chemicals Redistributed



Percent of Solid Waste Recycled or Recovered



Dollars Saved Through Avoided Chemical Purchase and Disposal Costs



The Road Ahead

Much remains to be done. We are still using more of our basic resources than we really need, and some hazardous material use can still be reduced or almost completely eliminated. Further progress will require creative ways of eliminating, reducing, reusing or recycling much of the waste that is still being produced. Some examples:

- ***Water Usage***
  The quantity of water used for food waste disposal could be significantly reduced by changing disposal practices.
- ***Food Waste***
  With 15 million people using various food services annually, food waste will be produced. Methods to capture the nutritional value of food waste need to be explored.
- ***General Paper Recycling***
  Although high grade office paper and newspaper are presently recycled, much paper is still going to incinceration. For example, the University receives an estimated 80 tons of catalogs each year. A program to reduce and capture that paper needs to be developed.
- ***Campus Mail Volume***
  Although electronic mail use at the University has increased greatly, Campus Mail volume has not decreased. This area needs work.
- ***Mercury Use Reduction***
  Mercury is a particularly problematic environmental issue. A concentrated effort to reduce mercury use in laboratories, hospitals and clinics, and operations must be undertaken.

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MINNEAPOLIS MN 55414-9923

Are part of your profits being diverted. . . ?

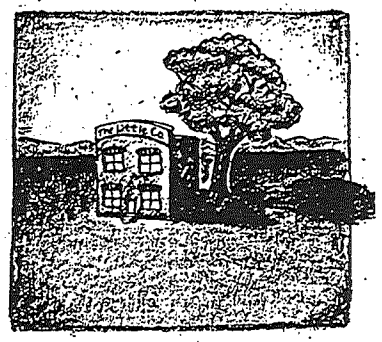
Look up the stack, down the drain, and out in the trash bin. What you find there could be costing you money in raw materials, waste management, regulatory compliance, and liability.

Don't let pollution and waste make you less profitable. Explore how pollution prevention and proper waste management can enhance your bottomline — and help the environment.

Minnesota Technical Assistance Program
1313 Fifth St SE Suite 207
Minneapolis MN 55414-4504

MN TAP

This publication is available in alternative formats by request. Please contact us.

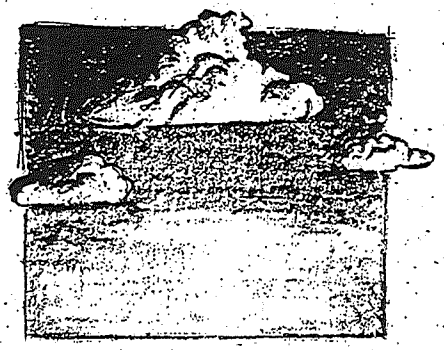


MN TAP

Minnesota Technical Assistance Program.

Helping businesses prevent pollution and properly manage waste.

Exploring new territories isn't always easy. To implement waste-related initiatives, you've got to know the options. Find the resources. Convince management. And get started. The Minnesota Technical Assistance Program (MnTAP) can assist businesses with all of these challenges.



Printed on 100% post-consumer recycled paper with soy-based inks.

Minnesota Technical Assistance Program

As a nonregulatory program, MnTAP assists Minnesota businesses in identifying and implementing options to prevent waste generation and manage waste properly. Because MnTAP is supported with industry fees, services are provided at no charge.

Services

Telephone Assistance

MnTAP staff can answer questions about pollution prevention and waste management over the telephone. Answers may be in the form of suggestions from staff, mailed publications, MnTAP follow-up research or referrals.

Site Visits

Seeing a business' operation helps MnTAP staff suggest solutions. A site visit enables staff to offer new insights on environmental and waste issues, and alternatives to help companies take action.

Student Intern Program

An engineering or chemistry intern works in a company for approximately 12 weeks to learn the processes that generate wastes and to help identify pollution prevention opportunities.

Resource Materials

The MnTAP clearinghouse and library make it easy to find information on up-to-date methods for preventing and properly managing waste. Resources – data bases to MnTAP's quarterly newsletter – provide information on appropriate technologies and practices.

Seminars and Workshops

MnTAP sponsors workshops and seminars on various pollution prevention and waste management topics. Topics may be industry specific or on general pollution prevention information.

Material Exchange

As part of a national network, MnTAP's materials exchange puts businesses in touch with each other to make one company's waste another company's raw material.

MnTAP is supported with a grant from the Minnesota Office of Environmental Assistance to the School of Public Health, Division of Environmental and Occupational Health, at the University of Minnesota. The University of Minnesota is an equal opportunity educator and employer.

Return the information form or give MnTAP a call at 612/627-4646. From greater Minnesota, call us toll-free at 800/247-0015.

For MnTAP Information

☐ I would like assistance with identifying pollution prevention and waste management options. Please call me.

☐ Place me on MnTAP's information mailing-list to receive the *SOURCE* newsletter.

Name

Company

Address

City, State, Zip

Telephone

Type of business or SIC code

Type of waste or emission

UNIVERSITY OF MINNESOTA
Environmental Health and Safety
Phone: (612) 626-6002 *FAX: (612) 624-1949*

TRAINING FACT SHEET
WASTE MINIMIZATION/POLLUTION PREVENTION
Governor's Executive Order

Regulation:

Minnesota Rules 7045.0558, 7045.0588 Subp. 2.H., and Minnesota Governor's Executive Order 91-17

Who is covered:

- Any person who works with toxic or hazardous chemicals
- Any person who supervises employees or students who work with toxic or hazardous chemicals
- Anyone who trains others in proper management of toxic or hazardous chemicals
- Any person who operates an air emission device or process
- Any person who controls a program, process, or piece of equipment that releases chemicals to sanitary sewer or surface waters of the state of Minnesota

What training is relevant:

The following waste minimization topics will be most effective when included with Laboratory Standard, Employee Right-to-Know or Hazardous Waste training.

- How to review existing processes or experimental protocol for pollution prevention opportunities through substitution, modification, new methodologies, or discontinuation of activities
- Review protocol for new activities or processes, prior to the start of operation, to ensure minimum or no generation of toxic emissions or hazardous waste
- Purchasing techniques to promote or improve waste minimization
- How to inventory chemicals under your control
- Inventory control procedures for chemicals which promote waste minimization
- Source reduction techniques - process modification, product substitution
- Process for segregating and characterizing waste streams
- Chemicals redistribution program use (both inter- and intra-department)
- Procedures for reclamation of metals, solvents, CFC's, etc.
- Treatment in container requirements
- Location of assistance and documents on pollution prevention
- Filing annual "Record of Pollution Prevention Efforts" form every January with the Department of Environmental Health and Safety (copies of forms available by calling (612) 626-7744)

When training is required:

- Initial training, prior to employee working with chemicals
- Annual update training

Recordkeeping requirements:

- Training records must be kept for three years after the termination of employment
- Employee or student name and job title
- Job description as related to hazardous waste
- Type and amount of introductory and annual training given to person filling this position
- Signed certification statement by employee and supervisor that training was given to the employee

Contact name and number:

For more information contact Bruce Backus, 612-626-7744, Assistant Director, Department of Environmental Health and Safety.

Post-it™ Fax Note 7671	Date 5/30	# of pages ▶ 2
To Bruce Backus	From Joel Schurke	
Co./Dept.	Co. WRITAR	
Phone # 626-7744	Phone # 379 5995	
Fax # 626-1571	Fax # 379 5996	

WRITAR

May 26, 1995

To:

From: Joel Schurke, WRITAR 2 pages

Thank you for taking the time to help us out with this effort. The attached agenda lays out the schedule for June 5 & 6. If you have any changes or corrections to make, please call me as soon as possible.

We are looking forward to an informal discussion with you regarding your efforts in implementing pollution prevention in your processes. A brief tour of those operations related to your pollution prevention efforts may more quickly help to communicate what was done and how it was accomplished.

If you have any questions please call either Terry Foecke or myself at 379-5995.

WASTE REDUCTION INSTITUTE

Overview of EP3

The Environmental Pollution Prevention Project (EP3), funded by the US Agency for International Development (USAID), started in Egypt about one year ago. When EP3 went to set up their program there, they chose to work with public/private organizations that already had field experience and industry connections in the area of audits and energy efficiency. One of the early stages was to train staff in those organizations in how to apply the lessons of energy auditing to pollution prevention work. Now that a number of pollution prevention opportunity assessments have been done, the focus has shifted to supporting implementation. The reason that we asked you to support us by allowing a site visit is that you have been through the struggles of implementation and can impart some "hard knocks" wisdom. Some of that wisdom might include the following notions:

√ That implementation takes more than just doing assessments
√ That business issues (market, capital, quality, productivity) have to be considered when doing implementation
√ That big equipment is not always the answer in pollution prevention
√ That pollution prevention can be a long-term, successful effort that saves money, sometimes in hard-to-define ways

One of your visitors is the Director of the EP3 Country Program Office. His job is to spend two or so years working with Egyptian organizations to prepare them to run their own pollution prevention program. The other three gentlemen are the Directors of three organizations that have been designated to eventually take that "hand-off." These Directors have engineering and program direction experience, and experience with energy issues as mentioned. However, they also may be a little naive about pollution prevention (it was their staff that were trained in the first round effort, not them personally), which is why they are on this trip: to learn more about pollution prevention and how it really gets done. Anything that you can do to help them with this learning experience is greatly appreciated.

Thank you for taking the time to help us out with this effort.

1313 5TH STREET SE MINNEAPOLIS, MN. 55414-4502
612.379.5995 FAX 612.379.5996

AGENDA

"Implementation of Innovations: Success Stories in the Field"

An Intensive Two-day Workshop on Pollution Prevention

Date: 5-6 June 1995
Time: 8:00 am - 6:00 pm
Location: On-site

Pollution prevention opportunity assessments are only the first step in securing success in pollution prevention. Organizations have recognized the cumulative value of many changes, small and large, that eventually sum up as costs savings with environmental protection. This workshop will be an intensive two-day opportunity to meet with industry leaders in this field and hear directly from them how and why pollution prevention has become part of their overall business strategy. Each site visit will be complemented by a facilitated discussion of the principles illustrated and supporting materials.

DAY 1 - Monday, June 5

Discussion	8:00 - 9:00 am	Introduction/overview - Conference Room, (Gale Island)
Travel to site	9:00 - 9:30 am	Holiday Inn West - Continental breakfast
Site Visit	9:30 - 11:30 am	***Smith Foundry,*** Neil Ahlstrom, President Focus: Cooperative agreements between business and community regarding pollution prevention
LUNCH	11:30 am - 12:30 pm	
Site Visit	1:00 - 3:00 pm	***Roberts Automatic Products,*** Ron Olberg, Vice President, Engineering Focus: energy use reduction and pollution prevention in machine tooling operations
Travel to site	3:00 - 3:30 pm	
Site Visit	3:30 - 5:00 pm	***University of Minnesota,*** Bruce Backus, Assistant Director, Environmental Health & Safety and Hazardous Waste Officer Focus: integration of pollution prevention within the operation of a major educational institution
Return to hotel by 5:30 pm		

DAY 2 - Tuesday, June 6

Travel to site	7:30 am	Meet promptly at 7:30 am in lobby of Holiday Inn West
Site Visit	8:00 - 9:45 am	***The John Roberts Co.,*** Jeff Adrian, Environmental Safety Director Focus: Solvents use reduction in printing operations
Travel to site	9:45 - 10:00 am	
Site Visit	10:00 - 11:45 am	***Tennant Company,*** Peg Grogan, Corporate Environmental Specialist John Kaczrowski, Paint & Welding Manager Jim Hawkinson, Facility Maintenance Manager Focus: Solvents use reduction in metal painting and fabricating operations
Travel to site		
Lunch on the way	11:45 - 1:15 pm	
Site visit	1:15 - 4:00 pm	***3M Company, Tape Manufacturing Division,*** Martin Rubischko/Mike Bennett/Patti Kirchoff Hutchinson, MN. Focus: Solid waste reduction and resulting savings, long-term approaches to materials use
Close-out Dinner	6:00 pm	

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Development Research & Technological Planning Center
DRTPC

Prof. SAMER L. A. ELHAW
Executive Director-Energy Conservation & Environment Project
Professor-Faculty of Engineering

Tel. : 5733864-5728811-5728532 Home : 3485363
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Prof. A. Amin Abdul Maguid
Executive Director

Energy Conservation & Environment Project

Tabbin Institute of Metallurgical Studies
6 El Gezira El Wosta Street
Zamalek, Cairo , Egypt
Tel. : 3411256 Fax : 340-3674

RCG/Hagler, Bailly, Inc.
Energy Conservation & Environmental Protection Project (ECEP)
Environmental Pollution Prevention Project (EP3)

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RCG/HBI - Resident Project Director
U.S. Chief of Party

20 - A El Mansour Mohamed St., Apt # 3, Zamalek , Cairo 11211, Egypt
Tel : 340 - 9365 , 341 - 7595 - Fax : 340 - 9343 - Home : 340 - 1360

Mohamed Kamal
Executive Director

Energy Conservation & Environment Project

Federation Of Egyptian Industries

6 El Gezira El Wosta Street
Zamalek, Cairo , Egypt
Tel. : 3411256 Fax : 340-3674 R : 3529129

11. In order that this Pollution Prevention Summary Report may be more usable to others, please note the pages in the report on which the following topics are discussed.

Index:	Pages(s)
Alternate fuels	-
Antifreeze	5
Automotive	5
Bio-remediation	-
CFCs	5
Chemical redistribution	5, 10, 11
Clean Air Act	-
Cleaning	-
Contracts	8, 9, 12
Curriculum	7, 11, 12
Education	7, 11, 12
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Fluorescent bulbs	5
Fuel sorbants	-
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General planning	4
Hazardous materials	4 to 12
Hazardous waste	4 to 12
Industrial waste	7
Interagency team	5
Laboratories	4 to 12
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Linens	-
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On-site assistance	7, 8
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Pesticide application	-
Pesticide containers	-
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Stormwater	-
Student interns	8, 11
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1,1,1-Trichloroethane	-
Vehicle maintenance	-
Video conferencing	-
Waste exchange	8
Wastewater	-
Wind energy	-
X-ray/silver recovery	5

Other topics:

ANNUAL STATE GOVERNMENT POLLUTION PREVENTION SUMMARY REPORT

1995

Fulfilling the requirements of Governor's Executive Order 91-17 Providing for the Implementation of Pollution Prevention by State Government

Submit by July 1, 1993 to:

Pollution Prevention in State Government
MN Office of Waste Management
1350 Energy Lane
St. Paul, MN 55108
Attn: Paul Moss

1. Agency: MN Board of Water and Soil Resources

Contact Name: Marybeth Block

Contact Address: One West Water Street, Suite 200

St. Paul, MN 55107

Contact Telephone: 612-297-7965

2. POLICY STATEMENT

The Minnesota Board of Water and Soil Resources is committed to excellence and leadership in protecting the environment. In keeping with this policy, our objective is to reduce waste and emissions. We strive to minimize adverse impact on the air, water and land through excellence in pollution prevention. By successfully preventing pollution at its source(s), we can achieve cost savings, increase operational efficiencies, improve the quality of our (products and) services to our clientele, and maintain a healthy work place for our employees.

3. **POLLUTION PREVENTION ACTIVITIES DURING THE FISCAL YEAR**
Describe activities undertaken to prevent pollution and hazardous waste generated by agency or department (July 1994 - June 1995).

The activities of the agency do not result in the generation of hazardous waste; consequently, no pollution prevention initiatives occurred during the past fiscal year.

The agency does promote water quality protection and soil conservation activities, and provides technical, administrative and financial assistance to local government units (e.g., counties, watershed districts, soil and water conservation districts, and watershed management organizations) to implement necessary programs to achieve pollution prevention. BWSR continued these on-going initiatives during the past fiscal year through its (1) Erosion, Sediment Control and Water Quality Cost-Share Program; (2) Reinvest In Minnesota (RIM) Reserve and Permanent Wetlands Preserves conservation easement programs; (3) Minnesota Forestry Improvement Program; (4) Local Water Resources Protection and Management Program; (5) Streambank, Lakeshore and Roadside Erosion Control Program; and (6) the interim program to implement the Wetland Conservation Act.

In addition, employees in the central office and in each of the seven regional offices participate in recycling efforts for newsprint, office waste paper, aluminum cans, batteries, and typewriter/printer cartridges.

4. **ACTIONS TO INTEGRATE POLLUTION PREVENTION INTO REGULATORY AND POLICY ACTIVITIES. Describe efforts by agency or department to integrate pollution prevention into regulatory and policy activities (July 1994 - June 1995).**

The Board provides guidance to local government units and is authorized to adopt and update local comprehensive water plans that are prepared by counties, watershed districts, and watershed management organizations. These plans often address non-point and point source water pollution prevention and abatement, and solid and hazardous waste recycling, disposal and containment policies.

5. **INCORPORATION OF POLLUTION PREVENTION INTO PROCUREMENT ACTIVITIES**
Describe efforts to investigate opportunities to encourage pollution prevention through agency/department purchasing policies and specifications (July 1994 -June 1995).

The Board follows the state's guidelines for procurement of all materials and supplies. Where existing vendor contracts do not exist, the Board routinely purchases items that are recycled/recyclable and printed with soy ink, whenever possible.

6. **PLANNED POLLUTION PREVENTION ACTIVITIES**
Summarize agency or department plans for pollution prevention activities for at least the next fiscal year (July 1994 - June 1995). Include key contacts and telephone numbers for projected activities.

The Board will continue to administer the pollution prevention programs identified in response #3 ("pollution prevention activities during the fiscal year").

7. **ESTIMATED BENEFITS**

Estimate environmental and economic benefits which have resulted from agency's or department's pollution prevention activities.

The Board has not implemented an "accounting system" to calculate or otherwise estimate the environmental and/or economic benefits resulting from its pollution prevention activities.

8. **AREAS OF NEEDED ASSISTANCE**

Highlight areas in which additional pollution prevention assistance is needed by agency or department.

At this time, the Board has not identified any areas of additional pollution prevention assistance that it requires.

9. **KEY POLLUTION PREVENTION CONTACTS AND RESOURCES**

Describe areas in which agency or department can assist other state agencies or departments in preventing pollution. Include contact names and telephone numbers.

For more information regarding the pollution prevention programs administered by the Board through local government units, please contact your nearest Board Conservationist (see below) or Marybeth Block (see agency contact, page 1).

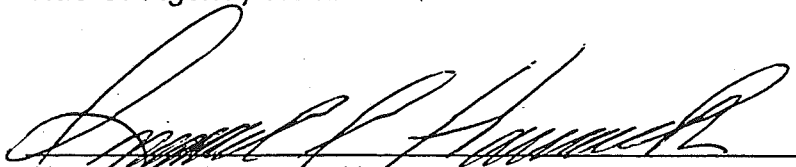
Field Offices of Board Conservationists:

Bemidji	(218) 755-4235	Marshall	(507) 537-6060
Brainerd	(218) 828-2383	New Ulm	(507) 359-6074
Duluth	(218) 723-4752	Rochester	(507) 285-7458
Metro	(612) 282-5116		

10. **Signature of Agency or Department Head**

Ronald D. Harnack
Name of Agency Head

Executive Director
Title of Agency Head



Signature of Agency Head

5/18/95
Date