# POLLUTION PREVENTION SUMMARY REPORTS

as submitted by
members of the

## Interagency Pollution Prevention Advisory Team

July 1994

POLLUTION PREVENTION *Right From The Start*

**For more information on Pollution Prevention activities in Minnesota State Government, please contact:**

**Paul Moss**
**Waste Prevention Unit**
**Minnesota Office of Environmental Assistance**
**520 Lafayette Rd. (Second Floor)**
**St. Paul, MN 55155**
**(612) 296-3417**

# Summary Report Order

Administration
Agriculture
Corrections
Health
Human Services
Military Affairs
Natural Resources
Pollution Control
Public Service
Transportation
Waste Management
Water and Soil Resources
State University System
University of Minnesota
Metropolitan Airports Commission
Metropolitan Council
Metropolitan Mosquito Control District
Metropolitan Transit Commission
Metropolitan Waste Control Commission

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
Governor

Filed According to Law:

JOAN ANDERSON GROWE
Secretary of State

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



91000273

# MINNESOTA DEPARTMENT OF ADMINISTRATION

# FY 94 POLLUTION PREVENTION

# SUMMARY REPORT

June 1994

Compiled by
Plant Management Division
Resource Recovery Office

(TEXT PRINTED ON 100% POSTCONSUMER PAPER)

# CONTENTS

# EXECUTIVE SUMMARY

The Minnesota Department of Administration FY94 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, which define polution prevention 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 Division of Plant Management also incorporates pollution prevention into its mission statement and is requiring pollution prevention responsibilities in all employee position descriptions. This report reviews new and ongoing pollution prevention activities implemented by various divisions in Admin.

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.

# POLLUTION PREVENTION CONTACT FOR DEPARTMENT OF ADMINISTRATION

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

(612) 296-9084

# 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, 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 descending order of priority: 2nd, waste recycling; 3rd, yard and food waste composting; 4th, municipal solid waste composting and incineration, and 5th, 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 wasteare not reviewed in this report.

# POLLUTION PREVENTION ACTIVITIES

## NEW ACTIVITIES

Examples of Admin's pollution prevention activities initiated in fiscal year 1994 are provided below.

I. **Admin's Materials Management Division developed a Central Stores recovery and re-inking program for state agencies' printer toner cartridges in coordination with MINNCOR-FARIBAULT (Department of Correction's Correctional Industries Program) and the Resource Recovery Office.**

II. **Admin's Plant Management Division conducted the following new activities:**

A. Plant Management purchased shot peening equipment that uses walnut chips for the removal of paint and gasket materials. This method of removal eliminates the need for chemical removal of paint and gasket material.

B. Established a cooperative effort with Travel Management to provide them with used cleaning solvent to be reconditioned for future use.

C. Attended pollution prevention workshops on building maintenance, turf management, and water quality.

D. Coordinated with Minnesota Technical Assistance Program to assess pollution prevention practices during janitorial operations, product storage and inventory, plumbing, painting, and vehicle maintenance.

E. Facilitated a pollution prevention site assessment for Admin's Micrographs Services unit performed by Minnesota Technical Assistance Program.

F. Developed and staffed information booths and answered questions from the public regarding the Division's pollution prevention procedures at the September 27, 1993 Waste Reduction Fair conducted during Waste Reduction week.

III. **Admin's Print Communications (PrintComm) conducted the following new activities:**

A. Analysis of Micrographic Services Unit operations conducted onsite by Minnesota Technical Assistance Program determined that pollution prevention procedures were implemented.

B. Installed an acid neutralizing basin and cement curbing in the Micrographics processing area to control any hazardous spills that may occur.

C. Recovery of laser printer cartridges and printer typing ribbons for reuse and recycling occurred.

D. Admin's Real Estate Management Division implemented the use of soy-based ink for printing of office forms.

**IV. Admin's Travel Management Division instituted the use of a water-based parts cleaner and is purchasing a freon recovery unit to recover automotive refrigerant.**

# POLLUTION PREVENTION ACTIVITIES

## ONGOING ACTIVITIES

Pollution prevention is most visible in offices which have the greatest potential to use hazardous products and generate hazardous wastes. Many work areas do not generate hazardous wastes or use toxic materials in significant quantities, but do conduct other environmentally-sound operations. Examples of activities continued from prior years to prevent pollution and hazardous waste generation are presented below.

I. **Admin's Building Code Division conducted the following activities:**

A. Reviewed new, state-owned, building construction projects to ensure the installation of nonhazardous fire-proofing material after the proper removal of hazardous material.

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

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

D. Worked with the Department of Public Service to achieve energy conservation for the State of Minnesota, resulting in a reduction of energy-related pollution.

E. Conducted research on radon levels and ventilation rates in public buildings which may result in future changes in ventilation systems to improve indoor air quality.

II. **Admin's Building Construction Division conducted the following activities:**

A. Planned for avoiding the use of asbestos and lead in new state building construction.

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

D. Worked with utility companies completeing retrofits of building lighting systems to achieve more efficient power consumption in buildings and decreased levels of pollution at power plants.

E. Worked with a contractor regarding research and testing of alternatives to freon in building cooling systems.

F. Replaced some asbestos-containing building materials with nonhazardous substitutes.

G. Replaced a hazardous, asbestos adhesive-remover with a nonhazardous product whenever possible.

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

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

**III. Admin's Intertechnologies Group conducted the following activities:**

A. Computer Operations Division required vendors to comply with state statutes requiring refrigerant recovery.

B. Business Management and Control Division recycled used printer toner cartridges. Staff also ordered glass/desk cleaner by the gallon to fill small spray bottles to avoid the use of aerosol cans.

**IV. Admin's Materials Management Division conducted the following activities:**

A. Worked with Minnesota Department of Transportation (MnDOT) to purchase no-lead paint for traffic marking.

B. Specified that heavy equipment for MnDOT be painted with no-lead paint.

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

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

E. Worked with MnDOT to purchase alternative de-icing products which contain a lesser quantity of salt.

**V. Admin's Plant Management Division conducted the following activities:**

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

B. Monitored more stringent building temperature controls in the Energy Management Services program to minimize pollution resulting from energy production.

C. Coordinated building lighting retrofits with Northern States Power Company to make power consumption more efficient and to decrease pollution levels.

D. Used janitorial products in Building Services operations that are appropriate to enter sewers.

E. Used chemicals packaged as concentrates to reduce packaging waste by 85% in Building Services and Grounds-keeping operations.

**VI. Admin's Print Communications Division (PrintComm) conducted the following activities:**

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

1) Handling of anhydrous ammonia to reduce hazardous waste generation included proper ventilation of the duplication area and extensive employee safety and usage training in Micrographic Services Unit.

2) Resource recovery of silver during processing procedures reduced silver waste in Micrographic Services Unit.

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

1) Used agra 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.

4) Improved operational practices as a result of focused "spoilage" activities resulted in less material usage.

**VII. Travel Management Division's staff conducted the following activities:**

A. Assisted MnDOT, Department of Natural Resources, Minnesota Technical Assistance Program, and the Office of Waste Management using Shop staff to plan a Fall 1993 pollution prevention seminar for state car repair facilities.

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

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

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

E. Used a leased parts cleaner and solvent recycling service.

F. Leased portable brake cleaning equipment to provide dust containment.

G. Purchased ethanol for use in state vehicles.

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

**VIII. The Minnesota Office of Volunteer Services continues to use soy-based inks for all of its stationary, brochures and other publications.**

**IX. Admin's Risk Management Division requested soy-based ink for printing orders.**

# ACTIONS TO INTEGRATE POLLUTION PREVENTION INTO REGULATORY AND POLICY ACTIVITIES

## NEW ACTIVITIES

Examples of Admin's pollution prevention during fiscal year 1994 regulatory and policy activities are provided below.

I. **Admin's Building Codes and Standards developed rules in the Minnesota State Mechanical code to permit the use of new, alternative refrigerants.**

II. **Admin's Materials Management Division provided authority-for-local-purchase training to over 1000 state employees; this training included a component on environmentally responsible materials management and pollution prevention (Displayed in Exhibit 3).**

III. **Admin's Plant Management Division conducted the following activities:**

A. All Plant Management Division (PMD) employee position descriptions are being revised, 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.

B. Passage of new legislation allows Plant Management Division to accept grants from utility companies to expand energy retrofit programs in state-owned and wholly-leased buildings.

# ACTIONS TO INTEGRATE POLLUTION PREVENTION INTO REGULATORY AND POLICY ACTIVITIES

## ONGOING ACTIVITIES

Admin is continuing to incorporate pollution prevention and environmental materials management within its divisional restructuring planning and during its coordination with local governments.

I. **Plant Management Division implemented a new Mission Statement and Quality Operations Planning encompassing pollution prevention and other environmental concepts. The Division also coordinated with other government offices on the following activities:**

A. Assisted Materials Management Division with the integration of Environmental Materials Management into daily work responsibilities, and purchasing training for division staff and other state agencies.

B. Coordinated with the Minnesota Pollution Control Agency to develop a pilot program for state agencies to promote proper toxic waste reduction and management of hazardous and problem wastes.

C. Provided information to the Solid Waste Management Coordinating Board, representing the seven counties in the metropolitan area, to develop environmentally responsible procurement policies, "Environmental Materials Management" policy and priorities which encompass pollution prevention, were used as models.

II. **PrintComm integrated pollution prevention policies into the division'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 promoted the use of white and pastel paper in place of colored papers and fostered the use of vegetable-based ink.

# INCORPORATION OF POLLUTION PREVENTION INTO PROCUREMENT ACTIVITIES

## NEW ACTIVITIES

Examples of Admin's incorporation of new pollution prevention during fiscal year 1994 procurement activities are listed below.

I. **Admin's Materials Management Division added a solvent free paint (Glidden Lifemaster 2000) to a state contract which is available to all state agencies and cooperative purchasing program members.**

II. **Admin's Plant Management Division conducted the following activities:**

A. Delivered a regional pollution prevention workshop presentation regarding the Division's product procurement, inventory, and storage activities.

B. Coordinated on-site reviews of division operations with the Minnesota Technical Assistance Program to assess divisional procurement issues.

# INCORPORATION OF POLLUTION PREVENTION INTO PROCUREMENT ACTIVITIES

## ONGOING ACTIVITIES

Admin's divisions continued the following pollution prevention procurement activities which were initiated previous to fiscal year 1994.

I. **The Computer Operations Division required that vendors comply with statutes regarding refrigerant recovery when refilling or replacing the air conditioner.**

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

A. Continued to specify soy ink to reduce the use of petroleum-based inks which release volatile organic compounds.

B. Continued to specify no-lead paint for traffic marking and equipment painting.

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

III. **The Minnesota Office on Volunteer Services considered toxicity in the selection of products.**

IV. **PrintComm coordinated with state offices to improve environmentally-responsible procurement.**

A. PrintComm's Printing Services worked with Materials Management Divison 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.

B. Bookstore Operations worked with Printing Services, Minnesota Department of Transportation and Department of Trade and Economic Development to publish a high quality, official state highway map on recycled paper using agra ink printing.

C. Bookstore Operations substituted spiral binding for perfect-bound (glue) binding during the second printing of the popular "Landscaping for Wildlife."

# 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 rules to facilitate pollution prevention.**

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

B. Adopt rules which recognize the use of safe alternate refrigerants in the State Mechanical Code.

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

D. Tom Joachim, Director, Building Codes and Standards, may be reached at telephone number (612) 296-7037; Minnesota Relay Service number for TTY/TDD (612) 297-5335 (Please give phone number).

II. **Admin continues 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. **Materials Management Division activities will expand upon prior efforts:**

A. Provide training for purchasing staff to recognize toxic pollutants, hazardous substances and hazardous wastes.

B. Include in the review of all contracts being rebid, a factor to evaluate options to substitute a less toxic product or reduce the quantity of a toxic product.

C. John Haggerty, Director, Materials Management Division, may be reached at telephone number (612) 296-1442; TTY/TDD number (612) 282-5799.

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

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

B. Investigate the possibilities of limiting extended operations (weekend use of facilities) to reduce pollutants emitted into the air.

C. Lynne Markus, Administrator, State Government Resource Recovery Program, may be reached at telephone number (612) 296-9084; TTY/TDD number (612) 296-6280.

**V. PrintComm employees will proceed with ongoing pollution prevention activities.**

A. 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 for the immediate implementation of new procedures.

4) Work with the Resource Recovery Office regarding silver and diazo film pollution prevention.

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

B. Printing Services will conduct the following activities:

1) Secure agency compliance with environmental printing statutes.

2) Continue exploration of new agra 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) Pilot the use of recycled ink on a primary offset press to reduce the amount of ink needing disposal.

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

D. Kathi Lynch, Director, PrintComm, may be reached at telephone number (612) 297-2553; TTY/TDD number (612) 282-5077.

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

A. Initiate 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.

B. Furnish fuel for 20 E-85 vehicles being purchased by the Department of Transportation.

C. Begin purchasing re-refined oil for use and testing in state vehicles.

D. Susan Burkhardt, Acting Director, Travel Management Divison, may be reached at telephone number (612) 296-6781; TTY/TDD number (612) 296-5659.

# ESTIMATED BENEFITS

Admin's pollution prevention activities facilitate environmental and economic benefits from the individual actions of employees and their agency customers. Examples are referenced below:

I. **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%.

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

II. **Print Communications (PrintComm) activities have achieved pollution prevention benefits. Starting in June 1994, the Printing Services area will pilot the use of a solvent-free wash on an offset press. The volatile organic compounds (VOCs) in most washes are 80% to 90%. In this solvent-free wash, which is biodegradable, the VOCs are 1% to 6%. If successful, it would result in a reduction in the number of barrels of hazardous waste generated by the printing operation.**

III. **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 re-refined oil reduces virgin oil use and pollution while providing an opportunity for reuse of the base product.

# AREAS OF NEEDED ASSISTANCE

Promotion of the legally correct application of environmental definitions and concepts set forth by the Minnesota Statutes.

I. **Estimation of the environmental and economic benefits associated with pollution prevention activities.**

II. **Education of the building and construction industry regarding pollution prevention options and benefits.**

III. **Education of state agencies regarding the requirements of Minn. Stat. 16B.122.**

# KEY POLLUTION PREVENTION CONTACTS AND RESOURCES

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

**Print Communications**
Agency compliance with environmental printing statutes; exploration of new agra inks to be used in expanded applications
Contact: Kathi Lynch
Telephone: (612) 297-2553; TTY/TDD: (612) 282-5077

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

**Travel Management**
Shop operations
Contact: Dave Rausch
Telephone: (612) 296-8313; TTY/TDD: (612) 296-5659

Administration and Fleet Management
Contact: Susan Burkhardt
Telephone: (612) 296-9997; TTY/TDD: (612) 296-5659

# 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

# Minnesota Department of Administration Priorities For Environmental Materials Management

*The acquisition, use, maintenance and discard of materials should first maximize resource conservation options to avoid and reduce waste quantity and volume. Then, resource discard options should be maximized in the order of priority.*

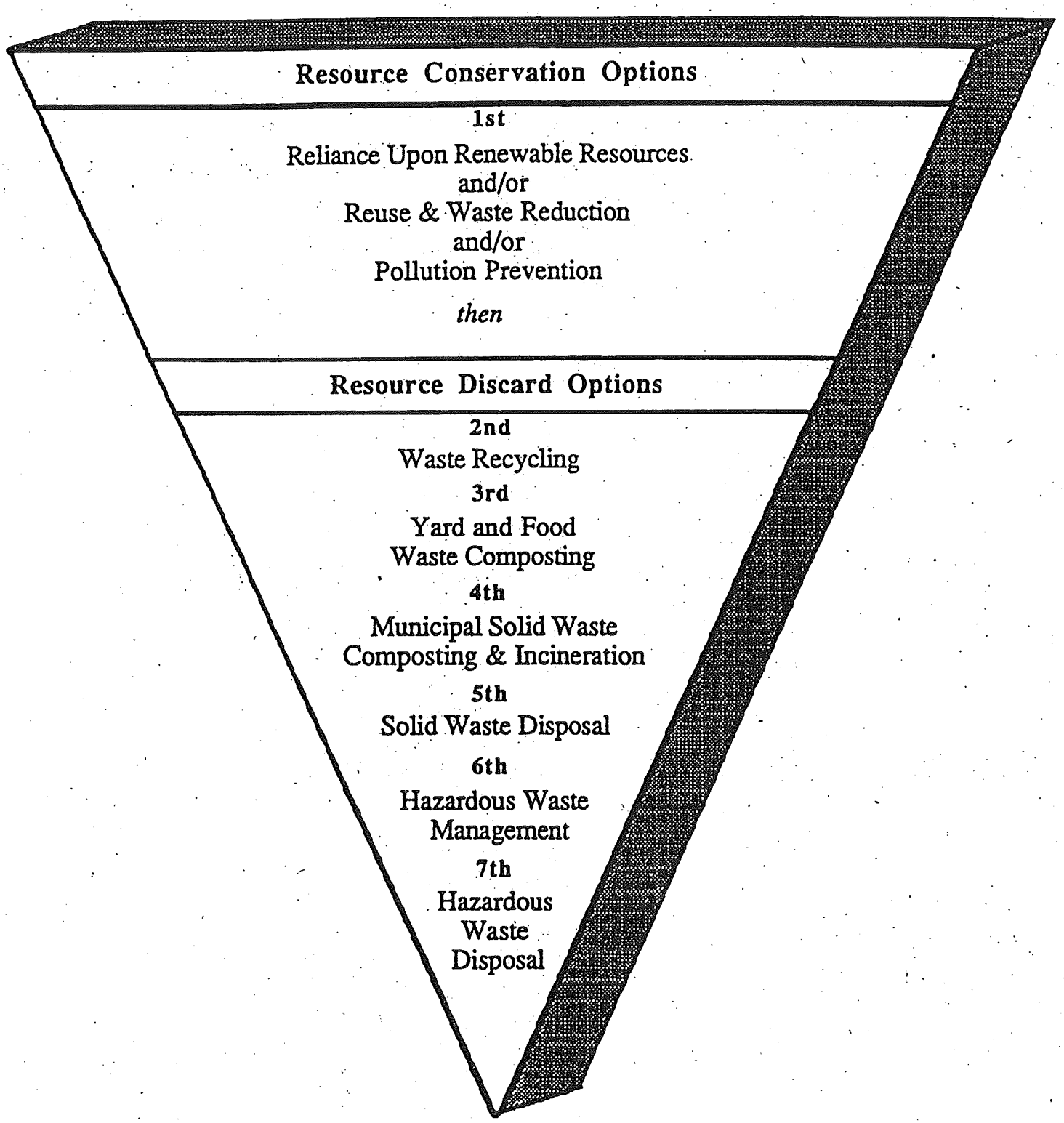


EXHIBIT 3

# Plant Management
# MISSION STATEMENT

**Our mission is**

to deliver consistent quality services to ensure clean, safe and environmentally-sound buildings, grounds and operations.

**Our customers are**

all people who use our services throughout the state of Minnesota.

**The services we provide are**

a continuum of building, grounds and professional services specific to the customers' needs. They include building maintenance, cafeterias, energy management services, grounds, janitorial, materials transfer, parking, administration of the state resource recovery program and special use of state facilities permits.

**Our core values are**

- High quality professional staff with:
  - accountability
  - honesty and ethics
  - loyalty
  - integrity
  - commitment to teamwork
  - respect of others and ourselves
  - knowledge
- Responsiveness to our customer needs through:
  - communication
  - efficiency
  - timeliness
- Provide quality work through:
  - modern technology
  - employee training
- Responsible business practices that encourage:
  - professionalism
  - cost effectiveness
  - open communication
- Plan for the future, considering:
  - technology
  - employee development
  - establishment of long term goals
  - involvement of clients
- Environmental stewardship with:
  - conservation of resources
  - prevention of pollution
  - promotion and education
  - integration into all work places and services

Created 12-2-92

# ANNUAL STATE GOVERNMENT
# POLLUTION PREVENTION SUMMARY REPORT

## 1994

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

Submit by July 1, 1994 to:

Pollution Prevention in State Government
MN Office of Waste Management
1350 Energy Lane
St. Paul, MN 55108
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 612-296-6250

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

## POLICY STATEMENT

In compliance with Executive Order 91-17, 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.

This program will be implemented and revised on an annual basis by the Minnesota Department of Agriculture Pollution Prevention Task Force with the guidance and leadership of the commissioner.

Elton R. Redalen, Commissioner — Date: 8-16-94

Edward Chromey Jr. Task Force Chairperson — Date: 8-15-94

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

Describe activities undertaken to prevent pollution and hazardous waste generated by agency or department (July 1993-June 1994). Agencies may also note other relevant activities.

**(Use additional sheets as appropriate.)**

The Minnesota Department of Agriculture has implemented several pollution prevention ideas/programs in different areas within the past year.

A. Within the Information Services Division a commitment to resource recovery has been started with the implementation of a Policy Statement to come in compliance with the Environmental Printing Guidelines (MN statute 16B122, subd.2, paragraph a). A copy of this statement is enclosed. There is an ongoing commitment to have all divisions within the department to utilize double sided copying.

B. The Laboratory Services Division has purchased new equipment that will help to eliminate the production of heavy metals hazardous waste in the Agronomy work section. The Environmental Analysis work unit has started purchasing some of their chemicals in a recyclable packaging system (Now Pack).

C. There is an ongoing cooperative effort between the MDA and other state agencies to help reduce the amount of Carbon Monoxide generated from vehicles by requiring vehicles to use oxygenated fuels during the winter months. The department is using motor pool vehicles that run on 75% ethanol fuels as a research project in conjunction with the Department of Transportation to see what effects this will have on emissions.

D. The Energy and Sustainable Agriculture Program (ESAP) has published its Greenbook 94 which discusses the ongoing program and this year has essays from people involved with sustainable agriculture and their perspectives on sustainable agriculture. A copy of this book is included and additional copies can be obtained by contacting Dr. Mary J. Hanks at the Minnesota Department of Agriculture (612) 296-1277.

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 1993 - June 1994). Agencies may also note other relevant ongoing activities.

A. The use of oxygenated fuels in the metro area during the winter months is an ongoing program initiated between the Department of Agriculture and Environmental Protection Agency. By using oxygenated fuels in the metro counties the state has been within EPA guidelines for emission standards for two consecutive years (see enclosed document).

B. The Laboratory Services Division performed a lab wide waste stream audit. This effort helped educate personnel on the proper disposal of chemicals.

C. The Agronomy Service Divisionis continuing its Waste PesticideContainer Disposal and Recycling program and its Waste Pesticide Collection Program for the entire state. The continuance of these programs helps to eliminate excess pesticides and their empty containers from being discarded illegally.

D. The Agriculture Planning Division is continuing to promote their Energy and Sustainable Agriculture Grant Program by providing funds to farmers, non-profit groups, agricultural researchers, extension agents and educators across the state.

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 1993 - June 1994).

A. The Laboratory Services Division did a comprehensive chemical storeroom inventory and found that there were old and unused chemicals that needed to be disposed of. This helped to start a division wide effort by all personnel to purchase chemicals in smaller quantities so there would be less to dispose of at a later date.

B. The Information Services Division continues to used recycled paper wherever possible. A handout of what types of recyclable products are available has been made accessible to all the Divisions within the department.

C. The Personnel, Safety and Office Management Division continues to encourage the recycling of copier cartridges, laser printer cartridges, aluminum cans and paper products throughout the agency.

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.

A. The Laboratory Services Division is studying the feasability of purchasing chemicals in bulk form using the Now Pack packaging system. This system allows the user to return the empty container back to the vendor to be refilled. This will eliminate non-recyclable glass from ending up in landfills. Contact Edward M. Chromey at (612) 296-6250.

B. The Marketing Division has a hotline set up for people to utilized if they have questions about the oxygenated fuel program. The use of oxygenated fuels within the metro area will become annual instead of seasonal in 1995. The whole state will begin using this type of fuel by 1997. Contact Larry Johnson at (612) 296-4692

C. The Agronomy Services Division is continuing their Waste Pesticide Collection and Empty Pesticide Container Disposal and Recycling programs which are helpful in eliminating unused or banned pesticides and empty pesticide containers from entering the environment. The Agronomy Services Division has a cooperative effort with several other agencies to help initiate a state wide Pesticide Management Plan (see enclosed document). Contact Joe Spetzmuller at (612) 297-5296 for information on Waste Pesticide Collection and Disposal. Steve Poncin at (612) 296-5136 for information on the Waste Pesticide Container Disposal and Recycling. Jerry Spetzman at (612) 297-7269 for information on the Pesticide Management Plan.

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

A. By completing a comprehensive audit of the LSD chemical storeroom we now are able to keep a complete inventory of the chemicals located in the laboratory. This has an economic benefit by helping to reduce the amount of redundancy created by purchasing duplicate orders of identical chemicals for different lab work units. By going to a Now Pack chemical recycling system the lab will eliminate glass waste streams. Performing a waste stream audit has shown us areas where we can minimize hazardous waste generation through the use of newer technology and methods.

B. The economic benefit of using Ethanol in oxygenated fuels goes to the rural areas of our state by purchasing grain to create the ethanol. The environmental impact is seen by the reduced amount of CO entering the atmosphere (see enclosed documents on oxygenated fuels).

C. The use of sustainable agriculture techniques in farming helps to reduce the amount of pesticides entering our rivers and lakes (see enclosed documents on sustainable agriculture).

D. Since the inception of the Waste Pesticide Collection Progam in 1990 over 230,000 pounds of unused or banned pesticides have been collected and properly disposed of.

E. In the last year alone The Waste Pesticide Container Collection Program has recycled over 60 tons of empty plastic pesticide containers.

**8. AREAS OF NEEDED ASSISTANCE**

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

As with all government agencies it is imperative that the legislature continue to support key projects and programs that the Department of Agriculture is involved with that are 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.

| | | | |
|---|---|---|---|
| A. | Dr. Mary Hanks | Energy and Sustainable Agriculture | (612) 296 1277 |
| B. | Edward Chromey Jr. | Laboratory Services Division | (612) 296-6250 |
| C. | Jerry Spetzman | Pesticide Management Plan | (612) 297-7269 |
| D. | Claudia Furlong | Recycling Programs | (612) 296-2636 |
| E. | Steve Poncin | Waste Pesticide Container Program | (612) 296-5136 |
| F. | Joe Spitzmueller | Waste Pesticide Disposal Program | (612) 297-5296 |

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

**Elton R. Redalen**

Name of Agency Head

**Commissioner, Minnesota Department of Agriculture**

Title of Agency Head

Elton R Redalen 8-16-94

Signature of Agency Head Date

## Energy and Sustainable Agriculture Program - Minnesota Department of Agriculture

Contact: Dr. Mary Hanks, Supervisor
Energy and Sustainable Agriculture Program
Minnesota Department of Agriculture
90 W. Plato Blvd.
St. Paul, MN 55107
(612) 296-1277

The Minnesota Department of Agriculture's Energy and Sustainable Agriculture Program (ESAP) was initiated in 1987 with EXXON oil overcharge funds to address concerns about the impact of conventional agricultural practices on farm profitability, health, and the environment. The program is currently funded through appropriations from the Minnesota Legislature. The purpose of the program is to demonstrate and promote alternative practices which are energy efficient, environmentally sound, profitable and which enhance the self-sufficiency of Minnesota farmers.

ESAP established the following goals to direct the development of sustainable farming systems:

- Maintain and improve soil productivity and tilth;
- Protect soil from wind and water erosion;
- Prevent ground and surface water pollution;
- Minimize the use of agri-chemicals;
- Produce safe and wholesome food;
- Reduce reliance on non-renewable resources;
- Improve farmer's quality of life;
- Increase both short- and long-term farm profitability;
- Maintain or increase farm numbers.

### FY93 Accomplishments:

A. Demonstration Grants Program - Thirteen new demonstration grant projects proposed by farmers,educators and researchers were funded this year. This brings the total to 66 grants made since the program began in 1989. The grants address a wide array of agricultural concerns with dual goals of strengthening Minnesota farm ecology and farm economy. This year approximately thirty field days, based on demonstration grants funded over the past three years, were sponsored by ESAP in cooperation with Minnesota and County Extension Services, Land Stewardship Project, Rodale, state Technical Colleges, the University of Minnesota, Sustainable Farming Associations and several agribusinesses. A summary of the new projects and a list of field days is attached.

B. Loan Program - A $1 million revolving loan fund was set up in 1988 by the Minnesota Legislature to provide incentive in the form of low interest equipment or improvement loans to farmers for the transition to sustainable agriculture practices. There are now 132 active loans. A breakdown of types of equipment purchased is included in the attached information. Most loan recipients acknowledge that the loans had made it possible for them to adapt some kind of energy-conserving or input-reducing practice.

C. Information and Publications - Publications produced by ESAP this year include the Sustainable Agriculture Resources and Information Directory, the Sustainable Farming Guide Book (a manual to assist farmers in the transition from conventional practices to low-input alternatives) and Greenbook 93 (a summary of all on-farm research and demonstration projects administered by ESAP). In addition, a database of videotapes, audiotapes, and literature on sustainable agriculture related topics has been compiled and is available for loan.

D. Farmer Communication - This year ESAP sponsored three "Problem-Solving" winter workshops in Owatonna, St. Cloud, and Montevideo as well as co-sponsoring several Sustainable Farming Association winter meetings throughout the state. ESAP staff spoke at numerous conferences and meetings during the year.

E. Mentor Program - ESAP continued the second year of a pilot program connecting novice farmers or farmers who want to make a transition to sustainable practices with experienced sustainable farmers. The program started with four farmer mentors. Experienced farmers are an invaluable source of information to those seeking sustainable alternatives. The goal is to assist a farmer in developing profitable and environmentally sound management practices by pairing him/her with a knowledgeable resource person. The mentoring pair will work together on a one-to-one basis. The program trained the mentors in whole farm analyses to assess and devise sustainable options for the farming operation and in holistic resource management. Detailed case studies of the farmer mentors were written. These case studies include whole-farm economic analyses of the mentors' farms as well as information on how they farm and make management decisions.

F. On-Farm Research - Funded by the Minnesota Legislative Commission on Minnesota Resources, ESAP, in conjunction with the University of Minnesota, developed a network of cropping system demonstrations to reduce nitrogen contamination of groundwater through more effective utilization of nitrogen from manure, legume, and fertilizer sources. Six demonstration sites were established in the sensitive sandy soils area of north central Minnesota. Field days were held at all sites.

**Improvement in Water Quality:**

Adoption of sustainable agriculture systems and practices has the potential to prevent ground and surface water pollution by protecting soil from erosion by wind and water and by minimizing the use of agri-chemicals including pesticides and fertilizers through enhanced utilization of on-farm resources including animal and green manures and farmer management skills. Demonstrations of practices such as composting, integrated pest management, rotational grazing, cover crops, extended crop rotations, mechanical weed management and manure management have been effective in showing the benefits of making more efficient use of conventional inputs and of replacing environmentally harmful inputs with more benign and management intensive inputs. Loans for the purchase of livestock management, reduced tillage, and chemical management equipment have allowed Minnesota farmers to make the transition to ridge tillage, conservation tillage and zero tillage systems, to switch to band application of herbicides and fertilizers and to make more efficient and environmentally sound use of livestock manures. Field days, conferences, the Mentor program and publications continue to disseminate information and foster interaction among producers.

**Measures for Evaluating Success:**

ESAP plans to conduct farmer surveys to monitor adoption and evaluate changes in practices as well as use other surveys conducted by the Minnesota Department of Agriculture and other state and federal agencies and non-profit organizations. The survey of loan recipients indicated that a majority of those responding felt that the equipment purchased resulted in reduction of soil erosion, chemical fertilizer or pesticide use. Many indicated that they felt the program encouraged preservation of soil and water resources. Case studies have measured the economic and environmental components of individual sustainable farming operations.

**Future Directions:**

ESAP will continue to promote alternative practices and systems through grants, loans and information and education programs. Members of the staff are currently involved in biological monitoring interdisciplinary teams and in resource management training projects for farmers.

# PESTICIDE MANAGEMENT PLAN

The following is a summary of where we are with Pesticide Management Plan (PMP) activities.

The Minnesota Department of Agriculture (MDA) has been the lead agency in the development of the PMP since 1990. The following agencies and organizations have taken an active role in the process.

Ciba Corporation
Environmental Protection Agency
Land Stewardship
Minnesota Board of Water and Soil Resources
Minnesota Department of Natural Resources
Minnesota Independent Crop Consultants
Minnesota Plant Food and Chemicals Association
National Agricultural Chemical Association
University of Minnesota - Minnesota Extension Service
Zumbro/Root River Area Water Quality Task Force
Clean Water Action
Izaak Walton League
Minnesota Department of Agriculture
Minnesota Department of Health
Minnesota Farm Bureau
Minnesota Farmer's Union
Minnesota State Planning Agency

## EPA State Management Plan Process

The EPA is requesting that all states develop a State Management Plan (SMP) for pesticides. Significant overlap exists between the 12 components of an SMP and the 6 strategic activities of a Comprehensive State Ground Water Protection Program (CSGWPP). By addressing SMP components, Minnesota will also be fulfilling many requirements for an EPA-recognized CSGWPP.

Minnesota must meet all 12 EPA components in order for EPA to concur with the Minnesota SMP. The purpose of the MSMP is to give Minnesota the ability to develop management plans for specific pesticides which the EPA has determined to be a significant threat to ground water. Within a year, it is anticipated that the EPA will publish a list of 5 or 6 pesticides for which states must develop management plans in order to maintain the registration status of the pesticide.

This list will likely include major corn/soybean herbicides for which the MDA will develop specific management plans. The MSMP will provide the framework for pesticide specific management plans. The EPA has reviewed the latest draft SMP (December 1993) and has provided comment to the MDA.

The MDA has made a decision to postpone further development of the MSMP while putting emphasis on development of a plan to fulfill Minnesota statutory requirements.

State of Minnesota Requirements for a Pesticide Management Plan

> Minnesota Statutes 18B.045, Subd. 1. [DEVELOPMENT.] *The commissioner shall develop a pesticide management plan for the prevention, evaluation, and mitigation of occurrences of pesticides or pesticide breakdown products in groundwaters and surface waters of the state. The pesticide management plan must include components promoting prevention, developing appropriate responses to the detection of pesticides or pesticide breakdown products in groundwaters and surface waters, and providing responses to reduce or eliminate continued pesticide movement to groundwater and surface water. Beginning September 1, 1994, and biennially thereafter, the commissioner must submit a status report on the plan to the environmental quality board for review and then to the legislative water commission.*
>
> Minnesota Statutes 18B.045. Subd. 2. [COORDINATION.] *The pesticide management plan shall be coordinated and developed with other state agency plans and with other state agencies through the environmental quality board. In addition, the University of Minnesota extension service, farm organizations, farmers, environmental organizations, and industry shall be involved in the pesticide management plan development.*

The MDA has recently convened two meetings on the PMP committee and several more will be held in the near future. The purpose of these meetings is to develop a plan to implement the statutory requirements. This plan will, by consensus, contain specific goals, objectives, action steps, resource needs, and time lines.

When finished, the PMP will be incorporated into the MSMP, and will also become the goals and milestones portion of the Pesticide Chapter of the Section 319 Non-Point Source Plan.

Pesticide Specific Management Plans

Specific Management Plans will be developed for pesticides which have either been:

(1) declared Common Detection by the MDA; or
(2) declared a significant threat to ground water by the EPA

and whose continued availability is important to the State of Minnesota.

On August 17, 1994, representatives of the MDA, MPCA, MES, and Ciba will begin development of an atrazine specific management plan.

# IS Position on Resource Recovery

**Policy Statement**
We want to be in full compliance with the Environmental Printing Guidelines (Minnesota Statute 16B122, subd.2, paragraph a) and we will be making every effort to adopt environmentally friendly products and procedures.

**Paper**
Dark colors will be discontinued. We will use up our current stock but we will not reorder when supplies are depleted. We will replace these papers with new pastel stocks and issue a new paper selection guide. We will order only recycled paper with a minimum of 10% post consumer material. If you require paper that does not fit into these guidelines, we will provide you with the information you need to order these papers yourself. We will continue to run copies on supplied paper stock.

**Color Printer**
Special coated paper used in our color printer is recyclable. The colored ink does not affect its recyclability. The same is true of other papers printed with colored inks. The determining factor is the color of the paper stock, not the color of the ink.

**Other Considerations**
Here are some things to keep in mind when ordering supplies, producing materials or recycling. Staples do not have to be removed from materials you are recycling. Paper clips and binders should be removed. It doesn't matter how heavy or thick a paper stock is; what matters is the color. Things that are licked (envelopes, stamps) are recyclable but glue used for binding or any type of self-adhesive label is not recyclable. Removing the label, tearing out the window in a window envelope or cutting off the binding makes the rest of the item recyclable. When you replace your fax machine, get one that uses plain paper. NCR paper and Post-It Notes are recyclable. Newspapers, groundwood computer printouts, metal cans and telephone books are recycled in separate collections.

**We will discourage department employees from using the following items:**
- Peel and stick adhesive labels (print mailing list addresses directly onto envelopes)
- Perfect binding tape on the 5090 copier (use staples wherever possible)
- Laminating unless needed for permanency or outdoor use
- Dark colored papers
- Lightweight paper that creates jams in the copier and folder, negating potential savings

**A Final Thought**
In all cases, we want common sense and practicality to be the guiding factor in making decisions. If a material is needed we will work with employees to create those materials. If changes can be made that turn a material from a non-recyclable to a recyclable material, we will encourage employees to make that change. We believe that the policies we've instituted and the changes we've suggested will enable the Department of Agriculture to do its fair share in conserving and recovering resources for the State of Minnesota.

# ANNUAL STATE GOVERNMENT
# POLLUTION PREVENTION SUMMARY REPORT

## 1994

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

Submit by July 1, 1994 to:

Pollution Prevention in State Government
MN Office of Waste Management
1350 Energy Lane
St. Paul, MN 55108
Attn: Paul Moss

1. Agency: Minnesota Department of Corrections

Contact Name: Donald G. Tomsche

Contact Address: 300 Bigelow Building
450 North Syndicate Street
St. Paul, MN 55104

Contact Telephone: (612) 642-0243

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 1993 - June 1994). Agencies may also note other relevant ongoing activities.
**(Use additional sheets as appropriate)**

-Assurance has been made that all institution pollution prevention policies are in compliance with our Department Pollution Prevention Policy.

-Our Correctional Industries Production Shops no longer use lead based paint.

-Water based glue and non-flammable thinners are being used.

-Now using water rather than oil based cleaners.

-Departmentally, we are revising specifications relative to purchasing less hazardous toxic products.

-Recycling continues to be a primary program in our department.

-Our Health Services Units are reclaiming silver from developing fluid.

-Latex paints are being used.

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 1993 - June 1994). Agencies may also note other relevant ongoing activities.
**(Use additional sheets as appropriate)**

-Institution pollution prevention policies are on file at each institution and reviewed annually.

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

-Ongoing practice of reviewing all material safety data sheets to ensure that departmentally we purchase least toxic, polluting products.

-Policies have been implemented to properly dispose of fluorescent light tubes.

-Employee suggestion programs have been established to aid in implementation of money saving reuse practices.

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 1993 - June 1994). Agencies may also note other relevant ongoing activities.
**(Use additional sheets as appropriate)**

-Purchase orders are continuously monitored to ensure that the least toxic, hazardous, polluting products are being used.

-Quarterly Safety Directors meeting are held at which National/State Pollution regulations are reviewed.

-Department Buyers purchase recycled products whenever they are available.

-Department Safety Directors review purchase orders to ensure the environmentally friendly products are procured.

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)**

-On going review of all operations is made to ensure complete compliance with department policy.

-Continuous staff training is conducted to ensure compliance with pollution prevention policies.

-Department Safety Directors continue to meet quarterly to discuss and follow up on recommended pollution prevention programs.

-Department continues to maintain a reliable recycling program.

-Department poster campaign is utilized to create awareness of our programs.

## 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)**

-Departmentally, via the increased use of non-hazardous polluting products, our agency has significantly reduced the number of hazardous waste pickups.

-Purchasing recycled materials has reduced our overall purchasing costs.

-Selling recycable products has resulted in a source of revenue from our department.

-Our institutions are now considered small quantity generators, thus reducing our hazardous waste licensing fee.

-In summary, all sites have reliable pollution prevention practices which generate savings in operational costs. This has led to an improvement in the health/safety of inmates, staff, and visitors.

## 8. AREAS OF NEEDED ASSISTANCE

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

-State of Minnesota should consider appropriating funds to be utilized in researching new products and processes with the goal of better pollution prevention statewide.

-State Materials Management Division should continue to explore the development of purchasing contracts and a vendor's list which will ensure the procurement of the least toxic, polluting products.

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.

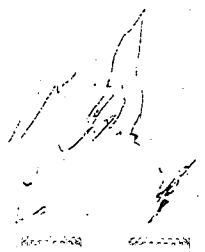
-Meetings of the state-wide Interagency Pollution Prevention Advisory Committee provides an excellent forum for state agencies to exchange useful information. This enhances all programs statewide.

10. Signature of Agency or Department Head

Frank W. Wood
Name of Agency Head

Commissioner of Corrections
Title of Agency Head

Frank W Wood 8/2/94
Signature of Agency Head 7/8/94 Date



# ANNUAL STATE GOVERNMENT
# POLLUTION PREVENTION SUMMARY REPORT

## 1994

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

Submit by July 1, 1994 to:

Pollution Prevention in State Government
MN Office of Waste Management
1350 Energy Lane
St. Paul, MN 55108
Attn: Paul Moss

1. Agency: Minnesota Correctional Facility

   Contact Name: Richard Grave

   Contact Address: 1079 Highway 292

   Red Wing, MN 55066

   Contact Telephone: 612-388-7154, EXT 204

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

## POLLUTION PREVENTION ACTIVITIES DURING THE FISCAL YEAR

Describe activities undertaken to prevent pollution and hazardous waste generated by agency or department (July 1993 - June 1994). Agencies may also note other relevant ongoing activities.
**(Use additional sheets as appropriate)**

1. Purchasing latex paints in larger containers and taking only whats needed has reduced our waste, eliminating the partial used can.

2. Keeping better records of our fleet vehicles so oil and anti-freeze are changed only when appropriate, mileage is achieved.

## 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 1993 - June 1994). Agencies may also note other relevant ongoing activities.
**(Use additional sheets as appropriate)**

1. Continuous staff training is conducted annually.

2. Continuous updating of Safety Data Sheet and changes in Regulations/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 1993 - June 1994). Agencies may also note other relevant ongoing activities.
**(Use additional sheets as appropriate)**

1. Purchasing better engine oils and changing it less often.

2. Purchasing of better products and in turn, products last longer.

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)**

1. Safety inspection of buildings for hazardous waste.

2. Inventory control of all recyclables and waste products.

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)**

1. Goal on recyclable waste this year is estimated at 10%.

2. Hazardous waste is not recyclable at Red Wing. Total is less than 300 pounds per year.

8. AREAS OF NEEDED ASSISTANCE

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

1. Education of staff to use less products and receive the same results.

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.

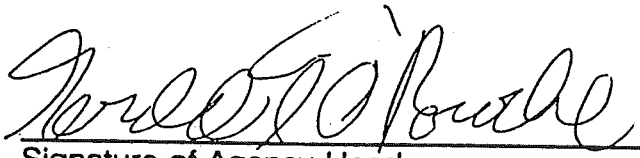
1. Encourage staff to attend MPCA Meetings/Seminars.

2. Have more interaction meetings between State agencies.

10. Signature of Agency or Department Head

Gerald T. O'Rourke
Name of Agency Head

Superintendent
Title of Agency Head



5-16-94
Signature of Agency Head Date

# ANNUAL STATE GOVERNMENT
# POLLUTION PREVENTION SUMMARY REPORT

## 1994

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

Submit by July 1, 1994 to:

Pollution Prevention in State Government
MN Office of Waste Management
1350 Energy Lane
St. Paul, MN 55108
Attn: Paul Moss

1. Agency: Minnesota Department of Health

   Contact Name: Al Tupy

   Contact Address: 717 Delaware Street 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 1993 - June 1994). Agencies may also note other relevant ongoing activities.
**(Use additional sheets as appropriate)**

During presentations made to labs certified by the Department, the Pollution Prevention program is discussed. Flyers were sent to all participating laboratories with pollution prevention suggestions.

A systematic process of dealing with the waste streams from the Chemical Laboratory using total quality management techniques.

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 1993 - June 1994). Agencies may also note other relevant ongoing activities.
**(Use additional sheets as appropriate)**

As noted in Item #3, this is being incorporated into the Certification Program.

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 1993 - June 1994). Agencies may also note other relevant ongoing activities.
**(Use additional sheets as appropriate)**

Coordinating inventory and purchasing activities.

Purchasing energy saving personal computers.

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)**

Review current practices to eliminate further 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 is working with Administration on a project to convert to energy efficient lighting and improve the energy use of the MDH building.

8. **AREAS OF NEEDED ASSISTANCE**

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

Office area pollution prevention.

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

Mary J. O'Brien
Name of Agency Head

Commissioner of Health
Title of Agency Head

Anne M. Burns 7/18/94
Signature of Agency Head Date

DEPARTMENT : HEALTH

STATE OF MINNESOTA

SF-00006-05 (4/86)

# Office Memorandum

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 1994

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 | (218) 828-2378 |
| Cambridge RHSC | Bill Evens | (612) 689-1222 |
| Faribault RC | Frank McHugo | (507) 332-3400 |
| Fergus Falls RTC | Char Sheridan | (218) 739-7238 |
| Moose Lake RTC | Mark Tabara<br>Paul Bothwell | (218) 485-5300 |
| St. Peter RTC | Chuck Petry | (507) 931-7226 |
| Willmar RTC | Dave Smith<br>Jim Hillenbrand | (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 FY94

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.

Two sided copying continues to be emphasized in the copy areas.

Central Office is launching a pilot program to evaluate 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 has been 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.

Food service areas of DHS have reduced waste through the elimination of plastic used in meal preparation. Faribault has realized a 1,700 pound reduction in plastic waste from this effort.

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.

Latex/water based paint are being substituted wherever possible.

X-ray solutions are being recycled or sent off site for recycling and silver recovery. Mercury and mercury solutions are also being sent off site for recycling.

Client/resident work programs are contributing to the reuse of materials and the reduction of waste being land filled.

AH-GWAH-CHING and the MPCA have developed a method 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. 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. Booths are to be set up at the annual Health Fair at AH-GWAH-CHING and a poster contest is also planned. Articles about pollution prevention are included in the campus papers at several facilities.

## 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 Brainerd resident work program has processed 60,241 tons of paper and saved $137.50 a month in solid waste fees and generated $3,365 in income to residents.

The 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 Anoka-Metro's Recreation Department recycling of 3,400 pounds 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

## 1994

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

Submit by July 1, 1994 to:

Pollution Prevention in State Government
MN Office of Waste Management
1350 Energy Lane
St. Paul, MN 55108
Attn: Paul Moss

1. Agency: Anoka Metro Regional Treatment Center

Contact Name: Corwin D. Randelman

Contact Address: 3300-4th Avenue North

Anoka, MN 55303-1119

Contact Telephone: (612) 422-4372 or 422-4150

2. **POLICY STATEMENT**

Attach agency's or department's most recent pollution prevention policy statement.

AMRTC Policy A642.00, "Pollution Prevention Management", which was developed and adopted in June, 1993, has not been changed in any form. A Pollution Management Plan was added to it, which gives guidelines to what is and is not considered recyclable, in our workplace.

3. **POLLUTION PREVENTION ACTIVITIES DURING THE FISCAL YEAR**
Describe activities undertaken to prevent pollution and hazardous waste generated by agency or department (July 1993 - June 1994). Agencies may also note other relevant ongoing activities.
**(Use additional sheets as appropriate)**

As of July 1, 1993, AMRTC has been on contract with Waste Management, who services us by providing containers for recycling, e.g., paper, cardboard, tin. They collect the aforementioned items on a weekly basis and as of this writing there have been no significant problems noted.

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 1993 - June 1994). Agencies may also note other relevant ongoing activities.
**(Use additional sheets as appropriate)**

AMRTC Policy A640 - Hazardous Waste Management 7/92
This particular policy regulates the purchase and use of materials so that hazardous waste can be minimized.

AMRTC Police A641 - Infectious Waste Management 8/92
This policy was developed so that the OSHA Bloodborne Pathogens standards could be met and guidelines provided in safely handling, storing and disposing of infectious waste material.

AMRTC Police A611.12 - Protection from Asbestos Exposure 8/92
This policy deals in part with the safe handling and proper disposal of material containing asbestos.

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 1993 - June 1994). Agencies may also note other relevant ongoing activities.
**(Use additional sheets as appropriate)**

Our Business Office formally notifies all directors, managers and supervisors that they must specify in purchase requests that materials and/or products must meet the guidelines set forth by State Procurement in terms of being non-polluting.

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)**

We will continue to use a newspaper format in informing our workplace and patients as to the importance of controlling pollution and the benefits of recycling.

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)**

AMRTC, as stated in #3, has experienced only one year of a systematic pollution prevention program, but based on the overall reduction of our solid waste output and the costs thereof, our program is difinitely showing tangible benefits.

8. **AREAS OF NEEDED ASSISTANCE**

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

Nothing 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.

Not applicable.

10. Signature of Agency or Department Head

Elaine Timmer — C. A. Nordlem for E. Timmer
Name of Agency Head

Chief Executive Officer
Title of Agency Head

June 30, 1994
Signature of Agency Head — Date

# 1994 - POLLUTION PREVENTION REPORT

## for

## St. Peter Regional Treatment Center


| | |
|---|---|
| **Agency** | St. Peter Regional Treatment Center |
| **Contact Name** | Chuck Petry |
| **Contact Address** | 100 Freeman Drive |
| | St. Peter, Minnesota 56082 |
| **Contact Telephone** | (507) 931-7226 |


### POLICY STATEMENT

St. Peter Regional Treatment Center 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 environment for our work force.

St. Peter Regional Treatment Center's environmental guidelines include the following:

Environmental protection is everyone's responsibility. It is valued and displays commitment to the Regional Treatment Center.

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

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

The Treatment Center 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.

## POLLUTION PREVENTION ACTIVITIES DURING THE FISCAL YEAR:

**Ozone reduction in the work environment** - 1. A continued effort is being made to reduce the use of the photo copiers at our Center. The excessive use of these machines increases the level of ozone in the work room environment. Where privacy is not an issue, department and general announcements are recommended in lieu of individual mailings.

**Paper use reduction** - 1. The use of postings and the encouragement of two sided copying where possible continues to be an effective means of waste reduction at the source. 2. The increased use of the computerized CHIEF Software program for preventative maintenance (PM) continues to reduced the amount of paper used. Mr. Craig Krook saves 26 reams of paper per year by backing up the PM's electronically rather than in hard copy. 3. The Center is using the computer to compile data and then send the disk rather than the paper copy for review. The Computer Information Management Systems is allowing the disk to be replaced with the modem/phone line. This will eliminate the use of the disk transfer. The computers will communicate directly with each other.

**Electrical energy reduction** - 1. The switching of incandescent light bulbs to the more energy efficient fluorescent tubes continues on schedule. Mr. Jim Schoeb typically replaced 60 watt incandescent lights with 13 watt florescent bulbs. This results in a 75% reduction in electrical usage required for lighting at no substantial reduction in footcandles.

**Substitution of less hazardous products** - 1. A supervisors continue to review the Material Safety Data Sheets with the Safety Officer prior to new product use at the facility. This has minimized exposure potential in SPRTC facility support areas.

**Solid waste reduction** - 1. The SPRTC Quality Improvement Project Team headed by Ms MaLinda Henderson, continues to demonstrate both pollution prevention at the source and cost savings through substituting disposable diapers with re-useable/washable underpads and diapers. This also resulted in a ripple effect which reduced the need for bed linen services by 25%, reduced the solid waste sent to the landfill by 33%, and provided a cost savings of $.20 per unit used. This program of using washable underpads/diapers has expanded to include most all units where the diapers had been used.

## POLLUTION PREVENTION ACTIVITIES DURING THE FISCAL YEAR: (continued)

**Pollution prevention training** - 1. Asbestos Worker Training held in April of 1994. 2. Air Monitoring Training held in May of 1994. 3. MPCA Pollution Prevention Conference held in June of 1994.

**Waste Reduction Week** - SPRTC particpated in the Waste Reduction Week activities held September 27, 1993 - October 2, 1993. Awareness of pollution sources were raised and reduced use of the copier room was emphasized.

**Proper mixing of concentrates** - 1. The SPRTC's grounds crew headed by Mr. Mark Lorentz continues to use our adjusted application ratios for herbicides, pesticides, and insecticides. Mr. Lorentz has found that the effective rates can be much less than the manufacturer's recommended ratios. This reduces the possibility of over application, run off pollution to undesirable areas, and increases the long term effectiveness of the product (slower tolerance build up). In some cases the manufacture recommended application is as much as two times the effective application determined by Mr. Lorentz. The grounds crew targets the unsightly weeds such as dandelions and then applies the herbicide during the optimal weather and moisture conditions to affect the optimal pollution prevention. 2. The SPRTC's housekeeping supervisor Ms Dee Hallock, continues the use of a pump-measuring system to maintain a uniform effective concentration of cleaning solutions. This has improve quality, uniformity and confidence in the product. Twice the concentration does not always do twice the job. It may do much more than twice the damage to the environment through improper waste and disposal of the solution. Staff have been directed to mix only amounts needed to do the job and not to store mixed solutions.

**Waste Pollution Prevention** - 1. Non-hazardous products found unopened and not required at our facility any more are listed as available for pick up. This proactive decision reduced the disposal costs and possible detriment to the environment.

**CFC Refrigeration Reclaimer** - 1. A refrigeration reclaimer was purchased and staff was trained in the proper operating procedures.

## ACTIONS TO INTEGRATE POLLUTION PREVENTION INTO REGULATORY AND POLICY ACTIVITIES

The Regional Treatment Center's environmental guidelines place the emphasis on the individual's ability to assess environmental, review possible actions, and act pro-actively, to prevent pollution where possible.

Pollution prevention has become the first priority of the Recycling Coordinator, Ms Dee Hallock. Ms Hallock has emphasized pollution prevention as a primary means of reducing the recyclables on campus.

## INCORPORATION OF POLLUTION PREVENTION INTO PROCUREMENT ACTIVITIES

The current Hazardous Waste Policy integrates pollution prevention into policy by setting standards which allow the purchasing of only the current amounts needed. Quantity purchases for price breaks is not justification for pollution.

## PLANNED POLLUTION PREVENTION ACTIVITIES

New signs are to be posted by the copy machines indicating the preferred use of both sides of the paper.

Staff trainers are to be encouraged to use the overhead projector as a means of presenting concepts to large groups. Where this is not possible, handouts are to be re-use or group-use when presenting to groups.

Purchasing of a FREON recycler for our campus use. Current regulations require the use of a FREON recycler when the potential for a release to the atmosphere is likely. Presently, due to this regulation, repairs of freezers and cooling units are contracted out to local vendors.

Assess the retro-fitting of the current CFC cooling system with a more environmentally safe refrigerant such as HCFC-22, HFC-134a, or R-12.

Assess the replacement of out dated (1964) burners on the boilers - possibly even the replacement of one boiler to a current more efficient system - a low NOX burner.

## ESTIMATED BENEFITS

### Environmental Benefits:

Paper use reduction efforts at St. Peter Regional Treatment Center is preventing paper from entering the waste cycle through using alternative

technology such as the computer disk, and procedural changes (two-side coping).

Fluorescent light sources are now providing the same basic amount of light (candlepower) but are requiring less electricity, and therefore, less demand for natural resource depletion/pollution.

The potential for environmental damage, and employee exposure to a possible hazard is reduced whenever supervisors assess the use of less hazardous alternatives. Suppliers who sell the most hazardous product alternatives do not get our business and therefore do not profit from SPRTC.

The solid waste reduction resulting from the switching to washable pads and diapers has been substantial in the area of solid waste disposal (33% less by volume).

The uniform pump-measuring system of measuring concentrated solutions provides quality assurance for the environment. It is to the environment's advantage to take the possibility of human error out of the measuring of hazardous chemicals when mixing cleaning solutions. This reduces the likelihood of accidental spills and over concentrated applications.

Applications of the effective rate, and not the manufacturer's recommended rate, of herbicides, insecticides and pesticides is more environmentally sound. The environment is not over exposed by run off or needless over production by manufacturers.

The networking of using excess products/chemicals for the benefit of the environment produces only winners. The facility distributes products/chemicals that the facility could no longer put to positive use and incurs no disposal costs. The facility or business receiving this product or chemical is able to purchase less of the product resulting less purchase cost and less production demand for the manufacturer.

## ESTIMATED BENEFITS

### Economic Benefits:

Ozone reduction in the offices will reduce the incidence of employee discomfort complaints and provide a more pleasant and productive working condition. Possibly reducing employee absenteeism and the number of sick building complaints regarding head aches and nausea.

Cost saving due to paper use reduction has not been refined to documented money savings, but is exemplified through a 50% reduction in the paper usage in the preventative maintenance program. In one program alone, 26 reams of paper will not be purchased this year. In general terms, St. Peter Regional Treatment Center expects to have reduced yearly paper costs and the paper disposal costs associated solid waste disposal by between 3% and 5%.

The replacement of incandescent lights sources with the more efficient fluorescent light sources has reduced the electric consumption costs for lighting by approximately 75%.

The use of washable pads and diapers used for incontinence/bladder control are providing a cost savings of $.20 per unit used.

The use of the uniform pump-measuring system will provide a cost benefit in that less waste will be produced.

The application of "effective rates" of herbicides, insecticides, and pesticides reduce the cost of chemicals by 50% and more in some cases.

## AREAS OF NEEDED ASSISTANCE

Engineering study to assess the retro-fitting of the current refrigerators/freezers in use at the main kitchen.

Engineering study to analyze the costs/benefits of chiller retro-fits.

Heating plant environmental assessment to establish a plan of action for pollution prevention.

# KEY POLLUTION PREVENTION CONTACTS AND RESOURCES

The best resource we have are the informed and concerned people who work with us to assess the pollution prevention options. They experience the pollution every day, and they are the ones that will define the pollution prevention strategies. SPRTC's supervisors and workers are the ones that prevent the pollution through the encouragement and assistance of the State.

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

Submitted to the State of Minnesota, Office of Waste Management on July 1, 1994 to meet the requirements of the Governor's Executive Order 91-77.

## 1. INTRODUCTION

Department of Military Affairs continues to evaluate its pollution prevention activities as the reduction or elimination of pollution at the source.

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, 56 Minnesota National Guard (MNARNG) armories, 16 (MNARNG) Organizational Maintenance Shops (OMS), one Combined Support Maintenance Shop (CSMS), a Mobilization and Training Equipment Site (MATES) and Camp Ripley Training Center.

The Department of Military Affairs continues to incorporate pollution prevention as it performs its mission. Present and proposed pollution prevention activities benefit the environment where our soldiers live as well as the environment where they work. The pollution prevention accomplished by reducing the amount of waste produced at its source reduces the amount of waste to be treated or disposed. The amount of funds expended for waste management generally reduces the exposure of troops to hazardous substances.

## 2. DEPARTMENT OF MILITARY AFFAIRS POLLUTION PREVENTION POLICY STATEMENTS

The Department of Military Affairs and all its members are committed to excellence and leadership in protecting the environment as they accomplish their missions. The Department of Military Affairs is aware that state government has an important role to play in providing leadership in protecting the environment and performing their activities to reflect this.

Minnesota Army National Guard Regulation 200-1 titled Environmental Protection and Enhancement, Item 8-5, Waste Minimization, states the generation of waste by the Department of Military Affairs activities poses both short and long term liability in terms of cost, environmental damage and mission performance. Waste can be minimized by using methods such as, but not limited to, hazardous materials substitution, closed loop recycling, process change, proper waste identification, delisting and waste segregation.

Minnesota Army National Guard Regulation 200-3 titled Hazardous Waste Management, Chapter 2, Policies, Waste Minimization, states:

***It is the policy of the Minnesota Army National Guard to minimize to the extent practical, the amount and toxicity of hazardous wastes generated as a result of its activities.***

Waste minimization practices for the Minnesota Army National Guard are as follows:

a. Re-use of materials whenever and as long as possible before determining they are wastes.

b. Recycling of degreasing solvents through a qualified and permitted contractor.

c. Segregation of waste streams to avoid contamination of non-hazardous wastes.

d. Minimization of the use of degreasing solvents for activities other than parts cleaning in tanks.

e. Substitution of less hazardous products (degreasing compounds and paints), where feasible.

The waste minimization policies stated in regulation 200-3 may not meet the most recent definitions of pollution prevention but certainly indicate the Department of Military Affairs leadership and commitment to addressing pollution potential before it is created.

Minnesota National Guard Environmental Policy also reflects the state's pollution prevention goals. Policy states that technologies that will reduce or eliminate pollution or other harm to the environment will be fully incorporated in MNARNG activities.

National Guard Environment Policy also requires the incorporation into their programs and activities the implementation of the following specific objectives:

a. Minimize the creation of waste, especially hazardous waste and, wherever possible, recycle materials.

b. Use commercially available products or services that minimize adverse environmental impacts and which are safe when commonly used.

Department of Military Affairs also views employee involvement as an essential element of the Minnesota National Guard's Pollution Prevention Policy. All MNARNG personnel are responsible for assisting in the identification, reduction and elimination of pollution at its source.

## 3. DEPARTMENT OF MILITARY AFFAIRS ACTIVITIES UNDERTAKEN TO PREVENT POLLUTION (JULY 1993 - JUNE 1994).

a. Committees: The Department of Military Affairs has three working Environmental Quality Control Committees 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 projects (environmental) which the MNARNG is performing or involved with.

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 missions (environmental) 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) apply 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 guidance necessary to implement all phases of energy management within the MNARNG facilities and its activities.

b. Training: Department of Military Affairs provided seven waste management train the trainer sessions in 1993. This training was attended by Department employees responsible for waste management activities including employees performing processes that generate hazardous waste. The training addressed pollution prevention/waste minimization and how it is considered everyone's responsibility. The course curriculum stressed improved housekeeping, material substitution, waste concentration, process redesign, recycling and reuse. These trained trainers are required to perform regular training activities for their soldiers or state employees.

c. Solvent Use:

(1) The Department of Military Affairs continues the use of a toll service company to provide a solvent recycling service that would provide one non-halogenated solvent that met the specifications of the process operators. This resulted in a reduction of volume of solvent used and the unlimited combinations of solvents for disposal.

(2) The Minnesota Air National Guard has continued to operate a stoddard solvent reclaimer. This operates at a 75% efficiency waste generated disposal/solvent reclaimed.

(3) The Minnesota Air National Guard has replaced many of their solvent systems with systems that use hot water and biodegradable detergent. This operation has produced far less hazardous waste in the form of a sludge. The Army Guard performed a pilot project utilizing aqueous parts washer rather than its solvent-based system in 1992. The MNARNG has authorized procurement of this technology and continues to install and assure correct operation of this technology.

d. Refrigerant Recycling and Leak Detection: The Department of Military Affairs continues to operate air conditioning, refrigeration and freezer space utilizing various refrigerants. The operators of these facilities have put in place a leak detection management plan with the assistance of leak detection equipment. This activity continues to provide for a substantial reduction of CFC loss to the environment. The ability to detect small leaks that in the past sometimes went unnoticed has been a sound investment in preventing pollution. The Department has also strived to make recycling of these materials required throughout the MNARNG by providing appropriate training and purchasing of required contaminant and reuse equipment.

e. Paints:

(1) Gun Washer: The MNARNG applies paints at a number of locations by the use of spray guns. Cleaning and maintaining of these guns is required to assure they operate. The maintenance of these spray guns generate waste solvents, also commonly called gun wash. The MNARNG has contracted a toll service company to install and maintain its firms gun wash machines. This has decreased the volume of disposal of hazardous waste significantly by 1/3 annually, but appears to have raised the cost of managing this waste stream slightly.

(2) The Roads and Grounds department has continued to use aqueous based products (paints) that have produced very small amounts of regulated waste from clean up of equipment as well as cut exposure of harmful agents to its employees.

f. Antifreeze Recycling:

The Air National Guard (Duluth) and MNARNG (Camp Ripley) has continued to operate an antifreeze recycler for maintenance of its vehicles.

Pretreatment is required to remove POL products prior to running fluid through recycling equipment. Recycled fluids meet all applicable military specifications and recycling technology reduces the amount of waste produced. The reduction appears to be significant but hard to quantify due to the variation in the quality of material to be recycled.

g. Paint Removal Technology: The MNARNG performs paint removal operations (sandblasting) to prepare equipment for painting. The MNARNG has been required to pay as much as $5.35/pound for disposal of residue. The MNARNG performed a number of pilot projects to evaluate paint removal technologies (chemical strip, plastic bead, metal shot, silica sand, CO2 or dry ice, sodium bicarbonate).

It was determined that the sodium bicarbonate technology was the most compatible with the policies and requirements of the MNARNG. The method used in the past (sandblasting) used eight 25 lb bags/hour. The sodium bicarbonate method used two 25 lb bags/hour. Hazardous constituents also can be separated from the paint removal abrasive to assist in assuring proper disposal. This technology also appears to be more comfortable and less harmful to the users.

h. Used Oil:

The Department of Military Affairs has continued to administer its Oil Analysis Program (OAP). This is a Minnesota National Guard statewide effort to detect impending equipment component failures and determine lubricant condition through periodic analytical evaluation of oil samples. It has become a mandatory maintenance tool for all MNARNG vehicles.

The Oil Analysis Program evaluates the residue suspended in the oil of a system. This residue indicates the parts that are wearing out and the degree of wear. A sample, properly taken and submitted, can provide the maintenance community with information about the condition of the equipment and the quality of its maintenance.

The federal equipment reliability has improved through OAP, as well as increased safety factors. By detecting the signs of impending failure at an early stage, maintenance can be performed at a lower level. This has decreased maintenance support costs and also improved readiness by reducing the number of items not operationally ready due to maintenance.

i. Fuel Recycling: MNARNG operates a fuel storage and fueling point. It also performs vehicle maintenance and tear downs that generate fuels. These fuels are stored and semiannually sampled and analyzed. This information is utilized in determining the reblending process at the storage and distribution point prior to reuse. This process has allowed for 1,500 gallons/yr of fuel to be reused. It was managed as a hazardous waste in the past.

j. Energy Reduction: The Department of Military Affairs maintains energy conservation as a high priority. The MNARNG Energy Reduction Plan states a goal to reduce energy use by 25% in all facilities over the next five to ten years. To meet this goal, it is acknowledged it will be necessary to use all options available for auditing, funding and execution of programs and projects. During the reporting period, the following energy projects have been completed: window replacement, roof replacements, and energy conservation light and HVAC retrofits. Specific project data is listed below, denoting type of project, location, project cost, annual energy savings and annual cost savings.

(1) Window Replacements: During FY 93, the following armories had window replacement completed as part of a statewide plan. The existing windows were wood clad single pane. The new windows installed are aluminum clad pane windows. The R value increased from 1.1 to 2.2 and the infiltration was reduced from approximately 77 CF/HR to 14 CF/HR. Together this would produce the following estimated energy savings for each facility and project costs:

| | | |
|---|---|---|
| Anoka Project Cost | = | $37,900 |
| Annual Energy Savings | = | 173.8 MBTU/yr |
| Annual Fuel Savings | = | 165,528 $ft^3$/yr of N-Gas |
| Annual Cost Savings | = | $625/yr |
| East St. Paul Proj. Cost | = | $26,900 |
| Annual Energy Savings | = | 165.2 MBTU/yr |
| Annual Fuel Savings | = | 157,361 $ft^3$/yr of N-Gas |
| Annual Cost Savings | = | $595/yr |
| Camp Ripley Proj. Cost | = | $82,150 |
| Annual Energy Savings | = | 846.4 MBTU/yr |
| Annual Fuel Savings | = | 806,114 $ft^3$/yr of N-Gas |
| Annual Cost Savings | = | $3,040/yr |

(2) Roof Replacements: During FY 93, the following armory had roof replacement during which the insulation value of the roof was increased to reduce the energy usage for the facility.

| | | |
|---|---|---|
| Winona Project Cost | = | $92,870 |
| Annual Energy Savings | = | 335.28 MBTU/yr |
| Annual Fuel Savings | = | 319,320 $ft^3$/yr of N-Gas |
| Annual Cost Savings | = | $1,277/yr |

(3) Energy Retrofit: During FY 93 energy retrofit projects have been started through Northern States Power's Energy Conservation Program. The following sites have been started:

| | Annual Energy Savings | Payback |
|---|---|---|
| Army Aviation Support Facility | 365,426 KWH | 8.3/yrs |
| St. Cloud National Guard Armory | 62,920 KWH | 8.33/yrs |
| East St. Paul National Guard Armory | 42,120 KWH | 4.03/yrs |
| Cottage Grove National Guard Armory | 30,220 KWH | 7.5/yrs |

(4) Audits have been completed at the following sites:

| | Annual Energy Savings | Payback |
|---|---|---|
| New Brighton-Organizational Maintenance Shops | 71,169 KWH | 5.7/yrs |
| Faribault National Guard Armory | 3,846 KWH | 6.4/yrs |
| Mankato National Guard Armory | 27,771 KWH | 6.9/yrs |
| Roseville National Guard Armory | 31,747 KWH | 10.2/yrs |
| NE Minneapolis National Guard Armory | 18,970 KWH | 5.8/yrs |

During FY 93, audits have been completed by the Department of Military Affairs at the following armories:

| | Annual Energy Savings | Payback |
|---|---|---|
| St. James National Guard Armory | 43,000 KWH | 5/yrs |
| Marshall National Guard Armory | 42,120 KWH | 4.5/yrs |
| Appleton National Guard Armory | 22,000 KWH | 4.3/yrs |

## 4. DEPARTMENT OF MILITARY AFFAIRS REGULATORY AND POLICY ACTIVITIES TO INTEGRATE POLLUTION PREVENTION IN ITS DIRECTIVES.

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 allow department personnel to efficiently and safely accomplish their missions. 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 April 1994

i. MNGR 200-4 (Infectious Waste Management)

## 5. AGENCY/DEPARTMENT PURCHASING POLICIES AND SPECIFICATIONS USED TO ENCOURAGE POLLUTION PREVENTION.

The Department of Military Affairs performs both a state and federal mission. Procurement of items for its state mission is accomplished under the direction and 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 monies. USPFO purchasing policies do not address pollution prevention directly but many of the activities they perform do allow for pollution prevention goals to be met. Examples include technology purchases being approved when payback 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 obtaining monies from this account are made through MNAG-FMO.

## 6. FUTURE ACTIVITIES TO PREVENT POLLUTION

a. Department of Military Affairs staff will continue to evaluate existing department pollution prevention pilot projects and activities. They will also continue to review technologies and proposals in the implementation of the team's pollution prevention goals and proposed activities.

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 has entered into an interagency agreement with the Office of Waste Management. The agreement describes a pollution prevention project at Camp Ripley.

(1) The project is to promote the reduction and eventual elimination of chlorine to disinfect the Camp's waste water stream prior to discharge into the Mississippi River. This project will use ultraviolet (UV) light as a bacterial controlling agent rather than addition of chemicals.

## 7. ENVIRONMENTAL AND ECONOMIC 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. 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 in the case that the receiving facility has subsequent environmental problems. There may be short term economic cost increases, but the Department is confident that the long term benefits will outweigh these costs.

## 8. ADDITIONAL POLLUTION PREVENTION ASSISTANCE NEEDED BY THE DEPARTMENT.

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, OWM, 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. AGENCY ASSISTANCE IN PREVENTING POLLUTION.

Informational and educational exchanges and forums do assist in meeting environmental goals, however, we as State agencies do have a ways to go before being described as environmentally green. Working groups could be formulated to review department functions and inform State agencies of activities they are performing that can be considered sources of pollution.

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. Copies are attached.

WAYNE A. JOHNSON
COL, IN, MNARNG
Facilities Management Officer

29 June 1994
Date

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

# NGB-ARE

# POLLUTION PREVENTION UPDATE

*A status report of key*
*ARNG Pollution Prevention initiatives*

**Contacts listed after each item**

November 30, 1993

The Pollution Prevention Update is a quarterly status report of ongoing pollution prevention initiatives in the Army National Guard. If you have any questions regarding the Update or information you would like to have included, please call Janine Guadagno, Pollution Prevention Program Manager, at (703) 607-7981.

## NEW INITIATIVES

Executive Order 12873. EO 12873, Federal Acquisition, Recycling, and Waste Prevention key elements include: mandated procurement of recycled paper - all federal purchases of printing and writing paper must contain 20 % post consumer material by the end of 1994 and 30 % by the end of 1998; no increase in Federal spending on paper goods - agencies will be required to make-up any price increase by cutting waste and using less paper; removal of unnecessary paper brightness specifications - this will allow agencies to acquire paper made with processes that minimize emissions of harmful byproducts including chlorinated compounds; streamlining of the EPA process to designate recycled and environmentally preferable products for Federal Procurement; mandated Federal procurement of re-refined lubricating oil and retread tires; appointment of a Federal environmental executive and agency environmental executives in each Department who will be responsible for carrying out the order.
Contact: Janine Guadagno, DSN 327-7981/(703) 607-7981.

Army Users Meeting for Pollution Prevention Research and Development. 2LT Francis Coulters, Hazardous Waste Specialist for the Mississippi ARNG, represented the ARNG at the 25-29 October Army's User's Needs Meeting. The purpose of this meeting was to identify, describe and rank environmental requirements in pollution prevention areas. Major program areas identified were; metals and surface finishing and cleaning; coatings applications and removal; ordnance manufacturing, ozone depleting chemicals; nonhazardous solid waste reduction; packaging; chemical agents; general base support (batteries, tires, pesticides, POL); environmentally sound weapon system development; and energy consideration and green house gas emissions. Outcomes of the meeting will be briefed at the Dec 93 ARNG Hazardous Waste Conference.
Contact: 2LT Francis Coulters, DSN 637-6229/(601) 973-6229.

**Pollution Prevention Baseline Report.** Executive Order 12856, Federal Compliance With Right-to-Know Laws and Pollution Prevention Requirements requires the development of a baseline of toxic chemical usage and release, and a subsequent 50% reduction of baseline releases by the end of CY99. CY93 will be the baseline year for the ARNG. All ARNG facilities listed in the Facility Inventory and Stationing Plan that do not respond NO in the Contract/Support field, and meet EPCRA reporting thresholds will be included in this baseline. Because of the interdisciplinary nature of the baseline data collection, it is important that it receive Command support and be tasked as a team reporting effort. The Adjutant Generals will be sent a memorandum by 30 December 1993 directing development of the baseline. At a minimum, the baseline team should consist of Shop Maintenance Officers (SMOs), Plans Operations and Training Officers (POTOs), the State Aviation Officer, the Environmental Specialist, the Safety Officer, the Director of Logistics (DOL), the USPFO, and the State Logistics Officer (SLO) if applicable. The optimal method to generate baseline data is for the chemicals users, i.e. SMOs, POTOs, State Aviation Officers, to list the products used in their workplace that require MSDS or provide copies of the MSDSs to the Environmental Specialist. The Environmental Specialist or the Safety Specialist would then identify those products that contain EPCRA reportable chemicals. Usage and distribution reports would be developed by the SLO, DOL, and USPFO for products identified as containing EPCRA reportable chemicals. The environmental specialist would use those reports to respond to EPCRA reporting requirements and the ARNG baseline report. Baseline reporting will be due to NGB-ARE by 29 April 1994. Specific information on the reporting format and program clarification will be provided to state environmental offices.
Contact: Janine Guadagno, DSN 327-7981/(703) 607-7981.

**EPCRA Training.** Executive Order 12856, Federal Compliance With Right-to-Know Laws and Pollution Prevention Requirements, requires federal agencies to comply with the Emergency Planning and Community Right-to-Know Act. Portions of EPCRA reporting requirements begin 1 January 1994 with full reporting by 1 July 1995. Headquarters, Department of the Army (HQDA), in cooperation with the Navy, has arranged for EPCRA training for individuals required to complete federal reporting. Seventy slots have been reserved for the ARNG. The Army Environmental Center will provide travel and per diem for participants. The training covers the chemicals that are covered by each section of EPCRA, the reporting and record keeping requirements, and the value of the developed information. The course also includes case studies and examples of the complexities and difficulties of EPCRA compliance. Training request forms have been sent to state environmental offices and must by coordinated through NGB-ARE.
Contact: Janine Guadagno, DSN 327-7981/(703) 607-7981.

TECHNOLOGY TRANSFER

**Pollution Prevention Made Simple.** Maryland's ARNG Aviation Support Facility brings pollution prevention to the field by using lightweight, collapsible drip pans and absorbent pads to prevent ground contamination from fuel spills. These pans and pads are used in garrisons as well as the field. The Guard also recycles used aviation fuel use in some types of motor vehicles.

**Asphalt Recycling.** Asphalt, the largest recyclable component by weight in the nation's landfills, traditionally yields an inferior product when recycled. Los Angeles is trying a new method of asphalt recycling which uses microwave technology to produce a recycled asphalt that meets virgin product standards and is cheaper and more "environmentally friendly." Cyclean, Inc. is the developer and promoter of the new technology.
Contact: Cyclean, Inc. (512) 244-2200.

**Recycling Used Military Antifreeze.** Kasco, Inc. BG Cool'r Clean'r has been approved by the Army for antifreeze recycling. The unit is currently available through the Federal Supply System from the Defense General Supply Code. The unit is portable, attaches easily to all equipment, user friendly, and simple to maintain. It solves the logistics problems of storage and transportation requirements and saves time in processing compared with other systems. It reduces 250 gallons (2,750 lbs) of liquid hazardous waste to 14 lbs of solid hazardous waste.
Contact: Mr. In-Sik Rhee, U.S. Army Belvoir RD&E Center, DSN 654-1824 or Kasco, Inc. (800) 327-8883.

**Water-Based Degreaser.** The Pennsylvania NG at Ft Indiantown Gap is utilizing a 100% biodegradable all-purpose cleaner for automotive parts, machinery, engines, and floors.
Contact: Mr. Schaffer, Ft Indiantown Gap, (717) 865-8342 or Car Cleen, Dennis Holliger, (717) 795-8995.

**Battery Matt.** The Battery Mat is used to prevent corrosion on motor vehicle batteries. The Mat is placed beneath the battery in any type of vehicle to absorb and neutralize acid when it escapes from the battery. The Mat prolongs the life of any piece of equipment in which it is installed as well as helps to prevent the leakage of hazardous substances into the environment. The Department of the Air Force, Air Force Material Command tested the Mat and found it to be effective. Action is being taken to have the material assigned a National Stock Number.
Contact: Mr. John Moroney, Air Force Management & Equipment Evaluation Program, (904) 882-4217 Ext. 230.

Degreasing. NVARNG is testing Pro-Power, a citrus based solvent, to be used in parts washing and degreasing operations without the hazardous waste end product. Pro-Power contains no chlorinated ingredients or known carcinogens; renders monthly solvent replacement obsolete; has a high flash point (up to 142 degrees F); has a high dielectric strength which eliminates electrical equipment downtime for cleaning; and contains no ozone depleting chemicals.
Contact: Loren Brazell, DSN 840-5379, (703) 887-7379.

Comparison of Solvent Alternatives. Washington ARNG is conducting a comparative study of alternatives to traditional solvents. This study includes high pressure washers, bead media cleaners and filtration. The following findings have been made:
- High pressure washers and bead media cleaners do not have the ability to do detailed work on small parts;
- There is no perpetual life solvent, filters only extended the active life of the solvent;
- The rate of filter failure and corresponding solvent life is greatly affected by operator care;
- Solvent tanks are suited best for small parts washing and light cleaning;
- High pressure, hot water, closed loop washing systems work best for large parts with heavy contamination.

Although the study is not complete the results so far show the optimum system to be comprised of a solvent tank and hot washer at each maintenance facility with a rotating distillation system sent to shops on a scheduled basis. 1 LT Gordon Matthews, the Environmental Protection Specialist for the WAARNG will present the study at the Dec 93 Hazardous Waste Conference.
Contact: 1 LT Gordon Matthews, DSN 355-7369, (206) 581-8269

Cylonic Filtering. Initial trails are being conducted in California, Texas, Connecticut, and Florida ANRG of Safety-Kleen's new Cyclonic Parts Cleaning Service. The unit uses PD-680 Type II solvent so it is predicted to provide suitable service for parts cleaning applications. The unit promises to provide significant reduction in hazardous waste generation when compared to the standard Saftey-Kleen Parts Washer. It is estimated that the standard model requires thirteen changes per year. The Cyclonic Model is predicted to requires only one change. In one year this would yield approximately a 90% reduction in hazardous waste manifested. The cost of the two services remain comparatively the same.
Contact: Tyrone Smith, DSN 466-3691, (916) 854-3691

U.S. Army Depot System Command (DESCOM) Pollution Prevention Centers of Technical Excellence (CTX) Programs. The DESCOM CTX Program was established in 1988 to lower the high cost of pollution clean-up and degradation to the environment caused by heavy metals and cleaning solvent contamination. Program goals were set to approach "0" generation of hazardous waste within seven major waste streams. Program support is through two current fund sources; the Waste Minimization Capitalization Account within the Defense Operations Funds, and the HAZMIN portion of the Defense Environmental Restoration Account. CTX research initiatives address many of problems identified in the ARNG. Coordination with the CTX program will greatly assist our pollution prevention efforts. The following is a list of POCs for CTX initiatives:

Industrial Waste Treatment of Plan Sludge and Petroleum Degreasing - Anniston Army Depot - Tim Garrett DSN 571-6350

Solvents and Halons - Anniston Army Depot - Gregory Jones DSN 571-6350

Aluminum Conversion Coating - Corpus Chrisiti Army Depot - James Holiday DSN 861-3243

Chlorofluorocarbons - Corpus Chrisiti Army Depot - Charles Gawenis DSN 861-2732

Chemical Paint Stripping - Letterkenny Army Depot - Dennis Reed DSN 570-9506

Bead Blasting - Red River Army Depot - Renita Foster - DSN 829-4117

Chlorinated Degreasing Solvents - Red River Army Depot - Edward Hanna - DSN 829-3658

Paint Wastes - Tooele Army Depot - Ken Wong/Jimmy Alvarez DSN 790-2011

Metal Painting Wastes - Tobyhanna Army Depot - Patrick Tierney DSN 795-6724

## REFERENCE DOCUMENTS AVAILABLE

Recycled Products Guide. The U.S. General Service Administration has released the latest edition of this guide. The guide helps identify the recycled and recycled content items available in the GS/FSS Supply system. To get on the mailing list to receive a copy of this guide contact the Federal Supply Services (817) 334-5215.

planning information to the LEPC by 3 August 1994. The ARNG Hazardous Chemical Report, which will be used to document and track reductions in toxic releases, is due to the ARNG by 30 April 1994. Format for this report will be determined at the ARNG National Environmental Workshop. Facilities which meet EPCRA Section 311 one-time reporting requirements must report to the Local Emergency Planning Commission by 3 August 1994.
Contact: Janine Guadagno, DSN 327-7981/(703) 607-7981.

**NEPA.** The ARNG Conservation/NEPA Branch has recently gained new personnel and has undergone a reorganization. The personnel and their NEPA areas are as follows:

Dr Marc Imlay - Acting Branch Chief
(DSN 327-7989)

Eric Andersen - NEPA
(DSN 327-7969)

| | | |
|---|---|---|
| MAJ John Phillippe - (DSN 327-7984) | Washington | New Mexico |
| | Oregon | Utah |
| | California | Colorado |
| | Alaska | Wyoming |
| | Hawaii | Idaho |
| | Nevada | Montana |
| | Arizona | |
| CPT Tracy Norris - (DSN 327-7986) | Michigan | Indiana |
| | Ohio | Pennsylvania |
| | Maryland | Delaware |
| | New Jersey | New York |
| | Massachusetts | Rhode Island |
| | Vermont | Connecticut |
| | Maine | New Hampshire |
| | District of Columbia | |
| Chris Williams - (DSN 327-7985) | West Virginia | Virginia |
| | Kentucky | Tennessee |
| | North Carolina | South Carolina |
| | Georgia | Florida |
| | Mississippi | Alabama |
| | Louisiana | Texas |
| | Puerto Rico | Virgin Islands |
| 1LT Colleen Martin - (DSN 327-7983) | Wisconsin | Minnesota |
| | Illinois | Missouri |
| | Arkansas | Oklahoma |
| | Kansas | Nebraska |
| | North Dakota | South Dakota |
| | Iowa | Guam |

Provided at attachment 1 are all EA and EIS's currently on file at NGB. In the event your state is doing a similar EA or EIS to those listed, you may contact your NEPA representative to get a copy of the document to use as an example (keep in mind quality varies).

Natural and Cultural Resources. The following is a list of points of contact for program areas:

| | |
|---|---|
| Chris Williams:<br>(DSN 327-7985) | Erosion Control<br>Wetlands |
| CPT Tracy Norris:<br>(DSN 327-7986) | Cultural Resources<br>Threatened and Endangered Species / Biodiversity<br>Legacy |
| MAJ John Phillippe:<br>(DSN 327-7984) | Integrated Natural Resources Management Plan<br>Agronomy Wildlife Management<br>Forestry Outdoor Recreation |
| 1LT Colleen Martin:<br>(DSN 607-7983) | Geographic Information Systems - NGB<br>Matching military training load with land capability<br>Pest Management |
| CPT Aaron Price:<br>(801-750-2792) | Geographic Information Systems - Utah State |
| Marj McHenry:<br>(208-389-5285) | ITAM - Idaho |

Legacy. Notification of the States which have Legacy projects approved will be coming in the following weeks. A list will be provided in the following newsletter. Make sure Legacy projects submitted are put on the DB 1383 and denoted as Legacy. This is also found in the DB 1383 Guidance Handbook.
Contact: CPT Tracy Norris, DSN 327-7986.

Historic and Cultural Resource Preservation. Please delay the signing of any federal programmatic or other agreements for state land or property with the State Historic Preservation Offices until the appropriate application of Section 106 of the National Historic Preservation Act regarding armories can be assessed and worked out with the Advisory Council on Historic Preservation. A cultural resource survey will be handed out at the National Workshop. Please complete the survey so we can start compiling a database to track what has been accomplished and which states have needs. We are using the DB 1383 but more information is needed. Some of the questions must be reported to the Department of the Interior annually under the Archeological Resources Protection Act (ARPA).
Contact: CPT Tracy Norris, DSN 327-7986.

Integrated Training Area Management (ITAM) Program. ITAM is in a transition state, moving from the U.S. Army Construction Engineering Research Laboratories (USACERL) to U.S. Army Environmental Center's (USAEC). This transition is to take place throughout FY 94. The hope is to have USAEC fully managing ITAM by 1 October 1994.
Contact: Marj McHenry, 208-389-5285.

## TECHNOLOGY TRANSFER

Product Substitute for a Break-Free Cleaner. PRO-ACT reviewed the Department of Defense DoD Hazardous Material Information System for information on products listed under Break-Free Cleaner (NSN 9150-01-079-6124, MILSPEC MIL-L-63460). There are currently 23 different products listed under this specification, and all of them are formulated with chlorinated solvents that are class I ozone depleting substances. Break-Free is currently working with the appropriate DoD agencies to qualify nonchlorinated products for military use under revision E of MIL-L-63460. Break-Free currently offers similar commercial products that do not contain ODCs; however, they are not approved. Use of an unqualified product must be coordinated through the C-130 Management Directorate at Warner Robins Air Logistics Center. As of 19 November 1993, Break-Free stated they had passed all QC tests for DoD and are awaiting final approval from Picatinney and procurement by the Defense General Supply Center. Bill Trimbley at Picatinney (201-724-6671) is the engineer conducting the QC tests.
Contact: Russ Dudley, VAARNG, (804) 775-9401.

Fire Extinguishing Agent and Microbial Dispersant for Spills. MICRO-BLAZE is a blend of three strains of selective microbes in an environmentally safe solution of specialty cleaners. The use of this product enhances biological processes. These "friendly" microbes are the primary decomposers of all organic materials. They readily attack the simplest fats, greases and oils; as well as the hazardous spills of other hydrocarbon products. MICRO-BLAZE can be used as a grease trap treatment as well as a general floor and drain cleaner, with no other drip system requirements. It actually digests the waste and does not simply liquefy it, to be sent down the drain. MICRO-BLAZE has shown to be extremely effective in controlling stains and odors in all materials, including carpet and concrete, and has proved to be effective in remediation and fire control in Kuwait. Verde Environmental is the product developer (713) 691-6468.
Contact: MAJ Donald Tryce, TXARNG, DSN 954-5629, (512) 465-5629

## TRAINING OPPORTUNITIES

Department of Defense Sponsored EPCRA Course. This four-day course covers basic EPCRA reporting requirements, threshold analysis and Army specific reporting issues. States are encouraged to send at least one participant. Registration, travel, and per diem will be paid for participants by the Army Environmental Center. State employees will be provided invitational travel orders. Federal

employees will be provided a fund cite. State employees must annotate on their course registration form that they require invitational travel orders. If registration was submitted without identifying the individual as a state employee, then the participant must contact Charles Harris, EPCRA training coordinator for the Army Environmental Center, (410) 671-1207, and notify him that they require invitational travel orders. This is a limited training opportunity and cutoff dates are rapidly approaching for enrollment. Course registrations were due to NGB-ARE by 1 January 1994, but we are still accepting registration forms. States may elect to send more than one participant.
Contact: Janine Guadagno, DSN 327-7981/(703) 607-7981.

**EPCRA Technical Video.** The Army Environmental Center has developed a two-hour EPCRA technical video. The video has a 15-minute overview which is directed at commanders. It provides summaries of EPCRA Sections 301-303, 304, 311-312, and 313 reporting requirements and is accompanied with a publication list. Each state will receive a copy of the video at the National Environmental Workshop.
Contact: Janine Guadagno, DSN 327-7981/(703) 607-7981.

**Pollution Prevention in the Acquisition Process Course (ALMAC-PP).** This one week long course covers the Army's Pollution Prevention Program to include the National Defense Center for Environmental Excellence; the identification of manufacturing treatments and processes that use hazardous materials and produce hazardous waste/other pollutants; federal and military (AR 70-1 and DODD 5000.1) regulations governing environmental pollution; responsibilities of the logistics community in pollution prevention during weapons system acquisition; alternative nonpolluting manufacturing processes and techniques; and incorporation of pollution prevention requirements in the statement of work, source selection criteria and acquisition documents.
Contact: Steve Grisham, DSN 539-4315/(804) 765-4315/4806.

**Executive Environmental and Hazardous Materials Course for Program, Project, and Product Managers.** This 16 hour long course covers environmental laws and regulations, the Army Environmental Program, pollution prevention in the acquisition process, alternative non-polluting technology, the role of the Environmental Coordinator in pollution prevention, environmental considerations in the acquisition process, establishment and responsibilities of the environmental management team, pollution prevention programs, ozone depleting chemicals, cadmium, beryllium, and Waste Reduction Resource Centers.
Contact: Jerry Holsinger, DSN 539-4314/(804) 765-4314

1994 DoD Fish and Wildlife Training Session. This session is hosted by the National Military Fish and Wildlife Association. Once again, our training sessions are being held in conjunction with the North American Wildlife and Natural Resources Conferences sponsored by the Wildlife Management Institute. This year's conference is being held in Anchorage, Alaska, 20-26 March 1994.
Contact: Junior Kerns, (907)353-6249 or 1LT Colleen Martin, DSN 327-7983.

The Third Annual Range Workshop. This workshop is in support of the Army National Guard Range Program. It will be conducted 1830, 21 March to 2130 on 24 March 1994 at Camp Williams, Salt Lake City, Utah. The focus of the workshop is Training Site Support for Army National Guard ranges. The workshop will integrate the training and support functions of initial planning, programming, safety, engineering, funding, maintenance, operations, automation, simulation devices, and environment.
Contact: 1LT Colleen K. Martin, DSN 327-7983.

Wetland Environmental Compliance Training Course. The Wetlands Research and Technology Center (WRTC), U.S. Army Engineer Waterways Experiment Station will conduct two training sessions at Duck, North Carolina, 11-15 April 1994 and 18-22 April 1994.
Contact: Chris Williams, DSN 327-7985.

NEPA Writers Course. Duke University will be hosting and NGB-ARE will be sponsoring the NEPA Writers Course, 23-27 May 1994 at Durham, North Carolina. This Course is intended for individuals who frequently are required to write REC's, EA's and support EIS requirements. The focus will be on document preparation, organization, analysis and evaluation. Participants are requested to bring one projected or ongoing environmental projects from home station that can be worked on throughout the course. Student space is limited to thirty (30). DUKE will be mailing out an announcement in the next few weeks.
Contact: Eric Andersen, DSN 327-7969.

DoD Pest Management Course. This is a three week course sponsored by AMEDD Center & School Preventive Medicine Zoology Branch, Fort Sam Houston, Texas. The three-week course is for certification. There is a one-week course for recertification. Dates are as follows:

| | |
|---|---|
| Certification | 8 May 94 through 27 May 94 |
| | 7 Aug 94 through 26 Aug 94 |
| Recertification | 11 Sep 94 through 16 Sep 94 |

Contact: Medical Zoology Branch, 471-5270/4278

REFERENCE MATERIAL

**The Automotive Repair Industry and Vehicle Maintenance: A Self-Assessment Guide to Waste Prevention, Education and Management.** Reported to be a good common sense publication on pollution prevention. The guide may be obtained through the WI Pollution Prevention Information Clearinghouse (608) 264-8852.
Contact: Neal Jacobson, DSN 344-5169.

**EnviroText.** EnviroText is EPA's Superfund Program full-text, one-step, paperless public environmental library. It is in its final year of development and is projected to be a comprehensive knowledge base for site management, environmental protection, pollution prevention, restoration planning and environmental litigation. EnviroText includes an on-line introduction to EnviroText and extensive help files, plus: the whole US Code; all CFR titles on environment and OSHA; EPA Superfund publications catalog, AAARs policy, and RODS data base; DOE's National Historic Properties and Wetlands Fact Sheets; Outstanding Rivers List; CEQ Forty Questions About NEPA; US Indian policies; International treaties; abstracts of States' regulations; and abstracts of key US statutes. Before it is released, EnviroText will contain: the Federal Register; full text of states' environmental and OSHA regulations and statutes; congressional update; DOJ's abstracts of state criminal environmental statutes, environmental consent decrees and key legislative histories; EPA general counsel opinions; and Indian tribal law codes. Throughout FY 94, EnviroText will be open to users from the Army as a pilot system with its own helpline (1-800-NET-ETRS), at no cost. The DOD electronic bulletin board (DENIX) includes the EnviroText Retrieval System as a menu choice. Any ARNG employees interested in logging on, may call CERL at 1-800-642-3332 to request a password and user manual, as well as training.
Contact: Janine Guadagno, DSN 327-7981/(703) 607-7981.

**Pollution Prevention on DENIX.** Pollution prevention information is being added to the DENIX system by the Navy Engineering Service Center, Port Hueneme, CA.
Contact: Gary Gasperino, (805) 982-2638.

**Hazardous Technical Information Services.** Tables have been created listing Defense General Supply Center-managed NSNs recently introduced to the Federal Supply System. These materials are more "environmentally-acceptable" substitutes for some chemicals currently being used or for those being phased out of production. To obtain these tables or receive information on the items listed in the tables contact Mr. Cliff Myers DSN 695-3995, or Ms. Cindy Cross DSN 695-6054.

**Ozone Depleting Substances: EPA's Snap List.** The United States Environmental Protection Agency (EPA) has published its long-awaited list of alternative substances and uses for chemicals that are known to deplete earth's stratospheric ozone layer. EPA is required to make this list available under the Significant New

Alternatives Policy (SNAP) pursuant to Section 612 of the Clean Air Act of 1990. EPA has published a proposed rule that lists substitute chemicals which have been evaluated as either acceptable or unacceptable for specific ozone depleting chemicals. The first list, signed by EPA Administrator Browner on 23 April 1993, was published in the 12 May 1993 Federal Register. Hazardous Technical Information Services hopes to make the SNAP list available in the future (1994) on a electronic bulletin board.
Reference: Federal Register, 58 FR 28094, May 12, 1993.

Material Safety Data Sheet Tracking Program. Oklahoma National Guard's Organizational Maintenance Shop #18 developed the Material Safety Data Sheet (MSDS) tracking program. This computer data base has the capability of printing the appropriate reports that must be included in the "Right to Know Book." The data base is also capable of printing several reports to include a Hazardous Chemical Inventory List and labels used to mark the hazardous material storage paints. It will also store records required by the Occupational Safety and Health Act (OSHA).
Contact: Mr. Stephen R McCushing, OKARNG, Tulsa Oklahoma.

Hazardous Materials Information Network, "HAZMIN." HAZMIN is a tracking system that controls and monitors hazardous materials at the Watervliet Arsenal (WVA). The goal of HAZMIN is to establish a database of applications/usage of hazardous materials at WVA. HAZMIN is comprised of two unique processes. The first process is the control of the procurement of hazardous material. End users are required to submit a one-time request for each application of a hazardous material in their specific work area. This request is reviewed by a committee consisting of representatives from each organization involved in the environmental and safety arena. The second process involves the tracking of the material after it arrives at WVA. This system tracks the material from the loading dock to the specific waste stream to the material/wastes final destination. On-line information such as the current quantity of material located at each work area will available 24 hours a day.
Contact: Rick Bailliez, Logical Technology, Inc., (309) 689-2930.

## AWARDS

CY93 Environmental Awards Program. This year there were two states that submitted packets. The State of Indiana Submitted for the Pollution Prevention Award, Environmental Quality Award and Natural Resources Conservation Award. The State of Georgia has submitted an Individual Submission for the Environmental Quality Award. The U.S. Army Environmental Center will judge the submissions and submit the Army winners to the Office of the Secretary of Defense on 21 March 1994. Winners of the Army awards are automatically the nominees for the OSD awards. OSD awards will be judged on 18-19 April 1994. Good Luck to those who did submit.
Contact: 1LT Colleen K. Martin, DSN 327-7983.

CY92 Army Hazardous Waste Minimization (HAZMIN) Award Winners. Maryland's Combined Support Maintenance Shop at Harve de Grace was selected as a winner of the 1993 Secretary of the Army HAZMIN Incentive Awards. They were recognized for their significant environmental achievements which included the procurement of excellent waste minimization equipment and for demonstrated proactive management in the recycling arena. The unit will receive a monetary award of $15,000. On 8 March 1994, the Secretary of the Army will formally present the HAZMIN award. Congratulations to this unit for a job well done!
Contact: Janine Guadagno, DSN 327-7981.

Attachment 1

## EA/EIS currently on file at NGB

| | | |
|---|---|---|
| ALABAMA | | |
| EA | RANGE CONSTRUCTION 105MM, PELHAM RANGE | 1981 |
| EA | TANK TABLE VI, FORT MCCLELLAN | 1984 |
| EA | DISPOSAL CHEMICAL AGENTS, ANNISTON ARMY DEPOT | 1991 |
| EA | FORT MCCLELLAN, ONGOING MISSION | 1980 |
| EA | CONSTRUCTION POL FACILITY, DANNELLY FIELD | 1991 |
| EA | AIRCRAFT DEVELOPMENT TEST ACTIVITY | 1978 |
| ALASKA | | |
| EA | CAMP CARROLL EXPANSION | 1990 |
| EIS | COASTAL ZONE MANAGEMENT PLAN | 1990 |
| ARKANSAS | | |
| EA | 100 MAN ARMORY HOT SPRINGS | 1977 |
| EA | OMS, MALVERN | 1984 |
| EA | OMS MARIANNA | 1979 |
| EA | 150 MAN ARMORY, CONWAY | 1977 |
| EA | ARNG AV & USAR SPT FACILITY-ALTERATIONS,ADDITIONS | 1976 |
| EA | NG PROFESSIONAL EDUCATION CENTER (SIDEWALKS) | 1978 |
| EA | TRAINING FACILITY, CAMP ROBINSON | 1978 |
| EA | ALTERATION & ADDITIONS TO PEC | 1978 |
| EA | ADDITION OF ROOF CANOPY & FLOOR BLDG 1006 | 1978 |
| EA | PISTOL RANGE ALTERATIONS & ADDITIONS, CP ROBINSON | 1978 |
| EA | ADDITIONS/ALTERATIONS TO OMS, CAMP ROBINSON | 1978 |
| EA | ADDITIONS/ALTERATIONS TO USPFO, CAMP ROBINSON | 1978 |
| EA | EA FOR MULTIPLE CONSTRUCTION, CAMP ROBINSON | 1984 |
| EA | 60 MAN ARMORY AT PARIS | 1984 |
| EA | PURCHASE OF 1.9 ACRES OF LAND USAR CENTER CAMDEN | 1979 |
| EA | 100 MAN ARMORY, MENA | 1978 |
| EA | 100 MAN ARMORY, HOPE | |
| EA | 60 MAN ARMORY, NEWPORT | 1975 |
| EA | LAND ACQUISITION, FORT CHAFEE | 1978 |
| ARIZONA | | |
| EA | REUSE, CAMP NAVAJO | 1993 |
| EIS | USE PUBLIC LANDS/LUKE AIR FORCE RANGE | 1992 |
| EA | 600 PERSON BARRACKS, CAMP NAVAJO | 1992 |
| EA | PICACHO PEAK AIRFIELD STAGEFIELD | 1992 |
| EA | FUTURE DEVELOPMENT, FORT HUACHUCA | 1978 |
| EA | NAVAJO ARMY DEPOT, INSTALLATION ASSESSMENT | 1979 |
| EA | S ARIZONA AUXILIARY AIRFIELD | 1981 |
| EA | INSTALLATION EA, FORT HUACHUCA | 1976 |
| EA | INSTALLATION EA, YMA PROVING GROUNDS | 1978 |
| EA | ENVIRONMENTAL SURVEY NAVAJO DEPOT | 1981 |
| EA | ESTABLISHMENT OF A W ARMY NG AVIATION TRNG SITE | 1982 |
| EIS | CLEARING VEGETATION, SALT/GILA RIVER, MARICOPA | 1981 |
| CALIFORNIA | | |
| EA | CONSTRUCTION ARMORY, LAKE COUNTY | 1991 |
| EIS | ESTABLISHMENT ARMED FORCES RC, LOS ALAMITOS | 1973 |
| EIS | GROUND SQUIRREL CONTROL, FORT ORD | 1977 |

EIS IMPLEMENTATION OF PARKS RESERVE FORCES TA, DUBLIN 1988
EIS RELOCATION 146 TACTICAL AIRLIFT WING, CAARNG 1982
EIS NATIONAL TRAINING CENTER, FORT IRWIN 1982
EA CAMP ELLIOT/MIRAMAR NAS 1982
EA INSTALLATION MASTER PLAN, LOS ALAMITOS 1982

COLORADO

EA LAND ACQUISITION & OPERATION "FLATIROUS" PROPERTY 1992
LTA MEMO OF LTA 1991 CONNECTICUT
EA PROPOSED CONVERSION FROM SIKORSKY CH-54B SKYCRANE HELICOPTER TO BOEING CH47D CHINOOK HELICOPTERS AT THE AASF WINDSOR LOCKS 1992
EA MASTER PLAN CONSTRUCTION AT NIANTE TRAINING SITE 1986
EA MASTER PLAN CONSTRUCTION AT CAMP HARTELL 1986

DELAWARE

EIS COASTAL MANAGEMENT PROGRAM 1982

DISTRICT OF COLUMBIA

FLORIDA

EIS FLORIDA COASTAL MANAGEMENT PROGRAM 1981
EA LICENSES FOR FLARNG TO USE AVON PARK 1981
EA CONST/REHAB RANGE EXPANSION, CAMP BLANDING 1984

GEORGIA

EA TRANSFER OF PROPERTY 1991
EA AASF DOBBINS AFB 1980
EIS CHANGE OF MISSION, FT STEWART/HUNTER ARMY AIRF 1976

GUAM

EA ESTABLISHMENT OF NATIONAL GUARD UNIT IN GUAM 1981
EA ACCESS EASEMENT AIRFORCE LANDS, SEIBU 1981

HAWAII

EIS COASTAL ZONE MANAGEMENT PROGRAM 1972
EA AR AV FLGHT ACTVTY FOR ALTERATION OF AN AMMO
EA AASF & ARMORY EXPANSION 1981
EA OMS FORT RUCKER 1975

IDAHO

EIS ORCHARD TRAINING AREA - FACILITY DEVELOPMENT 1989
EMAR ORCHARD TRAINING AREA, BASELINE TECHNICAL MEMOR. 1987
EA BOISE AIR TERMINAL 1978
EA LOW LEVEL HELICOPTER FLIGHT TRAINING, IDARNG 1977

ILLINOIS

EA PROPOSED PANTHER CREEK TRAINING AREA, CASS CNTY 1992
EA ACTIVITIES AT GREATER PEORIA REGIONAL AIRPORT 1985
EA ILANG PROPOSED LAND ACQUISITION & PROPOSED CONSTRUCTION OF THE RELOCATED BASE FOR 182ND TACTICAL AIR SUPPORT GROUP 1986
EA MARSALLES TRAINING SITE 1983
EA MARSALLES SMALL ARMS RANGE
PAS REAL ESTATE TRANSACTION 1990

INDIANA

EA CONSTRUCTION AASF, KNOX, INDIANA 1988
EA MULTIPLE CONSTRUCTION, CANTONMENT, CAMP ATTERBURY 1988
EA CAMP FOWLER, MASTER PLAN 1978
EIS FORT BENJAMIN HARRISON, ONGOING MISSION 1980
EA ESTABLISHMENT OF QUARRY TRAINING SITE AT ARFFA
EA ATTERBURY RESERVE FORCES TA, CANTONMENT AREA & TA 1973
EA CONSTRUCTION AASF, WARSAW, INDIANA 1986

IOWA

| | | |
|---|---|---|
| EA | 70 ACRE LAND ACQUISITION, CAMP DODGE, JOHNSTON | 1992 |
| EA | 252.9 AC LAND ACQUISITION CAMP DODGE, JOHNSTON | 1989 |
| EA | 650 ACRE LAND ACQUISITION CAMP DODGE, JOHNSTON | 1990 |
| EA | 135 ACRE LAND ACQUISITION CAMP DODGE, JOHNSTON | 1990 |
| EA | 28 ACRE LAND ACQUISITION CAMP DODGE, JOHNSTON | 1986 |

KANSAS

| | | |
|---|---|---|
| EA | DLOGS FACILITY - KANSAS CITY | 1975 |
| EA | NICKELL BARRACKS TRNG CENTER, SALINA AIRPORT | 1992 |

KENTUCKY

| | | |
|---|---|---|
| EA | WESTERN KENTUCKY TRAINING SITE | 1993 |
| EA | BLDG DEMO SITE, GRADING & MUTA UNIT FLD TRNG | 1982 |
| EA | WEEKEND TRAINING SITE, WHITLEY COUNTY | 1982 |
| EA | E. KY WEEKEND TRAINING SITE, CLAY & POWELL CNTY | 1983 |
| EA | MASTER PLANING PHASED DEVELOPMENT OF BOONE NGC | 1984 |
| EBS | S. KY LOCAL TRAINING AREA, PULASKI CO. | |
| EMR | KARST HYDROLOGY SURVEY OF BOONE NATIONAL GRD CTR | 1984 |
| EMR | DRAINAGE DETERMINATION FOR THE BOONE NAT GRD CTR | 1984 |
| EMR | NOISE SURVEY OF TRAFFIC PATTERN AREA | 1983 |
| EIS | ONGOING MISSION OF FORT KNOX KENTUCKY | 1980 |
| EA | LAND ACQUISITION AND UTILIZATION FOR S. KY LTA | 1989 |
| EA | BOONE NATIONAL GUARD CENTER | |

LOUISIANA

| | | |
|---|---|---|
| EA | EXPANSION CAMP BEAUREGARD SMALL ARMS RANGE COMP. | 1992 |

MAINE

| | | |
|---|---|---|
| EA | BOG BROOK CAMP COMMAND & CONTROL CENTER | 1983 |
| EA | LAND ACQUISITION & CONST OMS, BANGOR AIRPORT | 1983 |
| EIS | MAINE COASTAL PROGRAM | 1978 |
| EA | DEEPWOODS TRAINING SITE | 1988 |

MARYLAND

| | | |
|---|---|---|
| EA | FORT RITCHE ARMORY, WASHINGTON COUNTY | 1993 |
| EA | ABERDEEN- MASTERPLAN PHASE II,FUTURE DEVELP. | 1978 |
| EA | ABERDEEN MASTER PLAN PHASE IV EXPANSION CAPABIL | 1979 |
| EA | ABERDEEN MASTER PLAN PHASE 1, BASIC INFO | 1978 |
| EIS | ABERDEEN INSTALLATION EIS | 1978 |
| EIS | STATE OF MARYLAND COASTAL MANAGEMENT PLAN | 1978 |
| EA | LAND PURCHASE AARON STRAUS WILDERNESS AREA | 1985 |

MASSACHUSETTS

| | | |
|---|---|---|
| EA | AIRCRAFT CONVERSION 102ND FIGHTER INTERCEPTOR | 1987 |
| EA | PRESCRIPTION BURNING IMPACT AREA, MMR | 1988 |
| EA | CAMP EDWARDS MASTER PLAN/MULTIPLE CONSTRUCTION | 1985 |

MICHIGAN

| | | |
|---|---|---|
| EMAR | CAMP GRAYLING | 1990 |
| EIS | MISSION/CONSTRUCTION CAMP GRAYLING | 1989 |
| EA | FAADS - CAMP GRAYLING | 1989 |
| EIS | AASF & 400 AMN ARMORY, GRAND LODGE | 1984 |
| EA | MULTIPLE CONSTRUCTION, MONTAGUE | 1983 |
| | FORT CUSTER MASTER PLAN | 1985 |
| EA | FORT CUSTER RESERVE TRAINING SITE | 1980 |
| EIS | COASTAL MANAGEMENT PROGRAM | 1978 |

MINNESOTA

| | | |
|---|---|---|
| EA | CONSTRUCTION OF MNARNG ARMORY | 1983 |
| EA | MULTIPLE CONSTRUCTION AT CAMP RIPLEY | 1984 |

FNSI REORGANIZATION/INACTIVIATION/TRASFER/RESTATIONING 1992
EA FERRELL LAKE MANAGEMENT PLAN, CAMP RIPLEY 1990
EA FIELDING & OPERATION OF BRADLEY FIGHTING VEHICLE 1990
EA MISSION EXPANSION/MULTIPLE CONSTR, CAMP RIPLEY 1988
EA MASTER PLAN, CAMP GRAYLING 1986
EA ANALYSIS OF EXISTING CONDITIONS FOR CAPABILITIES
EA CAMP RIPLEY ENVIRONMENTAL MANAGEMENT PLAN 1988

MISSISSIPPI
EIS CAMP SHELBY PROPOSED IMPLEMENTATION & FACILITIES 1991
EIS MILITARY TRAINING USE OF NATION FOREST LANDS 1991
EIS LEAF & BOWIE RIVERS HATTIESBURG & PETAL 1983
EMAP ENVIRON. ANALYSIS & MANGEMENT PLAN, CP SHELBY 1987
EIS MS COASTAL PROGRAM 1980
EA CAMP SHELBY MANEUVER AREA
EA IMPLEMENTATION MASTER PLAN & COMPONENTS PLANS, CAMP MCCAIN TRAINING SITE 1992
BA BIO ASSESSMENT - LAND ALTERING ACTIVITIES OF MS ARNG ON THE FEDERALLY THREATENED GOPHER TORTOISE 1988
EA PROPOSED LAND ACQUISITION & ALNMD USE 1993
EA PROPOSED AIRPORT IMPROVEMENTS, GRENADA
EA RANGE IMPROVEMENTS & ALTERATIONS, CAMP SHELBY 1981
CLOSURE\POST - CLOSURE PLAN FOR EXPLOSIVE ORDINANCE DETACHMENT OPEN DETERMINATION UNIT AT CAMP SHELBY TRAINING SITE 1992

MISSOURI
EA CAMP CLARK/FT CROWDER TRNG COMPLEX 1982
EA MACON TRAINING SITE 1992
MASTER PLAN FORT CROWDER 1980
EA ASSAULT LANDING STRIP, CAMP CROWDER 1991

MONTANA
MASTERPLAN- FT WILLIAM HARRISON/LIMESTONE HILLS 1987
EA WACO TRAINING AREA 1983

NEBRASKA
EA CONSTRUCTION CSMS/USPFO, LINCOLN 1993
EA CONSTRUCTION ARMORY/AIRCRAFT PARKING RAMP 1991
EIS MASTERPLAN, CAMP ASHLAND 1984
EIS ENVIRONMENTAL PLAN, CORNHUSKER 1978
EA CAMP ASHLAND UPGRADE/EXPANSION 1992
EA SOUTH LINCOLN COMPLEX 1991
EA NEARNG TRNG/MAIN SITE AT CORNHUSKER AAP GRAND ISL 1985
EBS CAMP ASHLAND 1990

NEVADA
EA PROPOSED RESERVE COMPONENT TRAINING CENTER 1989
EA STEAD TRAINING SITE 1987
SPECIAL NEVADA REPORT 1990

NEW HAMPSHIRE

NEW JERSEY
EIS COASTAL MANAGEMENT PROGRAM 1978
EA PROPOSED HELICOPTER OPERATIONS, ROAD ACQUISITION & IMPROVEMENT AND FACILITY CONSTRUCTION, WARREN GROVE GUNNERY RANGE 1992

NEW MEXICO
EA HAWK PROJECT LOCATED IN SANDOVAL CNTY 1993
EA MULTIPLE CONSTRUCTION AT SANTE FE 1987

EA YEAR ROUND DEPLOYMENT ACTIVITIES, ROSWELL 1990
EIS CAMP SWIFT LIGNOTE LEASING, BASTROP CNTY

NEW YORK
EA NOISE ASSESSMENT - REHAB OF AASF, ISLIP 1987
EA REHAB & CONSTRUCTION AT EXISTING GUILDERLAND RGE 1986
EA ARMORY CONSTRUCTION AT DRYDEN 1985
EA MULTIPLE CONSTRUCTION - ALBANY CNTY AIRPORT 1984
EA RECONST. OF NY ST ARMORY & OMS, BUFFALO 1983
EA MULTIPLE CONSTRUCTION - MONROE COUNTY AIRPORT 1984
EA MULTIPLE CONSTRUCTION CLINTON COUNTY
EA ONGOING ACTIVITIES, CAMP SMITH 1988

NORTH CAROLINA
CONSTRUCTION, CAMP BUTNER 1994

NORTH DAKOTA
EA CAMP GRAFTON TRAINING SITE 1991
EA DEVILS LAKE MUNICIPAL AIRPORT, LAND ACQUISITION 1983
CAMP GRAFTON MASTER PLAN 1987

OHIO
EA CONSTRUCTION 4EA 200 PERSON BARRACKS 1983
EA POST DISPENSARY BLDG 8 CAMP PERRY 1983
EA WAREHOUSE BLDG CAMP PERRY 1983
EA CONSTRUCTION - BN MAINTENANCE SHELTER 1983
EA CONSTRUCTION - WATER TREATMENT PLANT 1983
EA CONSTRUCTION - 175 PERSON BARRACKS 1982
EA HAWK MISSLE TRAINING SITE 1992
EIS AKRON-CANTON REGIONAL AIRPORT, NORTH CANTON 1980

OKLAHOMA
EA CONSTRUCTION/MISSION EXPANSION, CAMP GRUBER 1984
EA CONSOLIDATED STATE MAINTENANCE SHOP(CSMS) 1992
EA RELOCATING AND CONSTRUCTION OF CSMS
EA MAJOR TRAINING SITE AT FORT SILL

OREGON
EA ORARNG TACTICAL TERRAIN FLIGHT TRAINING AREA 1989
EA MULTIPLE CONSTRUCTION AT CAMP WITHYCOMBE 1986

PENNSYLVANIA
EA 60 PERSON BOQ/MED FACILITY, FT INDIANTOWN GAP 1977
EA EXPANSION AVIATION FACILITIES, 1984
EA AASF & MATERIAL, PERSONNEL & OPERATION CHANGES 1988
EA CONSTRUCTION, RANGE 27 1992

PUERTO RICO

RHODE ISLAND
EIS COASTAL MANAGEMENT PLAN 1978

SOUTH CAROLINA
EA TRACKED VEHICLE CONVERSION, LEESBURG, TS 1994
EA WEEKEND TRAINING SITE (WETSITE) FORT JACKSON 1978
EA LAND ACQUISITION, TWO TRACTS GREENWOOD COUNTY

SOUTH DAKOTA
EIS MASTERPLAN - CAMP RAPID/FORT MEADE 1987
EA CAMP RAPID TRAINING SITE 1984
EA MASTERPLAN - CAMP ROSENBAUM 1989
EA BLACKHILLS NATIONAL FOREST 1989

TENNESSEE
EBS LAND ACQUISITION - JOHN SEVIER RANGE 1990
EA SPENCER RANGE TRAINING SITE, NASHVILLE 1984

EA TRAINING EXERCISE - HUBBARD'S CAVE 1985
EA CONSTRUCTION OF ARMORY, HONEWALD 1978
EA CONSTRUCTION OF ARMORY, LEBANON 1982
EA CONSTRUCTION OF ARMORY, SWEETWATER 1978
EA CONSTRUCTION OF ARMORY, CLEVELAND 1982
EA CONSTRUCTION OF AVIATION SUPPORT FACILITY 1978
EIS LAND ACQUISITION 1980
EBS LAND ACQSTN & UTLZTN ADJACENT JOHN SEVIER RANGE 1989
MASTER PLAN- TULLOHMA TRAINING SITE 1987

TEXAS
EIS PROPOSED CAMPSWIFT LIGNOTE LEASING, BASTROP CNTY
EA ENVIRONMENTAL SITE ASSESSMENT, RICE MILL
EA LAND ACQUISITION, CAMP BOWIE 1992

UTAH
EA OMS & ARMORY, ST GEORGE 1990
EA DUGWAY PROVING GROUND 1979
EA TOOELE ARMY DEPOT 1984
EA FIREX 1988

VERMONT
EA RANGE CONSTRUCTION, ETHAN ALLEN FIRING RANGE 1984
EA ESTABLISHMENT OF RUSSELL TRAINING AREA, SHOREHAM 1984

VIRGINIA
EA CONSTRUCTION ARMORY & OMS, LYNCHBURG 1974
EA ARMORY CONSTRUCTION, SOUTH BOSTON 1983
EA CONSTRUCTION ARMORY/OMS SW VIRGINIA COM COLLEGE 1992

VIRGIN ISLANDS
EA 60 AMN ARMORY COMPLEX, LONG POINT
EA PHASED CONSTRUCTION, ESTATE BETHLAHEM OLD WAKE 1988
EA 300 MAN ARMORY CONSTRUCTION, ESTATE NAZARETH 1982
EA MULTIPLE CONSTRUCTION PROJECT, ESTATE BETHLEHEM 1983

WASHINGTON
EA IMPROVEMENT/ CONSTRUCTION, CAMP SEVEN-MILE 1986
COMPREHENSIVE SITE ASSESSMENT, CAMP MURRAY 1992
CMAP MURRAY - MASTER PLAN 1989
EA WATERCRAFT SUPPORT MAINTENANCE CENTER PIER2 1991

WEST VIRGINIA
EA AASF AND ARMORY, WHEELING 1988
EA INDOOR RANGE REHAB 1989
EA MONOGOHELA NATIONAL FOREST TA 1987
EA REHAB/PHASED CONSTRUCTION CAMP DAWSON 1984
EIS EIS, CAMP DAWSON 1979
MASTER PLAN - CAMP DAWSON 1987
EA FIELD TRAINING EXERCISES ON NON MILITARY TA

WISCONSIN
EA EXPANSION MATES & PARKING 1990
EA MILITARY TRAINING AREA - ALTOONA 1986
EA INTERIOR EMBANKMENT STABILIZATION TARGET RANGE 1982
EA MULTIPLE CONSTRUCTION - KENOSHA 1984
EA EXPANSION/UTILIZATION USAR COMPLEX &TA 1984

WYOMING
EA MULTIPLE CONSTRUCTION & MASTER PLANNING, 1985
EA TRAINING & FIELD EXERCISES CAMP GUERNSEY 1976

ANNUAL STATE GOVERNMENT POLLUTION PREVENTION SUMMARY REPORT

DEPARTMENT OF NATURAL RESOURCES

1994

**This report fulfills the requirements of Governor's Executive Order 91-17 (providing for the implementation of pollution prevention by State government).**


Agency: Minnesota Department of Natural Resources
Contact Name: Mike Rhodes
Contact Address: 500 Lafayette Road, Box 16
St. Paul, Minnesota 55155-4016

Contact Telephone: (218) 327-4163


1. **Pollution Prevention Policy Statement**

The Department of Natural Resources (DNR) is committed to protecting and managing Minnesota's natural resources, as evidenced by the attached DNR Vision Statement. Implicit within our Vision Statement is the DNR's effort to internal as well as external pollution prevention. Only by mitigating pollution as much as possible within our own organization can we truly foster an ethic of environmental protection, resource conservation, and reduction in the economic burden of disposal.

2. **Pollution Prevention Activities During the Fiscal Year**
*(Describe activities undertaken to prevent pollution and hazardous waste generated by agency or department (July 1993 - June 1994). Agencies may also note other relevant ongoing activities.)*

* The pamphlet "Government Purchasing Made Green" has been distributed to DNR procurement personnel. Our Materials Management unit purchases products such as metal signs using recycled materials. In the past five years we have begun requiring diesel engines in heavy trucks we purchase in order to reduce fuel consumption and increase equipment longevity. The DNR has begun using rerefined oil wherever possible and our warehouse now sells mercury free batteries and lead free paint.

* Central Office and all regional headquarters now have viable recycling programs for batteries, paint, aluminum cans, glass, plastic, cardboard, laser & ribbon cartridges, and all types of paper. Central office has a new recycling system incorporating colored containers for easy recycling identification. Soy ink and recycled paper are used for printing whenever practical.

* In January the DNR disposed of 3,208 mercury-containing fluorescent bulbs via a state-contracted vendor.

* Low-sulfur requirements for diesel have been routed to equipment personnel. All DNR employees have also been strongly encouraged to use Ethanol--information pamphlets have been distributed and Ethanol reminder labels have been placed on all Fleet vehicles.

* Regional Equipment Pools, designed to encourage discipline equipment sharing, have been established throughout the state. This not only saves each discipline needed program dollars but also reduces the need for new equipment purchases.

* DNR repair shops recycle used oil, oil filters, antifreeze, batteries, and parts washer solvents. Repair shops researched and dropped the use of clay-based floor dry and converted to Lite-Dry paper floor dry.

* DNR has built improved hazardous material storage facilities throughout the state. These facilities will reduce the risk of accidental release or exposure of hazards through a reduction in damaged or contaminated containers. The Inventory Management unit conducts an annual inventory of chemicals on hand before new purchases are be made. Any new pesticides purchases are of only the amount required for the specific job at hand. The DNR also provides ongoing training in management of hazardous chemicals and spills.

* The Pesticide Review Committee has completed the revision of the 1989 Pesticide Use Operational Order No. 59 for department review.

* DNR has been actively replacing its regulated underground fuel storage tanks. 67 tanks have been removed entirely and the remaining 59 tanks will be replaced within the next two years. This program has greatly reduced petroleum contamination in the ground or groundwater.

* DNR has been actively recapping old wells to reduce ground water contamination from polluted surface water. An estimated 800-1000 potential wells from old homesteads on DNR-owned property remain to be identified. 410 wells have been identified for sealing and 210 wells have been sealed.

* All used DNR office equipment is put on the Surplus Property Inventory listing for redistribution at other locations.

* DNR construction managers have been trained to properly handle and dispose of hazardous construction debris such as lead and asbestos. Ongoing training is planned.

* Nine repair shop staff attended the "Workshop on Pollution Prevention Opportunities for Vehicle Maintenance in State Agencies" in Brainerd on 10/07/93 and three attended the workshop in St. Paul on 10/05/93.

* Five DNR staff attended the "Workshop on Pollution Prevention Opportunities in Building Maintenance and Turf Management for Minnesota Public Agencies" in St. Paul on 3/15/94. Nine staff attended the workshop in Rosemount on 3/29/94.

* The DNR recently contacted the Minnesota Technical Assistance Program requesting additional assistance in Departmental repair shop waste stream reduction and identifying alternatives to the current shop floor waste water disposal method.

3. **Actions to Integrate Pollution Prevention into Regulatory and Policy Activities**
*(Describe efforts by the agency or department to integrate pollution prevention into regulatory and policy activities (July 1993 - June 1994). Agencies may also note other relevant ongoing activities.)*

* DNR Operational Order No. 59, **"Pest Control, Pesticide Use & Pesticide Management by Employees on Department-Administered Lands or in 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.

* DNR repair shops are now required to use a non-clay-based floor-dry product in order to reduce ash resulting from incineration of clay-based products.

* In response to Federal and State mandates, the DNR Fleet Manager established a policy requiring use of low sulfur diesel fuel and rerefined oil whenever practical. (Contact Mike Rhodes, DNR Fleet Equipment Maintenance Specialist, at 218-327-4163 for more information.)

4. **Incorporation of Pollution Prevention into Procurement Activities**
*(Describe efforts to investigate opportunities to encourage pollution prevention through agency/department purchasing policies and specifications (July 1993 - June 1994). Agencies may also note other relevant ongoing activities.)*

* Most DNR purchases are made through state contracts established by the Department of Administration. Many of these contracts have been very helpful in reducing pollution because of the dedication of the Department of Administration in addressing pollution prevention when developing vendor contracts. The DNR Materials Management unit plans to incorporate a Pollution Prevention segment into the DNR Procurement Users' Guide for the agency's smaller local purchases.

* DNR policy 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. **(See DNR Operational Order No. 90.)**

5. **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.)*

* We plan to develop the Pollution Prevention segment (mentioned above) as part of the revised DNR Procurement Manual. This information, aimed at small local purchases, will help the DNR continue its environmentally-conscious purchasing tactics as the Statewide Systems Project comes on-line and purchasing authority is expanded. (For more information contact Dave Kircher, DNR Materials Manager, at 612 282-5538.)

* DNR Fleet staff have been involved in an ongoing study designed to re-engineer the way in which internal repair shops function. Over the next year the study will address shop waste production and disposal with the goal of reducing the waste stream. Shop floor waste water systems will be also be evaluated for effectiveness. (Contact Team member Mike Rhodes at 218 327-4163 for more information.)

* Within the next fiscal year the Fleet Program will be investigating the possible use of remanufactured parts in equipment repairs. (Contact Team member Mike Rhodes at 218 327-4163 for more information.)

* The DNR Fleet program is currently studying the possibility of lengthening equipment maintenance/service cycles. If incorporation proves to be feasible, this tactic will reduce the rate at which waste fluids are released into the waste stream. (Contact Team member Mike Rhodes at 218 327-4163 for more information.)

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

* Over the next fiscal year the DNR will be expanding its new color-coded recycling program, currently in use in the Central Office, to the Regional Headquarters facilities. (For more information contact Tim Soby at 612 772-7556)

6. **Estimated Benefits**
*(Estimate environmental and economic benefits which have resulted from agency's or department's pollution prevention activities.)*

* The DNR has been working to protect our natural resources for many years. It is difficult, if not impossible, to estimate the economic savings generated through pollution prevention tactics. Frequently we have found that great ideas of the past have become large clean-up tasks of the future. We are certain, however, that whatever steps we can take as an agency to minimize waste now will be of economic benefit for future generations. For instance, future economic and environmental liability (as managed by Superfund) can be reduced by an estimated hundreds of thousands of dollars by pollution prevention today.

7. **Areas of Needed Assistance**
*(Highlight areas in which additional pollution prevention assistance is needed by agency or department.)*

* We need the continued services of the Minnesota Office of Environmental Assistance and the Minnesota Technical Assistance Program.

* Unlike many agencies, the DNR lacks a position specifically designed to research and incorporate additional pollution prevention activities. Funding for such a position via a grant or other source would greatly advance our work in this area.

8. **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 | PREVENTION 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 Management |
| Mike Rhodes | Grand Rapids | (218) 327-4163 | Equipment Repair Shops |
| Tim Soby | St. Paul | (612) 772-7556 | Recycling/Surplus Property Inv. |

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

Rodney W. Sando, Commissioner

Attachment

# *Department of Natural Resources Vision Statement*

*"We will work with the people of Minnesota to manage the state's diverse natural resources for a sustainable quality of life."*

## What the Vision Statement Means

"We"

◊ Talented, culturally diverse individuals working together to address complex issues and achieve identified objectives.

◊ Participation by all locations, all units, and all levels in consensus building and decision making, and support for decisions that are made with appropriate power and authority.

"will work with"

◊ Acting in a professional, ethical, and respectful manner, listening to and accepting each other's ideas and differences.

◊ Fostering an atmosphere that promotes continuous improvement where excellence is rewarded.

◊ Empowering employees appropriately to accomplish identified objectives.

◊ Internal and external cooperation, involvement, and participation.

◊ Regular and open internal and external communication of plans, actions, decisions, and information.

◊ Recognize that management of the state's natural resources is a shared responsibility of all citizens by developing effective partnerships to address concerns and issues.

◊ Educating people about natural systems and encouraging ethical behavior that leads to the responsible use of natural resources.

"people of Minnesota"

◊ Present resource users and future generations of individuals, and both public and private organizations.

◊ Serving impassioned and diverse publics and attempting to reconcile varied interests, values, and cultures.

"to manage the state's diverse natural resources"

◊ Conserving natural systems and maintaining biodiversity while providing for the ethical use of the resources for social and economic purposes.

◊ Balancing the need to protect natural resource values with development needs.

◊ Preserving unique, threatened, and endangered resources.

◊ Preserving unique cultural, historical, and archaeological resources.

◊ Improving and restoring degraded environments, and mitigating environmental losses.

◊ Integrating all natural resource concerns and perspectives in decision-making processes.

"sustainable quality of life"

◊ Balancing human needs and natural systems to ensure the needs of present generations are met without compromising the ability of future generations to meet their needs.

◊ Maintaining the integrity of natural systems to ensure a productive and healthy living environment.

◊ Maintaining a sustainable quality of life is a shared responsibility of all citizens, as well as public and private organizations.

Minnesota Pollution Control Agency (MPCA)
Pollution Prevention Summary Report
for the Period August, 1993 to July 1994

November 8, 1994

## I. Steps Taken to Integrate P2 into Agency Activities

**A. Policy Statement** - A revised Policy Statement was signed by Commissioner Williams on August 18, 1993 and distributed electronically to MPCA staff members.

**B. 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.

**C. Efforts to Integrate P2 into Regulatory and Policy Activities**

**1. Progress Reports** - The MPCA is responsible for implementing the regulatory aspects of the Toxic Pollution Prevention Act (TPPA) of 1990. As such, the MPCA has reviewed Progress Reports submitted on October 1, 1993 by facilities that are required to prepare P2 plans and submit annual progress reports.

**a. Progress Report Form** - MPCA previously developed a recommended P2 Progress Report form, instructions to accompany the form, a "Q & A" for persons filling out the P2 Progress Report, and a "Citizen's Q & A" intended to assist members of the public in understanding their options as related to the provisions of the TPPA. These documents were revised and distributed to TRI reporters in early August of 1993.

**b. Progress Report Assistance** - MPCA presented the progress report sessions scheduled during the Annual P2 Conference in June of 1994.

**c. 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 cursory "screening" review of all progress reports was jointly completed by staff of the MPCA, the Office of Waste Management (now the Office of Environmental Assistance - OEA), the Minnesota Technical Assistance program, and the Emergency Response Commission in November of 1993. Detailed review of about half the reports has been completed at this writing. Approval letters or deficiency letters have been sent to about 1/5 of the facilities. 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.

**d. Progress Report Form Revisions** - Revisions made to the 1992 Progress Report form resulted in substantial improvement in the quality of reports received. Over 50% of those reports reviewed were found to be acceptable with no need whatsoever for correction. The MPCA further refined the 1993 Progress Report form before those forms were mailed in July of 1994.

**e. Progress Report Results** - The 1992 Progress Reports, received in the fall of 1993, show a very substantial improvement in compliance with the progress reporting requirement. Experience with the 1991 reports revealed about 10 percent of those required to submit progress reports failed to do so. For the 1992 Progress Reports, this noncompliance rate dropped to less than 1% - a rate of compliance not equaled by any of the MPCA's other regulatory programs.

**f. Progress Report Enforcement** - Agency staff has established and tested the use of Administrative Penalty Orders in progress report enforcement. "Ten Day Letters" - the first step in the APO process, were mailed to three facilities that failed to submit 1992 reports. Progress reports were received from all three facilities within 45 days of the mailing of the ten day letter, obviating any further enforcement action.

**2. The Pollution Prevention Staff Team** - MPCA established the P2 Staff Team in October of 1990. The P2 staff team consists at minimum of one senior professional employee and one program manager from each division of the Agency. Composition can vary as a function of ongoing projects or issues, with staff members being added as the situation justifies it. The P2ST was advises the P2 Program Coordinator regarding manners pertaining to the implementation of the TPPA and the integration of P2 strategies into the regulatory fabric of the MPCA.

**3. The Lake Superior Partnership** - The staff team initiated planning in late 1990 for what later became the Lake Superior Partnership Multimedia/P2 Inspection Program. The inspection program was a coordinated inspection by the Western Lake Superior Sanitary District and the four program divisions of the MPCA. Inspected facilities included several major manufacturing facilities in the Duluth area, including two kraft pulp/paper mills, a groundwood pulp/paper mill, two chemical manufacturers, a tool manufacturer, a machinery manufacturer, a steam generation plant, manufacturers of hardboard, matches, and ceiling tile, the EPA environmental laboratory, a plating shop, two taconite mines and their support facilities, and the facilities of the Western Lake Superior Sanitary District.

The Lake Superior Partnership is presently operated on a downscaled basis, utilizing staff from the Northeast Region Office. About six facilities per year are inspected by multimedia inspection teams led by the Northeast Region Administrator.

**4. The Minnesota River Basin Project** - This project is a multimedia inspection program inspired by the Lake Superior Partnership. It is a less intensive multimedia inspection targeted at facilities within the Minnesota River. The project will include a P2 component.

II. Summarize Plans for Future Activities

A. **Steps to Implement P2 in Agency Activities** - The policy statement referenced above indicated that P2 activities should be integrated into the following Agency activities:

1. **Environmental review** - The Environmental Planning and Review Office of the MPCA routinely requires project proposers to indicate whether they expect the proposed facility will be subject to TRI and Progress Reporting requirements. Environmental Impact Statements will require a pollution prevention analysis where appropriate.

2. **Permit review and issuance** - The P2 Staff has conducted training and briefing of Hazardous Waste Division and Water Quality Division Permit Staff.

3. **Compliance inspection**

4. **Enforcement action** - The Hazardous Waste Division routinely includes P2 Planning requirements in major enforcement negotiations.

5. **Rules promulgation** - The Air Quality Division has included language that allows flexibility in some cases where pollution prevention is being implemented as part of a permitted construction.

6. **Site remediation**

B. **The LSP Multimedia Inspection Program** - The inspections will continue for the foreseeable future. Pollution prevention is included as a component of this inspection program where appropriate and feasible.

C. **The MPCA is exploring additional approaches to progress report review.**

1. **Pollution Prevention Incentives to States (PPIS) Grant** - The Agency has applied for a Federal Pollution Prevention Incentives to States grant to allow development of training materials and strategic plans and indicators, and guidelines to enable staff to incorporate P2 strategies into the regulatory activities of the Agency. While the grant will not provide any additional resources for the state-mandated program of progress report review, it will assure that existing resources are exclusively dedicated to progress report review.

2. **The agency will request that the Office of Environmental Assistance again provide computer support for the initial screening of progress reports.** This support, provided during the joint screening review in November of 1993, was found to be very useful.

3. **Cooperative data bases** - The Minnesota Pollution Control Agency strongly recommends that the three state agencies interested in TRI and pollution prevention data (PCA, OEA, and ERC) begin to explore ways to make those respective data bases compatible and mutually supportive.

DEPARTMENT : POLLUTION CONTROL AGENCY

STATE OF MINNESOTA
Office Memorandum

DATE : August 18, 1993

TO : Minnesota Pollution Control Agency Managers and Regional Directors

FROM : Charles W. Williams, Commissioner CW

PHONE : 296-7301

SUBJECT : POLLUTION PREVENTION POLICY STATEMENT

Attached is a copy of the Pollution Prevention Policy Statement signed by me on August 17, 1993. This policy statement was formulated and finalized with extensive review by members of the Pollution Prevention Staff Team and others over the last several months.

The policy statement is intended as general guidance to Minnesota Pollution Control Agency (MPCA) staff and management. Specific application of the policy is a matter for management of each program to determine, based on the unique conditions pertinent to each program and activities conducted under those programs. The policy statement is also intended for your consideration as you prepare the strategic plans for your programs.

Paper copies of the document are being distributed to the senior management and the regional directors. E-mail copies will be provided to remaining MPCA staff persons. Additional copies may be requested from Eric Kilberg, the MPCA's Pollution Prevention Program Coordinator, at 296-8643.

CWW:ns

Attachment

MINNESOTA POLLUTION CONTROL AGENCY

Charles Williams, Commissioner

# POLICY ON POLLUTION PREVENTION

**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. MPCA staff will promote pollution prevention with clients and will consider favorably pollution prevention proposals made by clients, whenever possible.**

## THE ROLE OF POLLUTION PREVENTION AT THE MPCA

Pollution prevention is defined in the Toxic Pollution Prevention Act of 1990 as "eliminating or reducing at the source the use, generation, or release of toxic pollutants, hazardous substances, and hazardous waste." Pollution prevention is a technique that can also be applied to pollutants that are not toxic or hazardous. The term waste reduction has been used synonymously with pollution prevention. Methods of pollution prevention include industrial process modification, feedstock or ingredient substitution, improved housekeeping and management practices, and improved efficiency.

For society as a whole, pollution prevention is the preferred technique in a hierarchy of environmental protection that includes pollution prevention and reduction, reuse, recycling, treatment, and disposal. It makes sense to avoid pollution by not using a toxic substance in the manufacturing process, rather than expending dollars and time controlling releases after the fact.

Pollution prevention is one of several tools available to the MPCA to implement its main objective, environmental protection. Pollution prevention can be enhanced if integrated into the existing regulatory system, and the regulatory system will be substantially improved if it incorporates pollution prevention principles. It is also essential that existing regulatory activities incorporate a heightened awareness of the potential for cross media transfer of pollutants.

When evaluating a proposed project or action, it is necessary to consider all potential impacts of a release to the environment and to ensure that one environmental medium (air, water, land, ground water) is not protected at the expense of another medium. When all media are considered in decision making, the need for pollution prevention becomes more apparent. Consideration of all costs and impacts of an activity on the environment is an important part of pollution prevention.

Telephone Device for Deaf (TDD): (612) 297-5353

*Printed on recycled paper containing at least 10% fibers from paper recycled by consumers*

# INTEGRATION OF POLLUTION PREVENTION INTO THE EXISTING PROGRAMS OF THE MPCA

## ENVIRONMENTAL REVIEW

1. Environmental Assessment Worksheets (EAWs) should include an assessment of potential or actual cross media transfers associated with projects. EAWs should also include an identification of opportunities for implementation of pollution prevention strategies.

2. Environmental Impact Statements should include an evaluation of alternative techniques and processes that will result in the reduction or prevention of the generation of pollution at the source.

## PERMITTING

1. Permit applications should be reviewed in the context of cross media impacts and potential opportunities for pollution prevention. Coordination among divisions may be necessary to evaluate cross media transfer issues.

2. Staff should consider requiring facilities to prepare pollution prevention plans as part of permit conditions. Permits should be drafted, where applicable, to encourage and allow for use of pollution prevention strategies to meet existing regulatory requirements. Where pollution prevention techniques are being proposed to achieve compliance at a facility, compliance schedules may allow additional time for implementation, especially if the technique is expected to result in permanent reductions below existing compliance levels.

3. Further, permitting staff should encourage and allow for planning and implementation of pollution prevention strategies that will result in reductions of emissions beyond those levels required to attain compliance with existing regulations. Specific conditions to permits may be negotiated to include pollution prevention strategies.

4. Subject to statutory authority and programmatic requirements, the MPCA should consider structuring permit fees to reflect the amount and quantity of pollutant discharged or released, with definite incentives for pollution prevention.

## INSPECTION

1. Facility inspections by respective divisions should be coordinated where such coordination is appropriate. Inspections should include an identification and assessment of existing or potential transfers of pollution from one media to another. If cross media transfers are identified, coordination between affected divisions will be required.

2. During facility inspections, if inspectors are aware of pollution prevention strategies that might apply to the facility, they are encouraged to recommend that the facility investigate such strategies further, or have those strategies investigated by outside consultants. At the very minimum, inspectors should inform operators about the services of the Minnesota Technical Assistance Program (MnTAP), and encourage facilities to contact MnTAP.

ENFORCEMENT

1. Enforcement actions undertaken by the MPCA should reflect a multimedia perspective. Where media transfer issues have been identified, coordination of enforcement settlements between respective divisions will be required.

2. Enforcement settlements (negotiated stipulation agreements, consent orders or consent decrees) should, where appropriate, require facilities to prepare and submit pollution prevention plans to the MPCA. Staff should encourage enforcement clients to propose pollution prevention strategies as elements of enforcement settlements. Where pollution prevention techniques are being proposed to achieve compliance at a facility, compliance schedules may allow additional time for implementation, especially if the technique is expected to result in permanent reductions below existing compliance levels. Settlement agreements may also provide for stipulated penalties in the event the violation is not ultimately corrected or the compliance schedule is exceeded.

RULES PROMULGATION

All current and future agency rules developments or amendments should reflect pollution prevention goals. Rules should be drafted so as to:

1. Discourage transfer of pollutants between media. Coordination with all divisions should be accomplished early in the process of rules promulgation to assure that cross-media impacts will not result;

2. Assure that pollution prevention strategies are not precluded as a result of the rule; and

3. Encourage, where possible and appropriate, the evaluation and implementation of pollution prevention strategies by regulated parties by building flexibility into rules to allow such implementation.

Rules may include requirements for mandatory pollution prevention planning. An example would be the requirement for the identification of mercury sources in the draft municipal solid waste combustor rules.

The rules of the Environmental Review Program should be revised to include a requirement to evaluate potential cross media impacts as well as pollution prevention opportunities in connection with a process.

Some existing rules may require revision to allow greater application of pollution prevention strategies.

SITE REMEDIATION

While the remediation of sites of contamination would not immediately seem to offer opportunities for incorporation of pollution prevention strategies, such opportunities do exist.

1. As staff evaluate proposals for site remediation, the costs and impacts of a remedial technology on the environment over time must be considered. This evaluation, of necessity, includes potential impacts of releases to other media from the remediation technology proposed.

2. Where the responsible parties are still in existence, and where waste is still being generated, pollution prevention strategies might apply. When preparing Requests for Response Action, staff should encourage responsible parties to include preparation of pollution prevention plans and/or implementation of pollution prevention strategies at the source of generation as part of the Remedial Investigation and Feasibility Study, Community Relations Section.

## INSTITUTIONALIZING POLLUTION PREVENTION

The above objectives will need to be institutionalized throughout the MPCA. Training of staff will be necessary to allow them to identify during inspections, permit reviews, and environmental review where opportunities for pollution prevention might be further explored. Training of staff who draft and promulgate rules will also be necessary. Revisions of job descriptions, procedures and checklists, and forms may be required. It may be appropriate to devise performance indicators that emphasize pollution prevention.

Moreover, it will be highly desirable to develop indicators to measure program success. One such indicator will be the number of inspections, permits, and enforcement actions that have included multimedia/pollution prevention aspects. Another indication of program success might be the reduction in Toxic Chemical Release Inventory reported releases as adjusted to reflect any changes in production volumes. Ultimately, success of pollution prevention and environmental protection efforts in general must be measured by the elimination of discharges of toxic substances and other pollutants to the environment.

Endorsement of pollution prevention goals does not imply a mandate for unquestioning implementation of pollution prevention. Incorporation of pollution prevention strategies into enforcement practices and permits should be done in a manner consistent with existing rules. The inclusion of specific conditions or extension of compliance schedules is subject to negotiation between staff and regulated parties, and it will depend upon the staff's assessment of the ability and willingness of the regulated party to achieve compliance.

Charles W. Williams
Commissioner

8/17/93
Date

# ANNUAL STATE GOVERNMENT POLLUTION PREVENTION SUMMARY REPORT

# 1994

*SUBMITTED TO:* Pollution Prevention in State Government
Minnesota Office of Waste Management
1350 Energy Lane
St. Paul, Minnesota 55108
Attn: Paul Moss

*SUBMITTED BY:* Minnesota Department of Public Service
121 7th Place East
Suite 200
St. Paul, Minnesota 55101
*Contact:* Karen Santori, 612/296-0391

## *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, telecommunications, 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.

## *POLLUTION PREVENTION ACTIVITIES DURING THE FISCAL YEAR*

The Department is engaged in a number of initiatives and programs to reduce pollution generated by itself and by society in general. A large number of DPS programs concern the reduction of energy use and the development and promotion of Alternative Energy Sources. This helps the environment by reducing the emissions from traditional energy sources such as coal fired electric generation plants and petroleum powered motor vehicles.

*IN-HOUSE RECYCLING AND WASTE REDUCTION EFFORTS:*

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

- we encourage double-sided copies, whenever possible.
- we return used toner cartridges for computer printers to the vendor and then purchase the refurbished cartridge.
- we purchase a grade of copy paper that exceeds the state guidelines 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 field 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.

A major effort of the Department is the operation of the Energy Information Center. The Center provides consumer information regarding energy use, conservation options and alternative sources. In the past year Center staff made a total of over 45,000 contacts through trade shows and phone inquiries and distributed over 175,000 pieces of literature.

*ALTERNATE FUEL VEHICLES*

The Federal Clean Air Act and the Federal Energy Policy Act required for state fleets that 10 percent of all new vehicle purchases by 1996 be alternate fuel vehicles. The requirement increases to 15 percent in 1997, 25 percent in 1998, 50 percent in 1999, and 75 percent by the year 2000. To assist in meeting this requirement, the DPS is participating in the E-85 program. Partial funding was obtained from the Council of Great Lakes Governors Regional Biomass Program to purchase ten E-85 vehicles which can use a fuel mixture containing up to 85 percent ethanol. The cars have been assigned for use by several state agencies. Detailed operation and maintenance records will be kept on all vehicles and compared to a 100 percent gasoline fueled control vehicle. Complete emissions testing was performed on the vehicles in the beginning of the program and will be done again at the end of the program in October 1994.

*THE WIND SOLAR SYSTEM*

The department, in cooperation with Northern States Power and the U.S. Department of Energy, has begun a detailed study of wind and solar resources in the Buffalo Ridge area of southwestern Minnesota. The department has established five new monitoring sites that collect wind, solar and temperature data. Each site monitors global horizontal solar radiation.

The information collected during this study will be used to analyze the potential and cost benefit of combining solar electric technologies with wind generating resources. High outputs from PV installations may coincide with periods of low wind energies, providing the possibility of supplementing wind energy with solar energy during periods of low wind energy availability.

*WRAP WIND RESOURCE ASSESSMENT PROGRAM*

The Minnesota WRAP was initiated in 1981 by the Energy Division of what was then the Minnesota Department of Energy and Economic Development. Wind resource data from 27 different sites throughout Minnesota have been collected.

To provide for effective review and analysis of the large amount of data collected under this program, DPS recently established a database that stores the essential data. The new organization of this information makes it possible for DPS to determine values such as average velocity distributions or daily wind energy based on several years of data.

The organization of the wind resource data in database format allows DPS to compare the wind resource availability with the demand for electricity in Minnesota. To date, much of the department's more detailed analysis of Minnesota's wind resource has been based on the data collected by NSP at its Holland, Minnesota site.

DPS staff are performing estimates to determine how a wind generation project might receive capacity accreditation from the Mid Continent Area Power Pool. Thus far, estimates indicate there would likely be a rather low capacity accreditation for the summer months of July and August; substantial accreditation is maybe likely during the fall and spring months.

### *Wind Resource Implementation and Education Program*

The Wind Resource Implementation and Education program has four objectives:

1. To provide data on wind generator performance in Minnesota's high resource areas;
2. To develop wind energy resource;
3. To provide monitoring sites for Minnesota's Wind Resource Assessment program; and
4. To stimulate interest in cost-effective wind installations and determine how best to promote wind installations through the Energy Investment Loan program.

Minnesota schools in high wind resource areas provide an excellent opportunity to combine cost-effective wind generator installations with alternative energy education and data collection. Schools have electrical load characteristics that are well suited to utilization of the wind resource, and can finance cost-effective renewable resource installations through the State's Energy Investment Loan. They also have technically competent staff available to assist in data collection and routine maintenance of monitoring equipment, which has been an ongoing concern with remote-site monitoring stations. Schools can also capitalize on the unique learning opportunity presented by the installation of a wind generating and monitoring system literally outside the classroom window.

## *Actions to Integrate Pollution Prevention into Regulatory and Policy Activities*

### *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 externality values for six air emissions: mercury, carbon dioxide ($CO_2$), volatile organic compounds (VOCs), particulates, sulfur dioxide ($SO_2$), and nitrous oxides (NOx). 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.

*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 forum for regulators, environmental and consumer groups, renewable-energy and conservation advocated and electric utilities plan to meet our needs for electricity. The Department has recommended that NSP:

- explicitly approve NSP's planned installation of 100 MW of wind turbines.
- require the Company 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 conduct 125 MW of biomass technology by the year 2002.

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

- include a report that discusses the potential for ethanol-fired combustion turbines and whole-tree burning technology in its next filing.
- report on the effect of the Company's transmission project in the Buffalo Ridge area on the availability of wind power from this area.

*NATURAL GAS INTEGRATED RESOURCE PLANNING*

In December 1993, the Department provided an analysis and recommendations to the Minnesota Public Utilities Commission regarding the appropriateness of adopting Natural Gas Integrated Resource Planning for Minnesota. In its study, the Department recommended IRP include consideration of both supply-side and demand-side resource management (DSM) options. While gas utilities have been implementing conservation programs pursuant to Minnesota law, demand and supply option planning are not integrated. Hence, the Department's report

advocated the integration of least-cost supply acquisition, while maintaining reliability of service, with DSM planning and programs. The Department recommended that incentive regulation become the means of achieving this integration. Incentive regulation will be the focus of a series of PUC roundtable discussions beginning in 1994.

*CONSERVATION IMPROVEMENT PROGRAM*

The DPS oversees utility investment in conservation and demand-side management through implementation of Conservation Improvement Programs (CIP). By striving to reduce energy consumption, the energy reduces the emissions created by traditional electric generation sources, such as coal. 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 used this program to promote renewable energy.

- The Commissioner requires 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.

- The Commissioner required NSP, MP and IPC to file new renewable CIP projects during the 94-95 biennial CIP period.

*MINNESOTA ENERGY CODE/LIGHTING*

The Minnesota Energy Code was revised effective June 16, 1994, as mandated by Minnesota Statute. Changes to the code include modifications of the thermal requirements of high-rise residential and non-residential buildings, changes requiring mechanical ventilation systems for certain types of buildings and the establishment of a high, nationally recognized standard for residential construction.

The Department received a grant from the Environmental Protection Agency to implement a two-year project to demonstrate the implementation of the strict lighting standards in the Minnesota Energy Code. The DPS awarded two contracts

with U of M staff to prepare and conduct a series of workshops on the lighting standards. The Department has been working with Minneapolis and Bloomington to establish enforcement of the lighting standard aspect of the energy code. The Department hopes to provide assistance to other cities in the future.

*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 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 was also awarded a grant from the Office of Waste Management to create 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 as hazardous waste. Through proper education, there should be a significant reduction in the number of tanks emptied due to contamination. Data will be available next year that will illustrate the effectiveness of this educational effort.

*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 1995 and statewide in 1997. This program has been very successful due largely to a strong government-industry cooperative effort.

## *PLANNED POLLUTION PREVENTION ACTIVITIES*

The coming year the Department will continue its focus with the Energy Information Center and the distribution of energy conservation information to consumers. The Wind Assessment Program will be increased by the addition of five new monitoring sites that are being provided by OTP to further define the wind resources in Minnesota. We will also be updating the current wind monitoring equipment to provide additional information for potential wind developers in the State. Also, the DPS continues to encourage and promote the use of Alternative Fuel Vehicles.

The Weights and Measures Division is working on the development of a water recycling system. Currently, thousands of gallons of water from the city water supply are used during the calibration of large volumetric devices. The waste water

is slightly contaminated with petroleum due to the devices being tested. The water is disposed through floor drains with a moderately effective filter. Division staff are attempting to develop a water recycling system where the waste water is held in a tank and reused in the calibration of additional devices. The reserved water would be filtered periodically.

The Division hopes to design the technical process and obtain funding in the next fiscal year. Weights and Measures does not have a budget for the implementation of this project. Persons or organizations who can offer assistance should contact Dave Koets at 639-4010.

*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 1993 and projected kWh savings for 1994 achieved through Conservation Improvement Programs for each investor-owned electric utility is provided below:

| | kWh Savings | | |
|---|---|---|---|
| | 1993 | 1994 | 1995 |
| Interstate Power | 1,236,937 | 5,956,229 | 9,951,637 |
| Minnesota Power | 18,653,165 | 22,064,172 | 21,866,387 |
| NSP | 264,826,000 | 310,041,000 | 349,732,000 |
| Otter Tail Power | 6,591,793 | 7,800,111 | 8,049,436 |

As a result of the kWh savings realized in 1993, the following emissions were avoided:

$CO_2$ .....222,697 tons
$SO_2$.....405 tons
Mercury.....132 lbs.
NOx.....201.1 tons

If the electric utilities achieve 1994 and 1995 goals, the following emissions will be avoided:

| | 1994 | 1995 |
|---|---|---|
| $CO_2$ (tons) | 264,401 | 297,838 |
| $SO_2$ (tons) | 481 | 542 |
| Mercury (lbs) | 157 | 177 |
| NOx (tons) | 239 | 269 |

This program also reduces the emissions created by burning natural gas through a reduction in energy consumption.

Mcf Savings

| | 1992/93 | 1993/94 |
|---|---|---|
| Midwest Gas* | 5,466 | |
| Interstate | 25,254 | 11,727 |
| Minnegasco | 323,196 | 324,920 |
| Great Plains | 2,770 | 3,480 |
| Northern Minnesota Utilities | 10,011 | 10,941 |
| Northern States Power-Gas | 319,686 | 335,806 |
| Peoples | N/A. | 15,896 |
| Western | 522 | 620 |

*Minnegasco acquired Midwest Gas Minnesota properties September 1, 1993. Minnegasco's 1993/94 CIP budget reflects this change.

As a result of the above Mcf savings goals, the following emissions should be avoided:

| | Tons/Mcf | 1992/93 Total Tons | 1993/94 Total Tons |
|---|---|---|---|
| SO2 | 2.85E-07 | 0.196 | 0.200 |
| Nitrogen Oxides | 4.49E-05 | 30.842 | 31.537 |
| Volatile Organic Compounds | 3.34E-06 | 2.294 | 2.346 |
| Total Solid Particulates | 4.39E-06 | 3.016 | 3.083 |
| CO2 | 5.75E-02 | 39,525.201 | 40,416.217 |

*CONTACTS AND RESOURCES*

Energy Code.....Bruce Nelson, 297-2313
Energy Conservation.....Rich Huelskamp, 297-1771
Wind Power Generation.....Rory Artig, 297-2326
Energy Information Center.....612/296-5175
Conservation Improvement Programs:
Electric.....Christopher Davis, 296-7130
Gas.....Susan Kosowski, 297-1769

Krista L. Sanda
*AGENCY HEAD*

Commissioner
*TITLE OF AGENCY HEAD*

*SIGNATURE*

June 24, 1994
*DATE*

/jl

ANNUAL STATE GOVERNMENT
POLLUTION PREVENTION SUMMARY REPORT

1994

**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): Mn/DOT is actively researching substitute chemicals and processes to totally replace to use of 1,1,1-trichoroethane. To date the research has shown a chemical with the trade name of Zecol to be very promising. The laboratory test results achieved by using Zecol, along with a few procedural changes, appears the same as when 1,1,1-trichloroethane is used.

b. Materials Lab (1,1,1-Trichloroethane): Mn/DOT has purchased 9 asphalt content machines for the Materials Laboratories statewide. These machines will drastically reduce or possibly eliminate the use 1,1,1-trichloroethane or Zecol.

c. 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. Nine different solvents and three different systems were evaluated in various district maintenance shops.

d. Mn/DOT is researching new methods of removing leaded paint from steel structures (bridges, radio towers, and vehicles). This will reduce the volume of lead contaminated silica sandblasting waste generated.

e. Materials Lab (Muratic acid): A Mn/DOT district materials lab has substituted vinegar for muratic acid. Muratic acid was used to clean air pots and other laboratory equipment. It was found that if the equipment was allowed to soak in vinegar overnight, the equipment would wipe clean the next day.

f. Maintenance Shop (Oil absorbents): Mn/DOT is researching various oil absorbents to replace clay absorbents. Mn/DOT is searching for an absorbent that can be beneficially reused (burned for heat) after it is saturated. Corn, paper, fiber, and synthetic absorbents have been used on a trial basis. However, none of the products seem to work as well as clay.

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

a. Mn/DOT created a statewide Waste Management Team (20 plus people) that actively integrates pollution prevention into all of the Team's functions.

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

a. Pavement striping: Mn/DOT has purchased a new parking lot pavement striping machine that is capable of utilizing latex paint thus eliminating the use of toluene as a cleaning solvent.

b. Pavement marking/striping (heavy-metal-free latex pavement striping paint): Mn/DOT has made available to all Districts, Counties, and Cities, that use Mn/DOT's striping paint contract, a heavy-metal-free latex pavement marking/striping paint. This provides for pavement marking and striping operations to be completely nonhazardous by eliminating and all lead, chrome, and toluene.

c. Pavement marking/striping (heavy-metal-free alkyd pavement striping paint): Mn/DOT has made available to all Districts, Counties, and Cities, that use Mn/DOT's striping paint contract, a heavy-metal-free alkyd pavement marking/striping paint. This eliminated all lead and chrome from pavement marking and striping.

6. **PLANNED POLLUTION PREVENTION ACTIVITIES**

a. Mn/DOT has dedicated the equivalent of one full time position to study, coordinate, and evaluate pollution prevention opportunities within Mn/DOT. The key task of this position is to research and evaluate new products and/or procedures as they relate to Mn/DOT and recommend changes to existing products and/or procedures when they prove to be more effective from an environmental, economical, and/or regulatory standpoint.

7. **ESTIMATED BENEFITS**

Mn/DOT has experience some up front capital expense. However, the total direct economic benefit to Mn/DOT, though these pollution prevention activities, is confidently estimated to being the tens of thousands of dollars. The indirect economic benefit through the reduction of future economic environmental liability (superfund) is estimated to be in the hundreds of thousands of dollars.

8. **AREAS OF NEEDED ASSISTANCE**

a. The continued partnership between the various agencies on pollution prevention and other hazardous waste issues.

b. Grant monies to aid continued research in pollution prevention projects as well as to start new research in this area.

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

a. David J. Pehoski, CHMM, Project Leader
telephone: 612-779-5113

10. Signature of Agency or Department Head

James N. Denn

Name of Agency Head

Commissioner

Title of Agency Head

Edwin H. Cohoon

Signature of Agency Head

6/30/94
Date

Deputy Commissioner/Chief Financial Officer
Bureau of Modal and Resource Management
Minnesota Department of Transportation

# ANNUAL STATE GOVERNMENT POLLUTION PREVENTION SUMMARY REPORT

## 1994

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

Submit by July 1, 1994 to:

Pollution Prevention in State Government
MN Office of Waste Management
1350 Energy Lane
St. Paul, MN 55108
Attn: Paul Moss

1. Agency — Minnesota Office of Waste Management

   Contact Name — Paul Moss

   Contact Address — 1350 Energy Lane

   St. Paul, MN 55108

   Contact Telephone — (612) 649-5750

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 1993 - June 1994).
**(Use additional sheets as appropriate)**

The Office of Waste Management generates little hazardous waste directly through its activities (except for fluorescent bulbs and batteries) since its activities are solely office-based. OWM 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. OWM computers are cleaned with pressurized carbon dioxide instead of chlorofluorocarbons. OWM audio, video, and digital tapes are reused, as well as computer discs. OWM staff have a broad and active office recycling and food waste composting program. OWM 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 OWM energy usage. OWM plans to purchase rechargeable nickel-cadmium batteries in the future.

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 1993 - June 1994).
**(Use additional sheets as appropriate)**

The Office of Waste Management is a non-regulatory agency and therefore does not engage in regulatory activities concerning pollution and hazardous waste. The OWM concentrates on pollution prevention policy and outreach activities. In 1993-1994 these activities included preparation of the 1994 Toxic Pollution Prevention Evaluation Report presented to the Minnesota Legislature. Other activities promoting pollution prevention included: Fourth Annual Minnesota Conference on Pollution Prevention (June 1994) with attendance of over 700, Fourth Annual Governor's Awards for Excellence in Pollution Prevention (June 1994), Minnesota-50 Program for voluntary reductions in releases to the environment of 17 key toxic chemicals by Minnesota companies, Pollution Prevention Assistance Grants, Community Partnership Grants for Pollution Prevention, and Pollution Prevention Grants to State Agencies. OWM's pollution prevention staff has published and distributes numerous factsheets on pollution prevention. OWM staff serves as coordinator for Interagency Pollution Prevention Advisory Team activities and conducted 4 workshops in 1993, attended by several hundred staff from state and local governments, on Pollution Prevention Opportunities for Vehicle Maintenance and Pollution

Prevention Opportunities in Building Maintenance and Turf Management. Each year the OWM 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. OWM has recently published two brochures, "Promoting Pollution Prevention at Sewage Treatment Plants" and "Local Governments Can Help Businesses Prevent Waste: A Guide to Getting Started."

The OWM provides an annual grant to fund the pollution prevention activities of the Minnesota Technical Assistance Program (MnTAP), a 15-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 OWM also has a solid waste source reduction program which distributes Source Reduction Now, a detailed guide to implementing a source reduction program in companies and agencies. The printed guide is accompanied by a training video. The solid waste source reduction team 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. It has recently published a Reusable Transport Packaging Directory. The OWM's financial assistance program for solid waste source reduction funded 23 projects over the last four years to help develop innovative methods and products that reduce waste and is currently funding 18 new source reduction grants.

The OWM's solid waste source reduction outreach program provides telephone assistance, on-site visits in cooperation with MnTAP, training, conference speakers, and statewide coordination and promotion of materials exchange and solid waste source reduction outreach efforts.

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 1993 - June 1994).
**(Use additional sheets as appropriate)**

The OWM attempts to procure office supplies that do not generate pollution. This includes purchasing remanufactured laser printer cartridges. Printing orders request vegetable oil-based inks. OWM does not set specifications.

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

A. Chemistry Department

1) Chemical use is strictly controlled through the chemical stockroom. Users are dispensed only the amount of chemicals necessary for immediate needs. This prevents the generation of chemical waste from contaminated or degraded chemicals that were not used properly.

2) Microscale experiments continue to be used to reduce the amount of chemical reactants needed and wastes generated. Other experiments have been assessed to determine if less hazardous chemicals could be substituted or if alternative experiments could be conducted.

3) Students are instructed on the specific procedures for handling wastes generated by experiments. Students are not allowed to dispose of any chemical without prior approval from their instructor or stockroom personnel.

B. Chemical Safety Day Program

Bemidji State University participates in the University of Minnesota's annual Chemical Safety Day Program. Unused chemicals are collected for redistribution for use at the University of Minnesota. Chemical wastes are collected for proper waste disposal.

C. Automotive

Bemidji State University has a state contract with Monitor Tire Disposal, St. Martin, MN, for hauling and disposals of waste tires. Oil is picked up and recycled by an area recycler, Mr. Merlin Johnson, who is authorized by the EPA. All batteries are recycled through the L & M Fleet Farm Supply, 2740 Paul Bunyan Drive NW, Bemidji, MN 56601.

D. Print Shop

Silver from film and aluminum from plates is recycled through a local scrap dealer. Developer is recycled (approximately sixty gallons per year). A large supply of recycled paper is stocked for customer use.

E. Recycling Program

Bemidji State University has a comprehensive recycling program. Recycling in the Student Union includes aluminum, glass, tin, plastic, office paper, and newspaper. Aluminum and office paper is recycled in all academic and office buildings. Recycling in residence halls includes aluminum, glass, tin, office paper, and newspaper.

F. An Office of Environmental Health and Safety has been established. This office acts as a campus resource and provides guidance in the establishment and maintenance of environmental regulations, policies and related activities.

5. INCORPORATION OF POLLUTION PREVENTION INTO PROCUREMENT ACTIVITIES

Recycled paper is purchased through the State of Minnesota Central Stores, which is used in offices and computer labs. Also, Central Receiving stocks recycled toner cartridges for computer laser printers. Legal and regular sized writing pads are recycled, as are plain envelopes, Bemidji State University envelopes, and kraft envelopes. Fluorescent light bulbs are energy efficient.

6. PLANNED POLLUTION PREVENTION ACTIVITIES

A. Through the newly established office of Environmental Health and Safety, we plan to:

-Conduct regular environmental audits and identify potential problem areas or areas of non-compliance.

-Inventory all hazardous materials on campus, control procurement and ensure proper disposal according to applicable regulations.

-Conduct on-campus training and information meetings regarding compliance with environmental regulations.

-Expand the recycling program to include magazines and journals.

-Establish centralized procurement, storage, and tracking of all hazardous materials used on campus.

-Establish policies for the on-campus use of hazardous materials by contractors and other non-University personnel.

-Establish a policy to review proposed research, construction, and related activities for possible environmental impacts prior to their initiation.

The University will be converting its air conditioning systems to closed-loop systems to reduce the environmental problems associated with CFC refrigerants.

7. ESTIMATED BENEFITS

Estimated monetary benefits are difficult to determine. However, it is our belief that the benefits to the campus and local community from the establishment of good, sound, environmental policies and practices are well worth the cost to implement them. The safety and health of our personnel and the environment we share do not easily lend themselves to cost benefit analysis.

8. AREAS OF NEEDED ASSISTANCE

Funding and information are the two most pressing concerns associated with establishing and maintaining good environmental practices and policies. The establishment of a state agencies' environmental bulletin board or list, accessed through the Internet, would provide a valuable source for information and the exchange of ideas.

9. KEY POLLUTION PREVENTION CONTACTS AND RESOURCES

Mr. Richard Marsolek, Environmental Safety Officer, Bemidji State University, Bemidji, MN 56601-2699 Phone: 218-755-3988

Dr. Steven A. Spigarelli, Department of Environmental Studies, Bemidji State University, Bemidji, MN 56601-2699 Phone: 218-755-2910

_____
Name of Agency Head

_____
Title of Agency Head

_____ _____
Signature of Agency Head Date

ANNUAL STATE GOVERNMENT
POLLUTION PREVENTION SUMMARY REPORT

1994

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

Submit by July 1, 1994 to:

Pollution Prevention in State Government
MN Office of Waste Management
1350 Energy Lane
St. Paul, MN 55108
Attn: Paul Moss

1. Agency — Metropolitan State University

   Contact Name — Bruce Kamperschroer

   Contact Address — 700 East 7th Street
   St. Paul, MN 55106

   Contact Telephone — 772-7740

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

Metropolitan State University is committed to cooperate and comply fully with all Municipalities, Local, State, and Federal Governments to ensure that the laws and regulations pertaining to pollution and environmental issues are properly managed and maintained.

It is our intention that Metro State University will meet the highest standards possible, while engaging in sound environmental practice and to act in a manner that is pollution conscious and demonstrates responsibility and merit in all areas of its operations.

3. POLLUTION PREVENTION ACTIVITIES DURING THE FISCAL YEAR
Describe activities undertaken to prevent pollution and hazardous waste generated by agency or department (July 1993 - June 1994). Agencies may also note other relevant ongoing activities. **(Use additional sheets as appropriate)**

a. Fluorescent bulbs have been inventoried and placed in protective storage.

b. Reports have been filed in a timely and accurate manner to the county of Ramsey, reporting on all hazardous waste inventories.

c. All paints and unknown chemicals left by the previous owner have been inventories, lab packed, waste streamed, and properly manifested.

d. Purge counters have been installed (2 ea) on the existing centrifugal chillers to reduce and control CFC emissions.

e. Pre and post season operation, set-up, and maintenance checks are performed on all generator, heating and air conditioning equipment.

f. The existing underground fuel storage tanks (2 ea) left by the previous owner have been removed and properly manifested along with 3000 gallons of oil.

g. A recycling program for paper and aluminum is in force.

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. Have identified and implemented 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 1993 - June 1994). 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 1993 - June 1994). 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.

5. 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)

1. Asbestos abatement has been identified before the remodeling or construction work will proceed for buildings A & C.

2. Further CFC management procedures will be implemented.

3. Participation in the City of St. Paul's Rain Leader Disconnection program will be finalized, by disconnecting roof drains and storm sewers from the sanitary system.

4. Emission reporting, (annual/quarterly) reports to the MPCA will be filed.

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

7. Projected savings, refrigerant loss costs: $29,700

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

9. None at this time.

10. 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.

See Line #10.

11. Signature of Agency or Department Head

me of Agency Head Bruce Kamperschroer

tle of Agency Head Building Foreman

gnature of Agency Head _____ Date _____

3. Pollution Prevention Activities During the Fiscal Year (continued)

would be reduced and passed on to the University as well. Under the new contract, which goes into effect July 1, we will now be able to recycle most all paper products including: adding machine tape, bond paper (white or pastel), non-glossy calendar pages, newspapers, carbonless forms, computer paper, copy paper, window and non-window envelopes, magazines, manila file folders, index cards, letterhead paper, note pad paper, non-glossy pamphlets and brochures, paper forms, Post-It notes, scratch pads, groundwood paper, stationery, time cards, typing paper, notebook paper without covers, and textbooks. Our previous recycling agreement required us to separate the various types of paper they were able to take (which was limited to white bond paper, newspapers, computer printouts, and textbooks). The new contract allows all paper products to be mixed together, thereby eliminating costly time and wages on the part of the employees required to sort.

In addition to paper product recycling, the contract hauler also will collect food wastes which will then be brought to a farmer for animal food.

c. Used oil filters had in the past been disposed in the trash. Even before it was no longer allowable to use this practice, the University entered a contract with a private vendor to provide for the draining of remaining oil from the filters, and then the recycling of the oil and the filter.

d. Parts washer solvents are collected after use. They are then picked up by a private contractor, and filtered for reuse.

e. The University provides a mass transit fare subsidy to encourage students to take advantage of the mass transit system in commuting to and from the campus within the community. Not only does this eliminate the number of private vehicles being driven to the campus (and thus air pollution), but also educates its students to get into the habit of using mass transit.

f. All campus buildings have been connected to an energy management system. This system allows for maximum energy savings through the automation of fans, lighting, and some heating and cooling components. The University also remains committed to its program of converting, as possible, all incandescent lighting to fluorescent.

g. The University has been the forerunner in the state university system to convert its purchasing system to a networked computerized system. The former system required a non-recyclable four-part NCR paper requisition form and a five-page carbon-pack form. The new process generates only three pieces of paper which can be recycled when no longer needed.

h. Laboratory glassware is autoclaved and disinfected for reuse rather than disposal. Micro-sizing of experiments is also being done.

i. Products available in bulk are purchased as feasible to reduce the generation of container waste.

j. For the past eleven years the University has participated in the University of Minnesota Chemical Safety Day program. This program coordinates the recycling, reusing, or disposing of chemical wastes. It continues to be the most efficient and cost-effective means available for us.

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 1993 - June 1994). Agencies may also note other relevant ongoing activities.
**(Use additional sheets as appropriate)**

A formalized method of insuring that pollution preventing products are being purchased by the University has not been implemented.

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)**

a. It is planned that the University will identify a person or team of persons to work with the purchasing area to assure that pollution preventing products are being purchased whenever feasible. The University will provide assistance to its departments in investigating alternative products or methods that may reduce pollution.

b. The University is in the initial stages of replacing one of its central boilers. Pollution prevention will be a primary consideration in the type and efficiency of the boiler to be installed.

c. It is the intention of the University to conduct an NSP-assisted energy audit of its facilities. A request has been made of the MnTAP program for the placement of an intern at the University to identify areas where other pollution preventing activities can be implemented.

## 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. Benefits in the area of recycling efforts are easily the most evident. Total recycling is up by more than twenty percent over the previous fiscal year. This allows for the cost of the refuse removal contract to remain nearly constant during the past four years. Minimal additional costs are being incurred for the recycling of tires and solvents. By and large, however, savings are still quite significant.

b. Substantial quantities of paper are being saved through the conversion of the University's purchase order system. The new system reduces the total amount of paper generated by 66 percent (or nearly 100,000 sheets of paper annually). The former system also used NCR paper which could not be recycled, as well as a carbon-pack form of which the carbons (4 per form) needed to be disposed in the trash.

c. Tha majority of other pollution preventing programs put into place by the University (i.e., solvent reclamation, oil filter disposal, tire disposal, metrobus subsidy) have been put into place at an initial and continued cost. Benefits to the environment, however are sizable.

## 8. AREAS OF NEEDED ASSISTANCE

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

As is likely common with the majority of state agencies, our program of Pollution Prevention is being administered by employees who have limited experience in the field but have assumed the duties in addition to existing responsibilities. An audit of our facilities to assist in the identification and development of programs would be of greatest assistance.

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 assistance in the area of energy conservation, the University's chief engineer, Chuck Lindgren, can be contacted at (612) 255-3166.

Barbara Keller, coordinator of facilities management, is working with the campus departments to investigate pollution preventing methods and assist in the development of policies and procedures for the purchasing of pollution preventing products campus-wide. She can be reached at (612) 255-2266.

10: Signature of Agency or Department Head

Robert Bess
Name of Agency Head

President, St. Cloud State University
Title of Agency Head

X Robert O. Bess June 20, 1994
Signature of Agency Head Date

RECEIVED
JUN 30 1994
STATE UNIVERSITY
BOARD

# University of Minnesota
# Pollution Prevention Summary Report
# July 1, 1994

Prepared By
Department of Environmental Health and Safety
University of Minnesota
410 Church Street
Minneapolis, Minnesota 55455
(612) 626-6281

# ANNUAL STATE GOVERNMENT POLLUTION PREVENTION SUMMARY REPORT

## 1994

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

Submit by July 1, 1994 to:

Pollution Prevention in State Government
MN Office of Waste Management
1350 Energy Lane
St. Paul, MN 55108
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
410 Church Street S.E.
Minneapolis, Minnesota 55455

Contact Telephone — (612) 626-6281
Contact Fax — (612) 624-1949
Contact E-mail — bbackus@cassandra.dehs.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 1993 - June 1994). Agencies may also note other relevant ongoing activities. (Use additional sheets as appropriate)

A. The University of Minnesota Waste Abatement Committee, chaired by Fay Thompson, Ph.D., CIH, Director of the Department of Environmental Health and Safety, is the central body coordinating University activities in the area of pollution prevention and waste abatement (hazardous or toxic waste, low level radioactive waste, solid waste, and energy use reduction). Some items coordinated by, or reported to, the committee include the following:

The Waste Abatement Committee concentrated on: the U-SEARCH program, annual reports to the Regents and University Administration, sponsoring informational displays for Waste Reduction Week (September 27 - October 2, 1993), reduction in the non-recyclable paper from the University community, studying the impact of electronic mail on conventional campus mail, and sponsoring informational displays for Earth Week University Environmental Fair (April 20 - 21, 1994).

- The University Student Environmental Audit Research (U-SEARCH) program in the University of Minnesota Center for Urban and Regional Affairs (CURA) aids undergraduate and graduate students in earning academic credit for researching the environmental impacts of the University campuses (including the generation of hazardous or toxic materials). The U-SEARCH program assisted 106 students, who researched 39 topics in the 1992 to 1994 school years. Project topics explored existing and potential opportunities for: occupancy sensor lights, reuse of sidewalk sweepings, reuse of toner cartridges, water conservation, recycling of polypropylene syringe hardcases, and other waste reduction topics. Twenty U-SEARCH topics, focusing on University pollution problems, were researched by 74 students in the Natural Resources and Environmental Studies course, Issues in the Environment, during Spring Quarter 1994. For more information about U-SEARCH activities, contact the Center for Urban and Regional Affairs, 330 Humphrey Center, 301 - 19th Avenue South, Minneapolis, Minnesota, (612) 625-6389.

- An annual report submitted to the Regents of the University of Minnesota, February 1994, discussing the status of waste reduction activities at the University of Minnesota for hazardous and solid waste, is included as an appendix to this report.

- Waste Reduction Week activities included: Monday, Reduce Day - focused on reusable coffee mugs, anti-junk mail campaign, and videos on waste reduction at both student unions over lunch. A mailing was sent to Deans, Directors, and Department Heads about procedures to reduce junk mail to their departments; Tuesday, Buy Recycled Day - displays were exhibited at bookstores and copy centers of available recycled materials; Wednesday, Conservation Day - Quad (recycling) Olympics on St. Paul Campus from noon - 1:00 P.M., tips on energy reduction were distributed, and information on how to order Eco-Friendly products was presented in a flyer handed out by CURA; Thursday, Reuse Day - Goodwill was on both campuses collecting reusable products from the University, and there was a giveaway of surplus office supplies by the University Recycling Program from noon -1:00 P.M. on both campuses to advertise Reuse Program; Friday, Pollution Prevention Day -- Rideshare information was handed out at non-carpool lots from 7:30-9:30 P.M.; and a notice was placed in Minnesota Daily newspaper about the University of Minnesota receiving the Governor's Award for Excellence in Pollution Prevention.

  The Waste Abatement Committee attended the State Agency Pollution Prevention Fair in the St. Paul Armory on September 27, 1994. The Committee displayed the University of Minnesota Quad System container pyramid (solid waste recycling system), the Governor's Award for Excellence in Pollution Prevention, informational posters, pictures, and statistics for the University chemical redistribution program and recycling of demolition debris from a University parking ramp.

- The Waste Abatement Committee reviewed whether it would request that all University photocopying centers be required to use paper with recycled content, but found that it put University photocopying centers at a price disadvantage with commercial companies, because paper with recycled content is now more expensive than paper made from virgin stock. The

University photocopying centers now clearly advertise that they have paper with recycled content available for customers and that photocopying is now two-sided unless requested otherwise for student course reading packets.

- The Waste Abatement Committee researched which papers were unacceptable to office paper recyclers. It was proposed that when committee members receive letters or notices on unacceptable paper stock (e.g. fluorescent papers), they send a form letter to the sender, notifying the sender that the University can not recycle these papers, but it was felt that this would result in additional, unnecessary solid waste. Instead, the Committee had displays in copy centers state not only which papers were created from recycled materials, but to also indicate to consumers which papers are not acceptable for recycling at the University (i.e., Astrobrights).

- The Committee reviewed a Total Quality Management Paper-flow Management Report for the University. Several recommendations have been implemented, but much remains to be done for paper reduction on campus. The Committee was informed that campus mail (letters) has increased, in spite of increased access to electronic mail (e-mail). It is felt that several factors contributed to this, including a no-charge policy for internal mail at the University and the fact that technology (e-mail, voice mail, fax) is not yet user-friendly and reliable. Another issue with faxing and e-mail is equivalent or duplicate levels of paper usage generated. The committee continues to discuss this issue and what steps to take next.

- The committee sponsored informational booths on pollution prevention at both the Minneapolis and St. Paul Campuses for the University Environmental Fair during Earth Week (April 20-21, 1994).

B. The Department of Environmental Health and Safety performed the following pollution prevention activities:

- University of Minnesota hazardous waste generation rates for the past six years and chemical redistribution amounts for the past five years are presented in tabular and graph form in the appendix. The amount of hazardous waste generated by the University system increased from 141,000 kilograms annually in 1988 to 339,000 kilograms in 1993, primarily due to the addition of special wastes as hazardous waste under TCLP rules, fluorescent light and ballast change-out program to install more energy efficient lighting on the Twin Cities Campus, and increased educational efforts. (Waste minimization numbers on the hazardous waste generation table in the appendix include source reduction, redistribution, and recycling efforts.)

- The statewide University chemical redistribution program, redistributed 1,557 kilograms of chemicals in 1993, saving the University an estimated $55,400 in avoided disposal and purchase costs. The amount redistributed has declined slightly from previous years, because two of the biggest users of the program, the Chemistry Department on the Minneapolis Campus and the Chemistry Department at Duluth, have created internal redistribution programs.

- The statewide University chemical redistribution program, redistributed $3,740 worth of laboratory glassware in 1993.

- In 1993 and 1994, Environmental Health and Safety continued to operate the Chemical Safety Days Program (CSDP), which collects hazardous waste from State schools and governmental agencies. Chemicals suitable for redistribution are also collected and disbursed to laboratories in the University system. Schools and governmental agencies are given a price break on chemicals which can be redistributed (providing there is a market for them).

- A study was done on alternative cleaning agents used in the Department of Mechanical Engineering parts washer. Due to the cost of analytical testing required by the Metropolitan Waste Control Commission (MWCC) on every batch of alkaline detergent to be disposed of from parts washer, it was determined that most cost effective and environmentally prudent option was

F. The University of Minnesota Natural Resources Research Institute (NRRI) is involved in the following pollution prevention initiatives:

- NRRI is doing numerous environmental studies through their Center for Applied Research and Technology Development and Center for Water and the Environment. Studies range from "Technology for Removal of Toxic Pollutants From Great Lake Bottom Sediments", Production of Lightweight Aggregate With Paper Mill Sludge and Fly Ash", to "Modeling Impacts of $CO_2$, Ozone and Climate Change on Tree Growth". For more information on NRRI studies, contact Lisa Wydra at (218) 720-4300 or Nora Kubazewski at (218) 720-4280.

- John Ameel, a scientist at NRRI, is comparing a new analytical procedure developed at the University of California - Davis, for the detection of mercury in lake bottom sediments. The new procedure generates only one-fifth of the mercury waste of traditional procedures. Mr. Ameel is continuing to evaluate the new procedure. (Ameel, J.J., C.J. Owen, R.P. Axler, G.A. Bly, and D.G. Slotton, 1994. QA/QC Evaluation of Semi-Micro Cold Vapor Atomic Absorption (CVAA) Method for Determining Total Mercury in Fish Tissue and Sediments. Presented at the 2nd Annual Midwest Chapter Meeting, Society of Environmental Toxicology and Chemistry, La Crosse, Wisconsin, March 3-4, 1994.)

  John Ameel also presented results at the 1992 Environmental Laboratory Conference on the use of Total Nitrogen analysis, instead of Total Kjeldahl Nitrogen (TKN), for nitrogen analyses. (The Total Nitrogen analysis provides information comparable to the TKN test.) The Total Nitrogen analysis does not require strong acids or heavy metals (mercury, or copper and selenium) like the TKN analysis. A barrier to using the Total Nitrogen procedure is the historical use of the TKN analysis (as required in many governmental studies) where Total Nitrogen may be more appropriate.

  A publication in *American Environmental Laboratory* (Ameel, J.J., and C.J. Owen, 1993. Persulfate Digestion for Determination of Total Nitrogen and Phosphorus in Low-Nutrient Water. *American Environmental Laboratory*, October 1993) resulted in many laboratories across the nation contacting the NRRI laboratory on Total Nitrogen procedures. Water districts in Hawaii and Colorado are trying to get the procedure instituted in regional studies.

G. The University of Minnesota Twin Cities Campus offers several hundred courses on the environment, 22 of which deal with pollution prevention. Source: Courses on the Environment. A Student Guide to University of Minnesota Courses on Environmental Issues on the Twin Cities Campus, 1993 - 1994. University of Minnesota Center for Urban and Regional Affairs, 330 Humphrey Center, 301 - 19th Avenue South, Minneapolis, Minnesota, (612) 625-1551.

The University of Minnesota Twin Cities Campus recycled 29 percent of its solid waste, or 2,608 tons, in 1992.

**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 1993 - June 1994). 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 policy document on hazardous waste management at the University of Minnesota, devotes an entire chapter to pollution prevention techniques.

**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 1993 - June 1994). Agencies may also note other relevant ongoing activities.
(Use additional sheets as appropriate)

- The front page of the new 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: Fay Thompson, (612) 626-3676
- Chemical Redistribution Program
- Laboratory Glassware Redistribution Program
- Researching pollution prevention opportunities

  Contact: Kelly Gram, (612) 627-4169, or Bruce Backus, (612) 626-6281

The University of Minnesota will initiate the following programs:

- The Department of Environmental Health and Safety will send pollution prevention training requirements, in fact sheet form, to all deans, department heads and directors. University policy will require annual pollution prevention training for all staff generating hazardous waste. (It will be recommended that pollution prevention training be given with required hazardous waste training.)

  Contact: Fay Thompson, (612) 626-3676, or Bruce Backus, (612) 626-6281

- The Purchasing Department will explore the possibility of a prime vendor contract with a single chemical company in January 1995.

  Contact: Dee McManus, (612) 626-1813 or (612) 625-6545

## 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 1993: 1557 kilograms, $55,400 savings
- Labware Redistribution 1993: $3,740 savings
- Documented Source Reduction 1993: 23,909 kilograms, $236,000 savings
  (Based on estimated average disposal cost for laboratory chemicals of $9.88/kilogram in 1993)
  (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: 25,466 kilograms
Total estimated cost savings: $295,140

## 8. Areas of Needed Assistance

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

Financial - The University Student Environmental Audit Research (U-SEARCH) program in the University of Minnesota Center for Urban and Regional Affairs (CURA) will probably be phased out in July 1994 to June 1995, due to insufficient funding to maintain the program. The two year old program showed promise in involving undergraduate and graduate students in pollution prevention projects that benefited both the student (academic credit) and the University (low cost researchers). The key person managing the program, Karen Linner, will be graduating in June 1994. CURA will review the program in July 1994.

## 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
612-626-6281
Subjects: University of Minnesota Pollution Prevention Program
Chemical Redistribution Programs
Chemical Spill Response
University of Minnesota Waste Abatement Committee

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

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

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

Paul J. Tschida
Name of Agency Head

Assistant Vice President, Campus Health and Safety
Title of Agency Head

Paul J. Tschida 7/1/94
Signature of Agency Head Date

Karen Linner, Graduate Student
Humphrey Institute Center for Urban and Regional Affairs
612-625-6389
Subjects: University Student Environmental Audit Research (U-SEARCH)
University of Minnesota Environmental Summits
Student Involvement in Pollution Prevention Activities
Student Interns and Volunteers for Pollution Prevention Projects
University of Minnesota Waste Abatement 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, Manager
Laboratory Services
612-625-6545
Subjects: 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, Chairperson
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 for the Handling and Disposal of Chemicals from Laboratories*

# POLLUTION PREVENTION/WASTE ABATEMENT
# UNIVERSITY OF MINNESOTA
# FISCAL YEAR '93 REPORT
# TO THE BOARD OF REGENTS

*The University of Minnesota's success in reducing generation of hazardous waste was recognized by receipt of the 1993 Governor's Award for Excellence in Pollution Prevention, which was awarded on the basis of efforts of the Department of Chemistry and the Department of Environmental Health and Safety.*

The University of Minnesota Regents' Policy on Pollution Prevention and Waste Abatement (June 11, 1992) declares the University's commitment to excellence and leadership in protecting the environment and establishes the objective of reducing all types of waste and emissions. The University's Waste Abatement Committee, established in 1988, has taken on the challenge of coordinating and reporting on a wide variety of pollution prevention and waste abatement efforts undertaken by many departments and individuals at the University. This report summarizes a year of activity directed toward achieving the Regents' Policy objectives.

The University has had an active and increasingly successful program of waste reduction since 1984. The program has grown from simple recycling of paper and cans to include a multitude of solid and hazardous wastes. The emphasis has also been shifting toward source reduction (eliminating generation of waste) whenever possible, rather than counting on recycling the waste after it is generated. However, waste production will never be totally eliminated and a strong recycling program is an essential component of the University's pollution prevention/waste abatement effort.

Due to the vagaries of external reporting requirements (county and state), some data have been maintained and reported on a fiscal year basis and some on a calendar year basis. Changes in categorization of waste have also occurred during the past several years, and there has been an ever increasing number of individual types of waste that are reduced or recycled. Thus some numbers are not entirely comparable, and the reader should not spend too much time trying to draw conclusions among and between various sections of this report.

Three types of information are summarized: (A) fiscal year 1993 data for solid waste and hazardous waste, (B) waste generation and reduction trends over the last 5-8 years, and (C) new efforts to increase waste reduction that are currently underway.

## A. FY'93 WASTE REDUCTION AND RECYCLING QUANTITIES

Table 1. SOLID WASTE FY'93

| MATERIAL | TONS |
|---|---|
| Office Paper | 1,035.9 |
| Newspaper | 286.0 |
| Cardboard | 483.9 |
| Magazines | 61.2 |
| Mixed | 17.2 |
| Aluminum Cans and Foil | 40.7 |
| Tin Cans | 30.3 |
| Glass | 78.3 |
| Plastic | 13.9 |
| Small Animal Bedding | 5.9 |
| Phone books | 93.2 |
| Scrap Metal | 350.7 |
| Appliances | 28.7 |
| Household Items | 27.1 |
| Lead Acid Batteries | 4.5 |
| Wooden Pallets | 15.2 |
| Total Recovered Materials | 2,572.7 |
| Total Solid Waste (including recovered) | 8,942.3 |
| Percent Recycled | 28.8% |

The recycled quantities of two materials, cardboard and newspaper, are lower than found during previous years. Cardboard is approximately 70 tons lower because cardboard recycling at the hospital was suspended to accommodate new handling procedures for that material at the KE trash dock. Cardboard recycling is expected to be fully resumed shortly. Newspaper tonnage is significantly lower as a result of the source reduction efforts practiced by the *Minnesota Daily*. By closely monitoring quantities used, the *Daily* was able to achieve a substantial reduction in their printing runs.

The two cases cited above are good examples of the problems of uniform data collection and reporting in the waste management business. Events such as facility remodeling can significantly impact waste handling for a period of time, and thus skew the data for that year. The *Daily* example, which is true source reduction, would appear to show that recycling of waste newspapers has dropped off.

One solid waste recycling effort that has not been added into the data reported above is recycling associated with large construction projects. Demolition of the Washington Avenue Parking Ramp resulted in recovery of 15,000 tons of concrete and 594 tons of steel. Because these quantities are very large (almost twice the total annual solid waste generation) and the waste is not routinely generated, the numbers are not added into the annual totals for the campus. However, recycling of demolition waste will be pursued whenever possible.

Table 2. HAZARDOUS WASTE 1992

| MATERIAL | TONS |
|---|---|
| Fuel Solvents (heat recovery) | 8.5 |
| Waste Photofixer (silver recovery) | 65.7 |
| Paint (fuel blend) | 8.6 |
| Waste Oil (recycle) | 17.8 |
| Oil Filters | 0.8 |
| Fluorescent Lamps | 35.9 |
| Parts Washer Fluid | 1.2 |
| Ethylene Glycol | 4.8 |
| Circuit Boards/Electronic Equipment | 31.8 |
| Metallic Mercury | 0.2 |
| Redistribution of Lab Chemicals | 1.8 |
| Documented Source Reduction | 25.8 |
| Total Recovered Materials | 210.8 |
| Total Hazardous Waste (including recovered) | 390.5 |
| Percent Recovery | 54.0% |

Recycling of hazardous waste (other than oil and photofixer) is complex and frequently very costly. Actual source reduction (eliminating generation) is preferred whenever possible. For 1992 a reduction in generation of 25.8 tons was documented, yielding a waste stream about 7% smaller than it would have been without reduction.

An unique example of pollution prevention occurred during the past fiscal year when Parking Services upgraded the computer system that controls gate access to parking facilities. The new system reduced the waiting time per car by at least 1.5 seconds, resulting in a savings of about a ton of gasoline per year, with a concomitant reduction of carbon dioxide production of 3 tons per year. Ramp users also saved about 57,000 minutes per year!

## B. POLLUTION PREVENTION/WASTE ABATEMENT TRENDS

Table 3. SOLID WASTE, Tons

| Year | Recycled | Disposed | Total Waste | % Recycled |
|---|---|---|---|---|
| 1984 | 226 | 7,344 | 7,570 | 2.9 |
| 1985 | 343 | 7,733 | 8,076 | 4.2 |
| 1986 | 429 | 8,131 | 8,560 | 5.0 |
| 1987 | 746 | 8,186 | 8,932 | 8.4 |
| 1988 | 1,191 | 7,802 | 8,993 | 13.2 |
| 1989 | 1,547 | 7,566 | 9,113 | 17.0 |
| 1990 | 2,215 | 6,947 | 9,162 | 24.2 |
| 1991 | 2,464 | 6,603 | 9,067 | 27.2 |
| 1992 | 2,608 | 6,395 | 9,003 | 29.0 |

It is interesting to note that the quantity of waste recycled has increased during each of the nine years that the program has been in existence. At the same time, the quantity of waste going to landfill or incineration peaked in 1987 and has decreased each year since.

The average cost per ton for materials recycling is somewhat less than the cost per ton for disposal ($147/ton vs $160/ton during a recent year). Because the cost per ton of either recycling or disposal tends to increase each year or two, it is particularly important to begin to show a reduction in total waste quantity. Therefore it is pleasing to note that the total waste quantity (recycled plus disposed) peaked in 1990 and has dropped slightly since.

Table 4. HAZARDOUS WASTE, Tons

| Year | Recycled | Disposed | Total Waste | % Recycled |
|---|---|---|---|---|
| 1988 | 93.9 | 61.1 | 155.0 | 60.6 |
| 1989 | 126.1 | 90.8 | 216.9 | 58.1 |
| 1990 | 120.2 | 165.9 | 286.1 | 42.0 |
| 1991 | 147.7 | 212.0 | 359.7 | 41.0 |
| 1992 | 210.9 | 179.6 | 390.5 | 54.0 |

Hazardous waste is more amenable to source reduction than to recycling. Wastes that are not generated are neither recycled nor disposed, and there has been considerable success with individual laboratories and processes in reducing the generation of certain hazardous wastes.

However, it will be noted that the total quantity of hazardous waste has increased significantly over the past five years. There are two reasons for this. First, there have been several very large one-time productions of hazardous waste that will not recur; most notable was the change to low energy fluorescent lights throughout the Twin Cities campus. While this project is saving considerable amounts of money in energy costs, it did produce a very large quantity of PCB-containing electrical ballasts and old fluorescent bulbs, both of which are hazardous wastes.

Second, each year has seen the addition of new materials to the definition of hazardous waste. Thus most batteries, paints, fluorescent lights, oil filters, aerosol cans, etc. have been transferred from the solid waste to the hazardous waste category, resulting in significantly increased handling and disposal costs and an appearance of increased waste generation.

## C. FUTURE EFFORTS

### SOLID WASTE

New waste streams are being added to the solid waste recycling system. Efforts to segregate and recycle electronic components, waste concrete and old tires are being implemented and will grow with time. The Quad System, which collects cans, bottles, office paper and newspaper throughout the campus is expected to be fully implemented by December 1994.

A very new effort to encourage reuse of materials is also underway. An inventory of usable desks, chairs, files, shelves, computers, etc. has long assisted departments in finding used furniture and equipment to fill their needs. However, materials not needed by departments has usually had to be sent to a landfill. An increased effort is now being made to find users outside the University who can use this furniture and equipment as is, or with moderate repair, rather than disposing of this material.

The use of e-mail on campus is continuing to expand rapidly, which should theoretically result in a reduction in the amount of campus mail. The committee will continue to investigate this and other ways of reducing campus mail.

Efforts are also being undertaken to increase the use of recycled paper, thereby increasing the market for that material and hopefully reducing the price. An effort will also be made to reduce the use of brightly colored non-recyclable paper, the presence of which can cause a load of office paper to be rejected for recycling.

A project to reuse computers will be investigated jointly by the University Bookstores and Facilities Management.

The University will also share its experience in successful waste reduction (both solid and hazardous) with other state agencies through participation in the first annual State Agency Waste Reduction Fair.

## HAZARDOUS WASTE

The search for source reduction options continues to be the major direction of hazardous waste reduction activity. Examples of actions that will be pursued in the near future include changing from solvent-based to water-based degreasing solutions and encouraging a change from mercury thermometers to electronic or mechanical thermometers for laboratory use.

Source reduction options for hazardous waste management are highly waste and location specific, and therefore must be dealt with on a very localized basis. Further education to assist waste generators in evaluating their own waste reduction options will also be undertaken.

## RADIOACTIVE WASTE

The major option for reduction in radioactive waste generation is to hold certain short half-life isotopes for decay until they are no longer radioactive. This requires a new management system that assures segregation of short half-life from long half-life materials, and requires a significant educational effort among generators of this waste. However, the potential cost savings are well worth the effort.

## WASTE ABATEMENT COMMITTEE

The University's Waste Abatement Committee membership is broadly representative of the functions that are necessary components of a comprehensive pollution prevention/waste abatement program. The current members are listed below.

**Waste Abatement Committee Members (1993-94)**

Lawrence Anderson, Campus Master Planning
Bruce Backus, Environmental Health and Safety
Dana Donatucci, Facilities Management
Stuart Fenton, Chemistry
Tom Halbach, Mn Extension Service - Waste Management
Greg Kittelsen, Hospital Facilities Planning Office
Karen Linner, Graduate School (Humphrey Institute)
Dee McManus, Laboratory Safety Services
Patricia Oropesa, Graduate School (Conservation Biology)
Donna Peterson, MnTAP
Rose Ripka, Environmental Health and Safety
Theresa Robinson, University Services
Ron Campbell, Housing and Food Services
Fay Thompson, Environmental Health and Safety
Karen Triplett, Purchasing
Louis Vietti, Hospital Material Services

UNIVERSITY OF MINNESOTA-DULUTH
RECORD OF POLLUTION PREVENTION EFFORTS

Name (Print): Mahjoub Labyad

Department & Campus: UMD Art Department

Job Title: Environmental Health Specialist

Phone Number: (218)726-7273

Pollution Prevention Technique Utilized

Training or Education: yes ☑

Product Substitution: yes ☑

Process Modification (e.g. switch to microscale chemistry, new equipment, etc.): n.a ☐

Waste Segregation: yes ☑

Redistribution: yes ☑

Reclamation (e.g. metals recovery, solvent distillation) : n.a ☐

Neutralization or Deactivation : n.a ☐

Other (describe: _____) ☐

Type of Hazardous Waste or Toxics Reduced: Flammable solvent Waste

**Amount of Hazardous Waste Generated or Toxics Emitted Prior to Pollution Prevention**

(kilograms - annual basis) 2 X 30 gals X 6.7 (lb/gal) / 2.2 (lb/kg) = 182.7 kg

**Amount of Hazardous Waste Generated or Toxics Emitted After Pollution Prevention Implementation**

(kilograms - annual basis) = 0. (None is disposed of yet after one fiscal year)

Description of Pollution Prevention Process (attach additional sheets as necessary): See attatched document.

*Mahjoub Labyad*
Signature

*May 20, 1994*
Date

Send this record to: Hazardous Waste Officer, Department of Environmental Health and Safety, University of Minnesota, 410 Church St. S.E., Minneapolis, Minnesota 55455, or FAX (612) 624-1949.

Questions: Refer to your *University of Minnesota Hazardous Chemical Waste Management Guidebook* or call Environmental Health and Safety at (612) 626-6002.

Version 5/12/94

# UNIVERSITY OF MINNESOTA
# RECORD OF POLLUTION PREVENTION EFFORTS

Name (Print): _____

Department & Campus: _____

Job Title: _____

Phone Number: _____

Pollution Prevention Technique Utilized (check all that apply)

Training or Education (date training given: _____)..... ☐

Product Substitution..... ☐

Process Modification (e.g. switch to microscale chemistry, new equipment, etc.)..... ☐

Waste Segregation..... ☐

Redistribution..... ☐

Reclamation (e.g. metals recovery, solvent distillation)..... ☐

Neutralization or Deactivation..... ☐

Other (describe: _____)..... ☐

Type of Hazardous Waste or Toxics Reduced _____

**Amount of Hazardous Waste Generated or Toxics Emitted Prior to Pollution Prevention**

(kilograms - annual basis) _____

**Amount of Hazardous Waste Generated or Toxics Emitted After to Pollution Prevention**

(kilograms - annual basis) _____

Description of Pollution Prevention Process (attach additional sheets as necessary):

_____ _____

Signature Date

Send this record to: Hazardous Waste Officer, Department of Environmental Health and Safety, University of Minnesota, 410 Church St. S.E., Minneapolis, Minnesota 55455, or FAX (612) 624-1949.

Questions: Refer to your *University of Minnesota Hazardous Chemical Waste Management Guidebook* or call Environmental Health and Safety at (612) 626-6002.

Version 5/12/94

We decided to find possible ways to reduce the volume of the waste generated and/or disposed of by the department. students were requested to conserve the materials they use through the following waste minimization strategies.

Paints: (containing heavy metal pigments)

i) Share/trade paint tube with other students (especially when the tube of a certain paint/color is not needed by one person but may be needed by others) instead of discarding into the tube collection container.

ii) Use most of the paint in the tube by passing a tube through a tube wringer ( the wringer was provided by the instructor/department for this purpose).

Data is not available on the reduction of waste in this category. No waste has been disposed of yet.

Canvas and Paper/ Rags Waste

i) Reduce the size of the canvas to reduce the amount of paint and solvent needed.

ii) Reduce the amount of paper and rags used to dry the paint brushes and adjust the desired paint color, reuse the paper/rags as much as possible.

Waste reduction data is not available yet since this is a new waste.

Spent Photo fixer and Developer Waste

the same technique of using less is better were applied for this waste category
the spent fixer is sent for silver recovery, and the developer for neutralization

Solvent (paint thinners):

i) Use smaller quantities of chemicals (thinners and paints).

ii) Reuse the solvent as much as possible ( new solvent for paint mixing/thinning, dirty solvent for brush cleaning).

iii) Store brushes in non hazardous substances such as olive oil while working on the same project or over night if using the same colors instead of cleaning and storing in solvent.

iv) Keep solvent container closed all times to minimize chemical evaporation and reduce student potential exposure to chemical vapors.

Solvent In House Recycling and Reuse Procedure

the spent solvent is collected in recycled and reusable 5-gal containers, the waste is brought to the hazardous chemical storage laboratory regularly, once there, the waste is bulked into a 30-gal steel drum, the 5-gal container is then returned to the user.

A one gallon representative sample of the waste is poured into a transparent glass container while the waste is still agitated, the gallon container is then stored in a flammable storage cabinet, and surveyed for a certain period of time, as the paint granules in suspension in the liquid separate from the solvent and sink to the bottom of the container creating a layer of sludge, the thinner is self cleaned.

The representative sample when settled will give an idea on how large is the sludge layer in the bottom of the drum, and approximately how much thinner could be pumped out from it. The self cleaned solvent is pumped in a 5-gal container or as needed and returned to the department for reuse, the instructor in turn dispense the recycled solvent to students. Beside a little discoloration (yellowish)of the recycled solvent, it was reported to be as good as new, and found to be doing the same job.

The waste generated by the department was reduced approximately by half, from a 60 galls/year to a 40 galls/year through immediate reuse by students and the application "using less is better".

About 6 galls of the remaining 40 gallons were cleaned (self cleaned ) and returned to the department for reuse during the 1993-94 school year, and we are looking at the possibility of recycling the rest (about 20 galls) through the University painters this summer (next step of the project)

We are guessing that the total amount to be disposed of as hazardous waste will approximately be about a 4 galls or 12.19 Kg .

**Therefore a reduction of 182.73-12.19=170.54 Kg during the 1993-94 school year**

this following summer we'll be looking to other possible ways of reducing the hazards of the thinners used by using a less hazardous thinner, convincing more student to use and reuse the recycled solvent, to buy a single brand chemical, to see if it is economically possible for the department to buy the chemical and dispense it to the students.

**Pollution Prevention Implementation Program**
**University of Minnesota Duluth**
**School of Fine Arts: Art and Theater Department**

## 1. Hazardous Waste management overview

Waste generated at the art department is collected in compatible containers (reused 5-gal steel pails, 55-gal drums, etc.), when the containers are full, a responsible person within the department manifests the waste for disposal, the waste is then picked up by trained personnel from the office of Environmental Health and Safety, and brought to the hazardous waste storage facility for storage for a period of less or equal to 90 days, the waste is then shipped off-site to other University of Minnesota storage facilities for ultimate disposal or recycling depending on the nature of the waste in question.

The amounts of different wastes generated by this department vary according to the number of students enrolled, the number of projects and/or assignment done per year or quarter, as well as other factors including training

## 2. Types of waste generated

a) Painting and studio art:
- Solvent waste (e.g. mineral spirits and Turpentine ) about a 50-gal per year approximately.
- Waste paper and canvases contaminated with oil paints and above solvents, approximately 150 kg per year
- Empty paint and glaze dispenser tubes ( this is a new waste, no amount disposal figure is available yet .

b) Photography
- Spent photographic waste about a160 gals/year.
- Spent Dektol developer waste: about a 160 gals/year

The wastes described above are regular wastes generated on a regular basis. There are other waste generated by this department this waste are not discussed here, because they are not generated on a regular basis, and therefore are not considered as candidate for pollution prevention and waste minimization.

## 3. Problems

- Paint thinners such as mineral spirits, turpentine are actually bought by individual students from the university bookstore and/or local businesses to be used for mixing or thinning the paints, and cleaning paint brushes.
- Student store their chemicals in their lockers, and bring to class when needed.
- There is no (?) written protocol for the quantities to be used, after the chemical (thinner ) became dirty, students dispense of it in the hazardous waste collection container.
- Different types of solvent (thinners) are used by students, and when mixed in the waste collection container, it become difficult to clean and recycle.

## 4. Solutions (Pollution Prevention Implementation)

a. **Training:** as part of the University of Minnesota Hazardous Chemical waste Management Program, training was provided to the art and theater department on waste Minimization strategies, and to look for ways to reduce at the source the volume and toxicity of all Environmentally hazardous substances generated using the best available methods and strategies to a degree determined to be economically feasible and affordable by the department, without any negative impact on its day-to-day operations, and ability to provide adequate learning ground to the university community and students in the pursuit of their education.

b. **Volume Reduction:** After providing training to students and faculty on proper waste management and disposal, the volume of waste generated /disposed by the department increased. This waste increase was also observed in a number of departments throughout the University of Minnesota Duluth (UMD), hence the increase of the total amount of waste generated by UMD as a whole.

# UNIVERSITY OF MINNESOTA
# RECORD OF POLLUTION PREVENTION EFFORTS

Name (Print): RON CLINE

Department & Campus: PAINT SHOP, MORRIS CAMPUS

Job Title: PAINTER

Phone Number: 612 - 589 - 6100

Pollution Prevention Technique Utilized (check all that apply)

Training or Education (date training given: _____) ☐

Product Substitution ☐

Process Modification (e.g. switch to microscale chemistry, new equipment, etc.) ☒

Waste Segregation ☐

Redistribution ☐

Reclamation (e.g. metals recovery, solvent distillation) ☒

Neutralization or Deactivation ☐

Other (describe: _____) ☐

Type of Hazardous Waste or Toxics Reduced PAINT THINNER / MINERAL SPIRITS

Amount of Hazardous Waste Generated or Toxics Emitted Prior to Pollution Prevention (kilograms - annual basis) 80gal x 4.5Kg/gal = 360 Kg.

Amount of Hazardous Waste Generated or Toxics Emitted After to Pollution Prevention (kilograms - annual basis) 63Kg -

Description of Pollution Prevention Process (attach additional sheets as necessary): MINERAL SPIRITS USED IN CLEANING PAINT BRUSHES AND OTHER PAINTING TOOLS IS PUT INTO 5 GAL CONTAINERS WHERE THE PAINT SETTLES OUT & THE CLEAN MINERAL SPIRITS ARE THEN PUMPED →

Signature

Date 6/30/94

---

Post-it™ brand fax transmittal memo 7671 | # of pages ▸ 2

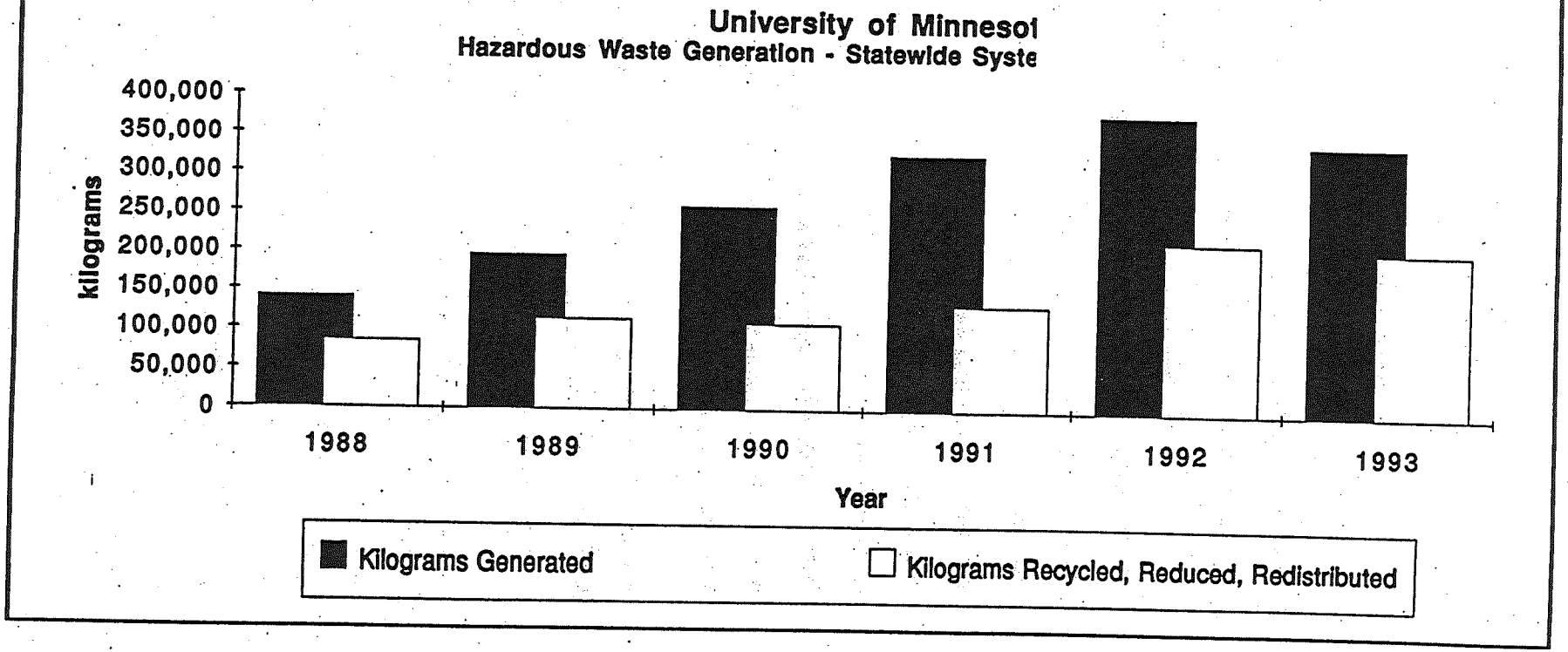
| | |
|---|---|
| To BRUCE BACHUS | From LANE |
| Co. U of M | Co. U of M MORRIS |
| Dept. EMS | Phone 589-6107 |
| Fax # 624-1949 | Fax # |

ntal Health and Safety, University of 612) 624-1949.

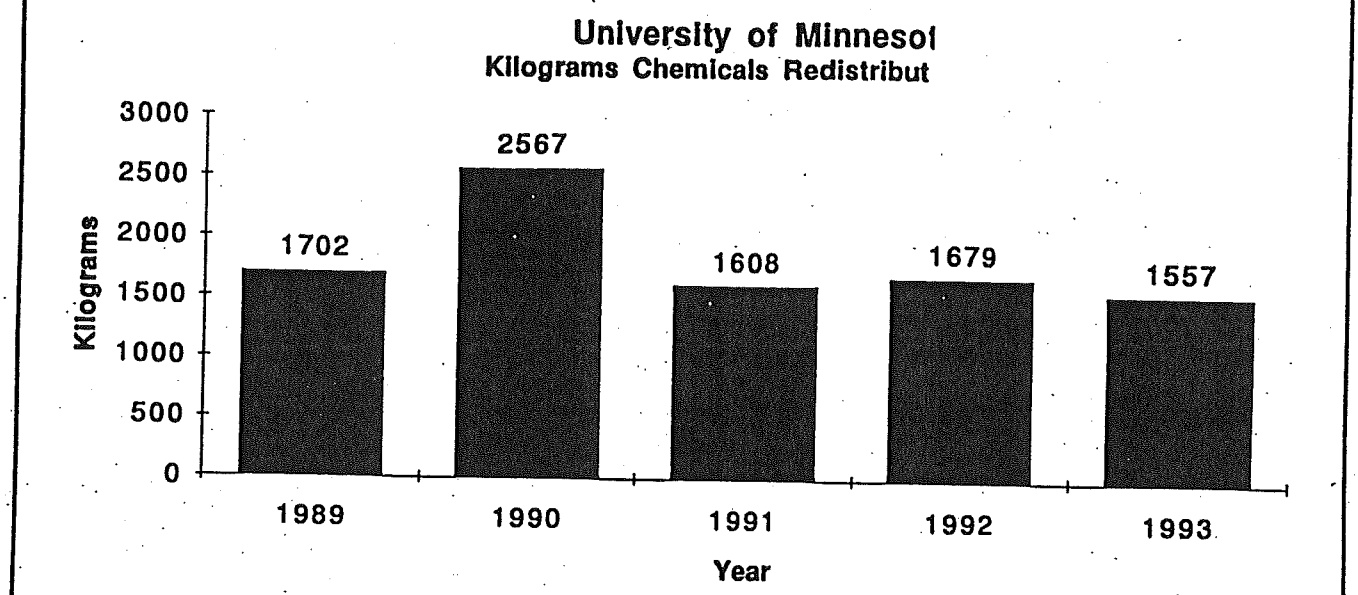
*aste Management Guidebook* or call

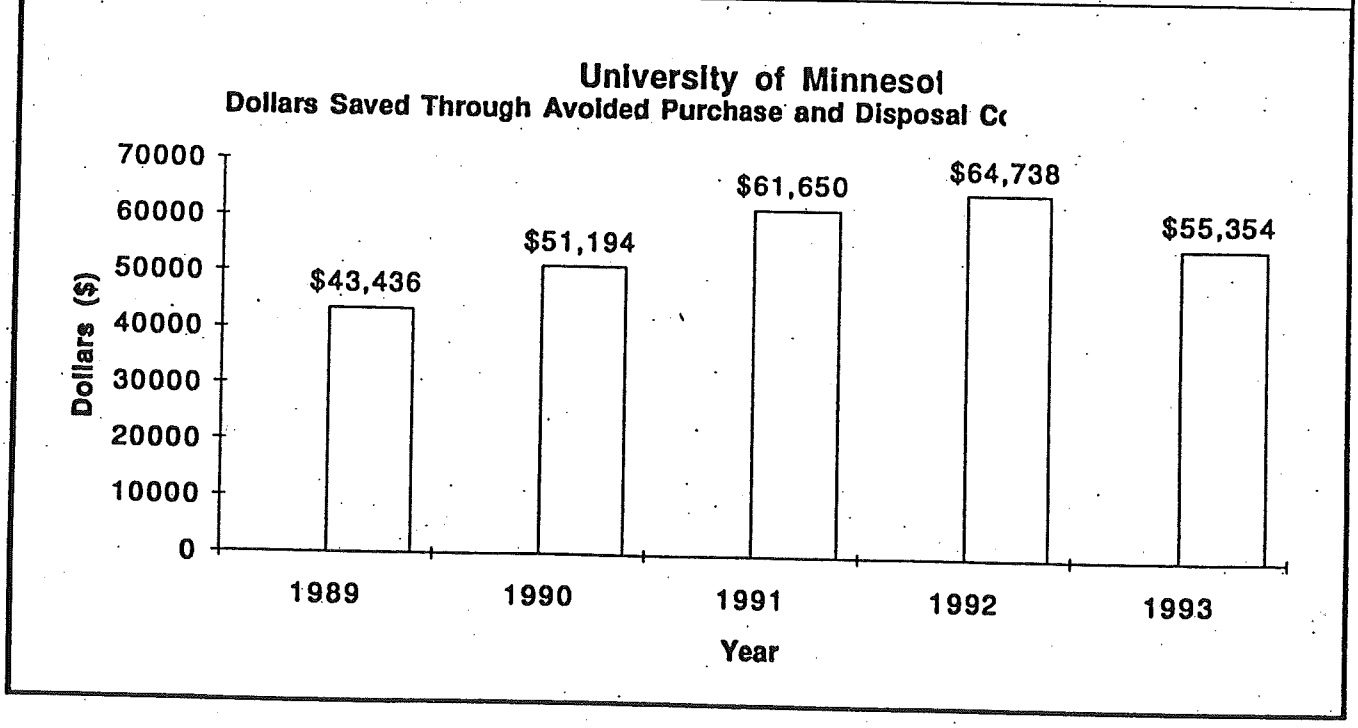
Version 5/12/94

| University of Minnesota - Hazardous Waste Generation | | | | | | | |
|---|---|---|---|---|---|---|---|
| Department of Environmental Health and Safety | | | | | | | |
| 6/24/94 | | | | | | | |
| | | | | | | | |
| Year | 1988 | 1989 | 1990 | 1991 | 1992 | 1993 | |
| Kilograms - Total Generated | 140,891 | 197,159 | 260,065 | 327,042 | 381,452 | 345,067 | |
| Kilograms - Recycled, Source Reduction, and Redistributed | 85,437 | 114,586 | 109,262 | 134,313 | 218,126 | 209,705 | |
| Percentage Waste Minimization | 61 | 58 | 42 | 41 | 57 | 61 | |



| Chemical Redistribution by Environmental Health and Safety | | | | | | |
|---|---|---|---|---|---|---|
| | | | | | | |
| Year | kg Shipped Ou | Dollars Saved | (Normalized to 1989 Disposal Costs) | | | |
| 1989 | 1702 | $43,436 | | | | |
| 1990 | 2567 | $51,194 | | | | |
| 1991 | 1608 | $61,650 | | | | |
| 1992 | 1679 | $64,738 | | | | |
| 1993 | 1557 | $55,354 | | | | |
| | | | | | | |



# ANNUAL STATE GOVERNMENT POLLUTION PREVENTION SUMMARY REPORT

**1994**

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

Submitted to:

Pollution Prevention in State Government
MN Office of Environmental Assistance
1350 Energy Lane
Saint Paul, MN 55108
Attn: Paul Moss

1. **Agency** Metropolitan Airports Commission (MAC)


Contact Name: Michael J. Kaluzniak, Safety & Environmental Administrator

Contact Address: 6040 28th Ave South

Minneapolis, MN 55450-2799

Telephone: (612) 726-8113

## 2. POLICY STATEMENT

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

See enclosed.

## 3. POLLUTION PREVENTION ACTIVITIES DURING THE FISCAL YEAR

**Describe Activities undertaken to prevent pollution and hazardous waste generated by agency or department (July 1993- June 1994). Agencies may also note other relevant ongoing activities.**

A. Substitution of Latex Paints for Runway and Taxiway Striping.

The MAC Paint Department has retrofitted its paint application vehicles so that latex-based paints can now be used on runways and taxiways. This has minimized the use of solvents which are contained in non-latex paints and has also resulted in a decrease in the amount of metals released to the environment.

B. Pad/Boom Maintenance Program

The MAC undertook a project to increase the effectiveness of its storm water outfall maintenance practices. This project also provided the opportunity to improve storage and disposal practices. Alternative products for outfall maintenance and spill response were also incorporated into the project.

C. Ongoing Activities

A number of ongoing pollution prevention activities have proven successful at the MAC. These include freon reclamation, antifreeze recycling, computer toner cartridge recycling, compressed natural gas vehicles, solid waste analysis, improved materials handling techniques, and product substitution.

## 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 1993 - June 1994). Agencies may also note other relevant ongoing activities.**

The MAC has developed a Resource Conservation Team whose goal is to decrease waste through the reduction, reuse and recycling of materials used at MAC Airports. This team has accomplished numerous environmentally-compatible cost savings.

## 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 1993 - June 1994). Agencies may also note other relevant ongoing activities**

Whenever possible, the MAC Purchasing Department incorporates pollution prevention into the purchasing and disposal of goods and materials for the MAC.

## 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.**

A. Glycol Recycling Project

The MAC is attempting to develop opportunities for the collection and recycling of glycol-based materials which are used for aircraft deicing at the Minneapolis-St. Paul International Airport. This program is constrained by existing industry technologies, but provides the opportunity to reclaim currently-wasted materials for reuse.

B. Incinerator Waste-to-Energy Conversion Feasibility Study

The MAC owns and maintains an incinerator used to quarantine and incinerate incoming international solid waste as per United States Department of Agriculture (USDA) regulations. The MAC also responds to fuel spills at its facilities and in doing so generates fuel-soaked industrial waste. Although both of these materials are incinerated as per regulatory requirements, the energy generated by their destruction is currently wasted. MAC is examining the feasibility of retrofitting this incinerator as a heat source so that fuels normally expended for heat, and their subsequent emissions, are conserved.

## 7. ESTIMATED BENEFITS

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

The substitution of latex-based paints has resulted in a net reduction of 2,550 gallons (approximately 20,000 pounds) of hydrocarbons/solvents and 2,200 pounds of lead released to the environment.

## 8. AREAS OF NEEDED ASSISTANCE

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

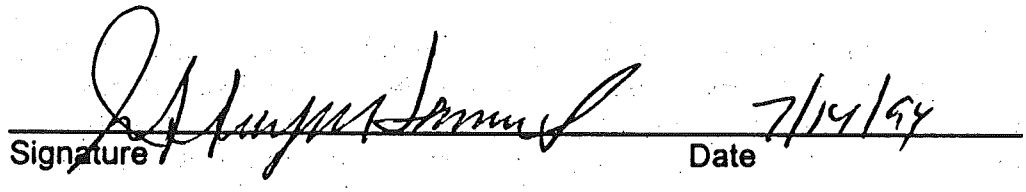
Most of the difficulties encountered in pollution prevention projects entail a lack of market-based resources. In many cases, there are few feasible alternatives to the use of hazardous materials.

## 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.**

| | | |
|---|---|---|
| Glycol Recycling: | Richard B. Keinz | (612) 726-8134 |
| Resource Conservation: | JoAnn Brown | (612) 726-8146 |
| Latex Paints: | Neil Anderson | (612) 726-5181 |
| Other Inquiries: | Michael J. Kaluzniak | (612) 726-8113 |

## 10. SIGNATURE OF AGENCY OR DEPARTMENT HEAD



Signature Date 7/14/94

Jeffrey W. Hamiel
Executive Director, Metropolitan Airports Commission

# METROPOLITAN AIRPORTS COMMISSION

Minneapolis-Saint Paul International Airport

6040 - 28th Avenue South ● Minneapolis, MN 55450

Phone (612) 726-8100 ● Fax (612) 726-5296


## *METROPOLITAN AIRPORTS COMMISSION*
## *POLLUTION PREVENTION POLICY STATEMENT*

The Metropolitan Airports Commission (MAC) recognizes pollution prevention as an integral part of its services. The MAC's operating philosophy reflects its commitment to environmental protection "beyond those standards required by federal and state regulations."

The MAC is committed to providing leadership and excellence in protection of the environment. In keeping with this policy, our objective is to reduce waste and emissions. We strive to minimize adverse impacts on the natural environment (i.e. air, water, and land) and will encourage our tenants to do likewise. Our emphasis will be pollution prevention at its source and will focus on both the products and activities which generate pollution. By noting the cost savings, increased operational efficiencies, improved quality of service and operational safety, we hope to encourage industry to adopt similar policies.

Employee involvement is an essential element of the *MAC Pollution Prevention Policy*. Our employees are therefore responsible for identifying, reducing and eliminating pollution at its source. MAC will create an employee task force to identify sources of pollution, develop prevention strategies and implement this policy. The employee task force is encouraged to use the assistance of other state organizations such as the Minnesota Technical Assistance Program (MNTAP), the Office of Waste Management (OWM), the Minnesota Pollution Control Agency (MPCA), and the Interagency Pollution Prevention Advisory Team (IPPAT). MAC senior management agrees to maintain this commitment through continued support of the task force's efforts.

Wherever possible, the following measures will be implemented (in order of preference) to reduce or eliminate pollution at MAC Airports:

I) Elimination at the source
II) Substitution of a nonhazardous material/product
III) Recycling/Reclamation of Materials

The results of this policy will be summarized and reported to the governor's office on an annual basis.

Jeffery W. Hamiel
Executive Director, MAC

July 13, 1992
Date

# ANNUAL STATE GOVERNMENT
# POLLUTION PREVENTION SUMMARY REPORT

**1994**

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

Submit by July 1, 1994 to:

Pollution Prevention in State Government
MN Office of Waste Management
1350 Energy Lane
St. Paul, MN 55108
Attn: Paul Moss

1. Agency: Metropolitan Council

   Contact Name: Wayne Nelson

   Contact Address: 230 E. 5th St.

   St. Paul, MN 55101

   Contact Telephone: 291-6406

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

METROPOLITAN COUNCIL

ADMINISTRATIVE PROCEDURES MANUAL

Section 2 Page 2.11.1 Date Approved 6/30/92
Subject Pollution Prevention Dept. Responsible Administration

**POLICY:** The Metropolitan Council will support pollution prevention by participating in the implementation of Governor Carlson's 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. 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 programs.
- ♦ 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 with other governmental agencies and Minnesota citizens toward the shared goal of pollution prevention.

**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:

- ♦ 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 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, and
- ♦ Prepare annual pollution prevention reports to the Office of Waste Management pursuant to the executive order.

3. POLLUTION PREVENTION ACTIVITIES DURING THE FISCAL YEAR

Describe activities undertaken to prevent pollution and hazardous waste generated by agency or department (July 1993 - June 1994).

Council operations are conducted in an office environment that involves a very low level of toxic materials. The Council office manager maintains a file of material safety data sheets on chemicals of concern in this environment. An effort is made through purchasing decisions to avoid, to the extent that is feasible, using any of hazardous materials.

The results of a staff administered survey of potentially hazardous materials used in the building shared by the Metropolitan Council, the Metropolitan Waste Control Commission and the Regional Transit Board were reported in the staff newsletter. Disposal of a flammable material was avoided by locating a commercial reuse for obsolete microfilm toner.

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 1993 - June 1994).

Solid Waste Division staff monitored Council referrals for opportunities to promote pollution prevention.

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 1993 - June 1994). Agencies may also note other relevant ongoing activities.

The Council Purchasing Coordinator serves on the staff Pollution Prevention Committee. The coordinator is positively motivated to purchase non-hazardous substitute materials and limit purchases of essential hazardous items to quantities that are certain to be used.

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 staff committee established to coordinate pollution prevention initiatives will continue to function. It will focus on the following areas:

A. Communication to employees and Council members. Emphasize information about potentially hazardous materials and appropriate precautions or alternatives (Wayne Nelson 291-6406).

B. Improve storage requirements for managing hazardous materials (Richard Savage 291-6440).

C. Consider changes that may be appropriate in response to the merger of regional agencies into a single management entity during 1994 (Staff Pollution Prevention Committee - Wayne Nelson 291-6406).

7. ESTIMATED BENEFITS

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

Pollution prevention undoubtedly contributes to a healthier and more productive work force at the Council. These economic benefits cannot be quantified. More attention to pollution prevention in the future will likely be constructive in this regard. The low current level of toxic materials use in the Council's office environment and the absence of any documented problems associated with such use makes it unlikely that further economic benefits from pollution prevention initiatives will be identified.

8. AREAS OF NEEDED ASSISTANCE

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

Labeling of products commonly used in office environments often fails to identify the actual chemical components or indicate whether the products have the potential to form hazardous substances if combined with other chemicals. Employees in a research and planning environment with little or no anticipation of exposure to potentially hazardous materials should be advised of any exposure risks and alternative avoidance, management and exposure response strategies. Assistance to help these employees identify chemicals of concern as well as the appropriate precautions would be helpful.

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 and Mn TAP are the best technical assistance resources for state and regional agencies in Minnesota.

10. Signature of Agency or Department Head

Dottie Rietow
Name of Agency Head

Chair
Title of Agency Head

Dottie Rietow 6/14/94
Signature of Agency Head Date

# ANNUAL STATE GOVERNMENT POLLUTION PREVENTION SUMMARY REPORT

1994

**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 **John Thompson**

Contact Address **2099 University Avenue West**

**St. Paul, Minnesota 55104-3431**

Contact Telephone **(612) 645-9149 / 643-8364**


## 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 1993-94

**Materials Exchange:**
The District was able to find homes for excess warehouse materials through the BARTER Materials Exchange. BARTER, which stands for Business Allied to Recycle Through Exchange and Reuse, is a project of the Minnesota Public Interest Research Group (MPIRG) and acts as a non-profit information clearinghouse for reusable wastes and excess materials. MMCD, with the help of BARTER, was able to sell (at a substantial discount) 495 gallons of excess mineral spirits to a local paint manufacturing company who will use the material in a paint making process. Additionally, MMCD gave 2,085 lbs. of powdered activated carbon to a local environmental services company that uses this type of material in the cleanup of contaminated ground water.

**Lab Alcohol:**
The District continues to follow reduced usage procedures when using ethyl alcohol to preserve sample specimens. District entomology labs recapture and re-use ethyl alcohol as much as two times before disposing of old material. The District's ethyl alcohol usage is 50% of the 1992 usage levels.

**Fleet Management:**
MMCD has made changes in the fleet maintenance procedures as of January 01, 1994. The District extended the mileage between oil changes on District owned vehicles from 2,000 miles to 3,000 miles. The intent was to reduce the amount of waste motor oil and oil filters generated by MMCD. Since the mosquito season has been under way for only a short time, results on waste oil savings are incomplete. It is assumed that the reduction of waste oil will be 300 gallons per year and reduction of waste oil filters will be 150 per year. Anti-freeze is no longer sewered by MMCD. All coolants are collected and recycled. The estimated total for recycled anti-freeze is 50 to 75 gallons.

**Solid Waste Reductions:**
In keeping with the MMCD's goal of reducing overall generation of waste, the District has also focused attention on the amount of solid waste sent to landfills by MMCD. By far the largest portion of solid waste was generated from control materials packaging. At the District's request, Zoecon Corporation, the District supplier for the Altosid XR Briquet®, agreed to change the packaging of the Altosid briquet for 1994. The package redesign reduce the amount of waste packaging material from 21.3 tons to 6.2 tons, and of the 6.2 tons of solid waste generated, 6.0 tons are recyclable. The net reduction in landfill solid waste (for this single product) is 21.1 tons.

MMCD has recycled plastic control material containers since 1992. For this reporting period 3,000 pounds of plastic waste pesticide containers were recycled.

**Evaluation of Control Materials:**
MMCD has completed an evaluation of all the control materials used to control mosquitoes. The findings show that none of the control materials used by MMCD are "hazardous" by federal or state definition. A portion of the evaluation report is attached to this summary. (see attachment)

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

MMCD is committed to control materials that have low environmental impact and selectivity for target species. The control materials evaluation has shown that the materials selected by MMCD for use in controlling pest insects do not display any "hazardous" characteristics. By selecting control materials which rate 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.

## 5. INCORPORATION OF POLLUTION PREVENTION INTO PROCUREMENT ACTIVITIES

The District has established a goal to reduce the overall generation of waste 25% of 1992 levels by December of 1993 and an additional 25% by December of 1995. The District is also 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 agents which are purchased by the District for the control of mosquitos.

> 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 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.

The District is also discussing returnable/reusable container systems with other vendors who supply liquid control agents. Currently the District requires that liquid containers be recyclable.

## 6. PLANNED POLLUTION PREVENTION ACTIVITIES

The District will continue to review and modify the fleet maintenance procedures to minimize the generation of waste streams from maintenance operations. Each vehicle in the fleet is closely monitored for gas consumption, oil usage and scheduled maintenance to insure maximum performance and reduce polluting emissions.

The District will continue to follow reduced usage procedures, recapture and reuse of ethyl alcohol as means to reduce the amount of waste alcohol generated by the District. Some reductions can still be accomplished by continuing to minimize the amount of alcohol used by the entomology labs.

MMCD is committed to minimizing the solid waste streams generated by day to day operations. Increased emphasis will be focused on recycling waste and purchasing new products made from recycled materials. Vendors will be encouraged to eliminate excess packaging from products purchased by the District.

Employee training and awareness of pollution prevention will be integrated into the annual employee training sessions.

## 7. ESTIMATED BENEFITS

**Economic Benefits:**
The District realized several indirect economic benefits by reducing the amount of waste streams that require fee payments for disposal or recycling. By participating in the BARTER program the District was able to avoid paying an estimated $2,300 in disposal costs for excess materials (estimate figure from Bay West Inc.) The District will also realize (hopefully) reduced fees for recycling waste motor oil and filters. This nominal savings may however be offset by costs for anti-freeze disposal. There will be a $450.00 savings in the cost of new oil and new filters.

While there were substantial reductions in the amount of solid waste generated by District operations there was little economic benefit realized. The District uses a flat monthly fee structure for solid waste disposal at each facility. This type of fee arrangement offers no incentive to generators to reduce waste streams. In fact agencies that do reduce solid waste are penalized by paying for a service that they don't use.

## 8. KEY POLLUTION PREVENTION CONTACTS AND RESOURCES

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

For suggestions on evaluation of materials and waste streams, contact Laurie Middleton at 645-9149.

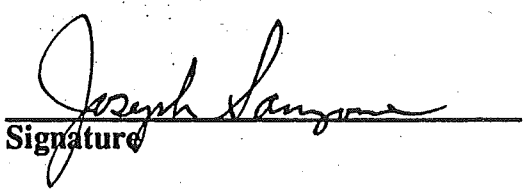
# METROPOLITAN MOSQUITO CONTROL DISTRICT

The Metropolitan Mosquito Control District, established in 1959 controls mosquitoes and gnats (black flies) in the metropolitan counties of Anoka, eastern Carver, Dakota, Hennepin, Ramsey, Scott and Washington. The District operates under the seventeen member Metropolitan Mosquito Control Commission, composed of county Commissioners from the participating counties. A Director is responsible for the operation of the program and reports to the Commission. The District employs 66 full time staff and approximately 150 part-time staff during the mosquito and gnat breeding season. The District currently operates a warehouse facility and seven remote field/shop facilities. Additionally, the District owns and operates a fleet of vehicles.

## MMCD POLLUTION PREVENTION GOALS

The District has established a goal to reduce the overall generation of waste 25% of 1992 levels by December of 1993 and an additional 25% by December of 1995. The District is also committed to "Zero Generation" of hazardous or toxic chemicals targeted for reduction in the Minnesota-50 Project by December 1995.

Joseph Sanzone
Director, MMCD



Signature

July 01, 1994
Date

None of the control materials used by MMCD in either their original form or their waste form exhibit any of the characteristics of corrosivity, or reactivity. None of the materials are toxic under the Minnesota Rules. The MSDS's indicate the toxicity for each type of material.

| Material | LD50 | MSDS | Minnesota Rules limit[93] |
|---|---|---|---|
| Bti | oral | 5000 mg/kg | <500 mg/kg |
| | dermal | 2000 mg/kg | <1000 mg/kg |
| | inhalation | 2100 mg/m$^3$ | 2000 mg/m$^3$ |
| Altosid Liquid (concentrate) | oral | 5000 mg/kg | <500 mg/kg |
| | dermal | >2000 mg/kg | <1000 mg/kg |
| | inhalation | — | 2000 mg/m$^3$ |
| Altosid Liquid | oral | >5000 mg/kg | <500 mg/kg |
| | dermal | >2000 mg/kg | <1000 mg/kg |
| | inhalation | 5200 mg/m$^3$ | 2000 mg/m$^3$ |
| Resmethrin | oral | 2700 mg/kg | <500 mg/kg |
| | dermal | >2000 mg/kg | <1000 mg/kg |
| | inhalation | 2640 mg/m$^3$ | 2000 mg/m$^3$ |
| Permethrin | oral | 4150 mg/kg | <500 mg/kg |
| | dermal | 1000 mg/kg | <1000 mg/kg |
| | inhalation | — | 2000 mg/m$^3$ |

Information available on Permethrin indicates that the NOAEL is 250 mg/m$^3$. The LC50 (lethal concentration) for Permethrin is 2350 mg/m$^3$.

An extraction procedure (EP) test has not been performed. However, of the substances listed at 7045.0131 subp. 8, none are indicated to be present in the MSDS and Bay West's laboratory manager has indicated that it is unlikely that any of these would be present in our materials.

The Department of Agriculture rules, M.R. 1505.3090 specify only that releases of pesticide must be either used, stored or disposed of and that disposal must be according to local, state and federal regulations.[94]

Bay West has stated that our waste materials are industrial waste rather than hazardous waste. Industrial waste is defined in M.S. 115A.03 subd. 13 (a) as "solid waste resulting from an industrial, manufacturing, service or commercial activity that is managed as a separate waste stream."[95] It is further defined in M.S. 115.01 in reference to water pollution - sanitation as "any liquid, gaseous or solid waste substance resulting from any process of industry, manufacturing trade or business or from the development of any natural resource."[96]

M.R. 7045.0135 subp. 3 (E) addresses wastes associated with pesticides which are deemed hazardous. What the section describes however, are specific processes used in the production of pesticides and resulting wastewaters, distillation residues, etc. which are classified as hazardous waste.[97]

# ANNUAL STATE GOVERNMENT POLLUTION PREVENTION SUMMARY REPORT

1994

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

Submit by July 1, 1994 to:

Pollution Prevention in State Government
MN Office of Waste Management
1350 Energy Lane
St. Paul, MN 55108
Attn: Paul Moss

1. Metropolitan Transit Commission
   Attn: John Bryan
   515 Cleveland Avenue North
   St. Paul, MN 55114
   612-349-5080
   FAX: 349-5069

2. **POLICY STATEMENT**

The Metropolitan Transit Commission is committed to excellence and leadership in protecting the environment. In keeping with its policy, our objectives are to reduce the amounts of hazardous waste that are generated or emitted at any of our facilities. By successfully preventing pollution at its source, the agency will be able to increase its operational efficiencies, and provide a safer and healthier environment for all of our employees.

The Metropolitan Transit Commission is in complete support of these ideals and continues to support its 1992 resolution that affirms this commitment. A certified copy of that resolution is attached.

RESOLUTION 92 - 38
OFFERING GUIDELINES AND A POLICY STATEMENT
ON POLLUTION PREVENTION

WHEREAS the Metropolitan Transit Commission (MTC) is committed to protecting the environment; and in keeping with this policy, the MTC, through the combined efforts of members of staff, will investigate methods for preventing pollution through the elimination or reduction of waste and of harmful emissions to the air, water and land; and

WHEREAS by successfully eliminating sources of pollution, the Commission will realize cost savings, increase operational efficiencies, improve service and will also maintain a safer, healthier work place for MTC employees;

BE IT THEREFORE RESOLVED that the MTC's environmental guidelines include the following:

- At the MTC, environmental protection is everybody's responsibility.
- Preventing pollution by reducing or eliminating the sources of waste is a primary objective of MTC's operations. The MTC is committed to identifying and implementing methods for pollution prevention by encouraging the involvement of all MTC employees.
- Where protection of the environment is concerned, methods and technologies which substitute non-toxic materials for pollutants will receive support, in keeping with a source-reduction approach to pollution prevention.
- The MTC seeks to demonstrate its good citizenship by adhering to all regulations designed to protect the environment. The Agency promotes cooperation and coordination of efforts of staffs of government agencies and members of the general public. We acknowledge a shared goal of eliminating sources of pollution. At the MTC, protecting the environment is our highest priority. We pledge to reduce, or eliminate wherever possible:
  - Our use of toxic substances
  - Our generation of hazardous waste
  - Our release of toxic pollutants
- When waste or releases cannot be avoided, we are committed to minimizing their amounts and their undesirable impact upon the air, water, and land.

THEREFORE BE IT FURTHER RESOLVED that the Metropolitan Transit Commission supports pollution prevention through the continuation of protective programs and through participation in the efforts outlined in the Minnesota Toxic Pollution Prevention Act of 1990, pursuant to Executive Order 91-17 providing for the implementation of pollution prevention by State Government, and through the promotion of pollution prevention by all of the Commission's employees.

CERTIFICATION OF RESOLUTION

I, the undersigned, Ray Waldron, Secretary of the Metropolitan Transit Commission, do hereby certify that the foregoing Resolution 92-38 is a true and correct copy of a Resolution of the Metropolitan Transit Commission adopted at a meeting of said Commission duly convened and held on April 14, 1992, at which a quorum was present and voting; and the action taken has not been in any manner rescinded or modified.

In witness whereof, I have hereunto set my hand this 14th day of April, 1992

Ray Waldron, Secretary

## 3. POLLUTION PREVENTION ACTIVITIES DURING THE FISCAL YEAR

### Chemical Study

During 1993 the Metropolitan Transit Commission completed a very intensive study in the chemicals that were used by each facility. This study indicated which chemicals add to the waste that is considered hazardous waste. The MTC is currently reviewing all chemicals that are used by the agency and how to implement all of the recommendations that the consultant has made. Full implementation of this study is scheduled to be completed by December 31, 1994.

### Waste Reduction

The Metropolitan Transit Commissin has been recycling paper, cardboard, and metals since 1990. In addition to these recycling efforts the MTC has also removed all items that are considered hazardous like fluorescence and HID bulbs, oil filters, waste oil, etc. from the landfill waste stream.

### Chlorinated Fluorocarbons Concerns

During the past year, the MTC has been recovering all chlorinated fluorocarbons that are used in its cooling systems. The agency is currently installing an absorption cooling system at its Overhaul Facility to compare it 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 MTC did a complete emission inventory of all stack and ventilator in all facilities that are controlled by the agency. By doing this inventory, the MTC was able to pin point its 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.

### Alternate Fuels

The agency 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

Regulatory Activities

The MTC does not have regulatory activities, therefore, no activity in this area has occurred.

Policy Activities

Internally, the MTC is working on controlling the types and amounts of chemicals that are used by the MTC. This project should be completed by the end of 1994.

## 5. INCORPORATION OF POLLUTION PREVENTION INTO PROCUREMENT ACTIVITIES

The Purchasing Department along with the Maintenance Division will be in-charge of implementing the Chemical Audit that was completed last year. These recommendations included centralized purchasing of all chemicals that are used by the MTC.

The MTC Purchasing Department is currently asking end users to check the existing chemicals list at the MTC to ensure we do not need to order different chemicals. When new chemicals are required the purchasing department is requiring the vendor to supply the MTC with samples of the chemical with all documentation (MSDS) to allow the MTC to analyze the chemical and its by-products.

## 6. PLANNED POLLUTION PREVENTION ACTIVITIES

During 1994 and 1995, the MTC will focus on phasing out the use of chemicals that are not needed or duplicated under different brand names. The MTC 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 take about two (2) years to complete.

During 1994-1995, the MTC 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 he can be reached at 349-5000.

The MTC will also be 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 Systems Facility Engineer, John Bryan, is in charge of this project and he can be reached at 349-5080.

## 7. ESTIMATED BENEFITS

The agency is anticipating that savings will be realized by reducing the size of the chemical inventory that the MTC 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 MTC is expecting to see lower operating cost and lower maintenance cost while at the same time reducing the dependency on CFC's.

## 8. AREAS OF NEEDED ASSISTANCE

At the present time, the Metropolitan Transit Commission does not require any additional assistance at this time.

## 9. KEY POLLUTION CONTACTS AND RESOURCES

| | |
|---|---|
| Alternate Fuel Testing | Steve Morris<br>Director<br>Equipment Maintenance<br>612-349-5000 |

## 10. SIGNATURE OF AGENCY HEAD

Thomas Sather
Chief Administrator
Metropolitan Transit Commission

JB:crf

# ANNUAL STATE GOVERNMENT POLLUTION PREVENTION SUMMARY REPORT

## 1994

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

Submit by July 1, 1994 to:

Pollution Prevention in State Government
MN Office of Waste Management
1350 Energy Lane
St. Paul, MN 55108
Attn: Paul Moss

1. **Agency:** Metropolitan Waste Control Commission (Metropolitan Council, Office of Wastewater Services; as of 07/01/94)
   **Contact Names:** Michael Nevala, Environmental Scientist
   Navneet Tiku, Senior Engineer
   **Contact Address:** 230 E. Fifth Street
   St. Paul, MN 55101
   **Contact Phones:** (612) 229-2065; (612) 772-7016

2. **Policy Statement**

Please refer to **ATTACHMENT 1** for a copy of the Metropolitan Waste Control Commission's (Commission) Resolution 91-227, "Supporting Commission Pollution Prevention Activities."

3. **Pollution Prevention Activities During the Fiscal Year**

**OPERATIONS**

The Commission operates ten 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) is utilizing the Accustrip System for paint removal and cleaning. This system consists of new equipment and special blast media. The equipment is a Wadu Soluble Media Injector which attaches to a power washer. The media is Armex Blast Media, a sodium bicarbonate, i.e. baking soda, based mixture (see **ATTACHMENT 2** for more information).

Accustrip is used in place of silica sand blast media for cleaning and abrasive stripping of coatings. Accustrip is also used in place of petroleum based and corrosive based compounds for cleaning of grease, scale, and dirt. The Armex solution is sewerable and dustless. Results from the use of Accustrip have been positive.

LABORATORY

The Laboratory Services Division has purchased a Hewlett-Packard 7680A Super-Critical Fluid Extractor. This expensive instrument utilizes carbon dioxide to extract compounds from samples for qualitative and quantitative analysis. Sample preparation and extraction formerly involving 200 milliliters of solvent and five to six hours of lab time can now be performed using 2 milliliters of solvent within one hour.

It is hoped that the lab can begin using the automated extractor for the analysis of polychlorinated biphenyls (PCBs) and pesticides from biosolids cake. Ironically, this can't proceed until the Environmental Protection Agency (EPA) approves standard analytical methods utilizing this state-of-the-art, pollution prevention technology!

**INDUSTRIAL WASTE DIVISION**

POLLUTION PREVENTION SURVEY

During this reporting period, the Commission conducted a Pollution Prevention Survey among its permitted industrial users. The purpose of the survey was to obtain information regarding industrial pollution prevention activities, success stories, and input on ways in which the Commission can provide further assistance to industries. The survey response has been compiled and will be used as a guidance document for future pollution prevention activities. Please see **ATTACHMENT 3** for a copy of the survey questionnaire.

INDUSTRIAL POLLUTION PREVENTION PARTICIPATION PROGRAM (I4P)

The I4P program was initiated in November 1992 and involved twenty-nine industrial discharge permittees. The I4P participants submitted progress reports and worked with Commission staff to achieve individual pollution prevention goals. At the end of the program, all twenty-nine permittees received participation certificates. Four outstanding participants were selected to receive special recognition awards which were presented publicly at the 4th Annual Minnesota Conference on Pollution Prevention, June 8, 1994.

## POLLUTION PREVENTION ADVISORY COMMITTEE (PPAC)

The PPAC met once every two months from September 1992 to June 1994. Members of the committee included the Office of Waste Management (OWM), the Minnesota Technical Assistance Program (MnTAP), local government, citizens' groups, and industry. PPAC was instrumental in the success of the Commission's pollution prevention grant program.

## MERCURY/DENTAL CLINICS PROGRAM

An ad hoc group--consisting of representatives from the Commission, OWM, and MnTAP--visited several dental clinics to discuss mercury-laden amalgam waste and pollution prevention. Following this initiative, a guidance brochure is being developed for dental clinics state-wide in the minimization and proper handling of mercury waste.

## HOUSEHOLD POLLUTION PREVENTION PROJECT

Another ad hoc group--consisting of representatives of OWM and the Commission--has been working to develop a guidance document which will be made available to local residents. This brochure will provide user friendly information to create an awareness of and suggested activities for pollution prevention at the household level.

## RELEVANT ON-GOING ACTIVITIES

The Commission has several on-going pollution prevention activities which have been initiated in previous fiscal years and have been described in previous summary reports. These cumulative projects are noted as follows:

## BENEFICIAL REUSE OF RESIDUAL SOLIDS

### Biosolids Utilization

| | |
|---|---|
| N-Viro Soil | Sewage biosolids are mixed with alkaline admixtures and used in agricultural or horticultural applications. **39,458 tons reused in 1993.** |

### Ash Utilization

| | |
|---|---|
| Ash Utilization | Ash from the incineration of sewage biosolids is incorporated into various construction fill materials and aggregate-based building products. **18,520 tons reused in 1993.** |

| | |
|---|---|
| Nutralime | Ash from the incineration of sewage biosolids is blended with waste drinking water treatment lime and landspread on agricultural fields. 51,651 tons reused in 1993. |

DRY-CELL BATTERIES

"Household" type, dry-cell alkaline batteries, e.g. sizes AAA, AA, C, D, and 9V, are certified to contain less than 0.0025% mercury. The Commission normally dispenses 3,000 pounds of these batteries each year from its main warehouse. Subsequently with less than 0.0025% mercury content, the spent batteries do not need to be handled as a hazardous waste.

PAINT SHOP

The paint shop at the Metro Plant continues its use--wherever possible--of direct-to-metal, water-based paints and epoxies. Each year, the use of approximately 1,000 gallons of solvent-based primer and 100 gallons of paint thinner is avoided. Spray booth paint arrestors are dissolved in the waste thinner and no hazardous waste sand blast media has been generated at the Plant since early 1992.

PROCUREMENT

The Commission continues to promote the purchase of paper products with recycled paper content and printing with soy-based inks. Motor fuels contain ethanol.

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, and glass containers generate petty cash for maintaining employee break areas or for charitable contributions.

## 4. Actions to Integrate Pollution Prevention Into Regulatory and Policy Activities

The Commission's Internal Pollution Prevention Program, IP3, has been introduced to two key groups--the Operational Planning and Engineering Division and the Regional Communications Group. The latter group consists essentially of the assistant plant managers who have responsibility for day-to-day operations. These people

know of the Commission's resolution, understand the concept of pollution prevention, and are evaluating opportunities for pollution prevention at the treatment plants.

Pollution prevention has also been highlighted for employees by articles in Commission newsletters. A copy of one of these articles is provided as **ATTACHMENT 4.**

**5. Incorporation of Pollution Prevention into Procurement Activities**

As previously stated, the purchasing of paper products with recycled content and printing with soy-based ink have become "institutionalized" at the Commission. Procedures consistent with the waste management practices of Minnesota Statutes, Section 115A.02 serve as guidance for purchasing commodities and services which promote waste reduction practices. The cost of purchasing materials with recycled content may exceed that of non-recyled materials by up to 10%.

**6. Planned Pollution Prevention Activities**

For 1994-95, it is hoped that a brief pollution prevention presentation can be incorporated into regularly scheduled shift training. This is intended to reach employees who actually work with the materials.

Staff from the procurement division have attended the 4th Annual Pollution Prevention conference and have been invited by the Interagency Pollution Prevention Advisory Team (IPPAT) to help plan a procurement workshop for Fall 1994.

Operations and compliance staff also attended the Pollution Prevention Conference and plan to meet with the Regional Communications Group to follow-up on ideas from the conference.

Commission Resolution No. 94-116 adopts a mercury restriction policy for the Metropolitan Disposal System. This is necessary for compliance with the new water quality permit limit for the Metro Plant of 17 nanograms/liter mercury (or 0.000017 parts per million). Compliance may be infeasible due to the limitations on detection technology and enforcement may be impractical due to the uniform and widespread pattern of mercury levels in the sewage collection system.

Therefore, the emphasis in achieving mercury reductions will be through pollution prevention. There is a specific schedule to notify all industrial users, distribute literature to dental clinics, and to report on mercury issues over the next year and a

half. Please refer to **ATTACHMENT 5** for the details of the Commission's mercury restriction policy.

**7. Estimated Benefits**

It is difficult to limit the measurement of monetary benefits of something that is prevented, i.e. something that doesn't happen. In addition, most of the pollution prevention programs at the Commission are relatively new and specific figures simply are not available. However, some estimates can be made.

In the paint shop, it is estimated that $25,000 is saved annually by the elimination of primer and savings in hazardous waste disposal costs. If all of the dry-cell batteries disposed by the warehouse had to be disposed of as hazardous waste, the cost would be around $1,500 per year.

Although the Commission 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. For sewage biosolids ash, there simply is no alternative to reuse due to an area-wide ban on the landfilling of ash. If the industrial pretreatment program were not in place and enforced, there is the potential for residual solids to be characterized as hazardous wastes. With sixty tons of sewage biosolids ash produced daily at the Metro Plant alone, the cost of disposal would be astronomical.

In general, pollution prevention is believed to be beneficial in improving worker health and safety by eliminating or at least reducing exposure to hazardous substances.

**8. Areas of Needed Assistance**

The IPPAT has been the focal point of assistance provided to public agencies. Paul Moss of OWM has done an outstanding job of arranging for applicable quarterly meetings and in being responsive to the needs of member agencies. Videotapes, resource manuals, and other types of information have been readily available through IPPAT.

This past year has seen two workshops--Vehicle Maintenance and Building Maintenance/Turf Management--offered specifically for public agencies. Both workshops were informative, provided opportunities for "networking," and were well attended by Commission staff. The fact that these were offered at no cost to attendees was a factor in getting "line staff" to attend.

The state Department of Administration has been of assistance in researching and writing contracts like the one for fluorescent lamp recycling. This has saved duplicate effort on the part of many agencies and has provided a consistent approach in a reliable fashion to materials management and pollution prevention.

As IPPAT has identified, assistance is needed in providing incentives and rewards for public employee contributions to and successes in pollution prevention. The Commission applied for a Governor's Award for Excellence in Pollution Prevention (1994) and although it was the only state or regional agency to do so, it was not a recipient. There is a need to recognize various levels of achievement in pollution prevention and IPPAT is addressing this need.

In the benefits section of this report, measurement was difficult. It would be helpful to have a model, formula, or software to estimate benefits and assist in tracking pollution prevention in "common denominators." For example, it is commonly stated that a four foot stack of newspapers is equivalent to one tree. How much does that four foot stack weigh? Should paper collected for recycling be reported in feet, pounds, or trees? Should a building which is "relamped" be reported in square feet lighted, kilowatt-hours saved, or power plant emissions eliminated? Too often, cost savings, i.e. dollars, is the only measurement available and without a product's life-cycle analysis the true savings of pollution prevention are not always apparent.

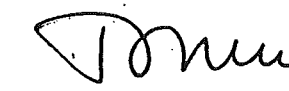
**9. Key Pollution Prevention Contacts and Resources**

The Commission 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. The page from the manual with the Commission listings is included with this report as **ATTACHMENT 6.**

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

Name: Donald R. Madore

Title: Director, Quality Control Department

Signature: 

Date: July 7, 1994

ATTACHMENT 1

OPERATIONS & BUDGET
91-227

METROPOLITAN WASTE CONTROL COMMISSION
230 EAST FIFTH STREET
ST. PAUL, MN 55101

RESOLUTION NO. 91-227

SUPPORTING COMMISSION POLLUTION PREVENTION ACTIVITIES

WHEREAS,

1. Pollution prevention includes, but is not limited to, reducing the generation of pollution at the source, reducing and/or eliminating the release of pollutants to the environment, and closed loop recycling of wastes.

2. Pollution prevention strategies can substantially reduce pollutant loads to sewers and treatment facilities, without transferring those same pollutants to the air or land.

3. Pollution prevention provides an opportunity for businesses to reduce costs for inventory, treatment, and disposal.

4. Pollution prevention provides an opportunity for the public to reduce costs for waste treatment facilities and infrastructure maintenance by reducing the treatment burden on current facilities.

5. The pollutants currently discharged to the sewer collection and treatment system require multi-media treatment and this treatment has the potential for environmental discharge with undesirable impact.

6. Future Metro Area growth and increasingly stringent regulatory efforts will increase the need for treatment of sewered wastes and increase the treatment requirements placed on the byproducts of the treatment process.

7. The reuse and/or disposal of treatment residual solids in an environmentally sound manner presents a major challenge which could be simplified by reducing the pollutants in the wastestream.

8. Federal and state regulations are not all based on environmental need and do not necessarily promote increased efficiency through pollution prevention.

OPERATIONS & BUDGET
91-227

BE IT RESOLVED that the Metropolitan Waste Control Commission will support pollution prevention through its continuing programs, through participation in the efforts outlined in the Minnesota Toxic Pollution Prevention Act of 1990, through the formation of a subcommittee of the General Advisory Committee to provide input on Commission pollution prevention issues, and through promotion of pollution prevention to the users of the collection and treatment system.

Adopted on September 17, 1991

METROPOLITAN WASTE CONTROL COMMISSION

By _____
Charles R. Weaver
Acting Chair

By _____
for Gordon O. Voss
Chief Administrator

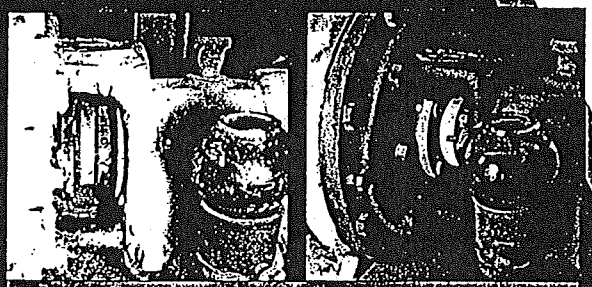
PWA
8.29.91

ATTACHMENT 2

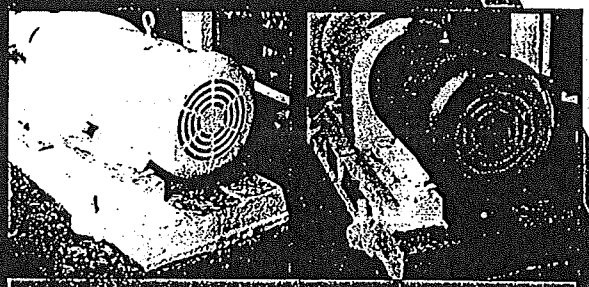
# NON-STOP RESULTS

*Depaint and clean virtually everything inside and outside... easily, quickly and usually without shutdown*

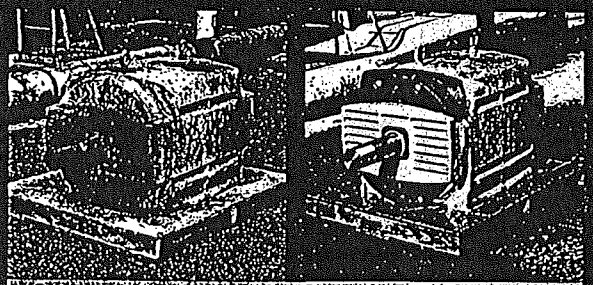
Paint overspray removed from aluminum jacketing



Paint and corrosion removed from electric pump, with ceramic seal and glass oil level indicator



Paint removed from TEFC electric motor



Grease, corrosion and paint removed from TEFC electric motor

Paint removed from stainless steel valve

**Remove:** paint, surface corrosion, dirt, grease, machine oil, process residue...and more

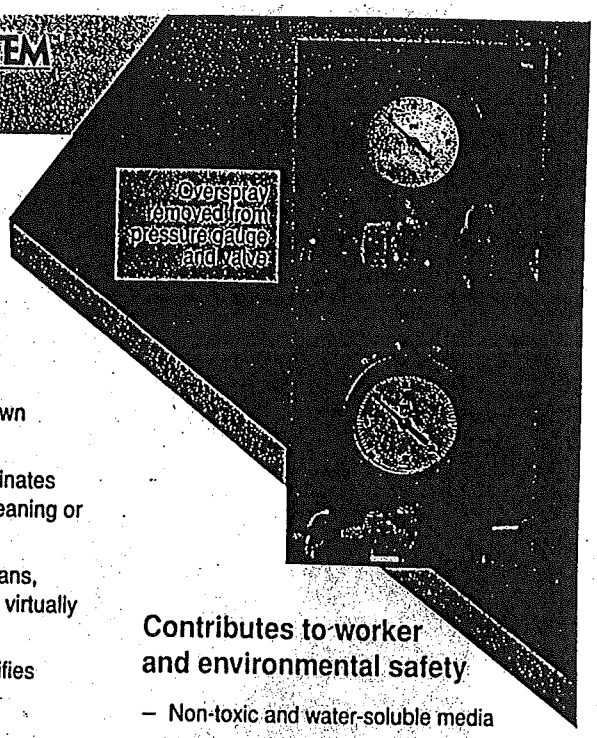
**From:** iron, stainless steel, galvanized metal, aluminum, concrete, glass, rubber, neoprene, composite materials...and more

ARMEX BLAST MEDIA

ACCUSTRIP™ SYSTEM

ARMEX® BLAST MEDIA ACCUSTRIP SYSTEM™

# *Don't let the tough jobs stop you*




## Removes virtually any coating from almost any surface

- Use on flexible or rigid substrates, flat or contoured surfaces
- May be used on or near rotating equipment
- Can remove coatings all at once or one layer at a time
- Can remove failing paint while leaving well-adhered paint intact, saving stripping and repainting costs

## Saves time and labor

- Plant or equipment shutdown usually not required
- Drastically reduces or eliminates time-consuming solvent cleaning or hand-tooling
- Quickly and thoroughly cleans, degreases and/or depaints virtually any surface
- Water-soluble media simplifies clean-up

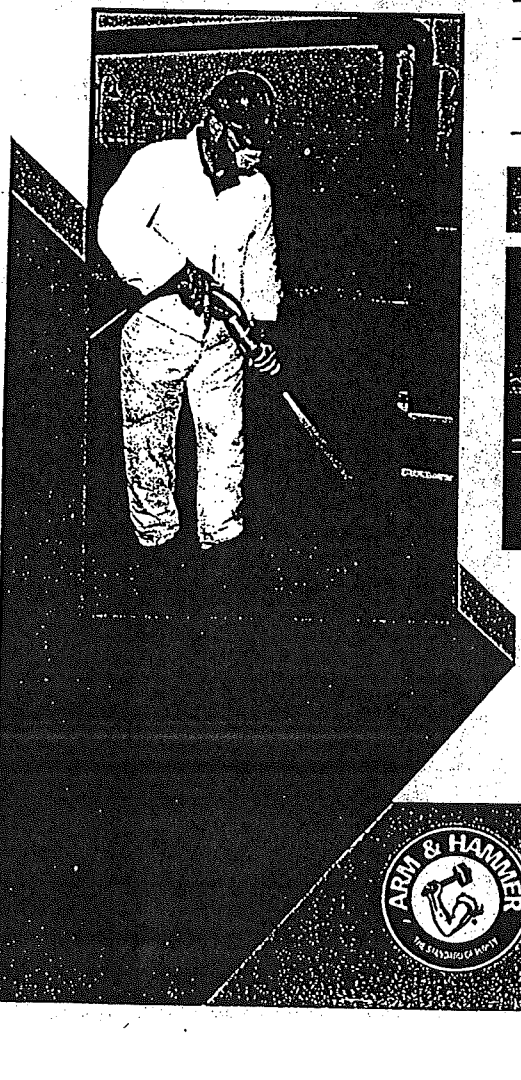
## Portable and easy to use

- Use inside or outside
- Only clean water, a source of compressed air, and drainage are required
- Minimal operator training needed

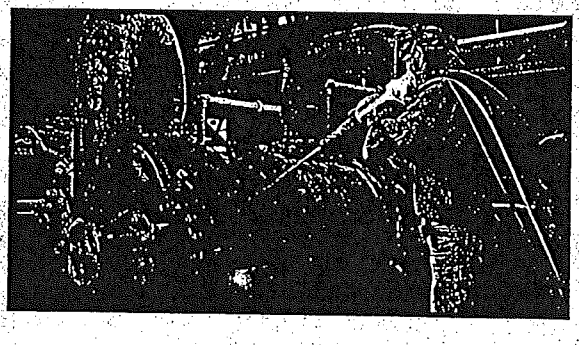
## Contributes to worker and environmental safety

- Non-toxic and water-soluble media
- Free from virtually all of the worker and environmental hazards associated with solvents, caustic chemicals, toxic fumes, sand-blasting, and high-pressure water*
- Only standard protective gear required*
- Poses no special disposal problems; in fact, may even be beneficial as a buffering agent during the waste water treatment process*
- Non-flammable, non-sparking**

Grease removed from concrete



Paint, dirt and grease removed from reciprocating gas compressor



*Consult applicable worker and environmental safety regulations

**ARMEX Blast Media does not cause thermal sparks in striking the work piece. Equipment must be grounded to prevent electrostatic discharge. See operations manual.

***Strip it off without shutting it down with ARMEX® Blast Media and the ACCUSTRIP SYSTEM™***

**CDS Group Attn: Delia Downes**
469 North Harrison Street • P.O. Box CN5297 • Princeton, NJ 08543-5297
**1-800-221-0453** (outside NJ) **609-497-7284** (NJ only)

**For FREE Information Circle 225**

CDS Group is a joint marketing venture of Church & Dwight Co., Inc. and Schmidt Manufacturing Inc.

ARMEX® is a registered trademark of Church & Dwight Co., Inc.
ACCUSTRIP SYSTEM™ is a trademark of Schmidt Manufacturing Inc., Fresno, Texas
©1992 Church & Dwight Co., Inc. CDS1062

ARM & HAMMER

SCHMIDT MANUFACTURING INCORPORATED

ATTACHMENT 3

**Metropolitan Waste Control Commission**
Mears Park Centre, 230 East Fifth Street, St. Paul, Minnesota 55101-1633
612 222-8423

# Pollution Prevention Survey

Survey completed by : Name _____
Company _____
Permit # _____

**Q1.** Has your company taken any steps to initiate and implement pollution prevention ?

☐ Yes ☐ No

**Q2.a.** If you answered YES to Q1, estimate the total quantity of REDUCTIONS in the waste generated, using calendar year 1990 as the baseline.

| | Past reductions (1990-1992) | Estimated future reductions (1993 onwards) | Waste generation has increased |
|---|---|---|---|
| Air emissions | _____ % | _____ % | _____ % |
| Hazardous waste | _____ % | _____ % | _____ % |
| Solid waste | _____ % | _____ % | _____ % |
| Wastewater | _____ % | _____ % | _____ % |

*Indicate the reasons for the increase/decrease in waste generation :*

**b.** If you answered NO to Q1, Please describe briefly any future pollution prevention plans for your facility.

**Q3.** Are you willing to share your wastewater pollution prevention success stories ?

☐ Yes ☐ No

Over

Q4. If you answered yes to Q3, please describe your success stories briefly. (Use additional sheets, if necessary)

Q5. If you did not participate in MWCC's I4P (Industrial Pollution Prevention Participation Program) or you have answered no to Q1, what were the reasons ?

____ Lack of management support
____ Lack of staff
____ Lack of funds
____ No anticipated economic benefits
____ Additional paperwork burden
____ Pollution prevention alternatives are not technically feasible to maintain the same product quality
____ Other reasons, explain

Q6. What services should MWCC provide to assist your facility in pollution prevention programs for wastewater discharges ?

____ Technical assistance and referrals
____ Educational training and workshops
____ Make pollution prevention information readily accessible
____ MWCC assistance in developing pollution prevention plans
____ Provide more time to investigate pollution prevention options in lieu of end-of-pipe treatment
____ Others, explain

Q7. Please provide any other comments or questions you would like us to consider.

Q8. Please indicate if you would like the information in this survey to be kept confidential.

☐ Yes ☐ No

ATTACHMENT 4

Link

April 1994

Published by the Metropolitan Waste Control Commission

# Pollution prevention: Focus on the future

Twenty years ago, the major focus of the environmental movement was to treat and dispose of waste. In the wastewater treatment field this was called "end-of-pipe" treatment. The state agency in charge of monitoring and regulating environmental issues was called the Pollution "Control" Agency, as if controlling pollution was the key to solving the problem.

Later, in the early 1980s, the emphasis shifted toward recycling or reusing waste products. New technologies focused on finding ways to convert waste into usable or nonpolluting products.

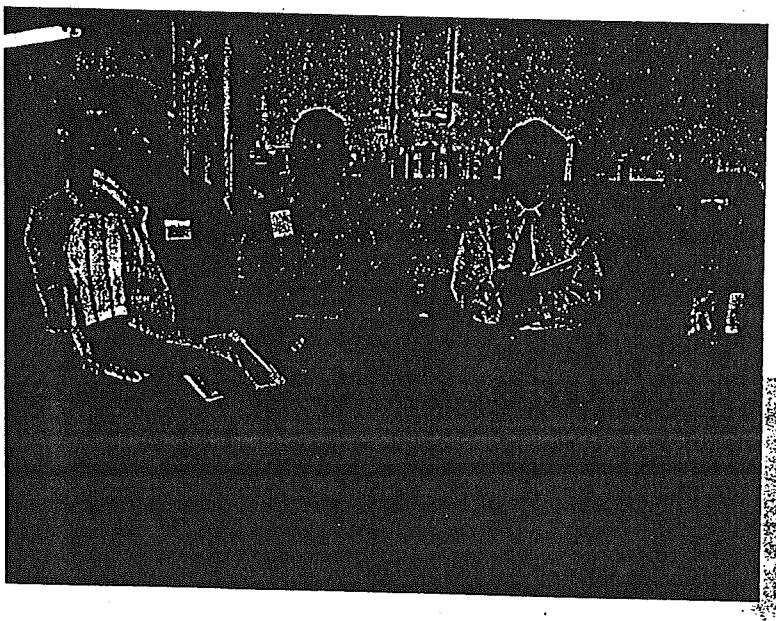
Since then, much progress has been made. Recycling programs are now common in most communities, and Minnesotans are among the national leaders in the amount of materials recycled. Many industries have installed expensive new technologies to limit the pollution they produce, significantly reducing pollutant releases to air, water and land.

However, even as progress was made, the focus began to shift from pollution control to pollution prevention. That is, many people realized that the greatest opportunity to further improve the condition of the environment was not to control it once it is produced, but rather to reduce or eliminate the generation of pollution in the first place.

**"If we can get people to not generate pollution in the first place, we will greatly reduce adverse environmental impacts."**

This may sound simple, but for most people it was a profound shift in thinking. It meant analyzing an industrial process from a different perspective. Suddenly people were asking if there was a more environmentally friendly way to produce their product or conduct their business. Most experts now agree that the most important part of any pollution prevention plan is the one that focuses on ways to reduce the amount of pollution generated at the source. This can reduce or eliminate the need for end-of-pipe treatment and disposal.

For the past two years, the Industrial Waste Division of the MWCC has been quietly developing a pollution prevention program. Funded in part by a grant from the U.S. Environmental Protection Agency, and working in conjunction with the Minnesota Office of Waste Management, the Industrial Waste Division has been training its staff and working with the industries we regulate to recognize and implement pollution prevention opportunities.



*The MWCC hosted a national pollution prevention training seminar at the Metro Plant. Some 25 environmental professionals discussed ways to reduce pollution in the plant's vehicle maintenance facility.*

"If we can get people to not generate pollution in the first place, we will greatly reduce adverse environmental impacts," said Leo Hermes, Manager of the Industrial Waste Division. "Many businesses now see there are economic, regulatory and social gains to be realized by making production processes or materials modifications that result in less waste generation."

As part of the grant program, Industrial Waste Division employees conducted two workshops on pollution prevention for wastewater pretreatment professionals from across the state. Last June they also helped plan and conduct the Third Annual Pollution Prevention Conference. In addition, they conducted a pollution prevention survey of permittees and initiated a program to work with individual companies to recognize pollution prevention opportunities and develop implementation plans.

The MWCC has also taken steps to reduce pollution internally. Last summer the Commission hosted a pollution prevention training at the Metro Plant's vehicle maintenance facility. As part of this training, 25 environmental professionals from throughout the country inspected the garage and discussed ways to reduce pollution at its source. In return for hosting the training and opening up the garage to inspection, the MWCC maintenance staff received a customized report making recommendations for more efficient or decreased use of chemicals and other materials. These recommendations are now being evaluated and implemented.

The Metropolitan Waste Control Commission has worked hard to develop a reputation as an environmental leader. We are proud of what we have done, and we continue to look for ways to improve. Our growing commitment to pollution prevention activities is one more example of our efforts. We believe preventing pollution at the source is one of the most effective contributions each of us can make toward a cleaner environment.

by Jeff Hartman

ATTACHMENT 5

**Metropolitan Waste Control Commission**
Mears Park Centre, 230 East Fifth Street, St. Paul, Minnesota 55101-1633
612 222-8423

June 30, 1994

Mr. Randall W. Dunnette,
Pretreatment Coordinator
Industrial Section, Water Quality Division
Minnesota Pollution Control Agency
520 Lafayette Road
St. Paul, MN 55155-4194

Re: Adoption And Implementation Of A Mercury Restriction Policy

Dear Mr. Dunnette:

This letter is in response to your February 28, 1994 letter regarding the implementation of a policy to restrict mercury. The initial requirement resulted from the MPCA audit of the MWCC Industrial Waste Division (IWD) on May 17-19, 1993, and your subsequent October 6, 1993 letter.

MWCC interim activities to control mercury were outlined in the MWCC progress report dated April 6, 1994. On June 21, 1994 the MWCC Board of Commissioners adopted a formal policy regarding mercury, see enclosed:

> "Pretreatment Program - Adoption of Mercury Restriction Policy", Business Item No. 94-116.

In summary, the policy states that the current Local Pretreatment Standard for mercury is inadequate, and that all users of the Metropolitan Disposal System are required to investigate/control mercury sources, to the extent feasible.

As discussed in the business item, the IWD staff will emphasize and promote a "pollution prevention" approach to restrict the discharge of mercury-bearing wastewater to the sanitary sewers.

MWCC believes that the policy adopted as Resolution No. 94-116 fulfills the requirements stated in your February 28, 1994 letter. To address the implementation schedule requirement, the following list of planned activities is presented:

1. <u>August 1, 1994:</u>
   Contact the Minnesota Dental Association to initiate more formal discussions regarding current waste management practices and steps that could be taken to reduce the discharge of mercury. Other activities would likely be planned out, such as: meeting with the dentists, inspections, and ongoing efforts to quantify loadings.

2. September 1, 1994:
   A. Notify all permittees that the mercury control policy has been adopted. All significant industrial users (and possibly other IU's showing detectable levels of mercury in their discharge) will be required to evaluate their operations and chemicals to identify potential mercury sources.

   B. Notify contract analytical laboratories that the policy has been adopted. Require that the labs evaluate their reagents and wastes to identify potential mercury sources.

3. October 1, 1994:
   Distribute literature to Metro Area dental clinics regarding waste management practices. The literature is currently being developed by MWCC, MnTAP, and the MOWM.

4. November 1, 1994:
   Complete the first draft of an internal report, which will identify and quantify sources of mercury.

5. December 1, 1994:
   Submittal of the mercury evaluation, described in Item 2, by SIU's, other permittees, and contract analytical labs.

6. December 1, 1995:
   Complete the internal report summarizing sources, loadings, and actions taken to reduce mercury loadings.

If you have any questions regarding the mercury restriction policy, or its implementation, please phone me at 772-7001.

Sincerely,

Leo H. Hermes

Leo H. Hermes, P.E.
Industrial Waste Manager
MWCC Industrial Waste Division

LHH:PAB

cc: D. R. Madore, MWCC
R. J. Flood, MWCC

enclosure

PRECINCT: ALL

COMMITTEE OF THE WHOLE
94-116

METROPOLITAN WASTE CONTROL COMMISSION
MEARS PARK CENTRE, 230 EAST FIFTH STREET, ST. PAUL, MN 55101

TYPE: OPERATING

SUBJECT: PRETREATMENT PROGRAM - ADOPTION OF MERCURY RESTRICTION POLICY

SUMMARY: The NPDES permit for the Metropolitan Plant contains a revised mercury limit that is very stringent. A local pretreatment standard, applicable to all users of the Metropolitan Disposal System (MDS), exists in the current Waste Discharge Rules. This local limit must be revised so that mercury discharges do not result in NPDES noncompliance. MWCC is subject to an NPDES permit condition to evaluate and revise all local pretreatment standards by 1996. Adoption of an interim mercury restriction policy is required, however, by July 1, 1994, based on pretreatment program audit findings issued by MPCA. Staff has developed the subject policy for consideration which recognizes the need for mercury source identification and reduction by all MDS users.

POLICY IMPLICATION: This policy is necessary to prevent mercury pass-through which may result in NPDES violations at the Metro Plant. Current provisions of the Waste Discharge Rules provide for the control of such pollutants. In this sense, Resolution No. 94-116 doesn't represent a new policy, but rather recognizes the nature of the mercury problem and endorses staff actions, currently underway, to evaluate and control mercury sources. Proper control of MDS users and pollutants is required by federal law, and is consistent with Goal A2b of the Commission's Wastewater Treatment and Handling Implementation Plan.

RECOMMENDATION:

It is recommended that the Metropolitan Waste Control Commission adopt the proposed mercury restriction policy.

DISCUSSION:

Background:
The Minnesota Pollution Control Agency (MPCA) reissued the NPDES permit for the MWCC Metropolitan Wastewater Treatment Plant in November 1993. As part of the permit, the mercury discharge standard was changed from 200 nanograms/liter (ng/l) to a more stringent limit of 17 ng/l (17 ng/l=0.000017 milligrams/liter (mg/l)). This was derived from the water quality standard in effect for the Mississippi River.

Earlier reviews of the MWCC Industrial Pretreatment Program, performed by the MPCA, have shown that the MWCC local pretreatment standard for mercury, stated in the Waste Discharge Rules (WDR), should be more stringent. In addition, a new federal regulation now requires evaluation of all local pretreatment standards in the WDR, once every 5 years. The current NPDES compliance date for completing the evaluation which is a major study, is September 30, 1996. In the interim, however, MPCA has required MWCC to adopt a mercury restriction policy by July 1, 1994.

Special MWCC monitoring projects, required by MPCA in the 1990 Metro permit, have not revealed isolated sources of mercury within the wastewater collection system. Although the quantities of mercury in the collection system are extremely small, the loadings are uniform. This suggests that the majority of the mercury is not being contributed by discreet sources or a single user group. This finding supports the need for mercury restriction by all MDS users.

As approved by the Metropolitan Council and MWCC Resolution No. 94-55, MWCC is undertaking a study to evaluate nonpoint source loadings of mercury to the Minnesota and Mississippi rivers. While MWCC discharges to area rivers are considered to be point sources, interim mercury restrictions on industrial users will help minimize MWCC's receiving water impacts with respect to mercury. This will complement ongoing activities to evaluate nonpoint sources and the study of local pretreatment standards.

Current Status:
A written notice was sent to MWCC permittees during March, 1994, which contained the following points:

1. The MWCC NPDES mercury limit has been significantly lowered,
2. The Commission will consider a policy to restrict the discharge of mercury-bearing wastes, and
3. Permittees were advised to evaluate raw materials and other potential mercury sources within their facilities.

Staff has begun the process of evaluating various mercury sources. This includes literature searches and discussions with other POTWs, trade associations and consultants. Further, testing for mercury at industrial sites is being conducted through the ongoing Industrial Waste Division (IWD) monitoring program. Where appropriate, permittees have been requested to analyze for mercury on the samples they collect.

Data for mercury loadings to the Metropolitan Wastewater Treatment Plant indicate that:

1. Loadings have decreased over the past three years, and
2. The amount of mercury entering the Metro Plant is extremely low (less than 0.5 pounds/day)

It should be noted that, even though the amount of mercury entering the Metro Plant is low, the NPDES mercury limit is so low that, based on calculations, this limit may not be met consistently.

Regarding sources, studies indicate that significant mercury amounts are contributed to the MDS from dental and medical clinics, and hospitals, as well as from the residential sector. The presence of uniform mercury levels in residuals from all MWCC treatment plants confirms that mercury sources are widespread. Mercury has, in fact, been detected in the sludge from the Cottage Grove plant, which has no tributary permitted industrial users. Currently, hospitals are permitted and monitored by the IWD, while dental/medical clinics are not. The WDR, however, apply to all sources discharging to the MDS, and provisions exist to control non-permitted facilities.

Another issue involves the analytical detection limit for mercury. Although research is underway to achieve lower detection limits, the current EPA detection limit is higher than the NPDES effluent limit. In many cases, even the raw influent to the Metro Plant has non-detectable mercury levels. Continued efforts to improve mercury detection limits are underway which will aid in locating and quantifying sources.

ISSUES/OPTIONS/ALTERNATIVES:

Three important points need to be considered concerning the proposed mercury restriction policy:

1. The amount of mercury discharged to MWCC treatment plants is extremely small,
2. The pattern of mercury levels in the collection system indicates that mercury sources are somewhat uniform and widespread.
3. Current provisions in the WDR provide for controlling all MDS contributors, particularly if the potential for NPDES noncompliance by MWCC facilities exists.

Two main approaches may be used to control the discharge of mercury. One would be to set a numerical limit, and the other would involve working with potential mercury sources to achieve reductions using a "pollution prevention" approach.

As stated above, the local pretreatment standards in the WDR will be evaluated for revisions by September 1996. Even if a new limit for mercury could be established now, enforcement may be impractical (possible permitting of 1500 Metro Area dentists), and compliance by such sources infeasible (if for no other reason than the detection limit issue.)

Working with potential mercury sources, to identify reduction options, thus appears to be the most prudent approach. Numerous studies and projects have been conducted nationally to investigate mercury sources and reductions, and staff have already begun such efforts locally. A pollution prevention approach involves preventing mercury discharges by looking at raw materials and process changes, rather than trying to pretreat for mercury control. This approach is beneficial to both MWCC and MDS users, and IWD staff have been conducting pollution prevention activities related to permitted industrial users since 1992. Staff believes that pollution prevention efforts, to reduce mercury discharges from both permitted and non-permitted sources, is the best way to address the mercury problem.

The proposed mercury restriction policy, embodied in the attached resolution, will provide support in these efforts by identifying mercury reduction as an MWCC priority, and by endorsing staff efforts to identify and control mercury.

**FUNDING:** Not applicable.

Submitted by:

Donald R. Madore
Director, Quality Control Dept.

Reviewed by:

Helen A. Boyer
Deputy Chief Administrator

LB:jl

COMMITTEE OF THE WHOLE
94-116

METROPOLITAN WASTE CONTROL COMMISSION
MEARS PARK CENTRE, 230 EAST FIFTH STREET, ST. PAUL, MN 55101

RESOLUTION NO. 94-116

ADOPTING MERCURY RESTRICTION POLICY

WHEREAS:

1. The NPDES permit for the Metropolitan Plant contains a new effluent mercury limit of 17 nanograms/liter.

2. Emerging research and analytical techniques indicate that the Metro effluent may not consistently meet this limit.

3. The current local pretreatment standard in the Waste Discharge Rules must be revised by September, 1996.

4. MPCA has required that an interim mercury restriction policy be adopted by July 1, 1994.

BE IT RESOLVED, by the Metropolitan Waste Control Commission, as follows:

1. The current local pretreatment standard in the Waste Discharge Rules is inadequate to prevent mercury pass-through to receiving waters, and additional mercury restriction is therefore necessary.

2. All users of the Metropolitan Disposal System shall investigate mercury discharge sources and conduct feasible mercury reduction measures, utilizing a pollution prevention approach whenever possible.

3. The Deputy Chief Administrator shall implement this policy and direct staff to continue activities related to reducing mercury discharges into the MDS from all user sectors.

Adopted on June 21, 1994

METROPOLITAN WASTE CONTROL COMMISSION

By: Louis R. Clark
Louis R. Clark
Chair

By: Helen A. Boyer
Helen A. Boyer
Deputy Chief Administrator

LB:jl

State Agency Pollution Prevention Resource Manual


November, 1993
Interagency Pollution Prevention Advisory Team

## Metropolitan Waste Control Commission

**230 E. Fifth St.**
**St. Paul, MN 55101**

**Agency contact:** Michael Nevala
(612) 229-2065 phone
(612) 229-2071 fax

| Staff Contact Name | Location | Phone | Pollution Prevention Expertise |
|---|---|---|---|
| Reiny Alexejew | Metro Wastewater Treatment Plant | (612) 772-7380 | Machine shop, automotive |
| Kent Brun | Central Office | (612) 229-2036 | Purchasing |
| Tom Creager | Metro Wastewater Treatment Plant | (612) 772-7304 | Recycling, special wastes |
| Mary Gross | Metro Wastewater Treatment Plant | (612) 772-7113 | Laboratories |
| Cindi Kahrmann | Central Office | (612) 229-2193 | Environmental audits |
| Ron Ritchie | Metro Wastewater Treatment Plant | (612) 772-7183 | Painting |
| Roger Tan, Navneet Tiku | Industrial Waste | (612) 772-7036<br>(612) 772-7016 | Industrial waste, pollution prevention |