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Minnesota Superfund

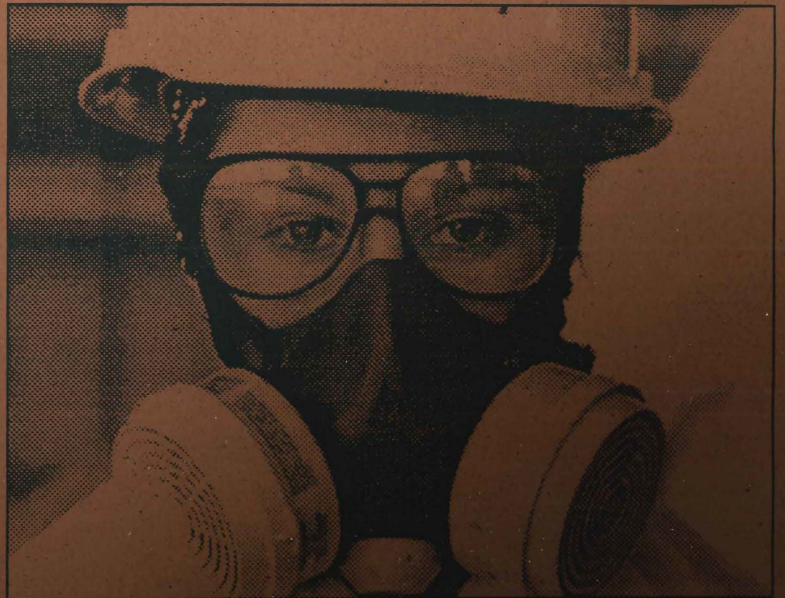
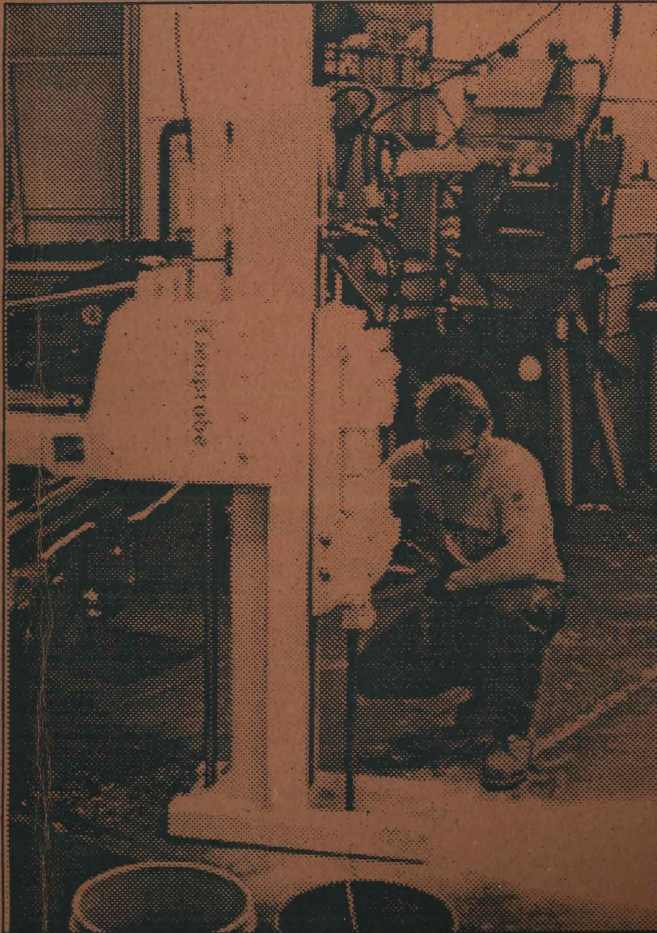
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A Report on Use of the Minnesota Environmental Response, Compensation and Compliance Fund during Fiscal Year **1994**



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Cover Photos:

A consultant uses a Geoprobe at the Westling Manufacturing Superfund site.

Site safety and security plans are an important part of the overall investigation and cleanup plans, as this MPCA staff member in protective gear can attest.

The Brown County Agriculture site after the fire, showing the size and scope of MDA cleanups



Minnesota Superfund

A Report on Use of the Minnesota Environmental Response, Compensation and Compliance Fund during Fiscal Year 1994 and the Status of Superfund Cleanups

November 1994

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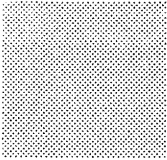
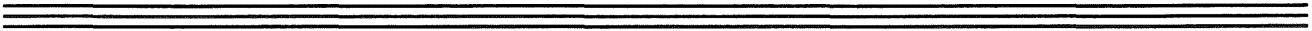


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Executive Summary

Exciting changes taking place within both the state and federal Superfund programs made 1994 a landmark year for Minnesota. The Minnesota Legislature made the state the first in the nation to remove closed permitted municipal solid waste landfill sites from the Superfund program, a move designed to reduce burdensome litigation at landfill sites and speed cleanup actions. The Voluntary Investigation and Cleanup (VIC) Program received national recognition as a winner of the Innovations in State and Local Government Awards, sponsored by the Ford Foundation and the John F. Kennedy School of Government at Harvard University. In the U.S. Congress, the Clinton Administration's proposed Superfund Reform Act moved forward -- only to be tabled in October 1994.

In Fiscal Year 1994 (FY 94), [See Appendix 1 for Acronyms] the state and federal programs and laws, collectively called Superfund, responded to 96 environmental emergencies such as spills, fires, and accidents involving hazardous substances; undertook significant cleanup actions at 40 sites; approved nine actions associated with voluntary investigations and cleanups; delisted five sites; addressed 74 abandoned waste situations (including 248 barrel abandonments); and ensured progress at 142 of the 179 Superfund sites in Minnesota.

The Minnesota Environmental Response and Liability Act (MERLA) of 1983 established the Environmental Response, Compensation and Compliance Fund (Fund) and authorized the Minnesota Pollution Control Agency (MPCA) to spend Fund dollars to investigate and clean up releases of hazardous substances, pollutants, or contaminants. The Minnesota Comprehensive Ground Water Protection Act of 1989 amended MERLA to authorize the Minnesota Department of Agriculture (MDA) to access the Fund to investigate and clean up incidents involving agricultural chemicals.

The directives of MERLA are carried out through the Minnesota Superfund Program. As required by Minnesota Statutes Section 115B.20, subd. 6, this report details the activities for which Fund dollars have been spent during FY 94 by the MPCA and MDA.

MPCA and MDA have been successful in efforts to seek out responsible parties (RPs) to fund and conduct cleanup activities with MPCA/MDA oversight. MPCA has also succeeded in securing federal dollars to fund cleanup activities. Despite these efforts, the availability of Fund dollars will continue to be critical to secure the cooperation of RPs, provide the state's required ten percent match for federally funded cleanups, conduct cleanup of sites not eligible for federal funding (or where RPs are unable or unwilling to do the work), and cover administrative costs.

MPCA/MDA Responsibilities

The MPCA serves as the lead agency for the investigation and cleanup of most federal Superfund sites in Minnesota under the Comprehensive Environmental Response, Compensation and Liability Act of 1980 (CERCLA) and the Superfund Amendments and Reauthorization Act of 1986 (SARA). The MPCA/MDA Superfund program also fulfills functions specified in MERLA (Minnesota Statutes Section 115B) and the Land Recycling Act of 1992. The MPCA and the U.S. Environmental Protection Agency (EPA) work cooperatively on enforcement and fund-financed activities involving Minnesota's 43 Superfund sites listed on the federal National Priorities List (NPL). The MPCA and MDA also are working on sites listed on the state's Permanent List of Priorities (PLP), a total of 179 sites.

MPCA/MDA Superfund responsibilities consist of six basic components:

1. Responding to emergency situations;
2. Discovering and assessing sites for possible addition to the state or federal Superfund lists;
3. Overseeing RPs or their contractors in the investigation and cleanup of RP-financed Superfund sites such as old industrial facilities, old dump sites, and sites of spills or other chemical releases;
4. Overseeing contractors in the investigation and cleanup of fund-financed Superfund sites;
5. Investigating and cleaning up permitted sanitary landfills (SLFs) (although this responsibility will change in FY 95); and
6. Providing technical assistance and legal assurances to voluntary parties conducting investigations and cleanups of contaminated property in order to return it to productive use.

Under CERCLA and MERLA, the MPCA/MDA staffs attempt to identify parties responsible for contributing to a release or threatened release of hazardous substances, pollutants, or contaminants at identified Superfund sites. RPs are given the opportunity to conduct site investigations and cleanups as requested by the MPCA/MDA. At some sites, no RPs can be identified, or the RPs are unable to take the appropriate action. In these instances, the MPCA/MDA may use the Fund to investigate and, if necessary, clean up the sites. At some sites, the RPs may be unwilling to take appropriate actions. In these instances, the MPCA and MDA use the Fund and then seek cost recovery.

Program Expenditures and Income

The following tables summarize expenditures and income of the Superfund program and a review of Fund accomplishments.

Superfund Program Expenditures and Income		
Balance Forward 7-1-93	\$5,252,000	
Plus Prior Year Adjustment*	288,000	
Adjusted Balance Forward	\$5,540,000	
Expenditures from the Fund	FY 94	FY 83 - 94
MERLA Fund Expenditures	\$6,452,000	\$51,914,000
Unliquidated Obligations	623,000	623,000
Total Expenditures and Obligations**	\$7,075,000	\$52,537,000
Income to the Fund	FY 94	FY 83 - 94
Department Earnings	\$11,000	\$11,000
Appropriations	0	\$18,400,000
Reimbursements Paid by RPs and Penalties Paid under the Hazardous Waste Enforcement Program	2,968,000	20,176,000
Hazardous Waste Generator Tax	571,000	9,226,000
Interest	219,000	8,328,000
Less Revenue Refund	(68,000)	(1,438,000)*
Total Income to the Fund	\$3,701,000	\$54,703,000
MERLA Fund Balance 6-30-94	\$2,166,000	
Federal Superfund Dollars	FY 94	FY 83 - 94
Secured (Deobligated)	1,806,129	46,603,752
Expended**	2,722,807	34,091,883

* Prior year adjustment was due to the release of FY93 unliquidated obligations and to revenue refunds due in large part to duplicate payments received or for receipt of Hazardous Waste Generator Taxes in excess of actual amount due.

** Figures as of 8-31-94 for FY 94 budgets. Figures will change as expenditures, obligations, fines, and reimbursements are obtained or paid out.

Superfund Program Accomplishments		
	FY 94	FY 83 - 94
Sites Added to the Federal CERCLIS List	5	475
Sites Receiving Final Preliminary Assessment and Site Investigation	20	405
Site Scoring Packages Submitted to the EPA for the Federal Superfund List (National Priority List)	2	43
Sites Added to State's Permanent List of Priorities	0	210
Sites Delisted from the Permanent List of Priorities	5	31
Sites Added to the Federal National Priority List	0	43
Sites Where Investigation and/or Cleanup Work is Underway	142	NA
Responsible Party Response Actions Initiated	9	135
MERLA Funded Response Actions Initiated	4	36
Federally Funded Response Actions Initiated	0	25
Records of Decision Executed	12	67
MPCA Involvement in Lawsuits	8	39
Declared Emergencies	2	28
Abandoned Barrels and Drums Secured	248	917
MPCA Property Transfer File Evaluation Requests	1,755	*11,229
Voluntary Sites (MPCA and MDA)	122	**439
VIC Cleanups Approved (Final and Interim)	9	**69

* FY 85 - 94

** FY 89 - 94

Future Challenges

Reauthorization of Federal Superfund Law in 1995. Although efforts to pass the Superfund Reform Act failed in the 1994 U.S. Congress, the issue will resurface in 1995. States, including Minnesota, must make certain that a reauthorized Superfund law serves the best interests of the public. In 1995, the Minnesota Superfund program should focus on:

- educating freshman senators and representatives about the complex issues involved in the cleanup of hazardous waste sites;
- continuing to rebuff attempts to eliminate the current "polluter pays" liability standard established in CERCLA;
- assuring that federal Superfund law provides more and better tools to clean up hazardous waste sites, including national cleanup goals or standards, cost allocation, increased focus on voluntary cleanup, and improved public involvement; and
- examining environmental justice issues as they relate to contaminated land.

Voluntary Investigation and Cleanup Program. The MPCA has developed a unique program to provide technical assistance and legal assurances to persons conducting voluntary investigations and cleanups of contaminated property. Recently, the MDA has developed a program to provide the same services at agricultural chemical incident sites. The VIC Program should provide more education and outreach to promote voluntary cleanups. In addition, the MPCA should increase its efforts to partner with other federal, state, and local government agencies in resolving the environmental and economic problems associated with contaminated land.

MDA Agricultural Chemical Sites. MDA requests that funding be maintained at the current level for MDA activities involving Superfund. As of FY 94, MDA has returned to full complement of MERLA-funded positions.

Introduction

In 1983, the Minnesota Environmental Response and Liability Act (MERLA) established the state Superfund program with the Fund and authorized the Minnesota Pollution Control Agency (MPCA) to spend Fund dollars to investigate suspected releases of hazardous substances, pollutants, or contaminants and to clean up releases. The Minnesota Comprehensive Ground Water Protection Act of 1989 amended MERLA to authorize the Minnesota Department of Finance (MDF) to administer the Fund, but retained the language regarding appropriation of the money to MPCA.

In 1990, changes were made in the appropriation language to give full administrative authority to the Commissioner of Finance. This reauthorization allowed Minnesota Department of Agriculture equal access to the Fund to investigate and clean up releases involving agricultural chemicals (pesticides and fertilizers). In 1993, changes were made in the appropriation language to give full administrative authority to the Commissioners of MPCA and MDA. The two Commissioners jointly submit an annual spending plan to the Commissioner of Finance at the beginning of each Fiscal Year.

In 1994, the Landfill Cleanup Program was created by the Minnesota Legislature, making the cleanup of closed permitted solid waste landfills a public responsibility. Although this report contains an overview of activities at landfill sites, a more thorough treatment of the subject will be provided in the Landfill Assessment Program report, available later this year.

This report outlines the use of the MERLA Fund during FY 94, summarizes the status of the Minnesota Superfund program, (including the site assessment program and VIC Program) and puts forth future program directions. In addition, this report discusses the challenges to the federal Superfund program and federal Superfund reauthorization, both of which are likely to affect the state's Superfund program.

Key Points • • • • •

This report:

- summarizes the status of the Minnesota Superfund program;
- outlines the use of the MERLA and CERCLA funds to clean up sites during FY 94;
- discusses cleanups at RP-funded sites during FY 94;
- discusses cleanups at voluntary party sites during FY 94;
- describes the new Landfill Cleanup Program; and
- discusses the challenges to the Superfund program and the 1995 federal Superfund reauthorization process.

Program Overview

The Minnesota Superfund program is composed of the following functions:

1. To respond to emergency situations, such as a contaminated drinking water supply, drum removal, or other situations that have been determined to be imminent health hazards by the Minnesota Department of Health (MDH);
2. To discover and conduct preliminary investigations of potential hazardous substance, pollutant, or contaminant releases from abandoned hazardous waste sites, solid waste sites, or agricultural chemical sites, and to identify responsible parties;
3. To oversee RPs or their contractors in the conduct of Remedial Investigations and Feasibility Studies (RI/FS) at all sites;
4. To develop Records of Decision (RODs) and Minnesota Decision Documents (MDDs) identifying the remedial designs (RD) and response actions (RA) to be implemented, and to oversee RP development and implementation of the RD/RA Plans for the cleanup of sites;
5. To conduct the administrative activities for the management of response action contractors, the MERLA Fund, and federal Superfund money secured under Cooperative Agreements with the U.S. Environmental Protection Agency (EPA) and the U.S. Department of Defense (DOD). These activities include developing standards and guidelines, assuring technology transfer, data validation, and training;
6. To ensure public participation through community relations;
7. To provide assistance to voluntary parties in the transfer of property where potential or real contamination problems exist;
8. To oversee investigations and cleanup actions where voluntary parties can and are willing to do the work; and
9. To develop and promote innovative treatment technologies.

Key Points • • • • •

The Superfund program:

- assesses and prioritizes sites to determine their eligibility for state and federal Superfund monies or the parties responsible for cleanup;
- responds to emergencies and conducts initial investigations;
- pays for site investigations and the development of cleanup alternatives;
- oversees the completion of response actions;
- issues enforcement documents and final cleanup decisions;
- assures public participation;
- provides file evaluation assistance;
- oversees voluntary parties conducting investigation and cleanup activities; and
- develops and promotes innovative treatment technologies.

"If parties agree to voluntary investigation and cleanup actions, the MPCA can forgo listing of sites. This is an incentive to many businesses and individuals."

The Superfund program continually responds to new information on emerging technologies, changes in federal law, and more accurate health and ecological risk information. The program also remains flexible to accommodate a broader range of sites, respond realistically to community concerns, and minimize delays in investigation and cleanup activities. The Minnesota Superfund process for hazardous waste site cleanup is diagrammed in Figure 1 and the administrative enforcement process in Figure 2.

Potential Superfund sites are identified by the MPCA and MDA through calls from concerned citizens, routine inspections by MPCA/MDA staffs, reports of hazardous substance spills, analyses of public drinking water supplies sampled by MDH, and investigation work on sites being sold or developed. Following identification of potential sites, the MPCA or MDA provides an opportunity to voluntary parties to enter the MPCA Voluntary Investigation and Cleanup Program or the MDA Voluntary Cleanup Technical Assistance Program.

If parties agree to conduct voluntary investigation and cleanup actions within 90 days of being notified of a site's identification, the MPCA or MDA can forgo the formal assessment process, or listing of sites on the Comprehensive Environmental Response, Compensation, and Liability Information System (CERCLIS). This is an incentive to many businesses and individuals to conduct voluntary response actions.

Through a Cooperative Agreement with EPA, the Site Assessment Unit assesses potential hazardous waste sites in Minnesota. Initially, a Preliminary Assessment (PA) is conducted involving a general review of readily accessible information to characterize a site and to determine if it warrants further investigation.

When the PA indicates further investigation is warranted, the site enters the Site Investigation (SI) phase. Data from the SI is used to prioritize sites using the Hazard Ranking System (HRS). The HRS scores are used to establish relative priorities among sites and to determine a site's eligibility for federal and/or state Superfund monies for response actions.

After completion of HRS scoring, the site may then be added to the Permanent List of Priorities and the National Priority List, depending on the score and nomination. Next, an RI/FS is conducted to determine the extent of contamination and to evaluate cleanup alternatives. Following a decision on the cleanup activities required, a RD/RA is developed and implemented. At some sites, long-term monitoring and maintenance is necessary to assure continued effectiveness and protectiveness of the remedy. Finally, after the site cleanup is complete, the site is delisted from the PLP or NPL (if applicable).

Figure 1: The Minnesota Superfund Process

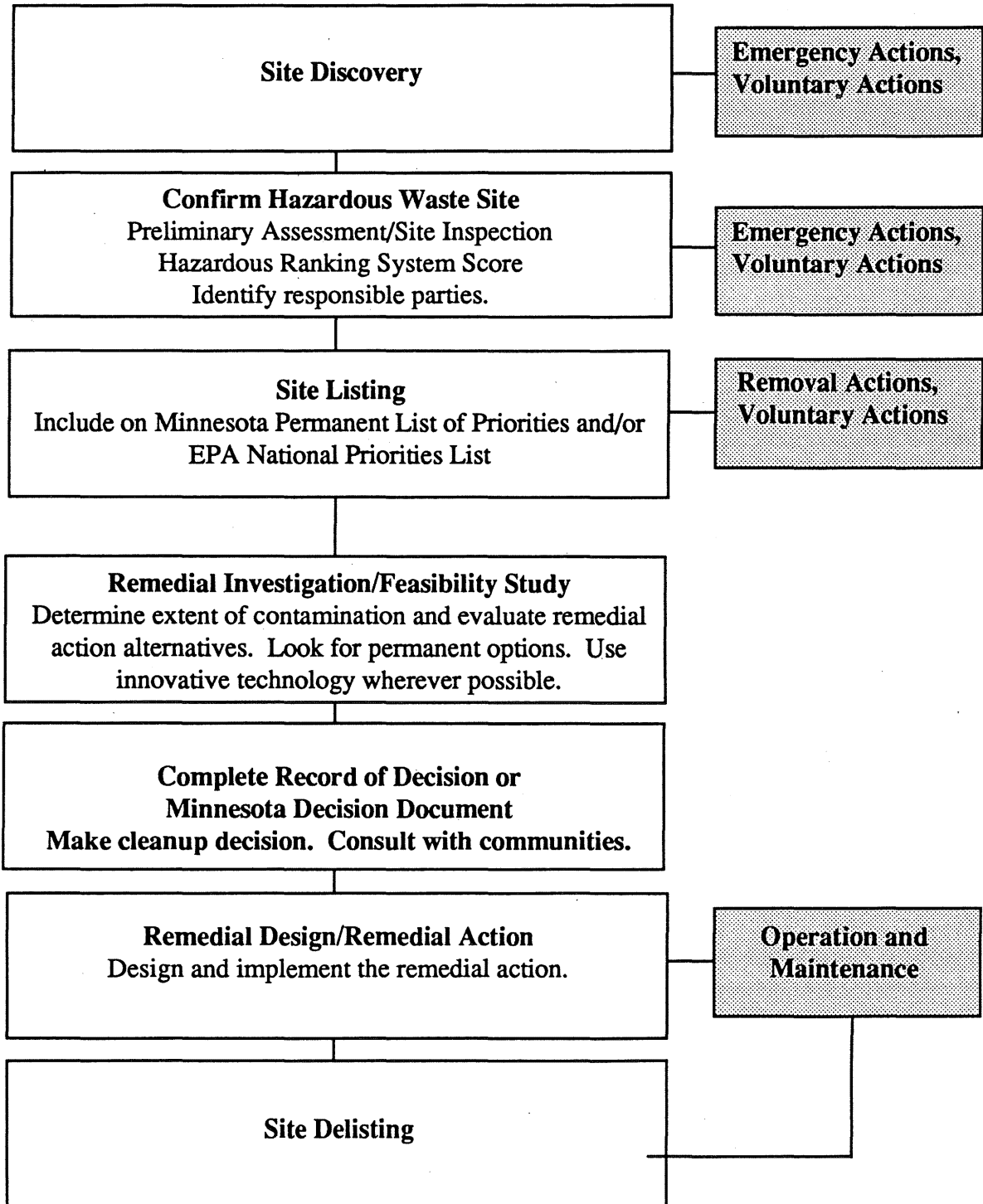
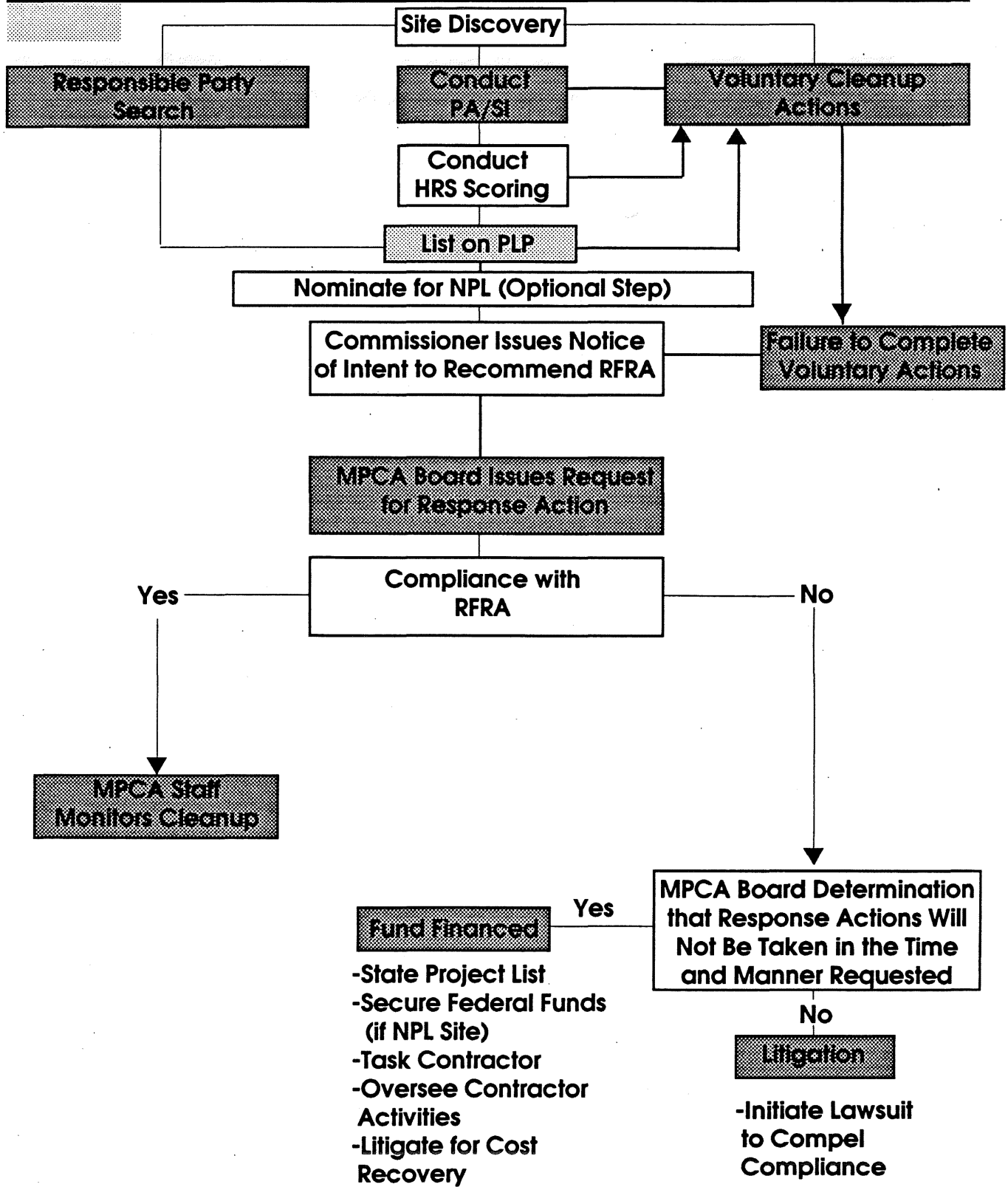


Figure 2: MPCA Administrative/Enforcement Process under MERLA



The work steps identified above can be accomplished by identified responsible parties or by the federal and/or state agencies using Fund dollars. At sites where RPs have been identified, staff offers RPs an opportunity to voluntarily move forward through the cleanup process. If unwilling, staff undertakes an administrative/enforcement process, which establishes a process and schedule for cleanup, providing opportunities for RPs to negotiate a Response Order by Consent (Consent Order or CO) or operate under a Request for Response Action (RFRA).



Lead-contaminated soil removal was completed in FY 94 at the McGuire Wire and Salvage Site near Mora.

Classes of Sites in Superfund

All sites listed on the PLP have been assigned to one or more response action classes as required by Minnesota Statutes Section 115B.17, subd. 1. Each of the four response action classes is defined as follows:

Class A - Declared Emergencies. This class includes all sites at which an emergency has been declared by the Commissioner of the MPCA or MDA. An "emergency" means that there has been or is an imminent risk of fire or explosion, that a temporary water supply is needed where an MDH drinking water advisory has been issued, or that an advisory has been issued where immediate adverse human or animal health effects may be anticipated due to direct contact or inhalation of hazardous substances, pollutants, or contaminants.

Currently, seven sites are listed in Class A. They consist of the Duluth Former City Dump; Schloff Chemical in St. Louis Park; Valentine Clark in St. Paul; and ground water contamination at Lakeland, St. Paul Park, Long Prairie, and Winona.

Class B - Response Actions Completed and Operation and Maintenance/Long-term Monitoring Ongoing. This class includes all sites where response actions have been completed and long-term monitoring of these completed actions is in progress. This class also includes all sites where activities are necessary to operate and maintain response actions, such as pump-out systems, after installation has been completed. There are 35 sites listed in Class B.

Class C - Response Actions Necessary or in Progress or First Year Operation and Maintenance at a Site. This class includes all sites where remedial design and implementation of response actions (other than Class A or B) such as soil decontamination, first year ground water pump out or monitoring are necessary to complete a permanent remedy or cleanup of a site. There are 145 sites listed in Class C.

Key Points • • • • •

There are 179 sites currently on the PLP. The classes of sites in Minnesota include:

- seven sites listed as emergencies (Class A);
- 35 sites where response actions are completed and long-term operation and maintenance are ongoing (Class B);
- 145 sites where response actions are necessary or in progress (Class C); and
- 128 sites where remedial investigations or feasibility studies are needed or in progress (Class D).

Other accomplishments include:

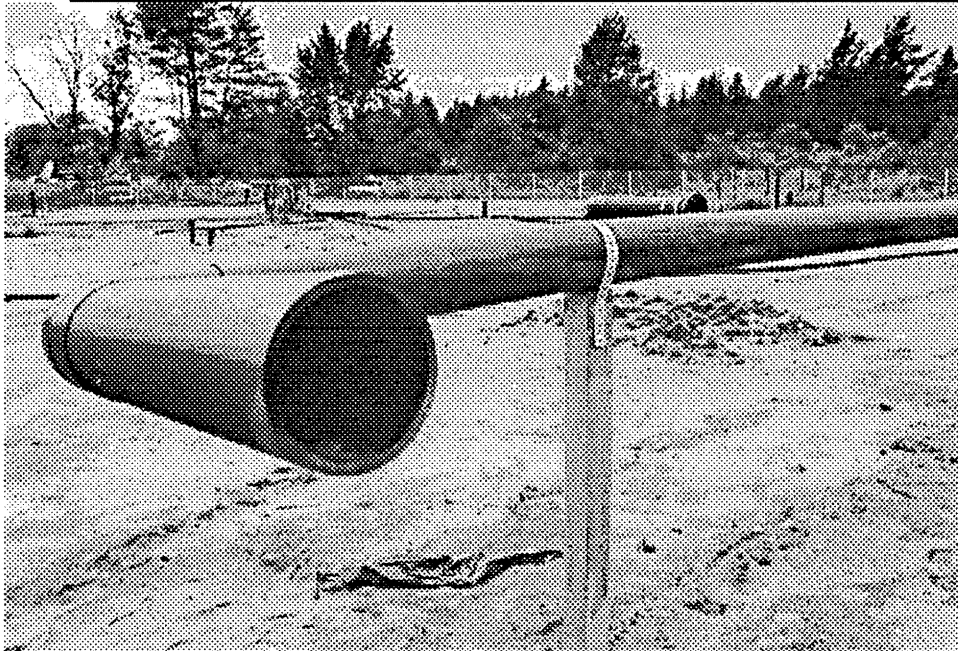
- 31 sites which have been removed from the PLP; and
- 439 sites where the VIC Program or MDA's VCTA Program has provided technical assistance and cleanup oversight.

Class D - RI/FS Necessary or in Progress. This class includes all sites which require a RI to determine the extent, magnitude, and nature of the release or threatened release, and a FS to evaluate and select response action(s). There are currently 128 sites listed as Class D.

Since sites may be listed under more than one class depending upon their cleanup status, the total of Class A, B, C, and D sites is much greater than the total number of sites on the PLP. More than one listing indicates the site may have a number of actions pending. See the Site Status Report in Appendix 3 for specific sites included in the specific classes.

Delisted Sites. Since the PLP was created, 31 sites have been delisted, and five of these sites were delisted during FY 94. These sites were delisted because cleanup of known contamination at these sites has been completed and no further action is thought to be necessary by the Superfund program. (See Table 1 for delisted sites.)

Voluntary Sites. Since the MPCA VIC Program was created in 1988, 418 voluntary parties have requested technical assistance for investigations and cleanups of contaminated land. MDA's new program has had 21 requests in FY 94. With a few exceptions, voluntary sites are not listed on the state Superfund list and many of them are not listed on the federal inventory of known or suspected hazardous waste sites, CERCLIS.



Operation of a vacuum extraction system began on the Isanti Rumpel site in FY 94

Table 1: Delisted Superfund Sites

Site	Year Deleted	Why Deleted	County
Adrian Municipal Well Field	1993	Transfer to RCRA	Nobles
Airco Lime Sludge Pit	1985	Cleanup done	Hennepin
Amdura	1994	Cleanup done	Ramsey
Askov Ground Water Contamination	1990	Transfer to Tanks	Pine
Atwater Municipal Well Field	1993	Contam. decreased	Kandiyohi
Central Co-Operative	1994	Monitoring only	Steele
DM & IR Car Shops	1993	Cleanup done	St. Louis
DNR Duxbury Pesticide Site	1993	Cleanup done	Pine
DNR Nett Lake/Orr Pesticide Site	1985	Cleanup done	St. Louis
Ecolotech Inc.	1985	Cleanup done	Hennepin
Ford Twin Cities Assembly Site	1993	Cleanup done	Ramsey
Former McKay Manufacturing Company	1985	Cleanup done	Ramsey
43 East Water Street	1986	Cleanup done	Ramsey
Fritz Craig Salvage Operation	1993	Cleanup done	Hubbard
Hopkins Allied	1994	Cleanup done	Hennepin
HWK/Meeker/Design Classics/Litchfield Site	1993	Contam. decreased	Meeker
Isanti Martin Site	1990	No contam. found	Isanti
Jackson Municipal Well Field	1993	Contam. decreased	Jackson
Lansing GW Contamination	1994	Cleanup done	Mower
Lost Lake Dump Site	1984	No contam. found	Hennepin
Lund's Farmer Seed and Nursery	1993	Cleanup done	Stearns
Maple Plain Dump Site	1985	Contam. contained	Hennepin
Morris Arsenic Site	1984	Cleanup done	Stevens
Northern Twp. GW Contamination (now Kummer)	1985	Sites combined	Beltrami
Owatonna Dump Site	1993	No contam. found	Steele
Polymetal Products, Inc.	1987	Cleanup done	Ramsey
Portec-Pioneer Division	1988	Transfer to Tanks	Hennepin
Sonford Products (now Ashland/Park Penta)	1985	Sites combined	Washington
Union Scrap Iron and Metal	1991	Cleanup done	Hennepin
Wadena Arsenic	1992	Cleanup done	Ottertail
Weisman Scrap	1994	Cleanup done	Winona

Status of the Fund

The status of the Fund as of June 30, 1994, is detailed in Table 2. The Fund balance at the end of FY 94 is \$2,166,000. All cumulative income and expenditure figures are approximate.

A predicted shortfall in the Fund in FY 94 has been eliminated by two legislative actions in FY 93 and FY94: the restructuring of the Hazardous Waste Generator Tax and the creation of the new Landfill Cleanup Program. These actions have served to establish a predictable source of long-term funding and relieve the pressure on the Fund exerted by the large number of closed landfill sites on the state Superfund list.

In 1983, the Fund was established with a \$5,000,000 transfer from the General Fund. An additional \$4,500,000 in FY 88, and \$5,900,000 in FY 89 were appropriated from the Water Pollution Control Fund. One million dollars were transferred from the General Fund in FY 90, and in both FY 92 and 93, \$1,000,000 were transferred from the Motor Vehicle Transfer Account.

The Fund investments are managed by the MDF, and a Hazardous Waste Generator Tax is collected and deposited into the Fund by the Department of Revenue. MPCA and MDA have recovered approximately \$20,176,000 in the form of reimbursements from RPs and penalties from state hazardous waste program enforcement activities, since the Fund was established. A summary of Fund expenditures during FY 94 is presented in Table 3.

The MPCA's administrative costs represent salaries for 67 MPCA staff, as well as travel, equipment, and supply expenditures associated with responding to emergencies and implementing site cleanups. Many of these administrative costs are reimbursed by RPs. The legal cost of services provided by the state Attorney General's Office for non-site specific program development makes up a portion of the Superfund administrative cost. See "Reimbursements to the Fund" section for more details.

In FY 94, MDA administrative costs include salaries, benefits, overhead, travel, and program legal costs. Administrative costs have increased as the MDA program achieved authorized staff complement and program development. Site-specific contractual costs involved a settlement with a landowner for response actions and crop losses at the Howe Chemical site.

Key Points • • • • •

- the Fund balance at the end of FY 94 was approximately \$2.2 million;
- the MPCA and MDA have collected over \$20 million in penalties and reimbursements since the Fund was established; and
- the Fund supports 67 MPCA staff.

Table 2: General Ledger Balance of the Fund as of 6-30-94

Appropriations to Date	Dollars
Original (FY 83)	\$5,000,000
Transfers from Water Pollution Control Fund (FY 88-89)	10,400,000
Transfer from General Fund (FY 90)	1,000,000
Transfer from Motor Vehicle Transfer Fund (FY 92-93)	2,000,000
Subtotal	\$18,400,000
Income to Date (FY 83 - 94)	
Interest on Investments	\$8,328,000
Departmental Earnings	11,000
Reimbursements Paid by Responsible Parties and Penalties from the Hazardous Waste Enforcement Program	20,176,000
Hazardous Waste Generator Tax	9,226,000
Less Revenue Refunds	(1,438,000)
Subtotal	\$36,303,000
Total Appropriation and Income	\$54,703,000
Expenditures and Obligations (FY 83 - 94)	(\$52,537,000)
Fund Balance as of 6-30-94	\$2,166,000

Table 3: FY 94 State Superfund Expenditures by MPCA and MDA

	MPCA	MDA	Combined Total
Superfund Program Administration	\$3,735,000	\$210,602	\$3,945,602
Site-specific Costs	2,106,988	97,521	2,204,509
Site-specific Support	290,245	12,267	302,512
Unliquidated Obligations	622,767	0	622,767
Total	\$6,755,000	\$320,390	\$7,075,390

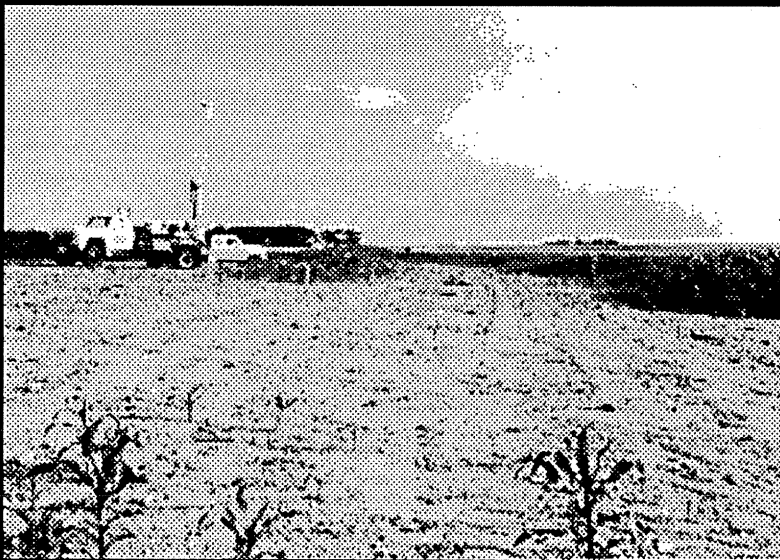
Use of MERLA Dollars

During FY 94, \$2,507,021 from the MERLA Fund was used by the MPCA and MDA to cover site costs and the costs of tasking contractors to respond to releases of hazardous substances, pollutants, or contaminants at 26 of the sites listed on the PLP, to cover costs of emergency incidents, and respond to numerous reports of abandoned barrels. Table 4 details FY 94 site-specific and support expenditures of MERLA dollars, as well as administrative expenditures and totals.

Key Points • • • • •

In FY 94, over \$2.5 million in MERLA funds were used for the following site-specific costs and support activities:

- response to hazardous waste emergencies;
- response actions at 26 sites; and
- response to abandoned barrel reports.



From sterile farmfield to productive farmland: the Howe Chemical site before and after cleanup.



Table 4: Use of MERLA Fund Dollars in FY 94

Site-specific	Amount	Cleanup Actions
Arsenic Program (MPCA)	\$176,491	Investigation, Cleanup
Arsenic (MDA)	19,802	Collection/Disposal
Hazardous Waste Spills, Emergencies	394,212	Emergency Response, Abandoned Barrels
Hazardous Waste Generator Loan Program	4,000	Low Interest Loan for Cleanup
PA/SI	12,824	Assessment of Sites
Innovative Treatment Technologies	74,422	Analysis of New Treatments
St. Paul Park Ground Water Cont.	\$42,679	RD/RA, O&M
McGuire Wire Salvage	322,676	Interim RA
Winona Ground Water Contamination	79,484	Ground Water Pumpout, O&M
Kummer Sanitary Landfill, OU 2	5,455	Cover RA
Kummer Sanitary Landfill, OU 3	50,163	Bioremediation Study RD
Schloff Chemical and Supply	104,685	RD/RA
Perron Road	323	Drinking Water
LeHillier Ground Water Contamination	6,000	Operation and Maintenance
Atwater Municipal Well Field	1,488	Well Repair
St. Louis River/Interlake/Duluth Tar	10,005	Sediment Sampling
Amdura	148,334	RD/RA
Isanti-Chisago Sanitary Landfill	156,007	Ground Water RD/RA
Red Hanson	753	Emergency Well Filtration
Baytown/Lake Elmo Airport	35,989	Limited RI
Pine Bend SLF/Crosby American	6,158	RA
Rice Municipal Well #2	279,545	RD/RA
St. Louis River/USX	12,655	Sediment Sampling
Castle Rock (MDA)	1,071	Bottled Water
Howe Soil Contamination (MDA)	76,648	Contract Settlement
Pigs Eye Dump	69,579	Limited RI
Ritari Post and Pole	49,536	RI/FS
Former Duluth Dump	7,691	Ecological Risk Assessment
Long Prairie	23,446	Emergency Water, RA
LaGrande	19,896	RA
Fridley Municipal Well Field	7,964	Interim RA, RI/FS
Dakhue SLF OU 2	376	State Match RA
MacGillis and Gibbs	4,152	RI/FS
Subtotal (Site-specific Costs)	\$2,204,509	

Table 4
continued on
next page.

Table 4 (continued): Use of MERLA Fund Dollars in FY 94		
Site-specific Support		
Site-specific Legal Expenses	181,917	Attorney General support
Site specific Legal Expenses (MDA)	617	Attorney General support
Site-specific Lab Analytical Services	108,328	Lab tests
Site-specific Lab Analytical Services (MDA)	11,650	Lab tests
Subtotal for Site-specific Support	\$302,512	
Total (Site-specific and Support)	\$2,507,021	
Superfund Administrative	\$3,945,602	
Unliquidated Obligations	\$622,767	
Total	\$7,075,390	

Reimbursement to the Fund

In FY 94, in addition to the commitment of over \$39 million to the investigation and cleanup of hazardous waste sites, RPs have made reimbursements to the Fund of \$2,256,000 to cover costs incurred by the MPCA in administering and overseeing cleanup activities. These administrative and contractual expenses include those for landfills and industrial sites working under a Consent Order or RFRA and sites in the VIC Program. Reimbursements will continue to be remitted, depending on payments plans established and MPCA enforcement success with delinquent accounts. Where necessary, the MPCA intends to pursue litigation to recover on delinquent accounts.

In addition, \$712,000 was paid to the Fund through fines and penalties imposed by Stipulation Agreements and Administrative Penalty Orders under the state hazardous waste program enforcement activities. The cumulative amount of money being paid to the Fund through RP actions is shown in Figure 3.

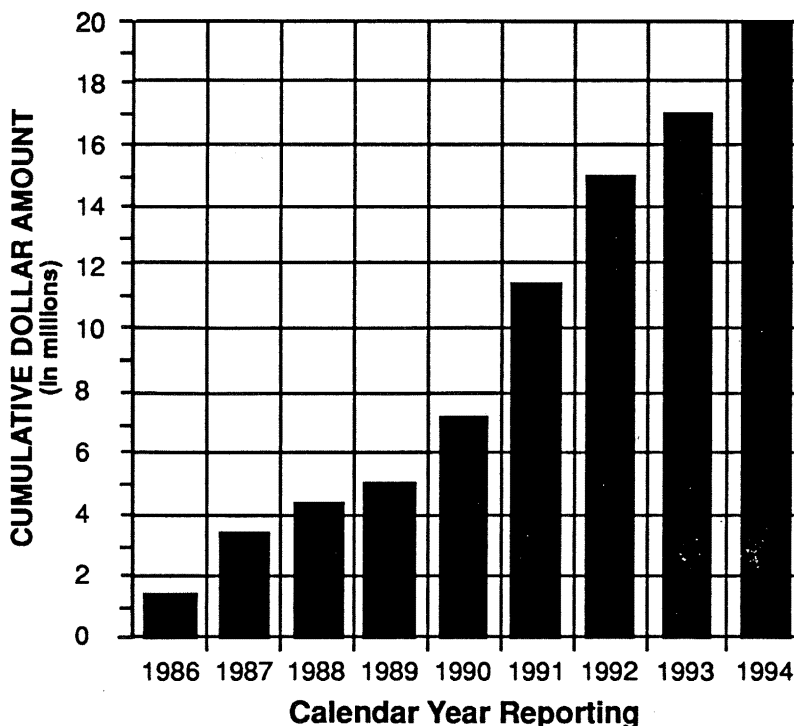
Key Points • • • • •

In FY 94, nearly \$3 million was paid to the Fund:

- by RP and VIC reimbursements to cover administrative and oversight costs of investigation and cleanup; and

- through Stipulation Agreement penalties; and Administrative Penalty Orders under the state's hazardous waste program enforcement activities.

Figure 3: Reimbursements to the Fund



Use of Federal Fund Dollars

Minnesota has 43 sites on the NPL that are eligible for federal funding based on priority. So far, the MPCA has secured a cumulative total of \$46,603,752 in federal Superfund dollars. This amount reflects \$1,806,129 in additional funds secured during FY 94.

The federal Superfund monies were secured for:

1. Responding to emergency situations;
2. Conducting preliminary assessments and preliminary site investigations at Minnesota sites included on CERCLIS;
3. Tasking contractors to conduct RI/FS and RD/RA activities at Minnesota fund-financed sites included on the NPL;
4. Administration of Superfund sites by MPCA employees, including work on innovative technologies, pilot studies, contract management, training, and other costs;
5. RP searches, RFRA and ROD development, and RP cleanup activity oversight under the enforcement Cooperative Agreement; and
6. Providing oversight of 30 CERCLIS sites under the voluntary cleanup pilot project.

The federal dollars secured can be expended over several fiscal years. State money is needed to match ten percent of the amount secured from federal Superfund for site-specific remedial actions. During FY 94, the MPCA spent \$2,722,807 federal Superfund dollars for response action activities at 25 different sites. Of this amount, \$1,000,362 was spent on site-specific cleanup actions at 12 sites; \$257,243 on enforcement cleanup actions at 14 sites; and \$1,465,202 on programmatic activities. Table 5 details expenditures of federal dollars by MPCA.

Key Points • • • • •

- in the history of Superfund, close to \$47 million have been secured from the federal Fund for cleanup work;
- at federally funded remedial action sites, the Fund covers 90 percent of remediation costs, the state Fund covers 10 percent;
- in FY 94, federal dollars were used for 12 site-specific cleanup actions, 14 site-specific enforcement/cleanup activities and RP searches, and program support; and
- federal dollars are being used to oversee activities at 30 CERCLIS sites in a pilot program.

Table 5: Expenditures of Federal Superfund Dollars

Site	Amount Spent	Cleanup Action
South Andover	\$4,655	RI/FS, MA, RD
Arrowhead	27,757	State Lead RD
Ritari	78,125	RI/FS
LaGrande SLF	163,698	RI/FS, State Lead RA
LeHillier/Mankato	38,088	RA
MacGillis & Gibbs	341,462	RI/FS, MA
Kummer SLF Cover	65,829	RA
Perham Arsenic Site	8,999	RI/FS
Long Prairie	100,130	RA/R&I, RD
Reilly Tar and Chemical	47,093	RD/RA, RI/FS
New Brighton	104,214	RA, IRM
Dakhue SLF	20,312	RI/FS, RD, State Lead RD/RA
St. Augusta SLF	\$9,131	PRP Negotiations
Agate Lake	2,819	RI/FS Oversight
Olmsted County SLF	4,320	RI/FS Oversight, PRP Search
Oak Grove SLF	24,008	RD/RA Oversight
Arrowhead	6,965	RD/RA Oversight
South Andover	11,860	RD Oversight
Pigs Eye Dump	7,856	RI/FS Negot., PRP Search
Pine Bend SLF/Crosby American	836	RI/FS Negot., PRP Search
St. Louis River/Interlake	68,130	RD/RA Negot., Oversight
WDE SLF	48,363	RD/RA Oversight
Washington County SLF	36,034	RD/RA Negot., PRP Search
East Bethel SLF	10,692	PRP Search, RFRA
Freeway SLF	23,047	PRP Search, RD/RA, RFRA
Dakhue SLF	3,070	RI/FS Negot., RFRA, PRP
PRP Searches	112	Several Sites
Subtotal	\$1,257,605	
Core Program	\$717,241	Mgmt./Prog. Development
PA/SI Cooperative Agreement	747,961	Conduct PA/SI
Total	\$2,722,807	

The MPCA has been facing a decline of federal dollars, due, in part, to the maturing of Minnesota's Superfund program. Most of the state's NPL sites are in late stages in the Superfund process, and the EPA has not added any new Minnesota sites to the NPL within the last two years. Also, cost-cutting efforts at all levels of federal government are having an impact in Minnesota.

Federal dollars also come from a Cooperative Agreement between the MPCA and the U.S. Department of Defense for the oversight of activities at four sites: the Twin Cities Army Ammunition Plant, Twin Cities Air Force Reserve Base, Naval Industrial Reserve Ordnance Plant, and the Former Duluth Air Force Base. The agreement ensures an adequate level of funding for these four military sites. Specific secured and expended Defense Cooperative Agreement dollars are not detailed in this report.

Cleanups by RPs Using Private Dollars

The vast majority of cleanups at Minnesota sites are implemented using private dollars. In Minnesota, the Superfund approach has focused first on identifying responsible parties to undertake cleanup of hazardous waste sites. This "enforcement first" approach is now being implemented on a federal level.

If a financially viable RP is found, the RP becomes involved in the cleanup process through agreements such as the Consent Order, a RFRA, or voluntary participation in the remedial process. RPs pay for the necessary investigations and cleanups, as well as reimburse the state for its administrative oversight and contractual expenses.

Figure 4 shows a comparison of RP, CERCLA, and MERLA funds expended at the sites identified in the Site Status Report (Appendix 3). In the past year, a total of approximately \$48.7 million was spent on industrial sites and landfills. RPs spent approximately 80 percent of that total cost.

Key Points • • • • •

- in FY 94, RPs provided approximately 80 percent of all funds spent on site cleanups;
- since 1983, RPs have committed about \$314 million toward investigations and cleanups; and
- during Calendar Year (CY) 94, the Fund was reimbursed over \$2.2 million by RPs and voluntary parties.

Since annual variability in expenditures may differ from long-term expenditures, cumulative expenditures are shown in Figure 5. Figure 5 shows that RPs have spent approximately 78.4 percent of all the investigation and cleanup expenses to date (\$314 million). The MERLA funds reported in this figure refer to total programmatic expenses as shown in the Executive Summary. For CY 94 costs, MPCA staff also recovered more than \$ 2.2 million to date from RPs for both administrative and contractual expenses. See "Reimbursement to the Fund" section for details.

Figure 4: FY 94 Site Cleanup Expenditure Comparison

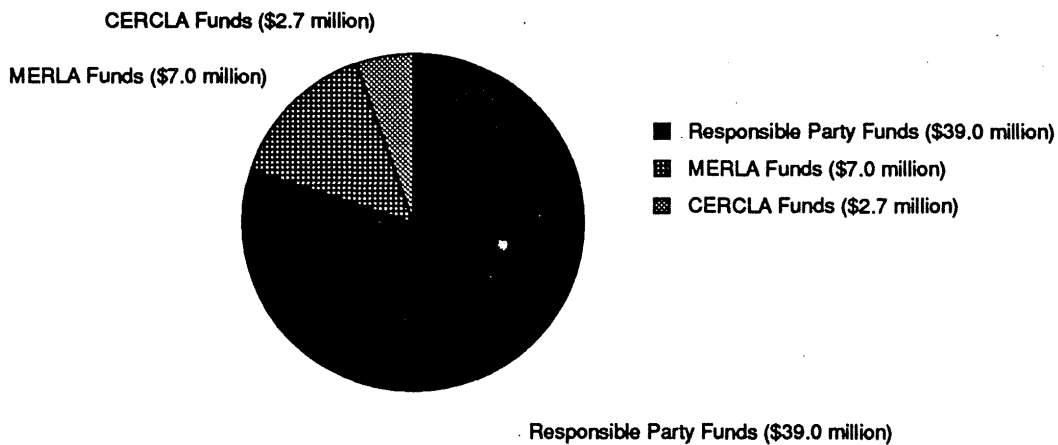
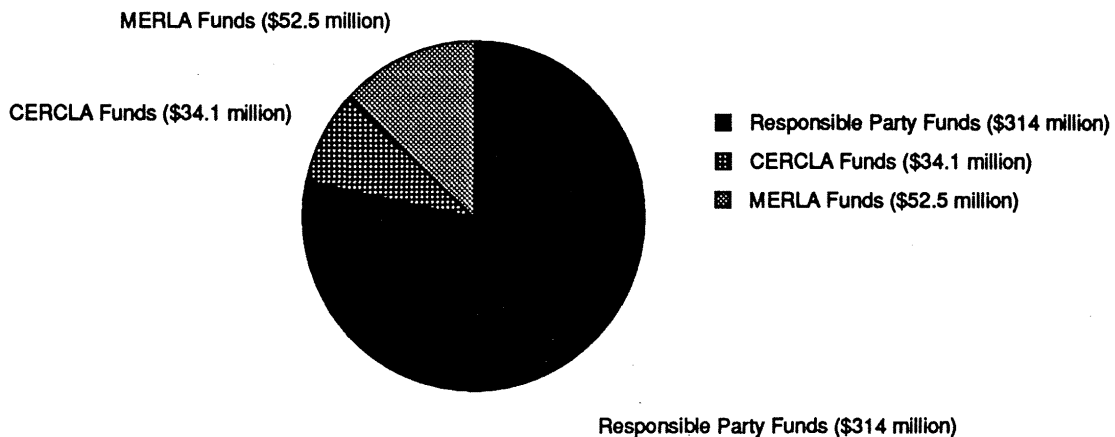


Figure 5: FY 83 - 94 Cumulative Site Expenditure Comparison



MPCA Significant Superfund Activities Undertaken in FY 94

Currently, there are 179 sites listed on the state's PLP for investigation and cleanup. Five were delisted in FY 94 following completion or transfer to another program for followup. Forty-three of the 179 sites also are included on the federal NPL. Cleanup actions at those 43 sites are eligible for federal funding if the responsible parties are unknown, unwilling or unable to do the work.

As of September 10, 1994, there were 142 sites in the cleanup process "pipeline" (i.e., in some stage of investigation or cleanup). Cleanup activities at 119 of these sites are being conducted by RPs. MERLA Fund or federal dollars have or are being spent at 23 sites. Of the 37 sites not yet in the pipeline, 23 are landfills that will be addressed through either the new Landfill Cleanup Program or permit and closure requirements. The sites where significant cleanup activities were undertaken are shown in Table 6.

Site Assessment

Over the past two years, MPCA has adopted a new procedure for entering sites onto CERCLIS. New site discoveries are reviewed to determine if the site could be eligible for the VIC Program. The MPCA sends a letter giving the owner or involved party 90 days to volunteer to investigate or clean up the site. If no response or a negative response is received, the site may be listed on CERCLIS and the site assessment process is initiated. Previously, the sites were automatically listed on CERCLIS without involved parties being given an opportunity to volunteer.

In FY 94, the Site Assessment Unit staff performed 20 site assessments (including PA/SI), added five sites to the federal CERCLIS database, and scored two sites for possible inclusion on the National Priority List. These assessment activities included an unusual underwater investigation and recovery effort at the Lake Superior Harbor Barrels site. In addition to recovering and sampling drums, the MPCA obtained further information on possible loads of munitions discovered on the lake's floor.

Key Points • • • • •

During FY 94:

- 96 hazardous waste spills and emergency actions received response;
- two emergencies were declared;
- significant cleanup activities were performed at 40 sites;
- Requests for Response Actions were issued at three sites;
- Records of Decision or Minnesota Decision Documents were developed at 12 sites; and
- 5 sites were delisted from the PLP due to cleanup completion or transfer to another program for followup.

Hazardous Waste Generator Loan Program

The 1993 legislative session established a hazardous waste generator revolving loan program to be managed by the MPCA Hazardous Waste Division. The hazardous waste generator loan account was established as a two-year revolving loan program, with dedicated funding in the amount of \$250,000 each year coming from the MERLA account. Low interest loans of at least \$1,000 but not exceeding \$50,000 have an interest rate of one percent less than the prime rate and are required to be repaid within five years. These loans are available from the MPCA for small businesses who are required to investigate and clean up contamination from hazardous waste at their business location. The program was established to assist small businesses in fulfilling their cleanup responsibilities and restoring the value of their business properties. The loan program is intended to help decrease the financial impact of hazardous waste cleanup on small companies.

Since its first infusion of \$250,000 in FY94, the program has awarded one loan in the amount of \$4,000 to Rudy's Auto Body Shop in northern Minnesota to conduct soil testing to determine further cleanup needs. The contaminants on site include typical solvents and petroleum products found on auto body sites.

Below-Ground Arsenic

The MPCA's arsenic removal program started in 1983 and was one of the first programs to be funded under MERLA. Since 1983, the MPCA has collected from above-ground stockpiles approximately 40,000 pounds of grasshopper bait and 15,000 pounds of technical grade arsenic. Approximately one million pounds of contaminated soil has been removed from 15 of 71 reported caches of buried arsenic. Fifty-six sites were determined not to pose a threat to public health or the environment. In 1994, the program concluded when cleanup was completed at sites near the cities of Ada, East Grand Forks, Foxhome, Gentilly, Moose Lake, Perley, and Stephen.

Emergency Spill Response/Emergency Actions

The Spills Unit of the Hazardous Waste Division deals with a wide variety of unexpected hazardous waste events. The Spills Team is on call 24 hours a day, to deal with spills and emergency incidents such as pipeline ruptures, chemical fires, train wrecks, and other unplanned chemical releases. Approximately 1,500 such emergency reports are received each year.

The Spills Team staff generally works with local public safety officials to stabilize immediate threats from a release. They also oversee the cleanups done by the parties responsible for a spill or incident. If an RP is unable or unwilling to respond, or if they are unknown, the Spills Team staff is authorized to spend MERLA or "Petrofund" resources to respond.

Table 6: Cleanup Action in FY 94

Site	County	Lead	Cleanup Action
Agate Lake	Cass	RP	Excavation of contam. soils, monitor ground water
Amdura (formerly Amhoist)	Ramsey	State	Excavation of contaminated soils
Anderson Windows	Washington	RP	Ground water pump-out
Arsenic (various below-ground sites)	Various	State	Excavation of contaminated soils
Ashland Refinery	Washington	RP	Ground water pump-out, extension of French drain
Ashland/Park Penta	Washington	RP	Installation of spray irrigation remedy
Bell Lumber and Pole	Ramsey	RP	DNAPL extraction
Burlington Northern Waite Park Car Shops	Stearns	RP	Soil stabilization, excavation, on-site containment
Control Data Printed Circuits	Hennepin	RP	Ground water pump-and-treat
Dakhue Sanitary Landfill	Dakota	State	Additional monitoring well installation
Electric Machinery	Stearns	RP	Ground water pump-and-treat
Faribault Coal Gas Manufacturing	Rice	RP	Excavation of coal tars
Gopher Oil - Thornton Street	Hennepin	RP	Water collection system
Highway 96 Dump	Ramsey	RP	Installed water system and source control
Honeywell Golden Valley	Hennepin	RP	Ground water pump-and-treat
Hutchinson Technology	McLeod	RP	Ground water pump-and-treat
Interplastic	Hennepin	RP	Ground water pump-out
Isanti-Rumple	Isanti	RP	In-situ vacuum-extraction system, carbon treatment
Isanti-Schumacher	Isanti	RP	Ground water pump-out
Koch Refining	Dakota	RP	Soil gas vacuum extraction
Kummer Landfill	Beltrami	State	Methane gas control design

Table 6
continued
next page

Table 6 continued: Cleanup Action in FY 94

Site	County	Lead	Cleanup Action
LaGrande Sanitary Landfill	Douglas	State	Landfill cover improvements
LeHillier/Mankato	Blue Earth	State	Ground water pumpout (RA)
McGuire Wire	Kanabec	State	Soil treatment and removal
McLaughlin Gormley King	Hennepin	RP	Ground water pump-out
Minnegasco	Hennepin	RP	Removal oxide box filler
Oak Grove Sanitary Landfill	Anoka	RP	Methane gas control
Reilly Tar and Chemical	Hennepin	RP	Ground water pump-and-treat
Rice Municipal Well #2	Benton	State	Construction of water treatment plant
Rochester Gas Manufacturing	Olmsted	RP	Excavation of coal tar
St. Louis River/Interlake Iron/Duluth Tar	St. Louis	State	Tar removal and incineration
St. Paul Park	Dakota	State	Ground water pump-and-treat
Schloff Chemical Company	Hennepin	State	Ground water pump-and-treat
Trio Solvents	Ramsey	RP	Ground water pump-out
Twin Cities Air Force Reserve Base	Hennepin	RP	Excavation of contaminated soils
Twin Cities Army Ammunition Plant	Ramsey	RP	Ground water pump-out (OU 2)
University of Minnesota - Rosemount	Dakota	RP	PCB soil cleanup
Waste Disposal Engineering	Anoka	RP	Methane gas control, ground water pump-out
Whittaker	Hennepin	RP	Ground water pump-and-treat
Winona Ground Water Contamination	Winona	State	Ground water pump-and-treat

In FY 94, \$394,212 in MERLA funds were used for hazardous waste spills and emergency response actions. During FY 94, the Spills Team handled 96 emergency cases which required either MERLA or Petrofund expenditures (Table 7). The 74 waste abandonment cases throughout the state included 248 barrels and 279 other containers and packages, which involved the dumping of hazardous substances such as used/waste oils, paint wastes, solvents or other unknown chemical substances. In the majority of cases, no RPs were discovered although efforts are underway to improve identification of RPs. Six cases are still being investigated as criminal abandonments.

The other instances where the Spills Team staff was involved included situations in which either petroleum or other toxic vapors seep into sewers, buildings or wells. Included were 22 situations where emergency actions were undertaken, which involved using mostly Petrofund resources. If the spills or incidents had created an immediate threat to public health or the environment, the emergency contractor would have been tasked to address the situation.

Some MERLA funds were used to reimburse local governments for their environmental emergency response costs. For example, the City of Anoka will be refunded money they spent responding to an emergency fire situation.

Declared Emergencies

In FY 94, there were two additional emergencies declared pursuant to MERLA by the MPCA Commissioner. The MPCA Commissioner declared these emergencies in order to make MERLA funds available to the MPCA staff to conduct response actions. These actions include: the expansion of the Long Prairie emergency city water hook-up as the contaminant plume had expanded; and provision of emergency bottled water to residents with contaminated wells in Little Fork.

Drinking Water

Since 1983, the MPCA has responded to 45 MERLA-funded emergencies involving contaminated drinking water supplies and has taken action to provide affected residences with alternate drinking water. In FY 94, the MPCA continues to supply safe drinking water to affected residence at Schloff Chemical, Perron Road, Red Hansen Well, and Long Prairie Ground Water Contamination sites. Permanent supplies are planned for each site and action toward that end has begun.



Table 7: Emergency and Spill Incidents Requiring MPCA Expenditures in FY 94

74	Abandonment cases, involving:
	• 248 30 - 55 gallon drums
	• 279 one pint to five gallon drums
22	Spills or other emergencies involving:
	• Contaminated drinking water wells
	• Discovery of petroleum products in sewer systems
	• Explosive or potentially toxic vapors in sewers or buildings
	• Truck or vehicle accident spills
	• Miscellaneous (hazardous storage, tank overfills, etc.)
96	Total Incidents

MPCA Legislative Summary

Landfill Cleanup Program Created

In FY 94, the Minnesota Legislature passed landmark legislation removing closed permitted municipal solid waste landfill sites from the state Superfund program. This measure promises to dramatically alter the way such sites are cleaned up.

While there has long been interest within the Legislature in removing landfills from Superfund, this interest peaked in 1994 because of lawsuits threatened against hundreds of small businesses and several municipalities at the Oak Grove Sanitary Landfill site in Anoka County. The Oak Grove Trust, a group of individuals and businesses named responsible for cleanup actions at the site, sent letters requesting contributions or threatening a third-party lawsuit.

The Minnesota and Anoka Chambers of Commerce strongly supported the landfill cleanup legislation, aware that two additional Anoka County landfill sites -- East Bethel Demolition Landfill and Waste Disposal Engineering Landfill -- were gearing up for similar legal actions. The claim, long supported by MPCA staff with experience in dealing with landfill owners/operators, businesses, cities and counties burdened by Superfund liability, was that landfills are a societal burden most appropriately handled by the state. The Legislature's concurrence with this perspective was affirmed with the passage of the Landfill Cleanup Program legislation in 1994. The program is funded through a combination of methods. (See the section on "MPCA Actions at Sanitary Landfills" for details about the provisions.)

Approximately 107 municipal solid waste landfills will be eligible for the Landfill Cleanup Program, and 49 of these are on the state Superfund list. The remaining PLP landfills are either open mixed municipal solid waste (MMSW) landfills or closed MMSW landfills deemed ineligible due to continuing industrial fill disposal. The bill does not address the estimated 1,200 dump sites that were never permitted by the state.

Key Points • • • • •

During the 1994 Legislative Session, the Minnesota Legislature:

- **created the Landfill Cleanup Program, the first of its kind in the nation;**
- **amended the Land Recycling Act; and**
- **authorized implementation of the Contamination Tax.**

Land Recycling Act Amendments

Once again the Legislature amended the Land Recycling Act to further enhance the ability of the VIC Program staff to provide liability assurances to voluntary parties. Specifically, under the amendments "No Association Determination Letters" may be issued solely for the purpose of securing loans and also may be issued if certain past actions taken on contaminated property do not constitute conduct associating the person with the release or threatened release. Protection from past actions is contingent upon completion of an environmentally beneficial response action approved by the MPCA Commissioner. The legislation also provided additional funding to hire VIC Program staff.

Contamination Tax

The Legislature closed a loophole in 1993 that allowed owners of contaminated land to avoid paying taxes on their properties, operating on the assumption that contaminated land is worthless. The Westling Manufacturing Superfund site owner obtained such a tax break when land containing an operating facility was devalued from \$974,000 to \$100, thereby reducing his property tax from \$70,000 to \$9. The new law assesses a contamination tax on such properties, and only allows tax reductions to 12.5, 25, or 50 percent of the former assessed rate when a work plan for investigation or cleanup is completed or a cleanup is underway. This provides an incentive to clean up the land, rather than an incentive to leave it contaminated and benefit from a reduced taxation rate. In many cases, assessors will consult the MPCA about the contamination present before making an assessment of property value. It is not clear what impact these requests will have on the MPCA's programs.



Amendments of the Land Recycling Act provide new legal assurances for securing loans on potentially contaminated property, such as this north Minneapolis VIC Program site.

MPCA Further Program Accomplishments

Role of Human Health and Ecological Risk Assessment in Decision-Making

Human health and ecological risk assessment are important tools used to assist decision makers in setting cleanup goals and selecting remedies at Superfund sites. A draft guidance document has been developed with screening procedures for human health and ecological risk assessment. The procedures provide information about the levels of contaminants and which remedial actions at a given site will be protective of human health and the environment. The intent is to gather information early in the process to enable staff to determine if cleanup may be necessary using a screening process, and then, upon availability of more extensive data, determine cleanup goals for the site.

The focus of the guidance is usage of streamlined procedures that provide risk-based values which can be used as tools in the site cleanup decision-making process. The procedures for human health risk assessment are able to take into account both multiple contaminants and multiple pathways which could affect human health. In human health risk assessment, there is only one species to consider; for ecological risk assessment there is a wide range of species, as well as communities and ecosystems to consider. The goal of ecological risk assessment is to identify to what levels contaminants need to be reduced in order to be protective of the environment. Ecological risk assessment is a new field with a relatively small amount of relevant data available to assist in the process when compared to human health. The procedures used for ecological assessment continue to evolve as we learn more and more about contaminant effects in ecosystems.

Innovative Remedial Technology

The MPCA strives for improved and less expensive site cleanups. To this end, MPCA promotes new cleanup techniques and technologies by augmenting EPA efforts in assessing promising treatment technologies. Treatability studies, intra-state cooperation, and EPA's Superfund Innovative Technology

Key Points • • • • •

Further Superfund accomplishments in FY 94 include:

- streamlining and improving capabilities to assess human health and ecological risk;
- developing innovative treatment technologies;
- taking enforcement actions, including RFRAs;
- providing outreach and education on issues involving the Superfund program and the cleanup of contaminated properties;
- co-sponsoring a conference on the VIC Program; and
- participating in international exchanges with France's cleanup program staff.

Evaluation Program provide additional sources of information and data. Superfund relies on these informational sources when promoting new techniques and technologies to other MPCA divisions and private industry.

New techniques and technologies evaluated or used during FY 94 include:

1. On-site portable soil sampler and gas chromatograph for analysis of polynuclear aromatic hydrocarbons at sites contaminated with fuel oil and coal processing wastes. The device is less expensive, more definitive and faster than laboratory-based or immunoassay methods.
2. Ultra-violet "B" (or UVB) technology for ground water treatment. This is a treatment for VOCs within a remedial well, and there is no pumping or discharge of contaminated water. The contaminated water is drawn into the lower part of a remedial well, cleaned within the well and released from the upper portion of the remedial well. This technique is effective in projects completed in Germany and should show cost savings over traditional pump-and-treat methods, as there would be no disposal costs for treated ground water. This technology currently is being implemented using state Superfund money at the Schloff Chemical Site.
3. Funnel-and-gate Technology, which consists of the intallation of a series of in-situ low conductivity (impermeable) walls, such as slurry walls or sheet piling known as "funnels" and porous reactive treatment walls known as "gates." Contaminated ground water is directed by the funnels to flow through the treatment wall (gate) which removes the contaminants from the ground water. This technology is under consideration for the Duluth Air Force Base and the Twin City Army Ammunition Plant sites.
4. A centrifugal device for removing petroleum hydrocarbons from soil. This technology is currently being used by Certified Remediation Systems, Inc. at the former Texaco Bulk Storage and Distribution Facility in St. Paul. This soil-washing technique mechanically separates petroleum hydrocarbons from soil particles smaller than 1/4 inch in diameter. The technology utilizes a patented spiral flow mixer to rapidly and efficiently build homogeneous high-density mixtures of contaminated soil and process water. The patented soil cleaning units separated the petroleum hydrocarbons from the soil with centrifugal force. The petroleum hydrocarbons separate from the soil adhere to the inside aliphatic surface of the soil cleaning units, and rise to the water surface where they are skimmed off. Dissolved petroleum in the water is sparged with small air inlets to clean the process water before it is recirculated through the system. The "cleaned" soil is extruded as a soil-water slurry. The results of the cleanup effort in St. Paul using this method are not yet available.

5. Using soil contaminated with polynuclear aromatic hydrocarbons as an aggregate supplement during the production of hot mix asphalt. This process is currently being utilized at the Rochester Coal Gas Manufacturing Site. This technology is ideally suited to this site because the contaminated soil meets Minnesota Department of Transportation's aggregate specifications for the fine-fraction required in the bituminous asphalt production process.

6. Innovative technology funds were used to study methane gas mechanics at Minnesota landfills. The study identifies the potential uses of landfill gas for gas recovery and energy conversion, and identifies criteria for implementation. Results from the study will be applied to future landfill remedies.

Enforcement Actions

During the past year, the MPCA undertook administrative enforcement actions by issuing three RFRAs (Table 8). Additionally, at the Schloff Chemical site, where the owner has no financial viability, MPCA issued a Determination that Action Will Not Be Taken in the Time and Manner Requested, which allows MPCA to access Fund resources to carry out investigations or cleanups.

The MPCA staff also issued 15 RODs and MDDs or amendments, which formalize in a summary document the remedial decision(s) for any site in the Superfund process. The RODs or MDDs are either issued by the MPCA staff and/or EPA depending on the type of site (PLP vs. NPL). Those decision documents or amendments issued in the past year are shown in Table 9.

Outreach Efforts and Education

The MPCA Public Information Office is responsible for conducting community relations activities at state and federal Superfund sites, but the information officers also work on educating the public about key issues in Superfund reauthorization, discussing general operation of the program, and interesting diverse communities in issues involving contaminated land.

In FY 94, the Public Information Office undertook several outreach activities not connected to specific Superfund sites:

- The MPCA and the Minnesota Department of Health presented a general overview of the health and environmental impacts of Superfund to 17 county community health services agencies in every county in which National Priority List sites are located. The activities were planned to strengthen ties between local government and state agencies responsible for Superfund.

Table 8: RFRAs Issued in FY 94

Site	Location	Purpose of RFRAs
Pickett SLF	Hubbard	Cleanup actions requested
St. Louis River/Interlake Iron	St. Louis	Cleanup of sediments operable unit
Washington County SLF	Washington	Continuing cleanup actions

Table 9: RODs and MDDs Issued in FY 94

Site Name	County	ROD or MDD Cleanup Decision
Agate Lake	Cass	ROD for monitoring wells, soil cleanup
Amdura	Ramsey	MDD for soil cleanup
Arrowhead	St. Louis	Amended ROD to include soil treatment method
Gopher Oil - Thornton Street	Hennepin	MDD for soil and ground water cleanup
Highway 96 Dump	Ramsey	MDD municipal water system, source control, ground water cleanup system
Interplastic	Hennepin	MDD for groundwater pump-out and soil vapor extraction
Koppers Coke	Ramsey	ROD for ground water pump-out
Long Prairie	Todd	Amended ROD
Olmsted County SLF	Olmsted	ROD for no action
Perham Arsenic	Otter Tail	ROD for ground water treatment
Rice Municipal Well #2	Benton	MDD for ground water pump-out
Ritari Post and Pole	Wadena	ROD for soil and ground water cleanup
Schloff Chemical	Hennepin	MDD for ground water treatment
South Andover	Anoka	Amended ROD to change soil cleanup remedy
Twin Cities Army Ammunition Plant	Ramsey	ROD ground water cleanup (OU 1)

- The Public Information Office, working with technical staff and the Anoka County Association of Realtors, made a major effort to provide information to real estate agents about the contaminated sites in their business areas. Several workshops were conducted to help real estate agents identify potential problems and to inform the agents about contamination in their communities.
- The MPCA provided an overview on environmental contamination and changes in Superfund to the Minneapolis City Council Environmental Committee and offered similar presentations to other cities that have been involved in Superfund lawsuits.

The World View: Educational Exchanges

In 1994, MPCA Superfund staff continued an exchange program with France's hazardous waste cleanup program. In addition, staff participated in several one-time round tables with environmental protection officials from Central and South American and Eastern European nations.

VIC Program Seminar

The MPCA, Minnesota Environmental Initiatives, and the Minnesota Groundwater Association co-sponsored a seminar on the VIC Program and the Land Recycling Act in January 1994. Approximately 350 environmental consultants, attorneys, developers, lenders, and others attended the one-day event, signalling strong interest in the voluntary cleanup approach. Similar seminars in Duluth, Rochester, and St. Cloud took place in September 1994 (FY 95).

Evaluating MPCA Program Effectiveness

In March 1991, the MPCA began a Total Quality Management program, seeking to evaluate and improve MPCA programs by developing quantifiable strategic indicators that would let the MPCA measure its impact. The Superfund program was one of several that initiated a two-year effort to identify strategic indicators. A September 15 legislative report, the Annual Performance Report, was presented to the Finance Committee and contained the performance indicator data. The MPCA's efforts focused on five areas: the environmental impact of programs, the level of compliance achieved by the regulated community, timeliness of agency actions, cost-effectiveness of MPCA programs, and stakeholder confidence in MPCA programs. Staff is in early stages of collecting and evaluating the data needed to measure success.

Superfund Program Indicators

The goals of the state Superfund program are to discover contaminated sites and reduce contamination of soil and ground water. Performance measures include:

- Number of potentially contaminated sites needing investigation;
- Number of gallons of ground water treated to remove contamination;
- Number of cubic yards of soil treated to remove contamination;
- Pounds of contaminants removed; and
- State Superfund sites delisted after cleanup.

VIC Program Indicators

The goal of the VIC Program is to work in partnership with voluntary parties to bring contaminated land back into productive use. Performance measures include:

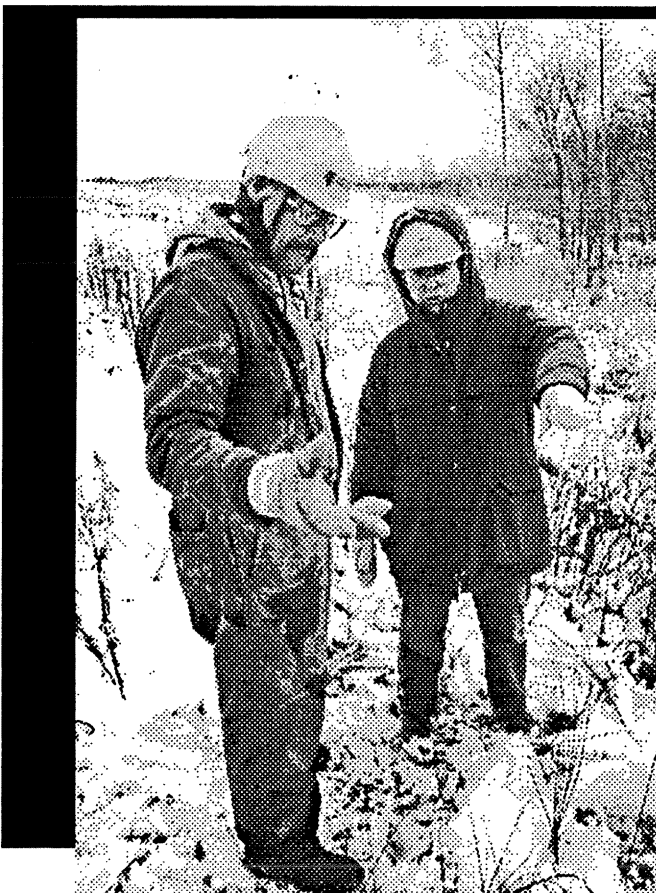
- Number of sites being voluntarily entered into the program;
- Number of acres of land "recycled" or available for re-use;
- Number of cubic yards of soil treated;
- Number of pounds of contaminants removed; and
- Number of gallons of ground water treated.

Landfill Cleanup Program Indicators

The goal of the Landfill Cleanup Program is to limit contamination of soil and ground water and closed landfills and increase resource recovery at appropriate landfill sites. Performance measures include:

- Reduction in number of gallons of leachate leaking to the ground water;
- Amount of methane gas controlled;
- Amount of electricity generated;
- Acres of land recovered for beneficial use; and
- Pounds of volatile organic compounds (VOCs) destroyed.

As part of the MPCA's strategic planning effort over the next two years, the MPCA will refine and supplement indicators to measure progress in environmental protection activities, work prioritization and risk-based decision making.



Strategic indicators established for the Landfill Cleanup Program will help staff determine how successful cleanup efforts are at sites such as the Korf Landfill, here investigated by an MPCA staff member and consultant.

MPCA Legal Actions Under MERLA

Cleanup and Cost-recovery Settlements

Negotiation and settlement of cleanup and cost-recovery obligations of responsible persons are important legal activities associated with the Superfund program. During the past year, significant settlement activity occurred in four cases, involving six Superfund sites in the state.

Arrowhead Refinery

The Arrowhead Refinery Superfund site, in Hermantown, St. Louis County, was operated as a waste oil re-refinery from 1961 to early 1977. Substantial contamination resulted from deposit of hazardous re-refinery wastes in a lagoon and on soils at the site. Environmental response actions began in the late 1970s, when the Coast Guard constructed a surface water diversion to prevent contaminant runoff, and EPA undertook investigations of the environmental impacts of the wastes. The Arrowhead site subsequently was listed as a state and federal Superfund site and became the subject of an EPA cost-recovery lawsuit. Hundreds of small contributors of waste oil from northeastern Minnesota and the surrounding area were brought into the lawsuit as third-party defendants by the responsible parties that EPA had sued.

While MPCA was not a party to the lawsuit, it was actively involved in remedy selection for the site. In order to resolve the lawsuit and assure completion of site cleanup, MPCA and the Attorney General's Office participated in negotiations with EPA and the responsible parties to reach a "global settlement" of these issues. To help break the deadlock between the parties, MPCA staff suggested a "mixed work" settlement in which EPA and MPCA would perform certain elements of the needed remedial work at government expense to reflect the large share of cleanup liability at the site that could not be attributed to any known generator.

After extensive negotiations among the responsible party group, MPCA and Attorney General staff, EPA, and U.S. Justice Department officials, an agreement in principle was concluded in the spring of 1994. The settlement provides for "mixed work" in order to more fairly allocate the cost of the \$30 million dollar cleanup among the parties. The settlement will be finalized when sufficient number of parties sign the agreement and it is approved by the federal district court. A final settlement document should be approved by the court in early 1995 and responsible parties should begin cleanup of the sludge lagoon soon thereafter. EPA will take responsibility for soil

Key Points • • • • •

In FY 94, the Minnesota Attorney General's Office:

- helped negotiate Superfund cost-recovery settlements;
- worked on enforcement matters;
- established language for the first "Declaration of Restrictions" on a site; and
- provided the state perspective to the U.S. Congress on CERCLA Reauthorization.

cleanup and off-site disposal of treated sludge, and MPCA will operate the ground water containment system at the site.

Rochester Gas Manufacturing Site

The Rochester Gas Manufacturing site was formerly used to manufacture coal gas for heating and lighting purposes in the City of Rochester, and has been the subject of investigation and other actions under the state Superfund Program since 1983. Investigations showed that soil and ground water was contaminated with volatile organic compounds and semivolatile compounds. In the Spring of 1993, MPCA entered into negotiations with Interstate Power Company, Peoples Natural Gas Company, and the City of Rochester regarding final response actions to be taken at the site and a Consent Order was executed by the two utility companies in July 1994. Under the terms of the settlement, the two utility companies will take the following response actions at the site: 1) excavate approximately 37,000 cubic yards (a depth of 40 feet) of contaminated soil, 2) dewater inside and outside the excavation area to remove contaminated ground water and facilitate removal of contaminated soil, and 3) monitor ground water for up to five years after the soils are excavated. Implementation of the response actions is fully underway and completion is expected by May of 1995.

Evans Products

The MPCA, EPA and Evans Asset Holding Company (EAHC) executed a three-party Consent Decree in the spring of 1994, settling cost recovery claims against EAHC by EPA and MPCA for three landfill Superfund sites in Minnesota and eight other sites in other states. EAHC is a company organized to hold the remaining assets from the bankruptcy of a major conglomerate corporation (Evans Products) whose subsidiary in Minnesota was a responsible party at the East Bethel, Oak Grove and Waste Disposal Engineering Landfill Superfund sites. Under the Consent Decree EAHC will pay \$220,000 to MPCA in reimbursement for the Agency's administrative and legal costs incurred at the three sites. Payment is due in full 30 days after the court approves the decree. The decree was lodged with the federal court where the Evans Products bankruptcy action was venued in the Southern District of Florida.

Burlington Northern Nemadji River Derailment

On June 30, 1992 a train operated by Burlington Northern Railroad derailed crossing the Nemadji River outside of Superior Wisconsin, releasing toxic gases. These gases threatened the populace of the City of Duluth, necessitating the evacuation of portions of the City and

the surrounding area. The state incurred response costs associated with the evacuation either in the form of lost time of state employees or actual services provided. The Attorney General's Office and Burlington Northern have been working to resolve the State's cost-recovery claim without resorting to litigation. The Attorney General's Office coordinated documentation of the costs incurred by approximately twenty state agencies. A settlement in principle has been reached by the parties and negotiations on the details of the settlement should be concluded soon.

Insurance Cases Related to Cleanup Cost Recovery

Schloff Chemical and Supply Co. v. Allied Mutual Ins. Co.

This case involved insurance claims for costs incurred to clean up ground water contaminated by releases of dry-cleaning chemicals from a bulk distribution facility. The insurance policies in this case contained the qualified pollution exclusion limiting pollution coverage to occurrences arising out of a "sudden and accidental" release or discharge. The State District Court found that the releases of dry-cleaning chemicals from the Schloff facility were sudden and accidental and that Schloff's insurance policies therefore covered these cleanup costs. In April 1994, the decision was affirmed by the Minnesota Court of Appeals on all coverage issues. In June 1994, review was granted by the Minnesota Supreme Court and a decision is expected in early 1995. The MPCA and Attorney General's Office filed joint amicus briefs supporting the Schloff insurance claims in both appellate courts. The MPCA continues to take remedial action at the Schloff Superfund site, for which it expects reimbursement from Schloff's insurance proceeds if the lower court rulings are affirmed.

Kenneth Anderson, as Personal Representative of the Estate of Fred W. Hedberg; et al. v. Minnesota Insurance Guaranty Association, et al.

In this case, insurance policyholders are suing their insurance carriers in State District Court for coverage for environmental cleanup costs incurred to clean up an unpermitted dump site. In July 1994, the Minnesota Court of Appeals issued an opinion allowing the policyholders to add an additional claim to their lawsuit. The new claim will allow the policyholders to argue that the insurance carriers should not be allowed to enforce the "sudden and accidental" limitation to the pollution coverage in their policies because the carriers misled Minnesota insurance regulators when that limitation was added to liability insurance policies in the early 1970s. The policyholders contend that, at the same time insurance carriers were describing the qualified pollution exclusion to regulators as merely a clarification of earlier coverage

terms, they acknowledged it as a significant change in coverage in internal insurance industry communications.

If this argument is successful, the insurance carriers would be "equitably estopped" from enforcing the qualified pollution exclusion as a way to deny coverage for the policyholder's cleanup costs for the dump. The insurance carriers have petitioned for review by the State Supreme Court. The Supreme Court has granted requests to file separate amicus briefs by the Commissioner of the MPCA (based on the Commissioner's duties and responsibilities under the new Landfill Cleanup Law, Minn. Laws 1994, ch. 639), and by the Commissioner of Commerce (based upon the Commissioner's authority in the field of insurance regulation). The theory of equitable estoppel was recently applied in the insurance regulatory context by the New Jersey Supreme Court called *Morton International, Inc., v. General Accident Insurance Company of America*, 629 A.2d 831 (1993), 1993 WL 273969, *31(N.J.). The policyholders seek a similar ruling under Minnesota law.

Board of Regents of the University of Minnesota, et al. v. Royal Insurance Company et al.

In this case, decided in June 1994, the Minnesota Supreme Court for the first time has issued an opinion on the meaning of the "sudden and accidental" exception to the qualified pollution exclusion in general liability insurance policies. The case involved claims by the University of Minnesota for release of asbestos fibers into building interiors. The Supreme Court found that the term "sudden" is used in liability insurance policies "to indicate the opposite of gradual," and that the continuous release of asbestos into interior airspace of buildings, or the leakage or seepage of pollutants into soil or ground water, is not "sudden" as contemplated in the "sudden and accidental" insurance language.

Enforcement Matters

Noncompliance with Federal Facility Agreement at Naval Industrial Reserve Ordnance Plant

In 1991, the MPCA, EPA, and U.S. Navy entered into a Federal Facility Agreement (FFA) for cleanup of solvent-contaminated soils and ground water at the Navy's munitions plant near the Mississippi River in Fridley. In June 1994, pursuant to the FFA, the MPCA demanded that EPA assess a penalty against the Navy. The EPA followed through with a stipulated penalty due to the Navy's noncompliance with the terms of the FFA, including repeated failures to submit routine data, develop plans to respond to excess air emissions, and undertake alternative measures for containing ground water contamination. The Navy has invoked the dispute provisions of the FFA over the penalty assessment, but continues to move toward a settlement.

Other Legal Issues: Institutional Controls at Cleaned up Sites

In some Superfund cleanups, one element of response action is containment of identified hazardous substances on site in a manner that is protective of public health and the environment. When containment is used as part of a response action, it may be important to impose legally enforceable restrictions on the future use of the site to assure that the containment remains in place and is not disturbed. In the Superfund program, these types of restrictions are sometimes referred to as "institutional controls." In March 1994, the owners of the Hopkins-Allied Chemical Superfund site in the City of Minneapolis recorded the first "Declaration of Restrictions" to be applied to a state Superfund site. The restrictions were worked out between and owner and the MPCA to prevent disturbance of low-level contaminated soils that were allowed to be covered and left in place as part of the cleanup of the site.

MPCA Voluntary Investigation and Cleanup Program

Award Brings National Recognition

The Voluntary Investigation and Cleanup Program has become one of the most successful in the nation in cleaning up contaminated land. The efforts of the VIC Program have been recognized by the Ford Foundation and the John F. Kennedy School of Government at Harvard University as one of the most innovative in government. In September 1994 (FY 95), the VIC Program won one of ten Innovations in State and Local Government Awards. The Innovations award, considered to be among the nation's most prestigious public service awards, recognizes novel efforts that are successful in addressing public needs. The VIC Program and nine other award-winners were selected from a pool of nearly 1,300 applications from around the nation.

The VIC Program will receive \$100,000, part of which must be used to provide education about the MPCA's creative approach to other state governments and other audiences. In addition, half of the funds will create a grant program to be used to enable nonprofit organizations to conduct investigations of sites for continued use and development.

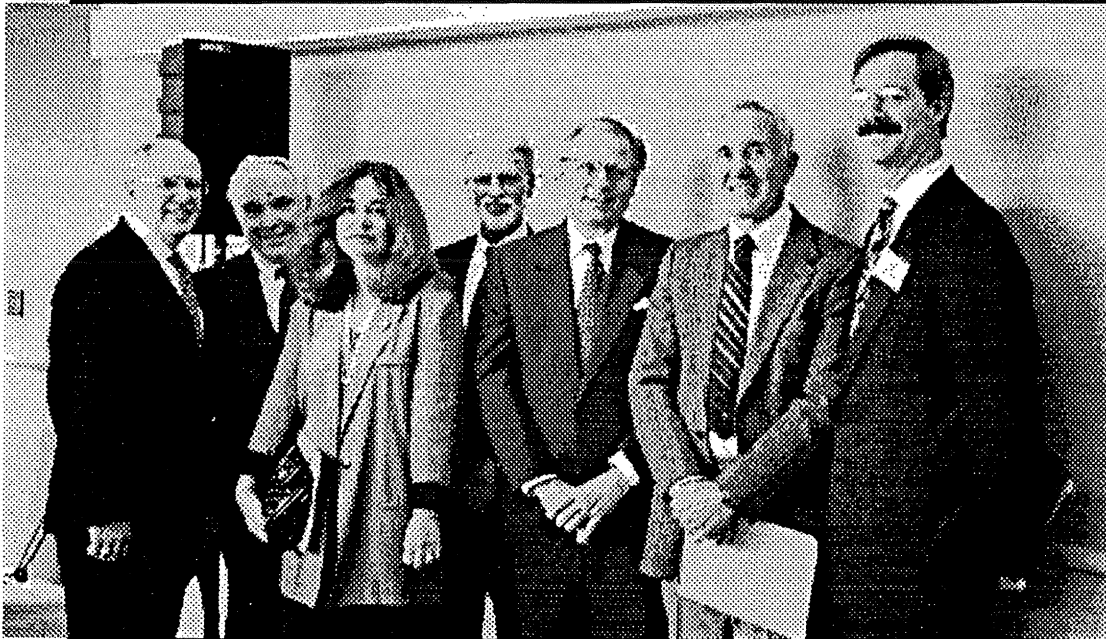
Background

The MPCA Property Transfer Program was created by the Legislature as part of the 1988 Waste Management Act Amendments. The Property Transfer Program was created to respond to requests for information and technical assistance from the MPCA by business and industry involved with real-estate transactions. MERLA imposes liability on parties who knew or reasonably should have known that a hazardous substance, pollutant, or contaminant was located on the property at the time that right, title, or interest in the property was acquired. For this reason, many of the parties requesting technical assistance were also interested in obtaining administrative assurances and Superfund liability protection from the MPCA.

Key Points • • • • •

Accomplishments during FY 94 include:

- expedited site investigation and cleanup;
- one interim and eight final cleanup plans approved;
- 21 "no cleanup required" letters issued;
- eight "no association determinations" granted;
- 95.6 percent of state costs reimbursed by individuals requesting VIC Program assistance;
- 418 investigations overseen to date;
- issued two Certificates of Completion;
- winner of \$100,000 Innovations in State and Local Government Award (in FY 95); and
- cosponsored a conference on land recycling.



Park Nicollet Medical Center hosted a news conference celebrating the VIC Program "Innovations" award. Attending dignitaries included (from left to right) Attorney General Hubert H. Humphrey, III; MPCA Commissioner Chuck Williams; St. Louis Park City Council Member Gail Dorfman; Mayor Pro-tem S. Allen Friedman; Governor Arne H. Carlson; City Council Member George Haun; and City Manager Charles Meyer.

Prior to the legislative action that created the Property Transfer Program, it was difficult for a voluntary party to get assistance from the MPCA staff within the time necessary to facilitate property transactions. Most of these contaminated sites were not a priority for MPCA staff time, which, by law, was dedicated to sites on existing Superfund priority lists. The 1988 legislation allowed the MPCA staff to respond to requests for file information and technical assistance. In 1993, the technical assistance portion of the Property Transfer Program changed its name to the VIC Program. The name change reflects the availability of the program to any voluntary parties wishing to investigate and, if necessary, clean up the soil and ground water at a property, not just those voluntary parties involved in a property transaction.

While response actions under the VIC Program and Superfund must meet the same standard of being protective of human health and the environment, the voluntary process enhances how quickly a site moves to cleanup, primarily due to the cooperation exhibited by voluntary parties and the use of MPCA-developed guidance documents. The MPCA staff has found that when a voluntary party is motivated to clean up property for purposes of expansion,

refinancing or resale, a cleanup can happen quickly. As indicated earlier, a number of parties are also motivated to voluntarily conduct investigations and cleanups to avoid having the agency take administrative and enforcement actions, such as placing the site on CERCLIS or naming them as responsible parties through the issuance of a RFRA.

Staff in two sections of the MPCA's Ground Water and Solid Waste Division are currently involved in providing property transfer information and assistance. Staff in the Program Development Section conduct file evaluations, and staff in the Site Response Section's VIC Unit provide technical assistance and legal assurances.

Land Recycling Act and Amendments

To further encourage voluntary action to investigate and clean up contaminated property, the Land Recycling Act was passed by the 1992 Legislature. The broad purpose of the Land Recycling Act is to encourage voluntary action to investigate and clean up property, and in the process to encourage reuse and development of otherwise underutilized contaminated property. It also offers powerful incentives to owners, prospective buyers and lending institutions to use the MPCA staff resources available to them on request. The Land Recycling Act also offers relief from Superfund cleanup liability, which is often of concern to prospective real estate buyers, developers and lenders. The Land Recycling Act was amended in 1993 and 1994 to provide additional protection from cleanup liability to mortgagees and purchasers of contaminated property.

VIC Program Effort

The key function of the VIC Program is to assist a voluntary party in conducting an adequate site investigation, to provide MPCA review of the completeness of such investigations and to approve cleanup plans to address identified pollution. By obtaining MPCA approval of investigation and cleanup plans, landowners, lenders, and potential developers can be confident that they know the extent of any environmental problem on the property and can calculate the costs of cleanup measures needed to satisfy MPCA requirements.

The VIC Program staff has developed a series of guidance documents intended to provide voluntary parties with clear and concise direction on how to conduct investigation and cleanup activities. These documents provide the voluntary parties with an up-to-date account of changes in the areas of technology, legislation, and program direction. The 19 guidance documents assist voluntary parties by identifying program objectives, expectations, and eligibility requirements by providing technical direction on how and where to streamline the investigation and cleanup process and by summarizing the liability assurances provided by the VIC Program.

The VIC Program, under the authority of the Land Recycling Act, offers a menu of written assurances to reduce or eliminate future state Superfund liability. These written assurance include:

- Technical Assistance Approval Letters,
- No Action Letters or Agreements,
- No Association Determination Letters,
- Off-site Source Determination Letters or Agreements and,
- Certificates of Completion.

Figure 6 depicts the types of sites in the VIC Program. Manufacturing sites are the most common type of sites on the list. Figure 7 shows the status of all sites in the VIC Program. In addition, a more detailed status report on each site can be found in Appendix 2 to this report.

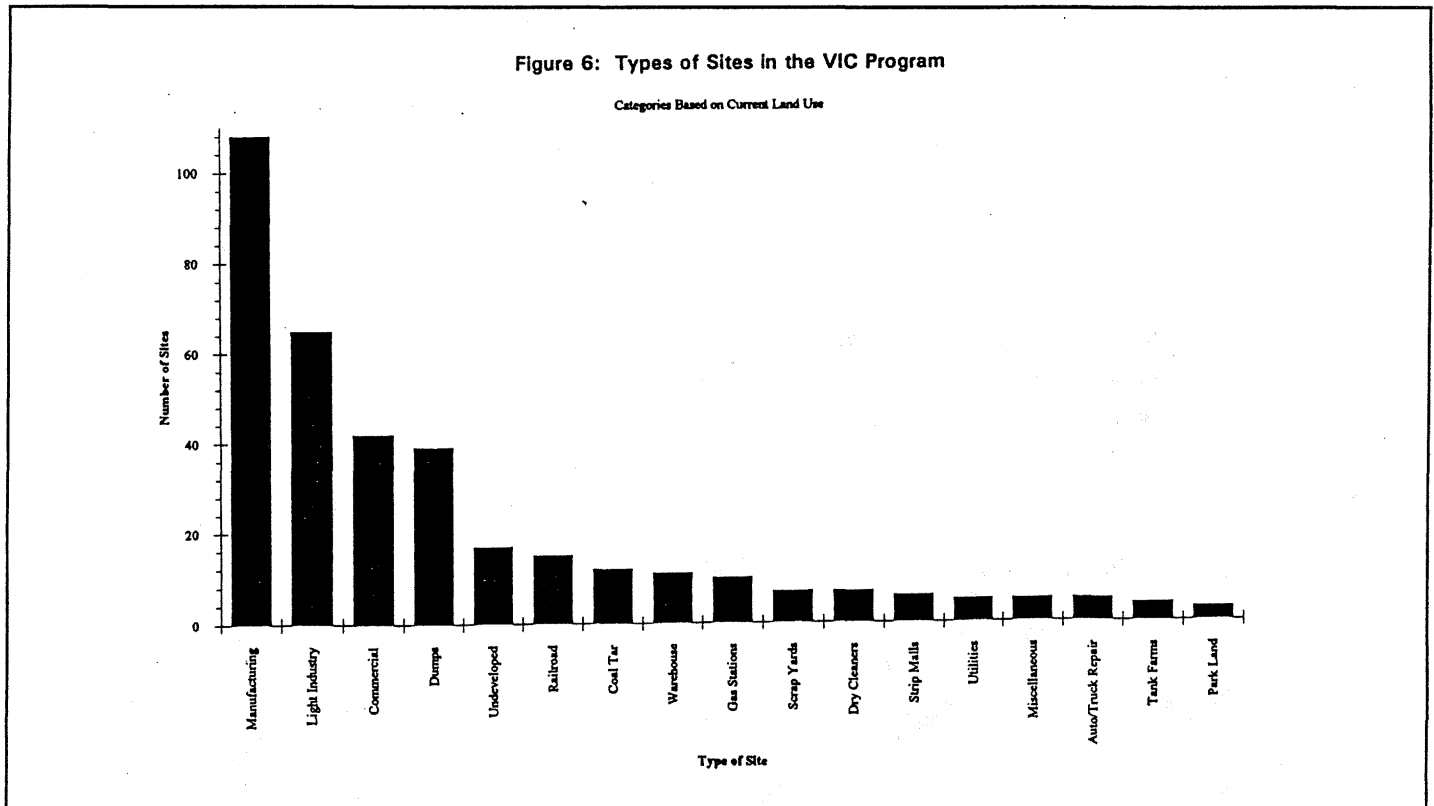
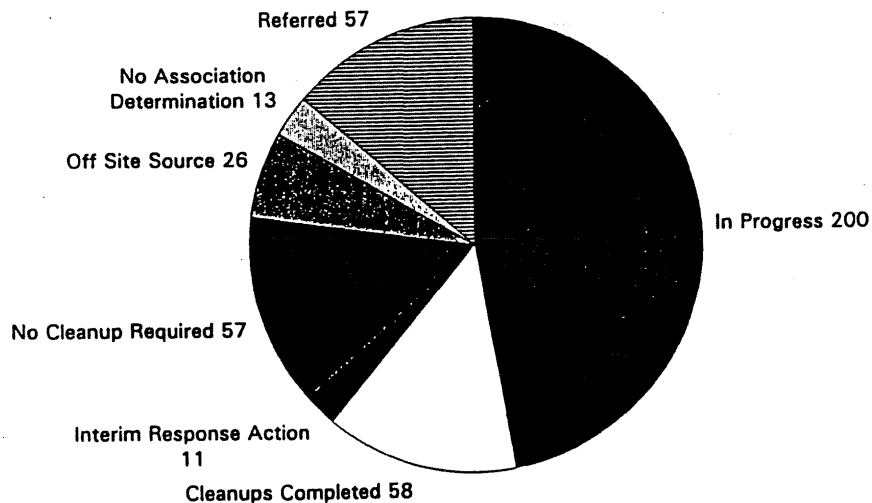


Figure 7: Status of Sites in the VIC Program



Cooperation among voluntary parties, their consultants, and VIC Program staff helps move sites quickly into cleanup

Major Site-related Accomplishments (Cumulative)

The VIC Program has achieved the following to date:

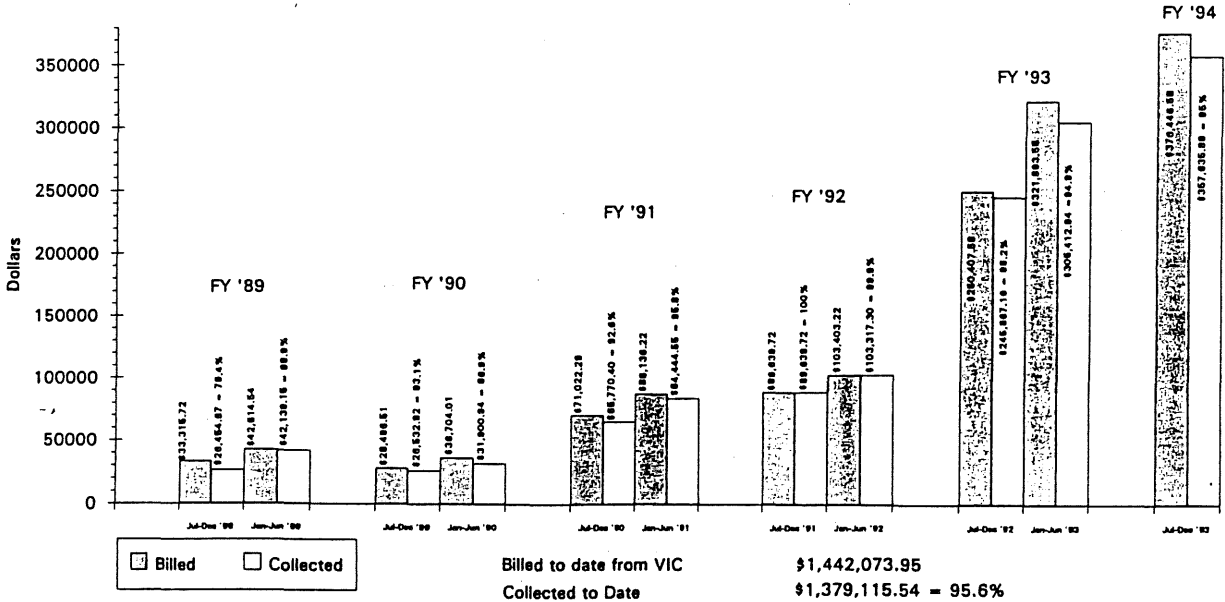
- issued cleanup approvals at 69 sites;
- revised and expanded a series of written guidance documents to assist users of the program;
- provided oversight for 418 investigations;
- approved 11 interim response actions;
- approved 58 final cleanup plans;
- issued 57 No Action Letters;
- issued 26 Off-site Source Determination Letters;
- issued 13 No Association Determination Letters providing assurances that future activities at a site will not associate the volunteer with a known release;
- issued two Certificates of Completion;
- assisted in putting back into service approximately 2,000 acres of industrial and commercial property; and
- identified and referred 57 contaminated sites to other appropriate MPCA programs and staff for follow-up.

Reimbursements for VIC Program Assistance

Figure 8 shows the technical assistance reimbursements to the Fund at six-month intervals since the inception of the program in 1988. To date 95.6 percent or \$1,442,073.95 of the money requested has been recovered from the users while 4.4 percent or \$62,958.51 remains unpaid. This amount is owed by various individuals and businesses, many of whom either subsequently went bankrupt or were potential buyers and developers who cannot be located. The MPCA staff continues to pursue all delinquent accounts.

The figure illustrates that the VIC Program has been quite successful at recovering staff costs from voluntary parties. Moreover, collection efforts are ongoing, and staff anticipates greater than 98 percent cost recovery for most billing periods. However, staff costs have increased measurably since the enactment of the Land Recycling Act. These increased costs are attributable to a number of factors, most significantly, start-up costs associated with a rapidly expanding program and the growing demand on staff to educate a large number of private and public sector clients. According to VIC Program records, at least 15 percent of staff time is spent on education and outreach activities. MPCA staff believes these activities are essential. However, time spent conducting these activities becomes an indirect cost passed on to all active voluntary parties. The MPCA staff continues to make a concerted effort to develop and manage the VIC Program so all parties, including small businesses and local units of government, can utilize the types of assistance provided.

Figure 8: Reimbursements for the VIC Program



Voluntary Cleanup Pilot Project

EPA's Superfund Accelerated Cleanup Model (SACM), reported in last year's annual report, led to a pilot project under a Cooperative Agreement with EPA. This pilot project began activities in February 1994. Under the cooperative agreement, EPA awarded \$255,000 to the MPCA to establish three positions in the VIC Unit to address a number of CERCLIS sites for which the Superfund scoring process was still pending. This was the nation's first EPA-funded voluntary cleanup pilot.

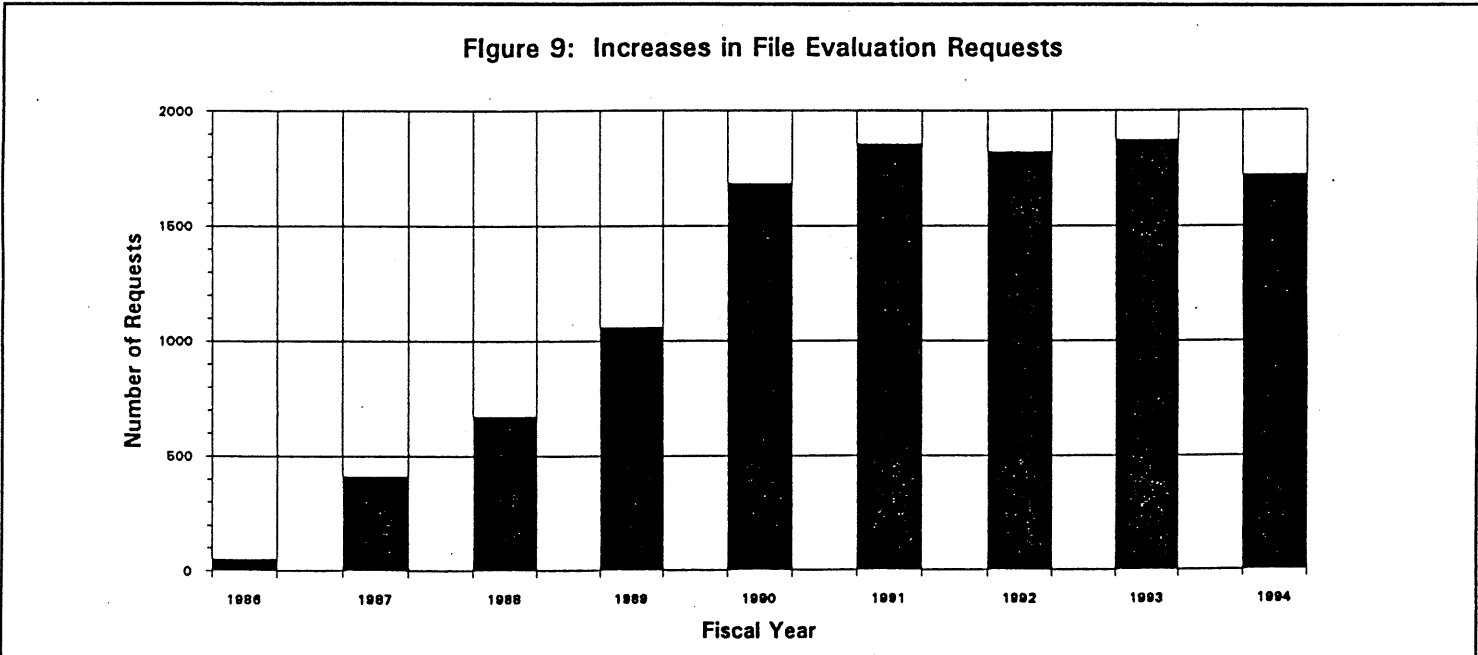
In February, letters were sent to potentially responsible parties at 50 CERCLIS-listed sites. These letters explained the VIC Program and the potential advantages presented by participating, versus having EPA and the state complete the scoring process. Parties were given 30 days to respond to the letter. The MPCA had anticipated between 20 and 25 participants. Eventually, 30 parties agreed to participate. Since then, two voluntary parties have terminated their participation, but two additional sites not on the original list of 50 but fitting the criteria of the Cooperative Agreement application have had voluntary parties enter the pilot project.

MPCA Property Transfer File Evaluation Program

The File Evaluation Program completed 1,755 file evaluations during FY 94. A routine file evaluation includes a review of various lists, maps or databases that identify sites at or within one mile of the property being investigated. These include the PLP, CERCLIS, Resource Conservation and Recovery Act (RCRA) Enforcement Log, RCRA Permits List, 1980 Metropolitan Area Waste Disposal Site Inventory, Underground Storage Tank Information System Data and VIC Program sites.

Key Points
 The Property Transfer File Evaluation Program performed 1,755 file evaluations in FY 94.

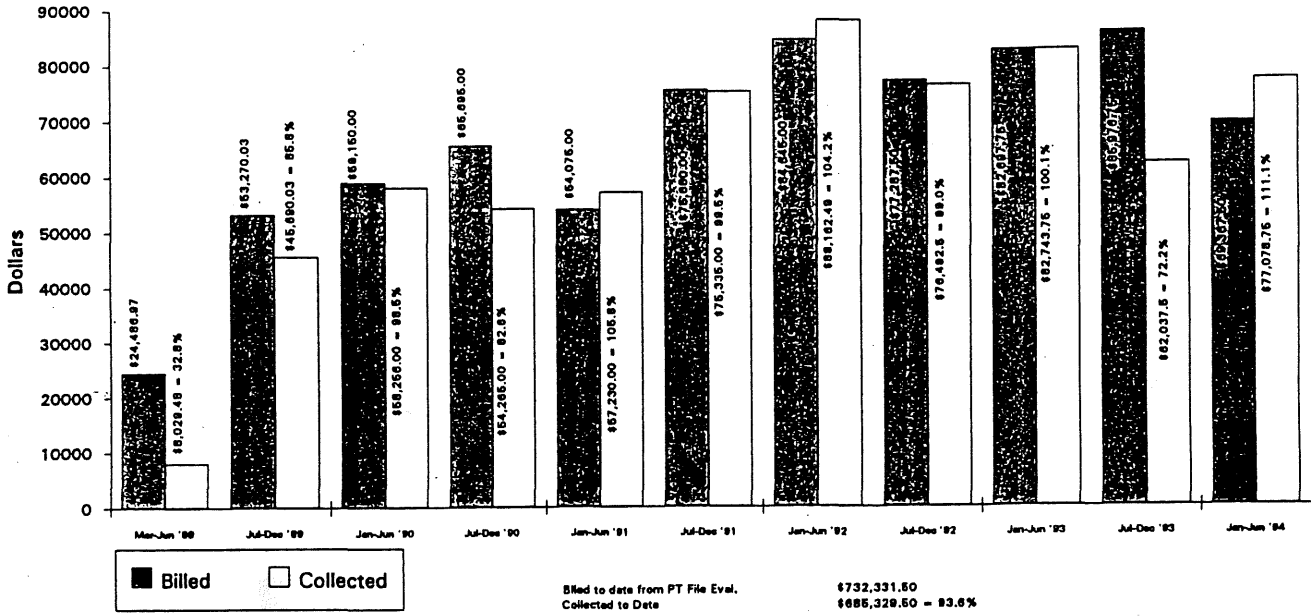
Figure 9 shows the number of requests for file evaluations received by the MPCA staff. In 1986, Congress passed SARA, which increased the number of file search requests requested from MPCA.



Reimbursements for File Evaluations

Figure 10 shows the reimbursement amounts collected by the file evaluation staff since the beginning of the program. The reimbursement rate is 93.6 percent. Such a high reimbursement rate reflects the fact that many of the people using the service are repeat users such as attorneys, bankers and consultants acting on behalf of their clients.

Figure 10: Reimbursements for File Requests



MPCA Actions at Sanitary Landfills

Fiscal year 1994 served as a transition year for Superfund landfill cleanup efforts. Superfund work continued on several sites, but the majority of activity was geared toward assessment of closed sites (as mandated by the 1992 - 93 Legislatures) and preparation for the implementation of the Landfill Cleanup Program, which was passed by the 1994 Legislature.

As of last fiscal year, there were 62 MMSW sanitary landfills on the state Superfund list, 11 of which are also on the federal Superfund list. At this time, it is expected that 49 of these state Superfund landfills, including 10 NPL sites, will be addressed through the new Landfill Cleanup Program. The remaining 13 sites open to MMSW or industrial waste will be handled via permit and solid waste rule requirements, with the exception of the Pine Bend Landfill, a NPL site which is in transition between Superfund and permit requirements.

Landfill Cleanup Program Description

Beginning in June 1994, Minnesota undertook a new program, the first of its kind in the nation, for cleaning up MMSW landfills that are no longer accepting waste. Enacted during the past session, the Landfill Cleanup Program is a long-term program intended to cover most or all of the state-permitted landfills that were closed to MMSW before April 9, 1994. The Legislature passed the law to serve as an alternative to Superfund, and designed it to avoid the protracted legal costs of identifying responsible parties at landfill sites.

In broad scope, the program allows the MPCA to carry out the necessary cleanup and long-term care at closed landfills by giving the state the authority to assume responsibility for the landfills after all permit conditions at the time of a given landfill's closure are fulfilled. The funding that makes this possible will come from a higher and broader solid waste assessment fee, \$90 million in bonding to be issued over 10 years, financial assurance accounts remaining for any of the landfills entering the program, and a transfer of the balance of the Metropolitan Landfill Contingency Action Trust Fund at the end of FY 94.

Before the state assumes responsibility for response actions and postclosure care, landfill owners and operators will need to fulfill specific compliance duties. These include: closure to standards in effect when the landfills stopped accepting waste; continuation of post-closure care and response actions up to the point of MPCA responsibility; provision of insurance records; waiver of cost-contribution claims against others; cooperation with the MPCA; and acceptance of land-use restrictions. Landfills that closed recently also will have to satisfy the duties of financial assurance funding.

In addition to the points mentioned above, landfills that are subject to a MPCA Consent Order or an EPA unilateral order also will need to receive a sign-off from the state and/or federal government that the required remedies are working as designed, before acceptance into the cleanup program. The bill allows owners to offer the landfill property to the state as part of the set of agreements to be negotiated. The state may accept the site if the transfer is in the best interest of the state.

Beginning in October 1995, the state will offer reimbursement to owners, operators, and other responsible parties for their past costs for environmental studies and cleanup at eligible landfills where the applicants have met the statutory conditions (i.e., who have ceased pursuing others for contribution of costs after June 15, 1994). The parties' legal and administrative costs are not reimbursable. Private owner/operators are subject to a "deductible" amount of \$750,000; public owner/operators have a deductible of \$250,000, up to a maximum of \$750,000 for three or more local governments.

Although the program is intended for landfills no longer accepting waste for disposal, there is a provision that allows closed MMSW facilities with demo operation still ongoing to remain open until May 1, 1995 in order to allow time for communities and private operators to develop alternative disposal locations for demolition debris.

After the state has determined that all requirements previously identified for each facility have been met and the MPCA issues a notice of compliance, the state will take over all remaining cleanup work, and the expenses of operating and maintaining the site. The state's work schedule at these landfills will follow a priority list, the first version of which is due January 1995. Any legal actions for cost recovery by the state would be limited to recovery on assigned insurance rights and for the proportional costs attributable to illegal disposal of hazardous waste.

Over the coming years, the state will be investigating the possibility of pursuing insurance claims against insurers who would otherwise have been liable for landfill cleanup costs under the Superfund approach. The Attorney General cannot pursue such claims until 1997. The Legislature will be refining a "voluntary buyout" approach that is intended to offer a statewide release of an insurer's liability at landfills in the cleanup program, thereby reducing contentious litigation.

By accepting a broad societal responsibility for the environmental costs at closed MMSW landfills, combined with MPCA control over the work to be done, the program promises major improvements over the Superfund approach. The bill should lead to more rapid cleanups, lower total costs, and avoidance of expensive lawsuits about who should pay for cleanup and how much each party should pay. By one estimate, the program's total expense should be only one-half of the estimated \$800 million that landfills would have cost under the Superfund approach.

Assessment at Closed landfills

The Legislature allocated \$2.2 million for landfill assessment (\$1.2 million in FY 93 and \$1 million in FY 94). The mandate from the Legislature was to assess the conditions at landfills with regard to human health and environmental impacts and make recommendations on the cleanup actions needed.

The money allocated for assessment was used in FY 94 to install ground-water monitoring wells, sample and analyze ground water, drill into solid waste and carry out cover borings, sample soil, complete topographic surveys and complete surveys of methane gas around sites. More specific information can be found in the MPCA report to the Legislature on the use of landfill assessment funds, to be submitted later in 1994.

Superfund Accomplishments

Significant work was undertaken at several sites. Cap improvements were made at the La Grande Sanitary Landfill. At the Kummer Landfill, studies were done to explore the extent of lateral movement of landfill gases off site and evaluate how best to control the migration of landfill gas. Innovative technology funds were used to study methane gas mechanics and the potential for energy recovery.

A "no action" Record of Decision was completed for Olmsted County Sanitary Landfill. The design for a cover at the Pickett Landfill was completed. And a Request for Response Action was issued at Pickett to name additional responsible parties. Monitoring improvements were made at the Dakhue Sanitary Landfill. Design work was initiated at the Chisago-Isanti Landfill to identify potential application of bioremediation to contaminated ground water.

At the Kummer Landfill, University of Minnesota staff conducted a bioremediation study. The study identified a viable natural bacteria population that was efficiently reducing the contaminants of concern. The study also identified bioremediation techniques that could be employed to reduce ground-water contamination.

MPCA Community Relations in Superfund

The MPCA Public Information Office (PIO) responds to an estimated 300 calls and 50 information requests a month about the state and federal Superfund programs; coordinates public meetings; responds to news media inquiries; writes fact sheets, update letters, or news releases; and produces educational information about the Superfund program. In addition to this routine workload, information officers have faced additional challenges:

- During the debate in the U.S. Congress on CERCLA reauthorization, extra education and information efforts on the complexities of the law were needed. A constant barrage of critical press on the federal Superfund program has required a constant effort on the behalf of information officers to delineate the benefits of CERCLA and the differences between the state and federal programs.
- Pioneering changes in the Minnesota Superfund program, including the move toward voluntary cleanup (the VIC Program) and the removal of MMSW landfills from the Superfund process (the Landfill Cleanup Program), have required substantial support from agency communicators. Packages of information for both innovative programs were prepared by information officers in 1994. Both programs required assistance with a series of seminars in 1994.
- Community advisory committees or community work groups at a handful of Minnesota sites with more intensive community needs (Gopher Oil - Thornton Street, Burlington Northern Waite Park Car Shops, and Minnegasco) have been beneficial to communities. However, these groups are time-and-labor intensive, and have taxed information office resources.
- Federal funding for the Minnesota Superfund Quarterly, the MPCA's main vehicle for reaching many of our important customers, was eliminated in FY 94. A temporary substitution, Superfund Bulletin, has been provided to clients when key information must be communicated.

Key Points • • • • •

In FY 94, MPCA's public information efforts:

- provided information and opportunities for public participation at 179 sites;
- responded, on a monthly basis, to an estimated 300 phone calls and 50 information requests;
- face several challenges in meeting public participation needs at pre-remedial, Superfund, Landfill Cleanup Program, and VIC Program sites.

• Extensive litigation at federal Superfund sites including Oak Grove Sanitary Landfill, Waste Disposal Engineering Landfill, Arrowhead Refining, and even the Junkers Landfill in Wisconsin has brought an unprecedented number of requests for speakers who can explain the basics of Superfund to nonlegal, nontechnical audiences.

• With a greater agency-wide emphasis on outreach, information officers have been encouraged to increase these activities, to "tell the Superfund story." Information officers performed a series of speaking engagements with county Community Health Services agencies in counties with NPL sites, several local real-estate groups, and business organizations in FY 94. However, these outreach activities sometimes detracted from site-specific community relations needs.

The proposed federal Superfund Reform Act will require more public participation than ever before. In addition, environmental justice issues are an important feature of Superfund reform. In FY 95, both technical and PIO staff members must make sure that agency public participation policies are followed to assure continued successful partnerships with the communities the MPCA serves. Information officers have been included on the team of MPCA staff working on issues involving environmental justice to assist future agency efforts in this direction.

Minnesota Department of Agriculture Cleanup Program

The Minnesota Statutes Chapter 115B (1992) authorizes MDA to access the Fund for incident sites contaminated with agricultural chemicals, defined as pesticides and fertilizers. MDA is the designated lead state agency for agricultural chemical investigations and cleanups.

In addition to MERLA authority, the MDA Incident Response Program has authority to address agricultural chemical incidents under the Agricultural Chemical Liability, Incidents, and Enforcement Law (Chapter 18D). MDA staff conducts most incident response work under Chapter 18D, whereby MDA staff requests RPs to voluntarily perform the necessary investigations and cleanups.

RPs who conduct investigations and cleanups according to MDA guidance are eligible for cost reimbursement through the Agricultural Chemical Response and Reimbursement Account (ACRRA) (Minnesota Statutes 18E). ACRRA provides partial reimbursement for the investigation and cleanup costs of an agrichemical incident, as requested and/or ordered and ultimately approved by MDA staff.

Using this authority, MDA has had 42 RPs request reimbursement for \$1,269,416 worth of investigation and cleanup costs in FY 94. Approximately \$980,919 (or 77.3 percent) of the requested reimbursement was paid from ACRRA to the RPs. The RPs actually paid out of pocket \$181,992 (14.3 percent) for the deduction as required by the ACRRA statutory reimbursement formula. An additional \$106,505 (8.4 percent) was not reimbursed because of various reductions due to violations or unreasonable/unnecessary actions and a subtraction for insurance proceeds received.

Although ACRRA reimbursement has been an effective incentive for RPs to begin site investigation and complete necessary cleanups, there remains a need for MDA authority under MERLA. MERLA provides financing and authority for situations that

Key Points • • • • •

The MDA Cleanup Program:

- is authorized by Minnesota Statutes Chapter 115B (1992), and 18D (1992);
- incorporates the effective incentive of the ACRRA reimbursement program; and
- addressed five PLP sites, 70 comprehensive remedial site investigations and 205 emergency response spills.

ACRRA does not; for example, emergency cleanups. MERLA financing is also needed when RPs are unwilling or unable to pay for investigation and cleanup or when alternative sources of drinking water need to be financed. In these cases, MDA uses MERLA authority and monies to ensure timely protection of public health and the environment.

MDA staff currently manages 75 active comprehensive remedial site investigations (including five PLP sites) where agricultural chemical contamination has been documented. These sites typically are facilities that store, handle and distribute agricultural chemicals (or did so in the past) at the retail and wholesale level. The MDA has identified ground water contamination at approximately 47 of these sites.

In addition to comprehensive remedial site investigations, there were approximately 205 emergency response releases reported to the MDA in FY 94. Such incidents generally occur as a result of spills during the storage, handling and transportation/distribution of agricultural chemicals by facilities and other end-users. In FY 94, all of these incidents were handled by the RPs, with MDA Spills Team guidance, although in previous fiscal years several sudden releases/incidents required Superfund emergency response financing for necessary response or removal action.

MDA had four full-time equivalent positions in FY 94 funded by Superfund appropriation. MDA Superfund activities include: 1) overseeing investigation and cleanup activities at five PLP sites; 2) identifying sites which have significant agricultural chemical contamination; 3) scoring and listing new sites for the PLP; 4) administering the MDA Voluntary Cleanup Technical Assistance Program; 5) responding to voluntary cleanup file search requests; and 6) collection and disposal of waste above-ground arsenic from farmers and others.

MDA Performance Indicators

The MDA Incident Response Program has reviewed program goals and established long-term targets for work performance, as required in the Annual Performance Report which was submitted recently to the Office of the Legislative Auditor. By the year 2,000, the MDA intends to have approximately 80 percent of the identified agricultural chemical incident sites either under investigation or cleaned up.

MDA has set cumulative target numbers to identify new sites where the environment may be adversely affected by incidents involving agricultural chemicals. These sites are ranked according to the level of possible effect on the environment and/or public health. The highest ranked sites are requested by the MDA to begin an investigation and are considered "under investigation" or "active." The target for active sites remains fairly constant, limited by MDA Incident Response Unit resources, particularly program staff. The MDA will also measure cumulative number of sites closed per fiscal year.

The MDA is pursuing investigation and cleanup first at the most environmentally significant sites. These sites are inherently more difficult to close in a short period of time and, therefore, it may be difficult initially to fully meet internal program targets for site closures. The MDA staff anticipates that the program will be successful in achieving its long-term goals.



A fire at the Brown County Agricultural Service in Sleepy Eye required a quick response. Although the responsible party paid for cleanup, this is the type of site where MERLA funds may be needed in the future.

MDA Actions Using Fund Dollars

Site Delisted from PLP

In FY 94, MDA delisted the Central Co-operative Oil Association site in Medford from the PLP. In May 1981, a 1,200-gallon release of a pesticide-fertilizer mixture occurred at the Medford site. Further site investigation revealed that adjacent residential wells were contaminated with agricultural chemicals. In 1987, health advisories were issued for five residential wells, and the facility began to provide bottled water to the residences.

The facility replaced the contaminated residential wells with new wells in 1990. Soil and monitoring-well samples collected in 1992 indicated that the concentrations of agricultural chemicals had decreased significantly. No further soil investigation or remediation is now required. However, the ground water will continue to be monitored through the new residential wells for several more years through an agreement with the MDH.

Above-Ground Arsenic

MERLA funds enabled MDA to target above-ground quantities of arsenic for collection and disposal. More than 4,000 pounds of arsenic collected in FY 94 augmented ongoing statewide waste pesticide collection efforts that have gathered 420,000 pounds of banned, cancelled, and unusable pesticides.

Products with calcium arsenate, calcium arsenite, sodium arsenate, and lead arsenate were collected from many sites in central and southern Minnesota. Most of these products had been stored for decades. Lab pack (small) quantities of arsenic were incinerated at high temperature. Incineration ash and bulk (large) quantities of arsenic were stabilized to prevent leaching before disposal in a hazardous waste landfill. MDA's arsenic collection program is continuing in FY 95.

Site Investigation and Cleanup Actions

In regard to the Castle Rock Ground Water Contamination Site, the MDA is no longer supplying drinking water to five residential homes. The community is replacing some of the residential wells through a cost-share program with the Dakota County Housing and Redevelopment Authority, as coordinated through the Dakota County Department of

Key Points • • • • •

During FY 93, the following MDA Superfund activities were undertaken:

- delisting one site;
- collecting 4,000 pounds of arsenic products; and
- continuing cleanup at several PLP sites.

Environmental Health. During the first phase of this project, the residents with the most seriously contaminated wells were connected to new cluster wells. The MDA has completed a RI/FS at a potential source site using MERLA funds. Further investigation and cleanup options remain to be implemented for FY 95 at this site. At an adjacent site, where an agricultural chemical incident was also documented, a responsible party is voluntarily conducting a RI/FS and phased response action.

MDA staff successfully completed the second phase of the response action at the Howe Chemical Soil Contamination Site in Martin County during FY 93. The site has supported successful agricultural plant growth in FY 93 and FY94. MDA staff continues to monitor the site and the adjacent residential wells. The current property owner was unsuccessful in selling the property at public auction. The state, as responsible party for the site, will negotiate a purchase of the property, ensure its successful remediation, sell the property at its appraised fair market value, and return sale proceeds to the MERLA Fund.

Further MDA Program Accomplishments

The MDA Incident Response Program and the ACRRA Board held a Consultant's Day at the St. Paul Kelly Inn on April 6, 1994. Approximately 58 environmental consultants from 42 companies attended the informational meeting. The MDA speakers covered topics such as proposed cleanup standards, the Voluntary Cleanup Technical Assistance Program, the ACRRA Program, and land application issues. A general panel discussion was held at the end of the program to answer questions from the consultant audience. Comments on the Consultant's Day were positive overall.

MDA Legal Actions

Soil remediation has been completed and additional monitoring will be conducted at the Howe Soil Contamination Site. The MDA required the assistance of the Attorney General's Office to negotiate settlement agreements with the site operator and the site owner. In December 1993, a contract settlement was completed with the site operator to compensate for response activities and past crop damage at the Howe site. Negotiations with the site owner are ongoing.

MDA requested six potential RPs to take action at the Perham Municipal Airport site in April 1993. Dinoseb, a cancelled pesticide and listed hazardous waste, has been documented in the soils in an area where pesticides were handled for over a decade. The RPs are concerned that the cost of the investigation and cleanup may exceed the \$200,000 maximum allowed reimbursement from ACRRA. MDA and the Attorney General's Office are currently negotiating with the RPs to begin action at the site.

During FY 93, staff from MDA and the Attorney General's Office completed agreements to recover MERLA funds spent in 1988-89 to clean up and dispose of fire debris from the Lund Farmers Seed and Nursery, Inc. site in St. Cloud. Settlements were reached with the site landowner in August 1992 and with the Lunds in February 1993. Both settlements involve payment schedules, and MDA staff is currently tracking these payments and depositing receipts into the MERLA account.

MDA Voluntary Cleanup Technical Assistance Program

The MDA Voluntary Cleanup Technical Assistance Program was created to respond to the increasing number of requests for technical assistance. These requests included MDA staff review of site investigations conducted as part of property transactions, and searches of MDA case files regarding past practices at various properties. MDA's program has recently been expanded to not only provide technical assistance to those investigations conducted as part of a property transaction, but also to allow any voluntary party to investigate and clean up sites which may not be high priority sites for the Incident Response Program.

Staff continue to work with a farm lender to evaluate their inventory of farms for agricultural chemical contamination. Investigation and cleanup also continues at several agricultural chemical wholesale/retail operations. To date, MDA has been requested to provide oversight on 21 agricultural chemical investigations (locations shown on Figure 11). MDA has completed one full year of reimbursements to the Fund for staff time spent in providing technical assistance. During FY 94, MDA successfully recovered 92.3 percent of the money requested from the RPs.

MDA staff has worked with the ACRRRA Board on the relationship between the Voluntary Cleanup Technical Assistance Program and the ACRRRA reimbursement program, culminating in a guidance document outlining how the two programs relate to one another. To date, only one voluntary party has proceeded with his/her investigation to the point of being eligible for ACRRRA reimbursement; the request for reimbursement was approved by the ACRRRA Board.

MDA is completing the reorganization and consolidation of its multiple data bases. This reorganization included defining the locations of all licensed and permitted agricultural chemical storage facilities, past and present. The locating of these facilities will be further defined with the use of Global Positioning System (GPS) data. To date, location of storage facilities with GPS is either completed or in progress for 16 counties. This effort will complement the existing database of reported agricultural chemical incidents, which dates to 1977.

Key Points • • • • •

Program accomplishments include:

- assistance in evaluation of several farm lender sites;
- continuation of cleanups at agricultural chemical operations; and
- expansion of property transfer program to include voluntary cleanup.

Future Challenges

The Minnesota Legislature has significantly advanced the state Superfund program over the last two years, giving the MPCA and MDA the most progressive legislation in the country for cleaning up old hazardous waste sites. Among the problems solved through new legislation:

- The Land Recycling Act of 1992 established in statute the MPCA's ability to provide legal assurances for parties voluntarily cleaning up sites. This development gave a significant boost to voluntary cleanups in Minnesota.
- Funding for the state Superfund was significantly enhanced when a revision to the hazardous waste generator tax took effect January 1, 1994. The revenue should provide a stable, long-term funding source for the Fund.
- In June 1994, the new Landfill Cleanup Program was established, allowing MPCA to assume responsibility for closed permitted municipal solid waste landfills and clean up these landfill sites. Minnesota is the first state in the nation to separate landfill sites out of Superfund, and the program's first years will be watched closely by policy makers at all levels of government.

With all of these new efforts, the MPCA and MDA hope to make even more significant advances in hazardous waste site cleanup. However, several issues may have an important impact on Superfund's future in Minnesota.

CERCLA Reauthorization

Minnesota has continued to provide state input to the U.S. Congress' deliberations on Superfund reform, both directly to Minnesota's Congressional delegation and through involvement with the Association of State and Territorial Solid Waste Management Officials (ASTSWMO). Since the Clinton Administration's Superfund proposal (the Superfund Reform Act) is tabled for 1994, vigorous efforts to change the federal law will continue unabated in 1995.

The delay in reauthorization may have significant impacts on all state programs, including some of the following:

- The 1995 Congress most likely will include many freshman senators and representatives, none of whom will have experience in dealing with federal Superfund law. In some regards, the states will have to start over to educate the new Congress about the complexities of CERCLA and the states' needs;

- While it is likely that Congress will provide a simple time and money extension to continue current federal Superfund efforts, the states have sustained at least one period in the program's history (1985) in which no federal dollars came into the state and many important cleanup remedies came to a standstill. It is important for Congress to extend current funding for the Superfund program;
- A delay in CERCLA reauthorization gives those special-interest groups advocating a public-works rather than a polluter-pays approach to CERCLA more time to convince the Congress to eliminate strict, joint-and-several liability. This would be a disaster to the states' efforts to clean up Superfund sites;
- A delicately balanced coalition of forces had been developed around the Superfund Reform Act, working for its passage. This coalition will need to be rebuilt in 1995; and
- The Superfund Reform Act legislation contained state delegation provisions sought by Minnesota through the reauthorization process. It also contains other helpful tools for states to use to clean up sites, including national cleanup goals or standards, allocation of costs by the federal government, and incentives for voluntary cleanup, among other features.

Because of CERCLA's important influence on Minnesota's Superfund program, the MPCA staff has emphasized the following five points as key to an effective federal Superfund:

1. The polluter-pays liability standard in CERCLA should be retained. Special interests advocate a public works approach to Superfund, involving the establishment of a national Environmental Trust Fund to clean up sites. The results of such a change in CERCLA would be to saddle taxpayers with a financial burden that should be carried by industries or individuals that are responsible for the pollution. The strict, joint-and-several liability standard upon which both CERCLA and MERLA are based is the most effective way to clean up industrial sites. However, removing landfills from Superfund nationally would solve many of the problems in applying CERCLA.
2. Under CERCLA, Congress should mandate that EPA develop a single target risk level and policies for soil and ground water cleanup. National cleanup models or processes to establish numerical standards would aid in resolving the delays and disputes among the state, EPA, and responsible parties about how clean is clean enough. Minnesota already has developed a target risk level for state sites. A national standard would give a clear target risk level for RPs to use, allowing them to predict their costs more easily. The target and standards should be

"Minnesota is in some regard in an enviable position with regards to other states, because the state acted quickly ... to list its most serious health ... risks."

devised with the goal of a permanent remedy that will detoxify chemicals and allow for unlimited land use in the future.

3. The scope of CERCLA should be extended to encompass all sites, not just those 1,200 or so on the NPL. Minnesota has 179 sites on the PLP, of which 43 are federal Superfund sites. But the state also has 418 voluntary cleanup sites, 400 or more sites on CERCLIS, 1,200 former open dumps, and 525 salvage yards known to date. There are an estimated 10,000 - 20,000 sites nationwide that need cleanup.

4. The Congress should authorize states to run the Superfund program. If Congress gave states control over federal Superfund cleanups, the public would get a lot more for its cleanup dollar. States, through EPA grants, could manage individual sites and avoid duplication of technical and administrative review. It also would alleviate confusion among RPs who now feel that they are serving two masters — the MPCA and the EPA. There is precedent for this delegation, as the Clean Air Act, Clean Water Act, RCRA, and Safe Drinking Water Act function under state authorization.

5. The Congress should provide clear direction to lenders, developers and prospective purchasers of property that if they conduct investigations and cleanups under the direction and with the approval of an authorized state voluntary response program, no additional federal actions will be taken. This assurance, along with grants to the states and local governments, would provide additional incentives to help "recycle" contaminated property and put it back into productive use.

Several national groups, including ASTSWMO, the National Association of Attorneys General, the National Governors' Association, and other groups have advocated these changes, and it is likely that more support for these changes will be forthcoming during the 1995 reauthorization debate.

Shrinking Federal Funding, Shifting Priorities

Minnesota is in some regards in an enviable position with regards to other states, because the state acted quickly on the initial passage of the federal Superfund law to list sites with the most serious health and environmental risks. Most of the state's 43 NPL sites are coming to completion, with no new sites being added to the NPL in the past two years.

While the MPCA will always need EPA support for core administration, innovative technologies, community relations, and other key expenditures, funding for site-specific work is not being provided because most of Minnesota's NPL sites are completed. More federal funding will accompany any future additions to the NPL, but Minnesota's proposed sites are less likely to be

accepted for the federal program because other states still have sites posing significant human health risk (whereas Minnesota's most recent NPL proposals have been sites posing significant environmental risk).

Coupled with the shrinking federal Superfund dollars is a boom in VIC Program activities, with more than 400 sites in the program. Future federal funding is likely to further expand the VIC Program. Interest in recycling contaminated land is gaining momentum, promising that a steady flow of sites will be entering the voluntary cleanup process. Some have predicted that the growth in voluntary cleanups presages the demise of traditional Superfund.

However, a Superfund program would still be needed. It is certain that some of the sites entering the VIC Program will return to the Superfund program. Sites that are not appropriate for the VIC Program include those where investigations turn up contamination for which the voluntary party does not want to pay or cannot pay; investigations turning up drinking water impacts or other problems more suitably handled in Superfund; and voluntary parties discover that the VIC Program does not allow less thorough investigation or, less protective cleanups and stop cooperating with the MPCA or MDA. In addition, there will continue to be sites for which no responsible party or voluntary party exists that require the Superfund process.

Contaminated Land: Major Problem for Minnesota Cities

As Minnesota cities face increased pressure to develop property in the coming decade, there is increasing concern about the impacts of old contaminated sites on future development. Many cities, especially in the Minneapolis/St. Paul metropolitan area, have few remaining sites for industrial development that are not burdened with pollution problems. Development is stalled in areas with overlapping ground water plumes, unknown soil contamination problems, and the possibility of leaking underground tanks. Businesses tend to avoid the purchase of sites with potential pollution impacts, and those willing to undertake the risk cannot find bankers to finance their efforts.

The VIC Program complements the traditional Superfund process for cleanup of contaminated sites. The MPCA, already a national leader in the area of voluntary cleanups, will continue its efforts to assist businesses that seek help in undertaking voluntary cleanups.

Still at issue is the need to fund the investigation and cleanup of "brownfields," unused properties in urban areas and smaller municipalities that compete with the abundance of available and accessible "greenfields" in suburban or rural areas. Attention is needed in these areas to find an acceptable funding mechanism to prevent further urban decay and the industrial development of farms and other undeveloped land.

"In a diverse, multi-cultural America, there is growing concern that adverse environmental impacts are falling disproportionately upon racial and cultural minorities ..."

A New Day for Landfill Sites, a Long Day for Staff

The Landfill Cleanup Program, passed by the Minnesota Legislature this year, will have a major impact on state resources and environmental protection. The new legislation will allow the MPCA to assume responsibility for closed municipal solid waste landfills, after the conditions of the owner/operator's permit are met.

The legislation requires significant interpretation and contains some serious timelines for Solid Waste Section program staff. Implementation of the program began June 1, and within the last months of 1994, staff will be required to provide notices of eligibility for the program, notice of actions needed to comply with permit requirements and a priority list of the more than 100 sites which qualify for the program.

Environmental Justice: A Growing Concern Nationwide

Substantial portions of the proposed Superfund Reform Act dealt with issues of environmental justice. In a diverse, multi-cultural America, there is growing concern that adverse environmental impacts are falling disproportionately upon racial and cultural minorities and the economically disadvantaged in inner-city areas.

Currently, the MPCA Ground Water and Solid Waste Division has developed a team of staff members to follow national developments in environmental justice and to evaluate site discovery and cleanup issues in light of their impacts on diverse groups. Among the more recent developments in Superfund community relations have been the creative use of community advisory committees to assure public participation. This promises to be a growing trend nationwide.

Taxing Problems

The hazardous waste generator tax supports the Fund and the Legislature moved in 1993 to restructure the tax to provide a more consistent and stable source of state Superfund money. During the first six months of implementation of the new hazardous waste generator tax structure, revenues fell significantly behind projections. However, this is common in the first year of fee collections, according to the Minnesota Department of Revenue. MPCA is working with the Minnesota Department of Revenue to determine if the reason for the shortfall is due to a lack of enforcement of the tax law, if the majority of generators met the less frequent pay-in schedule, or if the earlier tax revenue projection was based on hazardous waste volumes much greater than the waste currently being generated. MPCA is analyzing the issue now to ensure that the maximum amount of tax owed is paid by the deadline of April 15, 1995.

EPA Pilot Projects: Streamlining Superfund

The MPCA is pursuing a deferral pilot project with EPA Region V to demonstrate it has the capability to administer the federal Superfund program in Minnesota. The pilot project will give the MPCA sole lead over federal enforcement Superfund sites without EPA oversight and will serve as a test for state authorization. The MPCA will be accountable for site progress with only limited reporting requirements to EPA. Minnesota is the only state that has been offered this opportunity, which is an indication of EPA's confidence in Minnesota's Superfund program.

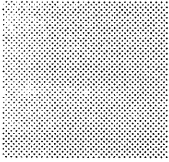
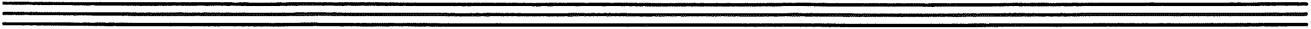
Superfund Accelerated Cleanup Model

In the site assessment program, EPA has just approved a Cooperative Agreement for FY 95 that provides for the implementation of a SACM that the state designed. The overall theme of SACM is to have the three Superfund areas (removal, remedial, and assessment areas) integrate their functions so that all three are addressed concurrently during the Superfund process.

The model that will be implemented by MPCA's Site Assessment Unit incorporates investigation changes that cut across multiple programs. Site Assessment and removal staff will investigate newly discovered sites at the same time, health and ecological risks will be evaluated earlier in the process, eligible sites will be offered an opportunity to volunteer in the VIC Program, and assessment and remedial staff will form teams to plan investigations that will complement subsequent cleanup activities. Once implemented, these changes will expedite the Superfund process and speed cleanups.

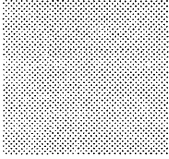
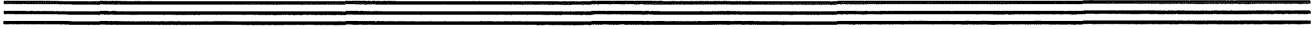
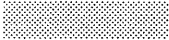
MDA Agricultural Chemical Sites

MDA requests that funding be maintained at the current level for MDA activities involving Superfund. As of FY 94, MDA has returned to full complement of MERLA-funded positions.



Appendix I: Acronyms

ACRRA - Agricultural Chemical Response and Reimbursement Account
ASTSWMO - Association of State and Territorial Solid Waste Management Officials
CY - Calendar Year
CERCLA - Comprehensive Environmental Response, Compensation, and Liability Act
CERCLIS - Comprehensive Environmental Response, Compensation, and Liability Information System
Consent Order or CO - Response Order by Consent
DOD - Department of Defense
EPA - U.S. Environmental Protection Agency
EAHC - Evans Asset Holding Company
FFA - Federal Facility Agreement
Fund - Environmental Response, Compensation and Compliance Fund
FY 94 - Fiscal Year 1994
GPS - Global Positioning System
HRS - Hazard Ranking System
MDA - Minnesota Department of Agriculture
MDD - Minnesota Decision Document
MDF - Minnesota Department of Finance
MDH - Minnesota Department of Health
MERLA - Minnesota Environmental Response and Liability Act
MMSW - Mixed Municipal Solid Waste
MPCA - Minnesota Pollution Control Agency
NPL - National Priorities List
PA - Preliminary Assessment
PIO - Public Information Office
PLP - Permanent List of Priorities
RCRA - Resource, Conservation and Recovery Act
RD/RA - Remedial Design/Remedial Action (or Response Action)
RFRA - Request for Response Action
RI/FS - Remedial Investigation/Feasibility Study
ROD - Record of Decision
RPs - Responsible Parties
SACM - Superfund Accelerated Cleanup Model
SARA - Superfund Amendments Reauthorization Act
SI - Site Investigation
SLF - Sanitary Landfill
TCAAP - Twin Cities Army Ammunition Plant
VIC - Voluntary Investigation and Cleanup
VOC - Volatile Organic Compounds





Appendix 2: VIC Program Site Status Report

Minnesota Voluntary Investigation And Cleanup Program
 Project Summary
 September 23, 1994

RI = Remedial Investigation	C = Completed	1-VOC	RAL-Recommended
FS = Feasibility Study	N = Not Applicable	2-Metals	Allowable Limit
IRA = Interim Response Action	I = In Progress	3-Inorganics	GW-Ground Water
RA = Response Action	NA-No Action Letter	4-Petroleum/Fuel Oil	SW-Surface Water
M = Groundwater Monitoring	LNA-Limited No Action Lett.	5-PAH	PPM-Parts per million
LI = Letter Issued	OS-Off Site Source Determ.	6-PCB	PO-Pumpout
	NAD-No Association Determ.	7-Pesticides	PPB-Parts per billion
	CC-Certificate of Completion	8-Dump/Demo Debris	

PT#	Active	Project Name	City	Status						Comments	Contam.	Media Impacted	Cleanup Level	Technology Used
				RI	FS	IRA	RA	M	LI					
1820	No	1000 Block Valley Park Drive	Shakopee	C					NA	Completed	1, 8	Ground Water	Off-Site Source	Debris removal
2310	No	1144 Seventh Street	Hopkins	C					NA	Completed	1	Ground Water	Off-Site Source	
4810	Yes	117th Street Dump	Blaine	I							1,2	Soil,GW		
4780	Yes	1200 Mendelssohn Avenue	Golden Valley	I							4	Soil		
3570	Yes	1200 Trapp Rd (aka unisys)	Eagan	I							1	Ground Water		
1380	No	15000 Minnetonka Industrial Blvd. (aka: Mi	Minnetonka	I						To CERCLIS	1, 5	Soil and GW		
1380	No	15171 Freeland	Hugo	C					NA	Completed	1	Surface Soil	To Background	Removal
1270	No	1551 Vernon Drive (See PT 1440)	Golden Valley	C					NA	Completed	1	Ground Water	None Needed	
1880	No	1716 Hastings Avenue	Newport	I						Inactive	1	Soil and GW		
2680	Yes	1977 West River Road	Minneapolis	I							1, 4	Ground Water		
2170	No	2611-2627 Franklin Ave.	Minneapolis							To Tanks	1, 4	Soil		
2570	No	26811 Fallbrook Ave. (aka: Manufacturin	Wyoming	C					NA	Completed	1	Soil	None Needed	
3200	Yes	2nd Street Business Center	Minneapolis	I										
2140	Yes	3008 Third Avenue South	Minneapolis	C	I						3, 2	Soil		
1770	Yes	3100 28th Street E. (AT&T)	Minneapolis	C							1, 5	Soil and GW		
2380	No	345 Main Street	Bayport	I						Inactive	4, 5	Soil and GW		
2400	No	3K Paper	Minneapolis	C		C	C		LNA	Completed	1	Soil and GW	Soil - 5ppm on hNu	Landfarm soil-PO GW
3010	Yes	3M Woodbury	Woodbury	I				I			1, 2	Soil and GW	RAIs	Pumpout
1890	No	42 Ave. N and Aldrich Ave.	Minneapolis	C						To CERCLIS	1	Soil		
2300	No	494/RES (See PT 1890) (part of General	Eagan	C					NA	Completed				
2370	No	650-700 Industry Ave.	Anoka	C					NA	Completed	1, 5	Ground Water	None Needed	
2890	No	7625 Building (Parklawn)	Edina	C	N	N	N	N	N	Withdrawn	2	Ground Water	None Needed	
1600	No	800 Jefferson Street	Lake City	C					NA	Completed	1	Ground Water	None Needed	
1730	No	825 Boone Avenue	Golden Valley	C					NA	Completed	1, 2	Soil and GW	GW-RAL,Soil <3.6ppm	Excavate soil
2280	No	88th Avenue Dump	Blaine	I						Inactive	None	Soil and GW		
3340	Yes	Acton Construction	Lino Lakes	I							1	Soil and GW		
2540	No	Air Quality Vehicle Inspection (See PT 314	Roseville							Withdrawn	Staining	Soil	None Needed	
3840	No	Airway Products	Princeton	C					OS		1	Ground Water	None Needed	
0090	Yes	Albert Lea Gas	Albert Lea	I							4, 5	Soil and GW		
1310	No	All Saints Lutheran Church	Eagan							To Tanks	4	Soil		
1010	Yes	American Can	Minneapolis	C	C	N	I	I		Clnp in progress	1	Soil and GW	RAIs	Pumpout to sewer
4450	Yes	AMP, Inc. (see Kurt Gear East, pt4200)	Plymouth	I							1	Soil, GW		
3310	Yes	AMPI, Inc.	Rochester								1	Ground Water		

Minnesota Voluntary Investigation And Cleanup Program
 Project Summary
 September 23, 1994

RI = Remedial Investigation	C = Completed	1-VOC	HAL-Recommended
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RA = Response Action	NA-No Action Letter	4-Petroleum/Fuel Oil	SW-Surface Water
M = Groundwater Monitoring	LNA-Limited No Action Lett.	5-PAH	PPM-Parts per million
LI = Letter Issued	OS-Off Site Source Determ.	6-PCB	PO-Pumpout
	NAD-No Association Determ.	7-Pesticides	PPB-Parts per billion
	CC-Certificate of Completion	8-Dump/Demo Debris	

PT#	Active	Project Name	City	Status						Comments	Contam.	Media Impacted	Cleanup Level	Technology Used
				RI	FS	IRA	RA	M	LI					
3940	No	Anderson Iron Works	Plymouth							To CERCLIS	1	Ground Water		
1810	No	Androc Metals	St. Louis Park	C						Completed	7	Soil and GW	Non - Detect	Excavation and PO
4880	Yes	Applause	Minneapolis	I							1	GW		
1660	No	Argus Development	Blaine							Withdrawn	4, 8	Soil and GW		
4730	Yes	Arlington Industrial Project	St. Paul	I										
1150	No	Armour Meat Plant	South St. Paul							Inactive				
3070	No	Army Corps Chaska Dump	Chaska	C						Completed	8		None Needed	
4480	No	Arnold Building	St. Paul	C						Completed	1	Soils		
3300	No	Arrowhead Stator and Rotor	Sandstone	C	N	N	C			Completed	2	Soil	Visual	Excavate
4950	Yes	Arthur Street R-O-W	Roseville	I							5	Soil		
3240	Yes	Ashland James Avenue	St. Paul	I							1, 4	Soil and GW		
3350	No	Astleford, M.G.	Burnsville	I						Inactive	1, 5	Soil		
0250	Yes	Austin Gas Manufacturing	Austin	I							2,5	Soils, GW		
3460	Yes	Avecor	Plymouth	I	I						1, 4	Soil and GW		
4770	Yes	Barnett Olds	Ramsey	I							1,4,2	Soil, GW		
3280	Yes	Barton Sand and Gravel	Maple Grove	I						Withdrawn	1, 4	Soil		
2180	No	Bayport Public Works Facility	Bayport	C						Completed	5	Soil	None Needed	
2800	Yes	Bayport Wildlife Management Area(See PT2 Bayport		I	I						1	Ground Water		
0240	Yes	Bellaire Sanitation	Grant Twp.	I							2,6,8	Soils, GW		
4070	Yes	Ben Miller Properties	Minneapolis	I							1	Soil and GW		
1340	No	Bendix Corp.	Bemidji	C						Withdrawn	None			
5011	Yes	Bennett Lumber - Richfield	Minneapolis	I										
5010	Yes	Bennett Lumber - Warner	Minneapolis	I							1,4	Soil		
2960	No	Bergmeier (See PT 2260)	White Bear Lake	C	C	C	C	C	NA	Completed	1	Ground Water	Remove Barrels	Landfill
3390	No	Beumer Parcel	St. Cloud	C						Completed	8	Soil		
3990	Yes	Blaine Airport	Blaine	I							1	Soil and GW		
3670	Yes	Blaine Central Avenue	Blaine	I							5	Soil		
2410	No	Blaine Office Park	Blaine	I				I		Inactive	2	Ground Water		
4780	Yes	Blake Ice Rink	Hopkins	I							1	Soil, GW		
4830	Yes	Block 1 3M Property	Oakdale	I							1	GW		
3700	No	Bloomington Good Samaritan	Bloomington	C						Completed	4	Ground Water		
3160	No	Bob Lewis Olds.	Hermantown							To Tanks	1			
4160	Yes	Brainerd Foundry	Brainerd	I	I						2	Soil		

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				RI	FS	IRA	RA	M	LI					
0130	Yes	Brainerd Gas Manufacturing	Brainerd	I							12,5	Soil,GW		
2810	No	Brandt-Jen-Kluge Building	St. Paul	C					NA	Completed	4	Soil	10 ppm	Thermal treatment
4000	No	Broberg Property	Vadnais Heights							Withdrawn from Program	1	Soil	Non-Detect	Excavate, Landfarm
1170	Yes	Brockway Glass	Rosemount	C				I		Back from Solid Waste	2	Soil		
1710	No	Brooklyn Park Dump	Brooklyn Park	C						To Superfund	1, 6	Soil		
4560	Yes	Brooklyn Park Oil Co.	Brooklyn Park	I							1,2	soil & GW		
0220	Yes	Brooklyn Plating and Polishing		I										
0160	Yes	Buffalo City Dump	Buffalo	I							8	Soil,GW		
2030	No	Buffalo Cleaners	Buffalo							To CERCLIS	1	Soil and GW		
3050	Yes	Buffalo Municipal Parking Lot	Buffalo	I							1	Soil		
5150	Yes	Bungum-Sheehan Property	Saint Peter	I							4	Soil		
1800	No	Burr Properties	Minneapolis	I						Inactive	5	Soil and GW		
2210	No	Butler Taconite	Naswauk							Withdrawn				
1440	No	Cabot, Cabot, Forbes (See PT 1270)	Golden Valley	C					NA	Completed	1	Ground Water	None Needed	
1860	No	Caliber Development Corp.	Plymouth	C			C		NA	Completed	1, 4	Soil	5 ppm on the hNu	Landfarm
2470	No	Capital Corporation	South St. Paul	I						Inactive	5	Soil		
4480	Yes	Capitol Gears	St. Paul	I		I		I		Small waste oil cleanup anti	4,1	Soil		
5100	Yes	Cargill Flax	Columbia Heights	I										
2130	Yes	Carpenter's School	St. Paul	C	C	N	I			Clnp in Progress	5	Ground Water	Visual	Ash & Rubbish rem
2260	Yes	Centerville Road Site (See PT 2960)	White Bear Lake	C	C	C	I	I	LNA	Partially completed	1,2	Soil and GW	Visual	Landfill / drum rem
3480	No	Central Avenue Grocery	Minneapolis	I							1	Soil and GW		
4810	Yes	Central Bi-Products	Renville	I										
3910	No	Chemrex	Bloomington	C			C		NA	Completed	1	Soil	Below 5ppm	Soil used in asphalt
2340	Yes	Chicago Northwestern	Minneapolis	C	C		I			Pilot Burn In Progress	1, 5	Soil and GW		
4810	Yes	Circuit City	Bloomington	I					NAD					
1280	No	Circuit Science	Plymouth	C			C		NA	Completed	2	Soil	5 ppm	Excavation
1140	No	City of Foley	Foley							Inactive				
3230	No	Clark Oil	St. Paul	C					NA	Completed	1	Ground Water	Off-Site Source	
0230	Yes	Cold Spring Granite Co.	Cold Spring	I										
3410	Yes	Como Foundry	St. Paul	I							1, 4, 5	Soil		
3980	Yes	Continental Nitrogen	Rosemount	I							1, 2	Soil and GW	GW-RAL,Soil <3.6ppm	Excavate soil
4100	Yes	Conwed Plastics	Minneapolis	I				I			2	Soil	5 ppm on the hNu	Excavate
0010	Yes	Cooperative Plating	St. Paul	I							1,2	Air, Soil, GW		

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PT#	Active	Project Name	City	Status						Comments	Contam.	Media Impacted	Cleanup Level	Technology Used
				RI	FS	IRA	RA	M	LI					
4980	Yes	Crown Cork and Seal Company	Faribault	I							1	GW		
3720	No	Crystal Lake Good Samaritan Center	Robbinsdale	C					LNA	Completed	4	Ground Water		
2390	No	CSM	St. Paul	I							4	Soil and GW		
4650	Yes	Cummins Diesel-Duluth	Duluth	I										
4660	Yes	Cummins Diesel-Hibbing	Hibbing	I										
4670	Yes	Cummins Diesel-St. Paul	St. Paul	I										
2080	No	Dakota Business Plaza	Mendota Heights	I						Inactive	1	Soil		
3660	Yes	Dale Street Railroad Yard	St. Paul	I		I					1, 4	Soil and GW		Pumpout free product
1470	Yes	Dana Corporation	Minneapolis	I	I					Pilot Test in Progress	1	Soil and GW		
3780	Yes	Daybreak Foods, Inc.	Long Prairie	I					LNA	Open Issue	1, 4	Soil and GW		
2920	Yes	DBL Labs	St. Joseph	I							1, 2	Soil and GW		
0050	Yes	Del Goebel Transport Co.	Mankato								6	Soil, SW		
3730	Yes	Denenson Complex	Minneapolis	C					NAD	Inactive	4	Soil		
2100	Yes	Diagnostics, Inc.	Minneapolis	I	I						6	Soil		
4280	Yes	Direct Line	Minneapolis	I							1	GW		
3380	No	District Energy	St. Paul	C	N	N	I			To Tanks	1, 4, 6	Soil and GW		
1180	No	Dixie Chemical	Rosemount	C					NA	Completed	1	Ground Water	Off-Site Source	
2630	Yes	DNR/Stillwater Prison Dump (See PT2800)	Bayport	C	C		I				1	Ground Water		
4930	Yes	Driftwood Apartments	Minneapolis	I							1,4,8	Soil, GW		
2120	No	Duane's Auto Body	Litchfield							Withdrawn				
3000	No	Duluth Cement Plant	Duluth	I						Inactive				
4230	No	E & S Properties	Minneapolis	C		C			LNA		1	Soil		
4270	Yes	Eagle Bend Metals	Eagle Bend	I							1,2	Soil		
1060	No	East River Road	St. Paul							Inactive				
2320	No	Econotherm	Arlington	I						Inactive	1, 2, 5	Soil		
3500	Yes	EDCO Products	Hopkins	I							1	Soil		
3970	Yes	Eddie's Car Wash	Richfield	C	N	N	N	C	OS	Completed	1	Soil		
1980	No	Elliot Avenue Site	Rush City	C					NA	Completed	1	Soil	10 ppm	Landfarm
4210	No	ELM Properties	St. Paul	C					NAD		1, 4	Soil	10 ppm	Landfarm
3880	Yes	Elm Street Ash Dump (See PT 2760)	St. Paul	I							2, 6	Soil and GW		
2260	No	Elmwood Partners	Caledonia	C					NA	Completed	1	Soil and GW	None Needed	
2650	No	Empire Dump	Empire	I						To CERCLIS	2	Soil		
4310	Yes	Energy Park Vacant Lot	St. Paul	C					LNA	Additional Work Soon	2	Soil and GW		

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M = Groundwater Monitoring	LNA-Limited No Action Lett.	5-PAH	PPM-Parts per million
LI = Letter Issued	OS-Off Site Source Determ.	6-PCB	PO-Pumpout
	NAD-No Association Determ.	7-Pesticides	PPB-Parts per billion
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PT#	Active	Project Name	City	Status						Comments	Contam.	Media Impacted	Cleanup Level	Technology Used
				RI	FS	IRA	RA	M	LI					
1870	Yes	GNB	St. Paul	I		I					1, 2	Soil and GW		
3260	Yes	GNB Berry Street	St. Paul	C	C		C	N	LNA	Completed	2	Soil	300 ppm / 1000 ppm	Stabilization
1660	Yes	Golden Valley HRA	Golden Valley	I							1, 4	Soil and GW	Off-Site Source	
1550	No	Gopher Shooter Supply	Faribault	C						Inactive	1	Ground Water		
4510	Yes	Gopher State Truck Stop	Shakopee	I										
2020	Yes	Grace-Lee Products	Minneapolis	C	C	N	C	I	LNA	Partially completed	1,4	Soil and GW	No detect on Hnu	Landfill soil-rem.tank
3510	Yes	Graco Inc.	Minneapolis	I							1	Ground Water		
3850	Yes	Great Dane	Roseville	I		I		I			1, 4, 5	Soil and GW		
1060	No	Great River Development	Minneapolis							Inactive	5	Soil		
2720	No	Greater Huron Development Corp.	St. Paul	I						Inactive	1	Soil and GW		
3430	No	Griggs Midway	St. Paul	I					LNA		1	Ground Water		
4590	Yes	Group Health Part 2 (see PT4130)	Minneapolis	I					NAD		1	soil, GW		
4130	Yes	Group Health University Avenue	Minneapolis	I							1	Ground Water	Off-Site Source	
4460	Yes	Groveland Elementary	Wayzata	I							1	GW		
3470	Yes	H.B. Fuller	Minneapolis	I							2, 5	Soil		
4870	Yes	Hampden Building	St. Paul	I							1	Soil		
1290	No	Hancock Nelson	St. Paul	C						Inactive	1, 4	Soil and GW	Off-Site Source	
3560	Yes	Harcros Chemicals, Inc.	St. Paul	I							1	Soil and GW		
1510	No	Harriet Island	St. Paul	C	C					To CERCLIS	2	Soil	3 ppm Lead	Excavation planned
2060	Yes	Harvest States	St. Paul	I		I					1, 4, 5	Soil and GW		Landfarm on 4 and 5
4300	Yes	Hedberg Estate Property	Minnetonka	C	I									
4710	Yes	Hennepin Business Center Property	Minneapolis	I							4	GW		
3750	No	Herbst Landfill	New Brighton	C			I		NAD		1, 5	Soil and GW		
3880	Yes	Hiawatha Country Club	Minneapolis	I							5	Soil and GW		
2450	No	Hiawatha Metalcraft	Minneapolis	C	N	N	N	N	LNA	Completed	1	Ground Water	Off-Site Source	
5060	Yes	Hiawatha Rubber	Minneapolis	I										
3440	Yes	Hibbing Industrial Park	Hibbing	I							2	Soil		
3520	Yes	Hitchcock Industries	Bloomington	I							1	Ground Water		
2910	Yes	Hoffman Corner	Shoreview	I		C					1, 2, 6	Ground Water		Pump out free product
1820	No	Holiday Gas Station	Forest Lake						NA	Completed	Asphalt	Soil	None Needed	
2480	Yes	Holiday Store, Washington Ave. # 69	Minneapolis	I							1	Soil and GW		
1300	No	Honeywell Columbia Heights	Columbia Heights	C	C		C		NA	Completed	2	Soil	< 1000 ppm	Excavated
3580	Yes	Honeywell Data Serve	Hopkins	I							1	Ground Water		

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RA = Response Action	NA-No Action Letter	4-Petroleum/Fuel Oil	SW-Surface Water
M = Groundwater Monitoring	LNA-Limited No Action Lett.	5-PAH	PPM-Parts per million
LI = Letter Issued	OS-Off Site Source Determ.	6-PCB	PO-Pumpout
	NAD-No Association Determ.	7-Pesticides	PPB-Parts per billion
	CC-Certificate of Completion	8-Dump/Demo Debris	

PT#	Active	Project Name	City	Status						Comments	Contam.	Media Impacted	Cleanup Level	Technology Used
				RI	FS	IRA	RA	M	LI					
4850	Yes	Honeywell HBC	Plymouth	I							1	Soil		
2150	No	Honeywell Minnetonka	Minnetonka	I						Inactive	1	Soil and GW		
2280	No	Honeywell New Hope	New Hope	I						Inactive	1	Ground Water		
2850	Yes	Honeywell Plaza	Minneapolis	I							1, 4	Ground Water		
2070	Yes	Hopkins Tech	Hopkins	I							1, 4	Soil and GW		
3180	Yes	Hormel Building 134	Austin	C	N	N	N	C	LNA	Completed	1			
1930	Yes	Hormel Corporate Annex	Austin	C	N	N	N	C	LNA	Completed	1	Soil		
1410	No	Huset Park Dump	Columbia Heights	C					NA	Completed	2	Soil and GW	None Needed	
4530	Yes	Hy-Vee Foods	New Ulm	I							5	Soil & GW		
4531	Yes	Hy-Vee Foods	New Ulm	I							5	Soil & GW		
3370	Yes	Ideal Security Hardware	Roseville	I							1	Ground Water		
2480	Yes	Industrial Airsystems	St. Paul	C	I					Clnp in Progress	1	Soil and GW	Below RALs	Proposed airsparging
2750	No	International Square	Golden Valley	C					LNA	Completed	1	Ground Water	Off-Site Source	
4040	Yes	Interstate Business Park	Minneapolis	I							1	Soil	None Needed	
3420	Yes	ITT Schadow	Eden Prairie	I							1	Soil and GW		
0110	Yes	ITW Itrathane Systems	Hibbing	I										
3040	Yes	J & J Casting	Two Harbors	I							1, 2, 4	Soil and GW		
1110	Yes	J and B Auto	New Brighton	I							1	Ground Water		
5000	Yes	Jacklin Steel Supply	Duluth	I							2,6	Soil		
2780	Yes	Jae's Precast	Stacy	C				C	CC	Completed	1, 2	Soil	1 ppm on hNu	Excavation
2870	No	Japs Olson	Minneapolis	C					NA	Completed	1	Ground Water	Off-Site Source	
2220	No	Jaye Truax Co.	Minneapolis							To CERCLIS	4, 5	Soil and GW		
2510	No	Jerry Clipper Machine Shop	Baytown Twp.	C				C	NA	Completed	1	Soil	1 ppm on hNu	Landfarm
1680	No	John Hancock Properties	Roseville	C					NA	Completed	4	Ground Water	Off-Site Source	
3600	No	Johnson and Johnson	Minnetonka	C					LNA	Completed	1	Soil and GW	None Needed	
4550	Yes	Johnson Street Development Site	Minneapolis	I										
0200	Yes	Joyner's Inc.	Brooklyn Park	I							1,2	Soils, GW		
2820	No	Joyner's, Inc.	Brooklyn Park	I						Inactive	2, 5	Soil and GW		
2330	No	Kellogg Blvd.	St. Paul	C							5	Soil and GW		
3870	Yes	Kellogg Blvd. PMA	St. Paul								1	Soil and GW		
1780	No	Kellogg Blvd. Post Office	St. Paul	C					N	Completed	Asphalt	Soil	To Background	Soil used in asphalt
3900	No	King Pallet	Brooklyn Park	C				C	LNA		1, 2, 5	Soil and GW		
2860	Yes	Kondirator, The	Minneapolis	I							1, 2, 5, 8	Soil		

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				RI	FS	IRA	RA	M	LI					
3690	Yes	Krawczewski (aka: Metal Reduction)	St. Paul	C	C					Cleanup in Progress	2	Soil		
4200	Yes	Kurt Gear East (see AMP, pt4450)	Plymouth	I							1, 4, 5	Soil and GW	Soil- 2 ppm on hNu	Incinerate soil
4150	No	Kurt Gear Site (see pt 4200 & 4450)	Plymouth							Withdrawn	1	Ground Water	Off-Site Source	
4620	Yes	LaCanasta Addition	St. Paul	I								soil & GW		
3250	No	Lakeland Avenue Dump	Brooklyn Park	C	C	N	C		LNA	Completed	1, 4, 5, 8, Tar	Soil and GW	Visual/Non-Detect	Reuse/Recycle/Thermal
4420	Yes	Lakeville Village Dump	Lakeville	I										
3690	No	Lakewood Hills Apartments	White Bear Lake	C				C	LNA		2	Soil and GW	None Needed	
4680	Yes	Land Resource Management (see PT2621 S	Shakopee	I						Adjacent to Shakopee Dum	8	soil, GW		
4470	Yes	Larsons Sports	Brainerd	I							1			
3110	Yes	Latzke Iron Works	Brooklyn Park	C		C		I			1, 2	Soil		
5040	Yes	Lavin Property	Minneapolis	I										
1910	No	Le Loup Site	St. Paul	C						Superfund	2	Soil and GW		
3220	Yes	Leaseback Properties	Richfield	I							1, 4			
1160	No	Lightning Transfer Station	St. Paul							To RCRA	6	Soil		
1070	No	Lilydale Park Dump	St. Paul	C						Complt/CERCLIS	2, 4	Soil		
4800	Yes	Lindberg Heat Treating	St. Louis Park	I							1	Soil, GW		
1180	No	Lindsay Warehouse (See PT 2740)	Minneapolis	C			C		N	Completed	1, 4, 5	Soil	1 ppm on hNu	Landfarm
1080	No	Longyear	Minneapolis	C					NA	Completed	4,5	Soil	5 ppm on hNu	Excavate, Landfarm
0080	Yes	Lou-Rich Albert Lea	Albert Lea	I							1	Soil and GW		
0030	Yes	Louisiana-Pacific Corporation	Two Harbors								1	Soil		
4430	Yes	Love Service Station	Littlefork	I										
4690	Yes	LUSTRASILK	Brooklyn Park	I							4,1,2	Soil, GW		
4020	No	Lyndale Garden Center	New Hope	I						Open Issue	1, 2, 5, 6	Soil		
2770	No	Lyndale Super America	Minneapolis	I						To CERCLIS	1, 4	Soil and GW		
2830	No	Malcolm and 6th Street	Minneapolis	C						Completed	1, 2, 4, 5	Soil and GW	None Needed	
1990	No	Mall Site (See PT 2300)	Egan	C					NA	Completed	None		None Needed	
3320	No	Malt-O-Meal	Northfield	C		C			LNA		1, 4	Soil		
1210	No	Mankato Plating Company (See PT 3400	Mankato	I						To CERCLIS	1, 2	Soil		
0100	Yes	Maplewood Dump	Maplewood	I							8	Soil, GW		
2840	No	Marigold Foods	Rochester	C					NA	Completed	1	Ground Water	Off-Site Source	
1800	No	Marvin Windows	Warroad	I						To RCRA				
1840	Yes	Mayo/Telex Building	Rochester	C			C	I		Clnp in progress, O&M	1	Soil and GW	Detection Limit	Landfarm soil-mon GW
4750	Yes	MCDa Technology Corridor	Minneapolis	I							5	Soil		

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				RI	FS	IRA	RA	M	LI					
6080	Yes	McGill/Jensen	St. Paul	I							1	GW		
4800	Yes	ME International	Duluth	I							methanol	soil & GW		
3140	Yes	Mear Properties (See PT 2540)	Roseville	I										
0070	Yes	Mibco	Minnetonka	I		I					1	GW		
1700	Yes	Midway Plaza	St. Paul	C	I		I				1, 4	Soil		
2040	No	Midwest Book	Minneapolis							Completed				
2080	No	Midwest Cylinder	Swift Falls	I						To WQ				
3820	Yes	Milwaukee Road Depot	Minneapolis	I							5	Soil and GW		
4890	Yes	Mini Storage	St. Paul	I										
2670	No	Minneapolis Sculpture Gardens	Minneapolis	C						To CERCLIS	5	Soil and GW		
4170	Yes	Minnesota Business & Tech Center	Minneapolis	I							1, 2	Soil and GW	RALs	Pumpout
1480	No	Minnetonka City Garage	Minnetonka	C					NA	Completed	5	Soil	<50 ppb	None
4120	Yes	MN Valley Electric Coop	Jordan								1, 8	Soil		
4920	Yes	MnDOT - Mankato	Mankato	I										
2350	No	MnDOT Crooked Lake Pit	Anoka County	C					N	Completed	2	Ground Water	None Needed	
1650	Yes	MnDOT Dump	St. Cloud	C	C		I	I			5	Soil and GW		Soil used in asphalt
3530	Yes	MnDOT Savage Truck Station	Savage	I							1	Ground Water		
4680	Yes	Modern Quilters	Litchfield	I				I						
6070	Yes	Mohr Property	Cushing	I										
1850	No	Motley Bypass	Minneapolis	C	C		C		N	Completed	4, 6	Soil and GW	10 ppm	Landfarm
4860	Yes	MPR	St. Paul	I										
1540	No	Multitech	New Brighton	C					NA	Completed	1	Soil	Non-Detect	Excavate, Landfarm
1970	Yes	Napco - East (Venturian Corp)	Hopkins	I							4, 8	Soil and GW		
2010	Yes	Napco - West	Hopkins	I							4	Soil		
2800	No	Neal Slate Building	Eden Prairie	I		C	I			Completed	1	Soil and GW	10 ppm	Landfarm soil-mon GW
3770	Yes	New Brighton Redevelopment	New Brighton	I				I	NA	No Action Letter issued for	1	Ground Water		
3540	No	New Hope Distribution Center	New Hope	C		C			LNA		1, 2	Soil		
1810	No	New Hope HUD	New Hope							To RCRA				
0260	Yes	New Ulm Gas Manufacturing	New Ulm	I							2, 5	Soils, GW		
2780	No	Newport Building, The	Newport	I						Inactive	1, 2, 4, 7	Soil and GW		
2781	Yes	Newport Plaza	Newport	I						Same property as PT2780	1, 2, 4, 7	Soil and GW		
3710	No	Nicollet Good Samaritan	Minneapolis	C					LNA	Completed	4	Ground Water		
3080	Yes	Nobles Industries	St. Paul	C	C		I			Clnp in Progress	1	Soil	Non-Detect	Soil Venting

Minnesota Voluntary Investigation And Cleanup Program
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IRA = Interim Response Action	I = In Progress	3-Inorganics	GW-Ground Water
RA = Response Action	NA-No Action Letter	4-Petroleum/Fuel Oil	SW-Surface Water
M = Groundwater Monitoring	LNA-Limited No Action Lett.	5-PAH	PPM-Parts per million
LI = Letter Issued	OS-Off Site Source Determ.	6-PCB	PO-Pumpout
	NAD-No Association Determ.	7-Pesticides	PPB-Parts per billion
	CC-Certificate of Completion	8-Dump/Demo Debris	

PT#	Active	Project Name	City	Status						Comments	Contam.	Media Impacted	Cleanup Level	Technology Used
				RI	FS	IRA	RA	M	LI					
4010	No	Nor-ell	Fridley	C					NA		2			
3080	No	Norm McGrew and 3rd	Minneapolis							To CERCLIS				
2240	No	Norm McGrew Place	Minneapolis	C					NA	Completed	6	Soil	None Needed	
4240	Yes	Norm's Cleaners	Minneapolis	I							1		None Needed	
1530	Yes	North St. Paul Dump	North St. Paul	I							8	Soil		
2880	No	Northern Package Corp.	Bloomington	C					NA	Completed	1	Ground Water	Off-Site Source	
2840	No	Northern Star ADM	Minneapolis	C						To Superfund	1, 2, 5, 6	Soil and GW		
2830	No	Northern Star Westgate	St. Paul	C						To Superfund	1, 2, 5, 6	Soil and GW		
0280	Yes	Northfield Dump	Northfield	I										
3480	No	Northtown Mall	Blaine	C							2, 4	Soil and GW		
4980	Yes	Northwest	Minneapolis	I							1	Soil		
2580	Yes	Northwest Automatic Products	Minneapolis	C	C	N	I				1	Soil		
3830	Yes	NSP Gas Pipeline	St. Paul	I	N	N	I	N						
5030	Yes	NSP - Aldrich Substation	Minneapolis	I							4,6	Soil		
1750	Yes	NSP High Bridge	St. Paul	C	I	I		I			3, 4, 5	Soil and GW		
2440	No	NSP/Junkers	Oak Park Heights							To CERCLIS				
4340	Yes	Obelok Estate	Minneapolis	I										
1780	No	Old Highway 8 Site	New Brighton	C					NA	Completed			None Needed	
1680	Yes	Old Minnetonka Dump	Minnetonka	C	C		I				1,2,4,5,6,8	Soil and GW	RALs	Encap/Cap/GW pumpout
1090	No	On the Avenue (Cleanup under PT 1370)	St. Louis Park	C	C	N	I			Clnp in progress	1	Ground Water	RALs	Pumpout
2180	Yes	Orient Square (See PT 2100)	Minneapolis	I	I						5	Ground Water		
3360	Yes	Ottertail Power Co.	Ortonville	I							Ash	Soil		
0270	Yes	Owatonna Gas Manufacturing	Owatonna	I							2,5	Soil, GW		
4630	No	Page & Hill Forest Products	Big Falls	I						Transferred to RCRA				
2950	Yes	Paper Calmenson	Roseville	I							1, 4	Soil		
1370	Yes	Park Nicollet (See PT1090)	St. Louis Park	C	C	N	I	I		Clnp in progress	1, 6	Soil and GW	RALs	HW rem/PO/Meth vent
3330	Yes	Parvena Elevator	Faribault	I							6	Soil		
1350	No	Pavelicek Property	New Brighton							To CERCLIS				
5180	Yes	PIE Terminal	Minneapolis	I							1,4,6	Soil & GW		
4280	Yes	Pilgrim Cleaners	Brooklyn Center	I										
0150	Yes	Pine Street Dump		I										
2580	No	Pioneer Portec	Minneapolis	C					NA	Completed	1	Ground Water	Off-Site Source	
3950	Yes	Pioneer Power, Inc.	St. Paul	I						Withdrawn	1	Ground Water		

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PT#	Active	Project Name	City	Status						Comments	Contam.	Media Impacted	Cleanup Level	Technology Used
				RI	FS	IRA	RA	M	LI					
4380	Yes	Plymouth Avenue Apartments	Minneapolis	I					NAD		1,4	soil		
1830	No	Polymer Composites	Goodview						NA	Completed	1, 2	Soil and GW	Off-Site Source	
2610	No	Prairie Center Drive	Eden Prairie	C	N	N	C	N	LNA	Completed	1	Soil	No Detect	Landfarm
4280	Yes	Proposed Arby's Restaurant	St. Cloud	C					LNA	Completed				
3210	No	Q. Carriers	Shakopee	C					NA	Completed	1		None Needed	
3930	Yes	Quebecor	St. Cloud	I							1	Soil and GW		
3270	Yes	Rathcke Property	Pequot Lakes	I							1, 5, 7	Soil		
0060	Yes	Red Wing Gas Manufacturing	Red Wing	I	C						2, 5	Soil		
2890	Yes	Red Wing Publishing	Red Wing	I	I	I				Clnp in progress	1	Soil and GW	Soil - 5 ppm	Landfarm/Bioventing
0140	Yes	Reese Welding	Wheaton	I										
5170	Yes	Remmele Engineering	St. Paul	I										
2660	No	Restaurant, The	Minneapolis	I						Withdrawn				
4370	Yes	Richfield Mitsubishi	Richfield	C	N	N	N	C	OS	Completed	1			
5050	Yes	Richfield Redevelopment	Richfield	I							1	GW		
3020	No	Ritter Phase II	St. Paul							To CERCLIS	1, 4	Soil and GW		
5160	Yes	River Road Business Center South	Fridley	I										
4350	No	Riverview Business Park	St. Paul	C					NAD		1,8	Soil and GW		
2600	Yes	Rochester Riverfront	Rochester	C			I				1	Soil	None Needed	
2730	No	Rochester Sewage Lagoons	Rochester	I						To CERCLIS	1, 2	Soil and GW		
4180	Yes	Rocket Crane Service	Minneapolis	I							1	Ground Water		
4500	Yes	Rosemount Burn Site	Rosemount	I							1	soil		
1740	No	Rosemount Die Casting	Rosemount	C			C		LNA	Completed	2	Soil	5 ppm on the hNu	Excavate
3080	Yes	Roseville Diesel	New Brighton	I				I			2, 4, 5	Soil and GW		
4320	Yes	Rosewood Estate	Maplewood	C	N	N	N	C	NA	Completed				
1220	No	Rubbish Ranch Dump	Inver Grove Hts.							To CERCLIS	1, 2	Soil		
3400	No	Ruby Development (see pt 1210)	Mankato							To CERCLIS	1, 2	Soil		
2740	Yes	Sawmill Run	Minneapolis	C	C		C		CC	Completed	1, 4, 5	Soil and GW	Soil- 2 ppm on hNu	Incinerate soil
1260	No	Schult Automatic	Blaine	C			C			Completed	1	Soil	Non-Detect	Landfarm
4570	Yes	Security Financial	St. Cloud	I										
2880	No	Sentinel Building	Edina	I	N	N	N	N	N	Withdrawn	2	Soil and GW	None Needed	
2620	Yes	Shakopee Dumps	Shakopee	I	I	I					8	Soil		
1520	Yes	Shepard Road Sites	St. Paul	I							1, 2, 3, 4, 6, 8	Soil and GW	See Individual Sites	Various
2270	No	Shopco Site	Hutchinson	I						To CERCLIS	1			

Minnesota Voluntary Investigation And Cleanup Program
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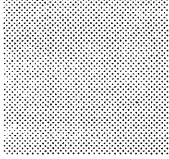
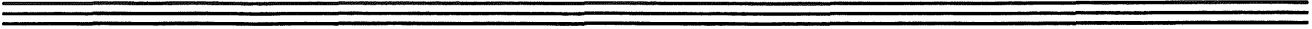
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PT#	Active	Project Name	City	Status						Comments	Contam.	Media Impacted	Cleanup Level	Technology Used
				RI	FS	IRA	RA	M	LI					
1630	No	Twin City Testing (Cromwell Ave. Site)	St. Paul	C		C			LNA	Completed/CERCLIS	1, 5, 7	Soil		
4860	Yes	UHL Site	Maple Grove	I							2	Soil		
1460	No	Union Carbide	Minneapolis	C					NA	Completed	1	Ground Water	Off-Site Source	
1250	Yes	Unisys Eagan	Eagan	C	C	N	I	I		Clnp in progress	1	Soil and GW	RALe	Pumpout to sewer
1420	No	Unisys Jackson	Jackson	C					NA	Completed	1, 2, 3	Ground Water	None Needed	UST removed
1580	Yes	Unisys Midway	St. Paul	I			I				1	Ground Water	RALe	Pumpout and treat
1320	No	Unisys Park Defense Plant	Eagan	C						To RCRA				
1570	No	Unisys Roseville	Roseville	C						To RCRA				
1580	No	Unisys Shepard Road	St. Paul	I						To RCRA				
1400	Yes	United Properties	Minneapolis	I						Reinvited 3/30/84	1, 4, 5	Soil and GW		
3610	Yes	United States Postal Service -VMF	St. Paul	I							2	Soil		
3820	Yes	Unitog	Minneapolis	I							1	Ground Water		
1100	No	University Corridor	Minneapolis							Inactive				
3170	No	University Health Care	Minneapolis	C				C	OS	Completed	1, 7	Ground Water	Off-Site Source	
1670	Yes	Unocal	St. Paul	C	C						1	Soil and GW		Soil vapor-pilot study
2160	No	Unocal Dewater	St. Paul	C						Inactive	N/A			
4780	Yes	Unocal IGH	Inver Grove Heights	I							1	GW		
3550	Yes	Unocal, City	St. Paul	C	C						1, 5	Soil and GW		
1950	No	URAP Industrial Park	St. Paul	C			C		NA	Completed	1, 4	Soil	10 ppm	Landfarm
4330	Yes	Urban Ventures	Minneapolis	I							4	Soil		
4940	Yes	Vacant Warehouse	Eagan	I							1	Soil, GW		
1871	Yes	Venturian Office Property	Hopkins	I										
3630	No	Viking Gas, Humbolt	Humbolt	C			C		LNA	Completed	1, 5, 6	Soil		
3640	Yes	Viking Gas, Staples	Staples	I				I			1, 5, 6	Soil and GW		
3100	Yes	Vinyl Therm	Bloomington	I						To CERCLIS	1	Ground Water		
0180	Yes	Virginia Gas Plant	Virginia	I							5,2	Soil,SW,GW		
2760	No	Vogel Manufacturing (See PT 3880)	St. Paul	I						Inactive	2	Soil and GW		
2420	Yes	Vomela Specialty Co.	St. Paul	I							1	Ground Water		
4400	Yes	Walker Lumber	Minneapolis	I							2,5	Soil and GW		
5020	Yes	Waltek, Inc.	Ramsey	I							1	GW		
2500	No	Wards Midway	St. Paul	C			I		NA	Completed	1	Soil and GW	Off-Site Source	
1200	No	Warner/Shepard Road	St. Paul	C			C	I	LNA	Completed	5	Soil and GW		Excavate to landfill
3810	Yes	Warren Shade	Minneapolis	C	N	N	C	N	LNA	Completed	1	Soil		

Minnesota Voluntary Investigation And Cleanup Program
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PT#	Active	Project Name	City	Status						Comments	Contam.	Media Impacted	Cleanup Level	Technology Used
				RI	FS	IRA	RA	M	LI					
3760	Yes	Waterville Health Care	Waterville	I							4	Soil		
3280	Yes	West Duluth K-Mart	Duluth	C					NAD		1	Ground Water		
1380	No	West River Parkway	Minneapolis	C	C					To Superfund	5	Soil		
1381	Yes	West River Parkway	Minneapolis	I							5	Soil		
2230	Yes	Westgate	St. Paul	I		C				Partially Complete	1, 2, 4, 5	Soil and GW	Remove Barrels	Lndfrm /Tank & Drum rem
3180	No	Westin, Inc.	St. James	I						To CERCLIS	2			
4900	Yes	Westway	St. Paul	I										
4250	Yes	Wet Jet Fiberglass	Paynesville	I							1	Soil and GW		
1030	No	Whirlpool	St. Paul	C					NA	Completed	2, 7	Soil	None	
1040	No	Whirlpool	St. Paul	C					NA	Completed	2, 7	Soil	None	
4080	No	Whirltrionics/Northstar Universal	Brooklyn Center	C					LNA	Completed	6,2	Soil		
1330	No	White Bear Lake Rod & Gun Club	White Bear Lake							Withdrawn	2	Soil		
0120	Yes	White House Site	Golden Valley	I							5			
2000	No	White House Site	Golden Valley	I						To VCP	5			
2050	Yes	White Way Cleaners	Minneapolis	I		I					1	Soil and GW		
2360	No	White Way Cleaners Whittier	Minneapolis	I						Withdrawn	1	Soil and GW		
3680	Yes	Wilensky Properties		I	I						2, 5	Soil and GW		
3650	No	Wilkins Pontiac	St. Louis Park	C		C	C		LNA		2,4	Soil		
0180	Yes	Willmar City Dump Site	Willmar	I										
1430	Yes	Zane May	St. Paul	C					NA		1	Soil and GW		





Appendix 3: Minnesota Hazardous Waste Site Status Report

STATUS OF MINNESOTA SUPERFUND SITES

JUNE 1994

SITE NAME/LOCATION	CITY	HRS SCORE	CLASS	NPL	RFRA ISSUED	CONSENT ORDER	ROD ISSUED	CERCLAS (MILLION)	MERLAS (MILLION)	ESTIMATE OF RESP. PARTY \$ (MILLION)	CLEANUP PHASE					MEDIA IMPACTED	CONTAM.	Technology Used	
											RI / FS	RD	IRA	RA	O&M				
ADM / HIGHWAY 280	Minneapolis	15	C,D							0.100	O								
AGATE LAKE SCRAP YARD	Brainerd	30**	C	X	1/28/86		1/13/94			0.600	X	X	X		O		SOIL,GW	2,4,5,6	excavation
ANCHOR GLASS CONTAINER	Shakopee	16	C,D							0.775	O	O					SOIL,GW	2,3,6	
ANDERSEN WINDOW	Bayport	24	C,D			1/27/87			0.025	2.000	X	X	C	C	C	IO	GW	1	pump&treat
ANOKA MUNICIPAL SANITARY LANDFILL	Ramsey	51	C			5/30/85				8.000	X	X	X		IO				
ARROWHEAD REFINERY CO./soils/Source	Hermantown	40	C	X	11/27/90		2/7/94	4.200	0.080	3.200	XF	XF	OSF		R		SOIL,GW	1,2,5,6	collection,pump and treat
--Ground water							9/26/86	1.700	0.020	3.200	X	X	X		IO		GW	1,4,5	collection
ARSENIC SITES - ABOVE GROUND, STATEWIDE ^ (MDA)									0.435		XS				OS		SOIL	7	collection
ARSENIC SITES - BELOW GROUND, STATEWIDE ^									0.923		XS		XS		OS		SOIL,GW	2	excavation
ASHLAND OIL CO. - COTTAGE GROVE	Cottage Grove	34	C,D		3/26/85					0.367	X	R	R		R		SOIL	1,2,5	
ASHLAND OIL CO. - PINE COUNTY	Pine City	22	C,D		12/18/84		6/5/92			0.271	X	X	X		O	O	GW	1,2,5	spray aeration
ASHLAND OIL/PARK PENTA/SONFORD PROD.	St. Paul Park	32	C,D							1.100	X	X	X				SOIL,GW	1,5,6	pump&treat
ASHLAND REFINERY,	St. Paul Park	32	C,D			1/22/91				3.000	X	X	X		R		SOIL,GW	1,2,5	pump&treat, thermal
B.J. CARNEY COMPANY	Minneapolis	38	C,D							0.300	O	R	R		R		SOIL,GW	5	
BASSETT CREEK/IRVING AVENUE DUMP	Minneapolis	10	C,D							0.234	X	O					GW,SW	8	
BATTLE LAKE AREA SAN. LDFL.	Clietheral Twn.	34	C,D		4/23/91				0.119		XS								
BAYTOWN TWP. GW CONTAMINATION	Baytown	38	C,D		8/27/91			0.050	0.410	0.250	OS	R	R		R		GW	1	
BECKER COUNTY SANITARY LANDFILL	Detroit Lakes	28	C,D							0.950	X	X	O						
BELL LUMBER AND POLE CO.	New Brighton	48	C,D	X	2/28/84	5/30/85			0.030	8.100	X	X	X	O	O		SOILS,GW	5	incineration,pump & treat
BEMIDJI GAS MFG.	Bemidji	14	C,D														SOIL	5	
BOISE CASCADE/MEDTRONIC	Fridley	59	B	X		1/24/84				2.000	C	C	X		X		SOIL, GW	5	
BOISE CASCADE/ONAN	Fridley	59	B	X		12/28/84				3.800	C	C	X		X		SOIL,GW	1,5	
BOISE CASCADE PAINT WASTE DUMP	Ranier	17	B		2/26/85	6/25/85				2.000	X	X	X		X		SOIL,GW	1,2,5	
BRAINERD FORMER CITY DUMP	Brainerd	38	C,D						0.010		OS						SOIL,GW	1,2	
BROOKLYN PARK DUMP	Brooklyn Park	36	C,D					1.200	0.025	0.160				XF			SOIL,GW	6,8	
BUECKERS #1 SANITARY LANDFILL, STEARNS COUNTY	Melrose	25	C,D		10/11/90				0.025		XS	XS	OS		R				
BURLINGTON NORTHERN, BRAINERD (HAZ WASTE DIV.)	Brainerd	47	B	X	11/28/83	3/26/85	6/10/86			2.000	X	X	X		O				
BURLINGTON NORTHERN CAR SHOPS-BRAINERD	Brainerd	38	C,D							0.320	O						SOIL,GW	1,2,5	
BURLINGTON NORTHERN CAR SHOP-WAITE PARK	Waite Park	38	C,D		10/22/85				0.030	4.000	X	O	O		O		SOIL,GW	1,2,4,5,6	solidification/stabilization
BURNSVILLE SANITARY LANDFILL	Burnsville	43	B		4/28/87		4/15/93			1.020	X	R	X		O		GW	1	

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JUNE 1994

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											RI / FS	RD	IRA	RA	O&M				
CASTLE ROCK GND. WTR. CONTAM. (MDA)	Castle Rock	25	C,D						0.017	0.181	O					SOIL,GW	7	SVE,excavation	
CEDAR SERVICE (MDA)	Minneapolis	17	C,D						0.079							SOIL	7		
CLAY COUNTY SANITARY LANDFILL	Hawley	17	C,D								O								
CONOCO INC. - WRENSHALL REFINERY	Wrenshall	41	C,D		6/23/87					0.900	X	X	R		R	SOIL,GW	4,5		
CONTROL DATA CORP. - PRINTED CIRCUITS OPERATION	St. Louis Park	6	C			4/26/88	6/12/90			1.620	X	X	X		O	SOIL,GW	1	pump&treat	
CROW WING COUNTY SANITARY LANDFILL	Brainerd	14	C,D																
DAKHUE SANITARY LANDFILL, DAKOTA COUNTY--COVER --GND WTR-	Cannon Falls	42**	C,D	X		6/23/87	6/30/91 6/30/93	3.258	0.030	0.650	XF	XF	XF		XSF	O	GW		8
DEALERS MANUFACTURING CO.	Fridley	28	C,D							0.030	XF	XF	XF		XSF		SOIL,GW		1
DODGE COUNTY SANITARY LANDFILL	Mantorville	25	C,D													GW	1	1,2,3,4,5,6,7	
DULUTH AIR FORCE BASE	Duluth	21	C,D		8/28/90					3.700	O	O	R		R	SOIL,GW			
DULUTH FORMER CITY DUMP	Duluth	28	A,C,D		8/23/88				0.094	0.170	O	R	R	XS	R	GW, SED.	8		
EAST BETHEL DEMOLITION LANDFILL, EAST BETHEL	East Bethel	31	C,D	X		4/28/87	12/30/92			3.200	X	X	O		R				
EAST MESABA SANITARY LANDFILL, ST. LOUIS COUNTY	Virginia	14	C,D																
ECOLOTECH, INC.	St. Paul	3	B		8/23/83	3/27/84			0.070	1.500	X	X	X		X	SOIL, GW	2	CAP packed tower aeration	
8701 CONCORD BLVD. INVER GROVE	Inver Grove Heights	28	C,D							0.010	O					SOIL	1,2		
ELECTRIC MACHINERY	St. Cloud	38	B		3/25/86		1/5/89			2.550	X	X	X		X	GW	1		
ELECTRONIC INDUSTRIES, INC.(HAZ. WASTE DIV)	New Hope	26	C			1/24/84				0.150	O	O	C		O				
ELK RIVER SANITARY LANDFILL	Elk River	25	C,D								O								
ELYSIAN FORMER CITY DUMP	Elysian	23	C,D														8	thermal Blending	
FMC CORP. - FRIDLEY PLANT (VAULT) (GROUND WATER PUMPOUT)	Fridley	66	B	X		6/08/83 10/28/86	12/3/85			6.000	C	C	X		X	SOIL,GW	1		
FARIBAULT COAL GASIFICATION PLANT SITE	Faribault	46	B		10/28/86	7/26/88	6/07/88			1.210	X	X	X		X	SOIL,GW	3,5		
FARIBAULT MUNICIPAL WELL FIELD	Faribault	36	C,D								SF				O	GW	1		
FERGUS FALLS SANITARY LANDFILL	Fergus Falls	25	C,D								O							1,2 8 1	
FLYING CLOUD SANITARY LANDFILL	Eden Prairie	40	C			9/25/85				12.000	X	X	X		O	SOILS, GW			
FOOT, S.B. TANNING SLUDGE DISPOSAL AREA	Red Wing	25	C,D																
FREEWAY DUMP (OLD)	Burnsville	66	C,D																
FREEWAY SANITARY LANDEILL	Burnsville	46	C,D	X	2/25/86				0.228	1.400	X		R		R	GW			
FRIDLEY COMMONS PK. WELL FIELD	Fridley	42	C,D						0.010		OF		OS			GW	1	blending	
GENERAL COATINGS	Eagen	10	D							0.010	O					SOIL	1,2,5		
GENERAL FABRICATION	Forest Lake	34	C,D						0.012		OS					GW	1,2		
GENERAL MILLS	Minneapolis	39	B	X		10/23/84				1.533	C	C	X		X	SOIL,GW	1		
GLIDDEN	Minneapolis	11	C,D								O					GW	1,5		

STATUS OF MINNESOTA SUPERFUND SITES

JUNE 1994

SITE NAME/LOCATION	CITY	HRS SCORE	CLASS	NPL	RFRA ISSUED	CONSENT ORDER	ROD ISSUED	CERCLAS (MILLION)	MERLAS (MILLION)	ESTIMATE OF RESP. PARTY \$ (MILLION)	CLEANUP PHASE					MEDIA IMPACTED	CONTAM.	Technology Used
											RI / FS	RD	IRA	RA	O&M			
GOFER SANITARY LANDFILL, MARTIN COUNTY		26	C,D															
GOPHER OIL-DELAWARE	Minneapolis	3	C,D															
GOPHER OIL-THORNTON	Minneapolis	3	C,D		8/28/90		12/29/93			3.000	X	X	O		O			
GRAND RAPIDS AREA SANITARY LANDFILL	Grand Rapids	34	C,D								O							
GREATER MORRISON SANITARY LANDFILL	Little Falls	29	C,D								X	X	O					
HANSEN & MANKATO SANITARY LANDFILL, BLUE EARTH CO.	Mankato	19	C,D															
HASTINGS FORMER CITY DUMP	Hastings	31	B							0.135	O	C	R		R			
HIGHWAY 96 DUMP	White Bear Twp.	31	C,D		7/22/86		10/7/93		0.250	2.500	X	X	X	X	O			water system, pump& treat, cover
HONEYWELL, INC.- GOLDEN VALLEY PLANT	Golden Valley	31	C		5/30/85	11/19/85	6/19/90			3.030	C	C	C		O			pump&treat
HOPKINS SANITARY LANDFILL	Hopkins	15	C,D			6/30/88				2.500	O							
HOUSTON COUNTY SANITARY LANDFILL	Caledonia	25	C,D		6/28/92					0.650	X	X	R		R			
HOWE CHEMICAL SOIL CONTAM. (MDA)	Granada	12	B						0.038	0.115	X	X	X		X	O		landspreading
HUTCHINSON TECHNOLOGY, INC.	Hutchinson	9	B							0.550	C	C	C		O			
INTERPLASTIC CORP.	Minneapolis	18	C,D		7/23/91		6/13/94			0.580	X	X	X	X	R			SVE, pump&treat
IRONWOOD SAN. LDFL. (ADV. TRANSFMR.)	Spring Valley	34	B			8/26/86				1.400	X	X	X		X	O		pump&treat
ISANTI-CHISAGO SANITARY LANDFILL--COVER--GND WTR-	Center City	34	C,D		6/16/88		2/19/92		0.125	0.800	X	X	X		X	O		
ISANTI RUMPEL, ISANTI COUNTY	St. Francis	13	C,D		7/1/83	11/12/87	3/15/91		0.140	0.150	X	X	OS		R			ISV
ISANTI SOLVENT SITE, SCHUMACHER	Isanti	30	C,D		7/1/83	11/12/87	6/15/90	1.250	0.150	0.982	X	X	X	C	IO			
JOSLYN MFG. & SUPPLY CO., BROOKLYN CENTER	Brooklyn Center	44	C	X	9/27/83	5/30/85	7/31/89			8.550	X	X	X		O			landtreatment, pump&treat
KANABEC CO. SANITARY LANDFILL, ARTHUR TWP.	Mora	21	C,D								O							
KANDIYOHI COUNTY SANITARY LANDFILL	New London	41	C,D								O							
KAPLAN, H.S. SCRAP IRON AND METAL CO.	St. Paul	4	C,D							0.200	X	X						excavation
KARLSTAD SANITARY LANDFILL, KITTSOON COUNTY	Karlstad	10	C,D															
KILLIAN SANITARY LANDFILL, TODD COUNTY	Motley	19	C,D						0.020									
KLUVER SANITARY LANDFILL, DOUGLAS COUNTY	Alexandria	39	C,D															
KOCH REFINING/N-REN CORP.	Rosemount	31	C	X	1/22/85	10/22/85	9/21/91			2.000	X	X	O		O			
KOOCHICHING COUNTY SANITARY LANDFILL	International Falls	27	C,D															
KOPPERS COKE,	St. Paul	55	C,D	X	3/25/86		4/21/94			1.030	X	O	O		O			excavating, insitu BIOremediation
KORF BROS. SANITARY LANDFILL, PINE COUNTY	Pine City	25	C,D						0.025									
KUMMER SANITARY LANDFILL, BELTRAMI CO.-DRINKING WTR.-COVER	Bemidji	42**	C,D	X	6/26/84		6/12/85	2.033	0.067	0.245		XF	XF		XF			
-GND. WATER							9/30/88	3.890	0.282		XF	XF	XF		XSF	O		
KURT MANUFACTURING	Fridley	31**	B	X	4/24/84	8/24/84	5/13/86	1.990	0.210	0.550	XF	XF	XF					
											X	X	O		O			pump&treat

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JUNE 1994

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											RI / FS	RD	IRA	RA	O&M				
La GRAND SANITARY LANDFILL, DOUGLAS COUNTY	Glenwood	34**	C,D	X	7/28/87		9/30/92	0.600	0.019		XF	XF	XF		OF				
LAKELAND GROUND WATER CONTAMINATION	Lakeland	38	A,C,D				4/21/91		2.200		XS	XS	XS		XS		GW	1	
LEECH LAKE SANITARY LANDFILL, HUBBARD CO.	Cass Lake	25	C,D						0.030		XS								
LeHILLIER/MANKATO	Mankato	42**	B	X			9/30/85	2.925	0.172		XF	XF	XSF		XSF		GW	1	pump&treat
LEWISTON GROUNDWATER CONTAM. (MDA)	Lewiston	34	C,D						0.002	0.150	O	O	O		O		SOIL,GW	7	landspreading
LINDALA SANITARY LANDFILL, WRIGHT COUNTY	Annandale	29	C,D																
LONG PRAIRIE GROUND WATER CONTAMINATION	Long Prairie	32**	A,C	X			6/27/88	0.750	0.500		XF	XF	XF		OSF		SOIL,GW	1	GAC,SVE
LOUISVILLE SANITARY LANDFILL	Jordan	29	C,D		9/23/86					0.500	X	O	R		R		SOIL,GW		
MacGILLIS & GIBBS CO. -OPERABLE UNIT #1	New Brighton	48**	C,D	X	2/28/84		12/31/92	0.575	0.293	0.030	XF	XF	OF				SOIL,GW	2,5	
-OPERABLE UNIT #2 (EPA LEAD)		*					9/30/91				XF	XF	OF				SOIL,GW	2,5	
-OPERABLE UNIT #3		*									OF	OF					SOIL,GW	2,5	
McGUIRE WIRE SALVAGE SITE	Mora	20	C,D		8/28/90				0.585		XS	XS	XS	XS	XS		SOIL	2	treatment/removal
McLAUGHLIN GORMLEY KING	Minneapolis	4	B		1/22/85	11/19/85	9/28/87			0.526	X	X	X		X		SOIL,GW		
MEEKER COUNTY SANITARY LANDFILL	Litchfield	15	C,D																
METALS REDUCTION	St. Paul	2	C,D														SOIL	2	
MIBCO	Minnetonka	40	C,D																
MINNEAPOLIS COMM. DEV. AGENCY/FMC	Minneapolis	1	B			11/26/85				1.000	X	X	X		O				
MINNEGASCO	Minneapolis	42	C,D		6/24/86					5.000	X	O	O	X	O		SOIL,GW	3,5	pump&treat,thermal
NL INDUSTRIES/TARACORP/GOLDEN AUTO	St. Louis Park	40	C	X	1/11/84	2/26/85	9/23/88			0.985	X	X	X		X		SOIL,GW	2	
NORTHWEST REFINERY, FORMER	New Brighton	9	C		4/22/86					0.100	O	R	R		R		SOIL,GW,SW	1,2,5	
NORTHWOODS SANITARY LANDFILL, ST. LOUIS COUNTY	Ely	18	C,D																
NUTTING TRUCK & CASTER CO.	Faribault	38	B	X	9/22/83	4/26/84				0.210	X	X	X		X	O	GW	1	pump&treat
OAK GROVE SANITARY LANDFILL-GROUND WATER	Cedar	43*	C,D	X	8/28/84		12/21/90	1.277		0.400	XF	XF	X		X				
-FINAL COVER							9/30/88	0.256	0.078	6.500		XF	X		X				
OAKDALE DUMP	Oakdale	59	B	X		7/26/83				16.000	C	C	X		X		SOIL,GW	1,6	
OLMSTED COUNTY SANITARY LANDFILL	Oronoco	34**	D	X	7/25/89	12/19/89	6/8/94	0.037		2.024	X	O					GW	1	
PCI, INC.	Shakopee	52	B			6/25/85			0.020	0.300	C	C	C		X		SOIL,GW	1,2	removal/monitoring
PERHAM AIRPORT(MDA)	Perham	23	C,D														SOIL	7	
PERHAM ARSENIC SITE -GROUND WATER	Perham	38*	B,C,D	X	7/26/83			0.200	0.225		XF	OF		XF			GW	2	
PICKETT SANITARY LANDFILL, HUBBARD COUNTY	Park Rapids	34	C,D		4/26/88				0.075	0.410	O	R	R		R				
PIG'S EYE LANDFILL	St. Paul	43	C,D					0.035	0.100		XS						GW,SW	1,2,5,7,8	
PINE BEND/CROSBY SLF, --DRINKING WTR	nnver Grove Heigh	52**	C,D	X	10/22/84	10/23/90	9/30/91		0.150	2.000	X	X	X		R				
--SOURCE										1.000	X	O							
--CAP COVER									0.900	2.500					XS				

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											RI / FS	RD	IRA	RA	O&M			
PINE LANE SANITARY LANDFILL, CHISAGO COUNTY	Wyoming	25	C,D								X							
PINE STREET DUMP, DAKOTA COUNTY	Hastings	32	C,D															
PIPESTONE COUNTY SANITARY LANDFILL	Pipestone	27	C,D															
PONDEROSA SANITARY LANDFILL, BLUE EARTH COUNTY		25	C,D								O							
RED ROCK SANITARY LANDFILL MOWER COUNTY	Austin	29	C,D		12/17/91						R	R	R		R		GW,SW	1
REDWOOD COUNTY SANITARY LANDFILL REILLY TAR	Redwood Falls St. Louis Park	15 59*	C,D B,C,D	X	12/18/84	9/22/86		1.972		5.000							SOIL,GW	5
-PRAIRIE DU CHIEN-JOR. AQUIFER							6/6/84				X	X	X		X	IO	GW	5
-SLP # 10 & #15 GAC. ROD											X	X	X		X	IO	GW	5
-SLP #4-GRAD. CONT.																		
-SLP #23 SOURCE CONT.											X	X	X		X	IO	GW	5
-DRIFT-PLATTEVILLE AQUIFER							5/15/86				X	X	X		X	IO	GW	1,5
-GRADIENT CONT. -S.L.P. #422													X		X	IO	GW	1,5
-SOURCE CONT. -S.L.P. #421													X		X	IO	GW	1,5
-NORTHERN AREA:																		
-DRIFT AQUIFER							9/30/92				X	X	X		O		GW	1,5
-PLATTEVILLE AQUIFER							9/28/90				O	R	R		R		GW	1,5
-ST. PETER AQUIFER											X	X	X		X	IO	GW	5
-MT. SIMON-HINCKLEY AQUIFER											X	X	X		X		GW	5
-IRONTON-GAILSVILLE AQUIFER											X	X	X		X	X	GW	5
-LEAKING MULTI-AQUIFER WELLS																		
-OPEN TO MT. S-H, I-G, P.D.CH											O	O	R		R		GW	5
-OPEN TO ST. PETER											O	O	R		R		GW	5
-NEAR SURFACE CONTAMINATION											O	O	O		O		SOILS	5
-BIOREMEDIATION-SOURCE -UNIV. OF MN. STUDY								0.070			X							
-UNIV. OF NORTH CAROLINA STUDY											O						SOILS	1,5
-EPA SITE-FUNDED BIO-VENTING STUDY											O						SOILS	1,5
RICE MUNICIPAL WELL #2	Rice	22	B,C,D		5/21/91		7/23/93		0.503		XS	XS	XS	O	O		GW	1
RITARI POST AND POLE, WADENA COUNTY	Sebekka	30	C,D	X	2/25/86		6/30/94	0.893			XF	XF	OF				SOIL,GW	5
ROBINSDALE DEVELOPMENT SITE	Robinsdale	36	C							0.200	OS						SOIL,GW	1
ROCHESTER GAS MFG. -ZUMBROE RIVER WASTES	Rochester	37	C,D							0.750	X	X	X		X		SOIL,GW	5
-RIPARIAN WASTES										0.050	O							
ST. AUGUSTA SAN. LDFL./ENGEN DUMP, STEARNS COUNTY	St. Augusta	34	C,D	X	7/23/91			0.130	0.200	0.600	X	X	R		R		GW	1,2,8

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											RI / FS	RD	IRA	RA	O&M				
ST. LOUIS RIVER/INTERLAKE -OPERABLE UNIT---TAR SHEEPS -OPERABLE UNIT---SOIL -OPERABLE UNIT---SEDIMENT	Duluth	32**	C,D	X	3/26/91 5/25/93 5/25/93 3/22/94		9/14/90	1.140		0.700 0.750 0.050	O X O	O X O	O X O		O X O		SOIL SOIL,GW SED.	1,5 1,5 1,5	excavate,incinerate
ST. LOUIS RIVER/U.S. STEEL ST PAUL LEVEE PROPERTY	Duluth St. Paul	32 20	C C,D	X	9/27/83	3/26/85	2/17/89			5.025	O O	O O			O O		SOIL	2	
ST. PAUL PARK GROUND WATER CONTAMINATION ST. REGIS PAPER SALOL SANITARY LANDFILL, ROSEAU CO. SAUK CENTRE SANITARY LANDFILL SCHLOFF CHEMICAL	St. Paul Park Cass Lake Roseau Sauk Centre St. Loius Park	36 53 22 38 7	A,C,D B C,D C,D A,C,D	X	6/27/89 4/24/84	2/26/85		0.433		10.000 0.543 0.200	X X O XS XS	X X R R XS	X X R R C		X X R O	O X	GW SOIL,GW SOIL,GW	1 5 1	pump&treat pump&treat, vault, water system pump&treat
SCHNITZER IRON & METAL CO. SHAFER METAL RECYCLING SHELDAHL SIBLEY COUNTY SANITARY LANDFILL SOUTH ANDOVER, ANDOVER -OPERABLE UNIT #1 -OPERABLE UNIT #2 (EPA LEAD)	St.Paul Minneapolis Northfield Gaylord	10 41 21 9 35*	C,D C,D C,D C,D C,D	X	6/26/84	2/25/93	12/24/91	0.084 0.070	0.100	0.550 0.750 0.445 2.773	X O O XF	O O R XF	R R O O		R R R		SOIL,GW SOIL,GW SOIL, GW GW SOIL	2 2 1,2 1 1,5,6	
SPRING GROVE MUNICIPAL WELL FIELD STILLWATER CITY DUMP SUPERIOR PLATING, INC. 3M CHEMOLITE DISPOSAL SITE 3M KERRICK DISPOSAL SITE TELLJOHN SANITARY LANDFILL	Spring Grove Stillwater Minneapolis Cottage Grove Kerrick LeSueur	28 27 6 33 9 17	C C,D C,D C B C,D		1/27/91 1/22/85	5/30/85 .1/25/84	2/23/88			0.650 0.420 0.500 0.200	C X X X	C X X X	X R X		X O R		SOIL,GW SOIL,GW SOIL,GW SOIL, GW GW	1 5 1,2 1 1 1	collection, pump and treat
TONKA MAIN PLANT TONKA/WOYKE SITE TOWER ASPHALT TRJO SOLVENT SITE TWIN CITIES AIR FORCE RESERVE BASE	Mound Annandale Lakeland New Brighton Minneapolis	31 9 40 21 34	C B D B B,C,D	X	7/22/86 5/30/85 5/25/93 8/26/86 11/28/89	11/25/86		0.040		0.800 0.500 0.040 0.560 3.550	X X O X X	X X O X X	X X X X O		X X X X O	O	GW SOIL,GW GW GW SOIL, GW	1 1 1 1 1,4	pump&treat
TCAAP/NEW BRIGHTON/ARDEN HILLS/ST. ANTHONY SITE OFF TCAAP: -GROUND WATER -SEWER -ARDEN MANOR -NEW BRIGHTON WELL #7 -NEW BRIGHTON CARBON (TEMPORARY 1983) -ARDEN HILLS PIPELINE	New Brighton	59 ** * * * **	C,D	X		12/31/87	4/21/89	2.884 0.050 0.431 0.237	0.041 0.024	65.000	XF XF	R R	R R		R R				

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											RI / FS	RD	IRA	RA	O&M										
-YEPMA CONNECTION -ST. ANTHONY INTERCONNECTION -NEW BRIGHTON PERMANENT CARBON -ST. ANTHONY CARBON -OPERABLE UNIT 1 -OPERABLE UNIT 3	St. Anthony	**						0.140	0.004					XF	XF			XS XSF							
		**					9/30/93 9/30/92	3.400	0.332	7.900 3.000					XF	XF	XF		XSF	O	GW	1	carbon treatment		
ON TCAAP: -OPERABLE UNIT 2 -SITE A REMOVAL AUTHORITY -SITE D -SITE F RCRA ACTION					8/26/86	12/31/87	9/25/87 6/27/89								X	O	O		O						
															O	O			X	X					
															X	X	X		O						
U.S. NAVAL INDUS. RES. ORD. PLT. (NIROP)	Fridley	63	C,D	X	5/22/84	2/26/91	9/28/90			7.422				X	X	O		R			SOIL,GW	1			
U OF MINNESOTA - ROSEMOUNT RESEARCH CENTER	Rosemount	46	C	X	9/25/84	5/30/85	6/29/90			11.200				X	X	X		O			SOIL,GW				
UNION SCRAP II & III, MINNEAPOLIS	Minneapolis	12	C,D																		SOIL,GW	1,6			
VALENTINE-CLARK,	St. Paul	4	A,C,D							0.050				O			O				SOIL,GW,SW, SE	5			
VOSS SCRAPYARD	Belle Plaine	48	C,D							0.010				OS			O				SOIL	4,2			
WABASHA COUNTY SANITARY LANDFILL	Wabasha	22	C,D																		GW	1			
WADENA SANITARY LANDFILL	Wadena	25	C,D																		GW	1	pump&treat, aerataion		
WAITE PARK GROUND WATER CONTAMINATION	Waite Park	32	B	X	10/22/85					0.200	3.000			X	X	X		X	X		GW	1			
WASECA COUNTY SANITARY LANDFILL	Waseca	13	C,D											O							SOIL,GW	1,2		excavation	
WASHINGTON COUNTY LANDFILL, LAKE ELMO	Lake Elmo	42	C	X		10/24/84	9/27/90			3.000				C	C	X		X			GW	1			
WASTE DISPOSAL ENGINEERING	Andover	51	C	X	12/31/87	3/21/84	12/31/87			14.000				X	X	X		X	O		SOIL,GW	8	CAP, pump&treat		
WEST DULUTH INDUSTRIAL SITE	Duluth	11	B		1/28/86	9/08/86				1.100	0.815			X	X	XS		XS	O		SOIL, GW	1,2,6			
W. LAKE SUPERIOR SANITARY DISTRICT LDLF./DULUTH DUMP	Duluth	34	C,D											O							GW				
WESTLING MANUFACTURING	Princeton	32	C,D							0.450				O	O						SOIL, GW	1,2			
WEST RIVER PARKWAY	Minneapolis	10	C,D																						
WHITE HOUSE RESTAURANT	Golden Valley	39	C,D																						
WHITTAKER CORPORATION	Minneapolis	40**	B	X	4/23/85					1.505				X	X	X		X	O		SOIL,GW	1,2	pump&treat		
WINDOM DUMP	Windom	38	B	X	6/24/86		4/7/89			1.300				X	X	X		X	O		SOIL,GW	1,8	recovery well, spray field		
WINONA COUNTY SANITARY LANDFILL	Winona	34	B		3/26/85					0.400				X	X	X		X			SOIL,GW	1	excavation		
WINONA GROUND WATER CONTAMINATION	Winona	25	A,C,D		2/26/91					0.350	0.420			XS	XS	XS		IO			GW	1	pump&treat		
WINONA MUNICIPAL WELL FIELD	Winona	42	C,D																						
WOODLAKE SANITARY LANDFILL	Medina	16	C,D																						
YONAK SANITARY LANDFILL, WRIGHT COUNTY		28	C,D																						
TOTALS					43	79	50	59	37.757	13.071	309.185	173	131	112	16	97	27								

STATUS OF MINNESOTA SUPERFUND SITES

JUNE 1994

SITE NAME/LOCATION	CITY	HRS SCORE	CLASS	NPL	RFRA ISSUED	CONSENT ORDER	ROD ISSUED	CERCLAS (MILLION)	MERLAS (MILLION)	ESTIMATE OF RESP. PARTY \$ (MILLION)	CLEANUP PHASE					MEDIA IMPACTED	CONTAM.	Technology Used	
											RI / FS	RD	IRA	RA	O&M				
DELISTED SITES																			
ADRIAN MUNICIPAL WELL FIELD	Adrian	34		X	9/30/89			0.590	0.200		XF	XF			XS		GW		
AIRCO LIME MFG. COMPANY	Minneapolis	3															SLUDGE	3	recycling
AMDURA (AMHOIST)	St. Paul	13				2/28/89	6/20/94		0.797	0.250	C	XS	XS		XS	XS	SOIL,GW	2,4,5	excavation
ASKOV GROUNDWATER CONTAMINATION(Haz. Waste Div.)	Askov	18																	
ATWATER MUNICIPAL WELL FIELD	Atwater	31			12/16/86				0.260		XS	XS	XS		XS		GW	1	new well
CENTRAL COOP. OIL (MDA)	Medford	16									X	X	X		X	O	SOIL,GW	7	land spreading
DM&IR CAR SHOPS(Haz. Waste Div.)	Duluth																		
DNR-DUXBURY PESTICIDE	Duxbury	11			12/18/84					0.250	X	X	X		X	X	SOIL,GW	2	removal
DNR NETT LAKE/ORR PESTICIDE SITE	Orr	9																	
ECOLOTECH INC.	Minneapolis	3			8/23/83	3/27/84			0.070	1.500	X	X	X		X				
FORD TWIN CITIES ASSEMBLY LINE	St. Paul	8			6/26/90					0.755	X	X	X		X		GW		
FORMER MCKAY MFG. COMPANY	St. Paul	2															DRUMS	1,3	removal
43 E. WATER STREET	St. Paul	3															DRUMS	5	removal
FRITZ CRAIG SALVAGE SITE	Park Rapids	8																	
HOPKINS AGRICULTURAL CHEM./ALLIED CHEM.	Minneapolis	3			6/25/85					1.030	X	X	X		X		SOIL, GW	1,7	
HWK/MEEKER, DESIGN CLASSICS	Litchfield	24																	
ISANTI MARTIN, ISANTI COUNTY		3			7/1/83	11/12/87	3/15/91		0.010	0.150	X	X							
JACKSON MUNICIPAL WELL FIELD	Jackson	26							0.020		XS				XS		GW		
LANSING GROUND WATER CONTAMINATION	Lansing	17			4/21/89				0.455	0.600	X	X	X		O		SOIL,GW,SW	7	
LOST LAKE DUMP SITE	Mound	30																	
LUNDS FARMER SEED AND NURSERY (MDA)	St. Cloud	14							0.500	0.020	XS	XS	XS		XS				
MAPLE PLAIN DUMP	Maple Plain	34																	
MORRIS ARSENIC SITE	Morris	38			7/26/83			0.152			XF	XF							
NORTHERN TOWNSHIP GROUNDWATER CONTAMINATION																			
OWATONNA CITY DUMP	Owatonna	23							0.020										
POLYMETALS PRODUCTS INC.	St. Paul	2								0.260	X	X	X		X		SOIL	2	
PORTEC-PIONEER DIVISION(TANKS AND SPILLS)																			
SONFORD PRODUCTS ABANDONED TRAILER SITE	St. Paul Park	22												XF			DRUMS	2,5	removal
UNION SCRAP IRON AND METAL CO.	Minneapolis	43		X	1/28/86		3/31/90	1.200			XF	XF	XF		XF		SOIL	2	solidify
WADENA ARESNIC SITE, WADENA COUNTY	Wadena	25				7/26/83			0.280		XS	XS	XS		XS	XS			
WEISMAN SCRAP	Winona	25			3/25/86					0.500	X	X	X		X		SOIL,GW	4,6	removal,land treatment
total					2	11	4	3	1.942	2.612	5.315	17	16	13	1	14	5		

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JUNE 1994

		NPL	RFRA ISSUED	CONSENT ORDER	ROD ISSUED	CERCLAS (MILLION)	MERLAS (MILLION)	ESTIMATE OF RESP. PARTY \$ (MILLION)	CLEANUP PHASE					
									RI / FS	RD	IRA	RA	O&M	
NUMBER OF SITES THAT HAVE INITIATED "RI'S"-----	140													
NUMBER OF SITES THAT HAVE INITIATED "FS'S"-----	101													
NUMBER OF SITES THAT HAVE INITIATED "RD'S"-----	85													
NUMBER OF SITES THAT HAVE INITIATED IRA'S-----	16													
NUMBER OF SITES THAT HAVE INITIATED "RA'S"-----	75													
NUMBER OF SITES INITIATING "RA" OPER. AND MAINT.-----	20													
TOTAL NUMBER OF SCORED SITES-----	179	43	79	50	59	39.699	15.683	314.500	173	131	112	16	97	27

LIST OF ACARONYMS

HRS = HAZARD RANKING SYSTEM
 NPL = NATIONAL PRIORITIES LIST
 RFRA = REQUEST FOR RESPONSE ACTION
 ROD=RECORD OF DECISION/MINNESOTA DECISION DOCUMENT
 CERCLA = COMPREHENSIVE ENVIRONMENTAL RESPONSE COMPENSATION AND LIABILITY ACT
 MERLA = MINNESOTA ENVIRONMENTAL RESPONSE AND LIABILITY ACT
 RI = REMEDIAL INVESTIGATION
 FS = FEASIBILITY STUDY
 RD = REMEDIAL DESIGN
 RA = REMEDIAL ACTION
 O&M = OPERATION & MAINTENANCE
 IRA = INTERIM RESPONSE ACTION
 *= EPA LEAD
 **= STATE LEAD
 ^= OFFICIALLY NOT ON THE STATE PLP

RESPONSIBLE PARTY CODES

X = COMPLETED
 O = ON GOING
 C = COMPLETED PRIOR TO CONSENT ORDER
 R = REQUIRED UNDER CONSENT ORDER, STIPULATION AGREEMENT OR RFRA
 IO = INSTALLED AND OPERATING

GOVERNMENT-FINANCED CODES

OS = ON GOING-USING STATE SUPERFUND MONIES
 OF = ON GOING-USING FEDERAL SUPERFUND MONIES
 XS = COMPLETED-USING STATE SUPERFUND MONIES
 XF = COMPLETED-USING FEDERAL SUPERFUND MONIES
 XSF = COMPLETED-USING STATE AND FEDERAL SUPERFUND MONIES
 OSF = ON GOING-USING STATE AND FEDERAL SUPERFUND MONIES
 OSF = ON GOING-USING STATE AND FEDERAL SUPERFUND MONIES

MEDIA IMPACTED CODES

GW = ground water
 SW= surface water
 SOIL = soil
 SED = sediments
 AIR = air
 DRUMS = barrels/drums

CONTAMINATION CODES

1-VOC
 2-Metals
 3-Inorganics
 4-Petroleum/Fuel Oil
 5-PAH
 6-PCB
 7-Pesticides
 8-Dump/Demo Debris/Landfill
 9=Radiation

PLP SANITARY LANDFILLS STILL OPERATING UNDER

SW RULE/ENFORCEMENT/PERMIT ACTIONS

BURNESVILLE SANITARY LANDFILL
 CLAY COUNTY SANITARY LANDFILL
 CROW WING COUNTY SANITARY LANDFILL
 ELK RIVER SANITARY LANDFILL
 FERGUS FALLS SANITARY LANDFILL
 GREATER MORRISON COUNTY SANITARY LANDFILL
 KANABEC COUNTY SANITARY LANDFILL
 KANDIYOHI COUNTY SANITARY LANDFILL
 PINE BEND SANITARY LANDFILL
 PONDEROSA SANITARY LANDFILL
 WESTERN LAKE SUPERIOR SANITARY DISTRICT
 WINONA COUNTY SANITARY LANDFILL
 YONAK SANITARY LANDFILL

SITES ADDED TO THE JUNE 1994 PLP

SITES DELETED FROM THE JUNE 1994 PLP

AMDURA
 HOPKINS ALLIED
 WEISMAN SCRAP
 LANSING GROUND WATER
 CENTRAL CO-OP

Notes

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Minnesota Superfund

A Report on Use of the Minnesota Environmental Response,
Compensation and Compliance Fund during Fiscal Year 1994

Prepared by the Minnesota Pollution Control Agency and
the Minnesota Department of Agriculture



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