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NIROP FRIDLEY
5090.3a

MINNESOTA POLLUTION CONTROL AGENCY
Solid and Hazardous Waste Division

Agenda Item Control Sheet

Agenda # 14

MEETING DATE: May 22, 1984 APPEARANCE REQUESTED - YES: X NO: ____
SCHEDULED TIME: ____

PREPARED BY: David Richfield DATE PREPARED: May 4, 1984
DATE MAILED : May 11, 1984

SUBJECT: Request for Issuance of a Request for Response Action to the United States Department of the Navy and the FMC Corporation Regarding Contamination at and around the Naval Industrial Reserve Ordnance Plant located in Fridley

LOCATION: Fridley (CITY) Anoka (COUNTY)

TYPE OF ACTION:

Permit	____	Request For Hearing	____	New	____
Stipulation	____	Request for legal action	____	Modification	____
Contract	____	Variance request (feedlot)	____	Extension	____
Policy	____	Rulemaking	____	Revocation	____
Information	____	Administrative order	____	Other	X

RECOMMENDED ACTION: Ok gk 5/9

Issuance	X	Approval	____	No action needed	____
Denial	____	Authorization	____		

ISSUE STATEMENT:

The Naval Industrial Reserve Ordnance Plant (NIROP site) is a naval weapons manufacturing facility located in Fridley, which is owned by the United States Department of the Navy (Navy) and operated by the FMC Corporation. The release of hazardous substances have contaminated ground water and may have contaminated the Mississippi River in the vicinity of the NIROP site. In order to implement timely and adequate response actions to mitigate the release, the studies and remedial actions conducted by the Navy to date must be expanded. The MPCA staff recommend that the MPCA issue to the United States Department of the Navy and the FMC Corporation a Request for Response Action to complete a remedial investigation, conduct a feasibility study, and prepare and submit a remedial action plan for MPCA Director approval.

ATTACHMENTS:

1. Definitions
2. Request for Response Action
3. Map of NIROP site relative to FMC site
4. Map of areas of ground water contamination
5. ____

MINNESOTA POLLUTION CONTROL AGENCY
Solid and Hazardous Waste Division
Site Response Section

Request for Issuance of a Request for Response Action to the United States Department of the Navy and the FMC Corporation Regarding Contamination at and around the Naval Industrial Reserve Ordnance Plant located in Fridley

May 22, 1984

ISSUE STATEMENT

The Naval Industrial Reserve Ordnance Plant (NIROP site) is a naval weapons manufacturing facility located in Fridley, which is owned by the United States Department of the Navy (Navy) and operated by the FMC Corporation. The release of hazardous substances have contaminated ground water and may have contaminated the Mississippi River in the vicinity of the NIROP site. In order to implement timely and adequate response actions to mitigate the release, the studies and remedial actions conducted by the Navy to date must be expanded. The MPCA staff recommend that the MPCA issue to the United States Department of the Navy and the FMC Corporation a Request for Response Action to complete a remedial investigation, conduct a feasibility study, and prepare and submit a remedial action plan for MPCA Director approval.

I. BACKGROUND

The Environmental Response and Liability Act (Minnesota Superfund Act), Minn. Stat. Ch. 115B, establishes procedures through which the Minnesota Pollution Control Agency (MPCA) can protect the public health or welfare or the environment. The operative provisions of the Minnesota Superfund Act with respect to removal and remedial action are contained in section 17.

Section 17, subd. 1(a) provides that:

> Whenever there is a release or threatened release from a facility of any pollutant or contaminant which presents an imminent and substantial danger to the public health or welfare or the environment or whenever a hazardous substance is released or there is a threatened release of a hazardous substance from a facility:
>
> (a) The agency may take removal or remedial action relating to the hazardous substance, or pollutant or contaminant, which the agency deems necessary to protect the public health or welfare or the environment. Before taking any action the agency shall:

(1) Request any responsible party known to the agency to take actions which the agency deems reasonable and necessary to protect the public health or welfare or the environment, stating the reasons for the actions, a reasonable time for beginning and completing the actions taking into account the urgency of the actions for protecting the public health or welfare or the environment, and the intention of the agency to take action if the requested actions are not taken as requested;

(2) Notify the owner of real property where the facility is located or where response actions are proposed to be taken, if the owner is not a responsible party, that responsible parties have been requested to take response actions and that the owner's cooperation will be required in order for responsible parties or the agency to take those actions; and

(3) Determine that the actions requested by the agency will not be taken by any known responsible party in the manner and within the time requested.

In summary, section 17 requires that, before it takes removal or remedial action, the MPCA must (1) issue requests for response action to known responsible parties; (2) notify the owners of the property at which the requests for response action are directed (if the owners are not responsible parties); and, (3) determine that no known responsible party will take the action within the manner and time requested.

In addition, section 17 provides that, before it can issue a request for response action, the MPCA must find that (1) there is a release or threatened release; (2) the release or threatened release was from a facility; (3) the release or threatened release involves either (a) a pollutant or contaminant which present an imminent or substantial danger to the public health, welfare or the environment or (b) a hazardous substance; and, (4) the persons to whom the requests for response action are to be directed are responsible parties. The terms release; facility; pollutant or contaminant; hazardous substance; and, responsible parties are all defined in the Minnesota Superfund Act. These

definitions are set out in Attachment 1 and discussed in Part II of this Board Item.]

The attached Request for Response Action refers to authority found in Minn. Stat. Ch. 115B.17 and 115B.18. (See I.A. of the attached Request for Response Action.) The discussion above describes the requirements of Requests for Response Action issued under section 17. The discussion below explains the applicability and requirements of section 18 Requests for Response Action and the relationship between section 17 and 18.

Section 17 of the Minnesota Superfund Act establishes both the procedures through which the MPCA requires responsible parties to take removal and remedial action and the prerequisites for the MPCA to take the action itself. Among other things, section 18 establishes procedures for bringing actions against responsible parties to compel performance and for injunctive relief.

Like section 17, section 18 includes a provision related to Requests for Response Action:

> Subd. 3. [REQUESTS FOR RESPONSE ACTIONS.] A request for emergency removal action shall be made by the director. Other requests for response actions shall be made by the agency. A request shall be in writing, shall state the action requested, the reasons for the action, and a reasonable time by which the action must be begun and completed taking into account the urgency of the action for protection of the public health or welfare or the environment.

Unlike section 17, section 18 does not specify when the Requests for Response Action are to be issued. Given the focus of section 18, it is, however, reasonable to construe that section as requiring the MPCA to issue Requests for Response Action prior to bringing an action to compel performance or for an injunction.

The content of both section 17 and section 18 Requests for Response Action are largely the same: All section 17 Requests for Response Action will be sufficient to constitute section 18 Requests for Response Action. 1/ It is therefore efficient and reasonable for the MPCA to issue a joint section 17 and section 18 Request for Response Action. In doing so, the MPCA will preserve its options to take removal and remedial action or to bring an action to compel performance or for an injunction. For this reason, the MPCA staff recommends in this Board Item that the MPCA issue joint section 17 and section 18 Requests for Response Action.

In this Board Item, the MPCA staff requests that the MPCA make the four determinations necessary to issue a Request for Response Action to the United States Department of the Navy and the FMC Corporation. The actions requested of the Navy and FMC include the completion of a Remedial Investigation, the initiation and completion of a Remedial Action Feasibility Study, and the preparation of a Remedial Action Plan. These actions and the reasons for the actions are more fully described in Part II.F. below.

1/ Prior to making section 17 Requests, the MPCA must make four preliminary determinations (see discussion supra.) Although it is not explicitly required, these four determinations probably need also be made before a section 18 Request is issued.

There is, however, a substantive difference in the actions the MPCA must take under section 17 and under section 18 after it has issued a Request for Response Action. That is, under section 17, the MPCA may not take removal or remedial action until after it finds that no responsible party will take the action in the time and manner requested in the Request for Response Action. Under section 18, however, the MPCA need not make this finding and may simply commence an action to compel performance or for an injunction after it has issued a Request for Response Action.

The purpose of this Board Item is to provide the MPCA with sufficient information to make the four determinations which are conditions precedent to the issuance of a Request for Response Action. The MPCA staff recommends that the MPCA make the four determinations, conclude that the requested action is reasonable and necessary, and authorize the issuance of the attached Request for Response Action.

II. DISCUSSION

This discussion is divided into six sections, one providing a narrative discussion of the history underlying this Request for Response Action (Part II.A.); one for each of the four determinations that must be made before a Request for Response Action can be issued (Parts II.B. - II.E.); and, finally, one describing the requested action and timetable (Part II.F.)

A. History underlying this Request for Response Action

The Naval Industrial Reserve Ordnance Plant (NIROP) is an 83 acre site in Fridley, Minnesota that has been operational since 1941 when the facility first began manufacturing naval weapon systems such as guns and torpedo tubes. Although the weapon systems that have been manufactured have changed over the years, the general types of wastes generated at the facility have not changed. Wastes generated at the facility include; paints, solvents, lubricants, oils, and plating waste.

A report prepared by the Navy entitled "Initial Assessment Study of Naval Industrial Reserve Ordnance Plant, Minneapolis, Minnesota" dated June, 1983, reported that the following wastes may have been disposed at the NIROP site:

generic wastes

lubricating oils	plating sludge
paint sludge	cleaning solvents
degreasing solvents	industrial solvents
industrial solvents	foundry core butts
construction debris	scrap metal
lumber	concrete

specific compounds

trichloroethylene	1,1,1-trichloroethane
toluene	naptha
methyl ethyl ketone	cyanide
cadmium	chromium
copper	lead
manganese	nickel
silver	tin
zinc	

The MPCA staff first became involved with the NIROP site as a result of anonymous complaints in 1980 and 1981 regarding disposal of hazardous wastes at the NIROP site and at the adjacent FMC site. 2/ At the request of the MPCA staff, the Navy initiated in October, 1982 a review of historical data, aerial photographs, personnel interviews and field inspections to identify possible hazardous waste disposal areas. In June, 1983 the Navy submitted the results of their review in a report entitled "Initial Assessment Study of Naval Industrial Reserve Ordnance Plant, Minneapolis, Minnesota." The report identified two possible disposal areas of primary concerns: (1) trench site and (2) borrow pit site.

2/ Map #1 attached to this Board Item shows the location of the NIROP site relative to the FMC site.

The trench site involved two trenches reportedly excavated in 1972 and filled with 50 to 100 drums. The drums were believed to contain hazardous wastes. A 1972 aerial photograph shows the trenches as they were being filled with drums. The borrow pit site involved two borrow pits which were reportedly used in the late 1960's or early 1970's for disposal of 35 drums of wastes and miscellaneous construction debris.

The Navy initiated a ground water monitoring program at the NIROP site in October, 1983 at the request of the MPCA staff. The results of the monitoring program show that the Prairie du Chien-Jordan aquifer and alluvial aquifer at the NIROP site is contaminated by trichloroethylene and traces of other solvents. The ground water monitoring program also indicated that there are at least four separate areas of the NIROP site where ground water is contaminated. 3/

From December, 1983 to January, 1984 the borrow pit site and trench site were excavated by the Navy to remove buried drums. Approximately 35 drums were removed from the trench site and 3 drums from the borrow pit site and disposed at hazardous waste landfills in Toledo, Ohio and Emelle, Alabama.

Analysis of soil samples taken by the MPCA in January, 1984 at the bottom of the trench site show that relatively high concentrations of several chlorinated and unchlorinated solvents still remain in soils in the vicinity of the trench site.

In comparing the hydrogeologic location of the trench site and borrow pit site with the location of ground water contamination it appears that only one of the four areas of ground water contamination can be attributed to these sources.

3/ Map #2 attached to this Board Item shows the location of ground water contamination at the NIROP site.

In spite of efforts taken by the Navy to identify and remove sources of ground water contamination, insufficient information exists at present to permit the selection and implementation of appropriate response actions at the NIROP site.

B. There is a release.

As set out in Attachment 1, "release" is defined broadly in the Minn. Stat. Ch. 115B.2, subd. 15 to mean "any spilling, leaking, pumping, pouring, emitting, emptying, discharging, injecting, escaping, leaching, dumping, or disposing into the environment which occurred at a point in time or which continues to occur." [There are certain exceptions to this definition, none of which applies in this case. See Attachment 1.]

Information obtained from the Department of the Navy Report "Initial Assessment Study of Naval Industrial Reserve Ordnance Plant Minneapolis, Minnesota" dated June, 1983 clearly demonstrates that there has been a release within the meaning of the Minnesota Superfund Act, section 2, subd. 15. That release is further documented by evidence found during excavation of the trench and borrow pit sites and by the detection of trichloroethylene and other chlorinated solvents in the soils and ground water at the site.

C. The release is from the facility.

As set out in Attachment 1, "facility" is defined broadly in the Minn. Stat. Ch. 115B.2, subd. 15 to mean

> (a) Any building, structure, installation, equipment, pipe or pipeline (including any pipe into a sewer or publicly owned treatment works), well, pit, pond, lagoon, impoundment, ditch, landfill, storage container, motor vehicle, rolling stock, or aircraft;
>
> (b) Any watercraft of any description, or other artificial contrivance used or capable of being used as a means of transportation on water; or
>
> (c) Any site or area where a hazardous substances, or a pollutant or contaminant, has been deposited, stored, disposed of, or placed, or otherwise come to be located.

"Facility" does not include any consumer product in consumer use. Under this definition, the area in and around the NIROP site, including the buildings, landfills, pits, burning areas, sewer lines, and tanks, constitute facilities within the meaning of the Minnesota Superfund Act, section 2, subd. 5. Evidence that the release came from these facilities are contained in the Department of the Navy Report "Initial Assessment Study of Naval Industrial Reserve Ordnance Plant Minneapolis, Minnesota" and the evidence found during excavation on the site and other reports, letters, and documents within MPCA files. In addition, the contamination of soils and ground water at and around the NIROP site with substances traceable to operations at NIROP supports the conclusion that there has been a release from the NIROP facilities.

D. The release involves several hazardous substances.

As set out in Attachment 1, "hazardous substance" is defined broadly in the Minn. Stat Ch. 115B.2, subd. 8 to mean:

> (a) Any commercial chemical designated pursuant to the Federal Water Pollution Control Act, under 33 U.S.C. Section 1321(b)(2)(A);
>
> (b) Any hazardous air pollutant listed pursuant to the Clean Air Act, under 42 U.S.C. Section 7412; and
>
> (c) Any hazardous waste.
>
> "Hazardous substance" does not include natural gas, natural gas liquids, liqudified natural gas, synthetic gas usable for fuel or mixtures of such synthetic gas and natural gas, nor does it include petroleum, including crude oil or any fraction thereof which is not otherwise a hazardous waste.

Hazardous waste [which is included as a "hazardous substance" under subd. 8(c)] is defined in the Minn. Stat Ch. 115B.2, subd. 9 to mean:

> (a) Any hazardous waste as defined in section 116.06, subdivision 13, and any substance identified as a hazardous waste pursuant to the rules adopted by the agency under section 116.07; and

(b) Any hazardous waste as defined in the Resource Conservation and Recovery Act, under 42 U.S.C. Section 6903, which is listed or has the characteristics identified under 42 U.S.C. Section 6921, not including any hazardous waste the regulation of which has been suspended by act of Congress.

Substances that are defined as hazardous under these definitions have been found to exist in the soils and ground water monitored in an around the NIROP site.

The following chart lists the hazardous substances released at the NIROP site and indicates the statute or rule under which they are classified as hazardous:

Released Substance	RCRA 42 USC 6921	CWA 33 USC 1321 (b)(2)(a)	MPCA 116.06 (13) 116.07
Trichloroethylene	x	x	
1,1,1-trichloroethane	x	x	
1,1-dichloroethylene	x	x	
Methylene chloride	x	x	
Benzene	x	x	x
Toluene	x	x	x
Polychlorinated biphenyls		x	x

If there is an "x" in column 1, the substance is a hazardous substance as a result of classification under the Federal Resource Conservation and Recovery Act and the rules adopted thereunder, if there is an "x" in column 2, the substance is a hazardous substance as a result of classification under the Clean Water Act; and, if there is an "x" in column 3, the substance is a hazardous substance under Minnesota Law.

E. The persons to whom the response requests are directed are responsible parties.

As set out in Attachment 1, "responsible person" 4/ is generally defined in the Minn. Stat. Ch. 115B.3, subd. 1, to include persons who

> (a) Owned or operated the facility (1) when the hazardous substance, or pollutant or contaminant, was placed or came to be located in or on the facility; (2) when the hazardous substance, or pollutant or contaminant, was located in or on the facility but before the release; or (3) during the time of the release or threatened release;
>
> (b) Owned or possessed the hazardous substance, or pollutant or contaminant, and arranged, by contract, agreement or otherwise for the disposal, treatment or transport for disposal or treatment of the hazardous substance, or pollutant or contaminant; or
>
> (c) Know or reasonably should have known that waste he accepted for transport to a disposal or treatment facility contained a hazardous substance, or pollutant or contaminant, and either selected the facility to which it was transported or disposed of it in a manner contrary to law.

The United States Department of the Navy is a responsible party under the Minnesota Superfund Act, section 3, subd. 1(a), because it owned the facility when the hazardous substances were placed or came to be placed in or on the facilities and during the time of the release.

The FMC Corporation is a responsible party under the Minnesota Superfund Act, section 3, subd. 1(a) because they operated facilities located at the NIROP site either [1] when certain of the hazardous substances were placed or came to be placed in or on the facilities or [2] during the time of the release.

4/ The Minnesota Superfund Act, in section 17, refers to "responsible parties." There is, however, no definition of "responsible parties" but there is a definition of "responsible persons" in the Act. That definition should be considered to apply each time the Minnesota Superfund Act refers to either "responsible persons" or "responsible parties."

F. The requested response actions are reasonable and necessary.

The attached Request for Response Action describes a series of actions to be taken at the NIROP site. These actions are reasonable and necessary to protect the public health, welfare, or the environment.

The actions are more fully described in the attached Request for Response Action and include:

1. Routine monitoring of the NIROP site ground water monitoring wells.

2. Design and implementation of a remedial investigation to determine the location of sources of contamination, define the extent and magnitude of contamination and the geology and hydrology of the NIROP site.

3. Implementation of a feasibility study to assess alternative remedies and select an acceptable alternative.

4. Preparation and submittal of a Remedial Action Plan to detail procedures and schedules for implementation of remedies at the NIROP site.

Additional technical data, regarding NIROP site geology, hydrology, contaminant conditions, and sources of contamination, is necessary to fully understand the conditions at the NIROP site. A full understanding of the conditions at the NIROP site is needed to properly evaluate the alternative response actions which could resolve the contamination problems. Finally, preparation and submittal of a Remedial Action Plan is necessary to describe specific response actions to remedy the contamination at the NIROP site.

The time schedule established for beginning and completing the specified actions are reasonable based on the complexity of this project and experience with similar projects. The MPCA staff has evaluated the length of time it takes to accomplish the actions specified in the Request for Response

Action, has considered the urgency of the situation, and has attempted to establish a reasonable schedule for completing these actions commensurate with these considerations.

III. CONCLUSIONS

The Naval Industrial Reserve Ordnance Plant located at Fridley, Minnesota, and various sites, areas, structures, and other items within the Naval Industrial Reserve Ordnance Plant constitute facilities within the meaning of Minn. Stat. Ch. 115B.2, subd. 5.

The wastes and substances found at the Naval Industrial Reserve Ordnance Plant are hazardous substances within the meaning of Minn. Stat. Ch. 115B.2, subd. 8 and subd. 13.

There has been and continues to be a release of these hazardous substances at the Naval Industrial Reserve Ordnance Plant within the meaning of Minn. Stat. Ch. 115B.2, subd. 15.

With respect to that release, the United States Department of the Navy and the FMC Corporation are responsible persons within the meaning of Minn. Stat. Ch. 115B.3, subd. 1(a) and subd. 1(b).

The actions requested in the attached proposed Request for Response Action are reasonable and necessary to protect the public health or welfare or the environment.

The schedule for the requested actions in the attached proposed Request for Response Action are reasonable taking into account the urgency of the actions for protecting the public health or welfare or the environment. The MPCA staff have met with the Navy and FMC and discussed the nature and content of the Request for Reponse Action.

The MPCA staff expects the United States Department of the Navy and the FMC Corporation to comply with the requested action contained in the attached Request for Response Action. The MPCA staff will closely monitor the compliance status of those persons. If the requested actions are not taken, the MPCA staff will return to the MPCA Board with an appropriate recommendation.

IV. RECOMMENDATION

The MPCA staff recommends that the MPCA Board adopt the suggested staff resolution on the following page.

SUGGESTED STAFF RESOLUTION

BE IT RESOLVED, that the Minnesota Pollution Control Agency finds that:

1. The Naval Industrial Reserve Ordnance Plant located at Fridley, Minnesota, and various sites, areas, structures, and other items within the Naval Industrial Reserve Ordnance Plant constitute facilities within the meaning of Minn. Stat. Ch. 115B.2, subd. 5.

2. The wastes and substances found at the Naval Industrial Reserve Ordnance Plant are hazardous substances within the meaning of Minn. Stat. Ch. 115B.2, subd. 8 and subd. 13.

3. There has been and continues to be a release of these hazardous substances at the Naval Industrial Reserve Ordnance Plant within the meaning of Minn. Stat. Ch. 115B.2, subd. 15.

4. With respect to that release, the Department of the Navy and the FMC Corporation are responsible persons within the meaning of Minn. Stat. Ch. 115B.3, subd. 1(a) and subd. 1(b).

5. The actions requested in the attached proposed Request for Response Action are reasonable and necessary to protect the public health or welfare or the environment.

6. The schedule for the requested actions in the attached proposed Request for Response Action are reasonable taking into account the urgency of the actions for protecting the public health or welfare or the environment.

BE IT FURTHER RESOLVED that the Minnesota Pollution Control Agency issues the attached Request for Response Action to the United States Department of the Navy and the FMC Corporation. The Chairperson and the Director are authorized to execute the attached Request for Response Action on behalf of the Minnesota Pollution Control Agency.

DEFINITIONS

1. RELEASE, is defined in section 2, subd. 15 of the Minnesota Superfund Act as follows:

> "Release" means any spilling, leaking, pumping, pouring, emitting, emptying, discharging, injecting, escaping, leaching, dumping, or disposing into the environment which occurred at a point in time or which continues to occur.
>
> "Release" does not include:
>
> (a) Emissions from the engine exhaust of a motor vehicle, rolling stock, aircraft, watercraft, or pipeline pumping station engine;
>
> (b) Release of source, byproduct, or special nuclear material from a nuclear incident, as those terms are defined in the Atomic Engery Act of 1954, under 42 U.S.C. Section 2014, if the release is subject to requirements with respect to financial protection established by the federal nuclear regulatory commission under 42 U.S.C. Section 2210;
>
> (c) Release of a source, byproduct or special nuclear material from any processing site designated pursuant to the Uranium Mill Tailings Radiation Control Act of 1978, under 42 U.S.C. Section 7912(a)(1) or 7942(a); or
>
> (d) Any release resulting from the application of fertilizer or agricultural or silvicultural chemicals, or disposal of emptied pesticide containers or residues from a pesticide as defined in section 18A.21, subdivision 25.

2. FACILITY, is defined in section 2, subd. 5 of the Minnesota Superfund Act as follows:

> "Facility" means
>
> (a) Any building, structure, installation, equipment, pipe or pipeline (including any pipe into a sewer or publicly owned treatment works), well, pit, pond, lagoon, impoundment, ditch, landfill, storage container, motor vehicle, rolling stock, or aircraft;

(b) Any watercraft of any description, or other artificial contrivance used or capable of being used as a means of transportation on water; or

(c) Any site or area where a hazardous substance, or a pollutant or contaminant, has been deposited, stored, disposed of, or placed, or otherwise come to be located.

"Facility" does not include any consumer product in consumer use.

3. POLLUTANT OR CONTAMINANT, is defined in section 2, subd. 13, of the Minnesota Superfund Act as follows:

"Pollutant or contaminant" means any element, substance, compound, mixture, or agent, other than a hazardous substance, which after release from a facility and upon exposure of, ingestion, inhalation, or assimilation into any organism, either directly from the environment or indirectly by ingestion through food chains, will or may reasonably be anticipated to cause death, disease, behavioral abnormalities, cancer, genetic mutation, physiological malfunctions (including malfunctions in reproduction) or physical deformations, in the organisms or their offspring.

"Pollutant or contaminant" does not include natural gas, natural gas liquids, liquefied natural gas, synthetic gas usable for fuel, or mixtures of such synthetic gas and natural gas.

4. HAZARDOUS SUBSTANCE" is defined is section 2, subd. 8, of the Minnesota Superfund Act as follows:

"Hazardous substance" means:

(a) Any commerical chemical designated pursuant to the Federal Water Pollution Control Act, under 33 U.S.C. Section 1321(b)(2)(A);

(b) Any hazardous air pollutant listed pursuant to the Clean Air Act, under 42 U.S.C. Section 7412; and

(c) Any hazardous waste.

"Hazardous substance" does not include natural gas, natural gas liquids, liquefied natural gas, synthetic gas usable for fuel or mixtures of such synthetic gas

and natural gas, nor does it include petroleum, including crude oil or any fraction thereof which is not otherwise a hazardous waste.

5. "HAZARDOUS WASTE" is defined in section 2, subd. 9, of the Minnesota Superfund Act as follows:

"Hazardous waste" means:

(a) Any hazardous waste as defined in section 116.06, subdivision 13, any any substance identified as a hazardous waste pursuant to rules adopted by the agency under section 116.07; and

(b) Any hazardous waste as defined in the Resource Conservation and Recovery Act, under 42 U.S.C. Section 6903, which is listed or has the characteristics identified under 42 U.S.C. Section 6921, not including any hazardous waste the regulation of which has been suspended by act of Congress.

6. "RESPONSIBLE PERSON" is defined in section 3 of the Minnesota Superfund Act as follows:

Subdivision 1. [GENERAL RULE.] For the purposes of sections 1 to 20, and except as provided in subdivisions 2 and 3, a person is responsible for a release or threatened release of a hazardous substance, or a pollutant or contaminant, from a facility if the person:

(a) Owned or operated the facility (1) when the hazardous substance, or pollutant or contaminant, was placed or came to be located in or on the facility; (2) when the hazardous substance, or pollutant or contaminant, was located in or on the facility but before the release; or (3) during the time of the release or threatened release;

(b) Owned or possessed the hazardous substance, or pollutant or contaminant, and arranged, by contract, agreement or otherwise, for the disposal, treatment or transport for disposal or treatment of the hazardous substance, or pollutant or contaminant; or

(c) Knew or reasonably should have known that waste he accepted for transport to a disposal or treatment facility contained a hazardous substance, or pollutant or contaminant, and either selected the facility to which it was transported or disposed of it in a manner contrary to law.

Subdivision 2. [EMPLOYEES AND EMPLOYERS.] When a person who is responsible for a release or threatened release as provided in subdivision 1 is an employee who is acting in the scope of his employment:

(a) The employee is subject to liability under section 4 or 5 only if his conduct with respect to the hazardous substance was negligent under circumstances in which he knew that the substance was hazardous and that his conduct, if negligent, could result in serious harm.

(b) His employer shall be considered a person responsible for the release or threatened release and is subject to liability under section 4 or 5 regardless of the degree of care exercised by the employee.

Subdivision 3. [OWNER OF REAL PROPERTY.] An owner of real property is not a person responsible for the release or threatened release of a hazardous substance from a facility in or on the property unless that person:

(a) was engaged in the business of generating, transporting, storing, treating, or disposing of a hazardous substance at the facility or disposing of waste at the facility, or knowingly permitted others to engage in such a business at the facility;

(b) knowingly permitted any person to make regular use of the facility for disposal of waste;

(c) knowingly permitted any person to use the facility for disposal of a hazardous substance;

(d) knew or reasonably should have known that a hazardous substance was located in or on the facility at the time right, title, or interest in the property was acquired by the person and engaged in conduct by which he associated himself with the release; or

(e) took action which significantly contributed to the release after he knew or reasonably should have known that a hazardous substance was located in or on the facility.

For the purpose of clause (d), a written warranty, representation, or undertaking, which is set forth in an instrument conveying any right, title or interest in the real property and which is executed by the person conveying the right, title or interest, or which is set forth in any memorandum of any such instrument executed

for the purpose of recording, is admissible as evidence of whether the person acquiring any right, title, or interest in the real property knew or reasonably should have known that a hazardous substance was located in or on the facility.

Any liability which accrues to an owner of real property under sections 1 and 15 does not accrue to any other person who is not an owner of the real property merely because the other person holds some right, title, or interest in the real property.

An owner of real property on which a public utility easement is located is not a responsible person with respect to any release caused by any act or omission of the public utility which holds the easement in carrying out the specific use for which the easement was granted.

STATE OF MINNESOTA

COUNTY OF RAMSEY

MINNESOTA POLLUTION

CONTROL AGENCY

In the Matter of the
Naval Industrial Reserve
Ordnance Plant, Fridley
Minnesota

REQUEST FOR
RESPONSE ACTION

To: The United States Department of the Navy
The FMC Corporation

I. NOTIFICATION OF OBLIGATION TO TAKE RESPONSE ACTION

A. This document is issued by the Minnesota Pollution Control Agency (MPCA) and constitutes a Request for Response Action, as authorized by the Environmental Response and Liability Act (Minnesota Superfund Act) Minn. Stat. Ch. 115B.17 and 115B.18.

B. YOU ARE HEREBY NOTIFIED that the MPCA has made the following determinations:

1. the Naval Industrial Reserve Ordnance Plant property owned by the United States Government (NIROP) located at Fridley, Minnesota, and the landfills, pits, trenches, drums, burning areas, sewer lines, tanks and other disposal structures located at the NIROP site, constitute facilities within the meaning of Minn. Stat. Ch. 115B.2, subd. 5. (The NIROP and the landfills, pits, sumps, burning areas, leaching beds, sewer lines and tanks located at the NIROP site are hereinafter referred to as "the NIROP site");

2. some of the wastes and substances found or disposed of at the NIROP site are hazardous substances within the meaning of Minn. Stat. Ch. 115B.2, subd. 8 and subd. 9;

3. there have been one or more releases and continues to be a threatened release of these hazardous substances from the facilities within the meaning of Minn. Stat. Ch. 115B.2, subd. 15; and

4. with respect to these releases and threatened releases, the United States Department of the Navy (the Navy) is a responsible person within the meaning of Minn. Stat. Ch. 115B.3, subd. 1(a); and the FMC Corporation (FMC) is a responsible person within the meaning of Minn. Stat. Ch. 115B.3, subd. 1(a) and (b).

C. Having made these determinations, the MPCA formally requests that you take the response actions described in Section II., below. A timetable for beginning and completing the actions is set out in Section III. The reasons for the requested response action are set out in Section IV. Section V. describes the intention of the MPCA to take action if you fail to take the requested response action within the timetable set out in Section III. Section V. also describes the consequences of failure to satisfactorily respond to this Request for Response Action.

D. YOU ARE ALSO HEREBY NOTIFIED that if, by June 30, 1984, you fail to inform the MPCA of your intention to comply with the terms of this Request for Response Action, the MPCA will conclude that you will not take the actions requested by the MPCA within the time requested. Notification of your intention to comply with this Request for Response Action should be sent to David Richfield, Project Leader, Division of Solid and Hazardous Waste, Minnesota Pollution Control Agency, 1935 West County Road B-2, Roseville, Minnesota, 55113; (612) 296-7395.

II. REQUESTED RESPONSE ACTION

The MPCA has determined (1) that the following actions constitute removal or remedial actions within the meaning of Minn. Stat. Ch. 115B.2, subd. 16 and subd. 17 and (2) that these removal or remedial actions are reasonable and necessary to protect the public health, welfare or the environment and (3) that a reasonable time has been provided for beginning and completing the requested actions. Consequently, the MPCA hereby formally requests that you take the following actions within the timetables established in Section III.

The Navy and FMC shall submit to the Minnesota Pollution Control Agency Director (MPCA Director) all reports, work plans, and other submittals required by this RFRA. The MPCA Director shall review, modify and approve all submittals except the site safety plan described in Part II.A.4. which does not require MPCA Director approval.

A. Remedial Investigation (RI)

The MPCA recognizes that investigation and response actions at the NIROP site have already occurred. However, the MPCA believes that additional investigations are necessary to provide a reasonable data base for completing an evaluation of alternative removal and remedial actions. The Navy and FMC shall design and implement a Remedial Investigation (RI) which accomplishes the purposes and meets the requirements of this Part. The purpose of the RI is to provide sufficient information to allow selection and implementation of response actions to mitigate the release of hazardous substances at the NIROP site. The requirements of the RI are as follows:

1. Retain a consultant(s) to design, conduct and submit reports pursuant to the RI and feasibility study specified in this Request for Response Action. The Navy and FMC shall notify the designated MPCA Project Leader in writing as to the identity of the consultant(s).

2. Develop a proposed work plan and schedule for the RI of the NIROP site. The Navy and FMC shall submit a proposed RI Work Plan and schedule to the MPCA Director for approval. The Navy and FMC shall not commence the RI prior to MPCA Director approval of the RI Work Plan.

The RI Work Plan, upon implementation, shall provide for the complete characterization of the sources and magnitude and extent of ground water contamination and actual or potential hazards to public health or the environment, and shall produce sufficient data and information to allow assessement of all alternative response actions.

The RI Work Plan shall include detailed descriptions of proposed remedial investigation activities, proposed time schedules for initiation and completion of the remedial investigation activities, and personnel and equipment requirements. The RI Work Plan shall also propose a sampling plan that proposes locations, quantity and frequency of sampling, sampling methods, and parameters for analysis. In addition to the general sampling plan elements, specific sampling requirements are identified in the following subelements.

At a minimum, the proposed RI Work Plan shall provide detailed discussions of the methods and time schedules that will be used to initiate and complete the following RI activities at the NIROP site:

a. Hazardous Substance, Pollutant or Contaminant Characterization

A thorough investigation shall be conducted to identify any hazardous substances that could have been stored, used, or disposed of at the NIROP site.

b. Source Investigation

The initial installation and sampling of monitoring wells at the NIROP site indicated at least three well installations that appear to be impacted from different sources based on a review of the analytical data.

A source identification program shall be instituted to define all areas related to the NIROP site that function as, or are potential sources of ground water contamination. An essential element of this effort involves employee interviews and records review. This program shall also draw upon the hydrologic and soils investigation activities described below and on any other geotechnical or geophysical methods necessary to characterize sources of contamination.

c. Hydrogeologic Investigation

An effort to characterize ground water flow and contaminant transport in the area of the NIROP site has several goals. Ground water flow patterns and directions, both horizontal

and veritical, must be defined. Seasonal variations in those patterns and directions must be defined. Interrelationships of ground water and surface water bodies must be defined. Contaminant concentrations and their variations must be defined.

To accomplish these goals several activities are required:

1) Additional wells or piezometers shall be installed to clearly define ground water flow conditions. The elevations of all wells at the NIROP site shall be surveyed to a common reference point. Water elevations in all wells shall be measured. Tests shall be performed to determined the hydraulic properties of these water bearing formations near and under the NIROP facility. Estimates shall be made of the ground water flow directions and rates in the horizontal and vertical directions.

2) Analyses shall be made comparing the ground water flow directions, rates, and contaminant concentrations with the state and conditions of the Mississippi River. Areas of ground water discharge to the river and the chemical concentrations of those discharges shall be determined.

3) Ground water monitoring wells shall be installed to define conditions upgradient and downgradient of suspected source areas.

All wells shall be sampled for priority pollutants excluding pesticides and asbestos, at least once. Detection limits for this sampling must be approved by the MPCA prior to analysis. After the initial priority pollutant sampling an abreviated list of compounds shall be analyzed for quarterly from selected wells. The abreviated list of compounds and the wells to be sampled shall be submitted to the MPCA for approval.

d. Soils Investigation

The sources contributing to ground water contamination at the NIROP site are contaminating or have contaminated soils in the unsaturated zone between the land surface and the water table. Soil sampling including split spoon sampling, test trenching or other methods shall be utilized to obtain soil samples for analyses. The soil samples shall be analyzed

for heavy metals and volatile organics which shall be determined in consultation with the MPCA. The soil sampling program shall be conducted in areas of known or suspected disposal or in areas where ground water contamination exists and no known or suspected source has been identified.

3. Evaluate the current situation of the NIROP site including operational history and past and present hazardous substance disposal practice(s). Data gathered during investigations undertaken to date, site inspections, and other relevant activities shall be used. The evaluation of current situation shall be submitted to the MPCA Director for approval and shall include:

   a. Site Background. A summary of the operational history, ownership, regional location, pertinent area boundary features, and general site physiography, hydrology, and geology. The total area of the NIROP site and the general history relative to the use of the NIROP site for hazardous substance disposal shall be defined.

   b. Nature and Extent of the Release. A summary of actual and potential on-site and off-site health and environmental effects. This summary shall include: the types, physical states, and amounts of hazardous substances disposed of at the NIROP site, the existence and condition of drums, tanks, landfills, surface impoundments, other containers and water wells; affected media and pathways of exposure; sources of release such as leachate, runoff and contaminated soils; and any human or environmental exposure. Emphasis shall be placed on describing the threat or potential threat to public health.

   c. History of Remedial or Removal Actions. A summary of any remedial or removal actions conducted by Federal, State or local entities, Navy and/or FMC. This summary shall include field inspections, sampling surveys, remedial or removal activities, and other technical investigations.

   d. Topographic Survey. A site map(s) with scales of one inch = 300 feet and one inch = 50 feet and with a two foot contour interval. Surface water features, tanks, buildings, process areas, utilities, paved areas, easements, right-of-ways, pipelines (surface and subsurface) and lagoons shall be indicated. The map(s) shall be of sufficient detail and accuracy to locate all current or future work performed at the NIROP site.

4. Prepare a site safety plan that, upon implementation, will protect the health and safety of personnel involved in the remedial investigation.

   NIROP site safety is the responsibility of the Navy and FMC. The MPCA will comment on the safety plan but will neither approve nor disapprove the plan.

   The NIROP site safety plan shall be prepared consistent with;

   Section 111(c)(6) of CERCLA

   EPA Order 1440.3 -- Respiratory Protection

   EPA Order 1440.2 -- Health and Safety Requirements for Employees Engaged in Field Activities

   EPA Occupational Health and Safety Manual

   EPA Interim Standard Operating Safety Procedures and other EPA guidance as developed by EPA

5. Develop and submit for approval by the MPCA Director a QA/QC Plan to be utilized in implementing the RI Work Plan. The proposed QA/QC plan shall be prepared so as to be consistent with the requirements of the EPA's Contract Laboratory Program. The proposed QA/QC plan shall specify the procedures for:

   a. QA objectives for measurement of data, in terms of precision, accuracy, completeness, representativeness, and comparability.

   b. Field sampling procedures

   c. Sample chain of custody

   d. Analytical methods

   e. Calibration procedures, references, and frequency

   f. Internal QC checks and frequency

   g. QA performance audits, system audits, and frequency

h. QA reports to management

i. Preventative maintenance procedures and schedule

j. Specific procedures to be used to routinely assess data precision, representativeness, comparability, accuracy, and completeness of specific measurement parameters involved.

k. Corrective action

6. Prepare and submit for approval by the MPCA Director a list identifying broad categories of remedial or further removal action alternatives that are practible and, upon implementation, would abate the release or threatened release at the NIROP site. The list shall also contain general information regarding the nature and applicability of the alternative response actions. The Navy and FMC shall apply the considerations specified in the National Oil and Hazardous Substances Contingency Plan, 40 CFR § 300.68 (a-j) and § 300.70 when identifying the remedial or removal action alternatives. The MPCA will screen the identified alternatives so that the remedial investigation as implemented will provide the necessary data to evaluate the remedial or removal actions that are applicable to the NIROP site.

7. Conduct the Remedial Investigation to characterize the NIROP site and its actual or potential hazard to public health, welfare and the environment. The remedial investigation shall also produce data of adequate technical content to assess possible remedial or removal action alternatives and support the detailed evaluation of remedial or removal action alternatives during the feasibility study. The Navy and FMC shall conduct the remedial investigation in accordance with the activities and time schedule specified in the remedial investigation work plan and schedule as approved or modified by the MPCA Director.

   The Remedial Investigation shall be conducted in accordance with all federal state and local laws, rules, regulations and ordinances including but not limited to 7 MCAR 1.210-1.224 for the installation of any ground water monitoring wells. FMC and the Navy shall complete the following:

   a. Analyze the data and results of the remedial investigation to ensure that the remedial investigation data is sufficient in quality and quantity to adequately describe the nature and extent of the release or threatened release of hazardous substances, pollutants or contaminants at the NIROP site. The results and data from the remedial investigation shall be analyzed in accordance with the following;

1. Data Analysis. Analyze all data and results from the remedial investigation and develop a summary of the type and extent of contamination at the NIROP site. This analysis shall address all significant pathways of contamination and an exposure assessment. The exposure assessment shall describe any threats to public health, welfare, and the environment.

2. Application of Preliminary Remedial or Removal Action Options. Analyze the results of the remedial investigation in relation to the preliminary remedial or removal alternatives identified in the Evaluation RI. This analysis will determine the adequacy of data quality and quantity to support the feasibility and will identify any additional data needs.

b. Prepare and submit for review a final report detailing the data and results of the remedial investigation. The final report shall organize and present the data and results of the remedial investigation in a logical manner. The final report shall catalogue all pertinent data, analytcial results, borings logs and test results. The final report shall describe in detail;

1. hazardous substances characterization

2. extent and magnitude of soil and ground water contamination including flow rates and hydrologic characterizations

3. A summary of the RI results in relation to the preliminary remedial or further removal actions

B. Feasibility Study

The purpose of the Feasibility Study (FS) is to provide a detailed evaluation of the feasibility and effectiveness of implementing alternative response acitons at the NIROP site. The FS shall use and build upon the information generated by the RI and shall be developed in accordance with the requirements of section 300.68 of the National Oil and Hazardous Substances Contingency Plan. The Navy and FMC shall:

1. Develop and submit to the MPCA Director an Alternatives Report. The Alternatives Report shall provide an evaluation of (a) each of the alternative response actions identified in Part II Task A.6., except for those alternatives which have been specifically

rejected by the MPCA Director and (b) any other alternatives identified by the MPCA Director. (The alternative response actions to be evaluated in the Alternatives Report and the Detailed Analysis Report are referred to below as the "evaluated alternative.")

The Alternatives Report shall contain the following:

a. an analysis of the extent to which each evaluated alternative meets each of the following objectives: (1) protection of public health, welfare and the environment; (2) meeting the requirements of section 300.68 of the National Oil and Hazardous Substances Contingency Plan; (3) meeting the requirements of U.S. EPA interim guidance; and (4) meeting the requirements of any other applicable Federal or State laws.

b. an explanation of the various technologies which may be employed to implement each of the evaluated alternatives and shall summarize the effectiveness, reliability, past success and availability of each specified technology.

c. a discussion of cost-effectiveness for each evaluated alternative as follows:

    1. A preliminary estimate of the capital, operation and maintenance costs associated with installing or implementing each evaluated alternative.

    2. A general discussion of the expected adverse effects which each evaluated alternative may have on the environment;

    3. A preliminary analysis as to whether each evaluated alternative is likely to effectively abate or minimize the release or threatened release and/or minimize the threat of harm to the public health, welfare and the environment.

    4. A preliminary analysis of the technical feasibility and implementability of each evaluated alternative both in relation to the location and conditions of the release or threatened release and in relation to the reliability of the technologies which could be employed to implement the evaluated alternative.

2. Upon receipt of the Alternatives Report, the MPCA Director will review and screen the evaluated alternatives and will reject any

of the evaluated alternatives that are clearly not feasible or effective. The MPCA Director will notify The Navy and FMC of the results of the MPCA Director's review and screening. In determining whether to reject an evaluated alternative, the MPCA Director will use the following criteria:

a. An evaluated alternative with an estimated cost that far exceeds that of other evaluated alternatives in relation to the benefits which the evaluated alternatives will produce, will be eliminated, unless The Navy and FMC explicitly desire to further consider the evaluated alternative.

b. Evaluated alternatives that inherently present significant adverse environmental effects will be excluded from further consideration.

c. Evaluated alternatives that do not satisfy the response action objectives and do not contribute significantly to the protection of public health, welfare or the environment will be rejected. On-site hazardous substance control alternatives must achieve adequate control of the hazardous substances in terms of abating or minimizing the release or threatened release. Off-site alternatives must minimize or mitigate the threat of harm to public health, welfare or the environment or will be excluded from further consideration.

d. Evaluated alternatives that may prove extremely difficult to implement or that rely on unproven technologies will generally be excluded from further consideration. Evaluated alternatives that are not reliabile will be excluded from further consideration.

3. Prepare and submit a Detailed Analysis Report to the MPCA Director on all the evaluated alternatives not rejected by the MPCA Director.

The Detailed Analysis Report shall present the results of a analysis of each of the remaining evaluated alternatives and shall include:

a. a detailed description for each of the remaining evaluated alternatives. At a minimum, this description shall include:

1. a description of appropriate treatment and disposal technologies;

2. a description of the special engineering considerations required to implement the remaining evaluated alternatives (e.g., a pilot treatment facility or any additional studies that may be needed to proceed with final response action design);

3. a description of operation, maintenance, and monitoring requirements of the remaining evaluated alternatives;

4. a description of off-site disposal needs and transportation plans;

5. a description of temporary storage reqiurements;

6. a description of safety requirements associated with implementing the remaining evaluated alternatives, including both on-site and off-site health and safety considerations;

7. a description of an analysis of how the remaining evaluated alternatives could be phased into individual operations and how these operations could best be implemented, individually or in groups, to produce significant environmental improvement or cost savings; and,

8. a review of off-site treatment or disposal facilities to ensure compliance with applicable RCRA and MPCA hazardous waste rules.

b. an environmental assessment for <u>each</u> remaining evaluated alternative including, at a minimum, an evaluation of each alternative's environmental effects, an analysis of response actions to mitigate adverse effects, physical or legal constraints, and compliance with Federal and State regulatory requirements.

Each remaining evaluated alternative will be assessed in terms of the extent to which it will mitigate damage to, or protect public health, welfare and the environment, in comparison to the other remaining evaluated alternatives.

c. a detailed breakdown of the present value capital cost and annualized capital costs of implementing each remaining evaluated alternative (and each phase of the remaining evaluated alternatives) as well as the present value annual operating and maintenance costs. The costs shall be presented as both a total cost and an equivalent annual cost.

d. a recommended response action alternative (or combination of alternatives) that the Navy and FMC determines should be installed or implemented at the NIROP site together with the reasons for recommending the alternative(s).

4. The MPCA Director shall review the response action alternative recommended in the Detailed Analysis Report and shall approve or reject the alternative based on the criteria set out in Task 2 of this Part. If the MPCA Director rejects the recommended response action alternative, the Navy and FMC shall recommend for review by the MPCA Director another response action alternative and shall submit its proposal to the MPCA Director within thirty (30) days after receiving notice that the MPCA Director has rejected the originally recommended response action.

C. Routine Monitoring Program

In order to determine the effectiveness of any implemented remedial or removal actions, a routine program of long-term sampling and analysis shall be established.

Plans for long-term ground water monitoring shall be prepared for the NIROP site by the Navy and FMC and submitted for the MPCA Director's review and approval. The proposed plans shall specify sampling of existing and additional wells. The plans shall specify which wells are to be sampled, the frequency at which the wells are to be sampled, the chemical parameters which shall be analyzed, sampling and analytical methods, and detection limits. The plan shall also specify locations for necessary off-site monitoring. The Navy and FMC shall implement the routine monitoring plan upon approval by the MPCA Director.

D. Remedial Action Plan

A Remedial Action Plan (RAP) shall be prepared by the Navy and FMC based on the MPCA Director approved response actions outlined by the feasibility study detailed analysis report. This RAP shall be prepared according to the schedule listed in Section III and shall include, but not be limited to, providing the following information:

1. A detailed description of the design specifications and engineering for each of the approved response actions. This shall include an explanation of how the response action will function;

2. A detailed description of long-term maintenance methods for each of the approved remedial or removal actions'

3. A timetable for commencement, implementation and completion of the approved remedial or removal actions.

E. Reports

The MPCA Director shall be provided progress reports once every three months (quarterly) on the fifteenth day of the third month. The progress reports shall describe activities conducted pursuant to this Request for Response Action during the preceding quarter and activities planned for the next quarter. The progress reports shall be addressed to:

David T. Richfield, Project Leader
Division of Solid and Hazardous Waste
Minnesota Pollution Control Agency
1935 West County Road B-2
Roseville, Minnesota 55113

III. TIMETABLE FOR COMPLETING THE REQUESED RESPONSE ACTIONS

The MPCA, after considering the urgency of actions needed to protect public health or welfare or the environment, has determined that the following timetable is necessary and reasonable. The timetable references specific elements of the Request for Response Action.

I.D.	Notice of Intent to Comply	By June 30, 1984
II.A.1.	Retain Consultant	By July 31, 1984
II.A.2.	Proposed Remedial Investigation Work Plan and Schedule	By September 30, 1984
II.A.3.	Evaluate the Current Situation	By September 30, 1984
II.A.4.	Site Safety Plan	By September 30, 1984
II.A.5.	QA/QC Plan	By September 30, 1984
II.A.6.	Identification of Possible Alternative Response Action	By September 30, 1984
II.A.7	Initiate Remedial Investigation	By November 30, 1984
II.A.7.b.	Final Remedial Investigation Report	By July 31, 1985
II.B.1.	Alternatives Report	By September 30, 1985
II.B.3.	Detailed Analysis Report	By November 30, 1985
II.C.	Routine Monitoring Program	By January 31, 1986
II.D.	Remedial Action Plan	By February 28, 1986

The MPCA Director shall be promptly notified of any anticipated or actual failure to comply with the dates or other terms of this Request for Response Action. Such notice shall include the reasons for the noncompliance and steps proposed for a return to compliance or alternative actions proposed to comply with the intent of this Request for Response Action. The MPCA Director may accept or modify the proposed compliance measures if the Director determines that such measure are adequate and that the need for the modification is not a result of failures within the control of the responsible parties.

IV. REASONS FOR THE REQUESTED ACTION

The ground water and Mississippi River in the vicinity of the NIROP site in Fridley, Minnesota are contaminated with hazardous substances. The ground water in this general vicinity is used as a drinking water supply by the City of Fridley and the Mississippi River is a drinking water supply for the City of Minneapolis and surrounding suburban areas. The NIROP is a known source of hazardous substances at the NIROP site.

The Navy through a contract with the Army Corps of Engineers conducted some ground water monitoring on the NIROP site, but did not gather enough information to adequately characterize contamination or implementation of remedies at the site. Specifically, the studies conducted to date on the scope of contamination at the NIROP site have not yielded sufficient information to allow assessment, selection, design or implementation of remedies to clean-up the existing released substances or to allow assessment, selection, design or implementation of methods to prevent additional or continued releases.

The constructed or natural barrieres at the NIROP site are either non-existent or of insufficient or undetermined quality to prevent the release, continued release, or threatened additional release of contamination or polluants and hazardous substances from the facilities.

In order to implement timely and adequate clean-up of the NIROP site, the study already conducted by the Navy must be expanded to allow assessment and choice of clean-up activities. The requested actions set out in Section II. and III. will provide such additional information as is necessary to fully evaluate and provide for implementation of action to clean-up the NIROP site.