



**DEPARTMENT OF THE NAVY**  
SOUTHERN DIVISION  
NAVAL FACILITIES ENGINEERING COMMAND  
P.O. BOX 190010  
2155 EAGLE DRIVE  
NORTH CHARLESTON, S.C. 29419-9010

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NIROP FRIDLEY  
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Code 1868  
May 26, 1999

Mr. David Douglas  
Minnesota Pollution Control Agency  
Site Remediation Section  
520 Lafayette Road  
St. Paul, MN 55155-4194

Subj: NAVAL INDUSTRIAL RESERVE ORDNANCE PLANT (NIROP), FRIDLEY -  
NAVY'S PERSPECTIVE ON THE 1983 INITIAL ASSESSMENT STUDY  
PREPARED BY ENVIRODYNE ENGINEERS, INC.

REF: (a) ATTACHMENT IV TO MPCA LETTER DATED JANUARY 11, 1999 -  
COMMENTS ON "REMEDIAL INVESTIGATION FOR OPERABLE UNIT 3  
NIROP, FRIDLEY (AUGUST 31, 1998)

Dear Mr. Douglas:

The Navy has reviewed your comments (ref (a)) on the 1983 Initial Assessment Study (IAS) prepared by Envirodyne Engineers, Inc. We appreciate you allowing us to address the IAS comments separately from the "Remedial Investigation for Operable Unit 3" comments. We typically try to reach consensus on your responses with corresponding draft documents. However, instead of providing individual revisions to the IAS, which is a finalized document, we thought it more appropriate to provide the Navy's perspective on the IAS with respect to today's Installation Restoration Program at the NIROP.

Should you have any questions or comments, please contact me at (843) 820-5562.

Sincerely,

  
JOEL R. SANDERS, P.E.  
Remedial Project Manager  
Installation Restoration II Division

Copy to:  
US EPA, Region V, (Thomas Bloom)  
TTNUS (Mark Sladic)  
NIROP (Kerry Morrow)  
NIROP REICC (Pat Mosites)

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NAVY'S PERSPECTIVE ON THE 1983 INITIAL ASSESSMENT STUDY  
PREPARED BY ENVIRODYNE ENGINEERS, INC. WITH RESPECT TO THE  
NIROP FRIDLEY INSTALLATION RESTORATION PROGRAM

NAVAL INDUSTRIAL RESERVE ORDNANCE PLANT  
FRIDLEY, MINNESOTA  
MAY 1999

REF: (A) ATTACHMENT IV TO MPCA LETTER DATED JANUARY 11, 1999 -  
COMMENTS ON "REMEDIAL INVESTIGATION FOR OPERABLE UNIT 3  
NIROP, FRIDLEY (AUGUST 31, 1998)

**Background:**

In Part I of reference (a), you state that "The IAS indicates that the locations of buried wastes were not recorded, but identifies disposal areas as Sites 1 and 2 on Figure 3-1. The findings of the IAS should be more fully articulated in the report."

Next in Part I of reference (a), you state that "It is important to determine more about waste generation and disposal activities identified in the IAS because:

- a. the IAS and all subsequent NIROP studies do not identify any off-site disposal areas (Off-site disposal areas could include what is now considered the FMC Superfund Site and/or the dump in the southern part of Anoka County Riverfront Park);
- b. as cited in paragraphs 2 and 3 of Section 2.2.2 of "Guidance for Conducting Remedial Investigations and Feasibility Studies under CERCLA, Interim Final U.S. EPA/540/G-89/004, OSWER Directive 9355.3-01, October 1988, "[d] at relating to the varieties and quantities of hazardous wastes disposed of at the site should be compiled...[and]...[r]ecords of disposal practices and operating procedures at the site, including historical photographs, can be reviewed to identify locations of waste materials onsite, waste haulers, and waste generators;"
- c. as cited in Section 1.3.1.2 of OSWER Directive 9355.3-01, if there were disposal rules in effect when the disposal activities took place, it is important to determine whether waste was disposed of properly, etc.;
- d. it could help identify off-site disposal areas that may need investigation and possible remediation; and
- e. determining what was taken off-site helps the MPCA staff determine what volumes of waste the MPCA staff expects to find on-site and when the MPCA staff might expect the site to be cleaned-up."

In Part II of reference (a), you extrapolate information in the IAS and conclude that "in summary, based on these assumptions cited earlier in the second paragraph of Part II, the IAS documents an estimated 13,801 55 -gallon barrels (or 55-gallon barrel equivalents) of waste taken offsite and an estimated 1.186 trillion gallons discharged into the NIROP sanitary sewer system.

Finally, in Part III of reference (a), you ask several questions about waste generation and disposal activities described in the IAS such as, "Did any of the materials (in the waste generation and disposal activities described above from the IAS) disposed of on NIROP Fridley and or/or transported off NIROP Fridley contain hazardous substances or wastes? If the answer is YES to any part of this question, identify: a. every date on which these hazardous substances or wastes were disposed of on NIROP Fridley and/or transported off NIROP Fridley; "

**RESPONSE TO PART I TO REF (a):**

The sites indicated in the IAS as Sites 1 and 2 on Figure 3-1 are clearly part of the North 40 and were addressed in the OU 2 RI Report as well as previous drum removals. The OU 2 Remedy selection will be addressed in the OU 3 FS Report.

Through the RI/FS process for Operable Units 1, 2, and 3, the Navy has attempted to understand and document past operations in order to identify sources of contamination and the fate and transport of the contamination. The knowledge of exact quantities of hazardous substances or waste generated and where it has been disposed or reclaimed throughout the plant's operating history would likely have allowed the Navy considerable savings by being able to more effectively target investigations. Detailed records from much of the plant's early operation are not known to exist. The information available is based on records search, interviews with long term employees, aerial photographs and site tours.

Separately, the Navy provided the OU 3 Site Evaluation Report (SER) in September, 1995 which researched TCE usage at the NIROP. This document referenced the 1983 IAS.

The findings of the IAS and SER reports have already ostensibly resulted in 'further action and investigation' at OU 1, OU 2 and OU 3, including the initial (1983-1984) drum removal action. Through the RI/FS process, the Navy is determining the nature and extent of the threat presented by a release and, where appropriate, to evaluate proposed remedies. Contaminants and their migration pathways are defined, potential risks to public health and the environment are assessed, and a qualitative risk assessment is carried out.

## **RESPONSE TO PART II TO REF (a):**

### **(a.) 55 Gallon Drum Disposal**

The Navy does not agree that the extrapolation method used constitutes a valid basis for determining the actual amount of wastes historically sent off-site for disposal or discharged to the NIROP's sanitary sewer system. However, using that same estimation methodology, the Navy arrived at only 8,423 barrels of waste liquids as follows:

- Machine Shop: 336 drums of unburnable oil sludge (off-site)
- Metal Plating: 160 drums of untreatable sludge (off-site)
- Degreasing & Solvent:

Plating Shop: 1680 drums of waste solvent to a Reclaimer. (This is based on 40 drums /year for 42 years vs. your number of 40 drums/quarter for 42 years)

Assembly Area: 252 drums of Stoddard Solvent (off-site)  
252 drums of waste solvent (off-site)

- Paint Shop: 168 drums of paint sludge to the scrapyards, trenches, pits and an offsite landfill. (The percentage of drums to each is unknown)

Paint Shop: 5575 drum of cleaning solvent (mek, etc.) (disposed off-site as a hazardous waste)

- Assembly Area: You included 504 drums in your calculations but we believe that waste generated at the Assembly area were included under the Degreasing & Solvent disposal figure stated above.

### **(b.) Industrial Waste Discharged to the Sanitary Sewer**

You estimated that 1.186 trillion gallons of industrial waste was discharged to the NIROP's sanitary sewer. This estimate correlates to the representative IWTP Discharges shown on page 7-3, Figure 7-2, of the IAS (1.891 trillion gallons). The IAS also states that total sanitary sewer discharges (domestic and industrial) ranged from 0.3 to 0.5 MGD or 7.665 trillion gallons throughout the plant's operating history.

### **(c.) Drum Removals**

Known drum removals have taken place in 1975 (150 drums of Industrial Wastes); 1983-1984 (43 drums/1200 cy soil); 1991 (31 drums/900 cy soil); and 1996 (23 drums/100 cy soil). The Navy also has an operating GWTF which began extracting groundwater in September 1992 with an estimated removal rate of 0.5 gallons of TCE /day.

**RESPONSE TO PART III TO REF (a):**

We are unable to provide the level of detail that you are requesting in Part III of reference (a) on hazardous substances or wastes that were disposed of on NIROP Fridley and/or transported off NIROP Fridley. We question the significance of the requested information at this stage in the NIROP Installation Restoration Program for the following reasons:

- The IAS served as the CERCLA Preliminary Assessment(PA)/Site Investigation(SI) phase of the Installation Restoration program. The main purpose of the IAS was to collect information for use in assessing the existence of hazardous substance at a site and determining the potential for hazardous substance migration to determine if a release may require additional investigation or action. The NCP states that a SI's purpose "is to augment the data collected in the PA and to generate, if necessary, sampling and other field data to determine if further action or investigation is appropriate."
- Four persons performed the 1983 IAS in four days at the inception of the Installation Restoration Program. By necessity, this level of investigation resulted in extrapolation of some actual material usage rates over the plant's operating history. To the best of our knowledge, all actual information in the Navy's possession has been provided to you (and the EPA). If additional information becomes available through FMC/UDLP on past operations or disposal sites, we will certainly provide it to you. FMC/UDLP has been strongly encouraged to provide any additional information they have.
- In theory, determining what was taken off-site may help you determine what volumes of waste you expect to find on-site and when you expect the site to be cleaned-up. However, a mass balance of waste generated equaling waste recovered is nearly impossible due to the physical changes that occur after waste is generated/disposed such as volatilization, adsorption, reclamation, absorption, diffusion, advection, dispersion, retardation, natural attenuation, etc. Sites will not be considered cleaned up until all parties have agreed upon remedial goals and these goals are met through either active or passive remedies.
- It has been clearly documented that from the 1940s through 1969, the contractor (Northern Pump/FMC) disposed of chemicals and other hazardous waste materials on 18 acres it owned south of the Fridley facility. We have already participated in a potentially responsible party settlement with UDLP on this site. In addition, FMC disposed of foundry sand at landfills in Andover and East Bethel, Minnesota, and it was subsequently named as a potentially responsible party under CERCLA. You have been aware that FMC disposed of TCE at Waste Disposal Engineering landfill

Andover from 1972-1974 and that beginning in 1975, wastes were shipped to off-site facilities for disposal and recycling.

- UDLP has verified that we have no records indicating that any wastes (including TCE) were ever shipped to TCAAP.
- EPA Region V is already working with FMC/UDLP on a Request For Information on Anoka County Riverfront Park.
- If additional off-site disposal sites are found and our waste is identified, the liability /responsibility for the cleanup of those sites would be addressed under a separate program ( i.e. Third Party Site Program - not the NIROP Installation Restoration Program).

**CONCLUSION:** In conclusion, the Navy reiterates that the IAS and SER reports have already ostensibly resulted in 'further action and investigation' at OU 1, OU 2, and OU 3, including the initial (1983-1984) drum removal action. Through the RI/FS process, the Navy is determining the nature and extent of the threat presented by releases and, where appropriate, to evaluate proposed remedies. Contaminants and their migration pathways are defined, potential risks to public health and the environment are assessed, and a detailed risk assessment is carried out. Although data gaps exist, sufficient information has been available for a remedy to be designed for OU 1, an RI/FS Report to be completed for OU 2 (with FS remedy selection deferred until OU 3 remedy selection), and the OU3 RI to serve as the mechanism for characterizing the OU 3 site and wastes present. Further, the OU 3 RI enables the Feasibility Study for OU 3 to proceed in order to evaluate the performance and cost of possible treatment technologies; and to support the evaluation, selection, and design of selected remedies. The OU 3 FS will serve as the mechanism for the development, screening, and detailed evaluation of potential remedial alternatives.

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