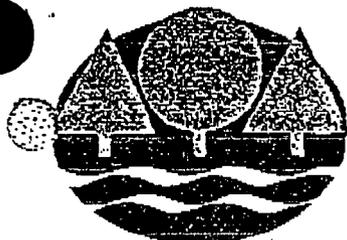


p. 1 of 3



Minnesota Pollution Control Agency

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August 4, 1994

Mr. Sidney L. Allison, P.E., Director
Environmental Department
Southern Division
Naval Facilities Engineering Command
P.O. Box 190010
North Charleston, South Carolina 29419-9010

RE: Naval Industrial Reserve Ordnance Plant Site

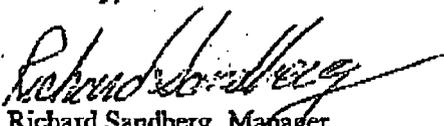
Dear Mr. Allison:

The Minnesota Pollution Control Agency (MPCA) staff has reviewed the U.S. Navy's (Navy) report entitled "Workplan for Improvement of Groundwater Containment System effectiveness," (Report) dated July 31, 1994, for the Naval Industrial Reserve Ordnance Plant site. The Report was submitted pursuant to the Federal Facility Agreement, dated March 27, 1991, between the MPCA, the U.S. Environmental Protection Agency, and the Navy.

The MPCA staff hereby approves the Report with modifications contained in the attachment to this letter. The Navy shall make the modifications either by submittal of a letter addendum or by a modified Report.

If you have any questions regarding this letter, please contact David Douglas of my staff at (612) 296-7818.

Sincerely,


Richard Sandberg, Manager
Site Response Section
Ground Water and Solid Waste Division

RS:ch

Enclosure

cc: David Cabiness, Navy, Southern Division
Linda Hicken, RMT, Inc.
Thomas Bloom, U.S. Environmental Protection Agency, Region V
Chitca; Kennerly; Reynolds

520 Lafayette Rd. N.; St. Paul, MN 55155-4194; (612) 296-6300 (voice); (612) 282-5332 (TTY)

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ATTACHMENT

Work Plan for Improvement of Ground Water Containment System Effectiveness
Naval Industrial Reserve Ordnance Plant
Fridley, Minnesota
July 1994

1. Page 12, paragraph 3: The specific computer model and the model version used to simulate the ground water flow regime at the NIROP shall be referenced in this section and a reference for the model documentation included in the reference section of the report.
2. Page 26, Groundwater Extraction System Upgrading: The evaluation of the existing ground water extraction system listed in Table 3-1 shall include evaluation of scaling and fouling problems associated with wells, force mains and the air stripper to determine if this problem is contributing to reductions in system effectiveness with time. The evaluation shall include a list of potential methods to reduce this problem if the evaluation identifies scaling as a significant factor to system efficiency reductions.
3. Page 26, Groundwater Pretreatment System Upgrading: Evaluation of the pretreatment system detailing in Table 3-2 shall include an evaluation of the system to meet MPCA Air Emission Rates (AER's) and an evaluation of methods that will enable carbon changeout before breakthrough occurs.
4. Page 30 - Table 3-3: The proposed optimum operating flow rates indicated exceed the current flow rate of 650 gallons per minute (gpm) listed in the National Pollution Discharge Elimination System (NPDES) permit that soon will be under public review. The MPCA recommends that the Navy consider raising the discharge rate listed in the permit to allow some design flexibility in the future for the system. It seems possible that the maximum flow rate listed in Table 3-3 may be required to obtain plume capture and that the possibility of exceeding the NPDES discharge limit is a real one if the system is optimized.
5. Page 30 - Table 3-3: If AT-1A is removed from service would the pumping rate in other wells be increased?
6. Page 34, Groundwater Collection and Pretreatment System Design and Construction: How will the new wells be plumbed into the existing system to avoid the reduced flow conditions that exist in the existing wells due to plumbing appurtenances in the new wells? The MPCA requests that the wells be added to the existing system in such a way as to avoid a reduction in potential well capacity due to existing plumbing design.
7. Page 36, Coordination with Groundwater Treatment Facility Design: The MPCA recommends that the treatment facility be designed with additional capacity so that some flexibility exists in the event that the amounts of water required to be pumped need to be increased to obtain capture.
8. Page 36, Pumping Rates: (see comment # 6)

- 9. Page 38, Well Permits: Any permits for the new wells shall be obtained through the Minnesota State Department of Health , Well Management Unit. In addition, a request to amend the water allocation permit for the new wells shall be made to the Minnesota Department of Natural Resources (DNR). This request shall be in letter form and shall summarize the need for additional pumping capacity, total system capacity and conceptual plans for the wells to be installed. Contact Evan Drivas concerning the details of the request requirements (612/297-4604).
- 10. Page 39, Startup and Operation Plan: The work plan states that no hydraulic tests will be conducted on the new wells with the existing wells shut down. The plan is unclear if performance testing will be done at the wells to determine the well capacities before the pumps are sized. If these tests are not to be done explain the basis upon which pumping capacities and pump sizes will be determined. With the current problem of reduction of capacity of wells due to potential force main and equipment problems it seems essential that the capacities of the wells be determined before the wells are connected to the system so that any reductions in capacity from piping can be noted. Once connected to the existing system, capacities could be significantly reduced due to force main and other equipment problems. Please clarify this issue in the work plan.
- 11. Page 40, Section 6 - Monitoring Plan: Monitoring of the system shall also be consistent with the Remedial Action Monitoring Plan (RAMP) with modifications. There are numerous references to the Remedial Action Workplan in Section 6. The RAMP shall be referenced in each place the work plan is referenced.
- 12. Page 43 - Section 7 -Schedule: The schedule is not clear concerning when the evaluation of the existing system design (force mains and other equipment) will be completed and when any construction of improvements recommended as a result of the evaluation might be implemented. The schedule shall be made more explicit in differentiating between improvements that are part of the addition of the two new wells and those improvements related to existing system improvements related to piping and other equipment.
- 13. General Comments: The results of the modeling presented in the report indicate that for complete capture of the plume at the NIROP to occur, as specified in the Record of Decision (ROD), the existing well capacities need to be maximized in addition to installation of the two proposed wells (AT-5A and AT-5B). The exact pumping rates of each well will be evaluated once the additional wells have been installed and the capacities of the new wells determined.

Important to the success of the system is the optimization of existing wells. As an example, the capacity of AT-2 was optimized from 24 gpm to 100 gpm when the well was pumped independently of the other wells. This indicates that valuable existing system capacity is currently not available due to the existing plumbing and appurtenance design. The proposed existing system evaluation is equally as important a task as the addition of the two new wells. The optimization proposed may add an additional pumping capacity of approximately 166 gpm to the capture system which nearly equals the additional capacity of the two proposed wells. If the existing wells can be optimized and the predicted capacities realized for the two new wells the need for pumping of AT-1A may be reviewed. It is possible that capture could be realized without this well operating as part of the system. This evaluation is premature until the optimized capacities of the existing wells and capacities of the new wells are realized.