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R-002-208.20

**TREATMENT OF WATER FROM CLARIFIER PIT AND FLOOR SUMPS
IN PLANT 6 THROUGH THE ADVANCED WASTEWATER FACILITY**

04/22/97

DOE-0817-97
DOE-FEMP EPAS
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LETTER



Department of Energy

Ohio Field Office
Fernald Area Office
P. O. Box 538705
Cincinnati, Ohio 45253-8705
(513) 648-3155



APR 22 1997

DOE-0817-97

Mr. James A. Saric, Remedial Project Director
U.S. Environmental Protection Agency
Region V-SRF-5J
77 West Jackson Boulevard
Chicago, Illinois 60604-3590

Mr. Tom Schneider, Project Manager
Ohio Environmental Protection Agency
401 East 5th Street
Dayton, Ohio 45402-2911

Dear Mr. Saric and Mr. Schneider:

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- References:
- 1) Letter, DOE-0978-95, Craig to Saric and Schneider, "Evaluation of Removal Action 1: Extraction of Water Beneath Fernald Environmental Management Project Buildings," dated September 13, 1995.
 - 2) Letter, DOE-0874-96, Reising to Saric and Schneider, "Proposal to Discontinue Plans to Construct an Advanced Wastewater Treatment Carbon Filtration Pretreatment Unit," dated July 18, 1996.
 - 3) Letter, DOE-0711-95, Craig to Saric and Schneider, "Request for Approval of Policy for Management of Aqueous Investigation Derived Waste," dated March 23, 1995.

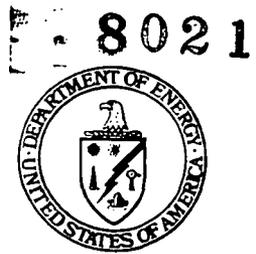
The purpose of this letter is to inform you that on May 5, 1997, the Fernald Environmental Management Project (FEMP) intends to begin treatment of perched groundwater collected from the Plant 6 Clarifier Pit and basement floor (Motor Bay) sumps through the Advanced Wastewater Treatment (AWWT) Phase II system. The perched groundwater from this area contains several Volatile Organic Compounds (VOC) and is currently transported to the Plant 8 VOC treatment system prior to treatment at the AWWT system. However, Plant 8 is scheduled for Decontamination and Demolition (D&D) which requires the phase-out of all Plant 8 operations. The carbon filters at the AWWT Phase II system have the capability to treat VOCs, rendering treatment through the Plant 8 VOC treatment system unnecessary.



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This change will allow the Department of Energy, Fernald Environmental Management Project (DOE-FEMP) to limit and eventually close out all operations at Plant 8 which will minimize future operating costs and allow building D&D to proceed as scheduled. Once D&D is fully initiated, the existing Plant 8 VOC treatment system units will be transported to an alternate location to retain its pretreatment capability for certain Resource Conservation and Recovery Act (RCRA) - regulated wastewaters.

Historically, the Clarifier Pit and Motor Bay Sumps have been pumped and treated as part of Removal Action 1, *Extraction of Water Beneath Fernald Environmental Management Project Buildings*. In accordance with Reference 1 and subsequent Ohio Environmental Protection Agency (OEPA) and U.S. Environmental Protection Agency (U.S. EPA) approvals, Removal Action 1 was determined to no longer be necessary and pumping of the perched groundwater extraction wells was ceased in December 1995. However, as further stated in Reference 1, pumping and treatment of water in the Clarifier Pit and Motor Bay Sumps was to be continued as part of the Plant 6 building maintenance program. The collected water is treated through the Plant 8 VOC treatment system, a process that includes Granulated Activated Carbon (GAC) units for removal of organics.

When VOC treatment for Removal Action 1 was initiated in July 1991, the existing on-site wastewater treatment system did not have the capability to treat VOCs. Therefore, the GAC system was installed in Plant 8. Since then, Phase II of the AWWT Facility became operational January 1995. Phase II includes carbon filters upstream of the ion exchange beds to protect the ion exchange resin from possible damage caused by incidental VOC contamination. As presented previously in Reference 2, the AWWT Phase II carbon filters have a greater contact time for contaminated wastewater than the GAC system in Plant 8. Therefore, the AWWT Phase II system provides comparable or better VOC removal than that provided by the Plant 8 VOC treatment system.

Treatment of Plant 6 Clarifier Pit and Motor Bay Sump water (which is not RCRA-regulated) through the AWWT Phase II is consistent with the OEPA and U.S. EPA approved ~~Aqueous~~ Investigation Derived Waste (IDW) Policy (Reference 3). This policy allows VOC-contaminated remediation wastewaters to be treated through the AWWT carbon filters provided that the contamination is not from known sources of RCRA-regulated listed waste. Perched groundwater at the FEMP does not exhibit any RCRA hazardous waste characteristics, but perched groundwater from two locations may contain RCRA-regulated listed constituents. As stated in the policy, the two perched groundwater areas that contain RCRA-regulated listed constituents are the Fire Training Facility and the Sewage Treatment Plant Sludge Drying Beds. Perched groundwater from these two areas, along with any other wastewaters known to contain RCRA-regulated listed VOCs, will be pretreated through the Plant 8 VOC treatment system.

In recent discussions with the OEPA and U.S. EPA, the DOE suggested that the AWWT Phase II should also be used to treat RCRA-listed waste streams. The suggestion was based on the assumption that the Plant 8 GAC lacked the capacity required for all site generated RCRA-listed waste streams and that the AWWT clarifier sludges, generated prior to listed constituent removal, could be disposed of in the On-Site Disposal Facility (OSDF). A reevaluation of the volume of waters that contain listed constituents suggest that minimal

capacity is required to treat these streams. Additionally, the analysis of clarifier sludges indicate that the sludges will not consistently pass the OSDF Waste Acceptance Criteria (WAC) for uranium resulting in the need for off-site disposal as mixed waste. Based on this information, the DOE has reconsidered use of the AWWT for treatment of wastewater streams containing listed waste constituents and will instead, opt for maintaining the GAC equipment from Plant 8.

If you have any questions or need more information, please contact Kathleen Nickel at (513) 638-3166.

Sincerely,



Johnny W. Reising
Fernald Remedial Action
Project Manager

FEMP:Nickel

cc:

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