

4503

**CATEGORICAL EXCLUSION DETERMINATION
WATER TREATMENT REPLACEMENT PROJECT
NEPA DOC. NO. 351**

11/12/91

**DOE-HQ/DOE-FN
NEPA DOC 351**

3-4

CAT EX

**CATEGORICAL EXCLUSION DETERMINATION
Water Treatment Replacement Project
(FEMP NEPA Document No. 351)
Fernald Environmental Management Project, Fernald, Ohio**

Proposed Action

The U.S. Department of Energy (DOE) proposes to replace the current lime-alum component of the water treatment system at the Fernald Environmental Management Project (FEMP) with a water filtration system.

Location of Action

The proposed filtration process component will be installed directly east of the 750,000 gallon process water storage tank and near Building 20B, which is located near the center of the FEMP process area. The FEMP is located 20 miles northwest of downtown Cincinnati, Ohio.

Background

Raw well water at the FEMP is obtained and treated for use as potable water, boiler feedwater, and for fire suppression. The water system structure currently consists of groundwater pumps, a lime-alum water softening process, and a 750,000 gallon holding tank. The sludge from the lime-alum treatment system is currently being deposited in two lime sludge lagoons at a rate of 1 ton per day. These lagoons are approaching their holding capacity and are estimated to reach maximum capacity in late 1991. The lime sludge ponds are managed as a hazardous waste management unit under RCRA, and any activities associated with the ponds will be addressed under the Amended Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA) Consent Agreement. The proposed project will effectively eliminate the generation of the waste lime sludge and the need for additional waste management.

Description of the Proposed Action

The proposed action consists of the installation of a trailer-mounted water treatment unit near the 750,000 gallon water storage tank and the discontinuation of the lime-alum softening unit. The 9.5-foot by 48-foot trailer will house a filtration system which uses electro dialysis reversal (EDR) technology for salt and mineral removal. The EDR system passes the raw water between alternately placed cation and anion transfer membranes at low hydraulic pressure. Salts and minerals pass through the charged membrane and concentrate in a separate flow of reject water. The resulting flow is demineralized water for use as potable, boiler feed, and fire suppression water.

The proposed improvements to the water treatment system will eliminate the generation of waste other than the reject flow which will be discharged to the General Sump. No permits to install will be required, no air emissions are generated, and the reject flow (approximately 20 percent of the total 250 gpm raw water flow) will not impact the FEMP National Pollutant Discharge Elimination System (NPDES) permit.

The improved system will be in compliance with all applicable laws and regulations and will be conducted within the existing water treatment system structure.

Construction associated with this project will include leveling an area of soil approximately 18-feet by 60-feet for the placement of the EDR trailer mounted unit. The trailer unit will be secured in place with anchored tie-downs, leveling blocks, and skirting. Water supply piping to the trailer will be routed underground from Building 20B. Electrical service will be routed from Building 20A. The trailer unit will be supplied with fire main water and fire detection devices. Alarm systems will be tied into the site-wide Honeywell system. Access paths and stairway ramps will be installed.

Categorical Exclusion to be Applied

The Amendments to Section D of DOE's National Environmental Policy Act (NEPA) Guidelines published in the Federal Register on September 7, 1990, add classes of actions generally applicable to all DOE that normally do not require Environmental Assessments or Environmental Impact Statements.

The Amendments specifically list the following as types of actions that are included:

Improvements to environmental control systems (e.g., ion-exchange devices and other filtration processes in water treatment systems) that reduces the amounts or concentrations of regulated substances in air emissions or water effluents, if (a) the improvements would be conducted within an existing building or structure; (b) any substance captured or produced thereby during subsequent operations of the environmental control systems would be recycled, released, or otherwise disposed of within existing permitted facilities; (c) for any such substance identified within the definition of hazardous substances under section 101(14) of CERCLA that is collected or produced in increased quantity or was not previously collected or produced, there are applicable statutory or regulatory requirements or permit conditions for its disposal, release, or recycling; (d) it is determined that such improvement would not threaten a violation of applicable statutory, regulatory, or permit requirements, including requirements of DOE Orders; would not require siting and construction or major expansion of waste disposal, recovery, or treatment facilities (including incinerators and facilities for treating wastewater, surface water or groundwater); and would not adversely affect environmentally sensitive areas.

The categorical exclusion (CX) is appropriate since the proposed action as described, is an improvement to an environmental control system, will not threaten a violation of applicable statutory, regulatory, or permit requirements, will not require siting and construction or major expansion or waste disposal, recovery or treatment facilities, and will not adversely affect environmentally sensitive areas.

Compliance Action

I have determined that the proposed action meets the requirements for the CX referenced above. Therefore, the proposed action is categorically excluded from further NEPA review and documentation.

Approval: *Leo P. Duffy*
Leo P. Duffy, Director
Office of Environmental Restoration
and Waste Management, EM-1

Date: 11/12/91

EH-25 has reviewed this determination and has no objection.

Signature: *Carol Borgstrom*
~~Carol Borgstrom, Director~~
Office of NEPA Oversight, EH-25

Date: 11/22/91

NEPA# 6573

memorandum

DATE: NOV 13 1991

REPLY TO
ATTN OF: EM-424 (D. Kozlowski, 3-8160)

SUBJECT: Categorical Exclusion Determination - Water Treatment Replacement Project,
Fernald Environmental Management Project, Fernald, Ohio, 84

TO: Carol Borgstrom, EH-25

I have approved the subject categorical exclusion under Section D of the Department of Energy's National Environmental Policy Act Guidelines and am forwarding it to you for review.

I request that you notify me within 2 weeks, in accordance with the Interim Procedural Guidelines for implementation of SEN-15-90, whether you have any objection to this determination.



Leo P. Duffy
Director
Office of Environmental Restoration
and Waste Management

Attachment

cc:
L. Lawson, EM-431
M. Kleinrock, EM-20

004

(EH-25)
RECEIVED

NEPA#
10573

NOV 13 1991