OhioEPA
State of Ohio Environmental Protection Agency
P.O. Box 1049, 1800 WaterMark Dr.
Columbus, Ohio 43266-0149

Toward A Cleaner Environment
15 Year Anniversary 1972 - 1987

June 26, 1987

Re: Final Findings and Orders

Richard F. Celeste
Governor

Feed Materials Production Center
7400 Willey Road
Fernald, Ohio 45030

Transmitted herewith is one copy of the Director's Final Findings and Orders concerning the Feed Materials Production Center, issued in resolution of Westinghouse Materials Company of Ohio, Inc. v Tyler, EBR Case No. 311527.

Maan Osman, Manager
Water Quality Management Section
Div Water Pollution Control

MO/tlh

Certified Mail

EXHIBIT A

Issue Date June 26, 1987

Effective Date June 26, 1987

BEFORE THE
ENVIRONMENTAL PROTECTION AGENCY

IN THE MATTER OF:	:	
FEED MATERIALS PRODUCTION CENTER 7400 Willey Road Fernald, Ohio	:	DIRECTOR'S FINDINGS AND ORDERS

Pursuant to Ohio Revised Code Section 6111.03(H), the Director of the Ohio Environmental Protection Agency hereby makes the following findings and orders:

FINDINGS

1. The Feed Materials Production Center ("FMPC") is a large-scale production facility which supplies uranium metal used in the fabrication of fuel cores for nuclear reactors owned by the Department of Energy. Located at 7400 Willey Road, one mile from Fernald, Ohio, it includes approximately 1,050 acres of buildings or structures, installations, equipment, and grounds, mostly contained in Hamilton County, Ohio.

2. The FMPC is owned by the United States Department of Energy ("DOE"). Since January 1, 1986, the FMPC has been operated and managed by the Westinghouse Materials Company of Ohio, Inc. ("Westinghouse").

3. The FMPC is situated in the Great Miami River Basin. Natural drainage from much of the site runs into Paddy's Run, a tributary of the Great Miami River. This drainage carries industrial wastes and other wastes from the process area and other portions of the FMPC into Paddy's Run.

4. Process wastewater from the FMPC refinery, chemical, and metal production plants is collected at the general sump for monitoring or additional treatment. In addition, other waste streams such as spent lime slurry from the FMPC water plant, boiler blow down from the FMPC boiler plant, and coal

pile runoff at the FMPC are also pumped to the general sump. In the past, portions of the supernatant from the general sump was pumped to Waste Pit #5. The supernatant then flowed by gravity into the clearwell, from which it was pumped to the Great Miami River.

5. Both the Great Miami River and Paddy's Run are "waters of the state", as that term is defined by Ohio Revised Code Section 6111.01(H).

6. On January 28, 1987, the DOE site manager sent Ohio EPA a letter acknowledging that holes and tears have been observed in the liner of Waste Pit #5. Records attached to the letter documented three occasions on which holes and tears in the liner have been observed. These events occurred in 1981, 1982, and 1986.

7. The groundwater underlying the FMPC has been contaminated by industrial waste from the FMPC. Pollutants leaking from the waste pits at the FMPC and stormwater runoff into Paddy's Run are two suspected sources of this groundwater contamination. This groundwater is a "water of the state," as that term is defined by Ohio Revised Code Section 6111.01(H).

8. Holes and tears in the liner of Waste Pit #5 increase the risks of groundwater contamination due to leakage of industrial waste from the pit through the holes and tears.

9. In response to Ohio EPA requests, DOE and Westinghouse ceased their discharge of wastewater into Waste Pit #5 beginning on February 24, 1987.

10. On February 27, 1987, DOE informed Ohio EPA that a search of FMPC records has disclosed information that wells and tiles existed at the FMPC site before the Atomic Energy Commission constructed the FMPC. DOE has not been able to find records documenting the capping or closure of these wells and tiles. One of these wells was located on the site where Waste Pit #5 is situated.

11. If not properly closed, wells can provide a conduit of water contaminants from the surface into the groundwater. Therefore, industrial wastewater discharged into Waste Pit #5 could be leaking through the liner and seeping into the groundwater.

12. DOE and Westinghouse have been rerouting their wastewater into the biodenitrification surge lagoon instead of Waste Pit #5. The liner in the biodenitrification surge lagoon

has been found to contain numerous leaks and tears. However, underdrains below the lagoon collect wastewater leaking through the liner, and recirculate it back into the lagoon. DOE has informed Ohio EPA that it may be necessary to completely replace this liner.

13. The FMPC has installed a stormwater retention basin without first obtaining a permit to install from Ohio EPA. As a result, the basin is only adequate to collect stormwater runoff from a two year, twenty-four hour storm event. More retention capacity is necessary to collect stormwater runoff from larger storm events which would otherwise overflow and carry industrial waste and other wastes into Paddy's Run.

14. It is necessary that DOE and Westinghouse comply with all applicable environmental laws and regulations in order to safeguard the public health, safety and welfare.

15. The Director has given consideration to, and based his determination on, evidence relating to the technical feasibility and economic reasonableness of complying with these orders and to evidence relating to conditions calculated to result from compliance with these orders, and its relation to the benefits to the people of the state to be derived from such compliance in accomplishing the purposes of Chapter 6111. of the Revised Code.

ORDERS

1. Starting on the effective date of these Findings and Orders, no "sewage," "industrial waste" or "other wastes," as those terms are defined by Ohio Revised Code Section 6111.01, shall be discharged or placed into Waste Pit #5 or the clearwell at the FMPC without prior written approval of Ohio EPA. The only exception to this order would be the stormwater runoff currently being collected in the waste pit area.

2. By October 1, 1988, DOE and Westinghouse shall install a new liner in the Biodenitrification surge lagoon. As part of the permit to install application submitted to Ohio EPA in accordance with O.A.C. Chapter 3745-31, the DOE and Westinghouse shall provide proposed standards for integrity of the new synthetic liner. From September 30, 1987 until the new liner is operable, DOE and Westinghouse shall not cause or allow wastewater to accumulate in this lagoon.

3. No water from Waste Pits numbers 4,5, or 6, the biodenitrification surge lagoon, the biodenitrification surge lagoon underdrains, or stormwater retention basin underdrains shall be discharged or placed into Paddy's Run.

4. Sediments accumulating in the biodenitrification surge lagoon and stormwater retention basin(s) shall be removed and disposed of on a routine basis. A study shall be performed on each basin to determine the solids loading and solids settling rates. A report describing the results of this study shall be submitted to the Ohio EPA by June 1, 1987. A maintenance schedule shall be developed and submitted to the Ohio EPA with the report by June 1, 1987 outlining a schedule by which solids will be removed from the basins to assure that maximum settling rates and maximum capacity of the basins will be maintained. The maintenance schedule shall outline the method(s) by which the solids will be removed, how treatment will be provided during the scheduled maintenance, and the method of disposal of the removed solids. Should Ohio EPA request changes and/or additions to the study, report, and/or maintenance schedule, DOE and Westinghouse shall, within thirty days after receiving these requests, make the changes and/or additions and submit them to Ohio EPA. DOE and Westinghouse shall implement the maintenance schedule as approved by Ohio EPA.

5. By April 30, 1987, DOE and Westinghouse shall submit to Ohio EPA for its review a contingency plan describing actions which will be taken to investigate and minimize the environmental impact to Paddy's Run and other portions of the environment caused by any surface water leakage, overflow, or bypass of the stormwater retention basin currently installed at the FMPC. Should Ohio EPA request changes and/or additions to the plan, DOE and Westinghouse shall, within forty-five (45) days after receiving these requests, make the changes and/or additions and submit them to Ohio EPA. The provisions of the contingency plan shall be implemented by DOE and its contractors at the FMPC.

6. By October 1, 1987, DOE and Westinghouse shall submit to Ohio EPA for its review detailed plans and a permit to install application for a stormwater retention system which will be able to collect and hold all stormwater runoff from the FMPC process area, including the FMPC parking lots, resulting from a ten year, twenty-four hour storm event. Should Ohio EPA request changes and/or additions to the detailed plans or permit to install application, DOE and Westinghouse shall, within thirty days after receiving notice of these requests, make the changes and or additions and submit them to Ohio EPA.

7. As part of the permit to install application required by Order 6 above, DOE and Westinghouse shall submit to Ohio EPA for its review a contingency plan describing actions which will be taken to minimize potential environmental impacts to Paddy's Run and other portions of the environment caused by any surface water leakage, overflow, or bypass of the stormwater retention system approved by Ohio EPA pursuant to Order 6 above. Should Ohio EPA request changes and/or additions to this plan, DOE and Westinghouse shall submit the changes and/or additions to Ohio EPA within thirty days after receiving the requests. This plan shall be implemented by DOE and its contractors at the FMPC.

8. By December 31, 1988, DOE and Westinghouse shall install, and thereafter shall operate, the stormwater retention system described in Order 6 above.

9. By March 1, 1988, DOE and Westinghouse shall submit to the Ohio EPA for review a best management practices (BMP) plan for the control of industrial wastes and other wastes that may be discharged from the FMPC. For the purpose of these Orders, "industrial wastes" and "other wastes" have the meaning set forth in Ohio Revised Code Section 6111.01(C) and (D). The BMP plan shall be developed in accordance with good engineering practices and shall:

a. Be documented in narrative form and shall include any necessary plot plans, drawings, or maps.

b. Establish specific objectives for the control of industrial wastes and other wastes.

i. Each facility component or system shall be examined for its potential for causing a release of industrial wastes and other wastes to "waters of the state", as defined by Ohio Revised Code Section 6111.01, due to equipment failure, improper operation, natural phenomena such as rain or snowfall, and other causes. Special consideration shall be given to surface and stormwater drainage systems at the FMPC site. Drainage systems to be examined shall include, but are not limited to, the following:

(a) A drainage system north of the production area consisting of two ditches running from the area around the present and proposed sanitary landfills west to Paddy's Run. These ditches run just north of Waste Pit #5, parallel to the railroad tracks.

(b) A drainage system that begins in the production area and runs west through the pit area, entering Paddy's Run near the clearwell.

(c) A gully draining to Paddy's Run between the Clearwell and Waste Pit #5.

(d) A large ditch running west along the south edge of the parking lot into the stormwater overflow ditch.

(e) The areas around the active and inactive flyash storage piles.

(f) The two drainage systems which intersect southwest of the K-65 silos. One of these ditches runs directly west of the silos and the second runs south of the K-65 access road.

(ii) Where experience indicates a reasonable potential for equipment failure (e.g., a tank overflow or leakage), natural conditions (e.g., precipitation), or other circumstances to result in industrial wastes or other wastes reaching surface waters, the plan should include a prediction of the direction, rate of flow, and total amounts and characteristics of industrial wastes and other wastes which could be discharged from the facility as a result of each condition or circumstance.

(iii) Include monitoring of internal wastewater streams, noncontact cooling waters, and storm water runoff as necessary to isolate sources of industrial wastes and other wastes.

c. Establish specific best management practices for each component or system capable of causing a release of significant amounts of industrial wastes and other wastes to the waters of the state.

d. Address the following points:

(i) Statement of policy;

(ii) Spill Control Committee;

(iii)Material inventory;

(iv) Material compatibility;

(v) Employee training;

(vi) Reporting and notification procedures;

(vii)Visual inspections;

(viii)Preventive maintenance;

(ix) Housekeeping; and

(x) Security.

10. DOE and Westinghouse shall implement the BMP plan upon notification of approval of the plan by the Ohio EPA. In the event that the Ohio EPA does not approve the BMP plan in its entirety, DOE and Westinghouse shall implement those portions of the plan approved by the Ohio EPA, correct any deficiencies in the plan noted by Ohio EPA, and resubmit a revised plan for review by the Ohio EPA not later than 60 days from notification by the Ohio EPA.

11. DOE and Westinghouse shall maintain the BMP plan at the FMPC and shall make it available to Ohio EPA upon request.

12. DOE and Westinghouse shall amend the BMP plan whenever there is a change in facility design, construction, operation, or maintenance which materially affects the facility's potential for discharge of industrial wastes and other wastes into the waters of the state.

13. If a review by the Ohio EPA of the implementation of the BMP plan determines that the plan is ineffective in achieving the general objective of preventing the release of industrial wastes and other wastes to the waters of the state, the BMP plan shall be modified by DOE and Westinghouse in consultation with the Ohio EPA within forty-five days after the Ohio EPA determination.

14. By April 30, 1987, DOE and Westinghouse shall initiate a study of the FMPC discharge to the Great Miami River. By June 1, 1987, DOE and Westinghouse shall submit a scope of work for the study to Ohio EPA for its review. This scope of work shall address, at a minimum, terms A through E below. Should Ohio EPA request changes and/or additions to this scope of

work, DOE and Westinghouse shall make these changes and/or additions and submit them to Ohio EPA within twenty days after receiving these requests. The portion of the study required by Items A,C, and D (as applicable to Items A and C) shall be completed and a report submitted to the Ohio EPA by October 1, 1987. The portion of the study required by Items B and D (as applicable to Item B) shall be completed and a report submitted to Ohio EPA by August 1, 1988. An iterim report of Item B shall be completed and submitted to the Ohio EPA by October 1, 1987. This interim report shall include the results of a sensitivity study of the hydrogeologic model and evaluation of data gathered to that time.

A. The study shall locate any leaks or holes in the pipe. Any leakage from the pipe must be stopped as soon as possible. The report on the study must describe all holes or leaks found in the pipe and must describe any actions necessary to prevent the recurrence of holes and leaks, along with a schedule for completing these actions.

B. The study shall determine whether the discharge from the pipe is located within the zone of influence of the production well field operated by the Southwest Ohio Water Company or any other major production well field. If at any time during the study it is determined that the outfall is located within the zone of influence, the Ohio EPA shall be notified that an investigation shall be initiated to examine the need to and feasibility of relocating the outfall to a location outside the zone of influence. The report of the investigation shall evaluate the alternatives for relocation and contain schedules for the design and implementation of the alternative should the study establish the need to relocate the outfall. The report shall recommend an alternative to be implemented.

C. The study shall perform whatever testing or examination is necessary to determine whether or not the gravel fill around the pipe is serving or has served as a conduit for sewage, industrial waste, or other wastes to the Great Miami River buried valley aquifer. If the gravel fill has served or is serving as a conduit, the study shall evaluate alternatives for preventing the fill from serving as a conduit, shall recommend schedules for implementation of each alternative, and shall recommend an alternative to be implemented.

D. The report on this study shall describe all adverse environmental impacts noted during the study, and shall recommend alternatives and schedules to stop and prevent these environmental impacts.

E. Should Ohio EPA request changes and/or additions in the report of this study, including any of the recommended alternatives or schedules, DOE and Westinghouse shall submit these changes and/or additions to Ohio EPA within thirty days after receiving these requests.

15. All actions and alternatives recommended by the report of the study required by Order 14 above and approved by Ohio EPA shall be implemented in accordance with the schedules approved by Ohio EPA.

16. Beginning May 20, 1987 and by the twentieth (20th) of every second month, a bi-monthly technical progress report shall be submitted to the Southwest District Office of Ohio EPA describing the progress made to comply with these orders during the previous two months.

17. All of these orders apply to and shall be implemented by the Department of Energy, the Westinghouse Materials Company of Ohio, Inc., and any other contractor operating or managing the FMPC subsequent to Westinghouse.

18. Westinghouse does not waive any right it may have to seek administrative or judicial review of any changes, additions or deletions made by the Ohio EPA to any study, report, application or schedule submitted by Westinghouse to the Ohio EPA pursuant to orders 4, 5, 6, 7, 10, 13, 14(E), and 15. The parties agree that the preceding sentence does not provide Westinghouse with any review rights beyond those which the law already provides, nor shall it be construed as an admission by Ohio EPA that any review rights exist.

Steven J. Crossman
Acting Director

June 26, 1987
DATE

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