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FLUOR GLOBAL SERVICES

May 18, 2001

Fernald Environmental Management Project
Letter No. C: ARP(ARWWP):2001-0009

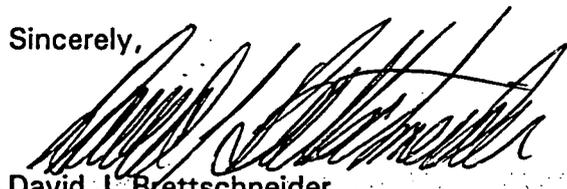
Mr. Thomas A. Winston, District Chief
Ohio Environmental Protection Agency
Southwest District Office
401 East Fifth Street
Dayton, Ohio 45402-2911

Dear Mr. Winston:

**NONCOMPLIANCE REPORT – APRIL 2001 - NPDES PERMIT NUMBER 1100000*FD -
FERNALD ENVIRONMENTAL MANAGEMENT PROJECT (FEMP)**

Enclosed is the Noncompliance Report for April 2001. If you have any questions, please contact Mr. Frank Johnston at (513) 648-5294.

Sincerely,



David J. Brettschneider
Project Manager

DJB:FLJ

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File Record Subject : NPDES Permit
Project Number52700

NONCOMPLIANCE REPORT
 NPDES PERMIT NO. 11000004*FD
 FERNALD ENVIRONMENTAL MANAGEMENT PROJECT
 U.S. DEPARTMENT OF ENERGY

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The following table describes the April 2001 noncompliances with the discharge limitations specified in the FEMP NPDES Permit. This table lists the affected outfall, dates of the noncompliance, parameter, permit limits, and measured effluent concentrations.

FINAL EFFLUENT - OUTFALL *4001			
DATE	PARAMETER	PERMIT LIMIT	ACTUAL MEASUREMENT
April 25, 2001	TSS Concentration	20 mg/l	40.8 mg/l
April 25, 2001	TSS Mass Loading	473 kg/d	828.4 kg/d

The TSS noncompliances are the result of an upset experienced in the Advanced Wastewater Treatment (AWWT) Facility, Phase II clarifier. This upset resulted in excessive solids carryover. These high solids from the Phase II system caused the NPDES noncompliance for TSS.

Discussions with AWWT Shift Supervisors and a review of logbooks indicate that the flow through the AWWT Phase II system began to drop off around 9:00 p.m. on April 25. The Control Room Operator's logbook reported that the carbon and multimedia filters all required back-washing at that time. The operators and supervisor began to walk down the system to determine the cause of the problem. When they reached the Phase II system clarifier they observed sludge flowing over the weir. The supervisor immediately instructed the Control Room Operator to shut down the Phase II system.

While several theories have been offered as to the cause of the upset in the clarifier, no specific cause can be identified. Investigation into the event and interviews with shift supervisors have established primarily two possible explanations:

- 1) A turnover in the sludge blanket resulting from a significant and rapid temperature drop.
- 2) A blockage in a check valve allowing plant air, used to blow down sludge from the clarifier discharge line to a sludge hold tank, to bubble through the sludge blanket.

A supervisor logbook entry described the clarifier as looking "like a pond that went through a seasonal turnover" because the surface was covered with floating solids and a scum layer. However, earlier in the shift when the operator performed his routine rounds of the clarifier, he noted on the roundsheet that the clarifier was clear. The time between these observations was approximately two hours indicating the clarifier had changed from clear to extremely turbid during this span of time. The speculation is that the rapid temperature drop experienced during the evening had caused the clarifier to turn over like ponds turn over in the spring and fall. Meteorological data shows that a rapid drop in temperature (from 60.8°F at 7:00 pm to 46.4° at 10:00 pm) was indeed experienced. However, the Phase II system was operating at 200 gpm continuously throughout the day

and evening on water from the Bio Surge Lagoon (BSL). Temperature effects would have been minimized by this constant flow of water through the clarifier.

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During the morning of April 26, another operator performed rounds on the clarifier and observed bubbles forming in the surface. After walking the system down it was discovered that air was being used to blow out the sludge line from the clarifier to the sludge holding tank. He turned off the air and observed that the bubbles stopped forming on the surface of the clarifier. For air to have gotten back into the clarifier from the location where air was entering the pipeline, it had to have passed through a check valve. This check valve was removed by maintenance personnel and found to be in working order and not coated with sludge. An attempt was made on May 2, 2001, to recreate the circumstances of April 25 to determine if air would pass through the check valve. The check valve prevented air from entering the clarifier since no bubbles were observed on the surface of the clarifier. While the check valve was operating properly on May 2, it is possible that some material had blocked the valve allowing air to escape through the clarifier during the time of the clarifier upset.

While a definitive cause has not been identified, Fluor Fernald believes it necessary to install turbidity meters on the discharge from the clarifier weirs. These turbidity meters will alarm in the control room allowing the operators to react immediately to instances of sludge carryover. This improvement is scheduled for the fall of 2001.