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**STATUS UPDATE FOR THE INTERIM ADVANCES
WASTEWATER TREATMENT (IAWWT) SYSTEM**

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Department of Energy
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DOE-2721-92

Mr. James A. Saric, Remedial Project Director
U.S. Environmental Protection Agency
Region V - 5HR-12
230 South Dearborn Street
Chicago, Illinois 60604

Mr. Graham E. Mitchell, Project Manager
Ohio Environmental Protection Agency
40 South Main Street
Dayton, Ohio 45402

Dear Mr. Saric and Mr. Mitchell:

STATUS UPDATE FOR THE INTERIM ADVANCED WASTEWATER TREATMENT (IAWWT) SYSTEM

The purpose of this letter is to provide you with a status update of the IAWWT system. Details of the present status of each unit of this system are discussed separately below.

IAWWT (SWRB) Unit

The IAWWT (SWRB) unit has been operating successfully. Effluent from the system is now being discharged to the Great Miami River. Usage of filter elements has been within the design expectations. At times when the stormwater level in the SWRB is very low, flow to the SWRB has been achieved by shutting down the Storm Sewer Lift Station (Note - the Storm Sewer Lift Station is scheduled to be shut down permanently when the new, larger SWRB pumps being installed in the Part 2A South Groundwater Contamination Plume Removal Action project are in place). The off normal operating mode of recirculating IAWWT effluent to the SWRB while low pH water is flushed from the initial charge of resin has been successful.

IAWWT (BDN-ETS) Unit

The IAWWT (BDN-ETS) was shut down on August 25, 1992, because accumulation of solids on the Ion Exchange Unit has restricted the flow throughout to only 10 gallons per minute (gpm). The continued operation of this unit was also requiring an excessive manpower effort.

The No. 1 Ion Exchange (IX) vessel had previously been taken offline and flushed to clear it of the material clogging the resin. The No. 1 vessel was then refilled with the cleaned resin and the No. 2 IX vessel was sluiced out for resin cleaning. During this time (approximately one week) the BDN-ETS discharge was being treated through the No. 1 and No. 3 IX vessels, which have subsequently become clogged to the point where only 10 gpm was being processed. A decision was made to concentrate efforts on determining the best way to protect the IX beds and not treat minimal amounts of BDN-ETS discharge. Two options of protection are being evaluated: tighter mesh bag filters and addition of chemicals to produce a floc for subsequent removal.

One μm absolute pleated bag filter elements have been received and will be installed in the bag filters at the BDN-ETS in place of the 3 μm filters currently used. These filters will be evaluated to determine if they are effective at removing the TSS down to a level that will not affect the IX beds (1 ppm or less of TSS). Additionally, flocculation tests are being performed with a variety of flocculent aids and at varying concentrations. The results of these investigations will serve to determine whether enhanced filtration, flocculation, or a combination of the two will be required to prevent the fine material from clogging the IX vessels. Also, particle size distribution testing is being pursued in order to characterize the material.

Successful operation of the SWRB unit will more than compensate for additional uranium being discharged by the recently completed Waste Pit Area Stormwater Runoff Project. Therefore, meeting of the 1700 pounds per year uranium discharge is not in jeopardy, even with the temporary setback at the BDN-ETS unit. However, full operation of both units will be imperative prior to the addition of the South Plume discharge. Preliminary evaluation of existing equipment at the BDN-ETS and possibly other locations on site for use at the BDN-ETS unit has begun in preparation for the possibility that the addition of the flocculation and settling will be the required solution.

If you or your staff have any questions, please contact me at FTS/Commercial 738-6159 or C. J. Fermainntt at FTS/Commercial 738-6157.

Sincerely,

for 
Jack N. Craig
Fernald Remedial Action
Project Manager

FN:Fermainntt

cc:

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