



## Department of Energy

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AUG 20 1999

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

DOE-1058-99

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

Dear Mr. Saric and Mr. Schneider:

### REQUEST FOR TEMPORARY VARIANCE TO DISCHARGE WASTE PITS REMEDIAL ACTION PROJECT WATERS FROM THE CLEARWELL TO THE BIODENITRIFICATION SURGE LAGOON

The purpose of this letter is to request approval for a temporary variance from the Department of Energy's (DOE) currently documented approach for discharging waters from the Waste Pits Remedial Action Project (WPRAP) to the Biodegradation Surge Lagoon (BSL). Specifically, DOE is requesting approval to allow WPRAP to discharge waters from the Clearwell to the BSL at levels above the 5,000 parts per billion (ppb) for total dissolved uranium. The 5,000 ppb standard was identified in the WPRAP Sampling and Analysis Plan (SAP) for Environmental Media.

As discussed in DOE's letter of December 23, 1998, which transmitted the First Loadout Work Plan for WPRAP, the WPRAP Remedial Action (RA) is being implemented in three progressive phases. Phase 2, which is the next phase of the project, involves the initiation of waste pit excavation activities utilizing waste pit materials that do not require thermal drying. To support these activities, the plan was to use IT's Wastewater Treatment System (WTS) to provide the treatment necessary to ensure that any waters generated would meet the influent criteria agreed to between WPRAP and the Aquifer Restoration and Wastewater Project (ARWWP). Specifically, under this scenario, these waters would have been collected primarily in the Clearwell, treated (as necessary) through IT's WTS, and then discharged to the BSL. To support these activities, various sampling and analysis activities, as described in the SAP for Environmental Media, would be performed.

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In further defining the concept of these Phase 2 activities, including its interrelationship with the Phase 3 activities (i.e., full scale operations), however, it has become apparent that to operate the WTS during Phase 2 would be very difficult in terms of supporting Phase 3. In particular, the concern relates trying to operate one system (i.e., the WTS), while completing construction and startup on another system (i.e., the Gas Cleaning System [GCS]), both of which occupy the same building, are operated by the same individuals, and are functionally interdependent. There is also a concern about the ability to operate the WTS under different radiological controls compared with the balance of the building, where the GCS is housed and would be undergoing startup testing.

In order to proceed with Phase 2, without the benefit of the WTS, the only clear alternative for managing the WPRAP waters was determined to be a direct discharge from the Clearwell to the BSL. WPRAP and ARWWP representatives subsequently met to discuss the pros and cons of this alternative. Through these discussions, WPRAP/ARWWP agreed that the main issue associated with this alternative related to the ability to discharge water from the Clearwell below the 5,000 ppb level for total dissolved uranium level. Specifically, without the WTS treatment, and with total dissolved uranium levels generally found in the Clearwell (e.g., about 9,700 ppb in June 1999), this water cannot be discharged directly from the Clearwell to the BSL without this variance. ARWWP/WPRAP further agreed, however, that with adequate controls, this limit could be waived for a period of time to accommodate these WPRAP remediation flows.

In further defining the Clearwell to BSL discharge alternative, the following actions/controls were established by ARWWP/WPRAP:

- Waters will be discharged from the Clearwell in batches.
- Prior to each planned discharge, the Clearwell water will be sampled and analyzed for the constituents identified in the SAP for Environmental Media.
- The results of the Clearwell sampling/analysis, as well as an estimate of the volume of the water to be discharged, will be provided to ARWWP for their assessment.
- ARWWP will assess this information on the Clearwell quality and quantity, and make a decision, which takes into account current and planned operations, as to whether these flows can be managed within the Advanced Wastewater Treatment (AWWT) system, such that AWWT discharge limits are not compromised.
- If ARWWP concurs that it is acceptable to discharge from the Clearwell to the BSL, IT will be notified, and the waters will be discharged. These flows will be monitored by IT, during discharge, for quality and quantity, consistent with the RA Package.
- If ARWWP determines that it is unacceptable to discharge from the Clearwell to the BSL, IT will be so notified. In this instance, IT will need to assess its various means for managing this water. This assessment would be similar to an assessment that would

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be done when discharges to the BSL are terminated, as discussed in Section 7.2 of the Stormwater/Wastewater Management Plan.

- This period of interim operation will last eight weeks. The eight-week period will begin upon initiation of actual material excavation from the waste pits.

In regards to the ARWWP assessment of the request for a temporary eight week variance from the proposed uranium discharge limit, DOE and Fluor Daniel Fernald, Inc. (FDF) will take action beyond those in the AWWT's Operations Maintenance Master Plan (OMMP) to help assure that the FEMP's monthly average uranium discharge limit of 20 ppb is not compromised. In anticipation of approval of this variance, to ensure optimum performance during the interim period, new resin is being installed in two of the Phase II ion exchange units. When flow commences, daily composite sample results for the Phase II system effluent will be monitored and appropriate corrective actions will be taken. Examples of possible corrective actions could include ion exchange vessel rotation, resin regeneration, resin replacement, slowing/stopping BSL flows, or slowing/stopping Waste Pit excavation.

Adoption of a 20 ppb uranium average discharge policy for the Phase II system would match the expected performance in the Record of Decision (ROD) for the entire system. Under the OMMP, a daily value of over 20 ppb uranium in the site's outfall is used as a signal to troubleshoot the operation of the overall Fernald Environmental Management Project (FEMP) wastewater treatment system. Previously, FEMP has been able to meet the effluent monthly average requirement with the Phase II System operating over 20 ppb. For example, in June, the Phase II System daily effluent samples were typically between 30 and 60 ppb uranium while the site's effluent was below 20 ppb. Managing the Phase II system to a more strict policy of 20 ppb average uranium outlet will assure that the interim Waste Pits work does not adversely impact the site's effluent quality.

In summary, it is DOE's opinion that: 1) discharging directly from the Clearwell to the BSL on a temporary basis is an acceptable, controllable alternative to using the WTS during Phase 2 of the remediation; 2) actions/controls have been established, as discussed above, which ensure that any WPRAP waters can be managed in accordance with the FEMP's National Pollutant Discharge Elimination System permit; 3) these activities are generally consistent with plans developed and submitted to the Agencies for approval (except as noted above); and 4) this strategy supports the FEMP's commitment to address remediation wastewaters as the highest priority. Accordingly, DOE hereby requests approval of its plan to allow for WPRAP to discharge waters from the Clearwell to the BSL at levels above the 5,000 ppb for total dissolved uranium. Please note that DOE does not intend to request any extension of the eight-week variance period.

DOE recognizes and shares your Agency's concern with the progress toward full-scale operations, inclusive of dryer operational capability. To this end, DOE will provide weekly briefings on progress during our regularly scheduled conference calls.

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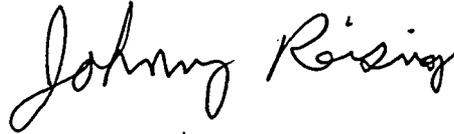
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If you have questions on any of the above, please contact Dave Lojek at (513) 648-3127.

Sincerely,



Johnny W. Reising  
Fernald Remedial Action  
Project Manager

FEMP:Lojek

cc:

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