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**CONCERNS RADON EMISSIONS FROM THE
WASTE PITS**

08-25-92



UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
REGION 5
AIR AND RADIATION DIVISION
77 WEST JACKSON BOULEVARD
CHICAGO, IL 60604-3590

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AUG 25 1992

REPLY TO THE ATTENTION OF:

(AT-18J)

R. E. Tiller, Manager
Fernald Environmental Management Project
United States Department of Energy
P.O. Box 398705
Cincinnati, Ohio 45239-8705

Dear Mr. Tiller:

This letter is in response to your letter dated June 25, 1992. We appreciate the information that you provided regarding the Waste Pits and Clearwell to assist in our evaluation of the proposed methods to complete the evaluation of radon emissions from these sources. The United States Environmental Protection Agency (USEPA) feels that there is no need to modify the Federal Facilities Agreement (FFA) with the United States Department of Energy (USDOE), and that clarification of appropriate test methodologies will be sufficient.

Paragraph 26 of the FFA requires that the USDOE directly measure the radon flux from Waste Pits 1, 2, 3, 4, 5, and the Clearwell. The earlier submitted results for Waste Pits 1, 2, and 3 are acceptable as submitted. Also, as the Clearwell is water covered, the radon emissions are assumed to be zero, according to Method 115. We will provide additional clarification of the necessary methodology for Waste Pits 4 and 5, as they do not fit the ordinary methodology.

Waste Pit 4 should have a minimum of 20 large area charcoal canisters, commonly referred to as Big Louie's, placed in a regular pattern over the clay cap to assure that it is properly functioning. In addition, the vent should be sampled as detailed in Method 115, 1, "Radon-222 Emissions from Underground Uranium Mine Vents". The USDOE may submit a similar methodology for our consideration and evaluation of applicability to this particular situation.

Regarding Waste Pit 5, it is clear from the submitted information that this source is out of compliance with the standard of 20 picocuries per square meter per second (20 pCi/m²-s) found in 40 CFR §61.192. The amount of emissions reported of 94 pCi/m²-s, for the uncovered portion of Waste Pit 5, and an average for the entire pit of 31.3 pCi/m²-s, is a clear exceedance of the standard. The USEPA understands that a removal action is currently scheduled to address this problem. This removal action will result in the materials in Waste Pit 5 being leveled and covered by water. When this pit is covered by water the emission is assumed to be zero according to test Method 115. This removal action may then

must be directly measured. It should be noted that USDOE has already addressed the Waste Pits and Clearwell in a previous Quality Assurance Project Plan submitted prior to the testing of Waste Pits 1, 2, and 3, as well as the methodology for the testing. The weather conditions need to be considered in potential scheduling of testing procedures. The level 4 schedule provided to USEPA by USDOE indicated no movement of materials in Waste Pit 5 until mid-November. Due to this timing the USEPA feels that it is necessary to conduct direct testing of Waste Pit 5 and have measurement results submitted to Region 5 Radiation Section by October 15, 1992, following all parameters in test Method 115. If there is an alteration of the timeline for the removal, please submit the revised schedule for evaluation.

If you have any questions on the clarifications, please contact us or Michael Murphy at (312) 353-6686.

Sincerely yours,



Larry Jensen, Acting Chief
Radiation Section

James A. Saric, Remedial Project Manager