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

FERNALD  
LCC K-2237  
Aug 15 10 59 AM '97  
FILE 9500  
REPLY TO THE ATTENTION OF:

AUG 14 1997

Mr. Johnny W. Reising  
United States Department of Energy  
Feed Materials Production Center  
P.O. Box 398705  
Cincinnati, Ohio 45239-8705

SRF-5J

RE: Area 1, Phase 1: East  
Stockpile WAC

Dear Mr. Reising:

The United States Environmental Protection Agency (U.S. EPA) has completed its review of the United States Department of Energy's (U.S. DOE) Waste Acceptance Criteria (WAC) attainment reports, Area 1, Phase 1 East Stockpile and West Stockpile areas.

The document presents insufficient data to fully characterize the stockpiles. It relies too much on developmental field instrumentation and does not include enough physical sampling.

Therefore, U.S. EPA disapproves the stockpile WAC attainment report. U.S. DOE must submit a revised methodology for further characterizing the stockpiles within thirty (30) days receipt of this letter.

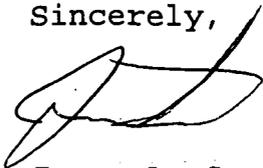
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Please contact me at (312) 886-0992 if you have any questions regarding this matter.

Sincerely,



James A. Saric  
Remedial Project Manager  
Federal Facilities Section  
SFD Remedial Response Branch #2

Enclosure

cc: Tom Schneider, OEPA-SWDO  
Bill Murphie, U.S. DOE-HDQ  
John Bradburne, FERMCO  
Terry Hagen, FERMCO  
Tom Walsh, FERMCO

**TECHNICAL REVIEW COMMENTS ON  
"WASTE ACCEPTANCE CRITERIA ATTAINMENT REPORTS, AREA 1, PHASE I EAST  
STOCKPILE AND AREA 1, PHASE I WEST STOCKPILE"**

**GENERAL COMMENTS**

Commenting Organization: U.S. EPA

Commentor: Saric

Section #: Not Applicable (NA) Page #: NA

Line #: NA

Original General Comment #: 1

Comment: The reports include measurement results obtained using both accepted methods (physical sampling followed by laboratory analysis) and developmental methods (sodium iodide system [RTRAK] scans and high-purity germanium [HPGe] measurements). The accuracy, reliability, and applicability of the measurements made by the developmental methods are in question because the technologies are unproven. To date, the Department of Energy (DOE) has not adequately addressed the limitations of the developmental technologies or provided a thorough justification for using these technologies to evaluate waste acceptance criteria (WAC) attainment. However, DOE is using the measurement results of the developmental methods to attempt to demonstrate that stockpiled soil meets the On-site Disposal Facility (OSDF) WAC. The issue of using the developmental methods to determine whether soil meets the WAC needs to be further addressed and resolved before the reports can be approved.

Commenting Organization: U.S. EPA

Commentor: Saric

Section #: NA

Page #: NA

Line #: NA

Original General Comment #: 2

Comment: It appears that the reports present all available data on the east and west soil stockpiles. Based on the reports, some of the soil remains uncharacterized. It is therefore unclear how DOE can confirm that the stockpiles do not contain concentrations of uranium, such as those associated with an undetected "hot spot," exceeding the WAC. The reports should be revised to address this issue.

**SPECIFIC COMMENTS  
ON THE  
AREA 1, PHASE I WEST STOCKPILE REPORT**

Commenting Organization: U.S. EPA

Commentor: Saric

Section #: 3.0

Page #: 5

Line #: 6 and 19

Original Specific Comment #: 1.

Comment: The report describes the detector unit of the RTRAK device as measuring 4 by 4 by 16 inches in the first paragraph of Section 3.0 and 4 by 6 by 16 inches in the next paragraph. This discrepancy should be corrected.

Commenting Organization: U.S. EPA  
 Section #: Attachment K  
 Original Specific Comment #: 2.

Page #: All

Commentor: Saric  
 Line #: All

Comment: The text describes a stratified random sampling methodology. This methodology is inadequate for determining the presence of any hot spots of uranium contamination. It is therefore unclear how DOE can confirm that no hot spots went undetected and that no WAC concerns are posed by such hot spots. The report should be revised to address this issue.

Commenting Organization: U.S. EPA  
 Section #: Appendix B to Attachment K

Page #: Table B.1

Commentor: Saric  
 Line #: NA

Original Specific Comment #: 3.

Comment: The table provides individual sample identification numbers that are not unique to each proposed sample. The distinguishing indicators of sampling depth discussed in Section 2.5 of Attachment K should be included in the sample numbering scheme.

### SPECIFIC COMMENTS ON THE AREA 1, PHASE I EAST STOCKPILE REPORT

Commenting Organization: U.S. EPA  
 Section #: 4.0  
 Original Specific Comment #: 4.

Page #: 5

Commentor: Saric  
 Line #: 21

Comment: The text states that the northern portion of P18-20, the southern portion of P18-40, and a portion of Q18-40 were excluded from collection of RTRAK measurements. However, the portion of Q18-40 subjected to RTRAK measurement had readings of over 200 parts per million (ppm). Because the RTRAK measurements collected show that elevated levels of uranium are present in P18-20, P18-40, and Q18-40, it is important to evaluate whether soils taken from these areas contained elevated concentrations exceeding the WAC. The report should be revised to address this issue.

Commenting Organization: U.S. EPA  
 Section #: 4.0  
 Original Specific Comment #: 5.

Page #: 8

Commentor: Saric  
 Line #: 3

Comment: The text states that "no physical soil samples were collected in ... Q19-20." In addition, no HPGe data were collected in the eastern portion of Q19-20. However, RTRAK readings of over 200 ppm were registered in Q19-20. The data collected do not allow full characterization of the soil from the eastern portion of Q19-20. The report should be revised to address this issue.

Commenting Organization: U.S. EPA  
 Section #: 4.0  
 Original Specific Comment #: 6.

Page #: 9

Commentor: Saric  
 Line #: 2

Comment: The text states that "RTRAK coverage of Q18-40 was less than 100 percent...." However, RTRAK readings of over 200 ppm were registered in Q18-40 in the areas that were subjected to RTRAK measurement. In addition, no remedial investigation samples, HPGe data, or physical WAC samples were reported for Q18-40. The data collected for Q18-40 do not allow full characterization of the soil from this area. The report should be revised to address this issue.