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OSDF AIR MONITORING PLAN RTC

10/18/96

USEPA

DOE-FN

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COMMENTS



UNITED STATES ENVIRONMENTAL PROTECTION AGENCY

REGION 5
77 WEST JACKSON BOULEVARD
CHICAGO, IL 60604-3590

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REPLY TO THE ATTENTION OF:

OCT. 18 1996

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

SRF-5J

RE: OSDF Air Monitoring
Plan RTC

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) Response to Comments (RTC) for the On-Site Disposal Facility (OSDF) air monitoring plan, revision F. U.S. EPA provided previous comments on the air monitoring plan as part of the OSDF intermediate design package. U.S. EPA also reviewed the air monitoring plan considering U.S. DOE's submittal of the Integrated Environmental Monitoring Plan (IEMP).

The OSDF air monitoring plan contains numerous deficiencies that must be addressed. The OSDF air monitoring plan relies entirely on the IEMP air monitoring network. However, the IEMP has not demonstrated that the air monitoring network is sufficient to characterize OSDF air emissions. Also, the plan does not detail how air monitoring data will be used to evaluate the effectiveness of the monitoring network and emission controls.

Therefore, U.S. EPA disapproves the OSDF air monitoring plan RTC. Considering the significant comments on the plan and its relationship to the IEMP, U.S. EPA recommends a meeting between the Agencies to discuss air monitoring issues as part of the IEMP and OSDF.

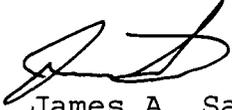
U.S. DOE must submit a revised air monitoring plan and RTC document within thirty (30) days receipt of this letter.

*(Warner(r)
partial
action response
to doe-1-22-96
(9999)*

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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
Jack Baublitz, U.S. DOE-HDQ
John Bradburne, FERMCO
Charles Little, FERMCO
Terry Hagen, FERMCO
Tom Walsh, FERMCO

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First, the OSDF air monitoring plan relies entirely on the existing air monitoring network described in the integrated environmental monitoring plan (IEMP) for FEMP. No additional monitoring locations or parameters are proposed. According to Section 1.2 of the IEMP, the objective of the IEMP is to "provide an independent appraisal of the collective effectiveness of the administrative and engineering emission controls accompanying the individual remediation projects," one of which is the OSDF. The IEMP also states that "project-specific emission-control monitoring" falls outside the IEMP's scope and will be addressed in project-specific monitoring plans. Now, however, the OSDF air monitoring plan claims that the IEMP monitoring network is sufficient to characterize OSDF air emissions and that no additional monitoring locations or parameters are required. The plan does not provide sufficient technical justification for this claim. Moreover, the IEMP submitted in August 1996 does not meet its objective of providing "an independent appraisal" of air emissions and controls. This increases the burden on project-specific plans, such as the OSDF air monitoring plan, to provide technically sound approaches for monitoring air emissions during FEMP remedial activities.

Second, the plan relies heavily on a risk assessment included as part of the OU5 feasibility study (FS) to demonstrate that risks to public health from potential OSDF air emissions are low. However, further review of the OU5 risk assessment indicates that the assessment is not based on reasonable maximum exposure (RME) concentrations, does not consider the receptor locations most likely to be affected by OSDF air emissions, and does not evaluate most OSDF activities that will generate air emissions. As a result, the plan's use of the risk assessment information to "formulate the OSDF environmental air monitoring program" is questionable.

Third, the plan does not adequately describe how air monitoring data will be reported and reviewed and how the data will be used to evaluate the adequacy of OSDF air emission controls. The monitoring data should be evaluated on an ongoing basis because of the dynamic nature of OSDF operations; the annual program review described in Section 6.3 of the plan is not sufficient. In addition, the plan does not propose any short-term, parameter-specific action levels or other objective criteria that will be used to evaluate or interpret air monitoring data. Without such criteria, revisions to the air monitoring program and decisions on emission control measures cannot be made in a logical or consistent manner.

the OU5 FS may be representative of average conditions but do not characterize RME.

Second, the RME receptor defined in the OU5 FS is not located where maximum contaminant concentrations resulting from OSDF air emissions are likely to occur. Figure G.2-2 places the representative RME receptor for the near-property public northwest of the OSDF at the northern property boundary of FEMP. This location is not the point of maximum impact for OSDF air emissions because (1) the OSDF will be constructed along the eastern boundary of FEMP and (2) the prevailing wind direction (based on the wind rose included in Figure 6-1 of the IEMP) is from the southwest or west. In fact, the RME receptor is located in an area likely to be least affected by OSDF air emissions because of the small percentage of time that the wind blows from southeast to northwest.

Third, it is not clear from the information presented in Appendix G of the OU5 FS that all possible air release mechanisms for the OSDF were evaluated. Attachment G.II to Appendix G includes a series of tables labeled "Intermediate Results for On-Site Disposal Cell Operations." The table on page G.II-103 shows particulate emission rates for major OSDF operations. These emission rates were apparently used to predict ambient air concentrations and evaluate exposures to the near-property public. According to this table, the only OSDF activity that will cause particulate air emissions is construction of OSDF cells. Emission rates for the following activities are listed as "0.00 kg/day": dumping contaminated soil at the OSDF receiving area, short-term storage of contaminated soil at the receiving area, and wind erosion of uncovered soil that has been placed in a disposal cell. Other air emission generating activities, such as placement of contaminated soil in disposal cells and movement of the material after placement, are not listed in the table and apparently were not evaluated. Based on the information presented, the evaluation in Appendix G of the OU5 FS appears to significantly underestimate potential air emissions from OSDF operations because it does not consider most of the material handling activities likely to generate emissions.

In summary, the air emission evaluation presented as part of the short-term risk assessment in the OU5 FS appears to have serious deficiencies in that the evaluation (1) is not based on RME concentrations, (2) does not consider the receptor locations most likely to be affected by OSDF air emissions, and (3) does not include most of the OSDF activities that will generate air emissions. Because of these deficiencies, the OU5 FS air emission evaluation does not support the statement that the air monitoring "approach and frequency

are at risk. This comment applies to all activity-specific air monitoring that will occur as part of the FEMP accelerated remediation strategy. The IEMP should integrate the results from activity-specific air monitoring, but should not dictate the monitoring equipment, operating procedures, and analytical procedures that must be used. See the comment under DOE Response #21 above for a specific example. The text should be revised to emphasize the importance of OSDF air monitoring objectives, rather than IEMP objectives.

Commenting Organization: U.S. EPA
 Section #: 4.2.3 Page #: 4-11 to 4-14
 Commentor: Saric
 Line #: NA
 DOE Response #: 20 (Original Specific Comment #: 20)

Comment: The original specific comment requests that the OSDF air monitoring plan include more frequent data collection and analysis during the initial stages of OSDF operations and when a new type of waste is being placed in the OSDF. The comment was nearly identical to OEPA Original Comment #72. Although Section 6.3 of the revised plan states that "the frequency of airborne particulate analyses" will be reviewed at least annually, DOE's response does not directly address the original specific comment. Furthermore, DOE's response to the OEPA original comment includes misleading information concerning the technical feasibility of increased sampling frequency. In justifying a 2-week duration for particulate air sampling, the response states that "more frequent sample collections decrease the particle mass aggregated," implying that shorter sampling periods are not acceptable. In fact, the high-volume particulate air sampling method used by DOE is designed to collect 24-hour samples in order to evaluate compliance with U.S. EPA's National Ambient Air Quality Standard for particulate matter.

The OSDF air monitoring plan should be revised to directly address the original specific comment. In addition, the plan should address the issue of critical OSDF operating periods (as defined in the U.S. EPA and OEPA comments) when air emissions may be of greater concern. The plan should provide adequate technical justification for the air monitoring and sample collection frequencies to be used during these critical periods.

Commenting Organization: U.S. EPA
 Section #: 4.2.3 Page #: 4-13
 Commentor: Saric
 Line #: 10 and 11
 Original Specific Comment #: 4

Comment: The "Contribution to Total Predicted Concentration (Activity-basis)" entries for uranium-235 and uranium-236 do not match the values shown in Table 3-2. These entries and the subtotal should be corrected.

radionuclides will not be included, the plan should provide technical information to justify these omissions.

Commenting Organization: U.S. EPA
 Section #: 6.2.1 Page #: 6-1
 Original Specific Comment #: 8

Commentor: Saric
 Line #: 13 to 22

Comment: This section should be revised so that the data recorded by the visible emissions evaluator will be consistent with the requirements of U.S. EPA Method 22 from 40 Code of Federal Regulations (CFR) Part 60, Appendix A. Specifically, the evaluator should record the estimated wind speed and direction at the time the visible emissions are observed as well as the duration of the emissions.

Commenting Organization: U.S. EPA
 Section #: 6.2.2 Page #: 6-2
 Original Specific Comment #: 9

Commentor: Saric
 Line #: 2

Comment: The text presents a predicted potential concentration for airborne particulate total uranium of 8.3×10^{-10} milligrams per cubic meter (mg/m^3) and cites Section 3.3 as the source of this value. This value differs from the sum of the uranium concentrations in Table 3-2 by almost three orders of magnitude. The discrepancy should be corrected.

Commenting Organization: U.S. EPA
 Section #: 6.2.2 Page #: 6-2
 Original Specific Comment #: 10

Commentor: Saric
 Line #: 9 to 18

Comment: The text briefly states that air particulate data, airborne particulate total uranium data, and occupational monitoring results from the OSDF will be used to determine whether improved administrative or engineering emission control measures are needed. Two significant deficiencies are associated with this approach. First, direct radiation monitoring results (Section 4.2.1) and radon monitoring results (Section 4.2.2) apparently will not be used to evaluate air emissions from the OSDF and the possible need for better emission control measures. Second, for the parameters listed, no specific action levels are proposed. The text refers to but does not define "administrative action levels." The plan should be revised to discuss how all air monitoring parameters will be used to evaluate OSDF air emissions. The plan should also identify specific action levels for each parameter whose exceedance will result in re-evaluation or improvement of air emission control measures.

Commenting Organization: U.S. EPA
 Section #: 6.3 Page #: 6-4
 Original Specific Comment #: 11

Commentor: Saric
 Line #: NA

Comment: This section states that the OSDF air monitoring program will be reviewed at least annually to evaluate the number and locations of air monitoring stations, the

