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Energy/
Environment
Systems Division

August 23, 1991

Mr. Tim Johnson
NRC/LLW Mail Stop 5E2
United States Nuclear Regulatory Commission
Washington, DC 20555

Subject: COMMENTS ON THE HARVARD AVENUE AND BERT AVENUE
CHARACTERIZATION REPORT

Dear Mr. Johnson:

The following comments regarding the Characterization Report for the Harvard and Bert Avenue sites, prepared by Dames and Moore, are provided for consideration:

A. General

1. Further details are needed to evaluate the adequacy of procedures. These include:
 - (a) surface soil sampling for radiological contaminants (Section 4.1.2)
 - (b) groundwater collection (Section 4.1.9.3)
 - (c) equipment decontamination (Section 4.1.3)
 - (d) duplicate sampling (Section 6.1.1 and 7.1.1)
 - (e) radiological analysis procedures (Section 4.1.14, 5.1, and 6.1)
 - (f) surface water and sediment sampling (Section 4.13)
 - (g) drilling and subsurface sampling (Section 4.1.7)
2. Results of intercomparison analyses (Section 4.1.14, 4.1.2, and 5.1), should be included for independent evaluation.
3. The report presents the results but does not provide a discussion and assessment of the measurement data.

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4. Detection or measurement capabilities (LLD's or MDA's) should be provided for the soil radiological data presented in appendices C,D,E, and F. Zero's should not be reported without the uncertainties and detection limits.
5. Comparison data from this survey with data from the survey conducted by ORAU is questionable, because of the physical changes to the site during the last few years. Also subsurface water concentrations could have been significantly effected by the remediation activities, time of year and elapsed time (5-6 years) since the ORAU study.
6. The characterization report did not provide any information as to the radiological condition of adjacent properties. It appears that no investigations were not performed on adjacent properties.

B. Specific

1. Section 4.1.1: Did the terracing activity at the Bert Avenue site redistribute any contaminated materials at the site? Were any of the potentially contaminated materials removed from the site?
2. Section 4.1.2: ORAU's experience indicates that a GM detector will not be effective in locating depleted uranium contamination at the guideline level. This is particularly true for material that is not exposed on the surface.
3. Section 4.1.2, paragraph 2: 1 Kg is equal to 2.2 lbs.
4. Section 4.1.2, paragraph 3: Where are the comparison data of sample analyses from the different labs. (i.e. NES vs Sciencetech)
5. Section 4.1.4: Why are samples to be analyzed for Th-232 and Ra-226?

6. Section 4.1.8.2: The GM detector does not have a detection sensitivity capable of monitoring depleted uranium contamination in water.
7. Section 6.2.2.1: What are the established regulatory limits referred to in this section.
8. Table 6.1-1 and 6.1-1A: The LLD's reported are rather high. They are greater than the sample concentration levels reported in most cases, raising a question about the usefulness of this data. The LLD levels are also substantial, compared to the EPA interim drinking water standards and the proposed EPA limits for uranium in public water systems.
9. Section 7.1.1: A review of the data provided in this section identified a number of inconsistencies with the data as reported in the text and as reported in the tables. Some data reported in the text could not be found in the tables.
10. Section 7.1.2, paragraph 3: In reviewing figure 7.1-2, it is not clear as to where the grid locations are on the map that are referred to in the text.
11. Section 7.1.2, paragraph 6: The decimal points in the uncertainty values should be moved one decimal place to the right.
12. Section 7.1.2, paragraph 11: What is the explanation for the difference between the concentrations in the first and second round sampling from location SED005?
13. Section 7.1.3, paragraph 2: It has been ESSAP's experience that the detection sensitivity of gamma spectroscopy is not adequately sensitive for analyzing vegetation samples. Were the vegetation samples ashed or dried and was the ash/wet or dry/wet ratio determined?
14. Figures 7.1-6 to 7.1-13: Change p/gram to pCi/gram.

Mr. Tim Johnson

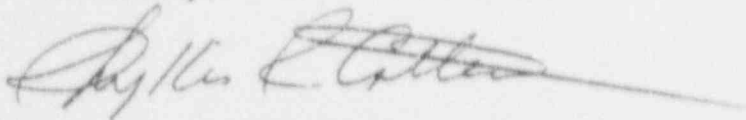
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15. Table 7.1-7: What do the results indicate? Are these concentrations compared with the NRC 10CFR20 Appendix B for derived air concentrations? The LLD's are a factor of about 10^7 times higher than the sample values in the table.
16. Appendix C and E provide gridblock numbers for identification, however, these numbers cannot be related to locations on the figures.

The comments that have been provided are not all inclusive. Because of a limited review time, ORAU focused on those sections of the Characterization Report that would have a significant impact in the design and implementation of any future remedial actions at either of the sites.

Sincerely,



Phyllis Cotten
Senior Project Leader
Environmental Survey and
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