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21G-13-0171
GOV-01-55-04
ACF-13-0195
August 12, 2013

Director, Office of Nuclear Material Safety and Safeguards
U.S. Nuclear Regulatory Commission
Attention: Document Control Desk
Washington, DC 20555

- References:
- 1) Docket No. 70-143; SNM-124
 - 2) Letter from the NRC; Acknowledgement and Acceptance of Revision 3 to North Site Decommissioning Plan, dated May 18, 2006 (TAC L31949)
 - 3) Letter from Mark P. Elliott to the NRC; Final Status Survey Final Report for Survey Units 2, 8, 9, 19, and 20, dated May 24, 2010 (21G-10-0082)
 - 4) Letter from Mark P. Elliott to the NRC; Amendment 1 to Final Status Survey Final Report for Survey Units 2, 8, 9, 19, and 20, dated August 12, 2010 (21G-10-0159)
 - 5) Letter from Mark P. Elliott to the NRC; Response to the Request for Additional Information Concerning Final Status Survey Report for Survey Units 2, 8, 9, 19, and 20, dated February 18, 2011 (21G-11-0025)
 - 6) Letter from Mark P. Elliott to the NRC; Response to the NRC Staff Evaluation of NFS Responses to RAIs Regarding Final Status Survey Report for Survey Units 2, 8, 9, 19, and 20, dated March 1, 2012 (21G-12-0039)
 - 7) Letter from Mark P. Elliott to the NRC; Addendum to the Final Status Survey Report for Survey Units 1, 3, and 10; and Addendum to the Final Status Survey Report for Survey Units 2, 8, 9, 19, and 20, dated November 14, 2012 (21G-12-0228)
 - 8) Letter from Mark P. Elliott to the NRC; Submittal of Additional Information for Final Status Survey Report for Survey Units 2, 8, 9, 19, and 20, and Revised Report, dated March 25, 2013 (21G-13-0052)
 - 9) Letter from NRC; Partial Confirmation of Final Status Survey Report for Survey Units 2, 8, 9, 19, and 20, dated June 10, 2013 (TAC L32997)

Subject: Submittal of Additional Information for Surface Soil Survey Reports, Survey Units 1 and 2

Nuclear Fuel Services, Inc. (NFS) hereby submits additional information in response to questions submitted by the NRC staff regarding the Surface Soil Survey Reports for Survey Units 1 and 2. Responses to staff questions are included in the Attachment. The discussions also resulted in revisions to the Reports, which are included in Enclosures 1 and 2.

If you or your staff have any questions, require additional information, or wish to discuss this further, please contact me, or Mr. Scott Morie, Decommissioning Environmental Unit Manager at (423) 735-5616. Please reference our unique document identification number (21G-13-0171) in any correspondence concerning this letter.

Sincerely,

NUCLEAR FUEL SERVICES, INC.



Mark P. Elliott, Director
Quality, Safety, and Safeguards

CSM/pdj

Attachment: **Additional Information for Surface Soil Survey Reports, Survey Units 1 and 2**

Enclosure 1: **Revision 2 – Addendum to the Final Status Survey Report for Survey Units 1, 3, 10, Surface Soil Characterization Survey Unit 1**

Enclosure 2: **Revision 2 – Addendum to the Final Status Survey Report for Survey Units 2, 8, 9, 19, and 20, Surface Soil Characterization Survey Unit 2**

Copy:

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Attachment

**Additional Information for
Surface Soil Survey Reports, Survey Units 1 and 2**

2 pages to follow

**Additional Information for
Surface Soil Survey Reports, Survey Units 1 and 2**

For the surface soil survey reports, we have two remaining issues, both stemming from a letter from NFS dated March 1, 2012 (ML 12066A075):

- 1. NFS committed to adjusting the color scale of the Th-232 maps to allow better differentiation of lower concentrations (specifically, near the DCGL). Although adjustments were made, the newer map has a poor legend. We still cannot determine what levels the very slightly elevated colors represent. The gamma scan data is one of the critical parts of the surface survey.**

NFS RESPONSE:

NFS has readjusted the color scale of the Th-232 maps to provide better visualization of the scan survey results. The corresponding map legend graphics and text have been reconstructed to add higher quality color contrast and text clarity. The new Th-232 surface scan maps are included in Appendix 1 with the amended Surface Soil Reports for Survey Unit 1 and Survey Unit 2.

- 2. Regarding the MDC results for soil sample analyses, NFS reanalyzed the samples as they had stated in the March letter, committing to MDCs that satisfy the DP requirements. The MDCs are still well above the DP requirement of less than 3.0 pCi/g for U-238. The reports do not provide any explanation as to why the MDC requirements are not met or whether that is or might be acceptable.**

NFS RESPONSE:

As you are aware, NFS analyzed and reanalyzed samples collected from the surface soils of Survey Units 1 and 2 at the North Site. The samples were analyzed and reanalyzed in 2012 via gamma spectroscopy using the NFS onsite analytical laboratory. The reported minimum detectable concentrations (MDCs) of the original analyses and the re-analyses of the samples were typically above the NFS Decommissioning Plan (DP) requirement of less than 3.0 pCi/g for U-238. In order to meet the MDC requirement listed in the DP, NFS contracted the ALS Laboratory in Ft. Collins Colorado to analyze the samples via alpha spectroscopy. The results of the alpha spectroscopy analyses performed on the samples yielded MDCs below 3.0 pCi/g, satisfying the DP requirement.

Table 3 in both Surface Soil Investigation Reports has been amended to include the alpha spectroscopy results obtained by ALS. The U-238 NFS gamma spectroscopy data that did not meet the DP MDC requirement has been removed from the Surface Soil Investigation Reports (Table 3 Soil Sample Results). Additional text has been added to page iv of the Reports to include explanation of the ALS analyses. Appendix 3 "ALS Data and Validation" has been added and includes the ALS analytical lab report and data validation results.

- 3. The quality assurance data in Appendix 2 of the reports is essentially illegible. Some information is discernible, but nonetheless, an improved version is needed for us to complete our review. This may have resulted from printouts being scanned at NFS, electronically pasted the scanned images into the report file, and NRC scanning the printouts into ADAMS. Can originals be sent to us for scanning? This can then be scanned once at NRC. The originals can then be returned to NFS.**

NFS RESPONSE:

NFS has issued higher resolution graphics in Appendix 2 of the Surface Soil Investigation Reports and will minimize the number of printing/scanning cycles the Reports go through prior to submission to the NRC.