June 3, 2014

Mr. Richard J. Freudenberger, Director
Safety and Safeguards
Nuclear Fuel Services, Inc.
P.O. Box 337, MS 123
Erwin, TN 37650

SUBJECT: NUCLEAR FUEL SERVICES, INC., REQUEST FOR ADDITIONAL INFORMATION CONCERNING FINAL STATUS SURVEY REPORT FOR SURVEY UNITS 13, 14, AND 15 (TECHNICAL ASSIGNMENT CONTROL NO. L33291)

Dear Mr. Freudenberger:

We have reviewed the Final Status Survey Report for Survey Units 13, 14, and 15 submitted by letter dated September 20, 2013, as supplemented by letter dated January 28, 2014. Our review has identified that additional information is needed before your request can be approved.

The specific requests for additional information are enclosed. The information should be provided to us within 30 days from the date of this letter. Please reference Technical Assignment Control No. L33291 in your response.

In accordance with Title 10 of the *Code of Federal Regulations* Section 2.390 of the U.S. Nuclear Regulatory Commission's (NRC) "Rules of Practice and Procedure," a copy of this letter will be available electronically for public inspection in the NRC Public Document Room and the Agencywide Documents Access and Management System (ADAMS).

ADAMS is accessible from the NRC Web site at http://www.nrc.gov/reading-rm/adams.html (the Public Electronic Reading Room. If you have any questions concerning this letter, please contact me at (301) 287-9116, or via e-mail to Kevin.Ramsey@nrc.gov.

Sincerely,

Kevin M. Ramsey, Project Manager **/RA/**
Fuel Manufacturing Branch
Division of Fuel Cycle Safety
and Safeguards
Office of Nuclear Material Safety
and Safeguards

Docket No. 70-143
License No. SNM-124

cc: Andrew Sabisch, Nuclear Fuel Services

ADAMS is accessible from the NRC Web site at http://www.nrc.gov/reading-rm/adams.html (the Public Electronic Reading Room. If you have any questions concerning this letter, please contact me at (301) 287-9116, or via e-mail to Kevin.Ramsey@nrc.gov.

Sincerely,

Kevin M. Ramsey, Project Manager **/RA/**
Fuel Manufacturing Branch
Division of Fuel Cycle Safety
and Safeguards
Office of Nuclear Material Safety
and Safeguards

Docket No. 70-143
License No. SNM-124

Enclosure: Request for Additional
Information Regarding Final Status
Survey Report

cc: Andrew Sabisch, Nuclear Fuel Services

DISTRIBUTION:

FCSS r/f	JHickey, RII	DHartland, RII	CStancil, RII
DSchmidt, FSME	ATSabisch@nuclearfuelservices.com		

ADAMS Accession No.: ML14148A147

OFFICE	NMSS/FCSS/FMB	NMSS/FCSS/FMB	NMSS/FCSS/FMB
NAME	KRamsey	TBrockington	RKJohnson
DATE	5/28/14	6/2/14	6/3/14

OFFICIAL RECORD COPY

REQUEST FOR ADDITIONAL INFORMATION
REGARDING FINAL STATUS SURVEY REPORT
FOR SURVEY UNITS 13, 14, AND 15 OF THE NUCLEAR FUEL SERVICES, INC. NORTH SITE

The following information is needed to verify compliance with License Condition S-1 which states that Nuclear Fuel Services, Inc. (NFS) will operate in accordance with the statements, representations, and conditions in its license application. Chapter 10 of the NFS license application states that NFS will decommission plant facilities and grounds in accordance with U.S. Nuclear Regulatory Commission (NRC) regulations and guidance. Specifically, it references the North Site Decommissioning Plan approved by the NRC.

1. Adjustment of Corehole Density for Survey Units 13 and 15

Request:
Describe the evaluation of corehole density of neighboring survey units sharing similar historical properties to determine corehole density for Survey Units 13 and 14. Update Chapter 2, Appendix A, and other sections of the Final Status Survey (FSS) Report, as appropriate, to address revisions.

Basis:
In response to the NRC staff Acceptance for Review letter dated November 26, 2013, NFS provided supplemental information in a letter dated January 28, 2014. The supplemental information addresses the planned corehole sampling density for Survey Units 13 and 14. NFS stated that the final survey design of Survey Units 13 and 15 was based on professional judgment relying on consideration of three mathematical points: (i) the corehole frequency determined using historical data; (ii) the corehole frequency of the neighboring survey units sharing similar historical properties; and (iii) areal frequency as suggested by the Multi-Agency Radiation Survey and Site Investigation Manual. NFS provided additional information addressing points (i) and (iii). However, NFS did not address point (ii) regarding corehole frequency of neighboring survey units. For Survey Unit 15, NFS' survey design was for a corehole density of 10 m2 per corehole. For Survey Units 13 and 14, the survey design was for a density of 50 m2 per corehole. Survey Unit 14 mostly surrounds (on three of four sides) Survey Unit 15, so NRC staff considers Survey Unit 15 to be a neighbor of Survey Unit 14. NFS has not specifically addressed why the higher density of corehole sampling for Survey Unit 15 is not also applicable to Survey Unit 14.

NRC staff also notes that much of the additional information provided by NFS in the January 2014 supplemental information is a significant revision to the survey design that is provided in the FSS Report (September 30, 2013). In the supplemental information, NFS stated that the historical data of Survey Units 13 and 15 in Appendix A of the FSS Report will be replaced in its entirety with the data shown in Tables 2 and 4 of the supplemental information. However, other than that statement, NFS has not revised the FSS Report or described what part of the FSS Report is to be revised based on the supplemental information.

Enclosure

2. Possible Surface Soils Needing a Surface Survey

Request:
Provide (i) justification that none of the soils in Survey Units 13, 14, and 15 will be original surface soils, (ii) a commitment that any surface soils will receive a surface survey, or (iii) a commitment to a process, at the time backfill and grading of the North Site takes place, to evaluate original surface soils that remain after backfill and grading.

Basis:
In the review of the FSS Report for Survey Units 1, 3, and 10, NRC staff identified that a surface soil survey had not been completed. Subsequently, NFS performed a surface survey for Survey Units 1 and 2. As documented in the NRC staff Safety Evaluation Report for Survey Units 1, 3, and 10 (letter dated June 15, 2010, ML101600349), NFS has stated that there is a backfill plan for the North Site and some survey units will be backfilled and thus will have no surface soils.

For the present FSS Report, it appears to NRC staff that Survey Unit 14 may contain surface soils. In the FSS Report, Table 4-7 shows the elevations of three coreholes in Survey Unit 14 to be approximately 1639 feet, msl. In addition, Figure 4-59 shows the same three coreholes contain soil mapped to the top 1 m model layer, meaning at depth 0–1 m. In a March 25, 2013, letter (package ML13099A0501), NFS submitted a Grading Plan map of the North Site, showing planned final grade. Based on that map, it appears the final grade for Survey Unit 14 is in the range of 1638–1640 ft, msl. Based on the similarity of the planned final grade and the elevation of the top of the coreholes, it appears that part of Survey Unit 14 may not have received backfill.