December 3, 2009

Ms. B. Marie Moore, Vice President
Safety and Regulatory
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 1, 3, AND 10 (TAC NO. L32879)

Dear Ms. Moore:

This letter is in response to your letter dated July 8, 2009, which submitted the Final Status Survey Report for Survey Units 1, 3, and 10 of the North Site. Our review has identified that additional information is needed before your request can be approved.

The additional information specified in the enclosure should be provided to us within 30 days from the date of this letter. Please reference TAC No. L32879 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," 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) 492-3123, or via e-mail to Kevin.Ramsey@nrc.gov.

Sincerely,

/RA/

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

Enclosure:
Request for Additional Information

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

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Request for Additional Information
Nuclear Fuel Services, Inc.
Final Status Survey Report for Survey Units 1, 3, and 10

1. Final Status Survey Results for Surface Soils

Request:
Provide results of the *surface* final status survey for Survey Units (SUs) 1, 3, and 10.

Basis:
In some areas of the North Site, soils have been or will be excavated and clean backfill may be applied over the excavated areas. In such cases, soils at the surface at the time of final status survey (FSS) may be considered or treated as subsurface soils, because after backfill the soils will be subsurface and therefore the subsurface criteria would be applicable. Thus, at the time of FSS, some areas may only have soils that will be considered "subsurface." In the following, the terms surface and subsurface generally refer to the eventual location of the soil, after any backfilling that has been committed to by Nuclear Fuel Services Inc. (NFS).

As discussed in the NFS Decommissioning Plan (Revision 3, dated May 2, 2006), Section 5.1, a *surface* final FSS will be performed for the North Site. As discussed in the Decommissioning Plant (DP), Appendix B, Section 1, the FSS for *subsurface* soils only applies to impacted subsurface soils deeper than 15 centimeters. The U.S. Nuclear Regulatory Commission (NRC) staff understands this to mean that when surface soils (0-15 cm in depth) and subsurface soils (depth greater than 15 cm) are both present at the time of FSS, both the surface and subsurface FSSs are to be performed. Survey Units 1, 3, and 10 contain surface soils, so it appears to NRC staff that a surface FSS should have been performed. However, the final status survey report (FSSR) for SUs 1, 3, and 10 does not provide results of the surface FSS for these SUs.

The surface FSS would include gamma scans of the surface soils as well as soil samples or in situ gamma spectroscopy measurements, as described in Chapter 5 of the DP. The NRC staff understanding is that these measurements are important to addressing potential exposures to material as they are being left on the site. The NRC staff understanding is that the subsurface FSS are important to addressing potential exposures that might occur if subsurface soils are disturbed (in particular, if subsurface soils are excavated and brought to the surface). Thus, the two FSSs (for surface soils and for subsurface soils) address two different aspects of the overall demonstration that the area is suitable for unrestricted use.

This is information is required to verify compliance with the NFS North Site Decommissioning Plan.

2. Size of Survey Units

Request:
Provide justification for the size of SU 10 being greater than 2000 m^2 in area.

Basis:
Chapter 5 of the DP states that Class 1 areas will be around 2000 m^2 in size. Appendix B of the DP, which addresses the subsurface FSS, indicates that laterally, survey unit demarcation will follow the concepts and criteria described in MARSSIM. The MARSSIM concepts include a maximum area for a Class 1 survey unit of 2000 m^2. Chapter 5 of the DP also shows a drawing

of area classifications. From that drawing, it appears that part of SU 10 was considered a Class 1 area. However, SU 10 is 3511 m^2, which is greater than 2000 m^2. To the NRC staff, this appears inconsistent with the provisions of the DP.

This information is required to verify compliance with the NFS North Site Decommissioning Plan.