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ACF-05-0145

April 19, 2005

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 License 124
 - 2) Letter from B.M. Moore to NRC, License Amendment Request to Append Chapter 5 of the North Site Decommissioning Plan, dated April 4, 2002 (21G-02-0094)
 - 3) Letter from B.M. Moore to NRC, Proposed Appendix A to Chapter 5 of the North Site Decommissioning Plan, dated September 13, 2002 (21G-02-0300)
 - 4) Letter from NRC to B.M. Moore, Nuclear Fuel Services, Inc., Amendment 37 – Revision to Appendix A to Chapter 5 of the North Site Decommissioning Plan, dated March 31, 2003
 - 5) Letter from B.M. Moore, Alternate Use of Appendix A Methods for Conducting a Final Status Survey to Support Relocation of Banner Spring Branch, dated November 23, 2004 (21G-04-0170)
 - 6) Letter from B.M. Moore to NRC, Final Status Survey Method for Assessing Subsurface Soil, dated February 9, 2005 (21G-05-0023)
 - 7) Letter from NRC to B.M. Moore, Nuclear Fuel Services, Inc., Request for Additional Information Concerning Alternate Methods for Final Status Survey of Relocated Banner Spring Branch, dated March 22, 2005

**Subject: Response to Request for Additional Information Regarding
North Site Decommissioning Plan, Appendix A**

Dear Sir:

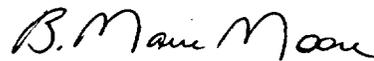
Nuclear Fuel Services, Inc. (NFS) hereby submits a response to the subject Request for Additional Information (Reference 7). As discussed with your staff, the approved methodology contained in Appendix A of the North Site Decommissioning Plan (References 2 and 3) commits to using the Wilcoxon Rank Sum (WRS) test to evaluate environmental data collected from “wet

soil” in survey units located at the North Site. No other criteria were specified for assessing whether or not a survey unit was suitable for unrestricted release in accordance with Title 10, Code of Federal Regulations, Part 20.1402. As noted in the attached response, NFS intends to supersede Appendix A methodology if, and when, the Nuclear Regulatory Commission approves the alternate final status survey methods that were submitted in Reference 6.

If you or your staff have any questions, require additional information, or wish to discuss this, please contact me, or Mr. Rik Droke, Licensing and Compliance Director, at (423) 743-1741. Please reference our unique document identification number (21G-05-0078) in any correspondence concerning this letter.

Sincerely,

NUCLEAR FUEL SERVICES, INC.



B. Marie Moore
Vice President
Safety and Regulatory

JSK/pdj
Attachment

copy:
Regional Administrator
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61 Forsyth Street, SW
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Mr. Daniel Rich
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Mr. William Gloersen
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Attachment

**NFS Response to
NRC Request for Additional Information Concerning
Alternate Methods for Final Status Survey of
Relocated Banner Spring Branch**

**NFS Response to
NRC Request for Additional Information Concerning
Alternate Methods for Final Status Survey of
Relocated Banner Spring Branch**

NRC Comment:

Your submittal states that NFS plans to use methods contained in Appendix A to Chapter 5 of the North Site Decommissioning Plan. Appendix A refers to Section 5.7.2 of the plan for the comparison of soil survey results to release criteria. It states that the survey unit will be considered suitable for unrestricted release if any one of the following are demonstrated (emphasis added):

- 1. If the difference between the highest sum of fractions (SOF) value of the survey unit and the lowest SOF value for the reference unit measurement is less than one,*
- 2. If the difference between the average SOF value for the survey unit and the average SOF value for the reference area is less than one,*
- 3. If the survey unit passes the Wilcoxon Rank Sum test.*

However, the guidance in Section 8.2 of NUREG-1575, "Multi-Agency Radiation Survey and Site Investigation Manual," states that it is possible for an unacceptable survey unit to pass the test in item 2 above (such as when the data have a skewed distribution). NUREG-1575 suggests performing a Wilcoxon Rank Sum Test in addition to the test in item 2 to verify that the survey unit is acceptable for unrestricted release. Please explain how NFS will verify that survey units meeting the test in item 2 are acceptable for unrestricted release.

This information is necessary to determine compliance with 10 CFR Part 20, Subpart E, Radiological Criteria for License Termination.

NFS Response to the Comment

NFS will follow Section 2.2, Evaluation of Analytical Results Using the Wilcoxon Rank Sum (WRS) Test, of Appendix A to determine if the survey unit will meet the release criteria. Section 2.2 states, "One step in determination if the survey unit meets the release criteria is comparison of the FSS systematic data to analytical results collected from a Reference Area is using the WRS test," and further discusses the application of the WRS test.

The NRC provided Nuclear Fuel Services, Inc. with Amendment 37 on March 31, 2003 to append Chapter 5 of the North Site Decommissioning Plan. In the supporting documentation, Docket 70-143, the NRC commented that an alternative to the WRS test was available. A

parametric test, such as the Student's t-Test, could be acceptable if the data are normally distributed. NFS will use the WRS test or an acceptable parametric test to determine if the results of a survey unit meet the release criteria.

Please note that NFS is currently working with the NRC on a license amendment for a Final Status Survey Method for Assessing Subsurface Soil. Specifically, Chapter 5, Appendix B to the North Site Decommissioning Plan is proposed and will contain Subsurface Soil Final Status Survey methodology. Appendix B, once approved, will supersede Appendix A to Chapter 5 of the North Site Decommissioning Plan.