ATTACHMENT 3
Redacted Version of September 28, 2007 Submittal

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21G-07-0123
GOV-01-55-04
ACF-07-0283
September 28, 2007

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 NMSS, Amendment Request to Increase the ^{235}U Possession Limit for the NFS Site, dated May 15, 2007 (21G-07-0043 / TAC L32637)

Subject: Submittal of Additional Information to Support the Amendment Request to Increase the ^{235}U Possession Limit for the NFS Site

Dear Sir:

Per a request from your staff, Nuclear Fuel Services, Inc. (NFS) hereby submits additional information to support the request to amend the referenced license to increase the authorized possession limit for ^{235}U. Attachment 1 contains two paragraphs that replace wording previously submitted (Reference 2) to address a question regarding occupational exposure. Attachment 2 contains a summary of a discussion held on September 5, 2007, regarding several security questions.

Information contained in Attachment 1 contains sensitive information, is marked as "Official Use Only," and is not suitable for public release. Attachment 3 contains a redacted version of this entire submittal that is suitable for release to the public.

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-07-0123) in any correspondence concerning this letter.

Sincerely,

NUCLEAR FUEL SERVICES, INC.

BMMoore

B. Marie Moore
Vice President
Safety and Regulatory

JKW/pdj
Attachments

copy:
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Mr. Steve Burris
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[redacted]

ATTACHMENT 1
Replacement Paragraphs Related to Occupational Exposure

From "Environmental Impacts Attributable to Increasing the ^{235}U Possession Limit"

The predominate radiological exposure pathway affected by increasing the possession limit will be from direct external radiation to employees responsible for the removal of SSNM at the Shipping and Receiving Vault and placement of the nuclear materials into one of the three designated storage locations. Although an increase in source term is expected from the possession limit increase, the relationship to occupational dose is not linear, since the additional material will be stored in a shielded facility with limited personnel access and dose controlled by ALARA program implementation. The target population considered in the health physics assessment is comprised of approximately 30 individuals (10 individuals assigned to three shifts per day) working in the Shipping & Receiving Vault out of a total population of 1000 individuals in the monitoring program. The typical average Deep Dose Equivalent (DDE) assigned to this critical group is only expected to increase from approximately 95 mrem/year to 126 mrem/year or less[1]. The projected maximum increase in effective dose to this population is only a small fraction of the permissible 5000 mrem/year occupational dose standards specified in 10 CFR 20.1201. Accordingly, the radiological impacts attributable to increasing the ^{235}U possession limit [redacted] are negligible.

From "Regulatory Impact to NFS Safety Programs"

Radiation Protection: No significant changes to the NFS Health Physics Program are expected as a result of increasing the ^{235}U possession limit as proposed. NFS does not plan to increase its ALARA Goals to support operations at these storage facilities. As previously stated, a maximum increase from 95 mrem/year to 126 mrem/year may occur to a small target population of 30 individuals out of the 1000 individuals currently in the monitoring program. This increased radiation exposure is negligible considering that the allowable exposure is 5000 mrem/year effective dose for occupational workers, as cited in 10 CFR Part 20.

[redacted]

1 The Dose estimates were based on actual radiological data measured for workers in Calendar Year 2006.

[redacted]

ATTACHMENT 2
Summary of Security Discussion on September 5, 2007

RECORD OF CONVERSATION
Regarding
Amendment Request to Increase the U-235 Possession Limit for the NFS Site
(Rockville, MD, 09/05/2007)

On September 5, 2007, the NRC staff and NFS representatives met at the NRC Headquarters in Rockville, MD. The purpose of the meeting, in part, was to discuss staff's Request for Additional Information regarding the NFS Amendment Request to Increase the U-235 Possession Limit.

With respect to material storage in the Main Vault, the NRC staff requested NFS to:

- Clarify whether NFS was making (planning to make) infrastructure changes in the Main Vault to meet the Process Control Limit (PCL) requirements for additional direct-use strategic special nuclear material (SSNM);
- Describe licensee's plans for meeting the commitments contained in Section 5.8.1 of the NFS Physical Protection Plan (NFS-SEC-SP-01 Rev. 5) for SSNM storage in the Main Vault; and
- Confirm that infrastructure changes would not interfere with the surveillance requirements of 10 CFR 73.46(e)(3).

The licensee responded that all infrastructure changes to support the proposed amendment have recently been completed. The licensee confirmed its continuing commitment in accordance with Section 5.8.1 of the NFS Physical Protection Plan for SSNM storage in the Main Vault. The licensee also indicated that the infrastructure changes will not interfere with the surveillance requirements of 10 CFR 73.46(e)(3).

With respect to material storage in the Shipping and Receiving Vault, the NRC staff requested NFS to:

- Confirm that the increased number of material shipments or increased storage requirements would not violate the PCL requirements for material storage in the Shipping and Receiving Vault; and
- Describe licensee's plans for meeting the commitments contained in Section 5.8.1 of the NFS Physical Protection Plan for SSNM storage in the Shipping and Receiving Vault.

The licensee confirmed its commitment to meet the PCL requirements for material storage in the Shipping and Receiving Vault and described the associated methods and approaches.