

[REDACTED]

June 28, 2005

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. - AMENDMENT 62 - REQUEST FOR
POSSESSION LIMIT INCREASE FOR THE NFS SITE (TAC No. L31887)

Dear Ms. Moore:

In accordance with your application dated April 22, 2005, (NFS No. 21-G-05-0082) and supplement dated May 23, 2005, (NFS No. 21G-05-0106) and pursuant to Part 70 to Title 10 of the Code of Federal Regulations (CFR), Materials License SNM-124 is hereby amended to increase your Uranium-235 Possession limit to [REDACTED]. Accordingly, Safety Condition S-1 has been revised to include the dates of April 22, 2005 and May 23, 2005, and condition 8A, is changed to [REDACTED].

All other conditions of this license shall remain the same.

Enclosed are copies of the revised Materials License SNM-124 (Enclosure 1), and the Safety Evaluation Report (Enclosure 2). The Environmental Review was prepared in a separate document dated June 22, 2005.

If you have any questions regarding this matter, please contact Kevin Ramsey of my staff at (301) 415-7887 or via e-mail to kmr@nrc.gov.

[REDACTED]

[REDACTED]

B. Moore

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Sincerely,

/RA/

Gary S. Janosko, Chief
Fuel Cycle Facilities Branch
Division of Fuel Cycle Safety
and Safeguards
Office of Nuclear Material Safety
and Safeguards

Docket No.: 70-143
License No.: SNM-124
Amendment 62

Enclosures:

1. Materials License SNM-124
2. Safety Evaluation Report



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DOCKET: 70-143

LICENSEE: Nuclear Fuel Services, Inc.
Erwin, Tennessee

SUBJECT: SAFETY EVALUATION REPORT FOR NUCLEAR FUEL SERVICES, INC.
(NFS) - AMENDMENT 62 - REQUEST FOR POSSESSION LIMIT INCREASE
FOR THE NFS SITE (TAC No. L31887)

Background

By letter dated April 22, 2005, NFS requested an amendment to increase its possession limit of ²³⁵U from [REDACTED] in Section 1.4.1 of the license application. By letter dated May 4, 2005, NRC sent an acknowledgment letter, which requested that NFS “. . . provide the technical basis for the amendment request, especially in the areas of the location of the on-site storage of the additional material and the on-site transportation of the material for the disciplines of nuclear criticality safety, material control and accounting, and security.” By letter dated May 23, 2005, NFS responded to the information request in the acknowledgment letter.

Discussion

NRC staff reviewed the amendment request dated April 22, 2005, and supplemental information dated May 23, 2005. In the submittals, NFS indicated that over the past 12 to 18 months, the U.S. Department of Energy (DOE) began shipments of material to NFS at an accelerated schedule. To support the increased number of shipments, NFS made programmatic changes in the NFS Physical Protection (PP) Plan and Fundamental Nuclear Material Control (FNMC) Plan. The changes to those plans have been approved by NRC via amendments and have been implemented by NFS, since 2001.

The reason for this amendment request is because of a lower-than-planned processing rate at the Blended Low-Enriched Uranium Preparation Facility (BPF), and DOE request that NFS have from 6 to 12 month capacity on hand in case DOE is unable to ship material. NFS had intended to begin operations at BPF in early 2004. However, due to difficulties in bringing equipment and operations on-line, NFS was unable to process material being stored at several locations on-site at the production rate originally planned. Consequently, the difficulties encountered with processing the material now in storage plus the increased shipping rates from DOE necessitated the request for an increase in possession limits.

In its submittals, NFS indicated the following:

- There will be no effect on any existing facility or process equipment;
- There will be no associated new construction or changes to process equipment or facilities;



Enclosure 2

[REDACTED]



- There will be no significant increase in the potential for or consequences from radiological accidents;
- There will be no new or modified accident sequences in the Integrated Safety Analysis (ISA) Summary because the ISA considers all authorized storage locations to be at their maximum capacity for ^{235}U ;
- There will be no changes to the NCS program;
- There will be no changes in process throughput;
- There will be no changes in the types of nuclear materials that will continue to be received;
- There will be no changes in the receipt of shipments, which will continue to be done in accordance with the requirements in the PP and FNMC Plans;
- There will be no changes in the location of authorized storage locations;
- There will be no expansion of process area storage (i.e., non-vault storage) and the storage will continue to be subject to, and limited by, process control limits; and
- There will be no need for additional storage locations because the authorized storage locations have sufficient storage capacity.

Nuclear Criticality Safety (NCS)

NFS indicated that increasing the possession limit will have no impact on the current NCS program (i.e., Chapter 4 in the license application). All activities involving special nuclear material were evaluated by NFS NCS staff and determined to be subcritical under both normal and credible abnormal conditions, including for the maximum storage capacity of more than  ^{235}U . This amount is well in excess of the requested possession limit of  ^{235}U .

NRC staff confirmed that there were available storage locations for the increase in possession limits, the storage locations have a basis for nuclear criticality safety, and there will be no changes regarding on-site receipt and transportation of material.

Radiation Protection

NFS' request for an increase possession limit has a low radiological risk due to the low dose rate from the material being stored. The staff reviewed the potential radiological accidents for the facility, while on-site from May 23-26, 2005, and concluded that all the radiological effects for all non-criticality accidents would result in a low dose to workers and members of the public. The staff concluded during license renewal in July 1999 that NFS' radiation safety program was



[REDACTED]

adequate to meet the requirements of 10 CFR Part 20, therefore, no changes to the radiation program are required for this amendment.

ENVIRONMENTAL REVIEW

Although this amendment request may have qualified for a Categorical Exclusion sited in 10 CFR Part 51.22(c)(11), the staff used its discretion and elected to perform an environmental assessment (EA), since NFS requested a large quantity of high enriched uranium. The results of the EA are contained in letter dated June 22, 2005.

CONCLUSION

Based on the information in the submittals as well as confirmation of available storage locations, NRC determined with reasonable assurance that the increase in possession limits will not decrease public health and safety, security, or protection of the environment.

The inspection staff has no objection to this proposed action.

PRINCIPAL CONTRIBUTORS

Mike Lamastra
Harry Felsher