



UNITED STATES
NUCLEAR REGULATORY COMMISSION
WASHINGTON, D.C. 20555

OCT 21 1992

DOCKET NO: 70-143

LICENSEE: Nuclear Fuel Services, Inc. (NFS)
Erwin, Tennessee

SUBJECT: SAFETY EVALUATION REPORT, AMENDMENT APPLICATIONS DATED
JUNE 30 AND JULY 8, 1992, RE STORAGE OF STACKED FSV-3
SHIPPING CONTAINERS CONTAINING FORT ST. VRAIN FUEL
AND INCLUSION OF CHEMICAL AND PHYSICAL FORMS OF
URANIUM, RESPECTIVELY

BACKGROUND

By application dated June 30, 1992, NFS requests a license amendment to authorize storage of an infinite array of FSV-3 shipping containers (Certificate of Compliance #6347) in a three-layer high array. This storage array was approved on July 5, 1990, by Amendment No. 59 to the previous license but was inadvertently omitted from the renewed license. This storage array is currently in use in Building 306 East.

By application dated July 8, 1992, NFS requests that the license be amended to incorporate a listing of chemical and physical forms of uranium. The request is made in response to Condition 12 which was imposed by the staff at the time of license renewal. NFS also requests that Condition 12 be deleted.

DISCUSSION

FSV-3 Shipping Containers

The storage of loaded FSV-3 shipping containers at NFS' facility was previously analyzed and authorized in the license. The staff has reviewed the subject application and the staff's evaluation for Amendment No. 59 and finds that the basis for the safe storage of the shipping containers in a three-layer high array remains unchanged.

Uranium Chemical and Physical Forms

Uranium enriched in the uranium-235 isotope is limited to the chemical and physical forms described in Chapters 7 and 15 of the existing renewal application, excluding pyrophoric forms. However, at the time of license renewal, Chapter 15 was not incorporated into the license and could be changed without prior NRC approval. To ensure that the uranium forms were limited to those identified in Chapter 15 and that before receipt, new

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physical and chemical forms were reviewed and approved by the NRC, Condition 12 was imposed. This condition requires that within 2 months of the issuance of the renewed license, NFS submit to NRC an amendment application to incorporate into the license the physical and chemical forms of uranium described in Part II, Chapter 15, of the renewal application.

Within 2 months of the license renewal, the licensee submitted the subject amendment application. In the application, NFS states that the physical forms of uranium in licensed operations may be solid, liquid, or gaseous. Furthermore, a listing of approximately 50 uranium compound names and their respective formulas is provided. The licensee adds that other compounds may be present as transitory compounds.

NFS requests that the application be incorporated into the license and that Condition 12 be deleted.

CONCLUSIONS/RECOMMENDATIONS

The staff concludes that the proposed storage of uranium-235 loaded fuel in FSV-3 storage containers, as described in the amendment application, may be safely stored in isolated arrays up to three high. Furthermore, the staff concludes that NFS' response to Condition 12 is acceptable.

Approval of both amendment applications and the deletion of Condition 12 are recommended. In addition, the staff recommends that Condition 7. A. be revised as follows to reflect the new section of the license describing the chemical and physical forms of authorized uranium compounds:

7. Chemical and/or physical form
 - A. As described in Chapters 1 (Appendix B) and 7 (Appendices A and B) of the application, excluding pyrophoric forms

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The subject applications and the proposed revision to Condition 7. A. have been discussed with the Region II Principal Inspector. He has no objection to approving the two applications or the revision of Condition 7. A.

Original Signed By:

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Original Signed By:

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Approved by:

Original Signed By:

Michael Tokar, Section Leader

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| OFC: | IMUF: <i>HK</i> | IMUF: <i>WSP</i> | IMUF: <i>JA</i> | IMUF: <i>MT</i> |
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