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August 8, 2006

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 74 - USE OF SHIPPER'S
QUANTITIES TO RESOLVE SHIPPER-RECEIVER DIFFERENCE
(TAC L31952)

Dear Ms. Moore:

In accordance with your application dated May 24, 2006, and pursuant to Parts 70 and 74 to Title 10 of the Code of Federal Regulations (CFR), Materials License SNM-124 is hereby amended to approve the one-time use of the shipper's quantity to resolve shipper-receiver differences. Accordingly, Safety Condition S-1 has been revised to include the date of your submittal and a new Safeguards Condition SG-4.36 has been added to read as follows:

SG-4.36 Notwithstanding the requirements of Section 7.4.2.1 of the facility's FNMC Plan, NFS may use the shipper's quantities to resolve the shipper-receiver differences and for material accounting purposes for batches FZF-KAS-096, FZF-KAS-077, and JXI-KAS-001 for the Blended Low-Enriched Uranium Preparation Facility.

All other conditions of this license shall remain the same.

Enclosed are copies of the revised Materials License SNM-124 (Enclosure 1), and the Safeguards Evaluation Report (Enclosure 2).

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.

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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 74

Enclosures:

1. Materials License SNM-124
 2. Safeguards Evaluation Report
- [REDACTED]

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Fuel Cycle Facilities Branch
Division of Fuel Cycle Safety
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Office of Nuclear Material Safety
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1. Materials License SNM-124
2. Safeguards Evaluation Report

Closes TAC L31952

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DOCKET: 70-143

LICENSEE: Nuclear Fuel Services, Inc.

SUBJECT: SAFEGUARDS EVALUATION REPORT: LETTER DATED MAY 24, 2006,
REQUEST TO USE SHIPPER'S QUANTITIES TO RESOLVE SHIPPER-
RECEIVER DIFFERENCES

1.0 BACKGROUND

By letter dated May 24, 2006, Nuclear Fuel Services, Inc., (NFS) requested approval to use the shipper's quantities to resolve three batch shipper-receiver differences, and for material accounting purposes for the material in those shipments. The NFS Fundamental Nuclear Material Control (FNMC) Plan, Section 4.7.2.1 indicates that for special nuclear material (SNM) receipts, NFS measurement values for uranium (U) and U-235 may be used for material accounting purposes. For three particular batch receipts for the Blended Low-Enriched Uranium (BLEU) Preparation Facility (BPF), the shipper-receiver difference evaluation for the scrap dissolution receipt measurement resulted in greater measured quantities of SNM than the shipper's quantity. Specifically, FZF-KAS-096 resulted in a measured gain of [REDACTED] U-235, FZF-KAS-077 resulted in a measured gain of [REDACTED] U-235, and JXI-KAS-001 resulted in a measured gain of [REDACTED] U-235. NFS investigated the three differences and discovered that the NFS volume measurements were overstated as a result of solution holdup in the piping equipment. Therefore, material holdup from the previous batch measurement/accounting was also included in the following batch measurement, resulting in double accounting. Therefore, for these three batches, NFS requests approval to use the shipper's quantities to resolve the differences, and for purposes of material accounting.

2.0 DISCUSSION

It is noted that NUREG/BR-0006, Revision 6, "Instructions for Completing Nuclear Material Transaction Reports," permits the receiver of SNM (the licensee) to accept the shipper's measurement without making an independent measurement. Section 2.1.1 states that, in situations where the receiver is reporting that a shipment has been received and the weights reported by the shipper on the DOE/NRC Form 741 were accepted without further measurement by the receiver, action code "B" is to be entered in box 6b of the receiver's Form 741. Section 2.1.2 also discusses the use of the "B" action code when filling out the Form 741.

In this situation, although the receiver measured the material with the intent of performing the traditional shipper-receiver differences, the difficulties encountered with the receipt measurements make those measurements meaningless for the purpose of determining those differences and for determining material accounting values. Therefore, it appears appropriate to treat these receipts as if they had not been independently measured, for the purposes of

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completing the Form 741 in accordance with NUREG/BR-0006. Since the licensee investigated the differences, which were apparent gains in material, and noted the holdup problem in its piping equipment, there is no evidence that the shipper's values are in error. Consequently, it is appropriate for the licensee to accept the shipper's values for material accounting purposes.

Licensees also have the option of accepting the shipper's values for material accounting purposes in situations when there are no significant differences between shipper and receiver, since it also means there is no evidence that the shipper's values are in error.

3.0 ENVIRONMENTAL REVIEW

The staff has determined that the changes requested are related to safeguards matters which are categorically excluded from the requirements to prepare a site-specific environmental assessment. Therefore, in accordance with 10 CFR 51.22(c)(12), neither an environmental assessment nor an environmental impact statement is warranted for this action.

4.0 CONCLUSION

Upon review of the request, the staff has determined that the one-time license condition to Section 7.4.2.1 of the facility's FNMC Plan to accept SNM measurements based on NFS' measurement values for U and U-235 for the scrap oxide dissolution batches FZF-KAS-096, FZF-KAS-077, and JXI-KAS-001 in the BPF is acceptable and continues to provide an effective Material Control & Accounting program at NFS. Accordingly, approval of the NFS request to use shipper's quantities to resolve shipper-receiver differences is recommended.

Therefore, Safeguards License Condition SG-4.36 of Materials License SNM-124 should be added to incorporate the one-time license condition, to read as follows:

SG-4.36 Notwithstanding the requirements of Section 7.4.2.1 of the facility's FNMC Plan, NFS may use the shipper's quantities to resolve the shipper-receiver differences and for material accounting purposes for batches FZF-KAS-096, FZF-KAS-077, and JXI-KAS-001 for the Blended Low-Enriched Uranium Preparation Facility.

PRINCIPAL CONTRIBUTORS

Michael F. Kelly
Thomas N. Pham
Kevin Ramsey