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May 17, 2010

Mr. Mark P. Elliott
Director of Safety and Security
Nuclear Fuel Services, Inc.
P.O. Box 337, MS 123
Erwin, TN 37650

SUBJECT: NUCLEAR FUEL SERVICES, INC., AMENDMENT 91, ONE-TIME EXEMPTION
FROM PHYSICAL INVENTORY DEADLINE (TAC NO. L32970)

Dear Mr. Elliott:

In accordance with your application dated March 10, 2010, and pursuant to Parts 70 and 74 to Title 10 of the *Code of Federal Regulations* (10 CFR), Materials License SNM-124 is hereby amended to grant a one-time exemption from the deadline for completing and reporting the physical inventory. Accordingly, Safety Condition S-1 has been revised to add the date of March 10, 2010. In addition, a new Safeguards Condition SG-4.37 has been added to read as follows:

SG-4.37 Notwithstanding the requirements of 10 CFR 74.59(f)(1) and Section 4.5.1 of the facility's Fundamental Nuclear Material Control Plan identified in Condition SG-5.1 to perform a physical inventory of strategic special nuclear material, the licensee shall perform a physical inventory within 90 days of the date of the letter informing the licensee that the Commission has no objection to restarting the BLEU Preparation Facility Uranium Oxide process line and supporting operations addressed in Confirmatory Action Letter No. 2-2010-001 dated January 7, 2010.

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) which includes the environmental review of the action. On May 7, 2010, a finding of no significant impact was published in the *Federal Register* (75 FR 25301).

If you have any questions regarding this matter, please contact Kevin Ramsey of my staff at (301) 492-3123 or by e-mail to kevin.ramsey@nrc.gov.

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M. Elliott

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In accordance with 10 CFR 2.390 of the U.S. Nuclear Regulatory Commission's (NRC) "Rules of Practice," a copy of this letter, the safety evaluation report and the non-sensitive portion of the license will be available electronically for public inspection in the NRC Public Document Room and the Agencywide Documents Access and Management System (ADAMS). ADAMS is accessible through the NRC Web site at <http://www.nrc.gov/reading-rm/adams.html> (the Public Electronic Reading Room). The sensitive conditions to the license will be withheld from the public.

Sincerely,

/RA/

Daniel H. Dorman, Director
Division of Fuel Cycle Safety
and Safeguards
Office of Nuclear Material Safety
and Safeguards

Enclosures: As stated

Docket No.: 70-143

License No.: SNM-124

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CLOSE TAC L32970

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DOCKET: 70-143

LICENSEE: Nuclear Fuel Services, Inc.
Erwin, Tennessee

SUBJECT: SAFEGUARDS EVALUATION REPORT – SUBMITTAL DATED MARCH 10, 2010, PHYSICAL INVENTORY ONE-TIME EXEMPTION REQUEST

1.0 BACKGROUND

By cover letter dated March 10, 2010, Nuclear Fuel Services (NFS) requested a one-time exemption from the six-month frequency for conducting a strategic special nuclear material (SSNM) physical inventory. The amendment in response to this request relieves the licensee from the physical inventory frequency requirement in 10 CFR 74.59(f)(1) and a commitment specified in Section 4.5.1 of its Fundamental Nuclear Material Control Plan (FNMCP). The Commission may grant such exemptions pursuant to 10 CFR 74.7. The staff processed this amendment request in accordance with the provisions of 10 CFR 70.34 to ensure there is no decrease in the effectiveness of the facility's material control and accounting (MC&A) program.

2.0 DISCUSSION

NFS suspended operations in accordance with Confirmatory Action Letter (CAL) No. 2-2010-001 dated January 7, 2010. The facility is currently in the process of restarting operations in phases. Under normal operating circumstances, the facility would suspend unit processes that generate unsuitable material forms for inventory measurements at an appropriate time before the conduct of an inventory in order to clean out the materials in process units. Because of the CAL shutdown, materials in unsuitable forms cannot be processed to a suitable form and measured, thereby preventing performance of the inventory by its April 26, 2010, due date. All the operations areas of the facility will need additional time for processing, based on the material forms on-hand at the time of shutdown. NFS is anticipating that at least 90 days will be needed to process the materials to a suitable form from the time NFS is released from the CAL shutdown. For MC&A accounting purposes, several processing lines have material that must be further processed for all materials to become suitable for inventory measurements.

The requirement in 10 CFR 74.59(f)(1) and the respective commitment in Section 4.5.1 of the facility's FNMCP requires an SSNM physical inventory to be conducted at an interval of at least six calendar months with no more than 185 days elapsing between two consecutive inventories. Therefore, NFS requested a one-time exemption under the provisions of 10 CFR 74.7 for a time extension of 90 days from the release date for affected operations areas. In the request letter, the licensee stated that the facility will inventory sooner than 90 days if preparations for inventory can be achieved earlier, and NFS will report the results of this upcoming inventory within the normal 45 days from the inventory starting date.

On March 23, 2010, NRC authorized restart of the Navy Fuel process line. In subsequent discussions, the licensee confirmed that its biggest challenge was the need to process oxides in

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the Blended Low Enriched Uranium (BLEU) Preparation Facility to a form suitable for measurements. Measurements could be taken of the material in the remaining process lines before those lines are authorized to restart (although processing would allow more accurate measurements).

The staff finds that the delay in conducting the inventory will not have a significant impact on the security of licensed material because the licensee will continue to implement requirements for process monitoring and item monitoring, and alarm resolution actions associated with their normal processing operations. The staff concludes that the licensee's request for a one-time exemption is justified and appropriate because the request does not impact the performance objective of the subject regulation. The licensee will be able to maintain accountability and security until an accurate physical inventory can be completed. In addition, the upstream process areas have been shut down for an extended period, and the exemption will allow the licensee to account for a controlled resumption of operations and its effect on the throughput rate of these areas. The staff finds that the exemption is authorized by law and will not endanger life or property or the common defense and security, and is otherwise in the public interest.

3.0 ENVIRONMENTAL REVIEW

The staff has prepared an Environmental Assessment (EA) for this action in accordance with 10 CFR Part 51. The EA concluded that this action would have no significant impact on the environment. On May 7, 2010, a finding of no significant impact was published in the *Federal Register* (75 FR 25301).

4.0 CONCLUSION

The staff concludes that granting the licensee's one-time exemption request for conducting the SSNM physical inventory is justified and warranted, and will not reduce the effectiveness of the licensee's safeguards program. Therefore, Safeguards License Condition SG-4.37 should be added to incorporate the limited extension of time as follows:

SG-4.37 Notwithstanding the requirements of 10 CFR 74.59(f)(1) and Section 4.5.1 of the facility's Fundamental Nuclear Material Control Plan identified in Condition SG-5.1 to perform a physical inventory of strategic special nuclear material, the licensee shall perform a physical inventory within 90 days of the date of the letter informing the licensee that the Commission has no objection to restarting the BLEU Preparation Facility Uranium Oxide process line and supporting operations addressed in Confirmatory Action Letter No. 2-2010-001 dated January 7, 2010.

PRINCIPAL CONTRIBUTOR

Thomas N. Pham

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