April 25, 2005

Mr. Dwight B. Ferguson
President and CEO
Nuclear Fuel Services, Inc.
1205 Banner Hill Rd.
Erwin, TN 37650

SUBJECT: NRC INSPECTION REPORT NO. 71-0249/05-201 AND NOTICE OF VIOLATION

Dear Mr. Ferguson:

This refers to the inspection conducted on March 7-11, 2005, at the Nuclear Fuel Services, Inc. (NFS) facility in Erwin, TN. The purpose of the inspection was to determine if NFS's activities associated with the transportation of radioactive material were being performed in accordance with the requirements of 10 CFR Parts 21 and 71, applicable certificates of compliance, and the U.S. Nuclear Regulatory Commission (NRC) - approved quality assurance (QA) program. The team inspected NFS's management, design, fabrication, and maintenance activities. The enclosed report presents the results of this inspection.

Based on the results of this inspection, the NRC has determined that violations of NRC requirements occurred. These violations are cited in the enclosed Notice of Violation (Notice) and the circumstances surrounding them are described in detail in the subject inspection report. The violations are being cited in the Notice because they were identified by the NRC. The nature of the violations is of concern to the NRC and merits particular attention by NFS management.

You are required to respond to this letter and should follow the instructions specified in the enclosed Notice when preparing your response. The NRC will use your response, in part, to determine whether further enforcement action is necessary to ensure compliance with regulatory requirements.

In accordance with 10 CFR 2.790 of the NRC's "Rules of Practice," a copy of this letter, its enclosures, and your response will be made available electronically for public inspection in the NRC Public Document Room or from the NRC's document system (ADAMS), accessible from the NRC Web site at http://www.nrc.gov/reading-rm/adams.html. To the extent possible, your

response should not include any personal privacy, proprietary, or safeguards information so that it can be made available to the Public without redaction.

Sincerely,

/RA/

Mary Jane Ross-Lee, Section Chief
Transportation and Storage Safety and
Inspection Section
Spent Fuel Project Office
Office of Nuclear Material Safety
and Safeguards

Docket No. 71-0249

Enclosures:
1. NRC Inspection Report No. 71-0249/05-201
2. Notice of Violation

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Sincerely,

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Mary Jane Ross-Lee, Section Chief
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Docket No. 71-0249

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1. NRC Inspection Report No. 71-0249/05-201
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U.S. NUCLEAR REGULATORY COMMISSION
Office of Nuclear Material Safety and Safeguards
Spent Fuel Project Office

Inspection Report

Docket:	71-0249
Report:	71-0249/05-201
Certificate Holder:	Nuclear Fuel Services, Inc. 1205 Banner Hill Rd. Erwin, TN 37650
Date:	March 7 -11, 2005
Inspection Team:	Frank Jacobs, Team Leader, SFPO Frank Gee, Safety Inspector, SFPO Nancy Osgood, Senior Project Manager, SFPO
Approved by:	Mary Jane Ross-Lee, Section Chief Transportation and Storage Safety and Inspection Section Spent Fuel Project Office Office of Nuclear Material Safety and Safeguards

EXECUTIVE SUMMARY

Nuclear Fuel Services, Inc.
NRC Inspection Report 71-0249/05-201

From March 7 through 11, 2005, the U.S. Nuclear Regulatory Commission (NRC) conducted an announced inspection at the Nuclear Fuel Services, Inc. (NFS) facility in Erwin, TN. The purpose of the inspection was to determine if NFS's management, design, fabrication, and maintenance activities were being performed in accordance with the requirements of 10 CFR Parts 21 and 71, applicable certificate of compliances, applicable safety analysis reports, and the NRC-approved quality assurance (QA) program. Within these areas, the inspection consisted of examinations of selected procedures and records, observations of activities, and interviews with personnel. The results of the inspection are as follows:

Management Controls

NFS implementation of the requirements of Subpart H of 10 CFR Part 71 for audits of the Transportation QA Program was not adequate. There was no comprehensive implementing procedure for the scope and frequency of audits, and there were no recent or planned audits addressing all the applicable criteria of Subpart H. Audit checklists lacked sufficient detail to ensure adequate scope and depth of the audits. The individual that performed the audits was not qualified as a lead auditor and did not have sufficient independence from the activities he audited.

Design Controls

NFS was not currently performing package designs, but had contracted with a vendor to design, develop, and obtain NRC approval of a new package. Observations and findings regarding NFS qualification and control of the vendor are addressed in Fabrication Controls.

Fabrication Controls

Sampled procurement documents exhibited numerous discrepancies and inconsistencies such as missing signatures, incomplete check-off blocks, and missing attachments. 10 CFR Part 21 applicability was not specified on one purchase order. NFS procedures did not provide a systematic process and clear requirements for placing and maintaining vendors on the Approved Vendor List (AVL). Vendor qualification records did not indicate evaluations adequate for the material or service being procured. The AVL listed vendors for all procurement categories, but did not provide information regarding the category of material or service each vendor was qualified to provide.

Maintenance Controls

The team assessed that NFS's controls in the area of packaging maintenance were adequate. No findings of significance were identified.

Table 1
Summary of Inspection Findings

Regulatory Requirement 10 CFR Section	Subject of Violation or Noncompliance	Number of Findings	Type of Finding	Report Section
71.137	Audits	1	Violation	2.1.2.2
71.109	Procurement Document Control	1	Violation	2.3.2
21.31	Procurement Documents	1	Violation	2.3.2
71.115	Control of Purchased Material, Equipment, and Services	1	Violation	2.3.2

REPORT DETAILS

1. Inspection Scope

The purpose of the inspection was to determine if NFS's activities associated with the transportation of radioactive material were being performed in accordance with the requirements of 10 CFR Parts 21 and 71, applicable certificates of compliance (CoC), and the NRC-approved QA program. The team observed selected activities; reviewed procedures and instructions; inspected selected documents, records, and drawings; verified personnel training and qualifications; and interviewed personnel responsible for various activities.

1.1 Inspection Procedures Used

IP 86001, "Design, Fabrication, Testing, and Maintenance of Transportation Packagings"
NUREG/CR 6314, "Quality Assurance Inspections for Shipping and Storage Containers."

1.2 List of Acronyms Used

AVL	Approved Vendor List
BLEU	Blended Low Enriched Uranium
CFR	Code of Federal Regulations
CoC	Certificate of Compliance
DOT	Department of Transportation
NFS	Nuclear Fuel Services, Inc.
NRC	U.S. Nuclear Regulatory Commission
QA	quality assurance
SFPO	Spent Fuel Project Office

1.3 Persons Contacted

The team held an entrance meeting with NFS personnel on March 7, 2005, to present the scope and objectives of the NRC inspection. On March 11, 2005, the team held an exit meeting with NFS personnel to present the preliminary results of the inspection. The individuals present at the entrance and exit meetings are listed below in Table 2.

Table 2
Entrance and Exit Meetings Attendance

NAME	AFFILIATION	ENTRANCE	EXIT
Frank Gee	NRC		X
Frank Jacobs	NRC	X	X
Nancy Osgood	NRC	X	X
Daniel Rich	NRC	X	X
Marie Moore	NFS	X	X
Rik Droke	NFS	X	X
Gilbert Rosenberger	NFS	X	X
Donald Paine	NFS	X	X
Nancy Kenner	NFS	X	X
Joseph Pugh	NFS	X	X
Brian Drane	NFS	X	X
Tim Sheehan	NFS	X	
Donna Chaney	NFS	X	X
Jennifer Wheeler	NFS	X	
Marcy Shope	NFS	X	X
Robert Holley	NFS	X	X
Michael C. Tester	NFS	X	X
Clayton Brown	NFS	X	X
Terry Lewis	NFS	X	X
J. Scott Kirk	NFS		X
Douglas Buck	NFS		X
Ann Ward	NFS		X
Dwight Stewart	NFS		X
John Flaherty	NFS		X
Sarah Barron	NFS		X

2. Inspection Details

2.1 Management Controls

2.1.1 Scope

The inspection of management controls focused on the areas of QA policy, audit program, and 10 CFR Part 21 implementation. The inspector reviewed procedures and records, interviewed NFS personnel, and observed Part 21 postings.

2.1.2 Observations and Findings

2.1.2.1 QA Policy

The inspector reviewed "Quality Assurance Program for Shipping Packages for Radioactive Material," Revision 9, dated May 16, 2003. The document stated that the Licensing & Compliance function has primary responsibility for implementation of the Transportation QA Program and stated the NFS QA function is responsible for qualifying vendors and for initiating audits of quality assurance programs both internally and externally. The document reflected appropriate requirements for satisfying 10 CFR Part 71, Subpart H, however, implementation of the requirements was not adequate as indicated in the observations and findings discussed below.

2.1.2.2 Audit Program

The "Quality Assurance Program for Shipping Packages for Radioactive Material" stated that the Transportation QA program is reviewed annually to assure the program complies with 10 CFR Part 71, Subpart H criteria, and that this assessment is performed by personnel of the Licensing & Compliance function. The annual review was comprised of quarterly audits performed by the Health Physicist in the Licensing & Compliance function. There was no comprehensive implementing procedure or schedule to ensure that the applicable criteria of Subpart H were periodically audited.

The inspector reviewed a sample of the quarterly audits from the fourth quarter 2002 through the fourth quarter 2004. Each audit report included a checklist of criteria, but the checklist lacked detail to ensure or document the scope and depth of the audit. There was little or no identification of the objective evidence reviewed by the auditor, such as requirements, procedures, records, observations, populations, and sample sizes. The Health Physicist that performed the audits did not have sufficient independence from activities in the area he audited. In various instances, he had prepared procedures, inspected packagings, initiated requisitions, and provided QA approval for requisitions. The Health Physicist was not formally trained and qualified as a lead auditor.

The inspector reviewed Memorandum 44T-04-1058, Subject: 2004 Audit of Purchase Orders (Corrected), dated March 17, 2004, and corrected 3/23/04. This audit was required by procedure NFS-GH-48, "Transportation QA Program - Procurement," to assure that information from the requisition was being properly transferred to the purchase order, and had been performed by the Licensing & Compliance Health Physicist. The audit record addressed

safety signature and Part 21 provisions, but did not contain an audit checklist or any documentation of other applicable attributes reviewed.

The inspector interviewed the NFS QA Manager regarding oversight of the Transportation QA Program. There was no procedure for the frequency and scope of audits. There were no recent audits addressing the applicable criteria of Subpart H of 10 CFR Part 71. The QA Manager identified NFS QA function audits related to the Transportation QA Program implementing procedure (NFS-GH-49, "Implementing Procedure for the Transportation Quality Assurance (QA) Program") performed in 2002 and 2003, but these audits were of limited scope. There was no audit in 2004 and none planned for 2005.

10 CFR 71.137 requires, in part, that the licensee shall carry out a comprehensive system of planned and periodic audits to verify compliance with all aspects of the quality assurance program and to determine the effectiveness of the program, and that the audits must be performed by appropriately trained personnel not having direct responsibilities in the areas being audited. The failure of NFS to perform audits of the Transportation QA program within the last three years addressing all applicable criteria of Subpart H of 10 CFR Part 71, using appropriately trained personnel not having direct responsibilities in the areas audited, is considered a violation of 10 CFR 71.137.

2.1.2.3 Part 21

The inspector reviewed procedure NFS-MG-902, "10 CFR 21.21 Program," Revision 1, dated September 26, 2003. The procedure defined the rules for postings and the reporting requirements for the corporate officers. The inspector concluded that the procedure reflected NRC requirements. The licensee stated that there were no recent Part 21 reports to NRC. The inspector observed the 10 CFR Part 21 postings. A one page memorandum was conspicuously posted in the main plant entrance gate house and at the Blended Low Enriched Uranium (BLEU) facility entrance building. In lieu of posting the regulations in Part 21, the memorandum acceptably identified the location where a copy of the regulations could be found. However, the memorandum did not make clear for employees where the required implementing procedure, which also was not posted, could be found. The licensee stated the memorandum would be reviewed and revised as necessary.

2.1.3 Conclusions

NFS implementation of the requirements of Subpart H of 10 CFR Part 71 for audits of the Transportation QA Program was not adequate. There was no comprehensive implementing procedure for the scope and frequency of audits, and there were no recent or planned audits addressing all the applicable criteria of Subpart H. Audit checklists lacked sufficient detail to ensure adequate scope and depth of the audits. The individual that performed the audits was not qualified as a lead auditor and did not have sufficient independence from the activities he audited.

2.2 Design Controls

NFS was not currently performing package designs, but had contracted with a vendor to design, develop, and obtain NRC approval of a new package. Observations and findings regarding NFS qualification and control of the vendor are addressed in paragraph 2.3.2 below.

2.3 Fabrication Controls

2.3.1 Scope

NFS was not currently fabricating packagings. Packagings were procured from vendors. The inspector reviewed a sample of procurement documents, vendor approval documentation, and acceptance tests for procured packagings, and interviewed NFS personnel.

2.3.2 Observations and Findings

The inspector selected five purchase order numbers from a list of purchase orders for packagings or services and reviewed the associated procurement records.

PO0502053961, issued 2/3/05, was for testing of a container to be certified as IP-2 in accordance with 49 CFR 173.411. The documents exhibited discrepancies the same as, or similar to, those found in procurements for Type B packagings. The block for "10 CFR 21 Applicable" was not checked either yes or no. The purchase order stated that standard PO terms and conditions apply, however the sheet of standards terms and conditions was not attached to the purchase order. There was no signature in the Final Approval Signature block.

PO0304039183, issued 4/15/03, was for shipping packages meeting the requirements of Department of Transportation (DOT) specification 6L package with 2R inner container using bagged vermiculite. A signature on the requisition form indicated QA approval for Category 2 & 3 material. A handwritten note in the documentation dated 4/14/03, stated "Steps are being taken to add Century Industries to the Approved Vendor List. The facility will be visited while manufacturing this order." There was no documentation in the file indicating special controls for the Category 2 & 3 material being procured from a vendor not on the AVL.

PO0303038655, issued 3/21/03, was for Type B Fissile material packages "per RFQ #915." The requisition indicated Category 3 material. As indicated by the discussion of PO0304039183 above, the vendor was not on the AVL on the date the purchase order was issued. There was no documentation indicating special controls for the Category 3 material being procured from a vendor not on the AVL. The item description stated, "NFS must be supplied with a copy of the Quality Assurance Plan, approved by NRC in accordance with 10 CFR Part 71, under which the packages will be designed, tested, and manufactured." It should be noted that a vendor's possession of an NRC-approved quality assurance program is not in itself sufficient basis for placing a vendor on an AVL. Regardless of the intent of the purchase order requirement, the vendor receiving the purchase order did not have an NRC-approved quality assurance plan, and there was no documentation indicating that the discrepancy was resolved.

PO0412052888, issued 12/28/04, replaced PO0303038655 with no other changes. The requisition for Amendment #1 to authorize development of a test plan and conduct a plate drop

test, indicated a Category 1 purchase. Category 1 is defined in NFS-PUR-A-053 as applying to general plant support or commercial grade items or services, and does not require QA approval. Category 1 for testing appeared to be inconsistent with the design and development of a package identified as Category 3 in other procurement documentation.

PO0412052298 was issued 12/6/04 for 55 gallon drums UN1A2/X400/S with 4 holes as required by 49 CFR 173.417(a)(6). The "Category 2 - QA Approval Required" block on the NFS requisition form was checked as applicable, however there was no signature or date on the QA signature line. There was no indication of applicable QA requirements as required by paragraph 5.2.3 of NFS-PUR-A-053, "Purchase Document Control." Paragraph 5.2.6 of NFS-PUR-A-053 requires procurement documents to include requirements for reporting and approval disposition of nonconformances. The purchase order stated that standard PO terms and conditions apply, however the sheet of standards terms and conditions, which contains nonconformance requirements, was not attached to the purchase order. Part 21 applicability was not indicated on the purchase order. The vendor's certificate of compliance for the delivered drums stated the drums were "in compliance with 49 CFR 174.417(a)(6)" instead of 49 CFR 173.417(a)(6).

10 CFR 71.109 requires, in part, that the licensee shall establish measures to assure that adequate quality is required in the documents for procurement of material, equipment, and services. The failure of NFS to document QA approval of the requisition prior to the issue of PO0412052298 on 12/6/04, and to include the required quality requirement for nonconformance disposition in PO0412052298, is considered a violation of 10 CFR 71.109.

10 CFR 21.31 requires that each corporation subject to the regulations in this part shall ensure that each procurement document specifies, when applicable, that the provisions of Part 21 apply. The failure of NFS to specify in PO0412052298, issued 12/6/04, that the provisions of Part 21 apply, is considered a violation of 10 CFR 21.31.

NFS procedures did not provide a systematic process and clear requirements for maintaining vendors on the AVL, such as a specific audit frequency. The QA Manager had issued Memorandum 56T-04-0052, Subject: Approved Vendors Requalification Methodology, dated August 30, 2004, and stated to the inspector that requalifications were being performed. The memorandum provided a prioritized list of methods for reevaluating the approved vendors. The inspector assessed that none of the methods would individually determine if the vendor could comply with the requirements of Subpart H of Part 71, either directly or as passed down by NFS. This process was not considered adequate to assess the control of quality for vendors subject to Part 71, and to maintain those vendors on the AVL "without additional qualifications" as described in NFS-PUR-A-053. The first method was to ascertain current ISO certification. The second method was to obtain copies of third-party audits from the vendor. The third method was to obtain current quality records, preferably the QA plan. The fourth method was a vendor visit if the vendor was local. Vendor visit could have been interpreted as an audit, but the memorandum stated previous write-ups were available for use as a model, and a previous write-up reviewed by the inspector did not indicate an adequate audit. The fifth method was to evaluate the vendor's history of providing identical or similar product which performed satisfactorily. The memorandum stated that many of the approved vendors had been originally qualified by this method. Although only a limited number of vendors on the AVL would likely supply material or services subject to Part 71, those vendors were not identified to the NFS

auditors performing the evaluations or to the users of the AVL. At least one primary vendor subject to Part 71 had already been requalified using this process.

NFS-PUR-A-053 stated that the AVL is a list of vendors who may be used on Category 2 and 3 procurements without additional qualifications, and that the AVL is available to all NFS personnel for use when purchasing Category 2 or 3 supplies and services. The AVL database contained a large number of vendors. The AVL did not provide any information regarding the material or service each vendor was qualified to provide. The AVL also did not provide for identifying any vendor-specific procurement restrictions or quality assurance provisions such as source inspection or special receipt inspection.

The "Quality Assurance Program for Shipping Packages for Radioactive Material" stated that the NFS Quality Assurance function is responsible for determining that vendors who manufacture packages used in the transportation of radioactive material are qualified, and for initiating audits of quality assurance programs both internally and externally. The Program also requires that prior to award of a contract, NFS will evaluate the capability of a supplier to provide items or services in accordance with the requirements included in the applicable procurement documents, and that the results of supplier evaluations are documented and retained. The inspector reviewed the AVL files for Century Industries, a primary supplier to NFS of Type B packaging and services. The file indicated one site visit to the vendor on January 7 and 8, 2003. However, there was no objective evidence to document that an appropriate evaluation of the vendor's QA program had been planned and performed sufficient to qualify the vendor to provide the design, testing, and fabrication activities contracted under PO0303038655, issued 3/21/03, for Type B Fissile material packages. Further, the file did not support adequate qualification of the vendor to provide Type B packagings previously procured under other purchase orders. The vendor had been requalified on 3/2/05 based on a review of the vendor's QA plan and the P. E. license of a vendor employee. The QA Manager indicated that site evaluations of vendors were limited.

10 CFR 71.115 requires, in part, that the licensee shall establish measures to assure that purchased material, equipment, and services, whether purchased directly or through contractors and subcontractors, conform to the procurement documents; and that the licensee shall assess the effectiveness of the control of quality by contractors and subcontractors at intervals consistent with the importance of the product or services. The failure of NFS to adequately evaluate and qualify Century Industries for design, testing, and fabrication activities performed under PO0303038655 is considered a violation of 10 CFR 71.115.

The inspector reviewed a sample of the acceptance tests for the Model No. CHT-OP-TU packagings purchased by AREVA (formerly Framatome, Inc.) for use by the BLEU project, a joint NFS-AREVA project. Specifically, one data package included the detailed dimensional checks (completed in August 2004) of the inner vessels to confirm the criticality safety parameters - diameter and length. The data package included a description of the inspections, a copy of the drawings to which the inspections were made, and the completed data sheets, which included the acceptance criterion for each dimensional check. A separate data package included completed checklists for the packagings. In addition, NFS completed a checklist (Procedure NFS-GH-49, Rev. 3, Attachment A) for the same packagings in October 2004.

NFS purchased a number of new DOT Specification 6L packagings in the recent past, the latest being 25 packagings purchased in the 2003 time-frame. The inspector reviewed two data

packages for acceptance of the last batch of new packagings that were fabricated of this design. The fabricator was Century Industries. The data packages included a cover page that described the packaging and referenced the DOT regulations that govern the design. NFS procedure NFS-GH-49, Rev. 3, Section 4.2.2, specified that each new packaging is reviewed to ensure that it meets the design in the NRC CoC or in the DOT specification. For the new packagings, the checklist, which is Attachment A of the procedure, was completed. However, the checklist, "Inspection Checklist for Radioactive Material Shipping Packages," is not detailed enough to provide clear documentation that each packaging meets the design. For example, no check is made of closure devices or insulating material, which provides thermal and impact protection. In addition, the checks that were made did not include dimensions, materials of construction, and operational features. The checklist did not provide sufficient information to confirm that these checks were performed. It was noted that 10 of 25 packagings of the purchased lot were initially rejected because of insufficient thread engagement in the DOT specification 2R inner vessel (Ref. 49 CFR 178.360).

2.3.3 Conclusions

Sampled procurement documents exhibited numerous discrepancies and inconsistencies such as missing signatures, incomplete check-off blocks, and missing attachments. Part 21 applicability was not specified on one purchase order. NFS procedures did not provide a systematic process and clear requirements for placing and maintaining vendors on the AVL. Vendor qualification records did not indicate evaluations adequate for the material or service being procured. The AVL listed vendors for all procurement categories, but did not provide information regarding the category of material or service each vendor was qualified to provide.

2.4 Maintenance Controls

2.4.1 Scope

The inspection of maintenance controls focused on activities associated with two frequently used packages and included a review of two packagings that were available for use but not recently used. The inspector observed packagings and facilities, reviewed procedures, records, and packaging documentation, and interviewed NFS and AREVA personnel.

2.4.2 Observations and Findings

NFS typically uses five radioactive material transport packages to make shipments under the general licenses in Subpart C of 10 CFR Part 71. The inspector reviewed records for the CHT-OP-TU and the DOT Specification 6L packages. Some aspects of the Model 6400 and the NFS Uranyl Nitrate Tank Trailer were also reviewed. No review was done for the DOT specification Type A containers (DOT Specification 7A and 1A2 steel drums) used under the fissile material general license in 10 CFR 71.22.

The Model No. CHT-OP-TU (NRC CoC 9288) is the primary package used for shipments from NFS under the BLEU project. It is used for Type B quantities of off-specification uranium oxide enriched to a maximum of 5 weight percent U-235. AREVA owns small fleet of packagings, along with a large number of spare inner vessels. The inspector observed a number of packages that were prepared for shipment and stored in a loading area. The packages appeared to be properly marked (according to the sketch in the CoC). The packages had not

yet been labeled, and final surveys may not have been completed at the time. The packagings are all less than 1 year old and appeared to be in excellent condition. The inspector also observed a large number of spare inner vessels stored outside in the BLEU facility yard. Each outer packaging holds four inner vessels. The packagings are owned by AREVA, and the fabrication documents were available in the NFS BLEU facility office. The inspector reviewed SOP 520-23, "Shipping Coordination and Documentation, Marking and Labeling Requirements for Shipments of Uranium Oxide Powders," SOP 510-8, Rev. 5, "Uranium Oxide Pail Operations," and SOP 520-9, Rev. 1, "OP-TU Pail Leak Testing." The procedures included the appropriate visual inspections, lid placement, and torqueing of fasteners. The inspector noted that the loading procedure did not include two weighings that were specified in the application. These included the maximum weight of each loaded vessel and the maximum loaded weight of the whole package as presented for transport. AREVA explained that the maximum weight limit for the vessel as specified in the package application far exceeds the amount of product that can physically fit in the vessel, and that the total package is also significantly below the maximum total package weight because of this physical limitation. These explanations were adequate. AREVA was able to provide photocopies of Sections 7 and 8 of the application, although the three pages for the leakage testing appendix were missing. No annual maintenance procedures had yet been developed for the CHT-OP-TU package design, since all packagings are less than 1 year old. AREVA is currently preparing this procedure. The inspector reviewed the BLEU project Pail Filling Training Plan. The training plan was well organized, with the lesson plan, examination, exam key, and transparencies in a single notebook.

The DOT Specification 6L package is the primary package that NFS uses to ship "finished fuel" product to BWXT for further processing and fabrication for Naval Reactors fuel. NFS owns a fleet of approximately 100 packagings. The inspector observed approximately twenty 6L packagings in the loading area. The packagings appeared to be properly marked (some of the markings were barely legible due to wear and tear) and labeled (empty in this case). The packagings showed significant signs of wear and tear, such as paint removed, scratches, dings and dents. The inspector reviewed the operating procedure for the 6L loading, SOP 406-33, Rev. 11, "Labeling and Packaging of Finished Fuel for Shipment." The procedure included appropriate limits for fissile loading, CSI, non-metal contents, loaded weight, etc. The inspector also reviewed the documentation package generated during the preparation of the latest shipment to BWXT. The inspector noted a potentially safety significant discrepancy between the procedure and the data package. As part of the loading operation, the procedure specified that up to three containers of finished fuel are placed in a nylon netting sleeve. According to the procedure, the nylon netting sleeve is weighed prior to loading, and the maximum allowable weight is 60 grams. The procedure specified that "60 grams" is recorded on the loading data sheet (called Runsheet 33C). This mass is later used to calculate a non-metal to metal ratio that is used to ensure that the maximum H/X in the DOT specification is not exceeded. Contrary to the procedure, the value "40" was entered in the Runsheet 33C form for every container in the shipment. Based on a cursory review, it was concluded that there was significant margin with respect to the maximum non-metal to metal ratio, and that there was no immediate safety concern. The following day, NFS informed the inspector that the Runsheet 33C value was properly revised to reflect 60 grams, as specified in the procedure. NFS noted that the typical nylon netting weight was significantly less than 30 grams, and that the loading procedure still included a large safety margin against the H/X limit in the DOT specification. Therefore, NFS concluded that no criticality safety problem existed. NFS took immediate action to rectify the disparity between the procedure and the Runsheet 33C value.

NFS owns three Model No. 6400 (NRC CoC 6400) packagings. The certificate holder is Westinghouse Electric Company. NFS has not used the 6400 for shipping radioactive material for more than 10 years. The inspector observed the three NFS-owned packagings in the yard of the NFS site. The packagings appeared to be in good condition, considering they were fabricated in the 1965 time-frame and were stored outside. NFS stated that the packagings had been completely refurbished around 1991. NFS provided the complete Model No. 6400 safety analysis report from Protective Packagings, dated 1970, as well as the operating procedures referenced in the CoC. The inspector reviewed the operating procedures from the CoC, as well as a controlled copy of NFS-CP-001, Rev. 1, "Packaging and Unloading of the Super Tiger Protective Overpack." The NFS procedure appeared to adequately address the conditions in the CoC, except for the condition that the contents are loaded to maintain the center of gravity roughly the same as the packaging center of gravity. Although NFS has not used the 6400 for shipping licensed material, they did have records of preshipment inspections and preparations done for an April 1999 shipment of an empty package. These records included the appropriate preshipment inspections and radiological surveys.

NFS is the certificate holder for Model No. NFS Uranyl Nitrate Tank Trailer (NRC CoC 5059) and owns the only two existing packagings. NFS stated that the package was not currently used for NRC shipments under the CoC, but the tank trailers were being used for shipment of natural uranyl nitrate solution from the Savannah River Site for the BLEU project. For these shipments, the transport is being done under DOT authority (i.e., non-fissile shipment), the packagings are considered DOT Industrial Package, and they are used as a DOT Specification MC 311 tank container. The inspector observed a single tank trailer packaging that was parked in the yard at the BLEU facility. In general, the tank trailer appeared to be in good condition, with no signs of excessive corrosion. The overfill tank and piping were new. NFS stated that the tank trailers were evaluated and overhauled by a company that specializes in DOT specification tanks for hazardous cargo.

The inspector interviewed the Licensing & Compliance Health Physicist about reporting of the recent leakage incident with the tank trailer. The Health Physicist stated that NFS reported the incident to the Department of Transportation, and also notified the NRC resident inspector. Since the shipment was made under DOT authority (non-fissile) NFS did not make a report under the provisions of 10 CFR 71.95. The inspector confirmed that the 71.95 reporting requirement was included in an NFS procedure for reporting (NFS-HS-A-50). The reporting requirement was not updated to the new Part 71 rule that became effective on October 1, 2004. This was considered acceptable since the revised rule is substantively compatible with the old requirements, but increases the time of the report from 30 to 60 days.

2.4.3 Conclusions

The team assessed that NFS's controls in the area of packaging maintenance were adequate. No findings of significance were identified.

3. Exit Meeting

An exit meeting was conducted by the team with NFS personnel on March 11, 2005. The team's preliminary findings and assessments were presented at the meeting. NFS

management personnel at the meeting acknowledged the team's findings and did not state any disagreement with the preliminary findings and their characterization.

NOTICE OF VIOLATION

Nuclear Fuel Services, Inc. Docket No. 71-0249
Erwin, TN 37650

During an NRC inspection conducted on March 7-11, 2005, violations of NRC requirements were identified. In accordance with the "General Statement of Policy and Procedure for NRC Enforcement Actions," NUREG-1600, the violations are listed below:

A. 10 CFR 71.137 requires, in part, that the licensee shall carry out a comprehensive system of planned and periodic audits to verify compliance with all aspects of the quality assurance program and to determine the effectiveness of the program, and that the audits must be performed by appropriately trained personnel not having direct responsibilities in the areas being audited.

Contrary to the above, NFS did not perform audits of the Transportation QA program during the last three years addressing all applicable criteria of Subpart H of 10 CFR Part 71, using appropriately trained personnel not having direct responsibilities in the areas audited.

This is a Severity Level IV violation (Supplement V).

B. 10 CFR 71.109 requires, in part, that the licensee shall establish measures to assure that adequate quality is required in the documents for procurement of material, equipment, and services.

Contrary to the above, NFS issued PO0412052298 on 12/6/04 without prior QA approval of the requisition and without including the required quality requirement for nonconformance disposition.

This is a Severity Level IV violation (Supplement V).

C. 10 CFR 21.31 requires that each corporation subject to the regulations in this part shall ensure that each procurement document specifies, when applicable, that the provisions of 10 CFR Part 21 apply.

Contrary to the above, PO0412052298 issued by NFS on 12/6/04, failed to specify that the provisions of Part 21 applied to the procurement.

This is a Severity Level IV violation (Supplement V).

D. 10 CFR 71.115 requires, in part, that the licensee shall establish measures to assure that purchased material, equipment, and services, whether purchased directly or through contractors and subcontractors, conform to the procurement documents; and that the licensee shall assess the effectiveness of the control of quality by contractors and subcontractors at intervals consistent with the importance of the product or services.

ENCLOSURE 2

Contrary to the above, NFS failed to adequately evaluate and qualify Century Industries for design, testing, and fabrication activities performed under PO0303038655.

This is a Severity Level IV violation (Supplement V).

Pursuant to the provisions of 10 CFR 2.201, Nuclear Fuel Services, Inc., is hereby required to submit a written statement or explanation to the U.S. Nuclear Regulatory Commission, ATTN: Document Control Desk, Washington, DC 20555, with a copy to Mary Jane Ross-Lee, Chief, Transportation and Storage Safety and Inspection Section, Spent Fuel Project Office. This reply should be clearly marked as a "Reply to a Notice of Violation" and should include for each violation: (1) the reason for the violation, or if contested, the basis for disputing the violation or severity level, (2) the corrective steps that have been taken and the results achieved, (3) the corrective steps that will be taken to avoid further violations, and (4) the date when full compliance will be achieved. Your response may reference or include previous docketed correspondence, if the correspondence adequately addresses the required response. If an adequate reply is not received within the time specified in this Notice, an order or a Demand for Information may be issued as to why the license should not be modified, suspended, or revoked, or why such other action as may be proper should not be taken. Where good cause is shown, consideration will be given to extending the response time.

If you contest this enforcement action, you should also provide a copy of your response, with the basis for your denial, to the Director, Office of Enforcement, United States Nuclear Regulatory Commission, Washington, DC 20555-0001.

Because your response will be made available electronically for public inspection in the NRC Public Document Room or from the NRC's document system (ADAMS), accessible from the NRC Web site at http://www.nrc.gov/reading-rm/adams.html, to the extent possible, it should not include any personal privacy, proprietary, or safeguards information so that it can be made available to the public without redaction. If personal privacy or proprietary information is necessary to provide an acceptable response, then please provide a bracketed copy of your response that deletes such information. If you request withholding of such material, you must specifically identify the portions of your response that you seek to have withheld and provide in detail the bases for your claim of withholding (e.g., explain why the disclosure of information will create an unwarranted invasion of personal privacy or provide the information required by 10 CFR 2.390(b) to support a request for withholding confidential commercial or financial information). If safeguards information is necessary to provide an acceptable response, please provide the level of protection described in 10 CFR 73.21.

In accordance with 10 CFR 19.11, you may be required to post the Notice within two working days.

Dated this 25th day of April 2005.