



UNITED STATES
NUCLEAR REGULATORY COMMISSION
REGION II
SAM NUNN ATLANTA FEDERAL CENTER
61 FORSYTH STREET SW SUITE 23T85
ATLANTA, GEORGIA 30303-8931

[REDACTED]

October 18, 2004

Nuclear Fuel Services, Inc.
ATTN: Mr. Kerry Schutt
President and General Manager
P. O. Box 337, MS 123
Erwin, TN 37650

SUBJECT: NRC INSPECTION REPORT NO. 70-143/2004-11

Dear Mr. Schutt:

This refers to the operational readiness review team inspection conducted from August 16 through August 20 and from August 30 through September 3, 2004, at your Erwin facility. The purpose of the inspection was to determine whether activities specified in license amendment 51, dated July 30, 2004 and the associated Safety Evaluation Report could be conducted safely and in accordance with NRC requirements. This license amendment authorized the operation of the Oxide Conversion Building (OCB) and Effluent Processing Building as the third phase of the Blended Low Enriched Uranium (BLEU) project. The inspection included a review of your operations, management, and safeguards programs to ensure that the OCB/EPB facility was ready to operate safely and in compliance with your license.

Program areas examined during the inspection included criticality safety, chemical safety, fire protection, environmental protection, waste management, operator training, emergency preparedness, safety program and integrated safety analysis, physical safeguards, radiation protection, operations, management measures, and maintenance and surveillance. Within these areas, the inspection consisted of a selective examination of procedures and representative records, a review of the new equipment installed for the process, interviews with personnel, and observation of activities in progress.

[REDACTED]

[REDACTED]

[REDACTED]

NFS

2

Based on the results of the inspection, the safety systems and programs associated with the OCB and EPB were determined to be adequate for the commencement of operations. In accordance with 10 CFR 2.390 of the NRC's "Rules of Practice," a copy of this letter and Enclosure 1 will be available electronically for public inspection in the NRC Public Document Room or from the Publicly Available Records (PARS) component of NRC's document system (ADAMS). ADAMS is accessible from the NRC Web site at <http://www.nrc.gov/reading-rm/adams.html> (the Public Electronic Reading Room) [REDACTED]

[REDACTED]. Should you have any questions concerning this letter, please contact us.

Should you have any questions concerning this letter, please contact us.

Sincerely,

/RA/

David A. Ayres, Chief
Fuel Facilities Branch 1
Division of Fuel Facilities Inspection

Docket No. 70-143
License No. SNM-124

Enclosures: 1. NRC Inspection Report Executive Summary
2. NRC Inspection Report Details [REDACTED]

cc w/encls:
B. Marie Moore
Vice President
Safety and Regulatory Management
Nuclear Fuel Services, Inc.
P. O. Box 337, MS 123
Erwin, TN 37650

cc w/encl 1:
Debra Shults, Manager
Technical Services
Division of Radiological Health
Electronic Mail Distribution

[REDACTED]

NFS

3

Distribution w/encls:

D. Ayres, RII
W. Gloersen, RII
D. Rich, RII
M. Galloway, NMSS
J. Olivier, NMSS
M. Lamastra, NMSS
J. Lubinski, NMSS
B. Westreich, NSIR (hard copy w/encl)

Distribution w/encl 1:

PUBLIC

OFFICE	RII:DFFI	RII:DFFI	RII:DFFI	RII:DFFI	NMSS
SIGNATURE	via -mail				via e-mail on 10/13
NAME	DRich		NRivera	MCrespo	DMorey
DATE	10/18/2004	5/ /2008	5/ /2008	5/ /2008	5/ /2008
COPY?	YES NO	YES NO	YES NO	YES NO	YES NO

OFFICE	RII:DFFI	RII:DFFI/CLASSIFER	RII:DFFI	NSIR
SIGNATURE				
NAME	JJimenez	DAyres	WGloersen	MWilliams
DATE	5/ /2008	5/ /2008	10/18/2004	10/13/2004
COPY?	YES NO	YES NO	YES NO	YES NO

OFFICIAL RECORD COPY

DOCUMENT NAME: C:\ORPCheckout\FileNET\ML042930136.wpd

[REDACTED]

U. S. NUCLEAR REGULATORY COMMISSION

REGION II

Docket No.: 70-143

License No.: SNM-124

Report No.: 70-143/2004-11

Licensee: Nuclear Fuel Services, Inc.

Facility: Erwin Facility

Location: Erwin, TN 37650

Dates: August 16 - August 20, 2004, and
August 30 - September 3, 2004

Inspectors: D. Rich (Team Leader), Senior Resident Inspector (NFS/RII)
M. Crespo, Fuel Facility Inspector (RII)
J. Jimenez, Nuclear Safety Intern (RII)
O. Lopez, Fuel Facility Inspector (RII)
D. Morey, Criticality Safety Inspector (NMSS)
N. Rivera, Fuel Facility Inspector (RII)
G. Wertz, Senior Resident Inspector (BWXT/RII)
M. Williams, Senior MC&A Physical Scientist (NSIR)

Approved by: D. A. Ayres, Chief
Fuel Facility Inspection Branch 1
Division of Fuel Facility Inspection

[REDACTED]

[REDACTED]

NRC Inspection Report 70-143/2004-11

EXECUTIVE SUMMARY

Nuclear Fuel Services, Inc.

This is a summary of the special operational readiness review (ORR) team inspection of the licensee's proposed operation of a low enriched uranium oxide conversion building (OCB), which is phase three of the proposed Blended Low Enriched Uranium (BLEU) Project. The operational readiness review inspection was conducted over a period of several weeks, with specialized inspectors from the NRC Office of Nuclear Materials Safety and Safeguards (NMSS), the NRC Office of Nuclear Security and Incident Response (NSIR), and NRC Region II (RII). The inspection was conducted through a review of selected records, procedures, interviews with personnel, and direct observation of equipment testing and work activities. The conclusions reached by the inspection team in each functional area are summarized below.

Safety Program and Integrated Safety Analysis (ISA)

- The overall development and documentation of the licensee's safety program and ISA established for the OCB met regulatory requirements and license commitments..

Operations

- Implementation of Items Relied On For Safety (IROFS) satisfied the design safety functions specified in the ISA summary, and redundant IROFS were demonstrated to be independent. Safety Related Equipment (SRE) tests generally showed IROFS fulfilled the design safety function. As a result of this inspection, several SRE tests and other IROFS documents were revised to adequately demonstrate and document the IROFS safety function.
- Generally, IROFS instrument and alarm setpoint determinations used conservative engineering analyses, accounted for instrument response and accuracy parameters, and were well documented. Two setpoint calculations had not been formally documented and were completed by the licensee before the end of the inspection
- Items identified as "sole IROFS" for the OCB were adequately implemented and provided the required safety function. IROFS that had been modified by the licensee after the NRC approved the ISA Summary maintained their specified safety functions and were within the scope of modifications allowed by NRC regulations and guidance.

Enclosure 1

[REDACTED]

- Configuration control was adequate in that process equipment was installed in accordance with approved drawings and was adequately documented and labeled.
- The procedures for each process contained adequate descriptions of the IROFS safety features, functions and administrative controls, and provided adequate guidance to workers for system operation.

Radiation Protection

- The radiation protection program for the EPB and OCB processes met regulatory requirements.

Nuclear Criticality Safety

- Credible accident scenarios leading to a potential criticality in the OCB and EPB were properly identified. The licensee had provided adequate protection against inadvertent criticality for the analyzed facilities, equipment, and processes using a conservative approach. The NCS evaluations for two process areas were found by inspectors to need improvements and were completed by the licensee before the end of the inspection.
- No safety concerns were identified regarding implementation of criticality alarm detector coverage for the OCB/EPB facility.

Chemical Process Safety

- The chemical safety program was implemented in a manner that provided reasonable assurance that equipment could be operated safely and protect workers from chemical hazards.

Fire Protection

- The fire protection program was implemented such that it provided reasonable assurance that equipment, workers, and the public would be protected from fire hazards. One fire safety system was identified by inspectors to have not been adequately tested and was completed prior to the end of the inspection.

Emergency Preparedness

- The changes incorporated to the existing emergency preparedness plan appropriately addressed the OCB and were adequately implemented.





Environmental Monitoring and Waste Management

- The environmental protection program was adequate to support operation of the OCB. The expected effluents released to the environment were found to be a small fraction of regulatory limits.

Management Measures

- Management measures for IROFS as described in the ISA Summary appeared to provide adequate administrative controls for configuration, maintenance, functional testing, periodic maintenance, and audit review.

Operator Training

- The training program was adequately implemented to ensure that qualified personnel would operate the plant safely.

Transportation

- Transportation procedures were adequate and met the CoC requirements for the powder shipping containers.

