



**Global Nuclear Fuel**

A Joint Venture of GE, Toshiba & Hatachi

Global Nuclear Fuel – Americas, LLC  
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(910) 675-5656, Fax (910) 675-362-5656

**Charles M. Vaughan**

Manager  
Facility Licensing

April 21, 2006

Mr. Jay L. Henson, Chief  
Fuel Facility Inspection Branch 2  
Division of Fuel Facility Inspection  
US NRC  
Sam Nunn Atlanta Federal Center  
61 Forsyth Street, SW  
Suite 23T85  
Atlanta, GA 30303-8931

Subject: NRC Form 591, NRC Inspection Report 70-1113/2006-002  
Reference: Docket 70-1113

Dear Mr. Henson:

Please find attached the signed copy of the subject inspection form. Global Nuclear Fuel – Americas, LLC is pleased that the NRC is piloting the use of the NRC Form 591 for routine inspections where no complex issues exist. We believe this will ultimately improve the efficiency of the overall inspection process and drive faster corrective actions.

We do need to point out and explain one change that is necessary in the licensee's corrective actions for the Violation. Part way through the inspection, at the time some concerns began to surface with regard to rated fire barriers, an Unusual Incident Report (UIR) was opened in our internal system as is our practice to promptly enter these types of concerns for management tracking. Our procedure also requires us to indicate corrective actions that are anticipated. As the investigation continues, these initial actions may be modified, deleted or added to. Corrective action number one indicated that a fire hazards analysis would be done for FMO complex using Factory Mutual. This seemed correct at the time it was entered in the system. Since that time we have contacted Factory Mutual and they have advised us that the questions on fire barriers is actually a code issue and that an insurance type of inspection would be of little value to us. Their recommendation was to secure the services of a fire engineer who is much better qualified to advise on fire barriers. We are entering these actions in the UIR as we complete them.

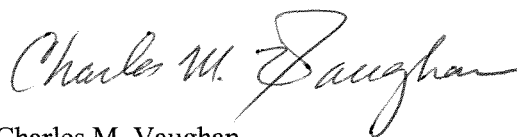
Mr. Jay L. Henson  
April 21, 2006  
Page 2 of 2

Consistent with our better understanding of the problem and how to resolve the issue, we now understand that the appropriate wording for corrective action number one should involve obtaining a fire engineer to work with us to identify all fire barriers required to meet the code so that in completing the next three action items, in the UIR, the system will be viable. It is important to note that our ISA work treated fire hazards. We are striving to meet the 30-day completion limit expressed on the NRC Form 591. If we learn we will not meet that limit, we will notify the Region of the reason and new committed date.

If you have questions please contact me at (910) 675 5656.

Sincerely,

Global Nuclear Fuel – Americas, LLC

A handwritten signature in black ink that reads "Charles M. Vaughan". The signature is written in a cursive style with a large, sweeping "V" at the end.

Charles M. Vaughan  
Manager  
Facility Licensing

Enclosure

cc: CMV-06-036  
N. Baker, HQ, Washington, DC

NRC FORM 591FF PART 1  
(11-2005)  
10 CFR 2.201

**SAFETY INSPECTION REPORT AND COMPLIANCE INSPECTION**

<b>1. LICENSEE/LOCATION INSPECTED:</b> Global Nuclear Fuels - Americas, L.L.C. P. O. Box 780 Wilmington, NC 28402  REPORT <b>70-1113/2006-002</b>	<b>2. NRC/REGIONAL OFFICE</b> U.S. Nuclear Regulatory Commission Region II, Division of Fuel Facilities Inspection 61 Forsyth Street, Suite 23T85 Atlanta, GA 30303	
<b>3. DOCKET NUMBER(S)</b> 70-1113	<b>4. LICENSEE NUMBER(S)</b> SNM-1097	<b>5. DATE(S) OF INSPECTION</b> 03/20-24/2006

**LICENSEE:**

The inspection was an examination of the activities conducted under your license as they relate to radiation safety and to compliance with the Nuclear Regulatory Commission (NRC) rules and regulations and the conditions of your license. The inspection consisted of selective examinations of procedures and representative records, interviews with personnel, and observations by the inspector. The inspection findings are as follows:

- 1. Based on the inspection findings, no violations were identified.
- 2. Previous violation(s) closed. See list of items opened and closed on NRC Form 591FF Part 3.
- 3. The violation(s), specifically described to you by the inspector as non-cited violations, are not being cited because they were self-identified, non-repetitive, and corrective action was or is being taken, and the remaining criteria in the NRC Enforcement Policy to exercise discretion were satisfied.

2 Non-Cited Violation(s) was/were discussed involving the following requirement(s) and Corrective Action(s):

On January 28, 2006, the licensee made a 24-hour report to the NRC on event number 42292 pursuant to NRC Bulletin 91-01. On January 27, 2006, a licensee employee discovered five loaded fuel rod trays on the conveyor under Automated Bundle Assembly Machine #2 (ABAM-2). While control of moderation was maintained for ABAM-2 during the event, the physical barrier installed to limit the number of loaded rod trays to four had structurally failed and was not in place to maintain geometry control. The discovery of five loaded trays stored is a violation of the bundle assembly operating procedure, OP 1050.30, criticality safety limit of four loaded trays for the ABAM-2 unit and is being treated as non-cited violation (NCV) 70-1113/2006-02-02. Corrective actions include improvements to training on criticality safety for the ABAM unit, installation of a posting of the limit on the number of loaded rod trays for the ABAM conveyor, and revisions to ABAM nuclear safety release/requirements (NSRR) and ABAM operating procedures.

During the licensee's followup activities for this event, it was noted that the physical barrier installed to prevent exceeding the limit on the number of loaded rod trays had been identified as an engineered control in the ABAM unit Criticality Safety Analysis (CSA) from 1991, but the control had not been incorporated into either the ABAM NSRR or ABAM operating procedure. The failure to incorporate an engineered control for criticality safety is a violation of license condition 3.9.2, Operating Procedures, which requires that nuclear safety control procedure requirements be incorporated into the appropriate operating procedures in place for uranium processing operations and is being treated as an NCV 70-1113/2006-02-03. Corrective actions include revision of the ABAM NSRR and procedures, repair and periodic surveillance of the physical barrier, and an update of the ABAM CSA .

4. During this inspection certain of your activities, as described below and/or attached, were in violation of NRC requirements and are being cited. This form is a NOTICE OF VIOLATION, which may be subject to posting in accordance with 10 CFR 19.11.

(Violations and Corrective Actions)

Licensee's Statement of Corrective Actions for Item 4, above.

I hereby state that, within 30 days, the actions described by me to the inspector will be taken to correct the violations identified. This statement of corrective actions is made in accordance with the requirements of 10 CFR 2.201 (corrective steps already taken, corrective steps which will be taken, date when full compliance will be achieved). I understand that no further written response to NRC will be required, unless specifically requested.

Title	Printed Name	Signature	Date
LICENSEE'S REPRESENTATIVE	Charles M. Vaughan	<i>C. M. Vaughan</i>	4/21/06
NRC INSPECTOR	Omar R. López and Stephen Subosits	<i>Omar R. Lopez</i> <i>Stephen Subosits</i>	4/11/06

**SAFETY INSPECTION REPORT  
AND COMPLIANCE INSPECTION**

**1. LICENSEE**

**Global Nuclear Fuels - Americas, L.L.C.  
P. O. Box 780  
Wilmington, NC 28402**

**2. NRC/REGIONAL OFFICE**

**U.S. Nuclear Regulatory Commission  
Region II, Division of Fuel Facilities Inspection  
61 Forsyth Street, Suite 23T85  
Atlanta, GA 30303**

**REPORT NUMBER(S)      2006-002**

**3. DOCKET NUMBER(S)**

**70-1113**

**4. LICENSE NUMBER(S)**

**SNM-1097**

**5. DATE(S) OF INSPECTION**

**03/20-24/06**

**SUPPLEMENTAL INSPECTION INFORMATION**

Safety Condition No. 1 of License No. SNM-1097 requires that material be used in accordance with the statements, representations, and conditions in the license application dated June 5, 1997, and December 7, 1999, and supplements thereto. Section 8.4.2 of the license application states, in part, that the Dry Conversion Process (DCP) Building's design is in accordance with the local, state, federal, and national codes, standards and/or regulations.

Section 6-2.3.5 of NFPA 101, Life Safety Code, 1994 edition, states, in part, that every opening in a fire barrier shall be protected to limit the spread of fire and restrict the movement of smoke from one side of the fire barrier to the other.

Contrary to the above, prior to January 21, 2006, the licensee failed to protect several openings in different fire barriers in the DCP. The purpose of fire barriers is to limit the spread of fire and restrict the movement of smoke from one side of the fire barrier to the other during a fire.

The licensee's corrective active actions include:

- Perform a fire hazard analysis of the Fuel Manufacturing Operations (FMO) complex via Factory Mutual Insurance Company.
- Identify requirements for maintaining fire barrier integrity in the FMO complex, including but not limited to fire wall inspections.
- Inspect fire walls in the DCP area for unseated or abandoned penetrations. List and repair all identified penetrations.
- Create routine fire wall inspection in Maximo based on the recommendations from the Emergency Preparedness group.

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1. LICENSEE

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2. NRC/REGIONAL OFFICE

**U.S. Nuclear Regulatory Commission  
Region II, Division of Fuel Facilities Inspection  
61 Forsyth Street, Suite 23T85  
Atlanta, GA 30303**

REPORT NUMBER(S): **2006-002**

3. DOCKET NUMBER(S):

**70-1113**

4. LICENSE NUMBER(S):

**SNM-1097**

5. DATE(S) OF INSPECTION:

**03/20-24/2006**

6. INSPECTOR(S): Omar R. López and Stephen Subosits

7. INSPECTION PROCEDURES USED: **88055, 88010, 88025 and TI 2600/012**

**SUPPLEMENTAL INSPECTION INFORMATION**

**Executive Summary**

The GNF Facility fabricates low-enriched uranium fuel for use in commercial reactors. During the period of the inspection, all operations were normal.

This was a routine, announced inspection that included evaluation of the fire protection, maintenance, and operator training programs. The inspection involved observations of work activities, reviews of selected records, and interviews with plant personnel. The inspection identified the following aspects of the licensee programs as outlined below:

Fire Protection

- The inspector confirmed that the licensee performed internal audits in accordance with license requirements.
- Reviewed fire safety systems, including Items Relied on for Safety, were implemented and maintained properly. However, a violation was identified for the failure to seal penetrations in fire barriers. In addition, the licensee did not have in place a routine inspection program of fire barriers and guidance for individuals performing work that would require fire barrier penetrations.
- The process, equipment, and material storage areas were operated in accordance with fire safety requirements.
- The Radiological Contingency and Emergency Plan for the fuel manufacturing area was up to date.
- The inspector determined that the emergency response team training program was adequate.
- The following Temporary Instruction 2600/012 items were reviewed:
  - IN-02-024, "Potential Problems with Heat Collectors on Fire Protection Sprinklers."
  - IN-99-028-S1, "Recall of Star Brand Fire Protection Sprinkler Heads."
  - IN-00-007, "National Institute of Occupational Safety and Health Respirator User Notice: Special Precautions for Using Certain Self-Contained Breathing Apparatus Air Cylinders."
  - IN-99-007, "Failed Fire Protection Deluge Valves and Potential Testing Deficiencies in Preaction Sprinkler Systems"

Based on interviews and observations the inspector determined that the reviewed information notices were not applicable to the licensee.

Maintenance/Surveillance

- The inspector confirmed that work order package contents and approvals were sufficient to ensure safety.
- Observation of maintenance activities during the inspection confirmed that work was being performed safely.
- Observation of surveillance testing and instrument calibration confirmed it was adequate for equipment and instrumentation important to safety.
- Licensee audits of maintenance activities were adequate in their focus on the various potential safety impacts (radiological, criticality, and industrial) of the work activities on workers and plant operation.

Operator Training

- The inspector confirmed that licensee's general training courses for plant access, criticality safety, radiological worker practices and emergency response were adequate in meeting the training requirements set forth by 10 CFR 19.12(a) & (b) and the license requirements.
- The inspector determined that the training on operating procedures and safety controls has provided qualified operators sufficient knowledge to perform plant operations safely.
- On-the-Job Training (OJT) requirements and implementation were generally found to be adequate to ensure safe operations. The licensee initiated appropriate actions to address a deficiency found in the implementation of OJT requirements for unqualified operators.

Items Opened, Closed, And Discussed

<u>Item Number</u>	<u>Status</u>	<u>Type</u>	<u>Description</u>
70-1113/2006-02-01	Opened/Closed	VIO	Failure to seal penetrations in fire barriers.
70-1113/2006-02-02	Opened/Closed	NCV	Violation of criticality safety limit in Bundle Assembly
70-1113/2006-02-03	Opened/Closed	NCV	Failure to incorporate a criticality safety control into procedures