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

November 26, 2002

Global Nuclear Fuels - Americas, L.L.C.
ATTN: Mr. J. D. Fuller, Chief Executive Officer
and Facility Manager
Global Nuclear Fuels - Americas, L.L.C.
P. O. Box 780
Wilmington, NC 28402

SUBJECT: NRC INSPECTION REPORT NO. 70-1113/2002-07 AND NOTICE OF VIOLATION

Dear Mr. Fuller:

This refers to the inspection conducted on October 28-31, 2002, at the Wilmington facility. The enclosed report presents the results of this inspection.

Based on the results of this inspection, the NRC has determined that a violation of NRC requirements occurred. The violation is cited in the enclosed Notice of Violation (Notice) and the circumstances surrounding it are described in detail in the subject inspection report.

The NRC has concluded that information regarding the reason for the violation, the corrective actions taken and planned to correct the violation and prevent recurrence is already adequately addressed in this Inspection Report (70-1113/2002-07). Therefore, you are not required to respond to this letter unless the description therein does not accurately reflect your corrective actions or you position. In that case, or if you choose to provide additional information, you should follow the instructions specified in the enclosed Notice.

In accordance with 10 CFR 2.790 of NRC's "Rules of Practice," a copy of this letter, its enclosures, and your response (if you choose to provide one will be available electronically for public inspection in NRC's Public Document Room (PDR) or from the Publicly Available Records (PARS) component of NRC's document system (ADAMS). To the extent possible, your response should not include any personal privacy, proprietary, or safeguards information so that it can be placed in the PDR and PARS without reduction. ADAMS is accessible from the NRC web site at http://www.nrc.gov/reading-rm/adams.html (the Public Electronic Reading Room).

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

Sincerely,

/RA/

David A. Ayres, Chief
Fuel Facilities Branch
Division of Nuclear Materials Safety

Docket No. 70-1113
License No. SNM-1097

Enclosures: 1. Notice of Violation
2. NRC Inspection Report

cc w/encls:
Charles M. Vaughan, Manager
Facility Licensing
Global Nuclear Fuels - Americas, L.L.C.
P. O. Box 780, Mail Code J26
Wilmington, NC 28402

Beverly Hall, Director
Division of Radiation Protection
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NAME	NRivera	OLopez	AGooden	WGloersen
DATE	11/19/2002	11/19/2002	11/19/2002	11/22/2002
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PUBLIC DOCUMENT				

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NOTICE OF VIOLATION

Global Nuclear Fuels - Americas, L.L.C.
Wilmington, North Carolina

Docket No. 70-1151
License No. SNM -1097

During an NRC inspection conducted October 28-31, 2002, a violation of NRC requirements was identified. In accordance with the "General Statement of Policy and Procedures for NRC Enforcement Actions," NUREG-1600, the violation is listed below:

> License Condition 10 of Special Nuclear Materials (SNM) License No. 1097 requires the licensee to comply with all listed Safety and Safeguards Conditions.
>
> Safety Condition S-1 authorizes the use of licensed materials in accordance with the statements, representations, and conditions in the license application and supplements.
>
> 10 CFR 20.1703 (c)(4)(vii) requires written procedures regarding storage, issuance, maintenance, repair, testing, and quality assurance of respiratory equipment.
>
> Section II.A.3.of Operating Procedure 1080.81 required in the event during half-face mask cartridge testing, a defective cartridge is found, all remaining cartridges in the lot must be tested and each defective cartridge discarded.
>
> Contrary to the above, on October 30, 2002, defective cartridges were found and discarded, but the remaining cartridges in the lot were not being tested.

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

The NRC has concluded that information regarding the reason for the violation, the corrective actions taken and planned to correct the violation and prevent recurrence is already adequately addressed in this Inspection Report (70-1113/2002-07). However, you are required to submit a written statement or explanation pursuant to 10 CFR 2.201 if the description therein does not accurately reflect your corrective actions or your position. In that case, or if you choose to respond, clearly mark your response as a "Reply to a Notice of Violation," and send it to the U. S. Nuclear Regulatory Commission, ATTN: Document Control Desk, Washington, D.C. 20555 with a copy to the Regional Administrator, Region II, within 30 days of the date of the letter transmitting this Notice of Violation (Notice).

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 any response will be made 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), 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. ADAMS is accessible from the NRC Web site at http://www.nrc.gov/reading-rm/adams.html (the Public Electronic Reading Room). If personal privacy or proprietary information is necessary to provide an acceptable response, then please provide a bracketed copy of your response that identifies the information that should be protected and a redacted 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 2.790(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 this Notice within two working days.

Dated this 26th day of November 2002 at Atlanta, Georgia

U.S. NUCLEAR REGULATORY COMMISSION

REGION II

Docket No.:	70-1113
License No.:	SNM-1097
Report No.:	70-1113/2002-07
Licensee:	Global Nuclear Fuel - Americas, LLC
Location:	Wilmington, NC 28402
Dates:	October 28-31, 2002
Inspector:	A. Gooden, Health Physicist
Accompanying Personnel:	Omar Lopez, Fuel Facility Inspector (trainee) Nilda Rivera, Fuel Facility Inspector (trainee)
Approved By:	D. Ayres, Chief Fuel Facilities Branch Division of Nuclear Materials Safety

Enclosure 2

EXECUTIVE SUMMARY

Global Nuclear Fuel - Americas
NRC Inspection Report 70-1113/2002-07

This routine, unannounced inspection was conducted in the area of radiation protection. The inspection involved observation of work activities, a review of selected records, and interviews with plant personnel.

Radiation Protection

- Equipment used for detecting the presence of radioactive materials on smears, air samples, personnel and within the workplace was properly maintained and performed the intended safety function in a reliable and accurate manner (Paragraph 2.a).

- The external exposure monitoring program was implemented in a manner to maintain doses well below the occupational exposure limits in 10 CFR 20.1201 (Paragraph 2.b).

- Based on exposure data as of October 13, 2002, the estimated maximally assigned internal exposure should remain less than the occupational limits specified in 10 CFR 20.1201 (Paragraph 2.c).

- A violation was identified for failure to test half-face mask cartridges in accordance with procedure (Paragraph 2.d).

- The contamination survey program was appropriately implemented to identify areas of contamination and decontamination of areas was timely and effective. The licensee maintained adequate control of plutonium alpha sealed sources, and the leak testing was performed in accordance with the license and NRC requirements (Paragraph 2.e).

- The licensee adequately identified and resolved radiation issues in a timely manner. Personnel exposure reports were provided in accordance with requirements (Paragraph 2.f).

Attachment:
Persons Contacted
Inspection Procedures
List of Items Opened, Closed, and Discussed
List of Acronyms

REPORT DETAILS

1. Summary of Plant Status

During the inspection period, normal operations were observed with powder, pellet, fuel assembly production, and routine maintenance activities. There were no unusual events during the period.

2. Radiation Protection (83822) (R1)

a. Radiation Protection Program Equipment (R1.03)

(1) Inspection Scope

Equipment used to identify the presence of radioactive materials on smears, air samples, and personnel was examined to determine if the selected equipment was adequately maintained and reliable to perform the intended safety function.

(2) Observations and Findings

The inspector observed personnel performing operability checks on laboratory analytical equipment, survey meters, and hoods. The inspector also reviewed documentation for routine checks and calibrations for selected equipment. Based on observations and documentation, equipment was properly maintained. The inspector interviewed and observed personnel responsible for counting air samples. The inspector determined that the technician was very familiar with the counting system operability and maintenance. A review of calibration and daily source check records indicated that the equipment provided reliable results.

(3) Conclusions

Equipment used for detecting the presence of radioactive materials on smears, air samples, personnel and within the workplace was properly maintained and performed the intended safety function in a reliable and accurate manner.

b. External Exposure Control (R1.04)

(1) Inspection Scope

The inspector reviewed and discussed with licensee representatives personnel exposure data to determine if exposures were in compliance with 10 CFR Part 20 limits, and if controls were in place to maintain occupational doses As Low As Reasonably Achievable (ALARA).

(2) Observations and Findings

Procedures contained administrative action limits, and dose goals were established to ensure that exposures were less than the occupational limits in 10 CFR 20.1201. Table 1 below displays the maximum assigned exposure data for calendar year (CY) 2001, and the projected exposures for CY 2002. No regulatory or license limits

were exceeded. Based on the dosimetry results for the first half of CY 2002, the projected maximally assigned deep dose equivalent (DDE) of 0.91 rem would result in approximately a twenty-one percent increase when compared to CY 2001. The maximum assigned total effective dose equivalent (TEDE) thus far in CY 2002 was 0.454 rem. As of October 13, 2002, there was no significant difference between the site collective dose for 2001 and 2002.

Table 1 Annual Exposures

Year	Deep Dose Equivalent (DDE)	Shallow Dose Extremity (SDE)	Total Effective Dose Equivalent (TEDE)	Collective TEDE (person-rem)	Committed Effective Dose Equivalent (CEDE)
2001	0.75 rem	3.22 rem	0.75 rem	86	0.49 rem
[1]2002	0.91 rem	[2]N/A	0.91 rem	85	0.58 rem

Notes: [1]Exposures are based on air sampling data through October 13, 2002 and six months of Thermoluminescent Dosimetry (TLD) data

[2]Monitoring results for CY 2001 showed no individual met the limit requiring monitoring. CY 2002 data had not been processed from vendor

The licensee's program for controlling and monitoring external exposures to radiation was appropriately implemented.

(3) Conclusions

The external exposure monitoring program was implemented in a manner to maintain doses well below the occupational exposure limits in 10 CFR 20.1201.

c. Internal Exposure Control (R1.05)

(1) Inspection Scope

The inspector reviewed controls for assessing internal exposure to verify that administrative and physical controls were in place to control occupational dose to within occupational limits.

(2) Observations and Findings

Procedures contained action limits which were set below federal limits to ensure personnel exposures did not exceed occupational limits in 10 CFR 20.1201. Table 1 above presents the maximum assigned CEDE. Based on the maximally assigned CEDE exposure as of October 13, 2002 (0.45 rem), the estimated CEDE for CY 2002 (0.58 rem) would be approximately seventeen percent more than the CY 2001 exposure (0.49 rem).

(3) Conclusions

Based on exposure data as of October 13, 2002, the estimated maximally assigned internal exposure would be increased in CY 2002 when compared to the previous year, but would remain less than occupational limits in 10 CFR 20.1201.

d. Respiratory Protection (R1.06)

(1) Inspection Scope

Respiratory protection equipment issuance, storage, maintenance, and training verification was examined for adequacy in assuring that equipment was being adequately maintained and obtained by certified users only.

(2) Observations and Findings

The inspector determined that an Operator performing mask cartridge re-certification tests was not taking the appropriate action to half mask cartridge failures, to ensure that all remaining cartridges in the population size met the acceptance criteria for reuse. The Operator indicated that in the event of a failure, the cartridge was replaced with a new cartridge, but the remaining cartridges from the total batch were not tested. In response to the inspector's observations, the licensee conducted interviews and determined that a generic and fundamental misunderstanding of the procedures had resulted in inadequate testing and re-certification of half mask cartridges for re-use. Operating Procedure (OP) 1080.81 "Mask Cartridge Testing" provided Operators with instructions to test filter cartridges used on half-face and full-face masks. Section II.A.3 of OP 1080.81 required in the event during half-face mask cartridge testing, a defective cartridge is found, all remaining cartridges in the lot must be tested and each defective cartridge discarded. On October 30, 2002, defective cartridges were found and discarded, but the remaining cartridges in the lot were not tested. The failure to test remaining cartridges from the lot was an inadequate test to detect cartridge deterioration or damage resulting from prior use and was identified as a violation (VIO 70-1113/2002-07-01). The licensee took the following immediate and short term corrective actions: (1) all Operators were retrained on OP 1080.81 "Mask Cartridge Testing;" (2) a total of 216 half mask cartridges were removed from service and tested (31 failed); (3) Operators would be required to periodically audit the testing procedure for familiarization; (4) procedures revised for testing half-face mask to require all cartridges be tested prior to reuse; (5) conducted exposure estimates with and without respiratory protection factor to show impact (less than 100 millirem); and (6) an unusual incident report (UIR) would be written. Remaining aspects of the licensee's respiratory protection program were appropriately implemented.

(3) Conclusions

A violation was identified for failure to test half-face mask cartridges in accordance with procedure.

e. Surveys (R1.08)

(1) Inspection Scope

The licensee's contamination control survey program was reviewed to determine if surveys were effective in the identification of contamination and performed in accordance with procedures. The inventory, control, and periodic leak testing of sealed plutonium sources was reviewed to determined if program controls were in place to identify leaks and inaccurate inventories.

(2) Observations

The inspector observed personnel performing a routine survey and reviewed several contamination survey forms, and determined that the licensee took appropriate actions for contamination results greater than the action limits. The licensee's remediation of contaminated areas was prompt and effective. Contamination survey personnel demonstrated an adequate understanding in maintaining dose ALARA in the work place.

Selected leak testing records were reviewed to confirm that plutonium alpha sealed sources were tested in accordance with the license and NRC requirements. In addition, the inspector verified that selected plutonium alpha sealed sources were at the assigned location and properly controlled to prevent unauthorized use.

(3) Conclusions

The contamination survey program was appropriately implemented to identify areas of contamination, and decontamination of areas was timely and effective. The licensee maintained adequate control of plutonium alpha sealed sources, and the leak testing was performed in accordance with the license and NRC requirements.

f. Notifications and Reports (R1.09)

(1) Inspection Scope

The Radiation Technician shift log summaries were reviewed for determining the reportability of events to NRC and workers, and the availability of worker's exposure data was reviewed.

(2) Observations and Findings

The inspector observed that issues were being identified, corrective actions were assigned as necessary, resolution was timely, and the corrective actions adequately addressed the root causes. The incidents reviewed did not require notification to NRC. For incidents which required worker notification to ensure that personnel was aware of the potential for exposure, and work restrictions, the licensee provided follow up. The Radiological Data Management System (RDMS) provided an effective management

system for accessing current exposure data to provide terminating employees with an estimated or actual record in a timely manner. Radiation workers were randomly selected and questioned regarding the availability and/or provision of exposure data by the licensee. In response, interviewees indicated that at least once a year exposure information was provided.

(3) Conclusions

The licensee adequately identified and resolved radiation issues in a timely manner. Exposure data was provided in accordance with requirements.

3. Exit Interview

The inspection scope and results (including the potential violation) were summarized on October 31, 2002, with those persons indicated in the Attachment. Although proprietary documents and processes were occasionally reviewed during this inspection, the proprietary nature of these documents or processes has been deleted from this report.

A subsequent review of the inspection findings determined that the violation for failure to follow procedure was of more than minor significance due to the potential for unnecessary worker exposure.

On November 26, 2002, the licensee was informed that a violation for the failure to follow OP 1080.81 was being identified and that no licensee response would be required since actions taken and planned to correct the violation and prevent recurrence had already been addressed. Dissenting comments were not received from the licensee; however, the licensee pointed out their overall good performance for maintaining low worker exposures.

ATTACHMENT

1. LIST OF PERSONS CONTACTED

Licensee

*J. Ball, Manager, Quality
*D. Barbour, Team Leader, Radiation Protection
*R. Crate, Manager, Powder Production and Support Services
*R. Fleck, Program Manager, Facility Licensing
*J. Fuller, Chief Executive Officer and Facility Manager
*H. Knight, Manager, Emergency Preparedness and Site Security
*A. Mabry, Program Manager, Radiological Engineering
*R. Martyn, Manager, Material Control and Accounting
*C. Monetta, Manager, Environment, Health and Safety
*L. Paulson, Manager, Nuclear Safety
*R. Roessler, Manager, Facilities and Maintenance
*E. Saito, Senior Radiological Engineer
*R. Stevens, Technical Leader, FMO Maintenance Support Team
*C. Vaughan, Manager, Facility Licensing

Other licensee employees contacted included engineers, technicians, production staff, security, and office personnel.

*Attended exit meeting on October 31, 2002

2. INSPECTION PROCEDURES (IP) USED

IP 83822	Radiation Protection

3. LIST OF ITEMS OPENED, CLOSED, AND DISCUSSED

Item Number	Status	Description
70-1113/2002-07-01	Open/Closed	VIO - Failure to test half-face mask cartridges in accordance with procedures (Paragraph 2.d)

4. LIST OF ACRONYMS USED

ADAMS	Agencywide Documents Access and Management Systems
ALARA	As Low As Reasonably Achievable
CEDE	Committed Effective Dose Equivalent
CFR	Code of Federal Regulation
CY	Calendar Year
DDE	Deep Dose Equivalent
IP	Inspection Procedures
NRC	Nuclear Regulatory Commission
OP	Operating Procedure
PARS	Publicly Available Records
RDMS	Radiological Data Management System
rem	Roentgen Equivalent Man

SDE	Shallow Dose Extremity
SNM	Special Nuclear Material
TEDE	Total Effective Dose Equivalent
TLD	Thermoluminescent Dosimetry
UIR	Unusual Incident Report