



**UNITED STATES
NUCLEAR REGULATORY COMMISSION
REGION II
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March 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. 70-1113/2002-02

Dear Mr. Fuller:

This report refers to the inspection conducted on February 25 - March 1, 2002, at the Wilmington facility. The purpose of the inspection was to determine whether activities authorized by the license were conducted safely and in accordance with United States Nuclear Regulatory Commission (NRC) requirements. At the conclusion of the inspection, the findings were discussed with those members of your staff identified in the enclosed report.

Areas examined during the inspection are identified in the report. Within these areas, the inspection consisted of selective examinations of procedures and representative records, interviews with personnel, and observation of activities in progress.

Based on the results of the inspection, no violations or deviations were identified.

In accordance with 10 CFR 2.790 of the NRC's "Rules of Practice," a copy of this letter and its enclosure 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, Agencywide Documents Access and Management System (ADAMS). 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/

Leonard Wert, Acting Chief
Fuel Facilities Branch
Division of Nuclear Materials Safety

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

Enclosure: (See Page 2)

Enclosure: NRC Inspection Report

cc w/encl:

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U.S. NUCLEAR REGULATORY COMMISSION

REGION II

Docket No.: 70-1113

License No.: SNM-1097

Report No.: 70-1113/2002-002

Licensee: Global Nuclear Fuel - Americas, LLC

Facility: General Electric

Location: Wilmington, NC 28402

Dates: February 25 - March 1, 2002

Inspector: M. Crespo, Fuel Facility Inspector

Approved By: L. Wert, Acting Chief
Fuel Facilities Branch
Division of Nuclear Materials Safety

Enclosure

EXECUTIVE SUMMARY

Global Nuclear Fuel - Americas NRC Inspection Report 70-1113/2002-002

This routine unannounced inspection involved observation and evaluation of the licensee's programs for plant operations. The inspection identified the following aspects of the licensee's programs:

Plant Operations

- The programs encouraged the identification and communication of safety concerns to management (Paragraph 2.a.(3)).
- The safety analyses contained sufficient detail, identified safety controls, provided for double contingency, and specified limits for controlled parameters and safety control systems. An easy-to-use computer-based system was in place to obtain safety parameters for specific areas of the plant (Paragraph 2.b.(3)).
- Housekeeping was adequate to not adversely affect the radiological safety or emergency egress of the facility. Plant activities were performed in accordance with approved plant procedures. Appropriate safety controls were available in an operable condition in the process area. The licensee's corrective actions for an event were appropriate to address the root causes (Paragraph 2.c.(3)).
- The configuration control system for facility modifications ensured that safety significant modifications were implemented correctly (Paragraph 2.d.(3)).
- The administrative controls over the operating procedures used in the process were effective. Operators at the facility were knowledgeable of the safety controls of their area (Paragraph 2.e.(3)).

Attachment:

Persons Contacted

Inspection Procedures

List of Items Opened, Closed, and Discussed

List of Acronyms

REPORT DETAILS

1. Summary of Plant Status

This report covered a five-day period. Powder, pellet, and fuel assembly production proceeded at normal rates with a portion of the powder production area shutdown for maintenance activities. The radioactive waste processing system was in the testing phase and was almost ready for full operation.

2. Plant Operations (IP 88020) (O3)

a. Management and Administrative Practices (O3.01)

(1) Inspection Scope

The inspector reviewed the Radiological Control and Emergency Preparedness Event Documentation and Critique Reports for the last six months and interviewed supervisors of the fuel manufacturing area to verify that safety problems were identified, reported, and resolved in a timely manner.

(2) Observations and Findings

The inspector noted that the Radiological Control and Emergency Preparedness Event Documentation and Critique Reports identified safety issues brought up by employees or by event investigators. These concerns were addressed in the event report or in an Unusual Incident Report (UIR). The UIRs were tracked on the computer database system, Regtrack. The inspector found the event report format adequately communicated safety issues to management.

Supervisors in the fuel manufacturing area stated that any safety concerns were passed directly to their Environmental, Health, and Safety (EHS) contacts and their manager. The inspector was informed that operators kept an open line of communication with their supervisors on any safety issues they might find in the facility. The licensee had an incentive program that promoted the identification of possible safety issues. Safety issues brought up by employees were maintained and logged if the issues were deemed credible. The licensee also conducted monthly meetings between supervisors, managers and operators to discuss safety procedures and issues. The inspector concluded that the licensee's system of communicating safety concerns from the operator level to the manager level, with support from the incentive program, was effective.

The inspector also noted that operating procedures were easily accessible via the Web-based procedures and the computer database system. The web page also helped ensure safety by providing easy access to training videos and other visual aids.

(3) Conclusions

The licensee's programs encouraged the identification and communication of safety concerns to management.

b. Safety Function (O3.02)

(1) Inspection Scope

The inspector reviewed safety analyses for selected process areas to verify that they identified safety controls, provided for double contingency, and specified limits for controlled parameters and safety control systems.

(2) Observations and Findings

The inspector reviewed the safety analyses and the Technical Report for the Dry Conversion Process (DCP) area. The inspector concluded that the Technical Report adequately addressed double contingency and specified parameters for use in the process.

The licensee maintained an electronic system for operators or supervisors to obtain safety parameters for an area. The Nuclear Safety Release/Requirements (NSRR) System was set up on most computer terminals in the facility and contained approved parameters and radiological control requirements. The NSRR System had an intuitive interface and was labeled so an operator or engineer could quickly find the safety parameters for their area.

(3) Conclusions

The licensee's safety analyses contained sufficient detail, identified safety controls, provided for double contingency, and specified limits for controlled parameters and safety control systems. The licensee maintained an easy-to-use computer-based system to obtain safety parameters for specific areas of the plant.

c. Plant Activities (O3.03)

(1) Inspection Scope

The inspector reviewed plant housekeeping to verify that it did not adversely affect the radiological safety or emergency egress of the facility. Plant activities were reviewed to determine if they were performed according to approved plant procedures. The inspector also reviewed selected safety controls to verify that they were available in an operable condition in the process area.

(2) Observations and Findings

The inspector toured the facility and noted no issues where the housekeeping could affect the radiological safety or emergency egress of the facility.

The inspector interviewed an engineer and determined that he was knowledgeable of the safety controls present in the new radioactive waste system. These controls included criticality controls such as safe geometry tanks, specific gravity monitors, and uranium monitors.

An unusual incident occurred at the facility during this inspection period. A pipe failure occurred when an employee attempted to restart a pump, in the Hydrogen Fluoride (HF) building, by mechanical agitation. The mechanical agitation moved the pump, ruptured the pipe and caused the employee to come into contact with a dilute hydrogen fluoride (HF) stream. The employee was not injured due to the dilute nature of the HF and the immediate actions taken by the employee and the emergency medical team. The inspector reviewed the unusual incident report (DCP-020) for the HF exposure and concluded that the short and long term actions were adequate to address the root causes of the incident.

(3) Conclusions

Housekeeping was adequate to not adversely affect the radiological safety or emergency egress of the facility. Plant activities were performed in accordance with approved plant procedures. Appropriate safety controls were available in an operable condition in the process area. The licensee's corrective actions for an event were appropriate to address the root causes.

d. Configuration Controls (O3.04), Change Control (O3.05)

(1) Inspection Scope

The inspector reviewed the licensee's configuration control system for recent facility modifications to verify that safety significant modifications were reviewed, approved, and documented according to their procedures.

(2) Observations and Findings

The inspector reviewed the recently revised criticality analysis for the Kilns' outlet hatch lock (related to NRC event No. 38395, see Section 2.e). The analysis was revised to include recently installed pressure indicators. The inspector noted that appropriate approvals and signatures were present on the analysis, as required by their procedures. The inspector verified that the Kilns' process drawings were revised to include the pressure indicators on the Kilns' outlet hatch lock. The inspector also verified their presence in the process area and observed the operation of the pressure indicators during several process cycles. The inspector noted that the pressure indicators adequately measured the nitrogen pressure during the hatch lock process.

The inspector reviewed several change requests concerning procedure changes involving the functional test instructions for the pellet grinders. The change requests were reviewed and approved by appropriate personnel. The inspector reviewed the change request involving the installation of a double block and bleed valve for the radioactive waste system. This modification allowed two sets of quarantine tanks to run at once without the risk of one set of tanks leaking into the other. The change request indicated that the radioactive waste system was functionally tested and properly evaluated before being brought online.

The inspector interviewed supervisors of the DCP area and the Fuel Manufacturing Area and was informed that they trained operators not to perform any maintenance in the process area without approvals and procedures.

(3) Conclusions

The licensee's configuration control system for facility modifications ensured that safety significant modifications were properly reviewed, approved, and documented.

e. Operating Procedures (O3.06)

(1) Inspection Scope

The inspector verified that administrative controls identified in safety evaluations were included in applicable operating procedures. The inspector also verified that changes in procedures involved the appropriate approvals.

(2) Observations and Findings

The inspector reviewed the Operating Procedure (OP) for the kiln outlet hatch lock, which was revised due to the corrective actions for the high moisture level event in the cooling hoppers on October 15, 2001 (NRC Event Number 38395). The OP contained the appropriate signatures for approval of the change. The inspector verified that the latest revision was available on the process floor and in the control room. The inspector verified that the revisions to the OP, which involved a log of the new pressure gauges, was implemented in the DCP control room. The inspector found that the log was current with no missing entries.

The inspector interviewed several operators throughout the facility to gauge their knowledge of the safety controls for their areas. Operators in the bulk powder handling area were familiar with their operating procedures and attentive of the safety controls in their area. The DCP control room operators outlined the safety controls in the DCP area to the inspector. The inspector concluded that the operators were knowledgeable of the process and potential process upsets.

The licensee required all OP changes to be processed through Configuration Management Control System (CMC), which obtained all the necessary evaluations and approvals. Nearly all the DCP OPs were electronically available to operators. The inspector reviewed the log sheets that contained the approval signatures for the most recent revisions and determined that appropriate signatures were obtained. The

inspector found that paper copies in the process areas were the latest revisions. Supervisors informed the inspector that their goal for the computer system is to require the operators to review the new procedure revisions before the computer will allow them to begin their work.

The inspector questioned operators and supervisors on how they enforced procedure compliance. The inspector confirmed that management expectations regarding procedural compliance were promulgated and understood by the operators. The inspector did not identify any instances of operators failing to follow procedures.

(3) Conclusions

The licensee's administrative controls over the operating procedures used in the process were effective. Operators at the facility were knowledgeable of the safety controls of their area.

f. Follow up on Previously Identified Issues (O3.08)

The inspector reviewed the corrective actions by the licensee to address Inspector Followup Item (IFI) 2001-03-01, Improvements in the Timeliness and Attention to Detail of Management Reviews for Program-Level Procedures and Documents. The inspector determined that the licensee tracked the need for periodic reviews of EHS policies and procedures (P/Ps) and Section Administrative Routines (SARs) via use of a computer database that informed the user of a pending review date. None of the P/Ps were overdue, and the sample of the P/Ps and SARs reviewed showed no signs of lack of attention to detail. Based on this review, this item was closed.

3. Exit Meeting

The inspection scope and results were summarized on March 1, 2002, with those persons indicated in the Attachment. Although proprietary documents and processes were reviewed during this inspection, the proprietary nature of these documents or processes has been deleted from this report. No dissenting comments were received from the licensee.

ATTACHMENT

1. **PARTIAL LIST OF PERSONS CONTACTED**

Licensee

H. Knight, Manager, Emergency Preparedness and Training
A. Mabry, Program Manager, Radiation Safety
C. Monetta, Manager, GNF-A, Environmental Health and Safety
L. Paulson, Manager, Nuclear Safety
C. Vaughan, Manager, Facility Licensing
B. Hines, Engineer, Powder Production
D. Tashjian, Manager, Fuel Fabrication
R. Foleck, Program Manager, Facility Licensing
G. Smith, Integrated Safety Analysis Manager

All personnel listed above were present at the exit meeting on March 1, 2002. Other licensee employees contacted included engineers, technicians, production staff, and office personnel.

2. **INSPECTION PROCEDURES (IP) USED**

IP 88020 Regional Nuclear Criticality Safety Inspection Program

3. **LIST OF ITEMS OPENED, CLOSED, AND DISCUSSED**

<u>Item</u>	<u>Status</u>	<u>Type</u>	<u>Description</u>
70-1113/01-03-01	Closed	IFI	Improvements in the timeliness and attention to detail of management reviews for program-level procedures and documents.

4. **LIST OF ACRONYMS USED**

CMC	Configuration Management Control
DCP	Dry Conversion Process
EHS	Environmental, Health and Safety
GNF-A	Global Nuclear Fuels-Americas
HF	Hydrogen Fluoride
IFI	Inspection Follow up Item
IP	Inspection Procedure
IR	Inspection Report
NRC	Nuclear Regulatory Commission
NSRR	Nuclear Safety Release/Requirements
OP	Operating Procedure
P/P	Policy and Procedure
SAR	Section Administration Routine
UIR	Unusual Incident Report