



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

September 5, 2003

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

SUBJECT: NRC INSPECTION REPORT NO. 70-1113/2003-005 AND NOTICE OF VIOLATION

Dear Mr. Fuller:

This report refers to the inspection conducted from July 28 - August 7, 2003, at your Wilmington facility. The purpose of the inspection was to determine whether activities authorized by your 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 the members of your staff who are identified in the enclosed report.

The 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 within the plant.

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. However, 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 (70-1113/2003-05). Therefore, you are not required to respond to this letter unless the description therein does not accurately reflect your corrective actions or your 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 the 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 the NRC 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 redaction. 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 BY DEBORAH A. SEYMOUR  
ACTING FOR/**

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

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

Enclosure: NRC Inspection Report

cc w/encl:  
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DATE	9/5/2003		9/5/2003		9/5/2003		9/5/2003			
E-MAIL COPY?	YES	NO	YES	NO	YES	NO	YES	NO	YES	NO
PUBLIC DOCUMENT	YES	NO								

## NOTICE OF VIOLATION

Global Nuclear Fuel-Americas, L.L.C.  
Wilmington, N.C.

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

During an NRC inspection conducted August 4 - 7, 2003, 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:

10 CFR 71.5(a) requires that a licensee who transports licensed material outside of the site of usage, as specified in the NRC license, or where transport is on public highways, or who delivers licensed material to a carrier for transport, comply with the applicable requirements of the regulations appropriate to the mode of transport of the Department of Transportation (DOT) in 49 CFR 170 through 189.

49 CFR Part 172.403(a) specifies the labeling requirements for each package of radioactive material.

Contrary to the above, on April 18, 2003, the licensee failed to label three out of six containers of radioactive material (enriched UO<sub>2</sub> powder) in accordance with the labeling requirements specified in 49 CFR 172.403(a), in that, the containers were affixed with a Radioactive Yellow II label instead of the required Radioactive Yellow III label.

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

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 and the date when full compliance will be achieved is already adequately addressed on the docket in this Inspection Report. 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).

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 5<sup>th</sup> day of September, 2003

U.S. NUCLEAR REGULATORY COMMISSION

REGION II

Docket No.: 70-1113

License No.: SNM-1097

Report No.: 70-1113/2003-005

Licensee: Global Nuclear Fuel - Americas, LLC

Facility: General Electric

Location: Wilmington, NC 28402

Dates: July 28 through August 7, 2003

Inspectors: W. Gloersen, Senior Fuel Facility Inspector  
A. Gooden, Health Physicist  
G. Wertz, Senior Resident Inspector (BWX Technologies)  
N. Rivera-Feliciano, Fuel Facility Inspector

Accompanying  
Personnel: D. Ayres, Chief, Fuel Facilities Branch  
C. Acosta, Nuclear Safety Intern

Approved By: D. Ayres, Chief  
Fuel Facilities Branch  
Division of Nuclear Materials and Safety

## EXECUTIVE SUMMARY

### Global Nuclear Fuel - Americas NRC Inspection Report 70-1113/2003-005

This routine, unannounced inspection involved observation of work activities, a review of selected records, and interviews with plant personnel involving the areas of management organization and controls, operator training, plant operations, emergency preparedness, fire protection, transportation, waste generator requirements, and low level radioactive waste. The inspectors were accompanied by the Chief, Fuel Facilities Branch, NRC Region II on July 30 through August 1, 2003. The License Performance Review was on July 31, 2003. The inspection disclosed the following:

#### **Management Organization and Controls**

- Licensee audits and inspections were conducted by appropriately qualified personnel and in accordance with license requirements. Audit findings were tracked and corrective actions were either completed or in the process of being completed. The independent audit minimally met the Radiological and Contingency Emergency Plan requirements for such audit (Paragraph 2.a).
- The Wilmington Safety Review Committee and Radiation Safety Committee were formally appointed and chartered, committee membership met the terms and conditions stipulated in the license, and the meetings were held at the required frequencies specified in the license and procedures (Paragraph 2.b).
- Quality characteristics of components important to safety were properly identified, specified, and verified in accordance with the licensee's implementing procedure (Paragraph 2.c).

#### **Operator Training**

- The licensee's training program for initial and refresher training in the nuclear criticality safety and radiation protection areas appeared effective. Training examinations appeared adequate to measure the knowledge level of the workers. Test records and examinations appeared current. Lessons learned from past facility events were appropriately captured into the refresher training to improve worker safety (Paragraph 3.a).
- The general employee "Blue Dot" training provided by the licensee to all employees and visitors was adequate to instruct personnel on the proper response to site emergencies. Specialized training for limited radiation workers, hazardous material workers, and radiation protection personnel appeared appropriate and effective (Paragraph 3.b).
- Operating procedure and facility change control training appeared effective. Operators were knowledgeable of their operating processes and pending changes. Changes to nuclear material processing requirements were readily identified to the operators who had to acknowledge their understanding before processing operations could continue (Paragraph 3.c).

### **Plant Operations**

- The licensee demonstrated adequate communication of safety issues to management through the use of unusual incident reports. The licensee's safety analysis for the uranium dioxide sintering furnace contained sufficient detail, identified safety controls, provided for double contingency, and specified limits for controlled parameters and safety control systems (Paragraph 4.a).
- Plant activities were performed by cognizant operators in the uranium conversion processing area and hydrofluoric acid building. A minor housekeeping issue in the hydrofluoric acid building was identified and corrective action was forthcoming (Paragraph 4.b).
- The licensee's configuration control system for facility modifications ensured that safety significant modifications were properly reviewed, approved, and documented (Paragraph 4.c).
- Appropriate nuclear criticality safety controls were available and operable in the fuel manufacturing areas. Operators at the facility were noted to be knowledgeable of the operating procedures of their area (Paragraph 4.d).
- The licensee performed functional tests of nuclear criticality safety controls according to written and approved procedures (Paragraph 4.e).

### **Emergency Preparedness**

- Program changes had no adverse impact on emergency preparedness (Paragraph 5.a).
- The revised procedures continue to implement the Radiological and Contingency Emergency Plan (Paragraph 5.b).
- Key emergency response personnel (Emergency Director and alternates) were trained in accordance with Section 7.2 of the Radiological and Contingency Emergency Plan. Corrective actions were effective in resolving human errors and equipment problems associated with the timely notification of response personnel during off-hours and back shifts (Paragraph 5.c).
- The offsite support interface was properly maintained (Paragraph 5.d).
- Drills and exercises were conducted at the frequency as required by the license. The critiques provided candid assessments of areas for improving the response during drills and/or actual events (Paragraph 5.e).
- The licensee took prompt actions to replace two items observed at the emergency control center to have exceeded their shelf life (a full face-mask and package of gas sampling tubes) (Paragraph 5.f).

- The emergency organization response was timely and appropriate to both a transportation and severe weather incident (Paragraph 5.h).

### **Fire Protection**

- The manufacturing processes, equipment, and material storage areas reviewed were being operated in accordance with fire safety requirements (Paragraph 6.a).
- Fire extinguishers observed throughout the plant were being adequately maintained to ensure proper condition for their operation (Paragraph 6.b).

### **Transportation**

- Records pertaining to shipments of special nuclear material were appropriately completed and maintained (Paragraph 7.a).
- The licensee's preparation and delivery of completed new powder container packages was performed in a safe manner and in accordance with the operating procedure (Paragraph 7.b).
- The operating procedures for the Nuclear Regulatory Commission certified packaging included the operational requirements specified in the Nuclear Regulatory Commission Certificate of Compliance and Safety Analysis Report (Paragraph 7.c).
- The licensee's process to perform inspections of three new powder containers before the first use was thorough and detailed. The management of the records pertaining to package fabrication and certifications was well organized (Paragraph 7.d).
- A violation was identified for the failure to properly label a hazardous materials shipment (Paragraph 7.e).

### **Waste Generator Requirements**

- The waste shipping manifests were complete and provided an acceptable level of information in the shipping papers to determine the quantities of individual radionuclides shipped. The licensee's waste shipping tracking records were complete and well organized (Paragraph 8.a).

### **Low Level Radioactive Waste**

- Although the total population of radioactive material containers had not changed significantly from the previous 12 months, the data indicated that the generation of radioactive materials was decreasing in 2003 and that the quantities of radioactive material being shipped to a foreign facility for uranium recovery was increasing with an anticipated net effect of a volume reduction on the storage pads by 2004. The non-recoverable waste and recoverable scrap containers stored on the outside storage pads were in an acceptable condition to contain the licensed material. The calcium

fluoride relocation and waste disposal activities were progressing at an acceptable rate (Paragraph 9.a).

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 two week period. The plant had a smooth start up after its annual maintenance and shutdown special nuclear material special nuclear materials (SNM) inventory, which ended in mid-July. With the exception of line 2 being temporarily shutdown for repairs, plant operations were normal with routine maintenance activities. On July 30, 2003, all plant operations involving fuel was temporarily terminated in response to severe weather.

### 2. Management Organization and Controls (Inspection Procedure (IP) 88005)

#### a. Internal Reviews and Audits (O5.03)

##### (1) Inspection Scope

The inspector reviewed selected licensee audits as required by license application Sections 3.6.1, 3.6.2, and 3.6.3. The review included facility systems inspections and periodic program assessments.

##### (2) Observations and Findings

The inspector reviewed selected 2003 quarterly audits and inspections pertaining to radiological safety, environmental protection, chemical safety, and fire safety. The audits were conducted in accordance with appropriate procedures and checklists. Audit issues were tracked and corrective actions were appropriate.

The inspector also reviewed selected independent audits that were required by Section 3.6.3 of the license application. These audits were required to be performed biennially. The audits selected were conducted in December 2001 and covered the following safety programs: chemical safety, fire safety, industrial safety, environmental protection, and radiological safety. The inspector noted the audits reviewed were thorough and in depth. The inspector verified that the audit findings were tracked and corrective actions were completed. The inspector also verified that the audits were transmitted to the appropriate managers in accordance with Section 3.6.3 of the license application. The inspector verified that the persons conducting the audits were qualified in the appropriate safety discipline.

The scope of the independent audit of the Radiological Contingency and Emergency Plan (RC&EP) was more specific to the site security program as related to the RC&EP and emergency procedures. Based on the audit checklist and an interview with the previous Manager, Emergency Preparedness and Site Security, the inspector determined that the audit minimally met the RC&EP requirements for such audit.

##### (3) Conclusion

Licensee audits and inspections were conducted by appropriately qualified personnel and in accordance with license requirements. Audit findings were tracked and

corrective actions were either completed or in the process of being completed. The independent audit minimally met the RC&EP requirements for such audit.

b. Safety Committees (O5.04)

(1) Inspection Scope

The inspector reviewed and verified that the licensee's onsite safety committees were organized and conducted in accordance with the license.

(2) Observations and Findings

The inspector reviewed the organizational structure and membership of the Wilmington Safety Review Committee (WSRC) and verified that it was in accordance with the requirements of Section 2.3 of the license application and procedure 40-01, Wilmington Safety Review Committee, Revision 15, April 12, 2002. The inspector verified that the WSRC met at the frequency specified by the license and procedures and that the required number of committee members were present for each meeting. The inspector reviewed the meeting minutes for selected WSRC meetings conducted in 2002 and 2003. The meeting minutes were well organized and documented. The WSRC reviews of unusual incident reports (UIRs) were acceptable.

The inspector also reviewed Radiation Safety Committee (RSC) meeting minutes conducted in 2003. The RSC meetings primarily reviewed the facility's dose control program, stationary air sample results and trends, and contamination control. The meetings were attended by the required number of members and at the required frequency.

(3) Conclusion

The WSRC and RSC were formally appointed and chartered, committee membership met the terms and conditions stipulated in the license, and the meetings were held at the required frequencies specified in the license and procedures.

c. Quality Assurance Programs (O5.05)

(1) Inspection Scope

The quality assurance (QA) requirements used to identify, specify and verify (receipt inspection) the quality characteristics of components important to safety for the facility were reviewed in order to assess the effectiveness of the program.

(2) Observations and Findings

The inspector reviewed the quality requirements listed in implementing procedure, Procedure Responsibilities and Instructions (PRI) 4-02, "Requests for Commodities," used to identify, specify and verify the quality characteristics of components important to safety. The quality characteristics were identified on the stockfile commodities add

traveler (SCAT) form and reviewed and approved by QA personnel. The inspector reviewed several SCAT forms and witnessed a quality component receipt inspection. All required characteristics were properly verified and no discrepancies were noted in the receipt inspection process. The inspector noted that 10 Code of Federal Regulations (CFR) Part 21 requirements were properly invoked in the purchasing information.

(3) Conclusion

Quality characteristics of components important to safety were properly identified, specified, and verified in accordance with the licensee's implementing procedure.

**3. Operator Training (IP 88010)**

a. General Nuclear Criticality Safety (NCS) Training and General Radiological Safety Training (F2.02, F2.03)

(1) Inspection Scope

Initial and refresher radiation worker training and NCS training were reviewed by the inspector in order to assess the effectiveness of the licensee's training program. Training material was compared to the test content and test records were reviewed to identify the level of worker knowledge. Several test examinations were reviewed in order to verify proper implementation of the training program and adequate knowledge of the employees in the radiation safety area. The inspector reviewed annual updates to the training program to incorporate previous lessons learned information.

(2) Observations and Findings

The inspector reviewed the initial radiation safety training, "Red Bar," and verified it met the requirements listed in 10 CFR 19.12, "Instructions to Workers." The inspector determined that the test content appeared consistent with the potential radiation safety risk at the facility. Several radiation worker training examinations were reviewed and appeared to be properly administered and documented that the worker's knowledge level was consistent for the facility hazards. Annual nuclear safety refresher training for both criticality safety and radiation protection also appeared implemented properly. Test records indicated most employees were current. Test exams were reviewed and indicated that worker safety knowledge appeared appropriate.

Lessons learned from events which occurred at the facility in the last year were added to the radiation worker training to improve worker safety. The lessons learned included information on process operational problems as well as changes to personnel dosimetry and monitoring requirements. The inspector noted that the lessons learned appeared appropriate and effective to communicate necessary improvements in worker safety.

(3) Conclusion

The licensee's training program for initial and refresher training in the NCS and radiation protection areas appeared effective. Training examinations appeared adequate to

measure the knowledge level of the workers. Test records and examinations appeared current. Lessons learned from past facility events were appropriately captured into the refresher training to improve worker safety.

b. General and Specialized Emergency Training (F2.04)

(1) Inspection Scope

General site access safety training or, "Blue Dot," was reviewed in order to assess the effectiveness of training site employees and visitors to potential emergency actions. In addition, specialized safety training for limited radiation workers, hazardous material workers and radiation protection workers was reviewed.

(2) Observations and Findings

The inspector reviewed and attended "Blue Dot" training, which instructed employees and site visitors how to recognize and respond to various hazard warnings throughout the plant, and was required for site access. The training material contained adequate detail regarding general activities and facility hazardous. The training also properly emphasized the necessary protective actions in case of emergency evacuation or criticality alarm.

Specialized training for limited radiation workers, hazardous material workers, and radiation protection personnel was also reviewed. Hazardous material worker training records were current. Specialized radiation worker training provided necessary safety information to limited-scope radiation workers (change room entry only). The radiation protection personnel responsible for operation of the criticality warning system appeared knowledgeable of system operating requirements during normal and off-normal periods.

(3) Conclusion

The general employee "Blue Dot" training provided by the licensee to all employees and visitors was adequate to instruct personnel on the proper response to site emergencies. Specialized training for limited radiation workers, hazardous material workers, and radiation protection personnel also appeared appropriate and effective.

c. Operating Procedure and Facility Change Control Training (F2.05)

(1) Inspection Scope

Operating procedure training and facility change control training were reviewed in order to assess the licensee's training effectiveness of workers during normal operations and following process or facility changes.

(2) Observations and Findings

The inspector reviewed several recent changes in the conversion facility and discussed the changes with the process operators. The changes included both process and NCS changes. The operators were current with the existing operation and could identify the

most recent changes to the operating procedure and nuclear safety requirements. In addition, an electronic tracking system was used to inform the operators of pending process or nuclear safety changes. The system required the operator's review in order to continue operation. For more detailed or significant changes, plant procedure P/P 10-10, "Configuration Management Program," provided for additional training, as specified by the qualified senior nuclear safety reviewer. The inspector discussed the training program with several operators and a supervisor. The operators indicated that they were content with the training methods used and knowledgeable of their process operating requirements.

(3) Conclusion

Operating procedure and facility change control training appeared effective. Operators were knowledgeable of their operating processes and pending changes. Changes to nuclear material process requirements were readily identified to the operators who had to acknowledge their understanding before the processing operation could continue.

**4. Plant Operations (IP 88020)**

a. Management and Administrative Practices and Safety Function (O3.01, O3.02)

(1) Inspection Scope

The inspector interviewed supervisors and engineers of the fuel production area and reviewed that safety problems were identified, reported to management, and resolved in a prompt manner. The inspector observed the Morning Production's meetings. The inspector also reviewed criticality evaluations 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 noted that the engineers and supervisors of the fuel production area kept management aware of any developing safety issues in the fuel production shortly after their discovery. These communications were captured in UIRs. The issues reviewed by the inspector in the UIRs were often discovered by employees and communicated effectively to management. The UIRs were then used to plan an effective resolution to the issue as well as a timetable for completion. The safety issues communicated to management illustrated clear safety communication between employees and managers. No issues were noted with the UIRs reviewed nor with the resolution of their issues.

The inspector noted that each of the meetings began with the discussion of safety issues. Since these meetings occur daily, management was kept up-to-date of the status of all safety concerns in the facility. The inspector noted that during the management meetings, issues observed the day prior in the process area were thoroughly discussed. The safety issues communicated to upper management illustrated clear safety communication between operators and managers. These actions

demonstrated to the inspector that the licensee communicated safety issues to the employees of the facility in a prompt manner.

The inspector reviewed the criticality safety evaluation for the uranium dioxide (UO<sub>2</sub>) sintering furnace. The inspector concluded that the criticality safety evaluations adequately addressed double contingency and specified parameters for use in the process.

(3) Conclusions

The licensee demonstrated adequate communication of safety issues to management through the use of UIRs. The licensee's production meetings encouraged the identification and communication of safety concerns, which in turn were passed down to the operators. The licensee's safety analysis for the UO<sub>2</sub> sintering furnace contained sufficient detail, identified safety controls, provided for double contingency, and specified limits for controlled parameters and safety control systems.

b. 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 observed to ensure performance with applicable procedures and safety requirements.

(2) Observations and Findings

The inspector performed area tours in order to observe operations in the uranium conversion processing area, control room, pelleting, sintering, and hydrofluoric acid (HF) building. The inspector reviewed operating actions with the operators in order to verify procedural adherence and cognizance of safety requirements. The operators appeared knowledgeable of both their normal processing activities and expected emergency actions. Emergency egress routes were consistently and visibly labeled. The inspector noted and notified licensee management of a housekeeping concern in the HF building which could potentially impede emergency evacuation egress. The licensee indicated immediate correction was warranted and forthcoming. No other discrepancies were identified.

(3) Conclusions

Plant activities were performed by cognizant operators in the uranium conversion processing area and HF building. A minor housekeeping issue in the HF building was identified and corrective action was forthcoming.

c. 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 selected change request and noted that the proper nuclear safety evaluations were completed prior to performing the modification. The inspector noted that the proper approvals for modifications to the procedures and new function test were obtained prior to their implementation.

(3) Conclusions

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

d. Operating Procedures (O3.06)

(1) Inspection Scope

The inspector observed selected operations being performed throughout the facility to verify that the appropriate operating procedures were being followed.

(2) Observations and Findings

The inspector discussed various NCS controls with cognizant operators in the areas of dry conversion process (DCP), pelleting, and sintering furnace areas, in order to determine that it was maintained as required. The inspector observed that the procedures provided for safety controls and that operators appeared adequately trained on NCS concepts.

(3) Conclusions

Appropriate NCS controls were available and operable in the fuel manufacturing areas. Operators at the facility were noted to be knowledgeable of the operating procedures of their area.

e. Maintenance for NCS (O3.07)

(1) Inspection Scope

The inspector observed maintenance activities involving NCS controls to verify the use of written and approved procedures for the tests.

(2) Observations and Findings

During the inspection, an event occurred at the facility on July 30, 2003 in which all plant operations were temporarily shutdown due to the severe weather. The inspector reviewed the functional tests results of three of the NCS detectors and the functional test procedures. The inspector noted that experienced personnel were performing the tests according to the approved procedures. No problems were noted in the process during the shutdown.

(3) Conclusions

The licensee performed functional tests of NCS controls according to written and approved procedures.

**5. Emergency Preparedness (IP 88050)**

a. Review of Program Changes (F3.01)

(1) Inspection Scope

Changes to the licensee's RC&EP, emergency organization, facilities, and equipment were reviewed to assess the impact on the effectiveness of the program. The adequacy of the emergency preparedness audit required by Section 7.5 of the RC&EP was also evaluated.

(2) Observations and Findings

Since the last inspection, a new Manager, Emergency Preparedness and Site Security had been assigned. The referenced change should not have significant impact on emergency preparedness in that the previous Manager was designated the primary Emergency Director (ED), and continue to support the newly assigned Manager during transition. No facility changes were made but two enhancements were noted involving emergency response equipment. A new site ambulance was placed in service during January 2003, and a new fire engine was delivered on July 25, 2003.

(3) Conclusions

Program changes had no adverse impact on emergency preparedness.

b. Implementing Procedures (F3.02)

(1) Inspection Scope

Select implementing procedures were reviewed to determine if procedures were revised since the last inspection, and the adequacy of procedures in the implementation of the RC&EP.

(2) Observations and Findings

Since the last inspection, all implementing procedures were revised. The majority of the revisions were formatting changes and updates to maintain the effectiveness of the Plan.

(3) Conclusions

The revised procedures continue to implement the RC&EP.

c. Training and Staffing of Emergency Organization (F3.03)(1) Inspection Scope

Determine if emergency response training was provided to key emergency response personnel in accordance with Section 7.2 of the RC&EP. Review the adequacy of the licensee's notification system for activation and staffing of the Emergency Control Center (ECC) during off-hours.

(2) Observations and Findings

Key emergency response personnel (ED and alternates) were trained in accordance with Section 7.2 of the RC&EP. The annual refresher training provided personnel with a review of the major changes to the RC&EP and emergency procedures. The licensee discussed plans to improve training by conducting more frequent drills which would provide hands-on experience to response personnel. The inspector conducted an interview with a member of the licensee's staff designated as an interim ED. The interviewee was presented postulated accident conditions to evaluate for decision-making regarding classification and activation of the emergency organization. No problems were noted. The interviewee was both timely and correct in the emergency classification, protective action recommendations, and follow-up actions in response to the simulated accident conditions. The inspector observed the annual self-contained breathing apparatus (SCBA) refresher training provided to members of the Emergency Team. SCBA training included both instructions and hands-on training to demonstrate the proper donning techniques. Based on interviews and observations, the licensee's training program met commitments in Section 7.2 of the RC&EP.

The inspector examined documentation from the periodic notification drills demonstrating the estimated time of arrival by emergency response personnel to the ECC during emergencies on back shifts and off-hours. Drill documentation covering the fourth quarter of calendar year (CY) 2002 and the first quarter CY 2003, showed that human errors and equipment problems contributed to delays in contacting personnel for responding. Corrective actions were effective in resolving the delays.

(3) Conclusions

Key emergency response personnel (ED and alternates) were trained in accordance with Section 7.2 of the RC&EP. Corrective actions were effective in resolving human

errors and equipment problems associated with the timely notification of response personnel during off-hours and back shifts.

d. Offsite Support (F3.04)

(1) Inspection Scope

Licensee activities in the areas of training, agreements, and exercises were reviewed to determine if the licensee was periodically involving offsite support groups.

(2) Observations and Findings

The inspector conducted an interview with the newly appointed Director, New Hanover County Department of Emergency Management. The interviewee was very complimentary of the interface and the licensee's support on matters of mutual interest. Documentation and interviews indicated that the licensee was periodically contacting the offsite support groups to offer training, site tours, and provide changes to the RC&EP.

(3) Conclusions

The offsite support interface was properly maintained.

e. Drills and Exercises (F3.05)

(1) Inspection Scope

Section 7.3 of the RC&EP required a biennial exercise be performed involving the onsite emergency response organization and many of the offsite support agencies. This area was reviewed for adequacy in testing both onsite and offsite emergency response capability. The effectiveness of the licensee's critique to self identify areas of improvement was also reviewed.

(2) Observations and Findings

The last exercise was conducted November 14, 2001, and involved both onsite and offsite support organizations. The next exercise was scheduled for October 2003.

Documentation from drills and actual events during the period July 2002 through July 2003 was reviewed. Licensee critiques were effective in the identification of areas for improvement. Items requiring corrective actions were tracked via the plant-wide Regulatory Tracking System (RTS). No problems were noted. RTS was an effective tool for follow up on items identified during both drills and actual events.

(3) Conclusions

Drills and exercises were conducted at the frequency as required by the license. The critiques provided candid assessments of areas for improving the response during drills and/or actual events.

f. Emergency Equipment and Facilities (F3.06)(1) Inspection Scope

The ECC response equipment, instrumentation, and supplies used to evaluate and assess radiological conditions were examined to determine if maintained in a state of operational readiness.

(2) Observations and Findings

The inspector reviewed periodic surveillance sheets and observed an inventory and operability check of equipment at the ECC and staging areas. In addition, surveillance documentation for the Fire Brigade equipment was examined. Two items were observed at the ECC to have exceeded their shelf life (a full face-mask and package of gas sampling tubes). The licensee took prompt actions to replace equipment.

(3) Conclusions

The licensee took prompt actions to replace two items observed at the ECC to have exceeded their shelf life (a full face-mask and package of gas sampling tubes).

g. Follow up On Previously Identified Issues (F3.07)

(Open) IFI 70-1113/2001-05-01: Verify the corrective actions to ensure effective access control to incident scene, proper prioritization of actions in response to an injured victim, and contamination control surveys following potential release of material.

This item was discussed with the licensee and remains opened based on the licensee's drill critique which identified problems with access control to an incident scene.

h. Event Response(1) Inspection Scope

The inspector observed the licensee's response to an actual transportation accident on July 28, 2003, and a severe weather event on July 30, 2003.

(2) Observations and Findings

The ECC activation was both timely and orderly. The ED provided frequent and appropriate briefings. Both events were correctly assessed and classified as unusual events. Good team work was exhibited throughout the events. Adequate resources were available to respond to both situations.

(3) Conclusions

The emergency organization response was timely and appropriate to both a transportation and severe weather incident.

**6. Fire Safety (IP 88055)****a. Fire Safety of Processes, Equipment, and Storage Areas (O4.04)****(1) Inspection Scope**

The manufacturing processes, equipment, and material storage areas were reviewed to verify they were being operated in accordance with fire safety requirements.

**(2) Observations and Findings**

The inspector reviewed the operation of the sintering furnaces using hydrogen gas. The inspector observed that the fire safety systems on each furnace was properly operating and flame sensors were properly positioned in each hydrogen burn-off stack. The inspector observed that natural gas usage through the process areas was being adequately controlled. The inspector observed that combustible liquids were being adequately stored throughout the plant site. The inspector observed that bulk chemical storage areas and other fire-sensitive areas had no significant accumulations of combustible materials.

**(3) Conclusions**

The manufacturing processes, equipment, and material storage areas reviewed were being operated in accordance with fire safety requirements.

**b. Fire Protection Systems (O4.05)****(1) Inspection Scope**

Certain fire protection systems were examined to verify they were being maintained in proper condition for use.

**(2) Observations and Findings**

The inspector observed numerous portable fire extinguishers throughout the plant site and found that the fire extinguishers had been tested within the proper frequency. The inspector observed no fire extinguishers being stored such that corrosion would develop to cause a failure of the extinguisher integrity. The inspector also reviewed the weekly inspection documents performed by the emergency response staff. The inspection included the verification of the fire protection systems in place through the facility.

**(3) Conclusions**

Fire extinguishers observed throughout the plant were being adequately maintained to ensure proper condition for their operation.

## 7. Transportation (IP 86740) (R4)

The inspector reviewed the licensee's program for routine radioactive materials shipments to determine whether the licensee had established and was maintaining an effective program, to ensure radiological and nuclear safety in the packaging and delivery to a carrier of licensed radioactive materials, and to determine whether transportation activities were in compliance with the applicable NRC and the Department of Transportation (DOT) transport regulations noted below. During the inspection, transportation activities associated with fissile material shipments, including procedural guidance, quality control (QC) activities, and record completeness conducted in accordance with 10 CFR Part 71, and 49 CFR Parts 171-178 were reviewed.

10 CFR 71.5(a) requires that licensees who transport licensed material outside the confines of its plant or other place of use, or who delivers licensed material to a carrier for transport, shall comply with the applicable requirements of the regulations appropriate to the mode of transport of the DOT in 49 CFR Parts 170 through 189.

### a. Records of Completed Packages for Shipment

#### (1) Inspection Scope

Shipment records related to the preparation and delivery of completed packages for shipment of SNM were reviewed in order to verify proper shipping requirements.

#### (2) Observations and Findings

The inspector reviewed the documentation used for SNM shipments of  $UO_2$  powder and uranium hexafluoride ( $UF_6$ ) including, the Bill of Lading, Radioactive Material Shipment Record, Vehicle Inspection Report, Receipt and Loading Verification Checklist, Fuel Shipment Information Form, Container Log Sheet, and Health Physics Survey Forms. The inspector noted that the shipping records were complete and the information supplied on the shipping papers was appropriate.

#### (3) Conclusions

The licensee's records pertaining to shipments of SNM were appropriately completed and maintained.

### b. Preparation and Delivery of Completed Packages for Shipment

#### (1) Inspection Scope

The inspector examined the licensee's written procedures related to the preparation and delivery of completed packages for shipment of fissile material.

#### (2) Observations and Findings

The inspector verified that the licensee had acceptable procedures for the preparation of shipping packages and delivery of the packages to the carrier for shipment. For NRC

certified packaging, the package preparation and loading procedures incorporated the requirements of the applicable Certificate of Compliance (CoC). The inspector also verified that the appropriate personnel in the traffic department had current copies of the applicable DOT regulations.

The inspector reviewed new powder container (NPC) loading activities. The NPC loading operators used operating procedure No. 1339.01, DCP Powder Pack/Transfer for NPC Shipping, Revision 20, May 9, 2003. The inspector observed powder loading operations, reviewed the procedure and noted that the operators loaded the powder in a safe manner and in accordance with the operating procedure. The inspector observed that the operating procedure OP-1339.01 did not have provisions for the operators to perform a visual inspection of the crane, slings, hooks, and cables used to lift the NPC. This observation was made based on a review of UIRs during the last two years that involved four events pertaining to crane issues (crane hook release, fuel bundle drop, bridge crane issues). The licensee acknowledged the inspector's observations.

(3) Conclusion

The licensee's preparation and delivery of completed NPC packages was performed in a safe manner and in accordance with the operating procedure.

c. Shipping Procedures (R4.05)

(1) Inspection Scope

The inspector examined selected licensee written procedures related to shipment of fissile material.

(2) Observations and Findings

The inspector verified that the licensee had procedures for the preparation of shipping packages and delivery of the packages to the carrier for shipment. The inspector noted that there were no significant changes to the procedures since the last inspection of this program area. In addition, the procedures included the required elements specified in the operations section of the Safety Analysis Report (SAR). The inspector did note that the licensee's Traffic Instructions (TIs) were in need of review and revision. The inspector noted that the licensee had identified this issue with the TIs, hence, effort was underway to update the TIs and incorporate them into the operating procedure (OP) system.

(3) Conclusions

The operating procedures for the NRC certified packaging included the operational requirements specified in the NRC CoC and SAR.

d. Preliminary Determinations and Procurement of Packaging

(1) Inspection Scope

The inspector reviewed the licensee's procurement and acceptance testing process for selected NPC (NRC (CoC) number 9294) that had been purchased during the last 12 months.

(2) Observations and Findings

The inspector selected three NPCs that the licensee had purchased between December 2002 and March 2003. The licensee has a fleet of approximately 350 NPCs. The inspector reviewed the licensee's process for the acceptance testing of the NPC to assure that required quality assurance measures for initial use of packages per 49 CFR 173.474 were followed. Condition 6(b) of NRC CoC 9294 specified that each packaging must be acceptance tested and maintained in accordance with the Acceptance Tests and Maintenance Program in Chapter 8 of the Application. The inspector verified that the licensee had established a process to perform inspections for each of the NPCs noted above before the first use as required by 10 CFR 71.85. The inspector reviewed the GNF-A NPC Quality Plan which consisted of a compilation of GNF-A approved QA/QC procedures for the NPC, container specifications, purchase order and contract, contractor QA Plan, measuring and test equipment procedures, QC inspector qualifications, operator training records, welding procedure specifications, and acceptance testing. From discussions with quality engineering personnel, it was evident that the licensee was closely involved with the manufacturing of the NPC and provided direct oversight of the vendor by making frequent audits and inspections to ensure that the packages would be constructed in accordance with the container specifications. The inspector verified, with regard to reporting defects and noncompliances, that the NPC procurement documents included the statement that the provisions of 10 CFR Part 21 apply as required by 10 CFR 21.31. The licensee also conspicuously and durably marked the packaging with its model number, serial number, gross weight, and a package identification number assigned by the NRC in accordance with 10 CFR 71.85. The inspector also reviewed the Certificates of Conformance from the vendor for NPC serial numbers N-0502, N-0499, and N-0423. The certificates specified that the fabrication, inspection, and acceptance of both the outer confinement assembly (OCA) and inner containment cannister assembly (ICCA) of the NPC had been manufactured in strict accordance with the GNF-A purchase order. The inspector noted that the licensee had rejected receipt of N-0423 due to weld seam configuration deviations. The inspector discussed the weld deviations with the licensee's quality engineering representative who indicated that the package was returned to the vendor to have the weld deviation corrected. Upon return, the package was re-inspected and accepted. The inspector observed that the licensee was maintaining a file for each NPC that included the acceptance test results and certificates of conformance.

(3) Conclusions

The licensee's process to perform inspections of three NPCs before the first use was thorough and detailed. The management of the records pertaining to package fabrication and certifications was well organized.

e. Review of Transportation Unusual Incidents (R4.07)

(1) Inspection Scope

The inspector reviewed UIRs, as applicable to 10 CFR 71.95, involving the transportation of radioactive materials. The inspector reviewed the events since the last inspection of this program area with licensee representatives and discussed the appropriate corrective actions that were taken.

(2) Observations and Findings

The inspector reviewed UIRs involving the transportation of radioactive materials that occurred since the last inspection of this program area. A summary of the reviewed events is provided below:

<u>UIR Number</u>	<u>Date of Occurrence</u>	<u>Description of Event</u>
S&T-0302	04/10/2003	Tractor trailer loaded with full UF <sub>6</sub> cylinders from USEC Paducah overturned on Interstate 40.
S&T-0304	04/18/2003	Three of six Sea Vans containing UO <sub>2</sub> powder bound for Japan were labeled as radioactive Yellow II instead of the required Yellow III labels.

The inspector noted that the licensee was not the shipper in UIR shipping and transportation (S&T) number -0302, however, the licensee did dispatch a team to assess the containers before continuing shipment to the Wilmington facility.

The inspector also noted that for a shipment six Sea Vans containing UO<sub>2</sub> powder bound for Japan three were labeled as radioactive Yellow II instead of the required Yellow III labels. The licensee had identified that this occurred due to failure to change the feed stock in a label printer. Yellow II stock was loaded in the label printer instead of the Yellow III stock. This event was similar to one that occurred in June 2002 (see non-cited violation (NCV): 70-1113/2002-05-01: Violation of Department of Transportation package labeling requirements). The licensee's investigation included a root cause determination, immediate actions taken, and additional corrective and preventative actions taken.

The licensee identified the root causes to be as follows: (1) Previous corrective actions for a past event were not robust enough to prevent recurrence; (2) The individual preparing the shipment did not check that the correct radioactive material label stock was loaded into the label printer; and (3) the labels were not verified as correct following printing or when being applied to the packages. The corrective and preventative actions included: (1) Install a fourth label printer and network the label printers to eliminate the need to switch shipping label stock for a specific printer; (2) clearly label each dedicated printer for their intended use and include the use of these printers in the S&T

procedures; (3) brief and train all shipping personnel on the event and printer requirements; (4) install a fifth network label printer to handle the two different types of Japanese labels; (5) re-establish an independent second check (for both domestic and international shipments) of documentation, including labels, by a shipping staff member who is certified in hazardous material transportation to ensure that labeling is correct and consistent among shipping containers.

This self-identified, repetitive and corrected violation is being treated as a violation for failure to properly label a hazardous materials shipment (NOV: 70-1113/2003-05-01: Failure to follow DOT package labeling requirements).

(3) Conclusions

A violation was identified for the failure to properly label a hazardous materials shipment.

**8. Waste Generator Requirements (IP 84850) (R6)**

a. Inspection Scope

The inspector reviewed the licensee's program for preparing waste shipping manifests as it pertained to the requirements of 10 CFR 20.1001-20.2401, Appendix G to 10 CFR Part 20, and 10 CFR 61.55 and 61.56.

b. Observations and Findings

From a review of selected records for solid waste disposals, the inspector noted that the licensee had shipped noncombustible residues, soil mixture waste, debris items and  $\text{CaF}_2$  to a licensed waste burial facility in 2003. The inspector verified that the licensee provided an acceptable level of information in the shipping papers to determine the quantities of individual radionuclides shipped. In addition, the inspector selected and reviewed three waste shipping manifests and associated paper work for the period March - July 2003. The manifests were complete and met the applicable requirements of Appendix G to 10 CFR Part 20. The inspector also verified that the licensee had a procedure and program in place to track waste shipments. The inspector reviewed the licensee's waste shipment tracking log and verified that the licensee received an acknowledgment of receipt of the waste.

c. Conclusion

The waste shipping manifests were complete and provided an acceptable level of information in the shipping papers to determine the quantities of individual radionuclides shipped. The licensee's waste shipping tracking records were complete and well organized.

9. **Low Level Radioactive Waste Storage (IPs 84900, 88104) (R5)**

a. Inspection Scope

The licensee's storage of low-level radioactive waste (LLRW) was reviewed, including management controls, adequacy of the storage area, waste container integrity, waste reduction, and the status of the calcium fluoride relocation project.

b. Observations and Findings

The inspector discussed the progress in reducing quantities of solid waste and discrepant material stored in the outside storage areas or "pads" with the licensee. The inspector observed that the discrepant material was stored outside in either (1) five gallon canisters or (2) wooden incinerator boxes (which were to be incinerated onsite) and the waste, namely calcium fluoride ( $\text{CaF}_2$ ), was stored in lift liners (or "super sacks") until they were shipped to Envirocare. The five gallon canisters contained various forms of scrap (ash, recoverable scrap, and residue waste). The inspector discussed the volume of radioactive material on the storage pads in July 2003 to the previous year to assess performance in reducing the quantities of onsite waste storage. Although the data reviewed did not indicate a significant change in the volume of material on the storage pads from the previous year, the data did indicate that the generation of radioactive materials was decreasing in 2003 and that the quantities of radioactive material being shipped to a foreign facility for uranium recovery was increasing. The licensee anticipates that the net effect would be a volume reduction on the storage pads by 2004.

In addition, the inspector toured the radioactive material and waste storage pads. As noted in previous inspections, the pads consisted of several graveled surfaces each surrounded by a fence. All of the material was located within the controlled area of the facility. The containers were placed directly on the graveled surface. The inspector observed that the containers were in an acceptable condition to temporarily store the licensed material.

The inspector observed the  $\text{CaF}_2$  relocation activities for the East and West lagoons. At the time of this inspection, the licensee was in the final stages of the relocation of the  $\text{CaF}_2$  and clean out of the lagoons. During the next six months, the licensee plans to remove the lagoon liners, the asphalt underneath the liners, and to characterize the soil beneath the excavated asphalt. In addition, the licensee is planning to begin clean up of the final process lagoons that are no longer in service.

c. Conclusion

Although the total population of radioactive material containers had not changed significantly from the previous 12 months, the data indicated that the generation of radioactive materials was decreasing in 2003 and that the quantities of radioactive material being shipped to a foreign facility for uranium recovery was increasing with an anticipated net effect of a volume reduction on the storage pads by 2004. The non-recoverable waste and recoverable scrap containers stored on the outside storage

pads were in an acceptable condition to contain the licensed material. The  $\text{CaF}_2$  relocation and waste disposal activities were progressing at an acceptable rate.

**10. Exit Interview**

The inspection scope and results were summarized on August 1 and 7, 2003, 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. On September 5, 2003, the licensee was informed that the issue pertaining to the failure to follow DOT package labeling requirements would be identified as a repetitive, self-identified, and corrected violation. No dissenting comments were received from the licensee.

## ATTACHMENT

### 1. LIST OF PERSONS CONTACTED

#### Licensee

M. Allen, Program Manager, Emergency Preparedness and Site Security  
\*Q. AO, Principal Criticality Safety Engineer  
#D. Barbour, Radiation Protection Team Leader  
\*R. Crate, Manager, Fuel Manufacturing Operations  
#M. Creech, Specialist, Shipping and Traffic  
M. Fitzpatrick, Team Leader, Dry Conversion Project  
#R. Foleck, Program Manager, Facility Licensing  
\*P. Godwin, Site Emergency Response Chief  
\*R. Haughton, Principal Engineer, FMO Technology  
R. Keenan, Team Leader, Dry Conversion Project  
\*#H. Knight, Manager, Logistics  
\*#A. Mabry, Program Manager, Radiological Engineering  
\*P. Mathur, Environmental, Health and Safety Specialist  
\*#R. Martyn, Manager, Material Control and Accounting  
G. Mobley, Coordinator, Maintenance  
\*C. Monetta, Manager, Environment, Health and Safety  
\*P. Ollis, Manager, Industrial Hygiene and Safety  
R. Pace, Manager, Environmental Projects  
\*L. Paulson, Manager, Nuclear Safety  
\*E. Saito, Environmental, Health and Safety - Black Belt (Six Sigma)  
#A. Scott, Lead Auditor, GNF-A Quality  
#G. Smith, Manager, Integrated Safety  
\*S. Smith, Radiation Safety  
\*H. Strickler, Manager, Site Environmental, Health and Safety  
\*C. Vaughan, Manager, Facility Licensing

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

\* Attended exit meeting on August 1, 2003

# Attended exit meeting on August 7, 2003

#### Other Organizations

W. Lee, Director, Emergency Management New Hanover County  
M. George, Specialist, Emergency Management New Hanover County

### 2. INSPECTION PROCEDURES USED

IP 86740	Transportation
IP 84850	Radioactive Waste Management- Waste Generator Requirements
IP 84900	Low Level Radioactive Waste Storage
IP 88104	Decommissioning
IP 88005	Management Organization and Controls

IP 88010 Operator Training  
 IP 88020 Regional Nuclear Criticality Safety Inspection Program  
 IP 88050 Emergency Preparedness  
 IP 88055 Fire Protection

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

<u>Item Number</u>	<u>Status</u>	<u>Description</u>
70-1113/2001-05-01	Open	IFI - Verify the corrective actions to ensure effective access control to incident scene, proper prioritization of actions in response to an injured victim, and contamination control surveys following potential release of material (Paragraph 5.g).
70-1113/2003-05-01	Open	VIO - Failure to follow Department of Transportation package labeling requirements (Paragraph 7.e)

### 4. **LIST OF ACRONYMS USED**

ADAMS	Agency-Wide Document Access and Management System
CaF <sub>2</sub>	Calcium Fluoride
CFR	Code of Federal Regulations
CoC	Certificate of Compliance
CY	Calendar Year
DCP	Dry Conversion Process
DOT	Department of Transportation
ECC	Emergency Control Center
ED	Emergency Director
GNF-A	Global Nuclear Fuels-Americas
HF	Hydrofluoric Acid
ICCA	Inner Container Cannister Assembly
IFI	Inspector Follow up Item
IP	Inspection Procedure
LLRW	Low Level Radioactive Waste
P/P	Plant Procedure
NCS	Nuclear Criticality Safety
NCV	Non-cited violation
NOV	Notice of Violation
NPC	New Powder Container
NRC	Nuclear Regulatory Commission
OCA	Outer Confinement Assembly
OP	Operating Procedure
PARS	Public Available Records System
PRI	Procedure Responsibilities and Instructions
QA	Quality Assurance
QC	Quality Control

RC&EP	Radiological Contingency and Emergency Plan
RSC	Radiation Safety Committee
RTS	Regulatory Tracking System
S&T	Shipping and Transportation
SAR	Safety Analysis Report
SCAT	Stockfile Commodities Add Traveler
SCBA	Self-Contained Breathing Apparatus
SNM	Special Nuclear Material
TIs	Traffic Instructions
UIRs	Unusual Incident Reports
UF <sub>6</sub>	Uranium Hexafluoride
UO <sub>2</sub>	Uranium Dioxide
USEC	United States Enrichment Corporation
VIO	Violation
WSRC	Wilmington Safety Review Committee