

November 18, 2011

EN47161, EN47220, EN47265, EN47269, EN47308

Ms. Nicole Holmes
COO & Facility Manager
Global Nuclear Fuel - Americas, LLC
P.O. Box 780
Wilmington, NC 28402

SUBJECT: INSPECTION REPORT NO. 70-1113/2011-203

Dear Ms. Holmes:

The U.S. Nuclear Regulatory Commission (NRC) conducted a routine announced nuclear criticality safety (NCS) inspection of your facility in Wilmington, North Carolina, from October 24-27, 2011. The purpose of the inspection was to determine whether operations involving special nuclear material were conducted safely and in accordance with regulatory requirements. Inspection observations and findings were discussed with members of your staff and management throughout the inspection. An exit meeting was conducted at the conclusion of the inspection on October 27, 2011.

The inspection, which is described in the enclosure, focused on the most hazardous activities and plant conditions; the most important controls relied on for safety and their analytical basis; and the principal management measures for ensuring controls are available and reliable to perform their functions relied on for safety. The inspection consisted of analytical basis review, selective review of related procedures and records, examinations of relevant NCS-related equipment, interviews with NCS engineers and plant personnel, and facility walkdowns to observe plant conditions and activities related to safety basis assumptions and related NCS controls. Throughout this inspection, observations were discussed with your managers and staff.

Based on the results of this inspection, the NRC has (also) determined that one Severity Level IV violation of NRC requirements occurred. This violation is being treated as Non-Cited Violation (NCV), consistent with Section 2.3.2 of the Enforcement Policy. The NCV is described in the subject inspection report. If you contest the violation or significance of the NCV, you should provide a response within 30 days of the date of this inspection report, with the basis for your denial, to the Nuclear Regulatory Commission, ATTN: Document Control Desk, Washington DC 20555-0001, with copies to: (1) Chief, Technical Support Branch, Division of Fuel Cycle Safety and Safeguards, NMSS, (2) the Regional Administrator, Region II, and (3) the Director, Office of Enforcement, United States Nuclear Regulatory Commission, Washington, DC 20555-0001.

N. Holmes

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In accordance with 10 CFR 2.390 of the NRC's "Rules of Practice," a copy of this letter, its enclosure(s), and your response, will be made available electronically for public inspection in the NRC Public Document Room or from the NRC's Agency-Wide Document Access and Management System (ADAMS). ADAMS is accessible from the NRC Web site at <http://www.nrc.gov/reading-rm/adams.html>. To the extent possible, your response should not include any personal privacy or proprietary, information so that it can be made available to the Public without redaction.

If you have any questions concerning this report, please contact Thomas Marenchin, of my staff, at (301) 492-3209.

Sincerely,

/RA/

Thomas Hiltz, Chief
Technical Support Branch
Division of Fuel Cycle Safety
and Safeguards
Office of Nuclear Material Safety
and Safeguards

Docket No.: 70-1113

Enclosures: Inspection Report No.
70-1113/2011-203

Attachment: Supplementary Information

cc: w/enclosures: Scott Murray
Global Nuclear Fuels –
Americas, LLC

cc: w/o enclosures:
Beverly O. Hall
North Carolina Department
of Environmental
Health and Natural Resources

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cc: w/enclosures: Scott Murray
Global Nuclear Fuels -
Americas, LLC

cc: w/o enclosures: Beverly O. Hall
North Carolina Department
of Environmental
Health and Natural Resources

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**U.S. NUCLEAR REGULATORY COMMISSION
OFFICE OF NUCLEAR MATERIAL SAFETY AND SAFEGUARDS**

Docket No.: 70-1113

License No.: SNM-1097

Report No.: 70-1113/2011-203

Licensee: Global Nuclear Fuel - Americas, LLC

Location: Wilmington, North Carolina

Inspection Dates: October 24-27, 2011

Inspector: Thomas Marenchin, Criticality Safety Inspector
Tamara Powell, Criticality Safety Inspector

Approved: Thomas Hiltz, Chief
Technical Support Branch
Division of Fuel Cycle Safety
and Safeguards
Office of Nuclear Material Safety
and Safeguards

Enclosure

EXECUTIVE SUMMARY

Global Nuclear Fuel - Americas, LLC Fuel Fabrication Facility NRC Inspection Report 70-1113/2011-203

Introduction

Staff of the U.S. Nuclear Regulatory Commission (NRC) performed a routine and announced nuclear criticality safety (NCS) inspection at Global Nuclear Fuel - Americas (GNF), LLC, fuel fabrication facility in Wilmington, North Carolina, from October 24-27, 2011 which included an on-site review of the licensee's NCS program, NCS analyses, NCS-related audits and investigations, and plant operations. The inspection focused on risk-significant fissile material processing activities including the dry conversion process (DCP), dry scrap recovery (DSR), gadolinium scrap recovery, pellet pressing operations, outside storage pads, bundle assembly areas, sintering furnaces, gadolinium processing, waste recovery, and ceramics.

Results

- No safety concerns were identified during review of the licensee's NCS program and NCS analyses.
- No safety concerns were identified during review of NCS administrative and operating procedures.
- No safety concerns were identified during review of NCS audits.
- A Non-cited Violation was identified related to the failure to demonstrate that the double contingency principle was maintained for the scrap accumulation hoods.
- No safety concerns were identified during a review of the licensee's criticality warning system (CWS).
- No safety concerns were identified during walkdowns of plant operations.

REPORT DETAILS

1.0 Plant Status

GNF, LLC manufactures uranium dioxide (UO_2) powder, pellets, and light water reactor fuel bundles at its Wilmington, NC facility. During the inspection, the facility was converting uranium hexafluoride (UF_6) to UO_2 in DCP and performing normal powder, UO_2 and gadolinia pellet and fuel fabrication operations. Waste operations consisted primarily of packaging and storage of dry waste and processing of wet sanitary waste.

2.0 Nuclear Criticality Safety Program (IP 88015 & 88016)

a. Inspection Scope

The inspectors reviewed NCS analyses to determine that criticality safety of risk-significant operations was assured through engineered and administrative controls, with adequate safety margin and preparation and review by qualified staff. The inspectors accompanied NCS and other technical staff on walkdowns of NCS controls in selected plant areas. The inspectors reviewed selected aspects of the following documents:

- "Criticality Safety Analysis [CSA] 2100.01 FMOX Scrap Pack," Revision 0, dated April 2011
- "CSA – UF_6 Cylinder Storage and UF_6 Heel Cylinder Shipment," Revision 1, dated September 1, 2005
- "CSA – UF_6 Cylinder Storage and UF_6 Heel Cylinder Shipment," Revision 2, dated August 22, 2006
- "Criticality Safety Summary [CSS]: Furnace Room Trench," Revision 0, dated May 9, 2008
- Qualitative Risk Assessment [QRA]-101, " UF_6 Cylinder Handling," Revision 1, dated October 24, 2011
- QRA-405/504, "Fabrication – Sinter," Revision 0, dated August 2011

b. Observations and Findings

The inspectors observed that there was a disconnection between the licensees' CSAs and the new QRAs that are being established as part of the ongoing integrated safety analysis (ISA) project. This is partly due to some of the CSAs being generated before the licensee started working on the ISA and QRAs and also because the CSAs in the past had been generated on their own without consideration of their role in the ISA. The licensee issues QRAs to cover a specific area in the facility. The CSAs, on the other hand, cover a piece of equipment or a process in the area so that multiple CSAs may be covered by one QRA. The inspectors observed that it is, at times, difficult to understand the controls that the licensee is relying on to meet the Double Contingency Principle and the requirements of 10 CFR 70.61 when transitioning between multiple CSAs for an area to the QRA. The licensee management and staff have also identified this disconnect between the QRAs and CSAs and plan that in the future the CSAs will be revised.

At this time the licensee did not commit to updating the CSAs to help align them with the QRAs. The inspectors determined that NCS analyses were performed by qualified NCS engineers and independent reviews were completed for the evaluations by other qualified NCS engineers. The inspectors determined that appropriate NCS controls were identified in NCS analyses and that the controls assured the safety of the operations

c. Conclusions

No safety concerns were identified during review of the licensee's NCS program and NCS analyses.

3.0 Administrative and Operating Procedures (IP 88015)

a. Inspection Scope

The inspectors reviewed licensee NCS administrative and operating procedures to determine if the NCS program is adequately controlled through adherence to approved written procedures. The inspectors reviewed selected aspects of the following documents:

- OP [Operational Procedure]1320.00 "DCP General," Revision 68, dated October 25, 2011
- OP 1080.70, "UF₆ Cylinder Dock," Revision 46, dated August 22, 2011
- TD [Training Document] 101-01, "UF₆ Cylinder Skin Temperature," Revision 0, dated October 24, 2011
- TD 101-05, "Visual Inspection of UF₆ Cylinders Following an off Normal Event," Revision 0, dated October 24, 2011

b. Observations and Findings

The inspectors evaluated licensee administrative procedures controlling NCS reviews, NCS internal audits, and NCS records. The inspectors interviewed licensee managers and NCS engineers on the new training that is given to maintenance personnel on the updated ISA. The inspectors noted that the licensee is working to ensure that the maintenance personnel understand the new controls being labeled as items relied on for safety (IROFS) and the maintenance personnel have a better understanding of the controls, their importance, and why the controls have been established. The inspectors determined that the licensee's NCS program is adequately controlled through compliance with approved administrative and operating procedures.

c. Conclusions

No safety concerns were identified during review of NCS administrative and operating procedures.

4.0 Nuclear Criticality Safety Inspections, Audits, and Investigations (IP 88015)

a. Inspection Scope

The inspectors reviewed licensee internal audit procedures, records of previously completed audits of fissile material operations, and records of NCS infractions. The inspectors reviewed selected aspects of the following documents:

- Audit, "Incinerator, Oil Storage, and Warehouse," dated May 3, 2011
- Audit, "DCP: Vaporization, Conversion, and Powder-Outlet," dated May 10, 2011
- Audit, "Fab UO₂, Press and Freed, and Sinter," dated May 24, 2011
- Audit, "Bundle Assembly, Outter Pack, and Tube Storage," dated May 31, 2011
- Audit, "Shipping Warehouse," dated June 28, 2011

b. Observations and Findings

The inspectors found that NCS audits were conducted according to procedural requirements. The inspectors noted that NCS audits were focused on determining that plant operational requirements conform to those listed in the applicable NCS specification documents. The inspectors observed that licensee staff carried a copy of the applicable NCS requirements; examined NCS postings, labels, and other controls; and identified appropriate NCS-related deficiencies.

c. Conclusions

No safety concerns were identified during review of NCS audits.

5.0 Nuclear Critically Safety Event Review and Follow-up (IP 88015)

a. Inspection Scope

The inspectors reviewed a recent NCS-related event that the licensee had reported to NRC. Also, the inspectors reviewed the licensee's response to internally reported events. The inspectors reviewed the progress of investigations and interviewed licensee staff regarding immediate and long-term corrective actions. The inspectors reviewed selected aspects of the following documents:

- ATS 3135, "Convert CSS into CSA," dated September 29, 2011
- ATS 3148, "Submit 24 hour notification to NRC," dated September 29, 2011
- ATS 3149, "Submit 30 day written report to NRC," dated September 29, 2011
- ATS 3150, "Root Cause Analysis," dated September 30, 2011
- "CSA – Waste Oil Transfer Drum," Revision 1, dated March 27, 2000
- "CSS: Furnace Room Trench," Revision 1, dated May 9, 2008
- "CSS: MRA – General – Cleaning," Revision 0, dated August 14, 1997
- GenSuite Event #423, dated September 14, 2011
- GenSuite Event #424, dated September 13, 2011
- QRA-80.4, "Decontamination Facility – Waste Drum Control," dated August 27, 2008

- “TapRoot Investigation Report – Decon Area Overweight Oil Can,” dated October 11, 2011
- TOP [Temporary Operating Procedure] 8596, “Moderation Control for Scrap Hoods,” Revision 0, dated September 13, 2011
- TOP 8706, “Disposition of Used Oil in 2.5 Gal. Cans,” dated October 4, 2011

b. Observations and Findings

The inspectors reviewed selected licensee internally-reported events. The inspectors observed that internal events were investigated in accordance with written procedures and appropriate corrective actions were assigned. The inspectors had no safety concerns regarding the licensee’s reporting, investigation, and correction of internal NCS related events.

Event Notice 47161

During a review of the ISA for the FMO and facility walk downs of the UO₂ sinter furnace area, the licensee identified a configuration that had not been properly analyzed. The licensee review of this as-found condition, determined that a floor trench in the furnace area was improperly analyzed in a criticality safety evaluation. This resulted in a condition in which criticality controls that were documented as being necessary to meet double contingency were not maintained or available because the geometry of the trench was not properly modeled. There was not an actual loss of double contingency.

The floor trench typically does not contain uranium, and has removable covers in place to prevent material accumulation and per procedure, is routinely inspected. The licensee inspected the trench during the spring maintenance shut down and was inspected again when the configuration was identified. These inspections confirmed that no visible uranium accumulation was present. At no time was an unsafe condition present. The event was reported pursuant to GNF-A internal procedure reporting requirements within 24 hours of discovery.

The inspectors reviewed the event during the inspection. This equipment was still covered under the old ISA that the licensee is working to improve and was considered an incredible accident scenario under the old ISA. The inspectors determined that the licensee had other controls for this accident scenario in place at the time of the event that were not credited in the old ISA. Specifically, the trenches were required to be covered while the furnace was in operation. When the covers are removed the trenches are attended by plant personnel when the furnace is in operation. By procedure the trenches are inspected at least annually. The licensee had documented in the CSS that the two controls that were being relied on were the geometry of the trenches and the mass of material that could accumulate. Although not credited in the ISA, the inspectors determined that the controls that were left in place at the time of the event would have prevented the event. The inspectors determined that the licensee had not properly documented all the controls that were protecting the facility against a nuclear criticality for this accident sequence. The licensee conservatively reported this event to the NRC using their internal reporting procedure. The floor trench being larger than the volume specified in the CSS is a failure to establish and maintain an NCS controlled parameter. Section 5.1.1 of the license application states, in part, that GNF-A commits to “establishing and

maintaining NCS controlled parameters and procedures.” The loss of control over the volume of the sinter furnace trench volume is a failure to establish and maintain an NCS controlled parameter. The inspectors determined that issue was of minor safety significance, the issue was corrected, and that it constitutes a violation of minor significance that is not subject to enforcement action in accordance with Section 2.2.2 of the Enforcement Policy. This event notification is closed.

Event Notice 47265

During a review of the FMO ISA documentation for scrap accumulation hoods, the licensee identified procedural actions that were different than described in the criticality safety analysis. The licensee determined that small amounts of moderator were not prevented from being moved into the hoods which resulted in a condition where moderation control may not have been maintained. The event was conservatively reported to the NRC under GNF-A internal procedure on September 14, 2011.

The inspectors reviewed the event during the inspection. The inspectors determined that in the UO₂ shop press room operators would occasionally find pellets during periodic inspection of the sump. These oily pellets would be wrapped in plastic, placed into a beaker, labeled as “oily pellets” and then put on a beaker cart. The scrap stream for this scrap were the same as the dry scrap. The inspectors determined that there were no controls prohibiting moderator from the hoods. The criticality safety analysis for the hoods included a limit on moderating materials but there were no specific requirements to limit moderated material from entering the hood. The inspectors determined that the operating procedure did not specifically address oily pellets or details on controlling moderating material from entering the hood. In response to the event, the licensee issued a temporary operating instruction providing specific actions for controlling moderator. Section 5.1.1, of the license application states, in part, that the Double Contingency Principle is “the fundamental technical basis for design and operation of processes within the GNF-A fuel manufacturing operations using fissile materials.” As such, “process designs shall incorporate sufficient margins of safety to require at least two unlikely, independent, and concurrent changes in process conditions before a criticality accident is possible.” The criticality safety analysis for the hoods had a control on geometry, which was maintained, however the inspectors determined that the control on moderation was not maintained. This non-repetitive, licensee identified and corrected violation is being treated as a Non-cited Violation consistent with Section 2.3.2 of the NRC Enforcement Policy. The failure to demonstrate that the double contingency principle was maintained for the scrap accumulation hoods is **Non-cited Violation (NCV) 70-1113/2011-203-01**. This event notification is closed.

Event Notice 47269

During a review of the ISA for the FMO ISA and walkdown of the Heating Ventilation and Air Conditioning systems in the decontamination area, the licensee identified that a can of used oil with a gross weight in excess of the limit specified in the criticality safety requirements was incorrectly processed. The waste can weight check is credited as an IROFS in the ISA. On September 16, 2011, the event was reported to the NRC under the requirements of 10 CFR 70, Appendix A (b)(2), as a loss of an IROFS.

The inspectors reviewed the event during the inspection. The inspectors determined that the criticality safety requirements state that 2.5 gallon waste oil cans must be filled to at least 1 inch from the top of the oil container and the can's gross weight must not exceed 9.58 kg before being dumped into a 55-gallon drum. The weight of the can that was improperly transferred was 11.05 kg. The inspectors reviewed the criticality safety analysis and determine that multiple overweight cans would have to be processed before approaching the safe mass limit for the 55 gallon drum. The inspectors reviewed the ISA and determined that even with the loss of the IROFS, the performance requirements were still met. Section 5.1.1 of the license application states, in part, that GNF-A commits to "establishing and maintaining NCS controlled parameters and procedures." The inspectors determined the loss of the mass control on the 2.5 gallon waste oil cans as a failure to establish and maintain an NCS controlled parameter. The inspectors determined that issue was of minor safety significance, the issue was corrected, and that it constitutes a violation of minor significance that is not subject to enforcement action in accordance with Section 2.2.2 of the Enforcement Policy. This event notification is closed.

Event Notice 47308

During a review of the ISA and criticality evaluation assumptions for a floor cleaning scrubber used in the DCP facility, the licensee identified that an equipment configuration was different than that analyzed in the ISA. Licensee staff performed field verifications of the floor cleaning scrubber recovery tank and determined that its capacity (volume) was greater than the safe volume limit referenced in the analysis. The tank volume is credited as an IROFS in the ISA summary. The event was reported under the requirements of 10 CFR 70 Appendix A (b)(1).

The licensee performed inspections on all of the tanks for the floor cleaning scrubbers and found that no buildup of material was found inside of the tanks. The licensee determined that unsafe condition did not exist at the time of discovery. The licensee suspended operation of the equipment pending additional review and implementation of corrective actions to prevent reoccurrence.

The inspectors reviewed the event during the inspection. The inspectors determined that the licensee had other controls for this accident scenario in place that were not credited in the ISA. The floor cleaning scrubber is used to clean the floors in DCP. If a spill of uranium powder were to occur, the licensee staff has been trained on IROFS 900-04 which requires the personnel to use appropriate personal protective equipment required by procedure to clean up a spill or buildup of powder greater than 5 kgs. In addition to cleaning up the spill to recover the powder the staff is trained to notify Radiation Protection of any potential spread of contamination. The powder cannot be recovered if the floor cleaning scrubber is used. The floor cleaning scrubber has a float switch installed that would shut the floor scrubber off when the fluid inside of the scrubber reached 21 liters. The licensee staff agreed that the floor cleaning scrubber that was in use on the process floor was a larger volume size than was originally specified in the CSS. The inspectors determined that the licensee had not properly documented all of the controls that were protecting the facility against a nuclear criticality for this accident sequence. The inspectors determined that the licensee was still meeting the performance requirements of 10 CFR 70.61 when the additional controls were considered but the licensee choose to

conservatively report the event under the requirements of 10 CFR 70 Appendix A (b)(1). Section 5.1.1 of the license application states, in part, that GNF-A commits to “establishing and maintaining NCS controlled parameters and procedures.” The floor scrubber volume being larger than the volume specified in the CSS is a failure to establish and maintain an NCS controlled parameter. The inspectors determined that issue was of minor safety significance, the issue was corrected, and that it constitutes a violation of minor significance that is not subject to enforcement action in accordance with Section 2.2.2 of the Enforcement Policy. This event notification is closed.

c. Conclusions

No safety concerns were identified during review of the NCS event review and follow-up.

6.0 Criticality Accident Alarm Systems (IP 88017)

a. Inspection Scope

The inspectors reviewed documentation of criticality accident alarm detector coverage, interviewed engineering and maintenance staff, and performed facility walkdowns to determine the adequacy of the licensee criticality alarm system. The inspectors reviewed selected aspects of the following documents:

- ATS Finding ID 3012, dated August 31, 2011
- ATS Finding ID 3013, dated August 31, 2011
- Drawing No. 2054D95, “Criticality Warning System Data Acquisition Module (DAM) 21 Pad 7 Battery Charger/Alarm System,” dated January 8, 1996
- GenSuite Event #408, dated August 29, 2011
- Preventive Maintenance Work Order No. 350210, “DAM 21, Battery Control Module Test Procedure,” dated December 29, 2010
- Preventative Maintenance Work Order No. 91549, “Replace Batteries in the Battery Backup System for the Outside Criticality System,” dated August 26, 2005
- Technical Report No. NDA-CWS-001, “GNFA Criticality Warning System,” Revision 67, dated March 2008

b. Observations and Findings

The inspectors reviewed the licensee’s criticality alarm detector placement to determine that the system remained in accordance with license requirements. The inspectors observed the locations of selected criticality alarm detectors during plant walkdowns. The inspectors reviewed a recent event related to the criticality accident alarm system that the licensee had reported to the NRC, however reportable events EN47047 (7/13/11), EN47061 (7/15/11) and EN47066 (7/17/11) related to criticality warning system inoperability were not reviewed during this inspection.

Event Notice 47220

During troubleshooting of an outdoor Criticality Accident Alarm System (CAAS) DAM #21, the licensee discovered that the module had inadequate voltage to sound its local alarm

horn in the Wilmington Field Services Center building #1. The licensee reported the event under the requirements of 10 CFR 70.50 (b)(2) on August 29, 2011. The licensee repaired the module and the system was returned to normal. The licensee determined that a failed thermally damaged AC to DC connector related to the loss of offsite AC power (due to weather) contributed to the cause of the event.

The inspectors reviewed the event during the inspection. The inspectors determined that the correct module had been repaired and that corrective actions assigned were appropriate and entered into the licensee's tracking system. This event notification is closed.

c. Conclusions

No safety concerns were identified during a review of the licensee's CWS.

7.0 Plant Operations (IP 88015)

a. Inspection Scope

The inspectors performed plant walkdowns to review activities in progress and to determine whether risk-significant fissile material operations were being conducted safely and in accordance with regulatory requirements. The inspectors interviewed operators, NCS engineers, and process engineers both before and during walkdowns.

b. Observations and Findings

The inspectors performed walkdowns of the DCP, dry scrap recovery, gadolinium scrap recovery, and pellet pressing operations. The inspectors observed that the licensee is in the process of posting IROFS identification stickers on equipment in the facility. The inspectors did not identify any safety concerns during facility walkdowns.

c. Conclusions

No safety concerns were identified during walkdowns of plant operations.

8.0 Exit Meeting

The inspector communicated observations and findings to the licensee's management and staff throughout the week of the inspection and presented the final results to the licensee's management during an exit meeting held on October 27, 2011. The licensee management acknowledged the results of the inspection and understood the findings presented.

SUPPLEMENTARY INFORMATION

1.0 Items Opened, Closed, and Discussed

Items Opened

NCV 70-1113/2011-203-01 Failure to demonstrate that the double contingency principle was maintained for the scrap accumulation hoods

Items Closed

NCV 70-1113/2011-203-01 Failure to demonstrate that the double contingency principle was maintained for the scrap accumulation hoods

Items Discussed

None.

2.0 Event Reports Reviewed

EN 47308 DCP floor cleaning scrubber. **Closed**

EN 47220 CAAS Horn. **Closed**

EN 47265 Scrap Accumulation Hoods. **Closed**

EN47269 Waste oil can. **Closed**

EN 47161 FMO sinter furnace floor trench. **Closed**

3.0 Inspection Procedures Used

IP 88015 Nuclear Criticality Safety Program
IP 88016 Nuclear Criticality Safety Evaluations and Analyses
IP 88017 Criticality Alarm Systems

Attachment

4.0 Key Points of Contact

Global Nuclear Fuel

F. Beaty	Manager, DCP
J. DeGolyer	Criticality Safety Engineer
M. Dodds	Senior, Criticality Safety Engineer
J. Hawkins	Manager, MC&A Program
N. Holmes	Facility Manager, GNF-A Chief Operating Officer
A. Kennedy	Manager, ISA
A. Mabry	Manager, Radiation Safety Program
S. Murray	Manager, Licensing
P. Ollis	Licensing Engineer
L. Paulson	GEH Manager, Nuclear Safety Programs
J. Reynolds	Manager, Fuels EHS
J. Rohner	Criticality Safety Engineer
M. Venters	Manager, Emergency Preparedness and Site Security
J. Zino	Manger, Criticality Safety Engineer

NRC

T. Marenchin	Criticality Safety Inspector
T. Powell	Criticality Safety Inspector

All attended the exit meeting on October 27, 2011.

5.0 List of Acronyms and Abbreviations

ADAMS	Agency-wide Documents Access and Management System
CSA	criticality safety analysis
CWS	criticality warning system
DCP	dry conversion process
DSR	dry scrap recovery
EN	event notice
FMO	fuel manufacturing operation
GNF	Global Nuclear Fuels - America (licensee)
IP	inspection procedure
IROFS	item relied on for safety
ISA	Integrated Safety Analysis
MRA	moderator restricted area
NCS	nuclear criticality safety
NMSS	Office of Nuclear Material Safety and Safeguards
NSR/R	Nuclear Safety Release/Requirements
NSI	Nuclear Safety Instruction
OP	Operational Procedure
QRA	Qualitative Risk Assessment
TOP	Temporary Operating Procedure
UO ₂	uranium dioxide
WFSC	Wilmington Field Service Center