

April 2, 2014

EN49279

Mr. Dominique Grandemange
Site Manager
AREVA NP, Inc.
2101 Horn Rapids Road
Richland, WA 99352-5102

SUBJECT: AREVA NP, INC. (RICHLAND) – NUCLEAR REGULATORY COMMISSION
INSPECTION REPORT NUMBER 70-1257/2014-201

Dear Mr. Grandemange:

The U.S. Nuclear Regulatory Commission (NRC) conducted a routine, announced nuclear criticality safety (NCS) inspection at your Richland Horn Rapids Road facility in Richland, Washington, from March 3-6, 2014. The purpose of the inspection was to determine whether activities involving special nuclear material (SNM) were conducted safely and in accordance with your license and regulatory requirements. Throughout the inspection, observations were discussed with your staff. An exit meeting was held on March 6, 2014, during which inspection observations and findings were discussed with your management and staff.

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. Based on the inspection, your activities involving nuclear criticality hazards were found to be conducted safely and in accordance with regulatory requirements.

In accordance with Title 10 of the *Code of Federal Regulations* 2.390 of NRC's "Rules of Practice," a copy of this letter and the enclosure will be made publicly available in the public electronic reading room of the NRC's Agencywide Documents Access and Management System (ADAMS). ADAMS is accessible from the NRC Web site at <http://www.nrc.gov/reading-rm/adams.html>.

D. Grandemange

- 2 -

If you have any questions concerning this report, please contact Jeremy Munson of my staff at (301) 287-9148, or via email to Jeremy.Munson@nrc.gov.

Sincerely,

/RA/

Michael X. Franovich, Chief
Programmatic Oversight and
Regional Support Branch
Division of Fuel Cycle Safety
and Safeguards
Office of Nuclear Material Safety
and Safeguards

Docket No.: 70-1257
License No.: SNM-1227

Enclosure:
NRC Inspection Report 70-1257/2014-201
w/Attachment: Supplementary Information

cc w/encl: (See page 3)

D. Grandemange

- 2 -

If you have any questions concerning this report, please contact Jeremy Munson of my staff at (301) 287-9148, or via email to Jeremy.Munson@nrc.gov.

Sincerely,

/RA/

Michael X. Franovich, Chief
Programmatic Oversight and
Regional Support Branch
Division of Fuel Cycle Safety
and Safeguards
Office of Nuclear Material Safety
and Safeguards

Docket No.: 70-1257
License No.: SNM-1227

Enclosure:
NRC Inspection Report 70-1257/2014-201
w/Attachment: Supplementary Information

cc w/encl: (See page 3)

DISTRIBUTION:

FCSS r/f MCrespo, RII JDiaz, RII MDiaz, FCSS KMcCallie, RII
MSykes, RII RJohnson, FCSS

ML14085A432

OFFICE	NMSS/FCSS	NMSS/FCSS	RII/DFFI	NMSS/FCSS	NMSS/PORSB
NAME	JMunson	TSippel	NPeterka	TBrockington	MFranovich
DATE	3/27/2014	3/27/2014	3/26/2014	3/31/2014	4/2/2014

OFFICIAL RECORD COPY

D. Grandemange

- 3 -

cc w/encl:

Loren J. Maas, Manager
Licensing and Compliance
Areva NP, Inc.
Electronic Distribution

Calvin D. Manning, Manager
Nuclear Criticality Safety
Areva NP, Inc.
Electronic Distribution

Robert E. Link, Manager
Environmental, Health, Safety & Licensing
Areva NP, Inc.
Electronic Distribution

David Jansen, Director
Office of Radiation Protection
Department of Health
PO Box 47827
Olympia, Washington 98504-7827
david.jansen@doh.wa.gov

Earl Fordham, Deputy Director
Office of Radiation Protection
Department of Health
309 Bradley Boulevard, Suite 201
Richland, Washington 99352

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

Docket No.: 70-1257

License No.: SNM-1227

Report No.: 70-1257/2014-201

Licensee: AREVA NP, Inc.

Location: Richland, WA

Inspection Dates: March 3 - 6, 2014

Inspector(s): Jeremy Munson, Criticality Safety Inspector (Trainee)
Timothy Sippel, Criticality Safety Inspector
Nicholas Peterka, Fuel Facility Inspector

Approved by: Michael X. Franovich, Chief
Programmatic Oversight and
Regional Support Branch
Division of Fuel Cycle Safety
and Safeguards
Office of Nuclear Material Safety
and Safeguards

Enclosure

EXECUTIVE SUMMARY

AREVA NUCLEAR POWER, INC., - RICHLAND U.S. NUCLEAR REGULATORY COMMISSION INSPECTION REPORT NO. 70-1257/2014-201

Introduction

Staff of the U.S. Nuclear Regulatory Commission (NRC) performed a routine, announced nuclear criticality safety (NCS) inspection of the AREVA Nuclear Power Inc. (AREVA NP) facility in Richland, Washington, from March 3 - 6, 2014. The inspection included an onsite review of the licensee's NCS program, new and revised NCS analyses, validation, NCS audits and investigations, plant operations, the criticality accident alarm system, and internal NCS event review and follow-up. The inspection focused on risk-significant fissile material processing activities and areas including the Uranyl Nitrate Building (UNB), the Engineering Laboratory Operations (ELO), the uranium hexafluoride (UF₆) cylinder receiving pad (UFRP), the Dry Conversion Facility (DCF), Cylinder Wash, the Ammonium diuranate (ADU) conversion area, the Uranium Dioxide (UO₂) Building, and outside storage areas and warehouses.

Results

- No significant safety concerns were identified regarding the licensee's NCS program.
- No safety concerns were identified during a review of recent licensee investigation of internal and external NCS related events, reportability determinations, and corrective actions.
- No safety concerns were identified regarding NCS audits, walkdowns and investigations.
- No safety concerns were identified during a review of the licensee's criticality alarm system.
- No safety concerns were identified during walkdowns of plant operations.
- No safety concerns were identified during a review of the licensee's validation.

REPORT DETAILS

1.0 Summary of Plant Status

AREVA NP manufactures light water reactor fuel at its Richland Washington facility. During the inspection, the licensee was in a partial maintenance outage; however, they were still conducting some dry conversion, pelletizing, and bundle fabrication operations. The licensee was also performing routine scrap recycle and waste management operations.

The UNB is currently not operating. Significant quantities of uranyl nitrate have been removed, and the solution transfer lines to and from the UNB have been isolated.

2.0 Nuclear Criticality Safety Program (IP 88015 & 88016)

a. Inspection Scope

The inspectors reviewed the licensee's NCS program and analyses. The inspectors evaluated the adequacy of the program and analyses to assure the safety of fissile material operations. The inspectors reviewed selected NCS analyses to determine that criticality safety of risk-significant operations was assured through controls with adequate safety margin and preparation as well as reviewed by qualified staff. The inspectors interviewed licensee managers and engineers in the safety and production departments, operations engineers, and selected operators. The inspectors reviewed selected NCS-related items relied on for safety (IROFS) to determine that the performance requirements have been met for selected accident sequences. The inspectors accompanied NCS and other technical staff on walkdowns of NCS controls in selected plant areas. The inspectors reviewed selected portions of the documents listed in Section 2.2 of the Attachment.

b. Observations and Findings

The inspectors observed that the licensee had an NCS program which was independent from production and was implemented through written procedures. The inspectors determined that, for the NCS analyses reviewed, the analyses were performed by qualified NCS engineers, that independent reviews of the evaluations were completed by qualified NCS engineers, and that the analyses provided for subcriticality of the systems and operations through appropriate limits on controlled parameters. The inspectors reviewed selected NCS IROFS and determined that the IROFS reviewed corresponded to the approved analytical results, and designated controls were adequate to meet the performance requirements for the selected accident sequences. NCS analyses and supporting calculations demonstrated adequate identification and control of NCS hazards to assure operations within subcritical limits.

The inspectors observed that the licensee's NCS program reviews process changes affecting criticality safety. Change packages are reviewed through the licensee's "Construction or Modification Change Control" document (MCP-30379), which identifies whether NCS and/or criticality alarm systems are affected. Additionally, the licensee's "Standard Operating Procedure Work Order Instructions (SOP-40789)" identifies NCS-related IROFS that are potentially affected by maintenance activities by checking pin numbers in their Systems Applications and Products (SAP) program. An IROFS-related pin number in SAP instigates a further review by NCS technical staff.

During a review of selected NCS analyses, the inspectors noted that the failure criteria of IROFS 2610, a control requiring a minimum amount of spacing between hot pellet boats when removed from the furnace, included the initiating event in the IROFS failure criteria. The initiating event is an oxidation of UO_2 pellets in a boat such that the minimum safe slab height is exceeded. The failure criteria for IROFS 2610 states that the IROFS is not considered failed unless both the spacing requirement is violated and the minimum safe slab height is exceeded, which includes the initiating event in the failure criteria. However, this control is only on spacing. This observation was discussed with NCS staff.

The inspectors also noted a case where the results of a critical mass calculation changed when recalculated with a more recent code and cross section data. The results of the calculation changed from approximately 28 kilograms (kg) to about 24 kg. The licensee did not recognize that the IROFS description needed to be updated because the IROFS description referenced a calculation in a different Nuclear Criticality Safety analysis (NCSA). When that source NCSA was updated, the referenced NCSA was excluded. The IROFS safety limit was set at 10 kg with an operational limit of 5 kg; therefore, the failure to update the NCSA did not undermine the safety function of the IROFS. In addition, other IROFS were available and reliable to perform their intended safety function if called upon.

c. Conclusions

No significant safety concerns were identified regarding the licensee's NCS program.

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

a. Inspection Scope

The inspectors reviewed licensee internal audit procedures, records of previously completed walkdowns, records of previously completed audits of fissile material operations, and records of NCS infractions. The inspectors accompanied a licensee NCS engineer on a routine weekly walkdown of Zone 1 including the UNB, DCF, ADU conversion area, Cylinder Wash, UFRP, and Ceramics. The inspectors reviewed selected portions of the documents listed in Section 2.3 of the Attachment.

b. Observations and Findings

The inspectors observed that NCS audits, walkdowns, and investigations were conducted in accordance with written procedures. The inspectors noted that NCS walkdowns were focused on determining that plant operations requirements conform to those listed in the applicable NCS specification documents. The inspectors observed that the NCS engineer conducting the walkdown reviewed plant operations for compliance with license requirements, procedures, and postings; examined the NCS postings, labels, and other controls to ensure that they were up-to-date; and identified appropriate NCS-related deficiencies. The inspectors reviewed the licensee's log of NCS infractions since the last inspection for significant infractions and adequate corrective actions. The inspectors confirmed that deficiencies identified during the audits and investigations were appropriately captured in the licensee's corrective action program (WebCAP) and resolved in a timely manner.

c. Conclusions

No safety concerns were identified regarding NCS audits, walkdowns, and investigations.

4.0 Nuclear Criticality Safety Event Review and Follow-up (IP 88015 & 88016)

a. Inspection Scope

The inspectors reviewed the licensee's response to a selection of recent internally reported events and the recent NCS-related event that the licensee reported to NRC. The inspectors reviewed the progress of investigations and interviewed licensee staff regarding immediate and long-term corrective actions. The inspectors reviewed selected portions of the documents listed in Section 2.4 of the Attachment.

b. Observations and Findings

The inspectors reviewed events reported to the NRC and selected licensee internally reported events. The inspectors determined that the licensee adequately evaluated whether these events were reportable to the NRC. The inspectors observed that internal events were investigated in accordance with written procedures and appropriate corrective actions were assigned and tracked.

IFI 2013-202-01

This inspector follow-up item (IFI) was related to Event Notification (EN) 49279, which was withdrawn by the licensee following their determination it was not reportable under Title 10 of the *Code of Federal Regulations* (10 CFR) 70 Appendix A (a)(5). EN 49279 involved the actuation of a low UF₆ header temperature interlock during which isolation valves HV1-1054 (UF₆ Header Valve), HV1-1055, and HV1-1056 (Heel removal

discharge valves) did not close as commanded. Based on the information available at the time of discovery, the licensee submitted a one hour report to the NRC under 10 CFR Appendix A (a)(5). The licensee withdrew the EN following the determination that the closure of valves HV1-1054, 1055, and 1056 was not required to meet the safety function specified for the IROFS in the affected nuclear criticality accident sequences.

The inspectors reviewed the licensee's justification for retraction of the EN, apparent cause analysis, and corrective actions associated with the event. The inspectors determined that the licensee's staff correctly justified their withdrawal of the EN and determined the root cause of the event and the extent of condition. In addition, the licensee has taken adequate corrective actions to prevent reoccurrence of the event by revising the preventative maintenance procedure and modifying the programmable logic controller so that only the necessary data points are available to the individuals performing the test. This closes IFI 2013-202-01.

c. Conclusions

No safety concerns were identified during a review of recent licensee investigation of internal and external NCS related events, reportability determinations, and corrective actions.

5.0 Validation (IP 88016)

a. Inspection Scope

The inspectors reviewed the licensee's most recent validation report, verified that only validated analytical methods are used in NCS analyses and that any new analytical methods are validated in accordance with the license, verified that the appropriate bias and bias uncertainty was applied to the NCS analyses reviewed, and verified that NCS analyses incorporate an approved subcritical margin for all normal and credible abnormal conditions. The inspectors reviewed selected portions of the documents listed in Section 2.5 of the Attachment.

b. Observations and Findings

The inspectors observed that analytical methods used in NCS analyses were consistent with those described in the licensee's validation report. The inspectors verified that NCS analyses incorporated conservative methods and practices consistent with the licensing basis for the justification of subcritical margin. Additionally, the inspectors questioned NCS staff about what information is required to satisfy the license condition that requires a justification by sensitivity analysis clearly discussing the sufficiency of the margin of subcriticality in the terms of the parameters being controlled for abnormal conditions where the upper limit of k_{eff} is 0.97. Greater justification is required by their license for this upper limit due to the reduction in subcriticality margin; therefore, the licensee conducts a sensitivity analysis to demonstrate that this reduction in margin of subcriticality is sufficiently safe, and does so in terms of the parameters being controlled.

For the NCS analyses reviewed, the inspectors verified that the appropriate or conservative total uncertainty from the licensee's validation report was applied. The licensee stated that the largest total uncertainty is often used in NCS analyses as a conservative practice, and the inspectors did note a few NCSAs where this occurred.

The inspectors verified that the neutronics computer codes used to perform NCS analyses were periodically verified by reviewing the required preventative maintenance (PM) action that the licensee maintains. This PM requires sample input decks to be ran periodically to check results against expected results, possibly identifying issues. No safety significant issues related to these verifications have been discovered recently.

c. Conclusions

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

6.0 Criticality Alarm Systems (IP 88017)

a. Inspection Scope

The inspectors reviewed documentation of criticality accident alarm detector coverage and performed facility walkdowns to determine the adequacy of the licensee criticality alarm system. The inspectors reviewed selected portions of the documents listed in Section 2.6 of the Attachment.

b. Observations and Findings

The inspectors verified that the licensee's placement of criticality accident alarm detectors has been established in accordance with the criteria described in the license and 10 CFR 70.24. The inspectors reviewed criticality alarm system coverage maps and demonstrations to ensure that all applicable areas of the facility were adequately covered. No changes were observed for detector placement since the last review of the detector placement analysis.

The inspectors reviewed documentation of semi-annual criticality alarm evacuation drills as well as the PM results from the most recent audibility tests to ensure that the criticality alarm system properly alerted personnel to evacuate and that annunciators were available and functional.

c. Conclusions

No safety concerns were identified during a review of the licensees' criticality alarm system.

7.0 Plant Activities (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 during walkdowns. The inspectors reviewed selected portions of applicable documents listed for other sections, such as NCSAs listed for Section 2.0, before walkdowns. The inspectors reviewed selected portions of the documents listed in Section 2.7 of the Attachment.

b. Observations and Findings

The inspectors performed detailed walkdowns of various areas of the facility. Inspectors interviewed licensee staff at the UF₆ cylinder receiving pad with regard to their specific job task and apropos NCS controls and specifications, and field-verified that cylinder stacking requirements and cylinder acceptance criteria were being properly implemented in accordance with procedures and NCS postings.

Inspectors performed walkdowns and inspected various aspects of key IROFS related to the processes in the DCF and UNB. The UNB was observed to be shutdown; therefore, the inspectors reviewed and field-verified that the UNB storage tanks were empty and that appropriate isolations were made to prevent an inadvertent solution transfer to UNB storage tanks. The appropriate valves in the path between the ADU conversion area and the UNB were observed to be shut and tagged with instructions to not operate; the solution transfer lines connecting the ELO and UNB were observed to be physically blocked by piping caps. Although shutdown and isolated from other areas of the facility, NCS controls preventing an inadvertent solution transfer as well as other NCS controls in the UNB were observed to remain available and functional.

Inspectors performed walkdowns of outside storage areas to ensure that NCS postings were in place and that NCS specifications were being followed. The inspectors noted that observed operations were performed in accordance with written procedures.

c. Conclusions

No safety concerns were noted during walkdowns of plant operations.

8.0 Exit Meeting

The inspectors communicated the inspection scope and results to members of AREVA NP, including Dominique Grandemange, on March 6th, 2014. The licensee's management acknowledged the findings as presented.

SUPPLEMENTARY INFORMATION

1.0 List of Items Opened, Closed, and Discussed

<u>Item Number</u>	<u>Status</u>	<u>Description</u>
EN49729	Withdrawn	Valve fails to close as required on low temperature interlock
IFI 2013-202-01	Closed	Valve fails to close as required on low temperature interlock

2.0 Key Documents Reviewed:

Inspectors reviewed selected aspects of the following documents. Documents that apply to multiple sections are listed in the section that is most applicable.

2.1 **Plant Status**

Not Applicable

2.2 **Nuclear Criticality Safety Program (IP 88015 & 88016)**

- C370P001, "Pellet Line Sludge Measurement 12Mo MW," Version 11.0, October 11, 2011.
- C370P002, "Hour Meter Readings 1Mo OPCR," Version 9.0, November 22, 2011.
- C370P003, "Pellet Press 500hr MW," Version 14.0, October 11, 2011.
- E04-NCSA-080, "Line 2 Uranium Recovery," Version 13.0, February 18, 2014.
- E04-NCSA-120, "UNH Reprocessing," Version 17.0, February 17, 2014.
- E04-NCSA-163, "Industrial Waste Water Treatment Facility," Version 22.0, February 20, 2014.
- E04-NCSA-190, "UO₂ Pellet Dissolution," Version 11.0, January 27, 2014.
- E04-NCSA-230, "ELO Scrubber System," Version 4.0, February 21, 2014.
- E04-NCSA-370, "UO₂ Pellet Pressing," Version 10.0, January 13, 2014.
- E04-NCSA-380, "Pellet Sintering Area," Version 7.0, June 1, 2014.
- E04-NCSA-385, "BLEU (Line-6) Pellet Sintering," Version 8.0, June 3, 2013.
- E04-NCSA-610, "Specialty Fuels Pellet Pressing and Loaded Pellet Boat Transport," Version 12.0, November 14, 2013.
- E04-NCSA-780, "Waste Handling."
- E04-NCSA-960, "HVAC Exhaust Systems," Version 20.0, December 19, 2013.
- SOP-40274, "Process Startup – ADU Line 2," Version 14.0, August 16, 2012.
- SOP-40789, "SOP Work Order Instructions," Version 14.0, October 8, 2013.

- MCP-30379, "Construction or Modification Change Control," Version 12.0, February 28, 2013.
- MCP-30379 A, "Construction or Modification Change Control – Initiation," Version 2.0, February 12, 2013.

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

- E04-06-002, "Routine Nuclear Criticality Safety Audits," Version 4.0, June 27, 2012.
- E04-06-004, "Preparation & Review of Nuclear Criticality Safety Documents," Version 8.1, November 12, 2012.
- E04-06-007, "Routine Nuclear Criticality Safety Walkthroughs," Version 3.0, February 28, 2013.
- E04-07-201302, "NCS Audit/Inspection Report – February 2013," Version 1.0.
- E04-07-201303, "NCS Audit/Inspection Report – March 2013," Version 1.0.
- E04-07-201308, "NCS Audit/Inspection Report – August 2013," Version 1.0.
- E04-07-201309, "NCS Audit/Inspection Report – September 2013," Version 1.0.
- E04-07-201310, "NCS Audit/Inspection Report – October 2013," Version 1.0.
- E04-07-201311, "NCS Audit/Inspection Report – November 2013," Version 1.0.
- E04-07-201312, "NCS Audit/Inspection Report – December 2013," Version 1.0.
- E04-07-201401, "NCS Audit/Inspection Report – January 2014," Version 1.0.
- E04-NCSA-830, "Dry Conversion Powder Preparation", Version 16.
- NCS Infractions 13-025 through 054.
- NCS Infraction 14-001 through 007.
- Condition-2013-6652, dated August 27, 2013.

2.4 Nuclear Criticality Safety Event Review and Follow-up (IP 88015 & 88016)

- CR-2014-1597.*
- CR-2013-6336.
- C820P003, "Interlock Check 6MO OPDC", Version 13, August 08, 2013.
- E04-NCSA-820, "Dry Conversion Powder Production Process", Version 10.
- UF6 Isolation V-203 Interlock Diagram.

* Opened as a results of NRC inspection

2.5 Validation (IP 88016)

- E04-NCSA-2670, "Software Validation Document - PC-Scale 4.4A Validation," Version 2.0, June 16, 2010.

- PC-SCALE4.4a V&V, "Software Validation Document: Homogeneous Experiments," June 20, 2002.

2.6 Criticality Alarm Systems (IP 88017)

- Semi-Annual Criticality Evacuation Drill Results – October 23, 2013.
- Semi-Annual Criticality Evacuation Drill Results – May 16, 2013.
- PM0030887, "Criticality Howlers 6 Mo EL," September 29, 2013.
- E04-09-001, "HRR Criticality Accident Alarm System Coverage Demonstration," Version 2.0, August 24, 2012.
- E04-09-002, "Coverage Analysis for FANP-Richland," Version 1.0, June 9, 2004.
- E04-09-003, "Analysis of Detector 5 Response to a Criticality Accident in the UNB," Version 1.0, August 8, 2012.

2.7 Plant Activities

Documents listed in other sections were reviewed related to facility walkdowns.

- 8302C / Dry Conversion Reactor Replacement (- Line 1), March 02, 2013.
- 8302C/ Dry Conversion Reactor Replacement (-Line 3) July 22, 2013.
- C210P003, "Tank Drain Sys ELO 12Mo PF," Revision 8, February 7, 2013.
- C960P022, "Filters HEPA 3Mo AB," Revision 3, September 20, 2012.
- PM004180, "ELO Alarm Sys/Phone Dial 6Mo EL," Revision 2, February 2, 2009.

2.8 Exit Meeting

Not Applicable

3.0 Inspection Procedures Used

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

4.0 Key Points of Contact

AREVA NP, Inc. - Richland

W. Doane	NCS Engineer
M. Durst	Engineer
D. Grandemange	Site Manager
V. Gallachev	Operations
J. Kreitzberg	NCS Engineer
L. Maas	Manager, Licensing and Compliance
C. Manning	Manager, NCS
B. Lewis	Electronics Engineering Supervisor

NRC

Jeremy Munson	Criticality Safety Inspector (Trainee)
Timothy Sippel	Criticality Safety Inspector
Nicholas Peterka	Fuel Facility Inspector

5.0 List of Acronyms and Abbreviations

ADAMS	Agencywide Documents Access and Management System
ADU	ammonium diuranate
AREVA NP	AREVA Nuclear Power, Inc. (current company name)
BLEU	blended low-enriched uranium
CAAS	criticality accident alarm system
DCF	Dry Conversion Facility
ELO	Engineering Laboratory Operations
HRR	Horn Rapids Road
IFI	inspector follow-up item
IP	inspection procedure
IROFS	item relied on for safety
kg	kilogram
NCS	nuclear criticality safety
NCSA	nuclear criticality safety analysis
NCSS	nuclear criticality safety specification
NRC	Nuclear Regulatory Commission
PM	preventive maintenance
SAP	Systems Applications and Products
SNM	special nuclear material
SOP	standard operating procedure
UF ₆	uranium hexafluoride
UFRP	uranium hexafluoride receiving pad
UNB	uranyl nitrate building
UNH	uranyl nitrate hexahydrate
UO ₂	uranium dioxide
WebCAP	Web Corrective Action Program