



**UNITED STATES
NUCLEAR REGULATORY COMMISSION**
REGION II
245 PEACHTREE CENTER AVENUE NE, SUITE 1200
ATLANTA, GEORGIA 30303-1257

January 14, 2014

Mr. Dominique Grandemange
Site Manager
AREVA NP, Inc.
2101 Horn Rapids Road
Richland, WA 99354-0130

SUBJECT: AREVA NP, INC. (RICHLAND) – NUCLEAR REGULATORY COMMISSION
INTEGRATED INSPECTION REPORT NO. 70-1257/2013-005

Dear Mr. Grandemange:

The Nuclear Regulatory Commission (NRC) conducted announced, routine inspections from October 1 through December 31 at the AREVA NP, INC., facility in Richland, Washington. The purpose of the inspections was to review implementation of programs and procedures for emergency preparedness and to evaluate the initial licensee actions to address the actual and potential impacts of a failed item relied on for safety identified from Event Number 49475. The inspections were conducted to determine whether licensed activities were conducted safely and in accordance with NRC requirements. The enclosed report presents the results of the inspections. At the conclusion of the inspections, the results were also discussed with members of your staff at an exit meetings held on October 30 and December 11, 2013.

During the inspections, the staff examined activities conducted under your license as they relate to public health and safety and confirm compliance with the Commission's rules and regulations and with the conditions of your license. The inspection consisted of facility walk-downs, selective examinations of relevant procedures and records, interviews with plant personnel, and plant observations. Throughout the inspection period, observations were discussed with your staff. Although it appears that the licensee did not meet the Title 10 of the *Code of Federal Regulations* (10 CFR) 70.61 performance requirements, an unresolved item was opened to independently evaluate the effectiveness of licensee corrective actions.

In accordance with 10 CFR 2.390 of NRC's "Rules of Practice," a copy of this letter and its enclosure will be made available electronically for public inspection in the NRC Public Document Room, or from the NRC's Agencywide Documents Access and Management System (ADAMS), which is accessible from the NRC Website at <http://www.nrc.gov/reading-rm/adams.html>.

If you have any questions, please call me at (404) 997-4629.

Sincerely,

/RA/

Marvin D. Sykes, Chief
Projects Branch 2
Division of Fuel Facility Inspection

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

Enclosure: NRC Inspection Report 70-1257/2013-005
W/Attachment: Supplemental Information

cc: (See page 3)

If you have any questions, please call me at (404) 997-4629.

Sincerely,

/RA/

Marvin D. Sykes, Chief
Projects Branch 2
Division of Fuel Facility Inspection

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

Enclosure: NRC Inspection Report 70-1257/2013-005
w/Attachment: Supplemental Information

cc: (See page 3)

DISTRIBUTION:

M. Crespo, RII
G. Goff, RII
M. Baker, NMSS
M. Diaz, NMSS
M. Sykes, RII
PUBLIC

☒ PUBLICLY AVAILABLE ☐ NON-PUBLICLY AVAILABLE ☐ SENSITIVE ☒ NON-SENSITIVE
ADAMS: ☒ Yes ACCESSION NUMBER: ML14015A102 ☒ SUNSI REVIEW COMPLETE ☒ FORM 665 ATTACHED

OFFICE	RII:DFFI	RII:DFII	RII:DFFI				
SIGNATURE	/RA/	/RA/	/RA/				
NAME	CRivera	BAdkins	MCrespo				
DATE	1/ 13 /2014	1/13/2014	1/15/2014				
E-MAIL COPY?	YES NO	YES NO	YES NO				

OFFICIAL RECORD COPY DOCUMENT NAME: G:\DFFI\REPORTS\DRAFT INSPECTION REPORT FOLDER\AREVA -
RICHLAND\2013 REPORTS\IR 2013005 FEEDERS AND REPORT\AREVA IR 2013005.DOCX

cc:

Loren J. Maas, Manager
Licensing and Compliance
Areva NP, Inc.
2101 Horn Rapids Road
Richland, Washington 99352

Ron Land, Vice President
Manufacturing
Areva NP, Inc.
3315 Old Forest Road
Lynchburg, Virginia 24501

Calvin D. Manning, Manager
Nuclear Criticality Safety
Areva NP, Inc.
2101 Horn Rapids Road
Richland, Washington 99352

Robert E. Link, Manager
Environmental, Health, Safety & Licensing
Areva NP, Inc.
2101 Horn Rapids Road
Richland, Washington 99352

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
REGION II

Docket No.: 70-1257

License No.: SNM-1227

Report No.: 70-1257/2013-005

Licensee: AREVA NP, Inc.

Facility: Richland, Washington

Dates: October 1 through December 31, 2013 (Fourth Calendar Quarter)

Inspectors: C. Rivera, Fuel Facility Inspector (Section A.1)
B. Adkins, Senior Fuel Facility Inspector (Section B.1)

Approved by: M. Sykes, Chief
Projects Branch 2
Division of Fuel Facility Inspection

Enclosure

EXECUTIVE SUMMARY

AREVA NP, Inc.
NRC Integrated Inspection Report 7001257/2013-005
October 1 through December 31, 2013

Inspections were conducted by regional inspectors during normal shifts in the area of emergency preparedness. The inspectors performed a selective examination of licensee activities that were accomplished by direct observation of safety-significant activities and equipment, tours of the facility, interviews and discussions with licensee personnel, and a review of facility records.

Emergency Preparedness

- The Emergency Preparedness program was implemented in accordance with the Emergency Plan and applicable regulatory requirements. No violations of NRC requirements were identified. (Paragraph A.1)

Special Topics

- Unresolved Item 70-1257/2013-005-001 was identified to further evaluate the circumstances surrounding the loss of an item relied for safety reported as Event Number 49475. (Paragraph B.1)

Attachment

Key Points of Contact
List of Items Opened, Closed, and Discussed
Inspection Procedures Used
Documents Reviewed

REPORT DETAILS

Summary of Plant Status

The AREVA Richland facility converts uranium hexafluoride (UF₆) into uranium dioxide (UO₂) for the fabrication of low-enriched fuel assemblies used in commercial light water reactors. During the inspection period, normal production activities were ongoing.

A. Facility Support

1. Emergency Preparedness (IP 88050)

a. Inspection Scope and Observations

The inspectors interviewed staff, reviewed records and determined that any changes made to the Emergency Plan or within the facility had been properly coordinated and that the review process included key positions within the emergency preparedness program. Most changes were administrative in nature but included the addition of a 48G storage facility, the elimination of one of the emergency equipment repositories location, and changes to the offsite assembly location. The inspectors reviewed procedures with significant revisions since the last emergency preparedness inspection and determined that the changes were in compliance with the Emergency Plan. The inspectors reviewed the licensee's emergency contact phone list and verified that the list was current.

The inspectors reviewed training records and attendance reports for selected members of the Plant Emergency Response Team (PERT) and the Plant Emergency Response Management Team (PERMT). The inspectors discussed the training with the Emergency Preparedness Coordinator, including how training items were tracked for all required personnel. The inspectors noted the licensee maintains a Training Summary Spreadsheet, which contains a list of site personnel and the type of emergency response training they possess. The inspectors verified the required training elements for PERT and PERMT members were up-to-date and met the requirements of the Plan. The inspectors reviewed training given by the Emergency Preparedness Coordinator to the Emergency Directors and to PERT and PERMT members. The inspectors also interviewed a selection of PERT and PERMT members, including operators and managers and determined that emergency responder training offered by the licensee was adequate. The inspectors determined that emergency response training, including the general employee emergency response training; advanced first aid; fire extinguisher safety and Self-Contained Breathing Apparatus (SCBA) were in compliance with the Plan.

The inspectors verified that the licensee provided training for hypothetical emergency situations which were effective and consistent with the frequency and performance objectives required in the Emergency Plan.

The inspectors reviewed the memoranda of understanding with the off-site agencies and verified that the organizations required by the Emergency Plan had up-to-date agreements. The inspectors interviewed the Battalion Chief of the Richland Fire Department, the Plant and Emergency Operations Specialist at the Kadlec Regional Medical Center, and the Emergency Planner at Energy Northwest and determined that they maintained an adequate understanding of the written agreements. As part of the interviews and documents reviews, the inspectors verified that the licensee had invited off-site organizations to participate in drills, offered site visits, conducted an annual emergency preparedness orientation for offsite responding agencies and nearby neighbors, and verified that the licensee had provided training as required by the Emergency Plan. The inspectors reviewed records and verified that the licensee performed a communication check with the off-site organizations at the frequency required by the Emergency Plan.

The inspectors observed the storage of emergency equipment in the Emergency Operation Center (EOC) equipment repository, UO₂ process building, Dry Conversion facility, Office Building 4, and the Central Emergency Equipment shed and verified that the inventory levels were maintained as required by the Emergency Plan. The inspectors verified that preventive maintenance inventory checks had been performed at regular intervals by the licensee. The inspectors toured the EOC and verified that the areas were readily accessible and maintained the appropriate amount of communication and weather equipment, along with the site and surrounding areas, and copies of the emergency plan. The inspectors reviewed the accountability procedure and verified that accountability meeting points were accessible.

The inspectors reviewed documentation of past events, since the last Emergency Preparedness inspection, which required the implementation of the Emergency Plan. No deficiencies were identified. The inspectors reviewed the last two audits since the last inspection and verified that a system was in place for adequately tracking and resolving findings. The inspectors reviewed field and table top exercises performed by the licensee in the last year including any critiques performed.

b. Conclusion

No violations of NRC requirements were identified.

B. Special Topics

Event Follow-up

a. (Closed) Licensee Event Report (LER) 70-1257-2013-001-0 Failure of a Steam Supply Vacuum Breaker: Event Number (EN) 49475

On October 27, 2013, the licensee filed a one hour fuel facility event report regarding the loss of a vacuum breaker in the UO₂ building (Item Relied on for Safety (IROFS) 3526) that resulted in only one IROFS (#3527) that remained available and reliable to prevent a nuclear criticality accident for greater than eight hours. The condition was identified during performance of a preventative maintenance check of IROFS 3526 associated with the UO₂ steam supply system. Specifically, IROFS 3526 is a vacuum breaker in the

steam supply system credited to prevent backflow of uranyl nitrate solution into an unfavorable geometry supply tank. The IROFS is credited in three separate integrated safety analysis (ISA) accident sequences described in the ISA Summary.

At the time of discovery, the UO_2 steam boiler was down for maintenance and remained down until the vacuum breaker was replaced and tested for operability. The licensee concluded that the safety significance of the event was low since the other remaining IROFS (#3527) remained operable. No special nuclear material was inadvertently transferred from the process vessels to the unsafe geometry boiler vessel and no criticality occurred as a result of the event. Based on their review of the event circumstances, the NRC concurred with the licensee's determination that the event was of low safety significance.

The inspectors reviewed the initial event report and concluded that the licensee took adequate corrective actions including a careful review of the event timeline, verification that the remaining IROFS was functioning properly, proper NRC notification, placement of the issue into their corrective action program, and commencement of an apparent cause analysis. The licensee 30-day report concluded that one of the three applicable accident sequences did not meet the reporting criteria because another applicable IROFS from a different accident sequence was available and reliable in preventing the subject accident condition. For the two remaining accident sequences, the report concluded that the single remaining IROFS, combined with initiating events and enabling conditions, resulted in accident sequences that remained highly unlikely. The licensee noted that ISA did not account for the simultaneous multiple initiating events and enabling conditions would have to occur for the two accident sequences to initiate. Based on this analysis, the licensee concluded that accidental nuclear criticality in the steam boiler remained at least highly unlikely.

Based on regional review of the licensee's analysis, no immediate safety issues were noted. However, the inspectors determined that additional on-site reviews would be necessary to verify the assumptions of the licensee's analysis, which would also provide the opportunity to evaluate the licensee's corrective actions for the issue. Therefore, this issue will be tracked as unresolved item (URI) 70-1257/2013-005-001, Independent Review of Analysis and Corrective Actions for Loss of IROFS 3526.

C. Exit Meeting

The inspection scope and results were presented to members of the licensee's staff at various meetings throughout the inspection period and were summarized on October 30 and December 11, 2013 with D. Grandemange and staff. No dissenting comments were received from the licensee. Proprietary information was discussed, but not included in the report.

SUPPLEMENTAL INFORMATION

1. KEY POINTS OF CONTACT

<u>Name</u>	<u>Title</u>
J. Deist	Emergency Planning Coordinator
M. Fischer	Plant and Emergency Operations Specialist, Kadlec Regional Medical Center
V. Gallacher	Manager, Operations
D. Grandemange	Site Manager
D. Holmes	Emergency Planner, Northwest
R. Link	Environmental, Health, Safety and Licensing Manager
L. Maas	Manager, Licensing and Compliance
C. Manning	Manager, Nuclear Criticality Safety
S. Nuñez	Security Supervisor
T. Ricci	Batallion Chief, Richland Fire Department
T. Tate	Manager, Safety, Security, and Emergency Preparedness

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

2. LIST OF ITEMS OPENED, CLOSED, AND DISCUSSED

Opened

2013-005-01	URI	Independent Review of Analysis and Corrective Actions for Loss of IROFS 3526
-------------	-----	------------------------------------------------------------------------------

Closed

2013-001-0	LER	Failure of a Steam Supply Line Vacuum Breaker
------------	-----	-----------------------------------------------

3. INSPECTION PROCEDURES USED

IP 88050, Emergency Preparedness

4. DOCUMENTS REVIEWED

Records:

PM000091, Emergency Repositories 1 Mo, Revision (Rev.) 18, dated October 12, 2013
PM005067, Monthly SCBA Checks, SCBA Inspection 1 Mo, Rev. 0, dated October 1, 2013, September 23, 2013, August 6, 2013, July 8, /2013
PM004493, Telephone Test Q1 Safe, Rev. 5, dated October 11, 2013
CG06P011, Fire Alarm Building Evacuation 12 Mo, Rev. 5
Semi-Annual Criticality Evacuation Drill Results, dated October 31, 2012

Semi-Annual Criticality Evacuation Drill Results, dated May 16, 2013
 PERT Training- Advanced First Aid- Attendance Report, dated May 13, 2013
 PERT Training- IH Chem-Rad Field Teams and ICS- Attendance Report, dated October 25, 2013
 PERT Training- Hands on Fire Extinguisher- Attendance Report, dated October 25, 2013
 PERT Training-Self Contained Breathing Apparatus (SCBA) - Attendance Report, dated October 25, 2013
 2012 PERMT Table Top Exercise
 Audit 12:94: US Fuel BU Internal Audit Report; Emergency Preparedness Program (EHS&L); dated December 21, 2012-April 30, 2013
 Audit 11:108: US Fuel BU Internal Audit Report; Emergency Preparedness Program (EHS&L); dated December 21, 2011-January 31, 2012
 2013 PERMT/PERT Field Exercise Areva NP- Richland, WA
 Critique/Lessons Learned Summary for AREVA Richland Facility Emergency Field Exercise Conducted on September 10, 2013, October 18, 2013
 HRR-EP-100002, 2013 HRR EP Refresher Training Plant Emergency Director
 HRR-EP-100006, 2013 HRR EP Refresher Training Security Liaison and Traffic Control Monitor
 AREVA Annual Emergency Preparedness Orientation for Offsite Responding Agencies and Nearby Neighbors, dated December 13, 2012
 Fuel Facility Event Report #49475, October 27, 2013
 Thirty-day Follow-up Report to October 27, 2013 Incident Reported Under 10 CFR 70 Appendix A Criterion (a)(5) (NRC Event No. 49475); AREVA NP Inc. Richland Facility, License No. SNM-1227; Docket No. 70-1257, dated November 22, 2013

Procedures:

E-08-03-8.3, Plant Evacuation Procedure-Onsite, Version 3.2, dated December 10, 2012
 E-08-03-8.2, Plant Evacuation Procedures- Offsite, Version 4.0, dated December 10, 2012
 E-08-03-8.7, Emergency Action Guides, Version 1.2, dated March 22, 2012
 E-08-04-2.10, Energy Northwest, Version 4.1, dated June 14, 2011
 E08-03-10.1, Classifying an Emergency, Version 5.0, dated February 6, 2013
 ADM-00006, Administrative Procedure for Documentation, Version 21.0.
 E-12-03-002, Independent Audit of EP Program, Version 4.0, dated November 28, 2012
 SOP-40296, Dry Conversion Facility- Emergency Procedure for Control of UF₆ Gas Release, Version 1.4, dated August 21, 2012
 SOP-40885, Uranium Conversion and Recovery Emergency Response, Version 3.0, dated February 16, 2012
 1719-24, Internal Audits of US Fuel BU Integrated Management System, Rev. 23, dated March 13, 2012
 E-08-01-1.0, Emergency Plan, Version 10.0, dated October 28, 2013
 E-08-01-1.0, Emergency Plan, Version 9.0, dated August 13, 2013
 E-08-01-1.0, Emergency Plan, Version 8.0, dated November 29, 2012
 C942P001, UO₂ Boiler Check Valve and Vacuum Breaker 12 MO PF, Rev.2, dated December 5, 2012

Condition Reports Review:

CR-2013-8086
 CR-2013-8537