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

October 29, 2014

Mr. Robert Link
Acting Site Manager
AREVA NP, Inc.
2101 Horn Rapids Road
Richland, WA 99354-0130

SUBJECT: AREVA NP, INC. (RICHLAND) – NUCLEAR REGULATORY COMMISSION INTEGRATED INSPECTION REPORTS 70-1257/2014-004 AND 70-1257/2014-202

Dear Mr. Link:

The Nuclear Regulatory Commission (NRC) conducted announced, routine inspections from July 1 through September 30, 2014, at the AREVA NP, INC., facility in Richland, Washington. The purpose of the inspections was to perform routine reviews of operational safety, maintenance and surveillance of safety controls, nuclear criticality safety, and permanent plant modifications. The enclosed report presents the results of the inspections. At the conclusion of the inspections, the results were also discussed with you and members of your staff at an exit meeting held on September 25, 2014.

During the inspections, NRC staff examined activities conducted under your license, as they relate to public health and safety, to confirm compliance with the Commission's rules and regulations and with the conditions of your license. The inspections consisted of facility walk-downs, selective examinations of relevant procedures and records, interviews with plant personnel, and observations of activities. No findings of significance were identified.

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 Reports 70-1257/2014-004
and 70-1257/2014-202 w/Attachment: Supplemental Information

cc: (See page 3)

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cc: (See page 3)

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U. S. NUCLEAR REGULATORY COMMISSION
REGION II

Docket No.:	70-1257
License No.:	SNM-1227
Report Nos.:	70-1257/2014-004 and 70-1257/2014-202
Licensee:	AREVA NP, Inc.
Facility:	Richland, Washington
Dates:	July 1 through September 30, 2014
Inspectors:	S. Subosits, Senior Resident Inspector (Section A.1) P. Glenn, Fuel Facility Inspector (Section A.2) G. Goff, Fuel Facility Inspector (Section B.1) M. Thomas, Senior Fuel Facility Inspector (Section B.2)
Approved by:	M. Sykes, Chief Projects Branch 2 Division of Fuel Facility Inspection

Enclosure

EXECUTIVE SUMMARY

AREVA NP, INC. - RICHLAND
NRC Inspection Reports 70-1257/2014-004 and 70-1257/2014-202
July 1 through September 30, 2014

Inspections were conducted by regional inspectors during normal shifts in the areas of radiological waste management and maintenance and surveillance of safety controls. 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.

Safety Operations

- The items relied on for safety(IROFS) reviewed were properly implemented and maintained in order to perform their intended safety function. (Paragraph A.1)

- The Nuclear Criticality Safety (NCS) program was properly implemented and maintained in order assure that credible and credible abnormal scenarios remained subcritical as required by licence and regulatory requirements. Criticality analysis demonstrated double contingency and adequate control of NCS parameters. (Paragraph A.2)

Facility Support

- The Maintenance and Surveillance of Safety Controls program was implemented in accordance with the license application and regulatory requirements. (Paragraph B.1)

- The Plant Modifications program was implemented in accordance with the license application and regulatory requirements. (Paragraph B.2)

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 (UF_6) into uranium dioxide (UO_2) for the fabrication of low-enriched fuel assemblies used in commercial light water reactors. During the inspection period, normal production activities were ongoing.

A. Safety Operations

1. Operational Safety (Inspection Procedure (IP) 88020)

a. Inspection Scope and Observations

The inspectors interviewed operators associated with the Dry Conversion Facility (DCF) Vaporization area and the Ceramics Pelleting area. The inspectors determined that IROFS are being adequately implemented and properly communicated as described in the Integrated Safety Analysis (ISA). Based on field observations and reviews of relevant documentation, the inspectors determined that the licensee is operating safely and in compliance with regulations and license application requirements.

The inspectors confirmed that the sample of engineered controls reviewed were present and capable of performing their intended safety functions. To complete this confirmation, the inspectors verified the physical presence of passive and active engineered safety controls, evaluated the safety controls to determine their capability and operability, and verified that potential accident scenarios were covered.

The inspectors determined that licensee's administrative controls were implemented and communicated. For the Vaporization Area, the inspectors reviewed pertinent standard operating procedures (SOPs). For the Ceramics Area, the inspectors reviewed standard work instructions in the field. From these reviews, the inspectors determined that required actions, as identified in the ISA Summary, have been correctly transcribed into written operating procedures. The inspectors evaluated the procedures' contents with respect to operating limits and operator responses for upset conditions and verified that the limits needed to assure safety are adequately described in the procedures.

The inspectors interviewed four (4) operators and one (1) technician and determined that the operators and technician adequately implemented the required safety controls. The inspectors observed the operators' performance and determined that adherence to applicable safety procedures was maintained. The inspectors reviewed the Nuclear Criticality Safety (NCS) postings applicable to the tasks being observed and determined that these postings were current, reflected safety controls, and were followed by the operators.

Based on document reviews, the inspectors verified that the licensee conducted preventive maintenance and periodic surveillance as required by the ISA Summary for the sample of selected safety controls.

The inspectors reviewed the licensee's corrective action program (CAP) entries pertaining to safety controls and determined that the issues were investigated promptly and apparent causes were documented with corrective actions to prevent recurrence.

b. Conclusion

No violations of NRC requirements were identified.

2. Nuclear Criticality Safety (IPs 88015 and 88016)

a. Inspection Scope and Observations

The inspectors evaluated the adequacy of the NCS program and analyses to determine safety of fissile material operations. The inspectors focused their review on the DCF and Ceramics. The inspectors verified that the NCS program was independent from production and implemented through written procedures. The inspectors reviewed a sample of NCS analyses and verified that analyses provided for subcriticality of systems and operations through appropriate limits on controlled parameters including an adequate margin of safety.

NCS analyses and supporting calculations reviewed demonstrated adequate identification and control of NCS hazards. The inspectors also confirmed that both NCS analyses and independent reviews of the evaluations were completed by qualified NCS engineers. The inspectors interviewed licensee managers and engineers in the safety and production departments, operations engineers, and selected operators. The inspectors reviewed selected NCS-related IROFS to determine that the performance requirements were met for selected accident sequences in the DCF and Ceramics area. The inspectors also accompanied NCS and other technical staff on walk-downs of NCS controls in DCF and Ceramics plant areas. The inspectors confirmed that the licensee's NCS program reviews plant process changes affecting criticality safety.

The inspectors reviewed the licensee's internal audit and walk-down procedures, records of previously completed walk-downs, and records of previously completed audits of fissile material operations. The inspectors determined that NCS audits and walk-downs were conducted in accordance with written procedures. Based on the sample of items reviewed, the inspectors determined that deficiencies identified during audits and walk-downs since the last NRC NCS inspection were captured in the licensee's corrective action program and resolved as required.

Additionally, the inspectors reviewed a sample of licensee internally reported events and or NCS infractions generated since the last NCS inspection. The inspectors determined that the licensee adequately evaluated whether these events were reportable to the NRC. The inspectors verified that internal events were investigated in accordance with written procedures and required corrective actions were assigned and tracked. The inspectors also reviewed the process of investigations and interviewed licensee staff regarding associated immediate and long-term corrective actions. There were no NCS-related reportable events to the NRC since the last NCS inspection.

The inspectors accompanied a licensee NCS engineer on a required periodic walk-down of the facility. The walk-down was focused on powder production and the pellet press area. The inspectors noted that NCS walk-downs independently assessed 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 also accompanied the licensee on a required audit. The audit was focused on Warehouse 7 and the powder storage area.

The inspectors reviewed training for the only NCS analyst at the facility. The inspectors determined that the analyst is in the process of completing NCS specialist training and had completed analyst-specific training as required.

b. Conclusion

No findings of significance were identified.

B. Facility Support

1. Maintenance and Surveillance of Safety Controls (IP 88025)

a. Inspection Scope and Observations

The inspectors interviewed senior managers, supervisors, engineers, and operators to evaluate maintenance and surveillance program activities. Inspectors determined that all personnel were aware of the safety and technical aspects of their jobs.

The inspectors verified that maintenance performed on IROFS and other safety controls was adequate to assure the availability and reliability of such equipment to perform the specific safety function when needed. In addition, inspectors confirmed that the licensee's work control program had provisions to ensure adequate pre-job planning and preparation of work packages to support maintenance and surveillance activities. Furthermore, inspectors observed maintenance work activities on selected systems/processes and determined that these work activities were conducted in accordance with licensee requirements and approved procedures. Specifically, the inspectors observed pre-job briefings for the ADU Drum Tumbler and a filter change-out in the BLEU process area. In addition, inspectors reviewed the maintenance work permits, confined space entry permit(s), and hot work permit(s) for each activity, as applicable, and determined that these documents adequately captured the safety aspects for each job.

Inspectors noted that effective corrective actions were taken when a safety control or IROFS failed or was degraded. Specifically, the inspectors walked down the Ammonia Recovery Facility (ARF) to verify that the gamma detectors and associated interlocks were operating as required. The inspectors verified that calibrations and post-maintenance testing, as specified by the licensee requirements (i.e., the work package), were adequately performed prior to restoring equipment to operational status.

The inspectors toured portions of the DCF, UO_2 Building, Supercritical CO_2 Extraction facility ($SCCO_2$), Specialty Fuels Building, Engineering Laboratory Operations, maintenance supply shop/warehouse, and cylinder yard. Housekeeping was found to be adequate. Moreover, inspectors determined that the licensee has an adequate inventory of generic replacement parts and equipment. For specialty parts/equipment, inspectors noted that the licensee uses off-site vendors for specific types of equipment.

The inspectors reviewed licensee maintenance control procedures and standard operating procedures and found these documents to be adequate to address maintenance and surveillance activities. Furthermore, the inspectors observed several licensee meetings (safety, plan-of-the-day, dose reduction, LEAN Team, and Top 10 Safety Projects) throughout the inspection and noted that communications were adequate and that a cooperative attitude existed among the attendees.

Inspectors reviewed the training program for maintenance personnel. All mandatory training was performed by the maintenance staff within the required timeframe (including the grace period). Inspectors confirmed that each employee is required by procedure to check on the status of his/her required training on a routine basis.

The inspectors reviewed the licensee problem identification and resolution program to verify that performance issues relating to the maintenance and surveillance of IROFS and safety controls were entered into the corrective action program. Inspectors evaluated the adequacy of corrective actions taken. Specifically, numerous Level 2 and Level 3 condition reports issued since January 1, 2013, were reviewed and found to be adequately evaluated, categorized, and remedied the substandard condition (or was in the process of remedying the condition).

b. Conclusion

No violations of NRC requirements were identified.

2. Plant Modifications (IP 88070)

a. Inspection Scope and Observations

The inspectors interviewed senior managers, managers, supervisors, and operators to verify that the licensee has established an effective configuration management system to evaluate, implement, and track permanent plant modifications to the site which could affect safety.

The inspectors verified that the licensee's work control program had provisions to ensure the adequate pre-job planning and preparation of permanent plant modification design packages. The configuration management system had adequate provisions to ensure that permanent plant modifications did not degrade the performance capabilities of items relied on for safety or other safety controls that are part of the safety design basis.

The inspectors reviewed six modification design packages (#8267, #8574, #8653, #8658, #8659, #8677) since the last modifications inspection for accuracy and walked down and reviewed these modifications to verify that the "as-built" drawings agreed with the field configuration when applicable. The inspectors verified that the licensee had management measures in place to ensure that the IROFS affected by facility changes remained capable of performing their intended safety function before approving the modification for operation. The inspectors verified that applicable post maintenance installation and testing requirements were adequately identified and performed prior to implementation of modification design packages. Completed modifications were adequately reviewed prior to implementation and prior to returning affected equipment to service.

The inspectors verified that the licensee addressed the impacts of modifications to the ISA, ISA Summary, and other safety program information developed in accordance with 10 CFR 70.62.

The inspectors reviewed the licensee's CAP to verify that unanticipated and nonconforming issues relating to the preparation and installation of modifications were entered into the CAP and addressed.

b. Conclusion

No violations of NRC requirements were identified.

C. Special Topics

1. Follow-up on Previously Identified Issues

(Closed) VIO 70-1257/2014-003-01: Failure of IROFS 3526, a UO_2 building steam boiler vacuum breaker.

The inspectors reviewed the corrective actions taken for this violation which included revising engineering change procedures to provide definitions and examples of replacement in kind, replacement in like kind, and form, fit, and function. This item is closed.

2. Event Follow-up

None

D. 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 September 25, 2014, to R. Link and staff. No dissenting comments were received from the licensee.

SUPPLEMENTAL INFORMATION

1. **KEY POINTS OF CONTACT**

Name	Title
S. Cline	Mechanical Maintenance Supervisor
B. Doane	Criticality Safety Engineer
D. Hanson	Project and Reliability Engineer
K. Kulesza	Criticality Safety Engineer
J. Kreitzberg	Criticality Safety Engineer
A. Landon	Project and Reliability Engineer
P. Lee	Preventive Maintenance Manager
B. Lewis	Electrical Engineering Supervisor
R. Link	Site Manager
J. Luebke	Principal Engineer
C. Manning	Nuclear Criticality Safety Manager
B. Newell	Planner/Scheduler for Maintenance
S. Powers	Plant Engineering Manager
L. Smith	Training Specialist
T. Tate	Environmental, Health, Safety and Licensing Manager
B. Tilden	Operations Manager
H. Welker	IRM Manager
J. Veysey	Maintenance Manager

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

2. LIST OF ITEMS OPENED, CLOSED, AND DISCUSSED

Closed	Type	Title
07001257/2014003-01	VIO	Failure of IROFS 3526, a UO_2 building steam boiler vacuum breaker

3. INSPECTION PROCEDURES USED

IP 88020, Operational Safety
IP 88025, Maintenance and Surveillance of Safety Controls
IP 88070, Permanent Plant Modifications
IP 88015, NCS Program
IP 88016, NCS Evaluations and Analyses

Attachment

4. DOCUMENTS REVIEWED

Records:
Dose Report (3rd quarter of 2014)
Maintenance Audit, Version 1.0, dated December 2013
E04-07-201405, NCS Audit/Inspection Report May 2014, Version 1.0, dated June 24, 2014
E04-07-201406, NCS Audit/Inspection Report June 2014, Version 1.0, dated July 17, 2014
E04-07-201405, NCS Audit/Inspection Report August 2014, Version 1.0, dated September 15, 2014
E04-04-008, 2012 Areva-Richland Triennial NCS Program Assessment Report, Version 1.0, dated January 21, 2013
NCS Weekly Walk-down Schedule, dated September 14, 2014
NCS Infractions: 14-010, 14-012, 14-013, 14-014, 14-021, 14-023, 14-026, 14-029

Procedures:
AID-10397, Operator Aid-Reference 1068 Canberra, Model ADM606M Using Three Model GSP-100 Gamma Scintillation (NaI) Probes with ROI's Set at 166-206 KeV, Version 2.3
E04-03-003, HRR Site NCSP Replacement Procedure, Version 2.0, dated March 24, 2014
E04-05-01, NCS Standards, Version 14.1, dated June 9, 2014
E04-06-001, Review of NCS Specifications, Version 6.0, dated June 19, 2014
E04-06-002, Routine Nuclear Criticality Safety Audits, Version 4.1, dated July 28, 2014
E04-06-004, Preparation and Review of NCS Documents, Version 9.0, dated June 10, 2014
E04-06-005, Review of NCS Implementing Documents, Version 5.1, dated May 1, 2014
E04-06-006, NCS Management System Assessment, Version 6.1, dated July 29, 2014
E-04-NCSA-163, Industrial Waste Water Treatment Facilities, Version 22.0
E04-NCSA-350, Powder Drum Warehouse, Version 11.0, dated January 15, 2014
E04-NCSA-370, UO_2 Pellet Pressing, Version 11.0, dated April 21, 2014
E04-NCSA-776, Warehouse 7, Version 11.0, dated May 16, 2014
E04-NCSA-820, Dry Conversion Powder Production Process, Version 11.0, dated August 4, 2014
E-04-NCSS-163, Industrial Waste Water Treatment Facilities, Version 17.0
E18-01-001, External Reporting of Safety, Environmental, MC&A, and Security Related Events or Conditions, Version 9.0, dated May 15, 2014
MCP-30149, Equipment and Interlock Bypass, Version 5.0
MCP-30325, Instrument Repetitive Maintenance (IRM), Version 7.0
MCP-30383, Preventive Maintenance, Version 5.0
PM procedure: C360P005
SOP-40260, UF6 Cylinder Valve/Pipe Plug Changeout, Dry Conversion Facility, Version 4.1
SOP-40292, Dry Conversion Facility – Preparing and Removing UF6 Cylinders, Version 16.0
SOP-40296, Dry Conversion Facility – Emergency Procedure for Control of UF6 Gas Release, Version 2.0
SOP 40302, DCF Breaking Primary Vessel Containment, Version 9.1, dated May 9, 2014
SOP-40486, Richland Operations General Rules, Version 26.0

SOP-40789, Work Order Instructions, Version 14.0
SOP-40839, Instrument Repetitive Maintenance (IRM), Version 11.0
SOP-40841, Preventive Maintenance (PM), Version 9.0

Condition Reports Written as a Result of the Inspection:
2014-6015, Documented Comments Identified by NRC during IP 88015 and 88016

Condition Reports Review:
2013-1209, 2013-3042, 2013-3618, 2013-4393, 2013-5436, 2013-5535, 2013-5988, 2013-6097, 2013-6336, 2013-6439, 2013-6770, 2013-7246, 2013-7308, 2013-7887, 2013-8342, 2013-8429, 2013-8626, 2013-8809, 2013-8989, 2014-796, 2014-919, 2014-1006, 2014-1503, 2014-1810, 2014-1896, 2014-1898, 2014-1942, 2014-1966, 2014-2632, 2014-2708, 2014-3135, 2014-3818, 2014-4180, 2014-4256, 2014-5018, 2014-5682, 2014-5923

P&IDs:
P&ID: CSA-611,163, Industrial Waste Water System IX Regeneration, Revision (Rev.) 5

Other:
IROFS Report (in-line gamma monitors)
Monthly Meeting notes from the Chemical Safety Team, dated August 25, 2014)
P&ID: CSA-611,163, Industrial Waste Water System IX Regeneration, Rev. 5
Preventive Maintenance Orders: 13213497 and 13213498 (ARF in-line gamma monitors)
Print-out of in-line gamma monitor calibrations/repairs since 2012
Requested Craft Support Sheet, dated September 22, 2014