



**UNITED STATES
NUCLEAR REGULATORY COMMISSION
REGION II**

245 PEACHTREE CENTER AVENUE NE, SUITE 1200
ATLANTA, GEORGIA 30303-1257

April 28, 2016

Dr. Ronald J. Land
Site Manager
AREVA, Inc.
2101 Horn Rapids Road
Richland, WA 99354-0130

**SUBJECT: AREVA NP, INC. (RICHLAND) – NUCLEAR REGULATORY COMMISSION
INTEGRATED INSPECTION REPORT 70-1257/2016-002**

Dear Dr. Land:

The Nuclear Regulatory Commission (NRC) conducted an announced, routine inspection during the first quarter of calendar year 2016 (January 1 to March 31, 2016), at the AREVA NP, Inc., facility in Richland, Washington. The purpose of the inspection was to review the implementation of programs and procedures for radiation protection, radiological waste management, and environmental protection. The enclosed report presents the results of the inspections. At the conclusion of the inspections, the results were discussed with members of your staff at an exit meeting held on February 11, 2016.

During the inspection, 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. Based on the results of these inspections, no violations of significance were identified.

In accordance with Title 10 of the *Code of Federal Regulations* 2.390 of NRC's "Rules of Practice and Procedure," 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 Agency wide 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 contact Tom Vukovinsky of my staff at 404-997-4622.

Sincerely,

/RA/

Eric C. Michel, Chief
Projects Branch 2
Division of Fuel Facility Inspection

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

Enclosure:
NRC Inspection Report 70-1257/2016-002
w/Supplemental Information

cc: (See page 3)

If you have any questions, please contact Tom Vukovsky of my staff at 404-997-4622.

Sincerely,

/RA/

Eric C. Michel, Chief
Projects Branch 2
Division of Fuel Facility Inspection

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cc: (See page 3)

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cc:

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U. S. NUCLEAR REGULATORY COMMISSION
REGION II

Docket No.: 70-1257

License No.: SNM-1227

Report No.: 70-1257/2016-002

Licensee: AREVA NP, Inc.

Facility: Richland Facility

Location: Richland, Washington 99354

Dates: January 1 through March 31, 2016

Inspectors: R. Gibson, Senior Fuel Facility Inspector (Section A.1)
N. Pitoniak, Fuel Facility Inspector (Section A.2)
G. Goff, Fuel Facility Inspector (Section A.3)

Approved by: E. Michel, Chief
Projects Branch 2
Division of Fuel Facility Inspection

Enclosure

EXECUTIVE SUMMARY

AREVA NP, INC. - Richland
NRC Integrated Inspection Report 70-1257/2016-002
January 1 through March 31, 2016

An inspection was conducted by regional inspectors during normal shifts in the areas of radiation protection, environmental protection, and radiological waste management. 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 documents. No safety significant findings were identified during this inspection.

Radiological Controls

- The Radiation Protection program was implemented in accordance with the license application and regulatory requirements. (Paragraph A.1)
- The Environmental Protection program was implemented in accordance with the license application and regulatory requirements. (Paragraph A.2)
- The Radiological Waste Management program was implemented in accordance with the license application and regulatory requirements. (Paragraph A. 3)

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. Radiological Controls

1. Radiation Protection (Inspection Procedure (IP) 88030)

a. Inspection Scope and Observations

The inspectors reviewed the Radiological Protection Program and determined that the licensee's program performance was reviewed at least annually to comply with 10 Code of Federal Regulations (CFR) 20.1101. The inspectors reviewed the Environmental, Health, Safety and Licensing organization chart and interviewed staff regarding their responsibilities. Since the last inspection, there was one new Health and Safety Technician (HST) added to the program. The inspectors identified that the radiation protection program responsibilities and functions were independent from operations and maintenance. The inspectors reviewed a sample of radiological procedures and noted that the changes made to these procedures since the last inspection were consistent with regulations and license requirements.

The inspectors reviewed the licensee's training program for radiation protection. The inspectors reviewed initial training and refresher training of HSTs and noted that they were trained in accordance with the license application and applicable procedures. The inspectors identified that the licensee was implementing the radiation protection training program consistent with the license requirements.

The inspectors reviewed the records of Individual Contamination Reports for all of calendar year (CY) 2015 and the beginning of CY 2016. The inspectors verified that trends were captured in the licensee's corrective action program (CAP) and management emphasized the importance of as low as reasonably achievable (ALARA) practices. The inspectors verified that the regulatory limits for a personnel contamination event were not exceeded.

Air monitoring and smear data were reviewed by the inspectors to determine if surveys were effective in the identification of airborne particulates and surface contamination. The inspectors reviewed and noted that the licensee had established schedules for periodic surveys of work areas. The inspectors reviewed a selected sample of survey records since the last inspection. The inspectors noted that the survey program adequately evaluated the magnitude and extent of radiation and contamination levels in accordance with 10 CFR 20.1501 and the license.

The inspectors examined selected portable survey instruments and fixed monitoring equipment to determine operability and calibration status. The inspectors reviewed a sampling of instruments and equipment used for quantitative radiation and contamination measurements and determined that they were calibrated at the proper

frequency as required in 10 CFR 20.1501. The inspectors interviewed staff and observed that the radiation protection instruments were checked daily for operability as required by the license application.

The inspectors observed that radiological signs and postings at entrances to controlled areas, as well as within the controlled areas, were posted in accordance with the license and regulatory requirements and accurately reflected radiological conditions in the areas. The inspectors conducted walk downs of the Dry Conversion building, UO₂ Building and the Neutron Absorber Fuel (NAF) Building and noticed that the areas were adequately posted and controlled. The inspectors verified that the Notice to Employees, NRC Form 3, was posted in high traffic areas (near employee entrances/exits) in accordance with 10 CFR 19.11.

Inspectors reviewed the licensee's usage of 45-gallon drums for NAF purposes. During the walk-down mentioned above the inspectors reviewed the licensee's procedural and administrative requirements for handling these 45-gallon drums.

The licensee's ALARA program was reviewed to determine if the program and ALARA goals were developed and implemented in accordance with the license. On a quarterly basis, the licensee conducted ALARA Committee meetings detailing ALARA goals and exposure summaries in order to identify undesirable trends. The inspectors interviewed the manager responsible for the ALARA evaluations and assessments and found the evaluations and assessments to be in accordance with their license. The inspectors observed that the licensee utilized procedures and engineering controls to achieve occupational doses which were ALARA as required by 10 CFR 20.1101.

b. Conclusion

No violations of significance were identified.

2. Effluent Control and Environmental Protection (IP 88045)

a. Inspection Scope and Observations

The inspectors interviewed licensee staff and reviewed program changes and verified that there were no significant program changes within the last 12 months. The inspectors also noted that there were no significant personnel changes during the same time period.

The inspectors reviewed recent audits and verified that these audits were performed within the required frequency. The inspectors verified that findings and observations documented in the audits were entered into the corrective action system and that recommended corrective actions were adequately implemented.

The inspectors reviewed program requirements specified in Chapter 9 of the license application and found that quality control of laboratory measurements was implemented in accordance with approved procedures. The inspectors verified that laboratory analyses were conducted using calibrated equipment and performed by qualified personnel.

The inspectors reviewed the third and fourth quarter CY 2014, and the first and second quarter CY 2015, semi-annual effluent reports and determined that the licensee was in compliance with the reporting requirements of 10 CFR 70.59. The inspectors reviewed records of airborne effluents and found all results to be below 10 CFR 20 requirements. The inspectors accompanied licensee personnel into the field and observed the collection of five gaseous effluent samples and one sewage discharge sample. The inspectors performed random sampling checks of instrument calibrations for eight gaseous effluent monitors and found them to be within calibration. The inspectors noted that licensee staff demonstrated adequate knowledge regarding system operation and sampling requirements and activities were conducted in accordance with approved procedures. The inspectors reviewed the most recent soil, sediment, and vegetation results and found them to be below the requirements of 10 CFR 20.

The inspectors reviewed the public dose assessment and determined that the average annual effluent concentrations released in 2015 did not exceed the values specified in Appendix B of 10 CFR Part 20. The total dose to the hypothetical individual likely to receive the highest dose from the licensed operation did not exceed the 10 CFR 20.1301(a) (1) limit for 2015. The inspectors reviewed the airborne portion of the public dose assessment and verified that result was in compliance with the ALARA constraint required by 10 CFR 20.1101(d).

b. Conclusion

No violations of significance were identified.

3. Radioactive Waste Processing, Handling, Storage, and Transportation (IP 88035)

a. Inspection Scope and Observations

During the inspection, there were no activities related to the packaging and shipment of low-level radioactive waste (LLRW) or mixed waste (MW).

The inspectors determined that the licensee had established and maintained adequate procedures and a quality assurance program to ensure compliance with the requirements of 10 CFR Part 20 and 10 CFR Part 61 applicable to LLRW or MW form (characterization), classification, and stabilization.

The inspectors reviewed procedures and observed storage of radioactive waste and the condition of the storage vessels. The procedures were clearly written and adequately delineated responsibilities related to radioactive waste management.

The inspectors reviewed the quality assurance program for radioactive waste management and noted that the required audits were being performed. The findings from these audits were entered into the licensee's corrective action program for resolution.

The inspectors reviewed the licensee's program for classifying low-level radioactive waste and mixed waste. The inspectors reviewed the procedures for classifying waste as well as records relating to waste. The inspectors reviewed the licensee's program for

ensuring that waste was properly packaged to ensure the waste form met the requirements of 10 CFR 61.56. Inspectors noted that the waste classification was in compliance with 10 CFR 61.55.

The inspectors reviewed the licensee's procedures for labeling waste shipments and tracking radioactive waste. The procedures were adequate to ensure that radioactive waste was properly labeled and specified actions to be taken should the shipments not reach the intended destination in the time specified. The inspectors also reviewed the procedures for placement, inspection, and repackaging of radioactive waste.

The inspectors performed walk-downs of selected radioactive material storage areas. The storage areas had adequate postings to ensure that the proper material was being stored in the area and the material was safely stored in accordance with procedures. The inspectors noted that the containers were properly labeled to reflect their contents.

b. Conclusion

No violations of significance were identified.

B. 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 February 11, 2016, with Barry Tilden, Operations Manager, and other members of the licensee's 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	Environmental, Health, Safety and Licensing
D. Durham	Radiological Safety Supervisor
L. Howe	Health Safety Technician
W. Koglin	UCAR Technician Support/ Principal Engineer
P. Lee	Preventive Maintenance Manager
L. Maas	Licensing and Compliance Manager
C. Manning	Nuclear Criticality Safety Manager
M. Nelson	Health Safety Technician
S. Nunez	Emergency Preparedness/Security
J. Perryman	Environmental Manager
S. Powers	Engineering
V. Sakach	Health Physicist
T. Tate	Environmental, Health, Safety and Licensing Manager
B. Tilden	Operations Manager
H. Welker	Instruments & Electrician Supervisor
R. Wheeler	Health Safety Technician
S. Wright	Safety Manager

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

2. LIST OF ITEMS OPENED, CLOSED, AND DISCUSSED

None

3. INSPECTION PROCEDURES USED

IP 88030	Radiation Protection
IP 88035	Radioactive Waste Processing, Handling, Storage, and Transportation
IP 88045	Effluent Control and Environmental Protection

4. DOCUMENTS REVIEWED

Records:

2015 Waste Container Shipping Summary
Ambient Air #3 Samples, dated January 21, 2015, April 15, 2015, July 22, 2015, October 21, 2015
Ambient Air #4 Samples, dated January 21, 2015, April 15, 2015, July 22, 2015, October 21, 2015
Ambient Air #5 Samples, dated April 17, 2015, July 15, 2015
Ambient Air #6 Samples, dated April 17, 2015, July 15, 2015
Ambient Air #7 Samples, dated April 17, 2015, July 15, 2015
Ambient Air #8 Samples, dated January 21, 2015, April 15, 2015, July 22, 2015, October 21, 2015

Contamination Surveys (March 2014-December 2015)
 Dose Rate Surveys (March 2014-December 2015)
 Laboratory analysis equipment calibration, 2/2/16
 LLRW and MW storage area radiological surveys, dated January 26, 2016
 Mixed/Hazardous, Dangerous/90-Day Waste Storage Pad Inspection, dated February 5, 2016
 Order 13267960, IRM 01892 Flowmeter 6 mo cal SST
 Order 13275087, IRM 02080 Flowmeter 1 yr
 Order 13226307, IRM 08207 Pri Std 1 yr cal
 Order 13281640, IRM 08208 Low Air Flow, 1 yr SST Sec Std
 Order 13278561, Pri Std 1 yr Met
 Order 13278421, IRM 02083 Flowmeter 1 yr
 Order 13258672, IRM 02081 Flowmeter 1yr
 Order 13261400, IRM 02082 Flowmeter 1 yr
 Order 13281284, IRM 02084 Flowmeter 1 yr
 Order 13253178, IRM 02089 Flowmeter 1 yr
 Order 13264030, IRM 02091 Flowmeter 1 yr
 Order 13255572, IRM 02090 Flowmeter 1 yr
 Preventive Maintenance (PM) for IROFS 4304, C780I010, 2014-2015
 Quarterly LLRW Container Storage Inspection Form, dated December 7, 2015
 Semi-Annual Radioactive Waste Handling Audit, dated January 21, 2015 and July 22, 2015
 Sewage Treatment Plant Samples, dated January 13, 2015, April 15, 2015, July 22, 2015, October 23, 2015
 Soil #1 Samples, dated January 21, 2015, April 15, 2015, July 22, 2015, October 21, 2015
 Soil #2 Samples, dated January 21, 2015, April 15, 2015, July 22, 2015, October 21, 2015
 Training records for three waste handlers
 Warehouse Storage Pad Monthly Inspection

Procedures:

AID-10408, Version 3.3 Reference 1082, Canberra Sirius Hand and Foot monitors
 AID-10409, Version 4.2 Reference 1083, Canberra Argos Personnel monitors
 AID-10061, Version 2.4 Reference 059, Ludlum Model 177-61, Eberline E-140
 Ratemeters
 AID-10198, Version 4.1 Reference 307, Canberra MetCam Alpha Continuous Area Monitor
 AID-10197, Version 2.3 Reference 306, Eberline Alpha Air Monitor
 E04-NCSA-610, Version 14
 E04-NCSS-780, Waste Handling, Version 15.0
 E04-NCSS-G81, Version 17
 E05-01-017, Version 1
 E05-15-2015-01, Version 1
 E07-02-311, UO2 Waste Assay Calibration and Operating Procedure
 MCP-30235, Process Specification – Radioactive Solid Waste Packaging, Version 4.2
 Operator Aid, Reference 1012 GSE Series 60 Programmable Digital Weight Indicators
 With or Without Numeric Keypad, Version 3.2
 Operator Aid, Reference 1028 Ortec ISOCART In-Situ Object Counting Assay System, Version 4.2
 SOP-40025, Routine Facility Radiation Level Surveys, Version 6.0

SOP-40046, Area/Facility Removable Contamination Control, Version 8
 SOP-40382, Solid Waste Packaging Procedure, Version 29
 SOP-40383, Waste Assay Operation, Version 8.1
 SOP-40384, Waste Volume Reduction and Packaging Facility, Version 9.0
 SOP-40386, Mixed//Hazardous/Dangerous Waste Handling and Storage, Version 8.1
 SOP-40387, LLRW and Ash Container Handling and Storage, Version 8.1
 SOP-40389, Preparing Low Level Radioactive Waste (LLRW), Mixed Waste, Hazardous
 SOP-40487, Contaminated Waste Generator Requirements, Version 16
 SOP-40520, Management Measures, Drum Tumbling Waste and Hazardous Material
 Shipments, Version 6.0
 SOP-40665, Inspection and Release of Waste for Land Disposals, Version 4.1

Condition Reports Reviewed:

2015-1703, 2015-3475, 2015-4568, 2015-7510, 2015-8438, 2015-9415, 2015-10016,
 2015-10333
 CR-2016-1012, The drum number markings on some waste drums stored outdoors are
 illegible or missing, dated February 11, 2016
 CR-22016-993, Rad Surveys of waste drums don't have beta/gamma results for some
 days, dated February 11, 2016

Other Documents:

Analytical Services Sample Report Sludge, dated October 23, 2015
 E05-15-201501, Radiation Protection Audit Report (HP-4), Version 1.0, dated
 December 18, 2015
 Inspection Report – Areva NP Richland – Radiation protection and Environmental
 Protection – May 19-21, 2015
 License Application
 Required Reporting of Effluents per 10 CFR 70.59 from July 1, 2014 – December 31,
 2014
 Required Reporting of Effluents per 10 CFR 70.59 from January 1, 2015 – June 30,
 2015