

INSPECTION REPORT

1. LICENSEE OR CERTIFICATE HOLDER/LOCATION INSPECTED:

AREVA NP, Inc.
2101 Horn Rapids Road
Richland, WA 99352-0130

2. NRC/REGIONAL OFFICE:

U.S. Nuclear Regulatory Commission
Region II
61 Forsyth Street, Suite 23T85
Atlanta, GA 30303-8931

REPORT NO:

2009-006

3. DOCKET NUMBER:

70-1257

4. LICENSE OR CERTIFICATE NUMBER:

SNM-1227

5. DATE(S) OF INSPECTION:

September 14, 2009 – September 24, 2009

LICENSEE OR CERTIFICATE HOLDER:

The inspection was an examination of the activities conducted under your license or certificate as they relate to safety and/or safeguards and compliance with the Nuclear Regulatory Commission (NRC) rules and regulations and the conditions of your license or certificate. The inspection consisted of selective examinations of procedures and representative records, interviews with personnel, and observations by the inspector. The inspection findings are as follows:

- 1. Based on the inspection findings, no violations were identified.
- 2. Previous violation(s) closed.
- 3. Reported events reviewed
- 4. The violation(s), specifically described to you by the inspector as non-cited violations, are not being cited because they were self-identified, non-repetitive, and corrective action was or is being taken, and the remaining criteria in the NRC Enforcement Policy, to exercise discretion, were satisfied.
Non-Cited Violation(s) was/were discussed involving the following requirement(s) and Corrective Action(s):

(See Part 3)

- 5. During this inspection, certain of your activities, as described below and/or attached, were in violation of NRC requirements and are being cited. This form is a NOTICE OF VIOLATION, which may be subject to posting in accordance with 10 CFR 19.11.
(Violations and Corrective Actions)

LICENSEE OR CERTIFICATE HOLDER STATEMENT OF CORRECTIVE ACTIONS FOR ITEM 5, ABOVE

I hereby state that, within 30 days, the actions described by me to the inspector will be taken to correct the violation(s) identified. This statement of corrective actions is made in accordance with the requirements of 10 CFR 2.201 (corrective steps already taken, corrective steps which will be taken, date when full compliance will be achieved). I understand that no further written response to the NRC will be required, unless specifically requested.

Title	Printed Name	Signature	Date
LICENSEE/CERTIFICATE HOLDER REPRESENTATIVE			
NRC INSPECTOR	Gibson, Pelchat, Pitts, Cramer	/RA/	10/21/09

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6. INSPECTOR(S): Richard Gibson, John Pelchat, Chad Cramer, Leonard Pitts, and Gregory Goff (In-Training)

7. INSPECTION PROCEDURES USED: 88005, 88010, 88020, 88045, and 88050

EXECUTIVE SUMMARY

Summary of Plant Status

The AREVA NP Richland facility converts uranium hexafluoride into uranium dioxide for the fabrication of low-enriched fuel assemblies used in commercial nuclear power reactors. During the inspection period, normal production activities were ongoing. This routine, announced inspection included observations and evaluations in the areas of effluent control and environmental protection, management organization and controls, operator training/retraining, operational safety, and emergency preparedness. The inspection involved observations of work activities, reviews of selected records, and interviews with plant personnel. The inspection identified the following aspects of the licensee programs as outlined below:

Operational Safety (IP 88020)

- The inspectors walked down the Uranium Dioxide (UO₂) Building, Dry Conversion Facility (DCF), Engineering Laboratory Operations Building, the test facility, warehouses, supercritical carbon dioxide extraction, Specialty Fuels Building, and the Hydrogen Facility. The inspectors noted that the housekeeping in these areas was adequate and the control of combustible materials was adequate, no significant issues were identified.
- The inspectors reviewed functional test procedures and results for the following items relied on for safety (IROFS) in DCF: 1225, 1005, 1007, 1021, 1028, 1029, 1228, and 1229. The licensee performed the functional tests in a timely manner as prescribed by the procedures. No significant issues were identified.
- The inspectors reviewed the functional test and calibration of a gamma detector on the sand filter tanks in the ammonia recovery facility. The instrument technician performed the functional test as directed by the procedure. While performing the zeroing test for one of the detectors, the test failed low. The instrument technician continued to perform the remainder of the test and the detector was still able to perform its intended safety function. The instrument technician contacted the responsible engineer and created a condition report. The responsible engineer corrected the system to ensure that the detector would work properly. Once the correction was made, the detector was retested and passed all parts of the functional test. No significant issues were identified.
- The inspectors reviewed the hazard analysis for System 820, Dry Conversion Powder Production. No significant issues were identified.
- The inspectors reviewed a portion of the preventative maintenance (PM) performed for a calciner in the UO₂ building. The staff performing the PM seemed knowledgeable about the tasks they were

EXECUTIVE SUMMARY (Continued)

performing and followed the applicable radiation safety requirements.

- The inspectors noticed that the licensee had six degraded safe batch containers in the past five months listed in their nuclear criticality safety infraction list. The inspectors discussed this issue with the licensee who is trending this issue.
- The licensee had a failure definition in their Integrated Safety Analysis (ISA) Summary for IROFS 4726, "Conveyor belt barrier," that the inspectors determined did not meet the intent of this IROFS. The inspectors brought this issue to the attention of the licensee. The licensee staff has committed to re-evaluating this failure definition in the ISA Summary.
- A scale reset issue was discovered with a hood leading to an unfavorable geometry container on 7/24/09. The licensee discovered that a scale reset over-rides a proximity switch in this particular hood. The inspectors followed up on the issue, and determined that the licensee removed the scale interlock so that the proximity switch interlock would be able to function properly. The licensee continued to maintain double contingency. The inspectors determined that the changes implemented by the licensee were adequate.
- The licensee submitted an Event Notification (#45310) to the NRC on August 29, 2009, when the licensee identified by functional testing that one of the nuclear criticality detection (NCD) systems was unable to perform its normal function. All movement of special nuclear material (SNM) on site was suspended. The remaining eight NCD systems were tested and found to meet all functional test requirements. Troubleshooting revealed the deficient system had been wired incorrectly in April of 2009, preventing it from performing its intended function for a four month period. Although the system was found to be capable of detecting an accidental criticality, the wiring error prevented the detector system from sending a signal to energize the alarm system. The system was repaired and tested satisfactorily. The inspectors determined that a small area of the facility had been unmonitored by any NCD between April and August of 2009. This area was outside of any processing or storage area, but special nuclear material was routinely transferred through the area. Between April and August 2009, the likelihood of an accidental nuclear criticality remained highly unlikely, therefore the increase in risk to the workers, public and environment, was very low. Part 70.24(a) of Title 10 of the Code of Federal Regulations states, in part, that each licensee authorized to possess special nuclear material in a quantity exceeding 700 grams of contained uranium-235, shall maintain in each area such licensed special nuclear material is handled, used, or stored, a monitoring system meeting the requirements of paragraph 10 CFR 70.24(a)(1) and using gamma- or neutron-sensitive radiation detectors which will energize clearly audible alarm signals if accidental criticality occurs. Part 70.24(a)(1) of Title 10 of the Code of Federal Regulations states, in part, that the monitoring system shall be capable of detecting a criticality that produces an absorbed dose in soft tissue of 20 rads of combined neutron and gamma radiation at an unshielded distance of 2 meters from the reacting material within one minute. Coverage of all areas shall be provided by two detectors. Contrary to the above, from April through August 2009, the licensee failed to maintain gamma- or neutron sensitive radiation detectors which would energize clearly audible alarm signals if accidental criticality occurred in an area where nuclear material is handled. Failure to maintain radiation detectors capable of energizing clearly audible alarm signals if an accidental criticality occurred in an area where nuclear material is handled is considered a violation of NRC requirements. Immediate corrective actions included replacing the incorrectly wired communications cables and verifying that all the NCDs in the criticality accident alarm system (CAAS) were operating correctly. Future corrective actions include: updating the procedures for functionally testing the CAAS after maintenance; reviewing the preventative maintenance and calibration procedures associated with the CAAS to ensure that the significance of activities are appropriately characterized and that the conduct of these activities satisfy applicable regulatory requirements; testing of replacement NCD communications cables prior to installation; and refresher training of engineering and maintenance staff. This non-repetitive, licensee-identified and corrected violation is being treated

EXECUTIVE SUMMARY (Continued)

as a Non-Cited Violation (NCV), consistent with Section VI.A.8 of the NRC Enforcement Policy (NCV 70-1257/2009-006-01).

Effluent Control and Environmental Protection (IP 88045)

- The inspectors verified that no significant environmental program or major procedural revisions had occurred since the last environmental inspection.
- Performance of the licensee's environmental audit program was consistent with the requirements specified in the license application.
- The licensee's quality control program for ensuring the accuracy of analytical instrumentation was effective and in compliance with licensee's laboratory procedures.
- Environmental sampling and monitoring stations (liquid and airborne effluent) were appropriately located and adequately maintained.
- Inspectors observed the collection and change-out of ambient air filters and radioactive gaseous effluent filters for certain stacks. This activity was conducted in accordance with the procedure and within the required frequency. The air sample data from these stacks was analyzed and subsequently provided to the inspectors. All airborne effluents released were well within the limits specified in the license and ALARA limits required by 10 CFR 20.1101.
- Inspectors observed the collection of liquid effluent (a composite sample) and determined that this sampling activity was conducted in accordance with the procedure and within the required frequency. As per the applicable procedure, a sample was taken to the Washington State Department of Health for the analysis of biological oxygen demands.
- The inspectors observed grab sludge and water samples (provided by the City of Richland Wastewater Treatment facility) being taken back to the licensee's facility for analysis. Analysis of the grab samples had not been completed by close of inspection.
- The inspectors reviewed current calibrations, functional tests, and consistency of uranium analysis data. Liquid and airborne effluent monitoring instrumentation and support equipment was maintained and calibrated in accordance with licensee procedures.
- Based on a review of the previous 12 months of liquid effluent sample data, the inspectors determined that the concentration of licensed material within the sanitary (liquid) effluent was less than limits listed in 10 CFR 20, Appendix B.
- Based on a review of the previous 12 months of airborne effluent sample data, the inspectors determined that the licensee had correctly prepared and submitted results to the NRC in accordance to 10 CFR 70.59 and 10 CFR 20 Subpart L.
- Inspectors accompanied operators to ensure that the operators were performing environmental sampling consistent with the procedures.
- The inspectors reviewed the licensee's procedures for minimizing releases to the environment and determined that they were adequate.

EXECUTIVE SUMMARY (Continued)

- Currently, the licensee is using approved procedures for samples taken from the City of Richland Wastewater Treatment facility. The licensee did state that the frequency for sampling, as required by procedures, will likely be reduced from a monthly to a quarterly basis.

Operator Training/Retraining (IP 88010)

- The inspectors interviewed operators and their supervisor on the first shift. A qualified operator was conducting on-the-job training in the ceramics area. The inspectors discussed training requirements and expectations with the qualified operator and the responsible supervisor. The inspectors confirmed that the operators were only performing activities for which they were qualified. Conduct and documentation of this on-the-job training was being effectively managed by the operator's supervisor.
- The inspectors interviewed training personnel and reviewed the training materials for an on-the-job-training instructor (OJTI) training course. The OJTI course is designed to prepare qualified operators and subject matter experts for administration of on-the-job training. The training materials are well-developed and demonstrated a focus on process safety information, hazard identification, and evaluation of equipment operation.
- The inspectors interviewed training personnel, operators, and operations supervisors with regard to their responsibilities related to the process for requesting changes and updating operator training. All personnel interviewed were knowledgeable of their responsibilities related to the change process for training.
- The licensee uses an electronic training system to monitor and update the qualification status of plant personnel. The inspectors used this system to review several operator qualification and training records to determine if the training was provided in accordance with training requirements. The training and qualification for selected individuals was determined to be adequate and current. The inspectors verified that individuals were trained and qualified in accordance with licensee programs and procedures.

Emergency Preparedness (IP 88050)

- The inspectors interviewed licensee personnel and reviewed licensee records to determine that the licensee had not made any major changes to the emergency preparedness program during the review period. Minor programmatic changes were made to clarify training requirements for Plant Emergency Response Team (PERT) members and to incorporate lessons learned from the most recent NRC-graded exercise, conducted in April 2009. Changes were also made to the emergency response training program to enhance training by incorporating more hands-on activities into the curriculum. The inspectors reviewed these changes and determined that these changes were completed in accordance with the licensee's change management process, received the appropriate level of review from licensee staff and management, and were adequately communicated to affected personnel.
- The inspectors interviewed licensee personnel and reviewed licensee records to determine that the licensee made the required changes to its emergency procedures to appropriately incorporate the programmatic changes described above. These procedure modifications were developed, reviewed, and promulgated as required. The inspectors reviewed these changes and determined that these changes were completed in accordance with the licensee's change management process, received the appropriate level of review from licensee staff and management, and were adequately communicated to affected personnel.

EXECUTIVE SUMMARY (Continued)

- The inspectors observed two separate PERT member training activities for the use of Self Contained Breathing Apparatus (SCBA) and the use of hand-held fire extinguishers. The training required the handling and use of the subject equipment under realistic conditions including an SCBA exercise where students performed a group task while wearing SCBA face pieces in which the visibility was obscured. Fire extinguisher training included each student participating in the extinguishing of 16 ft² and 140 ft² gasoline fires. The training methods and exercises required full participation of each student complemented by instructor feedback. Review of representative licensee records indicated that training provided to on and offsite emergency responders met the requirements described in the license.

The inspectors interviewed members of the PERT team regarding the use of protective clothing in various emergencies that involved releases of hazardous materials. The licensee employees were knowledgeable regarding conditions of use and limitations of various types of protective clothing. In particular, licensee employees demonstrated a good working knowledge of the procedures for inspecting and donning protective clothing, including Level A encapsulation garments, prior to use. This inspection closes IFI 2007-004-02 regarding the failure to adequately inspect and identify a tear in a Level A suit prior to use.

- The inspectors conducted telephonic interviews with representatives from the designated medical facility, local fire and police departments, and the state emergency management agency. Each licensee revealed that the licensee frequently met with the various offsite organizations that would provide assistance to the facility. Each of the representatives interviewed indicated that they and their colleagues were provided adequate opportunities for site-specific training and site familiarization tours. Representatives of the fire and police departments described the licensee as being proactive with regard to emergency preparedness.
- The inspectors reviewed the licensee's process for capturing emergency preparedness issues identified during drills or subsequent critiques. Licensee records documenting the results of exercises and drills were frank and candid with regard to areas that required improvement including the performance of individuals in their emergency response roles. The licensee entered these issues into the site corrective action program and tracked issues until their ultimate resolution. Review of corrective action program records also indicated that employees wrote Condition Reports as needed to report observed deficiencies in emergency response equipment that were also tracked by the licensee's corrective action system.
- Equipment relied on for emergency management was inspected, maintained, and tested in accordance with licensee requirements. The inspectors examined the contents of several emergency response equipment locations and verified, using the licensee's inventory procedures, that the required equipment was properly stocked and maintained.

Management Organization and Controls (IP 88005)

- The inspectors reviewed the licensee's internal audit program to determine if the program is in compliance with licensee procedures and license requirements. The findings from the licensee's audit program were appropriately documented in the corrective action program. The inspectors determined that the reviewed internal audits were thorough and reflected a low threshold for identification and documentation of discrepancies. The licensee's audit program was determined to be in compliance with licensee procedures and licensee requirements.
- The licensee has established a problem identification and resolution and incident investigation program. The inspectors confirmed that the identification, evaluation, and tracking of issues was performed in accordance with the licensee's program and met the requirements of the ISA. The identification, tracking, and closure of corrective actions were performed in accordance with established procedures.

EXECUTIVE SUMMARY (Continued)

- The inspectors reviewed management structure changes since the last inspection. There were no significant management changes. The only changes identified were at the supervisor level and the inspectors determined that those changes were implemented in accordance with licensee requirements and license conditions.

Exit Meeting Summary

The inspection scope and results were summarized on Thursday, September 17, 2009, and Thursday, September 24, 2009, with Mr. Perkins and members of his staff. The inspectors asked the certificate holder or licensee staff whether any materials examined during the inspection should be considered proprietary. Although proprietary information was discussed, no proprietary information was mentioned in this report.

Key Points of Contact

<u>Name</u>	<u>Title</u>
C. Perkins	Plant Manager
L. Stevens	Operations Manager
R. Burklin	Health Physics Manager
V. Sakach	Health Physicist
T. Tate	Security and Safety Manager
D. Durham	Radiological Safety Supervisor

List of Items Opened, Closed, Discussed

<u>Item Number</u>	<u>Status</u>	<u>Description</u>
NCV 70-1257/2009-006-01	Opened	Failure to maintain radiation detectors capable of energizing clearly audible alarm signals if an accidental criticality occurred in an area where nuclear material is handled from April through August of 2009.
IFI 70-1257/2007-004-02	Closed	Review the licensee's corrective actions to address areas for improvement, including the ineffectiveness of the critique.