



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

October 29, 2013

Mr. David Precht
Manager, Columbia Plant
Westinghouse Electric Company
5801 Bluff Road
Hopkins, SC 29061

**SUBJECT: WESTINGHOUSE ELECTRIC COMPANY - NUCLEAR REGULATORY
COMMISSION INTEGRATED INSPECTION REPORT 70-1151-2013-004**

Dear Mr. Precht:

This refers to the inspections conducted from July 1 through September 30, 2013 at the Westinghouse Columbia Fuel Fabrication Facility, Hopkins, SC. The purpose of the inspections was to determine whether activities authorized under the license were conducted safely and in accordance with Nuclear Regulatory Commission (NRC) requirements. 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 exit meetings held on July 25 and August 8, 2013, for this integrated inspection report. The enclosed report presents the results of these inspections.

During the inspections, the staff examined activities conducted under your license as they relate to safety and 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 plant observations. Throughout the inspections, observations were discussed with your managers and staff. The inspections covered the following areas: operational safety, radiation protection, radioactive waste management, and transportation of radioactive material. No findings of significance were identified.

In accordance with 10 CFR 2.390 of the 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 document system (ADAMS), accessible from the NRC Web site at <http://www.nrc.gov/reading-rm/adams.html>.

D. Precht

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

Sincerely,

/RA/

Marvin D. Sykes, Chief
Fuel Facility Inspection Branch 3
Division of Fuel Facility Inspection

Docket No. 70-1151
License No. SNM-1107

Enclosure:
NRC Inspection Report No. 70-1151-2013-004
w/Attachment: Supplementary Information

cc w/encl:
Wayne Sepitko
Manager
Environment, Health and Safety
Electronic Mail Distribution

Christine Kneece
Manager
Industrial Safety
Electronic Mail Distribution

Susan E. Jenkins
Assistant Director, Division of Waste Management
Bureau of Land and Waste Management
Department of Health and Environmental Control
Electronic Mail Distribution

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Susan E. Jenkins
Assistant Director, Division of Waste Management
Bureau of Land and Waste Management
Department of Health and Environmental Control
Electronic Mail Distribution

DISTRIBUTION:

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DATE	10/ 28 /2013	10/ 28 /2013	10/ 28 /2013	10/ 28 /2013	10/ 28 /2013	10/ 29 /2013	10/ 29 /2013
E-MAIL COPY?	YES NO	YES NO	YES NO	YES NO	YES NO	YES NO	YES NO

U. S. NUCLEAR REGULATORY COMMISSION
REGION II

Docket No.: 70-1151

License No.: SNM-1107

Report No.: 70-1151/2013-004

Licensee: Westinghouse Electric Company

Facility: Columbia Fuel Fabrication Facility

Location: Hopkins, SC 29061

Dates: July 1 through September 30, 2013

Inspectors: N. Peterka (Section A.1)
T. Goulding (Section A.1)
G. Goff (Section B.1)
B. Adkins (Section B.1)
R. Gibson (Sections B.2 and B.3)
K. Kirchbaum (Sections B.2 and B.3)

Approved by: M. Sykes, Chief
Fuel Facility Inspection Branch 3
Division of Fuel Facility Inspection

Enclosure

EXECUTIVE SUMMARY

Westinghouse Electric Company
Columbia Fuel Fabrication Facility
NRC Integrated Inspection Report 70-1151/2013-004
July 1 through September 30, 2013

Inspections were conducted by NRC regional inspectors during normal shifts in the areas of safety operations, radiation protection, radioactive waste management, and radioactive material transportation. During the inspection period, normal production activities were ongoing. These announced, routine inspections consisted of a selective examination of procedures and representative records, observations of activities, walk-downs of Items Relied on for Safety (IROFS), and interviews with licensee personnel. No safety significant findings were identified.

Safety Operations

- The IROFS selected for review were properly implemented and maintained in order to reliably perform their intended safety function. (Section A.1)

Radiological Controls

- The radiation protection program was implemented in accordance with the license application and regulatory requirements. (Paragraph B.1)
- Radioactive waste activities were performed in accordance with the license application and regulatory requirements. (Paragraph B.2)
- Shipments of radioactive materials were prepared and shipped in accordance with applicable regulations and plant procedures. Shipping records were properly completed and maintained in accordance with applicable regulations. (Paragraph B.3)

Attachment

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

REPORT DETAILS

Summary of Plant Status

The Westinghouse Facility converts uranium hexafluoride (UF₆) into uranium dioxide using a wet conversion process and fabricates fuel assemblies for use in commercial nuclear power 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 staff and reviewed records associated with the conversion and incinerator areas. The inspectors determined that selected Items Relied on for Safety (IROFS) are being adequately implemented and properly communicated as described in the Integrated Safety Analysis (ISA). The inspectors determined that the licensee is operating safely and in compliance with requirements.

The inspectors confirmed that engineered controls reviewed were present and capable of performing their intended safety function(s). 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 administrative controls were implemented and communicated. The inspectors reviewed applicable procedures and records and determined that required actions, as identified in the ISA Summary, were correctly transcribed into operating procedures. The inspectors evaluated the procedures' contents with respect to operating limits and operator responses for upset conditions and verified that limits needed to assure safety are adequately described in the procedures.

The inspectors interviewed operators and determined that operators and technicians were adequately implementing the required safety controls. The inspectors observed operator performance and determined that they were adhering to applicable safety procedures. The inspectors reviewed the postings and operator aids applicable to the tasks being observed and determined that these postings and operator aids were current, reflected safety controls, and were used by the operators.

Through interviews and document reviews, the inspectors verified that the licensee conducted periodic surveillance testing as required by the ISA Summary for the selected safety controls.

The inspectors reviewed the licensee corrective action program entries for the Conversion and Incinerator areas since the last operational safety inspection and determined that deviations from procedures and unforeseen process changes affecting nuclear criticality, chemical, radiological, or fire safety were documented and investigated promptly. Also, the inspectors evaluated the corrective actions associated

with Issue Report #12-334-C003, Redbook entries #64072, #64052 and #62300, and determined that the completed corrective actions were adequate.

b. Conclusion

No findings of significance were identified.

B. Radiological Controls

1. Radiation Protection (IP 88030)

a. Inspection Scope and Observations

The inspectors examined the results of an audit of the radiation safety program and determined that the program was reviewed, at least annually, to comply with 10 CFR 20.1101. The inspectors reviewed the organization chart and interviewed management and staff and determined that the radiation protection responsibilities and functions are independent from operations. The inspectors reviewed a sample of radiation protection procedure revisions implemented since the last inspection to verify adherence to regulations and license requirements. The inspectors reviewed the most recent quarterly and annual As Low as Reasonably Achievable (ALARA) reports and determined that the licensee adequately tracked short-term and long-term ALARA progress as required by the License Application (LA).

The inspectors verified that instruments and equipment used for quantitative radiation measurements were calibrated at the proper frequency as required in 10 CFR 20.1501. The inspectors interviewed staff and observed field observations to determine that the radiation protection instruments were checked daily for operability as required by the LA.

The inspectors observed radiological protection personnel count air samples from fixed air samplers located throughout the facility. The inspectors verified that the air samples were counted every eight hours during normal operations as required by the LA. The inspectors verified that the samples were allowed time for natural activity to decay and that the samples were analyzed on measurement equipment calibrated with sources traceable to National Institute of Standards and Technology (NIST) standards. The inspectors reviewed air sample results and Unusual Incidence (UI) reports to determine if the licensee invoked special air sampling practices or conducted investigations if the airborne radioactivity concentration exceeded 100 percent Derived Air Concentration (DAC) for isotopes of uranium.

The inspectors reviewed the Total Effective Dose Equivalent (TEDE) results and determined that they were less than the regulatory limit of five rem/year. The maximum TEDE result for 2012 was 0.889 rem. The inspectors reviewed the 2012 personnel dosimeter results as submitted to the licensee by their contractor and determined that the Lens Dose Equivalent and Shallow Dose Equivalent results were less than the regulatory limit of 15 rem and 50 rem/year, respectively. The inspectors reviewed a sample of individual dose assessments and the Declared Pregnant Worker dose records for 2012 and 2013, and determined that the results met regulatory requirements. The inspectors verified that personnel dosimeters were supplied by a National Voluntary Laboratory Accreditation Program (NVLAP)-certified commercial supplier and were evaluated at least quarterly.

In the area of internal exposure control, the inspectors conducted interviews and reviewed records and determined that plant workers likely to receive greater than 10 percent of the applicable Annual Limit on Intake (ALI) were monitored for intakes of radioactive material. The inspectors verified that the primary method of determining Committed Effective Dose Equivalent (CEDE) was through air sample analysis and supplemented by in-vitro (bioassay). The inspectors verified that the licensee has a procedure to implement work restrictions when an individual may have received a significant intake or when personnel exceeded administrative dose limits. The inspectors determined that in-vitro samples are collected and evaluated at least annually and that an in-vivo (lung count) is performed at least annually as required by the LA. The inspectors verified that records were maintained in accordance with 10 CFR 20.2106.

The inspectors reviewed the implementation of the respiratory protection program. The inspectors interviewed technicians on the preparation and use of respirators in the plant and reviewed respiratory protection training and procedures. The inspectors determined that the licensee was appropriately requiring medical evaluation of respirator users, fit testing, and user seal checks in accordance with 10 CFR 20.1703. The inspectors examined a random sampling of respirators and cartridges for deterioration and defects and determined that the equipment was in adequate condition. Also, the inspectors confirmed that the equipment was certified by the National Institute for Occupational Safety and Health (NIOSH).

The inspectors verified that the training and procedures were sufficient and that users were properly trained and qualified in the use of respiratory protection equipment. The inspectors also determined that the respiratory protection program adequately identified potential hazards.

The inspectors toured the Contamination Controlled Area (CCA) and the fuel assembly/storage area and verified that radiological signs and postings accurately reflected radiological conditions within the posted areas. Areas were posted in accordance to 10 CFR Part 20.1902. The inspectors reviewed training records and lesson plans to determine if personnel authorized to enter the CCA had completed the required radiation protection training. The inspectors examined the various process areas to determine if entry/exit points into the CCA were controlled with change rooms and step-off pads. The inspectors verified that access to the CCA required the use of protective clothing consistent with work assignments. The inspectors observed personnel don and doff protective clothing to determine if the licensee implemented adequate practices to prevent contamination of personnel. The inspectors verified that proper personnel survey instruments were provided in change rooms and at step-off pads. The inspectors observed the licensee perform weekly source checks of the hand and foot monitors and daily source/response checks of the hand-held survey meters. The inspectors verified that instructions which describe survey techniques, directions for decontamination, and what actions to take in the event of a survey instrument malfunction were posted at exit points. The inspectors reviewed issue reports (corrective action/condition reports) from the past 12 months to determine if the licensee entered personnel contamination events into the corrective action program (CAP). The inspectors verified that the Notice to Employees, NRC Form 3, was posted in a high traffic area in accordance with 10 CFR 19.11.

The inspectors reviewed recent removable contamination smear surveys from the men's change room and determined the survey frequency and results were consistent with the requirements of the LA. The inspectors observed Radiological Protection (RP) technicians perform a dose rate survey of a tractor trailer carrying an incoming shipment of uranyl nitrate. The inspectors verified that the survey was performed in accordance with the licensee's procedure and the survey instrument was properly calibrated. The inspectors reviewed leak test survey records for sealed sources and determined that the licensee was in compliance with the LA.

The inspectors reviewed the first quarter 2013 ALARA Summary. The inspectors determined that ALARA committee met at the required frequency, reviewed data, and generated ALARA goals as required by the LA. The inspectors determined that the licensee utilized procedures and engineering controls to achieve occupational doses which were ALARA as required by 10 CFR 20.1101. In addition, inspectors reviewed the latest ALARA annual report and verified that the licensee's ALARA report was adequate to satisfy 10 CFR Part 20 requirements.

b. Conclusion

No findings of significance were identified.

2. Radioactive Waste Management (IP 88035)

a. Inspection Scope and Observations

The inspectors evaluated whether 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 low-level radioactive waste form, classification, stabilization, and shipment manifests/tracking.

The inspectors reviewed procedures and observed performance of tasks related to radioactive waste handling. During the review, the inspectors noted inconsistent implementation of procedural requirements for the documentation of visible and audible alarms associated with administrative IROFS for criticality. The concern regarding the inconsistent procedure implementation was shared with the licensee. The licensee immediately entered the issue into their corrective action program and subsequently revised the procedure to clearly define the requirements and document completion of required actions. The procedure, COP-836033, was revised and operators were trained on the revised procedure. The licensee completed a review of the completed procedures and determined that the performance requirements of 70.61 were met.

The inspectors reviewed the quality assurance program for radioactive waste management and determined that the licensee was performing the required audits. The findings from these audits were entered into the licensee's CAP for resolution. The licensee continues to implement the radioactive waste management program in accordance with the license and regulations.

The inspectors reviewed the licensee's program for classifying low-level radioactive 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.

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. Additionally, the inspectors 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 procedural requirements. The inspectors noticed that the containers were properly labeled to reflect their contents and most containers were in good physical condition. The inspectors also noticed legacy drums of ash and ash residue, stored in the stainless steel floored room of the Bay area that were rusting and deteriorating from the material inside. The licensee plans to re-drum the affected drums and process them through the "dirty" dissolver.

b. Conclusion

No findings of significance were identified.

3. Inspection of Transportation Activities (IP 86740)

a. Inspection Scope and Observations

The inspectors evaluated whether the licensee had established and, if so, was maintaining an effective management-controlled program to ensure radiological and nuclear safety during the receipt, packaging, delivery, and private carriage of licensed radioactive materials. The inspectors also evaluated whether transportation activities were in compliance with the applicable NRC and Department of Transportation (DOT) transport regulations.

The inspectors reviewed a number of shipping records involving the shipment and receipt of special nuclear material (SNM), UF₆ cylinders, and waste disposal. The inspectors confirmed that the licensee ensured that the appropriate documentation accompanied the packages being shipped. The inspectors also confirmed that the licensee recorded the required information on the packaging and shipping orders, including the transportation index, package activity, labeling, and placards.

The inspectors observed the handling, movement, preparation, and the placement of loaded fresh fuel (SNM) on transport vehicles for outgoing shipments. The inspectors verified that the personnel loading the fresh fuel followed the appropriate procedures. The inspectors interviewed the radiation protection and transportation personnel to ensure they were knowledgeable of NRC and DOT requirements. The inspectors reviewed the transportation staff training records to ensure that the licensee had administered 49 CFR 172.704 hazardous materials transportation training to affected personnel as required by DOT and the license.

Storage areas (south pad) containing UF₆ cylinders were properly posted and access controlled in accordance with approved procedures. Cylinders were stored in the proper configuration and cylinder valve covers were present as required by the procedure.

The inspectors verified that the licensee met the 10 CFR 71.21 conditions required to use the general license provision for transport of licensed material. The inspectors reviewed audits of the transportation program and determined the licensee was performing periodic audits of the program as required. On April 12, 2013, an NRC Division of Spent Fuel Storage and Transportation inspector performed a 10 CFR 71 Quality Assurance Program (QAP) inspection at Westinghouse. The inspector identified several QAP issues that were entered into the licensee's CAP. The inspectors reviewed the condition reports and determined that the licensee corrective actions from the QAP inspection were still in progress.

b. Conclusion

No findings of significance were identified.

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 July 25 and August 8, 2013, with you and your staff. No dissenting comments were received from the licensee. Proprietary information was discussed, but not included in this report.

SUPPLEMENTARY INFORMATION

1. KEY POINTS OF CONTACT

<u>Name</u>	<u>Title</u>
R. Bates	Maintenance and Equipment Improvement
G. Byrd	Licensing Engineer, ES&H
R. Byrd	Plant Instrument Team Manager
D. Cauley	URR Services
B. Davis	Incinerator Process Engineer
B. Dougherty	System One Operations Manager
B. Faris	ISA Engineer
C. Grant	Industrial Safety
T. Gregg	URR Services Manager
T. Hinson	Health Physics Operations Manager
J. Howell	Conversion Manager
R. Joyner	
C. Miller	NCS Engineer
A. Parker	CMMS Administrator
N. Parr	Licensing Manager, ES&H
A. Pearson	Radiological Protection Manager (Acting)
D. Precht	Plant Manager
T. Ross	URRS, Waste Shipping Lead
W. Sepitko	Environmental, Health, and Safety Manager
C. Snyder	EH&S Engineering Manager
J. Summers	Lead Process Analyst
D. Underwood	
J. Watkins	Product Assurance Manager
J. Williamson	Team Manager for Conversion

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

2. LIST OF ITEMS OPENED, CLOSED, AND DISCUSSED

None

3. INSPECTION PROCEDURES USED

IP 88020, Operational Safety
IP 88030, Radiation Protection
IP 88035, Radioactive Waste Management
IP 86740, Inspection of Transportation Activities

4. DOCUMENTS REVIEWED

Records:

RP-related training records for five licensee employees
 Respirator fit testing records
 NRC Form 4, Cumulative Occupational Exposure History for two operators
 Radiation exposure records for eleven declared pregnant workers
 Criticality Safety SSC FLOOR-113 (Clean Absorbent Materials Storage)
 ETAPS Qualification for MCP-202107 (Liquid Effluent On Line Monitor Calibration)
 Form CF-20-010, MCP-203601 Documentation, Rev. 0
 Form CF-20-010, MCP-203609 Documentation, Rev. 0
 Form CF-20-010, Form for Incin-412, Rev. 0, dated October 15, 12
 Form CF-20-010, Form for Incin-422, Rev. 0, dated October 16, 2012
 Form CF-81-932, Conversion Line 1 Safety Significant Interlocks, Alarms, and Passive
 Engineered Controls Functionality Control Form, Rev. 62, dated February 22, 2013
 Form CF-81-934, Safety Significant Interlocks Functionality Verification, Rev. 55
 Form CF-81-934, Safety Significant Interlocks Functionality Verification, Rev. 55
 Form CF-81-934, Conversion Line 3 Safety Significant Controls Verification Form,
 Rev. 55
 Form CF-81-954, HF Spiking Safety Significant Interlocks Verification Form, Rev. 5,
 dated June 29, 2009
 Form CF-81-959, Hot Oil Systems 3 and 4 Safety Significant Interlocks Verification
 Form, Rev. 0, dated October 14, 2012
 Instrument Data Card for Radiation Monitor HF Spiking #1 on June 17, 2013
 Instrument Data Card for Radiation Monitor HF Spiking #2 on June 17, 2013
 ISA Summary 03 Rev. 8, IROFS INCIN-412 (Active Control Lower Burner Prefire
 Permissive)
 ISA Summary 13 Rev. 8, IROFS INCIN-422 (Proof of Safe Purge)
 ISA Summary 03 Rev. 8, IROFS ADUVAP-933 (3-Way Isolation Valve Between
 Vaporizers)
 ISA Summary 03 Rev. 8, IROFS ADUVAP-123 (Nitrogen High Temperature Interlock)
 Line 5 Only
 ISA Summary 03 Rev. 8, IROFS ADUVAP-131 (Autoclave High Nitrogen Pressure
 Interlock) line 5 Only
 ISA Summary 03 Rev. 8, IROFS ADUVAP-903 (Vaporizer High Steam Interlock)
 ISA Summary 13 Rev. 8, IROFS WT-906 and WT-907 (Incinerator Scrubber Blowdown
 Gamma II Interlocks)
 ISA Summary 03 Rev. 8, IROFS ADUHYD-908 (Hydrolysis High Level Interlock)
 ISA Summary 03 Rev. 8, IROFS ADUCAL-906 (High Temperature in Calciner Interlock)
 ISA Summary 03 Rev. 8, IROFS ADUHOS-901 (High Oil Temperature Shutoff System
 #3)
 ISA Summary 03 Rev. 8, IROFS ADUHOS-902 (High Oil Emergency Shutdown System)
 ISA Summary 03 Rev. 8, IROFS ADUHYD-106 (Hydrolysis column low recirculation flow
 interlock)
 ISA Summary 03 Rev. 8, IROFS ADUHFS-114 A/B (High (>6) grams U235 per liter
 content in the spiking station from either gamma monitor)
 ISA Summary 03 Rev. 8, IROFS ADUHOS-407 (High Oil Temperature Shutoff System
 #4)
 Maintenance Data Card Tag# RTS947B MCP-202107 (Testing Results for IROFS WT-
 906 and WT-907)
 PM 81016 (Annual Test) Performed May 2, 2013

PM 81102 (Annual OM-XOMOX 3-Way Valve Verification) Performed May 9, 2013
 Work Order (WO) 596305
 WO 597764

Procedures:

CF-81-932, Conversion Line 1: Safety Significant Interlocks, Alarms, and Passive Engineered Controls Functionality Verification Form, Rev. 63, dated May 29, 2013
 COP-815417, Functional Verification of Safety Significant Controls Conversion
 MCP-203301, Verification of Interlock ADUVAP-903: Vaporizer High Steam Pressure, Rev. 4, dated February 22, 2013
 MCP-203310, UF6 Cylinder Hi Pressure, Rev. 5, dated February 25, 2013
 OM81201, SI-Safety Items, ADU Line 1-Annual OM, dated February 14, 2012
 PM20206, SI-Safety-Pressure Relief Valves-26 Week PM, dated August 26, 2011
 PM20207, SI-Safety-Pressure Relief Valves-5 Year PM, dated August 26, 2011
 RA-200, Protective Clothing, Rev. 34, dated April 18, 20--13
 RA-203, General HP Rules and Recommendations, Rev. 31, dated June 13, 2013
 RA-204, Bioassay Program, Rev. 14, dated March 20, 2008
 RA-206, Personnel Dosimetry Program, Rev. 16, dated June 13, 2013
 RA-207, Radiation Work Permit, Rev. 22, dated August 7, 2008
 RA-225, Control of Radiation Dose and Chemical Exposure to the Embryo/Fetus, Rev. 2, dated May 11, 2006
 ROF-01-032-2, Hand & Foot Operability Check Log, Rev. 5, dated March 21, 2013
 ROF-02-008-1, Surveys of Incoming Shipments of Radioactive Materials, Rev. 7, dated May 10, 2012
 ROF-5-014-9, Weekly Contamination Survey of Step-off Pads, Rev. 1, dated April 4, 2013
 ROF-5-014-17, Daily Contamination Survey of Step-off Pads, Rev. 1, dated April 4, 2013
 ROF-5-014-18, Weekly Contamination Survey of Change Rooms, Rev. 1, dated April 4, 2013
 ROF-07-011-6, Radiation/Exposure Levels Requiring Notification of Regulatory Agencies, Rev. 2, dated July 11, 2013
 ROP-01-006, RM-20/RM-25 Monitor, Rev. 11, dated July 11, 2013
 ROP-01-032, Source Checks for Radiation Survey/Monitoring Instruments, Rev. 17, dated March 28, 2013
 ROP-01-034, Operability/Source Check of Portable Instruments, Rev. 0, dated March 29, 2012
 ROP-01-050, Operation of Quantfit Personnel Respirator Leak Rate Analyzer, Rev. 15, dated May 30, 2013
 ROP-01-059, Calibration of the Sirius-4AB Contamination Monitor, Rev. 0, dated January 13, 2011
 ROP-02-008, Surveys of Incoming and Outgoing Shipments of Radioactive Materials, Rev. 23, dated July 11, 2013
 ROP-02-011, Air Techniques Incorporated TDA 100P Filter/Mask Tester, Rev. 6, dated December 20, 2012
 ROP-02-012, Washing Respiratory Protection Equipment, Rev. 1, dated July 29, 2010
 ROP-03-001, Personnel Dosimetry System, Rev. 21, dated June 13, 2013
 ROP-03-002, Personnel Exposure System-Guide, Rev. 3, dated April 25, 2013
 ROP-04-007, Performing In vivo Counts, Rev. 12, 03-21-13
 ROP-05-014, Performing Contamination Surveys of the Westinghouse Facility, Rev. 29, dated March 28, 2013
 ROP-05-028, Employee Work Restrictions, Rev. 18, dated January 10, 2013

ROP-05-046, Inventory and Leak Testing of Sealed Sources, Rev. 12, dated February 16, 2012

ROP-05-070, Air Sampling Representativeness, Rev. 7, dated December 20, 2012

ROP-07-001, Health Physics Response to Emergency Events

COP-814001, Hot Oil Systems, Rev. 29, dated March 28, 2013

COP-830210, Incinerator Operation, Rev. 38, dated May 30, 2013

COP-843002, Control of Moveable Non-Favorable Geometry Containers, Rev. 12

MCP-108103, Maintenance Work Order Handling, Rev. 29, dated May 30, 2013

MCP-202107, Liquid Effluent On Line Monitor Calibration, Rev. 17

MCP-202149, HF Spiking #1 and #2 Gamma Monitor Calibration, Rev. 6, dated September 9, 2010

MCP-203301, Verification of Interlock ADUVAP-903: Vaporizer High Steam Pressure, Rev. 4

MCP-203312, Verification of Interlock ADUCAL-906, Rev. 4

MCP-203345, Verification Interlock ADUVAP-11-/ADUHYD-908: Hydrolysis Hi Level (backup), Rev. 6

MCP-203362, Verification of Instrumented Safety Function ADUVAP-131 Autoclave V-X01 High 10# Nitrogen Pressure, Rev. 1

MCP-203374, Verification of Instrumented Safety Function ADUVAP-123 Autoclave V-X01 Temperature High Trip, Rev. 2

MCP-203388, Verification of Interlocks ADUHFS-114 A/B; HF Spiking Activity Monitor, Rev. 2, dated May 23, 2013

MCP-203601, Verification of Interlock INCIN-412 (I-011) During Pre-Firing Cycle, Rev. 3

MCP-203609, Verification of Interlock INCIN-422 (URRS-17), Rev. 3

RA-302, Criticality Signs, Rev. 15

RA-301, Floor Storage of Special Nuclear Material, Rev. 26

Sketch 815417-2, Chemical Operating Procedure Sketch Conversion Area Vaporizer Safety Significant Controls, Rev. 46

Sketch 836038-1, Chemical Operating Procedure Sketch URRS Area, Rev. 74

Sketch 843002-3, Chemical Operating Procedure Sketch General Area– Moveable Non-Favorable Geometry (NFG) Container List, Rev. 16

Sketch RA-108-4, Environment, Health and Safety General – Entire Chemical Area Safety Significant Control Sketch, Rev. 30

Sketch No RA-108-4, Environmental Health and Safety General – Entire Chemical Area Safety Significant Control Sketch, Rev. 30

COP-836033, Rev.. 16, Combustible Trash Collection Scale System, dated May 30, 2013

CF-83-117, Trash Scale Weight Log

COP-841000, Rev. 23, Low Level Radioactive Scrap Handling, dated July 19, 2012

COP-831019, Rev. 16, Filter Disassembly Process, dated October 27, 2010

COP-831001, Rev. 54, Handling, Processing, and Disposing LLRS, dated February 19, 2013

COP-831013, Rev. 11, Shredder Operating Procedure, dated June 26, 2009

COP-831010, Rev. 28, Shipping Low Level Radioactive Waste, dated September 10, 2012

CF-83-154, Pick List and Check Sheet

COP-831016, Rev. 7, Operation of the Metal Detector, dated March 22, 2012

COP-830251, Rev. 22, Standard and Replicate Checks For URRS NDA Systems

COP-830250, Rev. 11, Qualification to Operate Assay Systems, dated January 6, 2011

COP-831012, Rev. 19, Operation of Assay 2 (Canberra Segmented Gamma Scanner), dated June 18, 2009

COP-831006, Rev. 14, Low Level Radioactive Scrap Low Pressure Compactor, dated June 26, 2009
 COP-835510, Rev. 23, Operation of Assay 3 (Canberra Q2 System), dated April 20, 2010
 CF-75B-018, Rev 2, Traveler Refurbishment Verification Checklist
 CF-75B-002, Rev. 15, MCC Refurbishment Verification Checklist
 ROF-02-002-1, Rev. 1, Surveys of Shipments of Radioactive Materials
 TR-100, Rev. 16, Shipment of Radioactive materials General Guidance for Regulatory Compliance, dated September 29, 2011
 TR-202, Rev 18, Shipment of Uranium Hexafluoride (UF6) Specific Requirements for Regulatory Compliance, dated May 31, 2012
 TR-501, Rev. 4, Shipment of Liquid Low Enriched Uranium Specific Requirements for Regulatory Compliance, dated October 18, 2012
 TR-200, Rev. 18, Shipment of Nuclear Reactor Fuel Rods/Assemblies Specific Requirements for Regulatory Compliance
 MOP-730713, Rev. 117, Loading Fuel Assemblies in MCC 3 and MCC 4 Shipping Packaging, dated May 17, 2013
 MOP-730753, Rev. 32, Pack Fuel Assembly- Traveler Package

Condition Reports Written as a Result of the Inspection:

13-206-C009, A training video demonstrating entering and exiting the main step-off pad and frisking is being developed as training for new workers dated July 25, 2013
 13-207-C002, The bin was moved to the contaminated side of the line and the area for the contaminated bin was properly marked for bin placement. Other change rooms were checked for the same condition dated July 22, 2013
 13-207-C003, Equipment has been repaired, dated July 24, 2013
 13-207-C005, Relocation of the station to another low dose area is being determined, dated July 22, 2013
 13-207-C006, The area is being evaluated for contamination control, dated July 22, 2013
 13-205-C005, Notification has been made to the sketch owner to revise, dated July 2013
 Issue Report #13-217-C006 (Respirator Tape Not in Place on Conversion Line #4)
 Redbook #64139 (Cream Can Overfill)

Condition Reports Review:

Issue Report #12-334-C003
 Redbook #64072
 Redbook #64052
 Redbook #62300

Corrective Actions Listing printout of RP-related issues since July 2012:

12-332-C010

Other Documents:

2011 ALARA Report
 2013 ISA
 ALARA CY2013 1st Quarter ALARA Summary
 ALARA 2013 ALARA Goals (letter)
 ALARA CY2012 4th Quarter ALARA Summary
 Calibration certificate numbers/serial numbers/identifiers: 00106518-1109, 00104693-1570, 00106529-11091, 00106523-167, 00106525-1930, 00107426-245, 00107113-671, 00107112-1879, 00107105-503, 00107110-1817, 00106507-1481, 00106507-

1481, 107427-062813, (2) 00107108-943, 1135, 23151, 17277, 05227790, and 107428

Cumulative occupational exposure history for three employees
Letter-“Contaminated Sump,” dated January 7, 2011
Listing of a distribution of procedures as of July 24, 2013
NVLAP Certification (Mirion Technologies)
Printout of a listing of EHS operations HP department’s procedures
Printout of RP-related procedures revised since July 2012
Organization Chart
Radiation Safety Audit, dated November 30, 2012
Training Section on Radiation Protection and Industrial Safety
Work Orders: 593353, 615203, 615202, 508663, & 613786
CA-207, Foreign Material Exclusion (FME) Program, Rev. 10, dated January 3, 2013
ROF-01-032-1, Portable Instrument Operability Check Log, Rev. 0, dated August 16, 2001
ROF-01-032-2, Hand & Foot Operability Check Log, Rev. 5, dated March 21, 2013
ROF-01-032-3, Canberra Gem-5 Portal Operability Check Log, Rev. 0, dated March 29, 2007
ROF-01-032-4, Canberra Rad Sentry Cargo Monitor Operability Check Log, Rev. 0, dated March 29, 2007
SYP-211, Protective Head Gear, Rev. 8, dated October 18, 2012
SYP-218, Respiratory Protection, Rev. 9, dated May 23, 2013
TRN-001-02, Environment, Health & Safety Quarterly Trainer (slides)
TRN-002, Respiratory Training Guide, Rev. 7, No Date
TRN-008, Radiation Basics (slides)
TRN-100, Response to Alarms, Rev. 5, 2013