



**UNITED STATES
NUCLEAR REGULATORY COMMISSION
REGION II**

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

January 25, 2018

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

**SUBJECT: FRAMATOME INC. – NUCLEAR REGULATORY COMMISSION INTEGRATED
INSPECTION REPORT 70-1257/2017-005**

Dear Dr. Land:

This letter refers to inspections conducted from October 1 – December 31, 2017, at the Framatome Inc., facility in Richland, Washington. The purpose of these inspections was to perform routine reviews of the Emergency Preparedness, Fire Protection, and Operational Safety programs. The enclosed report presents the results of this inspection. At the conclusion of the inspection, the results were discussed with members of your staff at an exit meeting held on November 2, 2017.

This inspection examined activities conducted under your license as they relate to public health and safety, the common defense and security, and to confirm compliance with the Commission's rules and regulations and with the conditions of your license. Within the areas of safety operations and facility support, the inspections consisted of selected examination of procedures and representative records, observations of activities, and interviews with personnel. Based on the results of these inspections, the NRC has determined that no violations of a more than minor significance were identified.

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

If you have any questions, please contact Noel Pitoniak of my staff at 404-997-4634.

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 70-1257/2017-005
w/Supplemental Information

cc:
Calvin D. Manning, Manager
Licensing and Compliance
Framatome Inc.
2101 Horn Rapids Road
Richland, Washington 99354

William L. Doane, Jr., Manager
Nuclear Criticality Safety
Framatome Inc.
2101 Horn Rapids Road
Richland, Washington 99354

Timothy J. Tate, Manager
Environmental, Health, Safety & Licensing
Framatome Inc.
2101 Horn Rapids Road
Richland, Washington 99354

Mike Elsen, Director
Office of Radiation Protection
Department of Health
PO Box 47827
Olympia, Washington 98504-7827
Mike.Elsen@doh.wa.gov

Earl Fordham, Deputy Director
Office of Radiation Protection
Department of Health
309 Bradley Boulevard, Suite 201
Richland, Washington 99352

SUBJECT: FRAMATOME INC. – NUCLEAR REGULATORY COMMISSION INTEGRATED
INSPECTION REPORT 70-1257/2017-005

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N. Pitoniak, RII
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DATE	1/25/2018	1/25/2018	1/25/2018	1/25/2018			
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U. S. NUCLEAR REGULATORY COMMISSION
REGION II

Docket No.: 70-1257

License No.: SNM-1227

Report No.: 70-1257/2017-005

Licensee: Framatome Inc.

Facility: Richland Facility

Location: Richland, Washington 99354

Dates: October 1 – December 31, 2017

Inspectors: R. Womack, Fuel Facility Inspector (Paragraph A.1)
M. Ruffin, Fuel Facility Inspector (Paragraph A.2)
G. Goff, Fuel Facility Inspector (Paragraph B.1)

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

Enclosure

EXECUTIVE SUMMARY

FRAMATOME INC.
NRC Integrated Inspection Report 70-1257/2017-005
October 1, 2017 through December 31, 2017

Inspections were conducted by regional inspectors during normal shifts in the performance areas of safety operations and facility support. 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

- No violations of more than minor significance were identified related to the Operational Safety Program. (Paragraph A.1)
- No violations of more than minor significance were identified related to the Fire Protection Program. (Paragraph A.2)

Facility Support

- No violations of more than minor significance were identified related to the Emergency Preparedness Program. (Paragraph B.1)

Attachment

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

REPORT DETAILS

Summary of Plant Status

The Framatome 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. Safety Operations

1. Operational Safety (Inspection Procedure 88020)

a. Inspection Scope

The inspectors reviewed Items Relied On For Safety (IROFS) to verify compliance with the description in the Integrated Safety Analysis (ISA). Specifically, the inspectors interviewed staff and reviewed records associated with blended uranium oxide high efficiency particulate air (HEPA) filters, dry conversion cylinder integrity, and concentration controls on raffinate and process tanks.

The inspectors confirmed that selected safety-related equipment identified as passive and active engineered controls were present and capable of performing the intended safety functions. Through interviews and document reviews, the inspectors verified that the licensee conducted preventive maintenance, calibration, and periodic surveillance as required by the ISA Summary and relevant Nuclear Criticality Safety Assessments (NCSAs) for IROFS 305, 307, 903, 4527, and 4528. The inspectors reviewed NCSA-960 to evaluate the assumptions made during the consequence determination of accident sequences related to the release of significant quantities of special nuclear material.

The inspectors reviewed selected licensee's administrative controls to verify that each was implemented and communicated in accordance with the ISA or procedures. The inspectors reviewed SOP-40369 and SWI-40369 B, related to concentration control of uranium in specific process tanks, to determine that required actions listed in the ISA Summary for IROFS 306 and 307 had been transcribed into written operating procedures. The inspectors reviewed SOP-40315 and observed the implementation of a section of SWI-40315 A to determine if operators were adhering to the requirements of IROFS 902 and 906. The inspectors evaluated the procedural contents with respect to operating limits and operator responses for upset conditions and verified that limits needed to assure safety were described in the procedures.

The inspectors evaluated the corrective actions associated with CR 2016-5600, CR 2017-580, CR 2017-5072, and CR 2017-5841 to verify that deviations from procedures and unforeseen process changes affecting nuclear criticality, chemical, radiological, or fire safety were documented and investigated promptly. The inspectors evaluated the ongoing actions associated with CR 2017-801, CR 2017-2553, CR 2017-3756, CR 2017-4445, and CR 2017-5058 to verify that the licensee was implementing their corrective actions process in accordance with the license application.

b. Conclusion

No violations of more than minor significance were identified.

2. Fire Protection Annual (Inspection Procedure 88055)

a. Inspection Scope

The inspectors reviewed licensee procedures and walked-down the UO₂ Building, the Dry Conversion Facility, the Specialty Fuels (SF) Building, Warehouse 2, the Blended Dysprosium Uranium (BDU) Building, the Modular Extraction Recovery Facility (MERF), and outside areas to verify the material condition of fire protection safety controls and equipment were in compliance with the Fire Hazards Analyses/Pre-Fire Plans. The inspectors conducted walk-downs to verify flammable materials were stored in marked cabinets and the housekeeping and control of combustible materials were as specified in procedure MCP-30031, "Flammable and Combustible Liquids/Solids Storage & Handling." The inspectors walked-down hot work areas to verify the hot work permit program was implemented in accordance with MCP-30039, "Hot Work Procedure."

The inspectors conducted walk-downs and reviewed maintenance and surveillance records and interviewed licensee personnel to verify the combustible control program (IROFS 4502 and 4503), wet pipe sprinklers (IROFS 4535 and 4535.10), fire hydrants, and other fire protection systems were maintained in a state of readiness by having been properly tested to verify their ability to perform their safety function. The inspectors performed observations to verify that passive fire barriers such as fire dampers, doors, walls (IROFS 4536 & 4536.10), and penetration seals were being maintained in a condition that would ensure availability and reliability to perform the safety function. Additionally, the inspectors walked-down locations where fire extinguishers were provided to verify availability and unobstructed access.

The inspectors reviewed the licensee's fire protection system impairment records and walked down the active impairment of the fire alarm system in the BDU and MERF buildings to verify that compensatory measures had been put in place for out-of-service, degraded, or inoperable fire protection equipment. The inspectors reviewed documents to verify that the licensee's organizational structure was consistent with the Chapter 7 of license application. The inspectors reviewed the recent audit of the fire protection program to verify issues were being identified and entered into the site corrective action program (CAP).

The inspectors reviewed the licensee's CAP entries for the past 12 months and determined that the licensee is identifying fire protection IROFS problems and entering the issues into the corrective action program. Additionally, the inspectors evaluated the corrective actions associated with 2017-4058, 2017-1019, 2017-6456, and 2017-6109.

The inspectors conducted interviews with the off-site fire support organization to verify they received training (IROFS 1113 and 3113) and were routinely offered an opportunity for on-site training and site orientation. The inspectors reviewed training records to verify Plant Emergency Response Team (PERT) members had completed the proper fire protection training at the required frequency.

b. Conclusion

No violations of more than minor significance were identified.

B. Facility Support

1. Emergency Preparedness (Inspection Procedure 88050)

a. Inspection Scope

The inspectors interviewed staff and reviewed records to verify that any changes made to the Emergency Plan or within the facility had been reviewed by the Emergency Preparedness (EP) organization and did not require prior NRC approval. The inspectors reviewed select Emergency Plan Implementing Procedures (EPIPs) with major revisions since the last EP inspection to determine that the changes were in compliance with the Emergency Plan and did not diminish safety. The inspectors reviewed on-site locations required to have copies of the EPIPs to verify whether the most current editions were readily available to members of the emergency management and on-site response organizations.

The inspectors reviewed two IROFS (1113.00 and 3113.00) to verify whether nuclear criticality safety (NCS) precautions for firefighting were included in the emergency responses. During the IROFS review, the inspectors also verified that areas in which firefighting restrictions exist because NCS concerns were clearly posted.

The inspectors reviewed training records for various members of the PERT and Plant Emergency Response Management Team (PERMT) and interviewed licensee staff regarding EP training in the past year. The inspectors conducted this review to verify that training requirements were satisfied as per the Emergency Plan. The inspectors reviewed training on usage of emergency equipment and verified that the individuals responsible for utilizing such equipment were qualified. The inspectors also observed part of an annually required advance first aid training class provided by members of Kadlec Regional Medical Center.

The inspectors reviewed records to verify that the licensee provided training for on-site personnel for expected emergency situations consistent with the Emergency Plan. The inspectors also reviewed records to verify that training to off-site emergency responders was offered and that this training included special firefighting instructions, orientation tours, and refresher training as required by the Emergency Plan.

The inspectors reviewed the written agreements with the off-site agencies to verify that the organizations required by the Emergency Plan to have copies of up-to-date agreements, a copy of the most current Emergency Plan, and copies of the most recent implementing procedures. The inspectors interviewed off-site organization representatives from the City of Richland Police Department, Franklin County Emergency Management, Kadlec Regional Medical Center, Department of Energy (DOE) Emergency Management, City of Richland Parks & Public Facilities, Benton County Emergency Services, and City of Richland Fire & Emergency Services to verify that they maintained an understanding of the written agreements and that the licensee invited each organization for tours, training, and/or drill participation as required by the

Emergency Plan. During the review of the Emergency Plan, the inspectors verified the licensee maintained its certification of compliance with the Emergency Planning and Community Right-To-Know Act of 1986.

The inspectors observed the storage of emergency equipment in the Central Guard Station, Emergency Operations Center (EOC) Equipment Shed, and Office Building 4 to verify that the listed equipment was present and maintained in a ready-state as required by the Emergency Plan. The inspectors observed on-site and off-site rendezvous facilities or areas, the EOC, and the alternate EOC to verify that accountability meeting points were accessible and facilities contained operable communications and other equipment, as applicable, in accordance with the Emergency Plan.

The inspectors reviewed licensee annual audit reports to verify that audits were conducted in the area of EP as required by the Emergency Plan. The inspectors verified the qualifications and independence of the auditors. The inspectors also reviewed drill/exercise critiques and interviewed staff to verify that concerns/issues identified during critiques and audits were being captured in the CAP. The inspectors also interviewed staff on the status of the actual or expected effectiveness of these corrective actions.

b. Conclusion

No violations of more than minor 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 November 2, 2017, to T. Tate and staff. No dissenting comments were received from the licensee. Proprietary information was discussed but not included in the report.

SUPPLEMENTAL INFORMATION

1. KEY POINTS OF CONTACT

<u>Name</u>	<u>Title</u>
D. Davis	Emergency Manager, Benton County Emergency Management
S. Davis	Director, Franklin County Emergency Management
J. Deist	Emergency Preparedness Coordinator
W. Doane, Jr.	Manager, Nuclear Safety
B. Hammons	RN, Trauma & Emergency Operations Coordinator
H. Houston	Kadlec Regional Medical Center Advanced First Aid Instructor
T. Huntington	Fire Chief, Richland Fire & EMS
R. Land	Site Manager
B. Mooney	Fire Protection Engineer
S. Nunez	Security & Emergency Preparedness Manager
J. Schiessl	Director, Parks & Public Facilities
C. Skinner	Chief/Director, Richland Police Department
T. Tate	Manager, Environmental, Health, Safety, & Licensing
E. Temple	Kadlec Regional Medical Center Advanced First Aid Instructor
D. Thelen	Director, Emergency Management Program (DOE Richland Operations)
S. Wright	Safety/Fire Protection Manager

2. LIST OF ITEMS OPENED, CLOSED, AND DISCUSSED

None

3. INSPECTION PROCEDURES USED

88020 Operational Safety
88050 Emergency Preparedness
88055 Fire Protection Annual

4. DOCUMENTS REVIEWED

Records:

CG06P008 Safety Inspection 1MO ALAB, IROFS Fire/Gas Detection System, dated February 1, 2017
CG06P008 Safety Inspection 1MO ALAB, IROFS Fire/Gas Detection System, dated April 1, 2017
CG06P008 Safety Inspection 1MO ALAB, IROFS Fire/Gas Detection System, dated September 1, 2017
CG06P012 Fire Hydrant Flow Test 12 MO RE, dated April 1, 2017
CG06P012 Fire Hydrant Flow Test 12 MO RE, dated July 12, 2017
CG06P012 Fire Hydrant Flow Test 12 MO RE, dated July 19, 2017
E04-NCSA-185, Raffinate Treatment Process, Version 18.0

E04-NCSA-810, Dry Conversion Vaporization System, Version 12.0
 E04-NCSA-960, HVAC Exhaust Systems, Version 30.0
 E04-NCSS-G06, Fire Prevention & Fire Fighting, Version 26.0, dated October 16, 2017
 E08-04-1.0, Letters of Agreement, Version 5.0
 E08-04-2.2, Kadlec Regional Medical Center, Version 5.1, dated November 23, 2015
 E08-04-2.4, US Department of Energy, Richland Operations Office, Version 5.1, dated January 7, 2016
 E08-04-2.5, City of Richland, Version 6.0, dated September 29, 2017
 E08-04-2.7, Richland Police Department, Version 6.0, dated September 19, 2017
 E08-04-2.9, Benton County Emergency Services, Version 6.0, dated September 14, 2017
 E08-04-2.10, Energy Northwest, Version 5.1, dated December 15, 2015
 E08-04-2.11, Franklin County Emergency Management, Version 5.1, dated November 16, 2015
 E08-04-2.12, Richland Fire Department, Version 3.1, dated November 16, 2015
 E08-04-3.1, Perma-Fix Northwest, Incorporated, Version 3.1, dated January 6, 2016
 E14-01-014, Ventilation Duct System, Version 5.0
 E14-02-002, BDU/SPF Building Fire Hazards Analysis, Revision (Rev.) 2, dated October 31, 2016
 E14-02-003, SF Building Fire Hazards Analysis, Rev. 2, dated November 1, 2016
 E14-02-004, UO₂ Building Fire Hazards Analysis, Rev. 5, dated October 31, 2016
 E24-01-001, Fire Hazards Analysis – Horn Rapids Road Site, Rev. 4, dated February 9, 2017
 E24-01-102, Fire Hazards Analysis – Dry Conversion Facility, Rev. 2, dated April 13, 2016
 E24-01-199, Fire Hazards Analysis – Misc. Facilities with SNM and Radiological Hazards, Rev. 5, dated February 9, 2017
 FRM-E12-01-007-A, Justification of Continued Operation Under Compensatory Safety Measures 2017-015, dated September 11, 2017
 Maintenance Order 13302847, C960I001 Magnehelic Differential Pressure Gauge 1-Year Calibration, dated August 1, 2016
 Maintenance Order 13311895, C185P001 Tank 317 & Tank 318 Interlocks 12-month Inspection, dated November 1, 2016
 Maintenance Order 13312007, C960I002 Magnehelic Differential Pressure Gauge 1-Year Calibration, dated November 1, 2016
 Maintenance Order 13318006, C185I002 Uranium Analyzer 1 Year Calibration, dated January 1, 2017
 Maintenance Order 13318175, C185I003 Assay Analyzer 1-Year Calibration, dated January 1, 2017
 Maintenance Order 13332343, C960I003 Magnehelic Differential Pressure Gauge 1-Year Calibration, dated April 1, 2017
 Maintenance Order 13342286, C960P034 K37-17-7 HEPA Filter 6-month Replacement, dated July 1, 2017
 Maintenance Order 13344965, C960I001 Magnehelic Differential Pressure Gauge 1-Year Calibration, dated August 1, 2017
 Maintenance Order 13344966, C960I006 Magnehelic Differential Pressure Gauge 1-Year Calibration, dated August 1, 2017
 Maintenance Order 13345200, C960I00 Magnehelic Differential Pressure Gauge 1-Year Calibration, dated August 1, 2017
 Maintenance Order 13348433, C960I004 Magnehelic Differential Pressure Gauge 1-Year Calibration, dated September 1, 2017

Maintenance Order 13348450, C960I005 Magnehelic Differential Pressure Gauge 1-Year Calibration, dated September 1, 2017
 Maintenance Order 13348721, C960I008 Magnehelic Differential Pressure Gauge 1-Year Calibration, dated September 1, 2017
 Preliminary US Fuel Internal Audit Report, October 5-27, 2017 (Annual EP Audit Report)
 Post Drill Critiques & Lessons Learned from April 2017 Exercise
 Property Risk Control- Loss Prevention Report Front Operations Department, dated December 1, 2016
 US Fuel Internal Audit Report, October 10-27, 2016 (Annual EP Audit Report)

Procedures:

E04-NCSS-G06, Fire Prevention & Fire Fighting, Version 26.0
 E08-03-3.5, PERT Liaison, Version 5.0
 E08-03-3.9, Public Information Liaison, Version 7.0
 E08-03-3.11, Environmental Safety Liaison, Version 5.0
 E08-03-4.1, Incident Notification Report, Version 6.0
 E08-03-6.1, Radiological Field Team Procedures, Version 4.4
 E08-03-6.3, Personnel Monitoring, Version 3.4
 E08-03-6.8, Response to Volcano Eruption, Version 5.1
 E08-03-7.5, Public Information Phone Team, Version 4.0
 E08-03-8.2, Plant Evacuation Procedures - Offsite, Version 4.1
 E08-03-8.4, Plant Evacuation Procedures – Individual Buildings, Version 3.4
 E08-03-8.12, Relocating the Emergency Operations Center, Version 1.0
 E12-01-007, Justification for Continued Operation Under Compensatory Safety Measures, Rev. 7
 MCP-30031, Flammable and Combustible Liquids/Solids Storage & Handling, Version 11, dated April 1, 2017
 MCP-30039, Hot Work Procedure, Version 9
 MCP-30040, Fire Protection Program, Version 9
 PM000091, Emergency Repository 1-Month, April – October 2017
 SOP-40315, Recertification Testing and Inspection of UF₆ Cylinders, Version 21.0
 SOP-40369, GSUR Solvent Extraction Process, Version 26.0
 SOP-40857, Maintenance Hot Work Permit Procedure, Version 10
 SOP-41044, Designated Hot Work Area Requirements Procedure, Version 5
 SWI-40315 A, Cylinder Recertification On Cylinders for Inspection, Filling, Draining, and Drying, Version 8.2
 SWI-40369 B, Gamma Energy Analyzer ELO U Monitor 2, Version 3.0

Condition Reports Written as a Result of the Inspection:

CR 2017-6728
 CR 2017-6743, Documented Comments Identified by NRC during IP 88020 inspection, dated November 2, 2017

Condition Reports Reviewed:

CR 2016-5600
 CR-2016-7319
 CR 2017-580
 CR 2017-801
 CR 2017-1019
 CR 2017-1571
 CR 2017-2408

CR 2017-2553
CR-2017-3437
CR 2017-3756
CR 2017-4058
CR 2017-4445
CR 2017-5058
CR 2017-5072
CR 2017-5841
CR 2017-6109
CR 2017-6456

Other Documents:

IROFS Report: 1113.00 & 3113.00

Organizational Chart of Environmental, Health, Safety, & Licensing

Richland Fire Department Incident Reports at AREVA: 2017-00297 & 2017-00848
(dated January 15, 2017 and February 15, 2017)

Training for Off-Site Agencies (dated December 13-14, 2016, March 8, 2017, May 18, 2017, and June 22, 2017)