UNITED STATES
NUCLEAR REGULATORY COMMISSION
REGION II
245 PEACHTREE CENTER AVENUE N.E., SUITE 1200
ATLANTA, GEORGIA 30303-1200

April 23, 2021

Mr. Lance Stephens
Acting Site Manager
Framatome Inc.
2101 Horn Rapids Road
Richland, WA 99354-0130

SUBJECT: FRAMATOME-RICHLAND – NRC INSPECTION REPORT 07001257/2021001

Dear Mr. Stephens:

On March 31, 2021, the U.S. Nuclear Regulatory Commission (NRC) completed an inspection at Framatome-Richland. On February 25, 2021, the NRC inspectors discussed the results of this inspection with you and other members of your staff. The results of this inspection are documented in the enclosed report.

No violations of more than minor significance were identified during this inspection.

This letter, its enclosure, and your response (if any) will be made available for public inspection and copying at http://www.nrc.gov/reading-rm/adams.html and at the NRC Public Document Room in accordance with Title 10 of the *Code of Federal Regulations* 2.390, "Public Inspections, Exemptions, Requests for Withholding."

Sincerely,

/RA/

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

Docket No. 07001257
License No. SNM-1227

Enclosure:
As stated

cc w/ encl: Distribution via LISTSERV®

SUBJECT: FRAMATOME-RICHLAND – NRC INSPECTION REPORT 07001257/2021001 dated April 23, 2021

DISTRIBUTION:
E. Michel, RII
T. Vukovinsky, RII
G. Goff, RII
L. Cuadrado, NMSS
K. Ramsey, NMSS
O. Siurano-Perez, NMSS
D. Marcano, NMSS
PUBLIC

DOCUMENT NAME:
ADAMS ACCESSION NUMBER: **ML21113A229**

■ SUNSI Review		■ Non-Sensitive ☐ Sensitive		■ Publicly Available ☐ Non-Publicly Available	
OFFICE	RII:DFFI/PB2	RII:DFFI/PB2	RII:DFFI/PB2	RII:DFFI/PB2	
NAME	T. Vukovinsky	P. Glenn	G. Goff	E. Michel	
DATE	4/16/2021	4/16/2021	4/16/2021	4/23/2021	

OFFICIAL RECORD COPY

U.S. NUCLEAR REGULATORY COMMISSION

INSPECTION REPORT

REGION II

Docket Number:	07001257
License Number:	SNM-1227
Report Number:	07001257/2021001
Enterprise Identifier:	I-2021-001-0110
Licensee:	Framatome Inc.
Facility:	Framatome-Richland
Location:	Richland, WA
Inspection Dates:	February 22, 2021 to February 25, 2021
Inspectors:	P. Glenn, Fuel Facilities Inspector G. Goff, Fuel Facilities Inspector
Approved By:	Eric C. Michel, Chief Projects Branch 2 Division of Fuel Facility Inspection

Enclosure

SUMMARY

The U.S. Nuclear Regulatory Commission (NRC) continued monitoring the licensee's performance by conducting an NRC inspection at Framatome-Richland, in accordance with the fuel cycle facility inspection program. This is the NRC's program for overseeing the safe operation of licensed fuel cycle facilities. Refer to https://www.nrc.gov/materials/fuel-cycle-fac.html for more information.

List of Violations

No violations of more than minor significance were identified.

Additional Tracking Items

None.

REPORT DETAILS

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.

INSPECTION SCOPES

Inspections were conducted using the appropriate portions of the inspection procedures (IPs) in effect at the beginning of the inspection unless otherwise noted. Currently approved IPs with their attached revision histories are located on the public website at http://www.nrc.gov/reading-rm/doc-collections/insp-manual/inspection-procedure/index.html. Inspections were declared complete when the IP requirements most appropriate to the inspection activity were met consistent with Inspection Manual Chapter (IMC) 2600, “Fuel Cycle Facility Operational Safety and Safeguards Inspection Program.” The inspectors reviewed selected procedures and records, observed activities, and interviewed personnel to assess licensee performance and compliance with Commission rules and regulations, license conditions, site procedures, and standards.

SAFETY OPERATIONS

88020 - Operational Safety

The inspectors evaluated selected aspects of the licensee’s Operational Safety program to verify compliance with selected portions of 10 CFR 70, including 70.61, 70.62, Chapter 3, "Integrated Safety Analysis (ISA) and ISA Summary," and Chapter 11, “Management Measures,” of the facility’s license application, and applicable licensee procedures.

Identification of Safety Controls and Related Programs (IP Section 02.01)

The inspectors selected specific process areas for inspection based on the safety basis information of the facility, the risk/safety significance of the process areas, the description of plant changes submitted to the NRC, and past plant performance documentation. For the process areas of interest, the inspectors selected a sample of accident sequences in nuclear criticality safety and chemical safety based on the information provided in the integrated safety analysis (ISA) summary and safety basis documentation. The inspectors conducted a general plant tour of each major plant operating area. The process areas and accident sequences selected for review are listed below:

System 328 - Dry Conversion Facility (DCF) Scrap Download Hood Operations

Accident sequences reviewed:
328-1.2, 328-1.5, 328-1.7, 328-3.1, 328-3.2, 328-3.3, 328-3.7, 328-4.5.1, 328-4.5.2, 328-4.11, 328-4.12, 328-6.1, and 328-6.2

System 270 - Scrap Uranium Recovery Facility (SURF) Solvent Extraction (SX) and Raffinate Treatment

Accident sequences reviewed:
270-510, 270-512. and 270-526

Review of Safety Controls and Related Programs (IP Section 02.02)

The inspectors reviewed information related to administrative, engineered, and passive safety controls or items relied on for safety (IROFS) for the accident sequences selected above, including the identification of the licensee's assumptions and bounding cases as they apply to each of the selected accident sequences, safety controls, or IROFS. This review was performed to verify that the controls or IROFS were available and reliable to perform their intended safety functions and that the design basis assumptions were reflected in the actual conditions in the field. The specific safety controls selected for review are listed below:

IROFS for System 328 (DC Scrap Download Hood Operations):
1502, 1614, 2203, 3602, 3604.1, 3608, 7002, 7003

IROFS for System 270 (Mixer-Settler process):
0.80, 816, and System 270 safety controls

Implementation of Safety Controls (IP Section 02.03)

For the selected safety controls listed above, the inspectors reviewed management measures to verify proper implementation in accordance with 10 CFR 70 and Chapter 11 of the license application. This review was performed to verify that selected safety controls or IROFS were present, available, and reliable to perform their safety function and that the design basis assumptions were reflected in the actual conditions in the field. The inspectors conducted the following activities to verify the implementation of selected safety controls:

- Inspectors performed plant walkdowns to review selected safety controls
- Inspectors reviewed applicable procedures to review selected safety controls
- The inspectors discussed with the licensee the design basis assumptions and the assigned values such as the frequency index, the probability of failure on demand, the controlled event index, severity category, and the uncontrolled and unmitigated risk in order to verify compliance with NUREG 1520, process hazards analyses, and plant operational history. The inspectors also discussed the impact upon IROFS by configuration management and changes in generic chemical exposure sequences in order to determine that safety was not diminished.

Safety Control Support Programs (IP Section 02.04)

The inspectors assessed additional management measures that support the availability and reliability of the selected safety controls to verify these were implemented in accordance with 10 CFR 70 and applicable sections of the license application. Specifically, the inspectors conducted the following:

- Reviewed numerous preventive maintenance and instrument repetitive maintenance records (includes work orders) for applicable IROFS listed above
- Conducted walk-downs to verify passive engineered controls (PECs) were within the stated dimensions listed in the ISA Summary for the Mixer-Settler process
- Observed a nuclear criticality safety analysis (NCSA) audit of System 163 of the Ammonia Recovery Facility
- Reviewed select corrective actions program (CAP) entries as noted in the documents reviewed section of this inspection report
- Reviewed select audits and self-assessments associated with plant-wide nuclear operations including chemical safety and process areas that implement IROFS
- Reviewed training documents and interviewed select operators assigned to DC Scrap Download Hood Operations
- Reviewed the safety-significant evaluation process which included a review of select non-reportable internal incidents and the associated investigation

INSPECTION RESULTS

No violations of more than minor significance were identified.

EXIT MEETINGS AND DEBRIEFS

The inspectors verified no proprietary information was retained or documented in this report.

- On February 25, 2021, the inspectors presented the NRC inspection results to Lance Stephens and other members of the licensee staff.

DOCUMENTS REVIEWED

Inspection Procedure	Type	Designation	Description or Title	Revision or Date
88020	Corrective Action Documents	CR 2020-0840		
		CR 2020-2628		
		CR 2020-2817		
		CR 2020-2870		
	Corrective Action Documents Resulting from Inspection	CR 2021-0443		
	Miscellaneous		Plant Safety Committee	11/17/2020
			DCF Scrap Download Hood Operator Training Records	
		HRR-CRT-000328-007	System 328 - DCF Scrap Download Hood Operations EXAM	
		2020-114	IRM CHANGE ATTACHMENT	
		E04-NCSA-163	Industrial Waste Division of Fuel Facility Inspection Water Treatment Facilities	Version 32.0
		E04-NCSA-260	SURF Dissolution	Version 3.0
		E04-NCSA-270	SURF Solvent Extraction (SX) and Raffinate Treatment	Version 7.0
		E04-NCSA-328	DCF Scrap Download Hood Operations	Version 9.0
		E04-NCSA-328	DCF Scrap Download Hood Operations	Version 9
		E04-NCSS-G07	Building and Facilities NCS Design Requirements Including Initial Conditions and Bounding Assumptions	Version 10.0
		E04-NCSS-G08	Plant Wide Chemical Safety IROFS	Version 11.0
		E04-NCSS-G20	Receipt of UOx Powders & Pellets from Off-Site Vendors	Version 15.0
		E04-NCSS-G81	45-Gallon Powder Drums with Neutron Absorbing Inserts	Version 22.0
		E14-01-G08	Generic Comingled Chemical Exposure	Version 2.0
		E15-01-1, Appendix A	Hazardous Materials Interaction Matrix	Version 26
		E15-03-002	Integrated Safety Analysis Program Standard - Risk Matrix	Version 10.0
		E15-03-002	Integrated Safety Analysis Program Standard - Risk Index Definitions & Table 6 Resultant Risk Category	Version 10.0
		E15-03-002	Consequence Category Table - Table 2 Consequence Categories	Version 10.0
		EMF-S35128	S35128-2 Incoming Conversion Uranium Feed Materials	Revision 2.0

Inspection Procedure	Type	Designation	Description or Title	Revision or Date
		ISA Summary - E15-01-2.23	Part 2 - Chapter 23 – Generic Comingled Chemical Exposure	Version 1.0
		Process Hazards Analysis (PHA)	Accident Sequences # 008	Revision 412
		STD-20-003	2020 Biannual Chemical Safety Audit, Part 1	04/13/2020
		STD-20-012	2020 Biannual Chemical Safety Audit, Part 2	10/30/2020
	Procedures	MCP-30340	Essential Material Class I: 45-Gallon Powder Containers with Neutron Absorber Inserts	Version 6.0
		SOP-40251	Removing and Returning Poisoned 45-Gallon Drums into Service	Version 11.1
		SOP-40915	DCF Scrap Downloading Hood Operation	Version 12.0
		SWI-50044	Neutron Absorber Insert Weld Repair/Barrel (Skin) Replacement Procedure	Version 4.0
		SWI-50301	Installing Absorbing Inserts in Drum Skins	3.0
	Self-Assessments	E04-06-002	Routine Nuclear Criticality Safety Audits	Version 5.2
	Work Orders	13444889 / C328I001	SCALE DCF 6 MO IN	