



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

July 21, 2022

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

SUBJECT: FRAMATOME-RICHLAND – NRC INSPECTION REPORT 07001257/2022002

Dear Mr. Stephens:

On April 27 and May 26, 2022, the U.S. Nuclear Regulatory Commission (NRC) completed inspections at Framatome-Richland and 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,

A handwritten signature in blue ink, appearing to read "Eric C. Michel".

Signed by Michel, Eric
on 07/21/22

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 07001257/2022002
dated July 21, 2022

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DATE	07/19/2022	07/19/2022	07/19/2022	07/19/2022	07/19/2022
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NAME	E. Michel				
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U.S. NUCLEAR REGULATORY COMMISSION
Inspection Report

Docket Number: 07001257

License Number: SNM-1227

Report Number: 07001257/2022002

Enterprise Identifier: I-2022-002-0065

Licensee: Framatome Inc.

Facility: Framatome-Richland

Location: Richland, WA

Inspection Dates: April 25-28, 2022, and May 23-27, 2022

Inspectors: B. Adkins, Senior (Sr.) Fuel Facilities Project Inspector
L. Cooke, Fuel Facilities Inspector
G. Goff, Fuel Facilities Inspector
T. Sippel, Fuel Facilities Inspector
C. Taylor, Sr. Fuel Facilities Project Inspector
M. Toth, Sr. Enforcement Specialist

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 NRC inspections 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

Type	Issue Number	Title	Report Section	Status
WER	07001257/2022-002-00	Gamma Monitors Non-Functional (EN 55897)	88015	Open
WER	07001257/2021-003-00	Unplanned Medical Treatment of a Contaminated Worker (EN 55634)	88030	Closed

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

88015 - Nuclear Criticality Safety

The inspectors evaluated selected aspects of the licensee's Nuclear Criticality Safety program to verify compliance with selected portions of 10 Code of Federal Regulation (CFR) 70, including 70.61, 70.62, and Appendix A; Chapter 5, "Nuclear Criticality Safety," of the facility's license application; and applicable licensee procedures.

Criticality Analysis (IP Section 02.01)

The inspectors interviewed licensee staff and reviewed nuclear criticality safety analyses (NCSAs), and associated assumptions and calculations, to verify compliance with 10 CFR 70 and applicable sections of the license application, including portions of 3.1.4, 3.1.5, 3.1.6, 5.3.4, and 5.4. Specifically, the inspectors interviewed licensee staff, walked down systems, and reviewed the following NCSAs:

- E04-NCSA-810, "Dry Conversion Vaporization System," Version 14.0, reviewing the basis for why the licensee screened certain accident sequences as not credible (e.g., sequences 1.1, 1.2, 1.5, 1.6)
- E04-NCSA-163, "Industrial Waste Water Treatment Facilities," Version 33.0, focusing on review of accident sequences 5.1 and 5.2, which cover uranium accumulation scenarios in the sand filters
- E04-NCSA-163, "Industrial Waste Water Treatment Facilities," Version 34.0, focusing on review of new accident sequence 5.1, which covers uranium accumulation in the sand filters

Criticality Implementation (IP Section 02.02)

The inspectors selected engineered and administrative controls from the licensee's integrated safety analysis (ISA) summary to verify proper implementation through a review of process and system descriptions, plant walkdowns, and interviews to verify compliance with 10 CFR 70 and applicable sections of the license application, including portions of 11.2.2. Specifically, the inspectors interviewed licensee staff and reviewed the following controls, and their management measures, associated with the NCSAs listed above:

- Items Relied On For Safety (IROFS) 2302, Proportional Sampling and U Totalizing – TK-717 and TK-714, an administrative control to limit uranium accumulation, reviewed sampling data and calculations in FRM-20323 for 2021 and part of 2022
- IROFS 2303, Alarm Response – TK-717 Gamma Monitor, an active engineered control to limit uranium accumulation, reviewed associated condition reports
- IROFS 2309, Gamma Monitor and Interlock – Sand Filter, an active engineered control to limit uranium accumulation, reviewed associated condition reports and calibration and testing records
- IROFS 2310, Independent Gamma Monitor and Interlock – Sand Filter, an active engineered control to limit uranium accumulation, reviewed associated condition reports and calibration and testing records
- IROFS 2311, Alarm Response – TK-714 Gamma Monitor, an active engineered control to limit uranium accumulation, reviewed associated condition reports and calibration record
- IROFS 2315, Sand Filter Backwash, an administrative control to limit uranium accumulation, reviewed sampling data and completion records

Criticality Operational Oversight (IP Section 02.03)

The inspectors assessed the NCS staff's oversight of plant operators, procedures, and operations of systems involving special nuclear material to verify compliance with 10 CFR 70 and applicable sections of the license application, including portions of 5.3.10, 5.3.11 and 5.5. Specifically, the inspectors performed the following activities:

- reviewed operations training and exams for NCS hazards and controls, including HRR-CRT-500003-021 through HRR-CRT-500003-028
- interviewed licensee engineers and operations staff concerning criticality hazards and control methods, including monitoring for long-term accumulations in the Industrial Waste Water Treatment Facility
- observed a licensee NCS engineer conduct an NCS walk through and reviewed recent NCS audit reports
- interviewed dry conversion facility area operators concerning criticality hazards and control methods

Criticality Programmatic Oversight (IP Section 02.04)

The inspectors reviewed NCS program procedures and NCS staff qualifications to verify compliance with 10 CFR 70 and applicable sections of the license application, including portions of 2.2.5.1. Specifically, the inspectors interviewed licensee NCS staff and/or reviewed documents concerning the following:

- reviewed qualification record and training requirements for criticality safety analysts
- reviewed the recently revised procedure E04-04-003, "Criticality Safety Specialist Training & Qualification Program," Version 3.0
- reviewed licensee procedure E15-03-015, "Procedures and Practices for Performing Hazards Analyses," Version 10

Criticality Incident Response and Corrective Action (IP Section 02.05)

The inspectors reviewed the licensee's criticality accident alarm system (CAAS) and corrective action program (CAP) to verify compliance with 10 CFR 70 and applicable sections of the license application, including portions of 5.3.9, 5.3.10, 5.3.11, 5.5 and 11.6.1. Additionally, the inspectors followed-up on Written Event Report (WER) 07001247/2022-002-00, "Gamma Monitors Non-Functional (Event Notification (EN) 55897)" related to the failure of two redundant gamma monitors on a sand filter. Specifically, the inspectors conducted walkdowns, reviewed documents, and interviewed licensee staff concerning the following:

- NCS Infractions 21-022, 22-003, 22-004, 22-005, 22-006, 22-007, 22-009, 22-010; and condition reports (CR)-2016-1543, CR-2021-2767, CR-2022-1299, and CR-2022-1300
- recent NCS evacuation drill records and performance for 2021 evacuation drills
- operator training on what to do during a CAAS activation
- NCS engineer training and support for the emergency response organization

RADIOLOGICAL CONTROLS

88030 - Radiation Protection

The inspectors evaluated selected aspects of the licensee's radiation protection (RP) program and radiological waste (RW) program to verify compliance with selected portions of 10 CFR 19, 20, 61 and 70; Chapter 4, "Radiation Protection," of the license application; Chapter 11, "Management Measures," of the license application; and applicable licensee procedures.

Radiation Protection Program Implementation (IP Section 02.01)

The inspectors interviewed licensee staff and reviewed licensee procedures and other documentation related to the implementation of the RP and radioactive waste programs to

verify compliance with 10 CFR 20.1101(a) and Chapters 4 and 11 of the license application. Specifically, the inspectors performed the following activities:

- attended daily morning meetings where RP was discussed by workers and observed the emphasis placed on personnel safety
- reviewed MCP-30099, "General Radiation Protection Rules & Recommendations," Version 7.0
- reviewed E05-03-001, "Radiation Protection Standard," Version 5.0
- interviewed the health physicists regarding the bioassay program and external dosimetry program
- reviewed the training requirements and records for three health & safety technicians
- reviewed the monthly Radiation Safety Committee Meeting minutes from the previous 13 months
- observed radiological activities, such as contamination surveys and pre-job briefs, performed in the field
- reviewed the schedule of radiological duties and activities
- interviewed the supervisor for radiological safety regarding his staff's roles and responsibilities
- reviewed records of radiation surveys as listed in the "Documents Reviewed" section below
- reviewed audits and assessments as listed in the "Documents Reviewed" section below

Radiation Protection Program Review (IP Section 02.02)

The inspectors reviewed the licensee's as low as reasonably achievable (ALARA) report and audits/assessment records to verify compliance with 10 CFR 20.1101(c) and 20.2102 and section 11.7 of the license application. Specifically, the inspector performed the following activities:

- reviewed E05-01-023, "The ALARA Report - January 1 - December 31, 2020," Version 1.0
- reviewed monthly audits of the radiation protection program
- reviewed a 2022 audit of the radioactive waste program
- verified that records for the radiation protection audits and radioactive waste program audits are being maintained
- verified that findings or observations from audits and assessments are being entered into the corrective action program and are being tracked to completion

Radiation Protection and Radioactive Waste Procedures (IP Section 02.03)

The inspectors assessed the licensee's procedure review process to verify compliance with sections 4.4 and 11.4 of the license application. Specifically, the inspectors reviewed the following procedures:

- AID-10110, "Reference 116 Ludlum Model 2241 Calibration," Version 6.0
- AID-10409, "Reference 1083 Canberra Argos - 4AB & 5AB, Personnel Contamination Monitors," Version 5.1
- AID-10837, "Operator Aid Reference 1191 Mirion NCD Model EDAC3," Version 1.0
- E05-03-001, "Radiation Protection Standard," Version 5.0
- E12-01-003, "Environmental, Health, Safety & Licensing Audit and Assessment Program," Version 11.0
- FRM-30532-A, "Annual Radioactive Waste Handling Audit Checklist," Version 2.0
- MCP-30051, "Contractor Health and Safety Requirements," Version 12
- MCP-30099, "General Radiation Protection Rules & Recommendations," Version 7.0
- MCP-30107, "Radiation Job Permit," Version 7.0
- SOP-40015, "Routine Urine Sampling Program," Version 14.0
- SOP-40016, "In-Vivo Counting Program," Version 11.0
- SOP-40047, "Personnel Contamination Survey Checks," Version 9.0
- SOP-40051, "Decontamination of Personnel & Personal Clothing & Effects," Version 8.0
- SOP-40052, "Treatment of Injuries," Version 11.01
- SOP-40174, "General Facility Radiation Work Procedure," Version 31.0
- SOP-40200, "In-Plant Air Sampling," Version 19.0
- SOP-41159, "HST Incident Response," Version 3.0

Training (IP Section 02.04)

The inspectors interviewed licensee staff and reviewed RP and radioactive waste-related training records and frequencies to verify compliance with 10 CFR 19.12 and section 11.3 of the license application. Specifically, the inspectors performed the following activities:

- reviewed training for the newest radiological waste employee

Safety-Significant Events (IP Section 02.05)

The inspectors reviewed the licensee's review of safety-significant events and RP and radioactive waste-related CAP entries to verify compliance with 10 CFR 20.2202, 10 CFR 70.50, Part 70 Appendix A, and section 11.6 of the license application. Additionally, the inspectors followed-up on an WER related to EN 55897. Specifically, the inspectors performed the following activities:

- reviewed CR-2021-2762, -01, -02, apparent cause analysis; UF6 Release in the Autoclave Room
- reviewed CR-2021-2766, -01, -02, -03, apparent cause analysis; SURF NOx Release from Powder Dissolver 320A
- reviewed CR-2022-0268, -01, -02, -03; Lapel Requirements Unclear in Radiological Zones During Off-shifts

- reviewed CR-2022-0268; Two Visitors Found without TLD Written as a Result of the On-Site Inspection)
- reviewed CR-2022-0358; Doghouse Left of off Tk-906 Sandpiper in UNH Room 101A - IROFS 740 Failed
- For EN 55897, walked down the affected section of the Ammonia Recovery Facility (ARF) and interviewed the plant engineer and process engineer for the ARF

Radiation Work Permits (IP Section 02.06)

The inspectors interviewed licensee staff and reviewed radiological job permits (RJPs) to verify compliance with section 4.4 the license application. Specifically, the inspectors performed the following activities:

- observed the daily pre-job brief and status report for work conducted under RJP, "D&D GSUR"
- reviewed the following RJPs:
 - D&D GSUR, 12/07/2021 - 12/31/2022
 - Decommission ANF-250s in Warehouse 2, 12/07/2021 - 12/31/2022
 - Opening the Interior VRF Roll-up Door While on Respiratory Protection, 06/23/2021 - 12/31/2022
 - Downloading Scrap (TBF-XI and NPC Containers) in the DCF Hot Shop, 04/20/201 - 12/31/2022
 - Decommission LUR Poly Tanks, 12/07/2021 - 12/31/2022
 - D&D in LUR, 10/21/2021 - 12/31/2022

Instrument Calibration (IP Section 02.07)

The inspectors interviewed licensee staff and reviewed licensee procedures and other documentation for RP instrument calibration and the CAAS to verify compliance with 10 CFR 20.1501(c), 10 CFR 70.24, and sections 4.7.1 and 11.8 of the license application. Specifically, the inspectors performed the following activities:

- observed the calibration of the Argos 4AB personnel contamination monitor in the Dry Conversion Facility Men's Changeroom under work order 13556227
- observed that calibration labels were placed on survey instruments used at step-off pads and instruments were within calibration
- walked down the on-site calibration lab to verify instruments used to perform calibrations on RP equipment were within calibration
- walked down the CAAS to verify functionality and that calibration labels were current
- reviewed certificates stating that calibration sources were traceable to a National Institute of Science and Technology (NIST) standard
- reviewed the following instrument calibration records:
 - Model 1000 SN 17550.48
 - Model 177 SN 17522.63
 - Model 2000 SN 17550.41
 - Model 2241 SN 17522.18

- Model 3 SN 17510.91
- Model 3001 SN 17520.39
- Model 5792 SN 17510.54
- Model E-140 SN 17520.61
- Model E-520 SN 17510.84
- Model MicroRem SN 17510.55
- Model NP-2 SN 17510.21; 5099

Instruments and Equipment (IP Section 02.08)

The inspectors reviewed the licensee's use of radiation detecting instruments and equipment to verify compliance with 10 CFR 20.1501(a) and section 4.7.5 of the license application. Specifically, the inspectors performed the following activities:

- observed personnel contamination monitors properly function and were within calibration
- verified selected survey instruments for alpha, beta, gamma, and neutron radiation were functional and within calibration

Posting (IP Section 02.09)

The inspectors observed the posting of radiation areas, high radiation areas, and radioactive material storage areas to verify compliance with 10 CFR 20.1902, 20.1904, and section 4.8.4 of the license application. Specifically, the inspectors performed the following activities:

- observed the postings for radiation areas in the processing areas, storage areas, laboratories, waste recovery areas, and waste storage areas
- observed postings for airborne radioactivity areas
- walked down the calibration laboratory to verify the posting for a high radiation area

Container Labeling (IP Section 02.10)

The inspectors confirmed the exemption to the labeling requirement of 10 CFR 20.1904 for packages and containers that contain radioactive material per section 1.2.5 of the license application. Specifically, the inspectors:

- observed the licensee's posting exemption, "Every container or vessel in this area, unless otherwise identified, may contain radioactive material" was thoroughly distributed throughout the site

Posting of Notices (IP Section 02.11)

The inspectors observed the Posting of Notices to verify compliance with 10 CFR 19.11. Specifically, the inspectors:

- observed that NRC Form 3 was posted in high pedestrian traffic areas, i.e., the West Gate and the North Gate entries and exits points

Access Control (IP Section 02.12)

The inspectors observed the licensee's access control measures to high radiation areas to verify compliance with 10 CFR 20.1601. Specifically, the inspectors performed the following activities:

- observed that access to a high radiation area, the calibration laboratory, was behind a locked chain linked door and fence
- interviewed the calibration technician about potential high radiation levels in the laboratory and safety concerns
- observed that the source of the high radiation area was well-contained in a thick concrete storage container under lock and key

Licensed Material Control (IP Section 02.13)

The inspectors observed the licensee's measures to secure stored material and control and maintain constant surveillance of licensed material not in storage to verify compliance with 10 CFR 20.1801 and 20.1802. Specifically, the inspectors observed the following activities:

- storage of source buttons in the health & safety technicians' office
- usage and control of source buttons for survey meters located at step-off pads (exits) for radiologically controlled areas by having these source buttons attached via a string and/or stored in a sleeve on the survey meter

Radiation Surveys (IP Section 02.14)

The inspectors reviewed records of the licensee's external radiation surveys and retention of these records to verify compliance with 10 CFR 20.1501(a), 20.1501(b), 20.1902, 20.2103, and section 4.7.1 of the license application. Specifically, the inspectors performed the following activities:

- reviewed the following radiation surveys:
 - M-20220105-25
 - M-20220204-10
 - M-20220311-37
 - M-20220415-8
 - M-20220422-27
 - M-20220503-26
 - M-20220506-8
- interviewed RP staff regarding the retention of these records and noted that such records are retained for the life of the facility

Contamination Control (IP Section 02.15)

The inspectors observed contamination surveys and reviewed records of the licensee's contamination control measures to verify compliance with 10 CFR 20.1501(a), 20.1501(b), 20.1902, 20.2103, and section 4.7.5 of the license application. Specifically, the inspectors performed the following activities:

- observed a daily contamination survey within the Specialty Fuels Building
- reviewed the following contamination records:
 - M-20220510-15
 - M-20220514-12
 - M-20220523-7
 - M-20220523-15
- interviewed RP staff regarding the retention of these records and noted that such records are retained for the life of the facility

Sealed Sources (IP Section 02.16)

The inspectors observed the licensee's sealed source program is entirely under the Washington state license and determined this inspection procedure section did not apply.

Occupational Dose Results (IP Section 02.17)

The inspectors reviewed records of the occupational doses assigned to workers to verify compliance with 10 CFR 20.1201 and section 4.7 of the license application. Specifically, the inspectors:

- reviewed the dose records on NRC Form 5 for site employees and contractors expected to receive greater than 100 mrem in a calendar year.

Exposure Controls (IP Section 02.18)

The inspectors interviewed licensee staff and observed engineering controls used keep doses ALARA by controlling the concentration of radioactive material in air or limiting intake to verify compliance with 10 CFR 20.1101(b), 20.1701, 20.1702, and sections 4.7.2 and 4.7.3 of the license application. Specifically, the inspectors observed the following activities:

- usage of containment units such as gloveboxes and hoods
- ventilation systems drew air from cleaner areas to more contaminated areas
- usage of breathing zone lapels and respirators
- usage of fixed air monitors in areas in which special nuclear material was handled or processed

- pre-job briefing for repairs to the L1 Calcliner Damaged Cage in which workers discussed the need for respiratory protection

Bioassay Program (IP Section 02.19)

The inspectors reviewed the bioassay program to verify compliance with 10 CFR 20.1502(b) and section 4.7.3 of the license application. Specifically, the inspectors performed the following activities:

- interviewed licensee staff regarding the off-site contractor that administers the bioassay program
- reviewed urinalysis reports related to individuals under a bioassay program
- reviewed the bioassay procedure, MCP-30105, "Bioassay Program," Revision 15.0

Whole Body Counting (IP Section 02.20)

The inspectors interviewed licensee staff and reviewed whole body counting records to verify compliance with the section 4.7.3 of the license application. Specifically, the inspectors:

- interviewed licensee staff regarding the off-site contractor that administers the lung counting program and reviewed records of workers who had a lung count and whole body counts

Dosimetry (IP Section 02.21)

The inspectors interviewed licensee staff, observed dosimetry being used, and reviewed dosimetry records to verify compliance with 10 CFR 20.1501(d), 20.1502(a), and section 4.7.2 of the license application. Specifically, the inspectors performed the following activities:

- observed plant personnel properly wearing dosimeters in the areas that processed or stored SNM
- reviewed SOP-40026, "Personnel Dosimeter Control Program," Version 16.0
- reviewed the National Voluntary Laboratory Accreditation Program (NVLAP) certification for the dosimeter processor

Dose Assessment Programmatic Review (IP Section 02.22)

The inspectors interviewed licensee staff and reviewed records and calculations related to the licensee's assessment of the dose to workers to verify compliance with 10 CFR 20.1502(b)(c) and 20.2106 and section 4.7 of the license application. Specifically, the inspectors:

- reviewed MCP-30104, "Personnel External Dosimetry Program," Version 14.0 and reviewed calendar year 2021 dosimetry records for workers.

As Low As Reasonably Achievable (ALARA) (IP Section 02.23)

The inspectors interviewed licensee staff and reviewed records related to the implementation of the ALARA program to verify compliance with 10 CFR 20.1101(b) and section 4.2 of the license application. Specifically, the inspectors performed the following activities:

- reviewed the 2020 ALARA Report
- reviewed the Radiation Safety Committee Meeting minutes and slides from the previous 13 months
- reviewed procedure MCP-30108, "ALARA Program," Version 10.0
- interviewed RP staff on the concept and practice for practicing time, distance, and shielding in order to minimize dose

88045 - Effluent Control and Environmental Protection

The inspectors evaluated selected aspects of the licensee's environmental protection program to verify compliance with selected portions of 10 CFR 20, Part 40, Part 61, and Part 70, and the facility's license application.

Program Implementation (IP Section 02.01)

The inspectors reviewed any significant changes to the effluent control and environmental protection program, discussed with the licensee any new unplanned releases or contamination identified, and screened the corrective action program in order to verify the environmental protection program was being implemented in compliance with license requirements. Specifically, the inspectors performed the following activities:

- reviewed procedures:
 - E10-08-002, "Organization and Administration," Version 7.0
 - E10-08-009, "Environmental Protection," Version 4.0
 - E11-01-003, "Environmental Standards," Version 9.0
- reviewed the latest organizational chart for the environmental health and safety organization
- interviewed the Environmental Program Manager to verify personnel changes in the environmental program department since the last NRC inspection were consistent with the license application

Procedures (IP Section 02.02)

The inspectors selected a sample set of procedures changed since the last inspection and, if possible, observed the procedures in use to verify that safety-significant changes to

procedures in the area of environmental protection were in compliance with license requirements and 10 CFR 20. Specifically, the inspectors completed the following activities:

- reviewed the following selected procedures:
 - ADM-000006, "Document Control," Version 35
 - SOP-40043, "Radioactive Gaseous Effluent Sampling," Version 27
 - E05--03-001, "Radiation Standards," Version 5.0
 - E-06-07-009, "Groundwater Monitoring," Version 2.0
 - E12-03-042, "Environmental Surveillance," Version 3.0
 - SOP-40043, "Air Sampling Monitoring," Version 9.0
 - SOP-40382, "Solid Waste Packaging," Version.41
 - SOP-40031, "Waste Effluent Monitoring," Version 18
- observed safety technicians perform the following procedures:
 - SOP-40043, "Air Sampling Monitoring, SOP-40043," Version 9.0
 - SOP-40031, "Waste Effluent Monitoring, SOP-40031," Version 18
 - E12-03-042, "Environmental Surveillance, E12-03-042," Version 3.0
 - SOP-40043, "Radioactive Gaseous Effluent Sampling," Version 27

Audits and Quality Assurance (IP Section 02.03)

The inspectors reviewed procedures associated with the conduct of audits and assessments along with completed third-party and self-assessed audits and resulting corrective action entries assessed with the environmental protection program since the last inspection to verify compliance with license application requirements. Specifically, the inspectors reviewed following:

- E12-03-042, "Environmental Surveillance (EHS&L Audit/Inspection (A/I) Guide," Version 3.0
- FRM -30235 A, "Annual Radioactive Waste Handling Audit Checklist," Version 2.0
- EHS&L Audit/Inspection Schedule dated May 20, 2022
- "US Fuel 21-28 Internal Audit Report," dated December 2021
- "HP-7 Environmental Audit Third Quarter 2021"
- "Annual Radioactive Waste Handling Audit," dated May 20, 2022
- "Semi-Annual Environmental Monitoring Audit Summary," (Audit No. EMA-56)

Event Review (IP Section 02.04)

The inspectors reviewed the licensee's evaluation of safety-significant events in the area of environmental protection to verify compliance with 10 CFR 20 and license application requirements. Specifically, the inspectors reviewed the following:

- E18-01-001, "External Reporting of Safety, Environmental, MC&A, and Security Events and Conditions," Version 2.0
- SOP-41159, "HST Incident Response," Version 3.0

- 1717-06, "Corrective Action Program Procedure," Version 17
- CR 2022-004, "Wrong Procedure Instruction for Laundering that Caused PPE MFP Waste to Enter the UO₂ Waste Area"

Training (IP Section 02.05)

The inspectors reviewed the licensee's training program in the area of environmental protection to verify compliance with license application requirements. Specifically, the inspectors performed the following activities:

- reviewed ADM-00003, "HST Training & Certification Procedure," Version 8.0
- reviewed radiological worker training qualification, HRR-RAD-HST General, for two environmental safety technicians last hired into the environmental protection organization
- interviewed licensee staff to determine whether changes to the environmental training program and organization since the last NRC environmental inspection were in compliance with the license requirements

Radioactive Liquid Effluents (IP Section 02.06)

The inspectors observed operations, reviewed sample collection and analysis procedures, reviewed radiological effluent monitoring reports and monitoring records, and discussed the radioactive liquid effluent results with licensee staff to verify compliance with aspects of 10 CFR 20.2103 and the license application. Specifically, the inspectors completed the following activities:

- observed locations of ground wells for GM 2, GM 10, GM 12
- reviewed the following procedures:
 - E-06-07-009, "Groundwater Monitoring," Version 2.0
 - SOP-40031, "Waste Effluent Monitoring," Version 18.0
- reviewed a sample of liquid effluent discharge records for 2020 and 2021 for the plant effluent monitoring station to verify all results did not exceed the effluent concentration values in 10 CFR 20, Appendix B, Table 2
- reviewed a sample of liquid effluent discharges records for liquid processes to the Waste Water Treatment Facility tanks to verify that the radioactive concentration in these discharges did not exceed the federal regulatory limits and licensee action levels

Municipal Sanitary Sewer (IP Section 02.07)

The inspectors reviewed records related to the release of liquid effluents to sanitary sewers to verify compliance with 10 CFR 20.2003 and the license application. Specifically, the inspectors completed the following activities:

- observed collection of the plant effluent monitor station composite sewer sample
- reviewed the following procedures
 - SOP-40031, "Waste Effluent Monitoring and Sampling," Version 18
- reviewed records of discharges to the sanitary sewer system to verify compliance with 10 CFR 20.2003 limits

Radioactive Airborne Effluents (IP Section 02.08)

The inspectors observed operations, reviewed sample collection and analysis procedures, reviewed radiological effluent monitoring reports and monitoring records, and discussed the radioactive airborne effluent results with licensee staff to verify compliance with aspects of 10 CFR 20.1101, 10 CFR 20.2103, and the license application. Specifically, the inspectors completed the following activities:

- observed collection/change-out of stack filters for locations: K03A, K06, K21, K31A, K37, K46, K47, K49, K50, K55, K58, K60, K62
- conducted a walkdown of the BLEU Facility gaseous effluent discharge system (Air Samplers: Z16, Z17, Z20, Z32, Z19, Z22, Z33, Z28, Z25, Z38, Z30, Z01, Z02, Z03, Z10, Z11, Z12, Z08, Z14, Z15, Z13)
- reviewed the following procedures:
 - SOP 40032, "Radioactive Gaseous Effluent Sampling," Version 27
 - AID-30118 A, "Extracting, Uploading, and Retrieving Stack Flow Data and Report (Operator Aid)," Version 1.0
 - CAPP88 stack data (July 2021 through January 2022)
- reviewed the following records:
 - records of gaseous effluent discharges measurements from the first quarter of calendar year 2021 through the first quarter of 2022
 - records of calibration of stack flowmeters and velocimeters over the past 12 months
 - records of daily stack collection sheets from January through June 2021

Effluent Monitoring (IP Section 02.09)

The inspectors observed operations, reviewed items relied on for safety (IROFS) and associated surveillance packages and discussed the results with the licensee to verify compliance with Subpart H of 10 CFR 70, the license application, and the integrated safety analysis. Specifically, the inspectors completed the following activities:

- reviewed IROFS supporting documentation:
 - IROFS 960, HVAC Exhaust Systems E04-NCSA-660
 - Surveillance Records, "Ignition Sources Are Controlled and the Use and Storage of Combustible/Flammable Material"
 - HEPA Filter Design Requirements
 - IROFS 000, UF6 Cylinder Receiving & Storage, E04-NCSA-000

- Sample results for Sump Receiver Tank Sampling
- observed composite monthly liquid effluent sampling at the Plant Effluent Monitoring Station to verify sampling was occurring prior to effluent release into sewer

Semiannual Effluent Reports (IP Section 02.10)

The inspectors reviewed the licensee's effluent monitoring report to verify compliance with the requirements of 10 CFR 40.65 and/or 10 CFR 70.59. Specifically, the inspectors completed the following activities:

- reviewed MCP-30118, "Preparation of NRC & WDOC Semi-Annual Effluent Report," Version 8.0
- interviewed licensee staff regarding the semiannual effluent reports for calendar years 2021 and 2020 to verify if the licensee specified the quantity of each of the principal radionuclides released to unrestricted areas in liquid and gaseous effluents during operation and estimated maximum potential annual radiation doses to the public as required by 10 CFR 70.59
- reviewed semiannual effluent reports for the following reporting periods:
 - NRC required reporting of Effluents 1st Half 2021 dated 8/31/21
 - NRC required reporting of Effluents 2nd Half 2021 dated 2/22/22
 - NRC required reporting of Effluents 1st Half 2020 dated 8/28/20
 - NRC required reporting of Effluents 2nd Half 2020 dated 2/24/21

Quality Control of Analytical Measurements (IP Section 02.11)

The inspectors observed analytical laboratory operations and reviewed records of sample methods to verify compliance with the quality control requirements in the license application. Specifically, the inspectors reviewed the following:

- SOP-411108, "Analysis of Urine, Waste, and Other Matrices for Impurities and Relative Isotopic Abundance by Inductively Coupled Plasma Mass Spectrometry (IP-MS)," Version 4.0
- AID-40562 B, "Laboratory Information Management System (LIMS) Validation, Approval, and Data Corrections," Version 6.0
- MCP-30917, "LIMS Custom Report Software Design Specification," Version 4.0
- calibration records for ISCO 4230 used for flowmeter liquid waste effluent monitoring

Public Dose Analysis (IP Section 02.12)

The inspectors reviewed dose assessment records and associated reports to verify compliance with 10 CFR 20.1301, 10 CFR 20.1302, and the reporting requirements of 10

CFR 20.2107. Specifically, the inspectors completed the following activities to verify that the total dose to the individual likely to receive the highest dose from the licensed operation did not exceed the regulatory limits during 2020 and 2021.

- reviewed E05-03-001, "Radiation Protection Standard," Version 5.0
- reviewed E11-01-003, "Environmental Protection Standard," Version 9.0
- reviewed MCP-30108, "ALARA Program," Version 10
- reviewed AID-31333C, "Calculating Dose Using CAP88," Version 1.0
- reviewed ALARA Report (January 1 through December 31, 2020)
- interviewed licensee staff and reviewed the public dose assessment to verify that the total dose to the individual likely to receive the highest dose from the licensed operation did not exceed the regulatory limits during 2020 and 2021
- reviewed the airborne portion of the public dose assessment to verify results were in compliance with the ALARA constraint required by 10 CFR 20.1101(d)

Environmental Sampling (IP Section 02.13)

The inspectors reviewed environmental sampling records of surface water, sediment, soil, vegetation, ambient air, groundwater, direct radiation, and/ or sanitary sewer sludge, if applicable, to verify compliance with 10 CFR 20.1501 and the license application. Specifically, the inspectors completed the following activities:

- reviewed procedures:
 - SOP-40035, "Environmental Forage Sampling," Version 8.0
 - SOP-40033, "Environmental Dosimetry," Version 13
 - SOP-40034, "Environmental Surface Soil Sampling," Version 10
 - E06-07-009, "Compliance Groundwater Monitoring Plan," Version 2.0
 - SOP-40039, "Richland WWTF Sludge Sampling," Version 9.0
- reviewed the following records
 - calibration of on-site and off-site air sample flow meters
 - 2021 Annual Groundwater Report for sampling dates June and September 2021
 - monthly fence line surveys (April and May 2022)
 - monthly vegetation sample sheets (April and May 2022)
 - monthly ambient air samples (April and May 2022)
 - quarterly soil sample sheet (2nd quarter 2022)

Minimizing Facility and Environmental Contamination and Facilitating Decommissioning (IP Section 02.14)

The inspectors reviewed decommissioning records to verify compliance with 10 CFR 70.25(g) and 10 CFR 20.1406. Specifically, the inspectors performed the following activities:

- reviewed documents describing the status of licensee's response to environmental spills, clean-ups and soil remediation

- reviewed SOP 411159, "HST Incident Responses," Version 3.0
- interviewed the Environmental Manager regarding the site's decommissioning activities

Radioactive Waste Classification, Characterization, and Storage (IP Section 02.15)

The inspectors reviewed documentation and records of facility activities and observed posting and labeling of storage areas and containers to verify compliance with the requirements of 10 CFR 61.55 and the license application. Specifically, the inspectors performed the following activities:

- reviewed the following radioactive waste procedures, forms for waste classification and characterization, and waste storage:
 - E06-04-006, "Waste Analysis Plan," Version 7.0
 - SWI-40487 A, "Waste Generator Disposal Pathways," Version 7.0
 - SOP-40383, "Waste Assay Operation," Version 10
 - SOP-40382, "Solid Waste Packaging," Version 41
 - SOP-40665, "Inspection and Release of Waste for Land Disposal," Version 6.1
 - SOP-40386, "Special/Mixed/Hazardous/Dangerous Waste Handling and Storage," Version 13
- walkdown the radioactive waste storage areas (Dangerous Waste Storage Facility (DWSF), Ammonium Diuranate (ADU) Conversion Waste Area and Modular Extraction Recovery Facility (MERF) and observed the physical condition of waste containers, stacking of waste containers and labeling of the waste containers in these areas

Waste Burial (IP Section 02.16)

The inspectors reviewed documentation and records of radioactive waste buried onsite prior to January 1981 to verify compliance with 10 CFR 20.2108, if applicable. Specifically, the inspectors:

- interviewed Framatome personnel regarding buried waste on-site and determined the inspection procedure section did not apply

Effluent Treatment (IP Section 02.17)

The inspectors conducted walkdowns and observations and reviewed records of onsite waste treatment facilities and airborne effluent scrubbers and filters to verify compliance with the license application. Specifically, the inspectors completed the following activities:

- walkdown of Waste Water Treatment Facility and stack filtration housing and associated duct work
- reviewed specifications for sand filters systems used to treat waste water
- interviewed personnel responsible for airborne effluent filtration and scrubbing
- interviewed personnel responsible for liquid effluent filtration and purification

- interviewed personnel regarding their response towards exceeding airborne and liquid action levels
- reviewed records of gaseous effluent releases, liquid effluent releases, releases to the sanitary sewer
- reviewed E06-07-009, "Compliance Groundwater Monitoring Plan," Version 2.0
- reviewed SOP- 40747, "Startup Test for HEPA Filtered Exhaust Systems," Version 6.0
- reviewed SOP- 40745, "DOS HEPA Filter Testing Instructions," Version 8.0
- reviewed DOS test exhaust final filter (HEPA) records:
 - MERF ES-HVAC K69 Exhaust System dated 4/4/22
 - UO2 Filter HEPA K21-5-5 Final dated 4/1/22
 - UO2 Filter HEPA K3-5-1 dated 3/1/22

FACILITY SUPPORT

88051 - Evaluation of Exercises and Drills

The inspectors observed and evaluated the licensee's graded biennial exercise conducted on April 27, 2022, as well as briefings and critiques involving both on-site and off-site participants, to verify compliance with 10 CFR 70.22(i)(3)(xii), the Emergency Plan, and Chapter 8 of the license application. The scenario involved a natural gas explosion in the UO₂ boiler room that caused significant building damage and resulted in a spill of uranyl nitrate and uranium dioxide to the environment. Specifically, the explosion met the threshold for declaration of an alert due to the potential for onsite radiological consequences and resulted in significant injuries and death to site personnel. The explosion resulted in the need to implement onsite protective actions including partial evacuation of facilities and personnel accountability. Offsite fire and medical (ambulatory) agencies participated in the event response.

Exercise Planning (IP Section 02.01)

The inspectors reviewed the emergency exercise scenario, discussed the exercise objectives with licensee personnel, observed controller meetings, and walked down the plant areas before the exercise to verify compliance with the Emergency Plan, Emergency Plan Implementing Procedure, and 10 CFR 70.22(i)(3)(xii). The inspectors performed the following activities:

- reviewed the frequency of exercises conducted by the licensee
- reviewed the scenario as it related to probability for occurrence at Framatome and to testing all elements of the Emergency Plan
- observed no pre-staging of equipment in preparation for the exercise
- reviewed duties and responsibilities for exercise personnel including controllers, evaluators, and observers
- attended the controllers' meeting for the emergency exercise
- reviewed the objectives of the exercise and the expectations from responders
- reviewed the confidentiality of the scenario and objectives
- observed the post-drill critique for the emergency exercise

Exercise Execution and Emergency Plan Implementation (IP Section 02.02)

The inspectors observed the initiation of the emergency exercise, the activation of the Emergency Operations Center (EOC) and Plant Emergency Organization, classification of the event, notification of offsite response organizations, establishment of the incident command post, implementation of field response teams, and reviewed onsite and offsite communications, releases and notifications to verify compliance with the Emergency Plan, Emergency Plan Implementing Procedures, and 10 CFR 70.22(i)(3)(xii). The inspectors observed and reviewed the following:

- licensee's analysis of plant conditions including assessment and classification of the accident scenario within the allowable time limits
- staffing for all EOC/emergency organization positions
- protective action recommendations (PARs) implemented by the EOC/emergency organization
- drafting of offsite notifications including a review of content and time of issuance
- onsite communication to occupational workers as it related to protective action recommendations
- occupational workers participation in protective actions and the process to conduct personnel accountability
- press release approval and issuance
- Emergency Director control of the EOC/emergency organization and drill
- dose assessor use of RASCAL software
- response coordinators' recommendations regarding conditions for terminating the event and restarting normal operations
- recovery and re-entry recommendations implemented by the EOC/emergency organization
- members of the licensee's emergency response team assembly at designated assembly areas and the arrival of off-site emergency responders including fire, EMT, and police
- emergency response team's actions including rescue activities for casualties and assessment of the affected area
- rescue personnel gave priority to the severity of the wounds/injuries over contamination surveying
- response to emerging situations to address the exercise scenario and meet the exercise objectives
- Incident Commander command and control of the emergency response team and coordination of actions with off-site emergency responders
- Richland Fire Department simulating roadblocks
- Washington Department of Health simulating offsite radiation monitoring and sampling
- implementation of training by HST staff for the treatment of radiological contaminated individuals

Critiques, Exercise Control, and Identification and Resolution of Problems (IP Section 02.03)

The inspectors observed the staff critiques of the emergency exercise and reviewed the licensee's related corrective action program entries to verify compliance with the Emergency Plan, Emergency Plan Implementing Procedures, and 10 CFR 70.22(i)(3)(xii). The inspectors reviewed and observed the following:

- critiques conducted by the licensee in which both licensee participants and offsite responders provided comments
- discussions pertaining to the satisfying of all objectives of the emergency exercise
- documented deficiencies identified during critiques including items planned for entry into the licensee's corrective action program
- observed the annual incipient fire fighter training for members of the plant emergency response team

INSPECTION RESULTS

WER (Discussed)	Gamma Monitors Non-Functional (EN 55897) WER 07001257/2022-002-00	88015
<p>Description: On May 12, 2022, at approx. 7:10 pm (PDT) the licensee became aware that the monthly scheduled gamma monitor calibration check identified two gamma detectors (6801 and 6802) nonfunctional in the Ammonia Recovery Facility (ARF). The two redundant gamma detectors are identified as IROFS (2309 & 2310) and are used to monitor for gradual long-term accumulations of uranium from exceeding a safe mass in a sand filter tank V680 for the Wastewater Treatment system. Tank V680 is considered an unfavorable geometry tank. The filter sand tank, V680, contains very low amounts of uranium that cannot be directly discharged to the municipal sewer. Upon discovery, the licensee's supervision was notified and the affected ARF and Wastewater Treatment area was placed out of service until further investigation. The licensee reported the condition under the requirements of 10 CFR Part 70 Appendix A b(2) due to the two failed IROFS, however, the licensee later concluded that the performance requirements of 10 CFR 70.61 continued to be met and conservatively reported the issue.</p> <p>During the week of 5/23, inspectors reviewed this event to confirm that the licensee had put the system back into a safe configuration. This review included conducting walkdowns in the Waste Water Treatment System, including the sand filters and the gamma monitors as well as interviewing licensee engineers and operators concerning the event and the subsequent corrective actions. Corrective actions included shutting down the system and isolating the tank in question. The licensee also stated they verified that other detectors of the same type elsewhere were functioning and logic in the control system was altered to detect failures of this type in the future.</p>		

This event is being tracked as WER 07001257/2022-001-00, "Gamma Monitors Non-Functional (EN 55897)" and will remain open.

WER (Discussed)	Unplanned Medical Treatment of a Contaminated Worker (EN 55634) WER 07001257/2021-003-00	88030
<p>Description: On December 8, 2021, at approximately 0745 PST, an instrument technician was contaminated with uranyl nitrate solution while calibrating a pressure transmitter. The individual followed safety protocol by utilizing the emergency wash station, and, as a precaution, received a medical evaluation at Kadlec Regional Medical Center for skin exposure to nitric acid.</p> <p>Prior to leaving the site, Framatome Health and Safety Technicians decontaminated the individual to below release limits with the exception of their hands. The individual's hands were placed inside gloves which were secured to their wrists prior to being transported. The worker was transported to an offsite medical facility accompanied by plant health physics personnel.</p> <p>After being evaluated, the individual returned to Framatome where their hands were decontaminated to below release limits and returned to work. The process area where this work was being performed was cleaned and the equipment was secured. The event has been entered into the facility's corrective action system.</p> <p>Framatome reported this event consistent with the requirements of 10 CFR 70.50(b)(3) and submitted a 30-day report (ML22007A359) as required by 10 CFR 70.50(c)(2). The Written Event Report was reviewed. No violations of NRC requirements were identified. This WER is closed.</p>		

EXIT MEETINGS AND DEBRIEFS

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

- On April 27, 2022, and May 26, 2022, 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
88015	Calculations	FRM-20323	IX Feed Tank Uranium Material Balance, 2022 data through 05/16	Version 2.0
		FRM-20323	IX Feed Tank Uranium Material Balance, 2021 data	Version 2.0
	Corrective Action Documents	CR-2016-1543, CR-2021-2767, CR-2022-1299, CR-2022-1300	NCS related condition reports	Various
		NCS Infraction 21-022		
		NCS Infraction 22-003		03/02/2022
		NCS Infraction 22-004		03/02/2022
		NCS Infraction 22-010		05/20/2022
		NCS Infractions 22-005, 22-006, 22-007, 22-009		Various
	Drawings		Industrial Wastewater Treatment Process Flow Diagram Part 1: Main Process	11/21
	Engineering Changes		IRM Request Form for C163I102-0009 and -0010	09/15/2016
	Engineering Evaluations	E04-NCSA-163	Industrial Waste Water Treatment Facilities	Version 33.0
		E04-NCSA-163	Industrial Waste Water Treatment Facilities	Version 34.0
		E04-NCSA-810	Dry Conversion Vaporization System	Version 14.0
	Miscellaneous		Criticality Worker Safety Refresher Exam	
			List of PM C163I102 completions since March 2010	
			ARF Sand Drums since 2009, U content	
		Email from M. Curtis	Sand filter sample results	05/20/2022
		Email from S. Nunez to T. Tate	Justification for restart of the 700 side of ARF	05/19/2022

Inspection Procedure	Type	Designation	Description or Title	Revision or Date
		HRR-CRT-200000	Criticality Safety Analyst Criticality Safety Academic Knowledge Confirmation	07/07/2021
		HRR-CRT-200001	Criticality Safety Analyst Criticality Safety Principles Confirmation	07/07/2021
		HRR-CRT-200002	Criticality Safety Analyst Criticality Safety Skills Practical Application Confirmation	07/07/2021
		HRR-CRT-500003-021	Evacuation/Accidents	03/23/2018
		HRR-CRT-500003-022	NCS Controls	03/23/2018
		HRR-CRT-500003-023	Factors that Affect Nuclear Criticality Neutron Production	03/23/2018
		HRR-CRT-500003-024	Factors that Affect Nuclear Criticality Neutron Absorption	03/23/2018
		HRR-CRT-500003-025	Factors that Affect Nuclear Criticality Neutron Escape	03/23/2018
		HRR-CRT-500003-026	NCS Guide Rules and Generic Program Requirements	03/23/2018
		HRR-CRT-500003-027	Nuclear Criticality Safety Annual Refresher Training	03/23/2018
		HRR-CRT-500003-028	Practical Application of NCS Controls	03/23/2018
		JMD-21.008	Semi-Annual Criticality Evacuation Drill April 8, 2021 - After Action Report	05/14/2021
		JMD-21.016	Semi-Annual Criticality Evacuation Drill October 14, 2021 - After Action Report	11/18/2021
	Procedures	C163I102	Calibration procedure for ARF gamma monitors	Version 6
		C163P102	SAMPLE SAND FILTER/U 6MO OPWA	Rev. 4
		E04-04-003	Criticality Safety Specialist Training & Qualification Program	Version 3.0
		E15-03-005	Procedures and Practices for Performing Hazards Analyses	Version 10
	Self-Assessments	E04-07-202111	NCS Audit/Inspection Report – November 2021	12/8/2021
		E04-07-202112	NCS Audit/Inspection Report – December 2021	01/21/2022
		E04-07-202201	NCS Audit/Inspection Report – January 2022	02/23/2022
		E04-07-202202	NCS Audit/Inspection Report – February 2022	03/17/2022

Inspection Procedure	Type	Designation	Description or Title	Revision or Date
	Work Orders	E04-07-202203	NCS Audit/Inspection Report – March 2022	04/18/2022
			Various work orders using C163P102, SAMPLE SAND FILTER/U 6MO OPWA, to sample sand filter Uranium concentration after backwash	Various dates in 2020 to 2022
		C163P104	IX Feed Interlock Checks 6 Mo IN	Rev. 4
		WO 13515190	C163P104 IX Feed Interlock Checks 6 Mo IN	07/17/2021
		WO 13526361	C163I102-0010 Meter Rad Gamma 1 Mo IN	10/24/2021
		WO 13539371	C163P104 IX Feed Interlock Checks 6 Mo IN	01/19/2022
		WO 13547670	C163I102-0009 Meter Rad Gamma 1 Mo IN	03/01/2022
		WO 13547671	C163I102-0010 Meter Rad Gamma 1 Mo IN	03/01/2022
		WO 13551870	C163I102-0009 Meter Rad Gamma 1 Mo IN	04/07/2022
		WO 13551871	C163I102-0010 Meter Rad Gamma 1 Mo IN	04/07/2022
		WO 13556225	C163I102-0009 Meter Rad Gamma 1Mo IN	05/18/2022
		WO 13558723	Manual Call - C163I102	05/17/2022
		WO 13558724	Manual Call - C163I102	05/17/2022
88030	ALARA Plans	E05-01-023	The ALARA Report –January 1, 2020 –December 31, 2020	Version 1.0
		EHS&L Council	Radiation Safety Committee Meeting Minutes	04/2021 - 04/2022
	Calibration Records	Order 13556227	Zone Alpha and Beta Calibration for Argos 4AB DCF Men's Changeroom	05/25/2022
	Corrective Action Documents	CR-2022-1366	NAF Burnback hood, equipment malfunction resulted in personnel contamination and airborne radioactivity above mask limits.	05/21/2022
	Miscellaneous		Bioassay records (includes in vitro and in vivo)	2021-2022
			Radiological Shift Turnover Logs	05/23/2022 to 05/25/2022
			Training records for radiological waste personnel	
			Daily Status Report of the Decontamination & Decommissioning of the Gadolinium Scrap Uranium Recovery Area	03/28/2022 - 05/19/2022
		Bioassay Records	Whole Body Counts, Urinalysis Report, and Lung Counts	05/01/2021 - 04/30/2022
		E08-04-2.2	MOU - Kadlec Regional Medical Center	Version 8.0

Inspection Procedure	Type	Designation	Description or Title	Revision or Date
		FRM-30051A	Construction Contractor Health and Safety Agreement	04/21/2021
		HRR-IND-100070	2022 Hands-On Fire Extinguisher Training For Hot Work Fire Watch Personnel	05/25/2022
		MSP/PJB - 16499	Maintenance Work Permit/Pre-Job Briefing - Repair L1 Calcliner Damaged Cage	05/24/2022
		National Voluntary Laboratory Accreditation Program (NVLAP)	Statement of Accreditation for Landauer, Inc.	
		NRC Form 5	Occupational Dose Record for a Monitoring Period	Calendar Year 2021
		Survey P-20211208-1	VSDS Personal Contamination Event Report	12/08/2021
		WN-I062-1 Renewal (CC)	State of Washington Radioactive Materials License	Amendment No.73
	Procedures	ADM-00006	Administrative Procedure for Documentum REDS Documents	Version 35.0
		AID-10110	Reference 116 Ludlum Model 2241 Calibration	Version 6.0
		AID-10409	Reference 1083 Canberra Argos - 4AB & 5AB, Personnel Contamination Monitors	Version 5.1
		AID-10837	Operator Aid Reference 1191 Mirion NCD Model EDAC3	Version 1.0
		E05-03-001	Radiation Protection Standard	Version 5.0
		E12-01-003	Environmental, Health, Safety & Licensing Audit and Assessment Program	Version 11.0
		FRM-30532 A	Annual Radioactive Waste Handling Audit Checklist	Version 2.0
		MCP-30036	Respiratory Protection Program	Version 20.0
		MCP-30051	Contractor Health and Safety Requirements	Version 12
		MCP-30099	General Radiation Protection Rules & Recommendations	Version 7.0
		MCP-30100	Contamination Control Program for Equipment & Facilities	Version 9.0
		MCP-30102	Radiological Respiratory Protection Program	Version 10.0
		MCP-30103	Personnel Monitoring & Overchecks	Version 6.0
		MCP-30104	Personnel External Dosimetry Program	Version 14.0

Inspection Procedure	Type	Designation	Description or Title	Revision or Date
		MCP-30105	Bioassay Program	Version 15.0
		MCP-30107	Radiation Job Permit	Version 7.0
		MCP-30108	ALARA Program	Version 10.0
		SOP-40015	Routine Urine Sampling Program	Version 14.0
		SOP-40016	In-Vivo Counting Program	Version 11.0
		SOP-40020	In-Plant Air Sampling	Version 19.0
		SOP-40026	Personnel Dosimeter Control Program	Version 16.0
		SOP-40046	Area/Facility Removable Contamination Control	Version 11.0
		SOP-40047	Personnel Contamination Survey Checks	Version 9.0
		SOP-40051	Decontamination of Personnel & Personal Clothing & Effects	Version 8.0
		SOP-40052	Treatment of Injuries	Version 11.01
		SOP-40058	Posting Requirements	Version 5.2
		SOP-40174	General Facility Radiation Work Procedure	Version 31.0
		SOP-40198	Respiratory Protection	Version 13.0
		SOP-40200	Escorting Individuals into Radiation Areas	Rev. 10.0
		SOP-41159	HST Incident Response	Version 3.0
	Radiation Surveys	M-20220105-25	DCF UF6 Cylinder Dock beta gamma	01/05/2022
		M-20220204-10	DCF UF6 Cylinder Dock beta gamma	02/04/2022
		M-20220311-37	DCF UF6 Cylinder Dock beta gamma	03/11/2022
		M-20220415-8	ELO Upstairs Lab 40 beta gamma	04/15/2022
		M-20220422-27	DCF UF6 Cylinder Dock beta gamma	04/22/2022
		M-20220503-26	SF Main Lobby, Hall, Stairs beta gamma	05/03/2022
		M-20220506-8	SURF Glovebox Gloves beta gamma	05/06/2022
		M-20220510-15	WHS Sea Land Storage Containers	05/01/2022
		M-20220514-12	UO2 ADU Process Lower and Upper	05/17/2022
		M-20220523-15	SF Daily Contamination Survey	05/23/2022
		M-20220523-7	ADU Upper and Lower	05/23/2022
	Radiation Work Permits (RWPs)	Radiation Job Permit	D&D GSUR	12/07/2021 - 12/31/2022
		Radiation Job Permit	Decommission ANF-250s in Warehouse 2	12/07/2021 - 12/31/2022
		Radiation Job	Opening the Interior VRF Roll-up Door While on Respiratory	06/23/2021 -

Inspection Procedure	Type	Designation	Description or Title	Revision or Date
		Permit	Protection	12/31/2022
		Radiation Job Permit	Downloading Scrap (TBF-XI and NPC Containers) in the DCF Hot Shop	
		Radiation Job Permit	Decommission LUR Poly Tanks	12/07/2021 - 12/31/2022
		Radiation Job Permit	D&D in LUR	10/21/2021 - 12/31/2022
	Self-Assessments		Framatome Richland – Radiation Protection (RP) and Environmental Protection (ENVT) Audit	July 6 - 9, 2021
		E05-12-202201	Surveillance Audit Report (HP-1) - February 2022 Monthly Audit	Version 1.0
		E05-12-202202	Surveillance Audit Report (HP-1) - March 2022 Monthly Audit	03/01/2022
		E05-12-202203	Surveillance Audit Reports (HP-1) - March 2022 Monthly Audit	03/31/2022
		E05-12-202204	Surveillance Audit Reports (HP-1) - April 2022 Monthly Audit	04/29/2022
		E05-16-202101	ALARA Audit Report (HP-5)	Version 1.0
		E05-26-202201	Instrument Audit Report (HP-15) - 2022 Audit	Version 1.0
		RDM-22-005	Annual Radioactive Waste Handling Audit	05/20/2022
	Work Orders	IG000053-0009 NEUTRON PROBE 5YR IN	ES DETECTOR, NEUTRON CRITICALITY (13526215 - 13526222)	October 2021
88045	ALARA Plans	E06-04-006	Waste Analysis Plan	Version 7
	Calibration Records	13493992	Flowmeter- North Fenceline Sampler 1 YR Calibration	February 7, 2021
		13497745	IG000027-003 Fenceline SAMP 1Y Calibration	March 11, 2021
		Order # 13551795	ISCO Bubbler Flowmeter Model 4230	April 20, 2022
		Order # 13556151	ISCO Bubbler Flow Meter Model 4230 Calibration Record	May 4, 2022
	Corrective Action Documents	2021-1620	Triennial Assessment of the RP and Environmental Protection System	July 15, 2021
		2021-2410	UN Solution Spill Near MERF	October 12, 2021

Inspection Procedure	Type	Designation	Description or Title	Revision or Date
		2022-0004	Procedure for Laundering Caused MFP waste to be sent to the the UO2 Waste Area	December 15, 2021
	Engineering Evaluations	E04-NCSA-000	UF6 Cylinder Receiving & Storage	Version 11
		E04-NCSA-960	HVAC Exhaust Systems	Version 40
	Miscellaneous		Required Reporting of Effluent Per 10 CFR 70.59 (July 1 through December 31, 2021)	February 28, 2022
			Required Reporting of Effluents Per 10 CFR 70.59 (January through June 30, 2021)	August 31, 2021
			Required Reporting of Effluents Per 10 CFR 70.59 (January through June 30, 2020)	August 28, 2020
			Required Reporting of Effluents Per 10 CFR 70.59 (July through December 31, 2020)	February 24, 2021
			Environmental Forage Sample	April 22, 2022
			Environmental Richland WWTF Sludge Sample	April 22, 2022
			Environmental Dosimetry Sample	April 6, 2022
			Environmental Surface Soil Sample	April 22, 2022
			Environmental, Health, Safety & Licensing Organization Chart	May 2022
		13543073	Flowmeter- North Fenceline Sampler Calibration 1 YR	February 12, 2022
		13547817	DOS Test Exhaust HEPA Filter K3-5-1 Final 2YR (Equipment US35553-20)	March 19, 2022
		13552044	DOS Test Exhaust Final HEPA Filter K21-5-1 2YR (Equipment US35575-01)	April 30, 2022
		13552048	DOS Test Exhaust Final HEPA Filter K69-5-1 2YR (Equipment US355820)	April 30, 2022
		56650 & 56666	User Curriculum Status Group By User	May 23, 2022
	Procedures	1717-06	Corrective Action Program	Revision 17
		ADM-00003	HST Training & Certification Procedure	Version 8
		AID-40562 B	LIMS Validation, Approval, and Data Corrections	Version 6.0

Inspection Procedure	Type	Designation	Description or Title	Revision or Date
		E-06-07-009	Compliance Groundwater Monitoring Plan	Version 2
		E06-04-006	Waste Analysis Plan	Version 7
		E10-08-002	SNM-1227 - Chapter 2, Organization and Administration	Version 7
		E10-08-009	Environmental Protection	Version 4
		E11-01-003	Environmental Standards	Version 9
		E12-03-042	Environmental Surveillance	Version 3
		MCP-30108	Management Control Procedure, ALARA Program	Version 10.0
		MCP-30118	Preparation of NRC & WDOH Semi-Annual Effluent Report	Version 8
		MCP-30386	Radioactive Solid Waste Handling Filter Designation List	Version 9.0
		MCP-30917	LIMS Custom Report Software Design Specification	Version 4
		SOP 40747	Startup Tests for HEPA Filter Exhaust Systems	Version 6
		SOP- 40043	Ambient Air Sampling for Radioactivity	Version 9
		SOP- 40386	Special/Mixed/Hazardous/Dangerous Waste Handling and Storage	Version 13
		SOP-40031	Waste Effluent Monitoring & Sampling	Version 18
		SOP-40032	Radioactive Gaseous Effluent Sampling	Version 27
		SOP-40382	Solid Waste Packaging Procedure	Version 41
		SOP-41108	Analysis of Urine, Waste and Other Matrices for Impurities and Relative Isotopic Abundance by Inductively Coupled Plasma Mass Spectrometry (ICP-MS)	Version 4
		SOP-41159	HST Incident Response	Version 3
		SWI-40487 A	Waste Generator Disposal Pathways	Version 7
	Self-Assessments		Annual Radioactive Waste Handling Audit	May 20, 2022
			Semi-Annual Environmental Monitoring Audit Summary (Audit No. EMA-56)	February 20, 2022
			US Fuel Internal Audit Report, Environmental, Health, Safety & Licensing (June through December 2021)	January 26, 2022
		E05-18-202103 HP-7 Environmental Audit	Second Quarter 2021 Data Reviewed; Physical Observation of Stacks	July 7, 2021
		E06-09-14	2021 Annual Groundwater Report	June and

Inspection Procedure	Type	Designation	Description or Title	Revision or Date
				September 2021
	Work Orders	13489036-FM02	Maintenance Order - IG000027-0002- Flow Meter- South Fenceline Sampler	December 17, 2020
		13521583	Maintenance Order - Systematic Maintenance Flowmeter - East Fenceline Sampler	August 29, 2021
88051	Miscellaneous		2022 PERMT/PERT Field Exercise	04/27/2022
		Framatome Inc., Richland Facility Emergency Response Organization	2022 Field Exercise Scenario and Objectives	02/25/2022
	Procedures	E08-01-1.0	Emergency Plan	Version 16.0
		E08-03-1.1	Classifying an Emergency	Version 7.0
		E08-03-2.1	Emergency Preparedness - Part III Determining Protective Actions	Version 4.0
		E08-03-3.1	Plant Emergency Director	Version 10.0
		E08-03-3.4	Accountability Liaison	Version 10.0
		E08-03-3.5	PERT Liaison	Version 6.0
		E08-03-3.7	Staging Area Supervisor	Version 9.0
		E08-03-3.8	PERT Incident Commander	Version 8.0
		E08-03-4.1	Incident Notification Form	Version 7.1
		E08-03-4.2	Incident Notification Worksheet	Version 18.0
		E08-03-4.4	Incident Notification Worksheet - PERMT	Version 6.0
		E08-03-6.2	Chemical Field Team Procedure	Version 7.0
		E08-03-6.3	Personnel Monitoring	Version 4.0
		E08-03-6.5	Chemical Spill Response Plan	Version 8.0
		E08-03-8.2	Plant Evacuation Procedures - Offsite	Version 7.0
		E08-03-8.3	Plant Evacuation Procedures - Onsite	Version 4.0
		E08-03-8.4	Plant Evacuation Procedures - Individuals Buildings	Version 4.0
		E08-03-8.7	Emergency Action Guides	Version 4.0