



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

January 30, 2023

Mr. James J. Bittner
Vice President and General Manager
Nuclear Operations Group, Inc.
BWXT Nuclear Operations Group, Inc.
P.O. Box 785
Lynchburg, VA 24505-0785

SUBJECT: BWXT NUCLEAR OPERATIONS GROUP, INC. – INTEGRATED INSPECTION
REPORT 07000027/2022004

Dear James J. Bittner:

This letter refers to the Nuclear Regulatory Commission inspection activities conducted from October 1, 2022, to December 31, 2022, for the BWXT Nuclear Operations Group, Inc. facility. On January 26, 2023, the NRC inspectors discussed the results of this inspection with you. 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 01/30/23

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

Docket No. 07000027
License No. SNM-42

Enclosure:
As stated

cc w/ encl: Distribution via LISTSERV

SUBJECT: BWXT NUCLEAR OPERATIONS GROUP, INC. – INTEGRATED INSPECTION REPORT 07000027/2022004 DATED January 30, 2023

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NAME	N. Peterka	N. Pitoniak	E. Michel		
DATE	01/25/2023	01/26/2023	01/30/2023		

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**U.S. NUCLEAR REGULATORY COMMISSION
Inspection Report**

Docket Number: 07000027

License Number: SNM-42

Report Number: 07000027/2022004

Enterprise Identifier: I-2022-004-0057

Licensee: Nuclear Operations Group, Inc.

Facility: BWXT Nuclear Operations Group, Inc.

Location: Lynchburg, VA

Inspection Dates: October 01, 2022 to December 31, 2022

Inspectors: M. Doyle, Senior Resident Inspector
N. Peterka, Fuel Facility Inspector
P. Startz, 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 integrated inspection at BWXT Nuclear Operations Group, Inc., 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.

PLANT STATUS

During the inspection period, routine fuel manufacturing operations and maintenance activities were conducted in the fuel processing areas, the uranium recovery (UR) facility, and the research and test reactors (RTR) facility.

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 Title 10 of the *Code of Federal Regulations* (10 CFR) 70, "Domestic Licensing of Special Nuclear Material," including 70.24, 70.61, 70.62, 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 (NCS), radiation safety, and chemical safety based on the information provided in the integrated safety analysis (ISA) summary, 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:

- UR process waste solution safety systems including tanks, pumps, and valves
- UR waste solution uranium concentration inline monitors
- UR waste solution transfer out of the recovery to the retention tanks
- UR new construction area incorporation of large containers adjacent to the controlled container area
- UR hydrofluoric acid and associated programmable logic controller (PLC) interface system controls to prevent hydrogen generation

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

The inspectors reviewed information related to administrative, active engineered, and passive safety controls or items relied on for safety (IROFS) for the areas 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:

- reviewed samples of functional testing results for the UR dissolver hydrofluoric (HF) acid delivery system pump-flow and PLC interface controls.
- reviewed daily functional testing of UR in-line uranium solution concentration monitors, IROFS 10005045, 10005047, & 10005048

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 applicable sections 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:

- reviewed the licensee's safety basis evaluation documentation concerning solution backflow from UR process columns/tanks/piping into piping that supplies compressed air/process water, and potentially allowing uranic solutions to accumulate in unfavorable geometry vessels.
- walked down and inspected the physical layout of three inline uranium solution monitors. The monitors included IROFS SAP items 10005045/47/48 including detector controllers and PLC controls.
- reviewed NCS technical work record, "NCS Justification Analysis Supporting CHG-2292 - Installation of Inline Water Heater in Recovery."

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 documentation regarding the completion of IROFS-related WO 20329101 and WO 20323106
- walked down the radioactive waste transfer pipeline from recovery to the retention tank building
- reviewed corrective action program entries CA 2022-0634, CA 2022-0640, CA 2022-0671, CA 2022-0966, CA 2022-0691, CA 2022-1131, CA 2022-1133, CA 2022-1134, and CA 2022-1182 to verify compliance with QWI 14.1.01, "Preventive/Corrective Action System Severity Levels," Rev. 18
- reviewed the following audits to verify compliance with QWI 17.1.1, "Environmental, Safety, Health & Safeguards Audit Program," Rev. 12:

- internal audit summary report, IA-SAR-2022-02-01, SAR 15.12, "Liquid and Solid Waste Handling Processes in Uranium Recovery," February 2022
- internal audit summary report, 256-1B, SAR 15.19, "Waste Handling, Vacuum System, & Ventilation for SFF Operations," 256-1C (ISA), 256-1D (management measures), 257-2D (NCS - training and qualification), 259-4E (chemical and fire safety), February 2019
- audit 256-1B licensing, SAR 15.21, "Low-Level Radioactive Waste Processes, Waste Operations," November 2010
- evaluated a sample of training records of three UR operators to verify their required training had been completed in accordance with licensee procedures

88135.02 - Plant Status

The inspectors routinely conducted walkdowns of licensee areas, observed operators, material control and accounting and security force personnel, inspected postings and licensee guidance documents, interviewed plant personnel, and discussed the results of operational and shift turnover meetings to gain insight into the status of facility activities, risk-inform the selection and implementation of the appropriate core inspection procedures, and ensure compliance with license and regulatory requirements.

Plant Tours (IP Section 03.01)

The inspectors performed weekly tours of plant operating areas housing special nuclear material (SNM) to verify that licensed activities were conducted safely and in compliance with the license and 10 CFR 70, "Domestic Licensing of Special Nuclear Material."

- toured the site after the remnants of Hurricane Ian hit the site on October 1, 2022
- observed requalification training for security officers on October 6, 2022
- inspected crane #2 area on October 11, 2022

Status Meetings (IP Section 03.02)

The inspectors, on a routine basis, attended and reviewed the results of scheduled licensee meetings to determine plant status and awareness of site activities so that inspection resources were appropriately focused on those activities with the higher safety significance.

- attended the fourth quarter emergency plan meeting on October 12, 2022
- attended the fourth quarter industrial health and safety meeting on November 20, 2022
- fourth quarter ALARA meeting presentation on December 8, 2022

The inspectors, on a routine basis, attended and reviewed the results of scheduled licensee meetings to determine plant status and awareness of site activities so that inspection resources were appropriately focused on those activities with the higher safety significance.

Posting of Notices (IP Section 03.04)

The inspectors reviewed the following notice to determine if they were posted in accordance with 10 CFR 19.11:

- verified items listed in 10 CFR 19.11 were posted on regulatory boards 1, 2, 3, and 4

Audits (IP Section 03.07)

The inspectors reviewed the internal audit listed below to determine whether it has been performed in accordance with 10 CFR 70.22(h)(1) and the license application:

- NCS-2022-087, NCS Violations and Observation Summary - 3rd Quarter 2022 dated October 17, 2022

Procedures (IP Section 03.08)

The inspectors reviewed and observed implementation of the procedures listed below to ensure that safety-significant procedures were developed and/or maintained in accordance with Chapter 11, "Management Measures," of the license application, the change management system, and implementing procedures:

- NCSE-02, "Nuclear Criticality Safety Analysis and Quality Assurance Reviews," Rev. 50, and OP-1046421, "Debind and Heat Treatment of TRISO Compact in the CenTorr Furnace," Rev. 0
- the NCS requirements for a new procedure for the manufacture of TRISO compacts

Radiation Work Permit (RWP) (IP Section 03.09)

The inspectors reviewed and observed the radiation work permit (RWP) listed below to determine whether the RWP contains the information required by Chapter 4, Radiation Safety," of the license application, the radiation protection manual; and implementing procedures:

- maintenance work activity to replace the complexing column check valves under RWP 22-0069, "General Maintenance in Bays 12a, 13a, 14a, and 15a for Industrial Engineering and Contract Personnel," on December 19, 2022

Annual Security and Emergency Preparedness Drills/Exercises (IP Section 03.10)

The inspectors observed the licensee's performance during the security force-on-force (FOF) tactical response exercise/training evolution listed below to determine they were being implemented in accordance with 10 CFR 70.22(1)(3) and/or 10 CFR 73.46(b)(9):

- security FOF tactical response exercise conducted the evening of October 19, 2022

88135.04 - Resident Inspection Program Operational Safety

The inspectors evaluated whether the material condition and as-found configuration of selected site structures, systems, and components, documentation, personnel, and IROFS to verify

compliance with 10 CFR Part 70, the license, the SAR and/or license application, and licensee policies and procedures; and determine whether they are appropriate, available, and reliable to protect worker and public safety during normal, off-normal, and accident conditions.

Operations Safety Walkdown (IP Section 03.01)

The inspectors evaluated the operational safety of the systems and sub-systems of the listed processes associated with SAR 15.36, "Generator & UPS Power Systems."

- observed the monthly test run of the facility generator number 1
- observed the quarterly test run of the bay 1 diesel generator
- reviewed corrective actions
- reviewed completed maintenance

88135.05 - Resident Inspection Program Fire Protection (Annual/Quarterly)

The inspectors evaluated the operational status and material condition of fire protection systems, structures, and components (SSCs) to verify compliance with the fire protection program as described in Chapter 7, "Fire Safety," of the license application and the National Fire Protection Association (NFPA) 801, "Standard for Fire Protection for Facilities Handling Radioactive Materials," as required. Also, the inspectors evaluated onsite fire brigade training and drill performance to verify compliance with Chapter 7, "Fire Safety," of the license application and NFPA 600, Standard on Industrial Fire Brigades.

Fire Area Walkdown (IP Section 03.01)

The inspectors walked down and evaluated the fire areas listed below:

- bays 1A, 2A, facility generator number 1, and C south

Fire Brigade Drill Performance Sample (IP Section 03.02)

The inspectors evaluated the fire brigade live fire training exercise described below:

- search and rescue
- fire attack
- correct donning of bunker gear
- setup of firefighting equipment by fire responders
- communications of the incident commander and the fire response teams using the incident command system
- live fire medical evaluations of the fire brigade
- training of "mayday" protocols

88135.17 - Permanent Plant Modifications

The inspectors evaluated implementation of the configuration management system for facility changes or modifications to ensure that safety-related systems, structures, and components (i.e., IROFS or other credited safety controls) could adequately perform their intended safety function and that changes did not adversely impact the operability and safety of the facility.

Facility Change/Modifications (IP Section 03.01)

The inspectors reviewed SAR 15.45, "TRISO Compacting," to determine whether it implemented in accordance with 10 CFR 70.72, "Facility Changes and Change Process." Specifically, the inspectors performed the following:

- a walkdown of the new TRISO compacting facility with an engineer, verified IROFS, and reviewed the operator training for the new production line

88135.19 - Post Maintenance Testing

The inspectors evaluated post-maintenance test activities to verify compliance with license application Chapter 11, "Management Measures," test procedures, and/or WO instructions to confirm functional capability of the IROFS and/or safety controls following maintenance.

Post-Maintenance Testing (IP Section 03.01)

The inspectors reviewed the following post-maintenance tests listed below. Tests were either observed directly or test results were reviewed.

- observed preventative maintenance and post-maintenance testing of the entry scan 4 explosives detector on November 21, 2022
- reviewed replacement and testing of the discharge valve for retention tank 5 for work performed on November 22, 2022
- observed testing of the recovery furnace following maintenance on December 12, 2022
- observed the replacement and testing of the complexing column check valves on December 19, 2022

88135.22 - Surveillance Testing

The inspectors evaluated IROFS and safety controls that required periodic surveillance and/or calibration tests to ensure they were available and reliable to perform their function when needed, to comply with license application Chapter 11 "Management Measures," the performance requirements of 10 CFR 70.61 and 70.62, and to maintain their operational readiness consistent with the ISA.

Surveillance and Calibration Testing (IP Section 03.01)

The inspectors reviewed the two surveillance and/or calibration tests listed below. Tests were either observed directly or test results were reviewed.

- observed the inspection of the protected area barrier system on November 22 and 23, 2022
- observed the quarterly test of bay 1 diesel generator on December 1, 2022

FACILITY SUPPORT

88050 - Emergency Preparedness

The inspectors evaluated selected aspects of the licensee's emergency preparedness program to determine whether the program is maintained as required by the emergency plan, the license and license application, and NRC requirements of 10 CFR 70.

Emergency Preparedness Program Review and Implementation (IP Section 02.01)

The inspectors selected the following elements that support the implementation of the licensee's emergency preparedness program to verify compliance with 10 CFR 70.22(i)(3), Chapter 8, "Emergency Management," of the license application, and the emergency plan. Specifically, the inspectors conducted the following inspection activities:

- reviewed emergency preparedness program changes and associated supporting documents, as appropriate, that occurred since the last inspection that could decrease the overall effectiveness of the program
- reviewed revisions to emergency plan implementing procedures
- reviewed the training records for two of the emergency response team members and interviewed training staff regarding the process for verifying completion of required training
- reviewed the licensee's agreements with offsite agencies and response organizations to verify that the licensee was maintaining these agreements as required by the emergency plan
- reviewed the training provided to offsite agencies and response organizations to verify that the licensee was providing the training required by their mutual aid agreements
- interviewed selected offsite agency staff to verify the training provided by the licensee was meeting the needs of the offsite responders
- reviewed the 2022 biannual NRC-graded exercise critique and the associated CAP entries
- reviewed the emergency preparedness drills and exercises conducted in 2021 and 2022 and the critiques conducted for those drill and exercises
- interviewed the licensee's fire chief/emergency preparedness program manager regarding staging and maintaining emergency response equipment
- reviewed completed records of emergency response equipment and facility checks

Identification and Resolution of Problems (IP Section 02.02)

The inspectors reviewed the licensee's identification and resolution of emergency preparedness issues to verify compliance with the license requirements. Specifically, the inspectors reviewed the following corrective action program entries, audits, and self-assessments:

- reviewed the 2021 emergency preparedness audit (dated July 2021) of the emergency preparedness program
- reviewed CAs as documented in the documents reviewed section of this inspection report

Event Review (IP Section 02.03)

The inspectors reviewed the licensee's safety-significant and internal events related to emergency preparedness to verify compliance with 10 CFR 70.22(i)(3), chapter 8 of the license application, and the emergency plan. Specifically, the inspectors performed the following activities:

- reviewed implementation of the emergency plan associated with internal, nonreportable activations and temporary compensatory measures that included:
 - 1A vessel pressure loss - argon release, February 8, 2022
 - acid leak from the bay 9A scrubber, March 2, 2022

88070 - Permanent Plant Modifications

The inspectors conducted an extensive review into the licensee's configuration management system for plant modifications to ensure that safety-related systems and components (i.e., IROFS or credited safety controls) could adequately perform their intended safety function and that system changes had not adversely impacted plant safety and operability. The inspectors' review focused on verifying compliance with the applicable requirements in 10 CFR 70 and the license application, Chapter 11, "Management Measures."

Sample Selection (IP Section 02.01)

The inspectors reviewed licensing documents, changes the licensee determined did not require pre-NRC approval under 10 CFR 70.72, and changes that affected the integrated ISA to select changes/modifications to review. To assess whether the licensee conducted evaluations according to their established configuration management system, the inspectors selected the following plant modifications, identified as change requests (CHG), and the supporting safety evaluation reports (SERs) to review:

- CHG-00010930, "WS-300 Furnace Exhaust Pressure Gauge," dated July 22, 2022
- CHG-00011967, "Add Four 0.5-Inch Diameter Holes to SFF Sink," dated March 09, 2022
- CHG-00012137, "OP-1001828," Rev. 44, dated April 18, 2022
- SER 21-013 Phase 2, "Implement New Soot Filter and Oxygen Sensor to WS-300," dated January 19, 2022
- SER 20-024 Phase 1, "Aluminum Fuel Storage Tray Racks - Modify Storage Rack #0863," dated March 18, 2021

Facility Change/Modification Process (IP Section 02.02)

The inspectors reviewed the selected modifications listed above to verify the licensee established a configuration management system in accordance with 10 CFR 70.72 and the conditions of the license. Specifically, the inspectors conducted the inspections activities listed below:

- reviewed the following procedures to verify the configuration management system was documented in written procedures and the procedures addressed the aspects in 10 CFR 70.72(a)
 - QWI 02.1.02, "Preparation and Maintenance of Safety Analysis Reports," Rev. 19
 - QWI 5.1.12, "Change Management," Rev. 37
 - QWI 5.1.20, "Change Review Board," Rev. 11
- interviewed licensee staff, performed walkdowns of the specialty fuel facility and research test reactors and targets processes, and reviewed the following configuration management packages to verify the licensee's evaluation of changes provided valid technical bases to determine whether an amendment to the license was required based on the criteria in 10 CFR 70.72(c)
 - SER 21-013 Phase 2
 - SER 20-024 Phase 1
- reviewed facility documentation associated with the selected changes to verify the affected documents were updated promptly in accordance with 10 CFR 70.72(e) or the timeframe outlined in the license
- reviewed configuration management system records to verify the licensee submitted a summary with facility changes and revised ISA summary pages to the NRC in accordance with 10 CFR 70.72(d)

Management Measures (IP Section 02.03)

For the selected modifications, the inspectors reviewed the management measures established for affected IROFS (or credited safety controls) to verify the management measures ensured the IROFS (or credited safety controls) were available and reliable to perform their intended function as required by 10 CFR 70.61 and the license. Specifically, the inspectors conducted the inspection activities listed below:

- interviewed licensee staff and reviewed change management procedures to verify the licensee implemented the aspects described in configuration management system procedures and the license application
- interviewed licensee staff and reviewed affected procedures to verify the licensee followed the procedure control process in accordance with the license
- reviewed post-modification testing procedures and reviewed post-modification tests to verify they ensured adequate implementation of the design and functionality of the following safety systems:
 - WS-300 Soot Filter and Oxygen Sensor
 - WO 20327641, SC O2 Sensor Maintenance for WS300 SFF0 6M, dated August 31, 2022
 - WO 20329673, SC WS 300 Soot Filter O2 Sens Cal 3M SFF, dated September 27, 2022
- interviewed licensee staff and reviewed training records to verify the staff involved in facility changes were qualified in accordance with the license and plant procedures
- interviewed licensee staff and reviewed training records to verify the licensee conducted training on plant modifications in accordance with the license application and plant procedures
- reviewed condition reports to determine whether the licensee identified configuration management, post-modification testing, and/or plant modification

- issues and corrected the condition in accordance with approved corrective action program procedures and the license
- reviewed recent audits and assessments of the configuration management system and interviewed licensee staff to verify the scope and frequency of audits were being conducted in accordance with the license application and facility procedures
 - Change Management Review dated April 2015

License Application Changes (IP Section 02.04)

For the selected modifications, the inspectors interviewed licensee staff and reviewed applicable sections of the license application to verify the licensee evaluated license application changes and conducted NRC pre-approval screenings in accordance with the license requirements. Specifically, the inspectors conducted the inspection activities listed below:

- reviewed the licensee's procedures, QWI 5.1.12 and QWI 5.1.20, used to determine whether NRC pre-approval of license application changes was required to verify that the licensee's process for evaluating license application changes was in accordance with license and regulatory requirements
- reviewed ISA reviewer change evaluation forms, in which the licensee documents the license application change evaluations, associated with selected changes listed below, to verify the licensee maintained records of the evaluations and provided the bases for determining the change did not require prior NRC approval including:
 - N-517, 10 CFR 70.72 Change Evaluation Checklist for SER 20-024 Phase 1, Add 5th Tier Rack (NCS), dated October 5, 2022
 - N-517, 10 CFR 70.72 Change Evaluation Checklist for SER 21-013 Phase 2, Implementation of New Soot Filter and Oxygen Sensors to WS-300 (Industrial Health and Safety), dated May 26, 2021
 - N-517, 10 CFR 70.72 Change Evaluation Checklist for SER 21-013 Phase 2, Implementation of New Soot Filter and Oxygen Sensors to WS-300 (Licensing), dated May 27, 2021

New Processes at Existing Facilities (IP Section 02.05)

The licensee had not implemented any new facility processes at the time of the inspection. Therefore, the inspectors' review did not include evaluations of whether the licensee addressed the baseline design criteria and defense-in-depth as stipulated in 10 CFR 70.64.

Records Retention (IP Section 02.06)

The inspectors reviewed a sample of plant documents impacted by the selected modifications to verify the licensee maintained records of facility changes in accordance with the license requirements and 10 CFR 70.72. The sample of documents included:

- operating procedures, including OP-1015720, "Coating the CenTorr Furnace for TRISO," Rev. 48
- drawing UPRR 10060, "Workstation 300 Piping and Instrumentation Drawing," Rev. 02
- SAR appendices including, SAR 15.18
- license application

INSPECTION RESULTS

No issues were identified.

EXIT MEETINGS AND DEBRIEFS

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

- On January 26, 2023, the inspectors presented the integrated inspection results to James Bittner and other members of the licensee staff.
- On October 13, 2022, the inspectors presented the Emergency Preparedness inspection results to James Bittner and other members of the licensee staff.
- On October 27, 2022, the inspectors presented the Operational Safety and Plant Modifications Annual inspection results to James Bittner and other members of the licensee staff.

DOCUMENTS REVIEWED

Inspection Procedure	Type	Designation	Description or Title	Revision or Date
88020	Drawings	97-00132-00	Block flow diagram page 2-1, ISA project/PHA	06/05/1997
88020	Engineering Evaluations		PHA "page 10-10 of HAZOPEBP.DOC", recovery/dissolution/downblending/low-enriched uranium (LEU) drum drying operations	09/04/1997
88020	Engineering Evaluations	SAR Appendix 15.17	Wet-End Processing in Specialty Fuels Facility Operations	Rev. 33
88020	Engineering Evaluations	SAR Appendix 15.17	Hazop Guideword vs. Parameter Worksheet for Node 4C Filtrate Receiver Vessel	Rev. 33
88020	Procedures	QWI 18.1.1	Safety Training	Rev. 12
88020	Procedures	QWI 18.1.10	Structured On-The-Job Training	Rev. 5
88020	Procedures	QWI 18.1.11	Required Training Program	Rev. 2
88020	Work Orders	20316326	Functional testing of the UR dissolver HF delivery system pump-flow-PLC interface controls	01/24/2022
88020	Work Orders	20321943	Functional testing of the UR dissolver HF delivery system pump-flow-PLC interface controls	04/02/2022
88020	Work Orders	20332711	Functional testing of the UR dissolver HF delivery system pump-flow-PLC interface controls	10/04/2022
88050	Corrective Action Documents		2021-1190, 2022-1359, 2022-1163	
88050	Miscellaneous	EPR-06-06-01	Emergency Preparedness Plan Change Form	03/28/2022
88050	Miscellaneous	HS-2020-056	2020 Mutual Aid Letters	05/14/2020
88050	Miscellaneous	HS-2022-008	2021 General Emergency Management Organization Training	01/24/2022
88050	Miscellaneous	HS-2022-009	2021 Position-Specific Emergency Management Organization Training	01/24/2022
88050	Miscellaneous	HS-2022-012	2021 Security Emergency Director 3rd and 4th Quarter Training	
88050	Miscellaneous	N/A	Offsite Responder Training	10/26/2021
88050	Miscellaneous	N/A	Offsite Responder Training	02/15/2022
88050	Miscellaneous	N/A	2022 Evacuation Drill Results	10/07/2022
88050	Miscellaneous	N/A	Emergency Team Organization Chart	2022
88050	Miscellaneous	N/A	Mutual Aid Agreements, Lynchburg General Hospital	09/09/2020
88050	Miscellaneous	N/A	3rd Quarter 2022 Security Emergency Directors Table-Top	09/21/2022

Inspection Procedure	Type	Designation	Description or Title	Revision or Date
			Drill	
88050	Miscellaneous	N/A	March 2 and 3, 2022, EMO/EOL Bay 9 Scrubber Acid Incident Critique Items	03/14/2022
88050	Miscellaneous	N/A	BWXT Nuclear Operations Group Emergency Plan	Rev. 35
88050	Miscellaneous	N/A	2021 Evacuation Drill Results	08/03/2021
88050	Miscellaneous	N/A	Emergency Planning Committee Meeting Minutes	06/07/2021
88050	Miscellaneous	N/A	2022 Offsite Responder Training Nuclear Criticality Safety	10/09/2022
88050	Procedures	EP-06-06	Annual Emergency Plan Review	Rev. 09
88050	Procedures	EPR-01-01	Emergency Plant Evacuation	Rev. 25
88050	Procedures	EPR-03-07	Response to Severe Weather	Rev. 22
88050	Procedures	EPR-06-01	Emergency Organization	Rev. 17
88050	Procedures	EPR-06-03	Emergency Management Training	Rev. 12
88050	Procedures	EPR-06-05	Inspection of Emergency Operations Center Readiness	Rev. 30
88050	Procedures	EPR-06-07	Plant Evacuation Drill	Rev. 08
88050	Procedures	HS-ET-003	Inventory and Maintenance of the Emergency Response Vehicles	Rev. 13
88050	Procedures	HS-FP-004	Monthly Self Inspection of Self-Contained Breathing Apparatus and Cylinders	Rev. 18
88050	Procedures	HS-FP-014	Disassembly, Cleaning, and Maintenance of Self-Contained Breathing Apparatus	Rev. 08
88050	Self-Assessments	259-4A	Emergency Preparedness (Plans and Procedures)	July 2021
88050	Self-Assessments	259-4B	Emergency Preparedness (Facilities and Equipment)	July 2021
88070	Corrective Action Documents		2022-1264, 2022-0624, 2022-0522, 2022-0371, 2022-0586, 2022-0226	Various
88070	Corrective Action Documents Resulting from Inspection		2022-1452	
88070	Drawings	UPRR 10060	Workstation 300 Piping & Instrumentation Drawing	Rev. 02
88070	Engineering Changes	CHG-00010930	WS-300 Furnace Exhaust Pressure Gauge	07/22/2022
88070	Engineering Changes	CHG-00011967	Add Four 0.50-Inch Diameter Holes to SFF Sink	03/09/2022

Inspection Procedure	Type	Designation	Description or Title	Revision or Date
88070	Engineering Changes	CHG-00012137	OP-1001828 Rev. 44	04/18/2022
88070	Engineering Changes	SER 21-013 Phase 2	Implement New Soot Filter and Oxygen Sensors to WS-300	01/19/2022
88070	Engineering Evaluations	N-517	10 CFR 70.72 Change Evaluation Checklist, SER 21-013 Phase 2, Implementation of New Soot Filter and Oxygen Sensors to WS-300 (IHS)	05/26/2021
88070	Engineering Evaluations	N-517	10 CFR 70.72 Change Evaluation Checklist, SER 21-013 Phase 2, Implementation of New Soot Filter and Oxygen Sensors to WS-300 (LIC)	05/27/2021
88070	Engineering Evaluations	N-517	10 CFR 70.72 Change Evaluation Checklist for SER 20-024 Phase 1 Add 5th Tier Rack (NCS)	10/05/2020
88070	Engineering Evaluations	N-517	10 CFR 70.72 Change Evaluation Checklist for SER 20-024 Phase 1 Add 5th Tier to Rack (LIC)	10/15/2020
88070	Engineering Evaluations	NCS-2021-020	Nuclear Safety Release for SER 20-024 Phase 1 - Add 5th Tier to Aluminum Fuel Plate Storage Racks (NCS Posting 15-23-018)	03/01/2021
88070	Engineering Evaluations	NCS-2022-083	Nuclear Safety Release for NCS-2022-029 Safety Analysis to Modify a Sink within SFF for CHG-00011967	09/27/2022
88070	Engineering Evaluations	PHA-21-00001	TRISO Compacting Process Hazards Analysis	12/16/2021
88070	Engineering Evaluations	SER 20-024 Phase 01	Aluminum Fuel Storage Tray Racks - Modify Storage Rack #0863	03/18/2021
88070	Miscellaneous	JA-SQ-0006	Audit Schedule of SNM-42 Chapter 11 Activities	Rev. 1
88070	Miscellaneous	N/A	2022 Safety Evaluation Request Originator Training	
88070	Miscellaneous	SAR 15.18	SFF Dry-End Processing SFF Operation	Rev. 142
88070	Miscellaneous	TP-LIC-0005	SER Process Engineer	Rev. 0
88070	Miscellaneous	TP-LIC-0006	Licensing Reports and Letters	Rev. 00
88070	Procedures	OP-1015720	Coating in the CenTorr Furnace for TRISO	Rev. 48
88070	Procedures	QWI 02.1.02	Preparation and Maintenance of Safety Analysis Reports	Rev. 19
88070	Procedures	QWI 5.1.12	Change Management	Rev. 37
88070	Procedures	QWI 5.1.20	Change Review Board	Rev. 11
88070	Procedures	QWI 5.1.7	Safety Evaluation Requests	Rev. 37
88070	Procedures	QWI 6.1.14	Procuring or Fabricating Manufacturing or Inspection	Rev. 7

Inspection Procedure	Type	Designation	Description or Title	Revision or Date
			Equipment	
88070	Self-Assessments	N/A	Change Management Review	April 2015
88070	Work Orders	20327641	SC 02 Sensor Maint for WS300 SFF0 6M	08/31/2022
88070	Work Orders	20329673	SC WS 300 Soot Filter 02 Sens Cal 3M SFF	09/27/2022
88135.02	Corrective Action Documents	2022-1395	Fire-UIR	10/15/2022
88135.02	Miscellaneous	A5-268	BWXT Inclement Weather Checklist, 09/29/2022	Rev. 0
88135.02	Miscellaneous	A62-04	NRC, OSHA, State, and Federal Posting Procedure	Rev. 22
88135.02	Miscellaneous	December 2022 ALARA meeting	December 2022 ALARA meeting	12/08/2022
88135.02	Miscellaneous	N/A	BWXT NOG-L Security Training, Qualification, & Equipment Plan	Rev. 15
88135.02	Miscellaneous	N/A	NCS 3rd Quarter 2022 Audit	10/17/2022
88135.02	Miscellaneous	N/A	IH&S 3rd Quarter 2022 Audit	10/25/2022
88135.02	Miscellaneous	N/A	EP 3rd Quarter 2022 Audit	10/26/2022
88135.02	Miscellaneous	N/A	Licensing 3rd Quarter 2022 Audit	9/27/2022
88135.02	Miscellaneous	N/A	RP 3rd Quarter 2022 Audit	10/21/2022
88135.02	Procedures	NCSE-02	Nuclear criticality safety analysis & quality assurance reviews	Rev. 50
88135.02	Procedures	OP-1046421	Debind & heat treatment of TRISO compacts in the CenTorr furnace	Rev. 0
88135.02	Radiation Work Permits (RWPs)	22-0069	General maintenance in bays 12a, 13a, 14a, and 15a for industrial engineering and contract personnel	Rev. 00
88135.04	Corrective Action Documents		2022-0966	07/21/2022
88135.04	Corrective Action Documents		2018-0385	03/15/2018
88135.04	Corrective Action Documents		2020-0881	07/01/2020
88135.04	Corrective Action Documents		2021-1012	07/16/2021
88135.04	Miscellaneous	1E-F-025	Generator Load Bank Log	Rev. 0
88135.04	Work Orders	20333073	SC EMER GEN LOAD GEN002 3MON ELECT	11/30/2022
88135.05	Fire Plans	N/A	Pre-Fire Plan - Information Sheet Section #23	11/26/2003

Inspection Procedure	Type	Designation	Description or Title	Revision or Date
88135.05	Procedures	HS-ET-001	Emergency Team Training	Rev. 013
88135.05	Procedures	HS-ET-003	Inventory and Maintenance of the Emergency Response Vehicles	Rev. 13
88135.05	Procedures	HS-ET-004	B&W Fire Training Facility: Live Fire	Rev. 006
88135.17	Miscellaneous	SAR 15.45	TRISO Compacting	12/15/2022
88135.17	Procedures	OP-1046421	Debind & Heat Treatment of TRISO Compacts in the Furnace	Rev. 0
88135.19	Corrective Action Documents	2022-1581		Incident 11/22/2022, Report 12/14/2022
88135.19	Engineering Evaluations	NCS-2022-100	NCS Safety Concern for Uncontrolled Discharge of Recovery Retention Tank to Water Treatment Facility (CA2022-1581)	12/05/2022
88135.19	Miscellaneous	EP-321, Attachment 4	Retention Tank Inspection Log	Rev. 07
88135.19	Miscellaneous	N/A	Preventative Maintenance Instructions Entry Scan 4 Explosives Detector 2 wk ets PM30327	Rev. 0
88135.19	Miscellaneous	SAR 15.21	Low-Level Radioactive Waste Processes Waste Operations	Rev. 80
88135.19	Procedures	EP-313	General Maintenance for Low-Level Radioactive Waste Treatment Operations	Rev. 15
88135.19	Procedures	OP-0061556	Recovery Conversion Furnace Operation	Rev. 24
88135.19	Work Orders	200335586	WS401 Replace Two Doors and Clean Tube	11/16/2022
88135.19	Work Orders	20334602	SC CH COMP COL FILTER/CK VA B URPSM 6M	12/19/2022
88135.19	Work Orders	20337159	Explosive Detector EECP GE ES4 #1	12/21/2022
88135.19	Work Orders	20337160	Explosive Detector EECP GE ES4 #2	12/21/2022
88135.22	Miscellaneous	N/A	Weekly Inspection of PA Barrier System	Rev. 15
88135.22	Work Orders	20333073	SC EMER GEN LOAD GEN002 3MON ELECT	12/01/2022