



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

May 3, 2023

Ronald Dailey
President
Nuclear Fuel Services, Inc.
P.O. Box 337
MS 123
Erwin, TN 37650-0337

**SUBJECT: NUCLEAR FUEL SERVICES – CORE INSPECTION REPORT
07000143/2023001**

Dear Ronald Dailey:

On March 31, 2023, the U.S. Nuclear Regulatory Commission (NRC) completed an inspection at Nuclear Fuel Services (NFS), Inc. On April 11, 2023, the NRC inspectors discussed the results of this inspection with you and other members of your staff. The results of this inspection are documented in the enclosed report.

Based on the results of this inspection, the NRC has determined that two Severity Level IV violations of NRC requirements occurred. Because the violations were: (1) identified by NFS staff, (2) corrected within a reasonable period of time, (3) not repetitive as a result of inadequate corrective action for a previous violation, and (4) not willful, they are being treated as Non-Cited Violations (NCVs), consistent with Section 2.3.2 of the Enforcement Policy. These NCVs are described in the subject inspection report. If you contest the violations or significance of these NCVs, you should provide a response within 30 days of the date of this inspection report, with the basis for your denial, to the Nuclear Regulatory Commission, ATTN: Document Control Desk, Washington DC 20555-0001, with copies to: (1) the Regional Administrator, Region II; (2) the Director, Office of Enforcement, United States Nuclear Regulatory Commission, Washington, DC 20555-0001; and (3) Larry Harris, NRC Resident Inspector at the NFS facility.

In accordance with 10 CFR 2.390 of the NRC's "Rules of Practice," a copy of this letter, its enclosure(s), and your response, will be made available electronically for public inspection in the NRC Public Document Room or from the NRC's Agencywide Documents Access and Management System (ADAMS), accessible from the NRC Web site at

<http://www.nrc.gov/reading-rm/adams.html>. To the extent possible, your response should not include any personal privacy or proprietary information so that it can be made available to the Public without redaction.

Sincerely,



Signed by Williams, Robert
on 05/03/23

Robert E. Williams, Jr., Chief
Projects Branch 1
Division of Fuel Facility Inspection

Docket No. 07000143
License No. SNM-124

Enclosure:
As stated

cc w/ encl: Distribution via LISTSERV

SUBJECT: NUCLEAR FUEL SERVICES – CORE INSPECTION REPORT
07000143/2023001 Dated May 3, 2023

DISTRIBUTION:

- A. Masters, RII
- R. Williams, RII
- S. Lav, NMSS
- J. Rivera-Ortiz, RII
- J. Downs, NMSS
- L. Cooke, RII
- R2EICS
- PUBLIC

ADAMS ACCESSION NUMBER: ML23122A308

<input checked="" type="checkbox"/> SUNSI Review		<input checked="" type="checkbox"/> Non-Sensitive <input type="checkbox"/> Sensitive		<input checked="" type="checkbox"/> Publicly Available <input type="checkbox"/> Non-Publicly Available	
OFFICE	RII/DFFI	RII/DFFI	RII/DFFI	RII/DFFI	
NAME	G. Goff	L. Harris	J. Rivera	R. Williams	
DATE	05/02/2023	05/03/2023	05/03/2023	05/03/2023	

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

Docket Number: 07000143

License Number: SNM-124

Report Number: 07000143/2023001

Enterprise Identifier: I-2023-001-0051

Licensee: Nuclear Fuel Services, Inc.

Facility: Nuclear Fuel Services

Location: Erwin, TN

Inspection Dates: January 01, 2023, to March 31, 2023

Inspectors: G. Goff, Technical Assistant
L. Harris, Senior Resident Inspector
J. Rivera Ortiz, Sr. Fuel Facility Project Inspector
T. Shewmaker, Fuel Facility Inspector (Trainee)

Approved By: Robert E. Williams, Jr., Chief
Projects Branch 1
Division of Fuel Facility Inspection

Enclosure

SUMMARY

The U.S. Nuclear Regulatory Commission (NRC) continued monitoring the licensee's performance by conducting a core inspection at Nuclear Fuel Services, 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

Failure to Follow Work Acceptance Procedure for the Installation of DRAIN-003 in the 300 Complex Process Ventilation System	
Significance	Report Section
Severity Level IV NCV 07000143/2023001-01 Open/Closed	88020
The follow-up inspection of unresolved item (URI) 07000143/2022006-01 resulted in a licensee-identified, Severity Level IV, non-cited violation of License Condition S-1 for the licensee's failure to follow a Standard Operating Procedure after the original installation of DRAIN-003 in the 300 Complex Process Ventilation System.	

Failure to Establish Management Measures for Item Relied on for Safety FPV-4 (DRAIN-002)	
Significance	Report Section
Severity Level IV NCV 07000143/2023001-02 Open/Closed	88020
The inspection follow-up of URI 07000143/2022006-02 resulted in a licensee-identified, Severity Level IV, non-cited violation of 10 CFR 70.62(d) for the licensee's failure to establish management measures for item relied on for safety (IROFS) FPV-4, DRAIN-002, in the 300 Complex Process Ventilation System.	

Additional Tracking Items

Type	Issue Number	Title	Report Section	Status
WER	07000143/2022-003-00	EN 56149 - Degraded/Failed IROFS in NFS Process Ventilation System	88020	Closed
URI	07000143/2022006-01	Management Measures for Crediting DRAIN-003 as an Item Relied on for Safety Post-Original Installation	88020	Closed
URI	07000143/2022006-02	Effectiveness Protection Index Assumed for DRAIN-002 in the Integrated Safety Analysis Summary	88020	Closed
URI	07000143/2022006-03	Compliance of Building 302 Ventilation Drains with the Performance Requirements in 10 CFR 70.61(b)	88020	Closed
WER	07000143/2023-001-00	Chemical Reaction and Fire in Area 800	88135.02	Open

PLANT STATUS

The following facility process areas were operating during the inspection period: Fuel Manufacturing Facility (FMF) and the Blended Low Enriched Uranium (BLEU) Preparation Facility (BPF), which includes the Uranium-Oxide (U-Oxide), solvent extraction and the downblending lines. Normal support services and departments were operational during the inspection period.

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, Part 70 (10 CFR 70), including 70.24, 70.61, 70.62; 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) based on the information provided in the integrated safety analysis (ISA) summary. The inspectors conducted a general plant tour of each major plant operating area. The process areas and corresponding accident sequences selected for review are listed below:

- 300 Complex Ventilation System
 - 4.1.1.1
 - 4.1.1.2.d and 4.1.1.2.e
 - 4.1.1.4
 - 4.1.1.5
 - 4.1.1.6

- Building 301 Process Ventilation System
 - 4.1.1.4
 - 4.1.2.4, 4.1.2.8, 4.1.2.12

- 4.1.3.4.1, 4.1.3.4.2
- 4.1.4.4
- 4.1.5.4
- 4.1.14.4

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

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

- 300 Complex Ventilation System
 - IROFS FPV-1 (Administrative Control for NCS)
 - IROFS FPV-2 (Administrative Control for NCS)
 - IROFS FPV-3 (Administrative Control for NCS)
 - IROFS FPV-4 (Passive Engineering Control for NCS)
 - IROFS FPV-5 (Passive Engineering Control for NCS)
 - IROFS FPV-7 and FPV-8 (Passive Engineering Controls for NCS)
- Building 301 Process Ventilation System
 - IROFS CDPV-06 (Administrative Control for NCS)
 - IROFS CDPV-07 (Passive Engineering Control for NCS)
 - IROFS CDPV-09 (Administrative Control for NCS)
 - IROFS CDPV-10 (Administrative Control for NCS)
 - IROFS CDPV-27 (Administrative Control for NCS)
 - IROFS CDPV-47 and CDPV-48 (Passive Engineering Controls for NCS)
- IROFS FIRE-20 (Passive Engineering Control for fire protection)

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 consistent with actual plant conditions. The inspectors conducted the following activities to verify the implementation of selected safety controls:

- Conducted walk-downs of the following:
 - process ventilation ductwork in Buildings 302, 306, and 307 to assess non-destructive assay (NDA) locations credited for IROFS FPV-2 and CDPV-9
 - high efficiency particulate air (HEPA) filter enclosures in Buildings 302, 306, and 307 to verify operating parameters were consistent with

- IROFS FPV-1 setpoints (Filters V101, V201, V600, V601, V701, V703, V902, V903, V904, V905, V908, VD01, VD02, VE01 and V907)
 - a sample of HEPA filter enclosures in Building 301 to verify operating parameters were consistent with IROFS CDPV-6 setpoints
 - process ventilation scrubbers in Building 306 and Building 301 to assess implementation of IROFS FPV-3 and CDPV-10
 - Building 302 to assess the location and configuration of IROFS FPV-4, -7, and -8
 - components in Building 302 to verify their configuration was consistent with IROFS FPV-5
 - components in Building 301 credited under IROFS CDPV-7
 - NDA locations in Building 301 credited under IROFS CDPV-9
 - NDA scrubber locations in Building 301 credited under CDPV-27
 - Building 301 scrubber to verify its configuration was consistent with IROFS CDPV-47/-48
- Reviewed the following documentation:
 - a sample of runsheets for daily and weekly checks for IROFS FPV-1
 - process ventilation diagrams to verify that HEPA filters credited under IROFS FPV-1 were consistent with design drawings and actual plant configuration
 - implementing procedures for IROFS FPV-1, FPV-2, FPV-3
 - raw NDA data and final calculated mass for IROFS FPV-2 (January to December 2022)
 - calibration procedure for NDA scans on ductwork (IROFS FPV-2)
 - data sheets of NDA raw data for 300 Complex process off-gas (February 2022)
 - Nuclear Criticality Safety Evaluation (NCSE) for the 300 Complex Process Ventilation to identify safety limits and verify consistency with the setpoints and acceptance criteria used for IROFS FPV-2 and FPV-3
 - a sample of process ventilation scrubber data (December 2022 to January 25, 2023) to verify implementation of IROFS FPV-3
 - setpoint analysis for drain capacity applicable to IROFS FPV-7 and FPV-8
 - a sample of safety-related equipment (SRE) tests for ventilation drain inspections (IROFS FPV-4, -7, and -8)
 - setpoint analysis supporting IROFS CDPV-47
 - completed SRE tests for IROFS FPV-3, FPV-4, FPV-5, FPV-7/8, and CDPV-10
- Interviewed the following NFS staff:
 - ISA staff on the implementation of ISA methodology and effectiveness protection indexes assigned to ventilation drains in the 300 Complex Process Ventilation
 - on-shift operators responsible for implementing IROFS FPV-1
 - NDA staff on the implementation of NDA scans, including calibration, on ventilation ductwork (IROFS FPV-2)
 - NCS staff on the implementation of selected IROFS in the 300 Complex Ventilation System and the Building 301 Process Ventilation System

Safety Control Support Programs (IP Section 02.04)

The inspectors reviewed 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. Additionally, the inspectors followed up on three URIs documented in NRC Special Inspection Report 07000143/20222006 (ADAMS ML22332A498) related to Event Notification 56149 reported to the NRC on October 6, 2022. Specifically, the inspectors reviewed the following documentation:

- ISA Summary changes as a result of the addition of IROFS FPV-7 and FPV-8 (new process ventilation drains)
- qualification status of operators responsible for implementing the selected IROFS in the 300 Complex Process Ventilation (IROFS-300 General Qualification)
- qualification status for a sample of operators on duty on January 26, 2023 (day shift) to verify their qualifications for implementing the selected IROFS were up to date
- staffing changes in organizational groups responsible for operational safety activities to verify compliance with the position-specific requirements in the license application
- 300 Complex and Building 100 - Occupational/Environmental Chemical Accident Consequence Evaluation (ACE) for Fires and the corresponding ISA section for consistency with accident sequences and IROFS
- Site Fire Radiological ACE and the corresponding ISA section for consistency with accident sequences and IROFS
- a sample of audits related to the facility's safety program and corresponding corrective actions
- temporary procedure LOA-2375D-032 (12/6/2023) implementing compensatory measures for process ventilation restart
- Problem Identification, Resolution, and Corrective System (PIRCS) entry 91077 documenting the licensee's resolution of URI 20220006-01, "Management Measures for Crediting DRAIN-003 as an Item Relied on for Safety Post-Original Installation"
- PIRCS 33177 documenting the licensee's resolution of URI 20220006-02, "Effectiveness Protection Index Assumed for DRAIN-002 in the Integrated Safety Analysis Summary"
- PIRCS 33178 documenting the licensee's resolution of URI 20220006-03, "Compliance of Building 302 Ventilation Drains with the Performance Requirements in 10 CFR 70.61(b)"
- PIRCS 89037, 90645, and 90756 and conducted walk-down to assess implementation of corrective actions for the affected system/equipment

88135.02 - Plant Status

The inspectors routinely conducted walk-downs 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 IPs, 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."

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 become aware of site activities so that inspection resources were appropriately focused on those activities with the higher safety significance. The inspectors selected the following meetings for review:

- Safety and Security Review Council
- PIRCS Meetings
- Plan of the Day Meetings

Record and Log Reviews (IP Section 03.03)

The inspectors reviewed selected records and logs to ensure they were developed, maintained, and reported, as required by applicable license and regulatory requirements. The records selected for review are listed in the "Documents Reviewed" section of this inspection report.

Posting of Notices (IP Section 03.04)

The inspectors reviewed the following notice to determine if it was posted in accordance with 10 CFR 19.11.

- NRC Form 3

Identification and Resolution of Problems (IP Section 03.05)

The inspectors reviewed selected issues to determine if the licensee was entering equipment, human performance, and other performance issues in a formalized program to identify, track and assure correction of safety and safeguard significant problems, in accordance with 10 CFR 70.62(a)(3) and applicable license requirements. The issues selected for review are listed in the "Documents Reviewed" section of this inspection report as PIRCS.

Event Review (IP Section 03.06)

The inspectors reviewed the plant event listed below to determine if the event warranted the use of formal event review criteria and to evaluate the licensee's response was in accordance with 10 CFR Parts 40.60 (source material), 70.50 (mainly radiological events), 70.52 (criticality and safeguards events), 71.95 (transportation events), 73.71 (safeguards events)) and 20.2201, 20.2202, and 20.2203 (radiological and environmental events):

- EN 56326, dated January 30, 2023, regarding a chemical reaction in Area 800 of the facility while operators were conducting cleanout activities for material inventory purposes. This event will be tracked as WER 07000143/2023-001-00. See "Inspection Results" section of this report for details.

Audits (IP Section 03.07)

The inspectors reviewed the internal and/or external audits listed below to determine whether they have been performed in accordance with 10 CFR 70.22(h)(1), if applicable, and the license application.

- Fourth Quarter "As Low as Reasonably Achievable" (ALARA) report
- Fourth Quarter Environmental Safety Audits and Inspections
- Fourth Quarter ALARA Occupational Performance Report

Procedures (IP Section 03.08)

The inspectors reviewed selected procedures to determine if the licensee was using and maintaining them in accordance with applicable license requirements. The procedures selected for review are listed in the "Documents Reviewed" section of this inspection report.

Radiation Work Permit (RWP) (IP Section 03.09)

The inspectors reviewed and observed the radiation work permits (RWPs)/safety work permits (SWPs) listed below to determine whether they contained the information required by Chapter 4, "Radiation Safety," of the license application; the Radiation Protection Manual; and implementing procedures:

- SWP 18421 RMA 302-800
- SWP 1845 301-RCPT

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 73.46(b)(9):

- Security FOF tactical response exercise conducted during the month of March 2023

88135.04 - Resident Inspection Program Operational Safety

The inspectors reviewed the material condition and as-found configuration of selected site structures, systems, and components (SSCs); reviewed corresponding documentation, and interviewed licensee personnel to verify compliance with 10 CFR Part 70 and the license application. The inspectors also verified whether the selected SSCs were available and reliable to adequately protect plant workers and the public during normal, off-normal, and accident conditions.

Operations Safety Walk-down (IP Section 03.01)

The inspectors performed walk-downs and evaluated the safety controls/IROFS listed below associated with processing Area 800 and Area 800 auxiliary.

- For Area 800:
 - FA8-9, FA8-10
 - FA8-14, FA8-16
 - FA8-34, FA8-40

- For Area 800 auxiliary:
 - FA8-13
 - FAT-1
 - FAT-5

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

The inspectors evaluated the operational status and material condition of selected fire protection 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 applicable.

Fire Area Walk-down (IP Section 03.01)

The inspectors performed walk-downs and evaluated the fire area listed below:

- Building 333 and the following fire protection features:
 - fire wall inspections
 - emergency light inspections
 - combustible control Inspections
 - fire door inspections
 - duct detectors
 - fire damper tests 001, 003, 004, 005 006, and 007

88135.19 - Post-Maintenance Testing

The inspectors evaluated post-maintenance test activities to verify compliance with license application Chapter 11, "Management Measures," and test procedures and/or work instructions to confirm functional capability of selected IROFS and/or safety control(s) following maintenance.

Post-Maintenance Testing (IP Section 03.01)

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

- N303FURPSLR771, Area 600
- N303FURDOORS602, Area 600
- N303XIGNTBSS671, Area 600

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 verify compliance with license application Chapter 11, "Management Measures," and the performance requirements of 10 CFR 70.61 and 70.62; and to verify the IROFS maintained their operational readiness consistent with the ISA Summary.

Surveillance and Calibration Testing (IP Section 03.01)

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

- N302XX600MAXONS, Area 600
- N303HDETPSL600, Area 600
- N333XSCREEN3B01
- N333XSCREEN3A01

INSPECTION RESULTS

Failure to Follow Work Acceptance Procedure for the Installation of DRAIN-003 in the 300 Complex Process Ventilation System	
Severity	Report Section
Severity Level IV NCV 07000143/2023001-01 Open/Closed	88020
The follow-up inspection of URI 07000143/2022006-01 resulted in a licensee-identified, Severity Level IV, non-cited violation of License Condition S-1 for the licensee's failure to follow a Standard Operating Procedure after the original installation of DRAIN-003 in the 300 Complex Process Ventilation System.	
<p><u>Description:</u> In the 1997-1998 timeframe, the licensee initiated Work Request 34554 to install DRAIN-003 in the 300 Complex Process Ventilation ductwork to collect condensation and prevent accumulation of water (i.e., moderator) in the process ventilation. Work Request (WR) 34554 was then rolled under WR 31367 to complete the installation of DRAIN-003. In August 1998, licensee staff accepted the completion of the drain installation in accordance with SOP-392, "Work Request Procedure," Revision 2. As discussed in NRC Inspection Report 07000143/2022006 (ADAMS ML22332A498), DRAIN-003 was fabricated in a way such that the drain pipe protruded into the main ventilation duct rather than being flushed-mounted with the duct as designed, which degraded its intended safety function (i.e. draining condensate or moderator away from the duct).</p> <p>Procedure SOP-392, Attachment II, "Acceptance Form for Major Work Request," provided steps to document verification that the work had been inspected and completed satisfactorily. Additionally, SOP-392, Attachment II, stated, in part, that before closing a work request the initiator must verify that the work has been inspected by a nuclear safety engineer. However, licensee staff marked the work verification as "not applicable" because this part would be covered under the close out of Internally Authorized Change (IAC) 551. The licensee's cause investigation did not identify any evidence that an internal inspection of the drain was performed when IAC 551 was closed out in June 1999 to verify its</p>	

installation was consistent with design specifications.

In October 2004, a setpoint calculation for DRAIN-003 was developed as part of the initial implementation of 10 CFR 70, Subpart H requirements. The setpoint analysis focused on determining whether the size of DRAIN-003 was adequate to manage the expected amount of condensation in the ductwork, but it did not account for the as-built configuration (i.e., protrusion) of the drain pipe. Further revisions of the setpoint analysis in 2006 and 2007 did not account for the pipe protrusion because the responsible staff was unaware of the actual drain configuration. In October 2011, licensee staff became aware of the protrusion in DRAIN-003 during implementation of SRE test N302VENDRAIN003 which required inspection of the ductwork internals, but licensee staff did not recognize that the drain configuration was not consistent with the assumptions in the setpoint calculations. On October 2, 2022, the licensee identified the drain protrusion issue during implementation of SRE test N302VENDRAIN003 to address material accumulation observed by plant operators. This led the licensee to question the validity of the drain's setpoint analysis and the availability and reliability of DRAIN-003 to be credited for IROFS FPV-4.

Corrective Actions: The licensee's corrective actions when the issue was fully identified in October 2022 included:

- placing the affected process areas in safe shutdown
- corrected the configuration of DRAIN-003 and added additional drains to the ductwork for redundancy
- entered the issue corrective action program and conducted a root cause evaluation
- performed an extent-of-condition review to identify and resolve other process ventilation drains potentially with the same configuration issue

Corrective actions resulting from the licensee's root cause evaluation included:

- develop a ventilation design guide to specify standards and practices to be followed when installing new, repairing, or replacing ventilation duct
- issue a summary of events as a required reading for training and qualification of applicable staff
- modify procedure ENG-EPS-A-003, "Setpoint Verification and Design Parameter Calculations," to require validation of in-field system configuration, via visual, technical measurements, or an approved engineering methodology when a setpoint analysis's boundaries are changed, existing systems or components are to be newly credited to meet the performance criteria for an IROFS, or new systems or components are to be credited to meet the performance criteria for an IROFS
- modify procedure ENG-EPS-A-003 to require a drawing reflecting the in-field configuration for all setpoint analysis which have critical dimensions.

Furthermore, the original installation of DRAIN-003 occurred in the late 1990s when the requirements of 10 CFR 70, Subpart H, were not yet introduced. After Subpart H became effective in 2000, NFS revised Chapter 11 of its license application to describe the processes and programs in place to comply with the requirements for management measures in 10 CFR 70.62. This revision expanded the scope of the configuration management program to maintain consistency among design requirements, the physical configuration, and the related facility configuration information. The configuration management program is used to ensure that facility changes are properly reviewed, approved and implemented to assure that all impacts of proposed changes are identified and evaluated, design requirements (and bases)

are maintained or appropriately revised, and changes are coordinated across the various NFS organizations and personnel responsible for activities and programs at NFS facilities.

Corrective Action References: The circumstances and corrective actions associated with this violation were documented in the corrective action program as PIRCS 90584.

Analysis: The inspectors determined the failure to verify the post-installation of DRAIN-003 as required by SOP-392 constituted a violation of License Condition S-1 for not handling SNM in accordance with written procedures as stated in Chapter 11 of the license application in effect at the time the drain was installed. The violation was determined to be licensee-identified because it became apparent as a result of planned licensee activities to inspect the internal surfaces of the ventilation ductwork in the 300 Complex Process Ventilation System. The inspectors determined the violation was more-than-minor based on the screening criteria of IMC 0616, "Fuel Cycle Safety and Safeguards Inspection Reports," Appendix B, "Examples of Minor Violations." The inspectors determined the violation adversely affected the ability of an IROFS or safety-related component to perform its intended safety function when needed per Question 8 and Example 1.d of the screening process. Specifically, the failure to follow procedure resulted in a drain configuration that degraded the intended safety function of IROFS FPV-4. This event did not result in serious safety consequences because the amount of SNM accumulated in the ductwork since the original installation of DRAIN-003 had not exceeded criticality safety limits due to IROFS FPV-1 and FPV-2. The equipment and activities credited under these two IROFSs had been in place since the original installation of DRAIN-003 and before they were credited as IROFS to control the amount of mass in the ventilation ductwork and maintain the likelihood of a high consequence event within the performance requirements in 10 CFR 70.61. (See disposition of URI 07000143/2022006-03 in this inspection report for additional details on the implementation of IROFS FPV-1 and FPV-2.)

The inspectors determined that the violation was of Severity Level IV significance because the violation aligned with Example 6.2.d.2 of the Enforcement Policy in that it involved the licensee's failure to maintain a safety control required to meet a safety margin where the failure did not result in a Severity Level I, II, or III violation. Additionally, in accordance with Section 2.2.2 of the NRC Enforcement Policy, violations that are less serious but are of more-than-minor concern and result in no or relatively inappreciable potential safety consequences are characterized as Severity Level IV violations.

Enforcement:

Violation: Materials License SNM-124, License Condition S-1, states in part that the license is for "use in accordance with the statements, representations and conditions in the application." Chapter 11 of the license application in effect at the time of DRAIN-003's installation stated, in part, that NFS uses several systems of operating and safety function procedures to conduct SNM operations and related support functions. Chapter 11 also stated that an SOP is a detailed step-by-step written operating procedure containing a description of a process and the operation of equipment used in the process. The SOP details instructions for the operation of specific equipment for a given production step or the manufacture of a given product, which includes limits and/or controls for criticality, radiation, industrial, and environmental safety, as necessary.

Standard Operating Procedure SOP-392, "Work Request," Revision 2 (2/6/1998), stated that at the completion of work, the initiator will check "yes" or "no" to verify the work performed is

accepted or rejected. The procedure also stated that all major work requests will require completion of a work acceptance form included in Attachment II of the procedure. Attachment II, "Acceptance Form for Major Work Request" stated, in part, that before closing a work request the initiator must verify the work has been inspected by a nuclear safety engineer.

Contrary to the above, in August 1998, the licensee failed to handle SNM in accordance with written procedure SOP-392, Attachment II, Rev. 2, in that licensee staff failed to verify that the work associated with the installation of DRAIN-003 in the 300 Complex Process Ventilation System had been inspected by a nuclear safety engineer or other appropriate staff. The failure to follow SOP-392 resulted in an unidentified drain configuration that was inconsistent with design specifications and setpoint analyses, which ultimately degraded the function of DRAIN-003 (IROFS FPV-4). This violation is being treated as a non-cited violation consistent with Section 2.3.2 of the Enforcement Policy and Section 2.2.3 of the NRC Enforcement Manual because: (1) the licensee identified the violation, (2) the licensee corrected the violation within a reasonable period of time, (3) the violation was not repetitive as a result of inadequate corrective action for a previous violation, and (4) the violation was not willful.

This violation is identified as NCV 07000143/2023001-01, "Failure to Follow Work Acceptance Procedure for the Installation of DRAIN-003 in the 300 Complex Process Ventilation System," and is considered closed.

Enforcement Action: This violation is being treated as a non-cited violation, consistent with Section 2.3.2 of the Enforcement Policy.

The disposition of this violation closes URI: 07000143/2022006-01.

Failure to Establish Management Measures for Item Relied on for Safety FPV-4 (DRAIN-002)

Severity	Report Section
Severity Level IV NCV 07000143/2023001-02 Open/Closed	88020

The inspection follow-up of URI 07000143/2022006-02 resulted in a licensee-identified, Severity Level IV, non-cited violation of 10 CFR 70.62(d) for the licensee's failure to establish management measures for IROFS FPV-4, DRAIN-002, in the 300 Complex Process Ventilation System.

Description: As discussed in NRC Special Inspection Report 07000143/2022006, DRAIN-002 was credited as part of IROFS FPV-4 to prevent the presence of condensation (i.e., moderation) in the 300 Complex Process Ventilation System. The NRC's Special Inspection documented several instances when DRAIN-002 was found in a degraded or failed state during scheduled inspections. These instances are summarized below:

- PIRCS 22526 (December 17, 2009) - DRAIN-002 failed SRE Test N302VENDRAIN002 due to obstruction in the drain pipe. Work Request 140732 was issued to inspect and restore the drain's functionality.
- PIRCS 30566 (July 6, 2011) - DRAIN-002 was identified almost completely clogged. Corrective actions included inspecting and cleaning restore the drain's functionality. A corrective action item was initiated to evaluate long-term cleaning methods and long-term solutions.

- PIRCS 48896 (June 17, 2015) - DRAIN-002 was identified partially obstructed. Work Request 241207 was issued to inspect and restore the drain's functionality. Corrective Action (CA) 25948 was issued to implement a change package to modify DRAIN-002 to better mitigate entrainment or debris. Licensee staff agreed that increasing the size of the drain would be the appropriate long-term solution. Corrective Action 25949 was issued to change the frequency of the drain inspection until CA 25948 was completed. However, the change package for increasing the drain size was never implemented.
- PIRCS 49102 (July 4, 2015) - The licensee identified debris in the elbow of DRAIN-002. A work request was issued to address the issue. However, no specific long-term solutions were documented in the PIRCS.
- PIRCS 79001 (March 21, 2020) - DRAIN-002 failed SRE Test N302VENDRAIN002 due to debris in an elbow section of the drain. Work Request 292490 was issued to inspect and restore the drain's functionality.
- PIRCS 80212 (August 8, 2020) - DRAIN-002 showed some material accumulation during SRE Test N302VENDRAIN002 but no IROFS degradation or failure was identified.
- PIRCS 7/25/2022 (July 25, 2022) - DRAIN-002 failed SRE Test N302VENDRAIN002 due to debris in an elbow section of the drain. Work Request 300829 was issued to inspect and restore the drain's functionality.

Corrective Actions: The licensee's corrective actions when the issue was fully identified in October 2022 included:

- placing the affected process areas in safe shutdown
- corrected the configuration of DRAIN-002 and added additional drains to the ductwork for redundancy
- entered the issue corrective action program and conducted a root cause evaluation
- performed an extent-of-condition review to identify and resolve other process ventilation drains potentially with the same configuration issue

A corrective action resulting from the licensee's cause evaluation consisted of developing criteria to evaluate the availability and reliability of an IROFS after a failure/degradation to determine if a change is needed to the equipment, management measures, and/or risk indexing to ensure availability and reliability of the IROFS and that it matches the credit taken for the IROFS in the ISA Summary.

Corrective Action References: The circumstances and corrective actions associated with this violation were documented in the corrective action program as PIRCS 91078.

Analysis: The inspectors determined the multiple instances when DRAIN-002 was identified in a failed or degraded state constituted a violation of 10 CFR 70.61(e) and 70.62(d) for not establishing management measures to ensure IROFS FPV-4 was available and reliable to perform its intended safety function. The violation was determined to be licensee-identified because it became apparent as a result of an extent-of-condition review after identifying the protrusion issue with DRAIN-003. The inspectors determined the violation was more-than-

minor based on the screening criteria of IMC 0616, "Fuel Cycle Safety and Safeguards Inspection Reports," Appendix B, "Examples of Minor Violations." The inspectors determined the violation adversely affected the ability of an IROFS or safety-related component to perform its intended safety function when needed per Question 8 and Example 1.d of the screening process. Specifically, the multiple instances when DRAIN-002 was identified with obstructions resulted in degradation of the intended safety function of IROFS FPV-4. Given the reasonable opportunities NFS had to correct the issue since 2009 and the licensee's decision to not implement the change package that would increase the size of the drain, the licensee's cause evaluation revealed that NFS's corrective actions did not represent adequate management measures to ensure availability and reliability of IROFS FPV-4 as described in Chapter 11 of the license application.

This event did not result in serious safety consequences because the amount of SNM and moderator accumulated in the ductwork since DRAIN-002 was installed did not exceed criticality safety limits. Additionally, IROFS FPV-1 and FPV-2 have been implemented to control the amount of mass in the ventilation ductwork and maintain the likelihood of a high consequence event within the performance requirements in 10 CFR 70.61. (See disposition of URI 07000143/2022006-03 in this inspection report for additional details on the implementation of IROFS FPV-1 and FPV-2.)

The inspectors determined the violation was of Severity Level IV significance because the violation aligned with Example 6.2.d.1 of the Enforcement Policy in that it involved the licensee's failure to meet the requirements of 10 CFR 70.61, "Performance Requirements," and the failure does not result in a SL I, II, or III violation. Additionally, in accordance with Section 2.2.2 of the NRC Enforcement Policy, violations that are less serious but are of more-than-minor concern and result in no or relatively inappreciable potential safety consequences are characterized as Severity Level IV violations.

Enforcement:

Violation: Title 10 of the CFR, Paragraph 70.61(e), states, in part, that the licensee's safety program, established and maintained pursuant to § 70.62 of Subpart H, shall ensure that each IROFS will be available and reliable to perform its intended function when needed and in the context of the performance requirements of this section.

Title 10 of the CFR, Paragraph 70.62(d), "Management measures," states in part that each applicant or licensee shall establish management measures to ensure compliance with the performance requirements of § 70.61. The management measures shall ensure that engineered and administrative controls and control systems that are identified as IROFS pursuant to § 70.61(e) of Subpart H are designed, implemented, and maintained, as necessary, to ensure they are available and reliable to perform their function when needed, to comply with the performance requirements of § 70.61 of this subpart.

Contrary to the above, since 2009, the licensee's safety program established pursuant to § 70.62 failed to establish management measures to ensure that DRAIN-002, an engineered control credited under IROFS FPV-4 to comply with the performance requirements of § 70.61, would be available and reliable to perform its intended function when needed and in the context of the performance requirements of 10 CFR 70.61. The failure to establish management measures, particularly corrective actions, resulted in repetitive instances where DRAIN-002 was found in a state that prevented or degraded its safety function as an IROFS. This violation is being treated as a non-cited violation consistent with Section 2.3.2 of

the Enforcement Policy and Section 2.2.3 of the NRC Enforcement Manual because: (1) the licensee identified the violation, (2) the licensee corrected the violation within a reasonable period of time, (3) the violation was not repetitive as a result of inadequate corrective action for a previous violation, and (4) the violation was not willful.

This violation is identified as NCV 07000143/2023001-02, "Failure to Establish Management Measures for IROFS FPV-4 (DRAIN-002)," and is considered closed.

Enforcement Action: This violation is being treated as a non-cited violation, consistent with Section 2.3.2 of the Enforcement Policy.

The disposition of this violation closes URI: 07000143/2022006-02.

WER (Closed)	EN 56149 - Degraded/Failed IROFS in NFS Process Ventilation System WER 07000143/2022-003-00	88020
<p>Description: On October 6, 2022, the licensee submitted EN 56149 to the NRC regarding a plant configuration issue that potentially increased the likelihood of a high consequence event beyond the performance requirements in 10 CFR 70.61. On October 19, 2022, the NRC completed a Special Inspection at NFS (NRC Inspection Report 07000143/2022006, ADAMS ML22332A498) to review the circumstances surrounding the issue of concern. The Special Inspection identified three URIs associated with condensation drains credited as part of IROFS FPV-4 in the 300 Complex Process Ventilation System. On December 1, 2022, the licensee submitted a 60-Day Event Follow-up report to the NRC in accordance with Appendix A of 10 CFR 70 (ADAMS ML22355A062).</p> <p>The URIs resulting from the NRC Special Inspection were inspected during the first quarter of calendar year 2023 and dispositioned as discussed in this inspection report. Two of the three URIs resulted in violations of NRC requirements. Based on the resolution of the URIs and NCVs discussed in this inspection report, EN 56149 and its associated written event report (WER 2022-03-00) are considered closed to the following items:</p> <ul style="list-style-type: none"> • URI 07000143/2022006-01, "Management Measures for Crediting DRAIN-003 as an Item Relied on for Safety Post-Original Installation" is closed to NCV 07000143/2023001-01, "Failure to Follow Work Acceptance Procedure for the Installation of DRAIN-003 in the 300 Complex Process Ventilation System." • URI 07000143/2022006-02, "Effectiveness Protection Index Assumed for DRAIN-002 in the Integrated Safety Analysis Summary" is closed to NCV 07000143/2023001-02, "Failure to Establish Management Measures for IROFS FPV-4 (DRAIN-002)." • URI 07000143/2022006-03 resulted in no violations of NRC requirements and is considered closed. 		

URI (Closed)	Management Measures for Crediting DRAIN-003 as an Item Relied on for Safety Post-Original Installation URI 07000143/2022006-01	88020
<p>Description: The inspectors reviewed additional information provided by the licensee to address URI 07000143/2022006-01. This URI was documented in detail in NRC Special Inspection Report 2022006 (ADAMS ML22332A498), dated November 30, 2022, in response</p>		

to Event Notification 56149 reported to the NRC on October 6, 2022. The URI was associated with the licensee's actions to credit DRAIN-003 as an IROFS in the ISA Summary.

The inspectors reviewed documents associated with PIRCS 90584 which addressed this URI and the licensee's cause evaluation and corrective actions for the event. The inspectors also reviewed licensee's records associated with the original installation and incorporation of DRAIN-003 as an IROFS in the ISA Summary document. The inspectors' review of this URI identified a violation of NRC requirements as discussed in NCV 07000143/2023001-01 (see "Inspection Results" section of this inspection report for details). Unresolved Item 07000143/2022006-01 is considered closed to NCV 07000143/2023001-01.

URI (Closed)	Effectiveness Protection Index Assumed for DRAIN-002 in the Integrated Safety Analysis Summary URI 07000143/2022006-02	88020
<p>Description: The inspectors reviewed additional information provided by the licensee to address URI 07000143/2022006-02. This URI was documented in detail in NRC Special Inspection Report 2022006 (ADAMS ML22332A498), dated November 30, 2022, in response to Event Notification 56149 reported to the NRC on October 6, 2022. The URI was associated with the licensee's actions to address repetitive failure or degradation of DRAIN-002 which was credited as part of IROFS FPV-4 in the ISA Summary.</p> <p>The inspectors reviewed documents associated with PIRCS 90584 and PIRCS 91078 which addressed this URI and the licensee's cause evaluation and corrective actions for the event. The inspectors also reviewed the licensee's procedures for the implementation of the ISA's methodology and management measures for DRAIN-002 when it was initially credited as part of IROFS FPV-4. Additionally, the inspectors reviewed corrective actions documents addressing previous failures and degradation of DRAIN-002. The inspectors did not identify any violations of NRC requirements with respect to the Effectiveness Protection Index of IROFS FPV-4 and described in the approved ISA methodology and licensee procedures; however, the inspectors identified a violation of NRC requirements related to management measures as discussed in NCV 07000143/2023001-02 (see "Inspection Results" section of this inspection report for details). Unresolved Item 07000143/2022006-02 is considered closed to NCV 07000143/2023001-02.</p>		

URI (Closed)	Compliance of Building 302 Ventilation Drains with the Performance Requirements in 10 CFR 70.61(b) URI 07000143/2022006-03	88020
<p>Description: The inspectors reviewed additional information provided by the licensee to address URI 07000143/2022006-03. This URI was documented in detail in NRC Special Inspection Report 2022006 (ADAMS ML22332A498), dated November 30, 2022, in response to Event Notification 56149 reported to the NRC on October 6, 2022. The URI was opened to determine whether the reported condition represented a violation of the performance requirements established in 10 CFR 70.61.</p> <p>The inspectors reviewed documents associated with PIRCS 90584 and PIRCS 91079 which addressed this URI and the licensee's cause evaluation and corrective actions for the event. Specifically, the inspectors conducted a focused review of additional safety controls that could be credited to keep the likelihood of a criticality accident in compliance with the performance requirements in 10 CFR 70.61. The inspectors evaluated whether the licensee</p>		

had additional IROFS in place that would still comply with the performance requirements in 10 CFR 70.61(b) if IROFS FPV-4 (DRAIN-002/-003) was unavailable or unreliable to perform its function. The licensee provided information demonstrating that IROFS FPV-1 and IROFS FPV-2 were implemented to prevent significant material accumulation in the process ventilation ductwork where DRAIN-002 and DRAIN-003 connected, which would still meet the performance requirements for the criticality accident of concern. IROFS FPV-1 required operators to verify the proper operation of HEPA filters upstream the main ductwork at certain frequencies to ensure the filters were performing their function. IROFS FPV-2 consisted of NDA scans on several locations of the process ventilation ductwork to detect material accumulation and initiate actions if established thresholds were exceeded.

The inspectors reviewed records and conducted walk-downs to evaluate the implementation of IROFS FPV-1 and IROFS FPV-2 as described in the ISA Summary and verify compliance with the performance requirements in 10 CFR 70.61. The inspectors conducted a walk-down of several HEPA filter enclosures in the area affected by EN 56149 and reviewed datasheets documenting the operators' verification of HEPA filter parameters. The inspectors also interviewed operators on-shift to discuss how IROFS FPV-1 was implemented on a routine basis. The inspectors also interviewed NFS staff in charge of implementing the NDA scans for FPV-2 to discuss the methodology and procedures used to detect material accumulation in the ductwork. Additionally, the inspectors conducted a walk-down of the area affected by EN 56149 to determine whether the ductwork locations that are routinely NDA scanned under FPV-2 covered the locations with higher potential for material accumulation due to changes in elevation or ductwork connections. The inspectors also reviewed NDA scan data for the process ventilation ductwork since 2014 to verify that historical amounts of SNM in the ductwork did not exceed the criticality safety limits established in the NCSE.

No violations of NRC requirements were identified. Unresolved Item 07000143/2022006-03 is considered closed.

WER (Discussed)	Chemical Reaction and Fire in Area 800 WER 07000143/2023-001-00	88135.02
<p>Description: On January 30, 2023, the licensee submitted a concurrent notification to the NRC (EN 56326) in accordance with 10 CFR 70, Appendix A, for an event for which the licensee issued a news release. The event involved a chemical reaction in Area 800 of the facility while operators were conducting cleanout activities for material inventory purposes. There were no acute radiological or chemical exposures to any of the workers or releases to the environment exceeding regulatory limits. Two operators involved in the event were evaluated at a local hospital and cleared to return to work the same day of the event. The event did not result in an emergency declaration based on the criteria in NFS's Emergency Plan. The licensee's immediate corrective actions included personnel evacuation of the affected work areas, activation of the site's emergency response organization including the site's fire brigade, placing the work area in a safe configuration, and safe collection and quantification of the material involved in the event. The licensee also entered the issue in the corrective action program as PIRCS 91568.</p> <p>The NRC Resident Inspector responded to the event immediately to gather information, assess the licensee's response activities, and notify pertinent NRC staff. In accordance with NRC Management Directive 8.3, "NRC Incident Investigation Program," NRC staff evaluated the licensee's response and potential consequences of the event based on the amount and type of materials involved. The NRC staff determined that follow-up of this event would be appropriate through the resident inspector core inspection program with support from NRC</p>		

staff as needed. At the time of this inspection report, NRC's inspection activities for this event, as well as the licensee's cause evaluation, were ongoing and no final regulatory decisions had been made. This event will remain open pending completion and review of the final licensee's cause evaluation and approved corrective actions.

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 operational safety (IP 88020) inspection results to Ronald Dailey and other members of the licensee staff.
- On April 11, 2023, the inspectors presented the resident's first quarter (IP 88135) inspection results to Ronald Dailey and other members of the licensee staff.

DOCUMENTS REVIEWED

Inspection Procedure	Type	Designation	Description or Title	Revision or Date	
88020	Calculations	SA-00097	Set Point Analysis for CDPV-047	Rev. 1, 2, 3	
		SA-00156	Set point Analysis for FPV-7 and 8	Rev. 3	
	Corrective Action Documents			Protrusion Found in POG During SRE Test Causing Inaccuracy in Set Point Analysis (133014) (Presentation to CARB)	12/2022
		33014		Small Team Root Cause Investigation	12/19/2022
		Investigation Report# 33177		Investigation Report for URI 2022-006-02	
		Investigation Report# 33178		Investigation report for URI 2022-006-03	
		PIRCS 89037		Equipment Difficulty; Operations; Piping; Integrated Safety Analysis; IROFS Function Failure/Degradation	08/07/2022
		PIRCS 90645		Equipment Difficulty; Operations; Filter; Integrated Safety Analysis: IROFS Function Failure/Degradation; Safety Related Equipment; Equipment functioning but challenged/degraded	10/12/2022
		PIRCS 90756		Integrated Safety Analysis: IROFS Function Failure/Degradation; Administrative Control Failure/Degradation; Rule Not Followed; Operations; Procedure	10/27/2022
		PIRCS Entries 22526, 30556, 48896, 49102, 53076, 64586, 79001, 80212, 88901 Investigation ID# 19551		PIRCS and Investigations associated with URI 07000143/2022006-01, URI 07000143/2022006-02, URI 07000143/2022006-03	
		WR304427 (associated with PIRCS 89037)		Replace Overhead Tubing Above BA-H8J4 and East Side of BA-M8J4 to Union West of N-UNH	08/7/2022
		Drawings	Drawing # 301-	Main Scrubber: Scrubber-SM01 P&ID	4/27/2020

Inspection Procedure	Type	Designation	Description or Title	Revision or Date
		F0257-D		
		Drawing # 302-F0099-D	FMF Process Ventilation North Branch P&ID	10/14/2022
		Drawing # 306-F0084-D	300 Complex POG Ventilation: Scrubber System	5/19/2021
		Drawing# 301-F0254-D	Scrubber Header P&ID	12/20/2011
		Drawing# 301-F0256-D	Scrubber Utility Lines P&ID	5/21/2020
		Drawing# 302-F0097-D	FMF Process Ventilation South Branch P&ID	10/12/2021
		Drawing#301-F0255-D	Scrubber Blowdown Tank P&ID	5/21/2020
	Engineering Evaluations	FHA-FRE-B304	Fire Risk Evaluation for Building 304	Rev. 0
	Miscellaneous		IROFS 300-General	Rev. 59
			IROFS 300-General	Rev. 60
			IROFS 300-General	Rev. 61
			Integrated Safety Analysis Summary 300 Complex Support Systems	Rev. 16, 17
			Blended Low-Enriched Uranium Preparation Facility Integrated Safety Analysis Summary	Rev. 19
			Integrated Safety Analysis Summary	Rev. 20
			License Application Chapter 11 - Management Measures	11/21/2016
			ISA Summary for Process Ventilation Systems	
			Chemical Analysis Methodology and Calculations for Fires	Rev. 0
			Chemical Analysis Methodology and Calculations	Revision 8
			Executive Organization Chart	01/23/2023
			Integrated Safety Analysis Summary Blended Low-Enriched Uranium Preparation Facility	Rev. 2020
			NCSE for 300 Complex Process and 105 Laboratory Exhaust Ventilation System Addendum 1 to Revision 6	5/13/2008
			NCSE for 300 Complex Process and 105 Laboratory Exhaust Ventilation System Addendum 2 to Revision 6	9/17/2012

Inspection Procedure	Type	Designation	Description or Title	Revision or Date
			NCSE for 300 Complex Process and 105 Laboratory Exhaust Ventilation System Addendum 3 to Revision 6	10/20/2022
			Qualifications for Individuals for IROFS-300 General (Effective Date 1/15/2023)	1/15/2023
			NDA measurements (grams of Uranium-235) of FMF Process Off-gas Ventilation Ducts 2014-2022	1/2023
			NDA Raw Data (recorded on NFS-ACC-062 form) for dates 2/15/2022-2/16/2022, 10/7/2022	10/7/2022
			Persons working in Area 302 from 1/26/2023 0700 to 1/26/2023 1500 (Query)	1/26/2023
			SOP 401-11 Runsheets (HEPA Filter DPs) for Enclosure 7901 (9/26/2022-1/22/2023)	1/22/2023
			SOP 401-11 Runsheets (HEPA Filter DPs) for Enclosures 0805/0806/0807/0808 (10/24/2022-1/22/2023)	1/22/2023
			SOP 401-11 Runsheets (HEPA Filter DPs) for Enclosure 0801/0802/0803 (11/21/2022-1/22/2023)	1/22/2023
			SOP 401-11 Runsheets (HEPA Filter DPs) for Enclosure 1801/1803/1806/1807 (10/27/2022-12/12/2023)	12/12/2022
			SOP 401-11 Runsheets (HEPA Filter DPs) for Enclosure R701/R702/R601 (10/27/2022-12/12/2023)	12/12/2023
			NCSE for the BPF Process Ventilation System	Rev. 7
			NCSE for CDL Process Ventilation System	Rev. 5
			NCSE for 300 Complex Process and 105 Laboratory Exhaust Ventilation System	Rev. 6
			302 Scrubber Blowdown Solution FPV-3 Sample Results (12/1/2022-1/25/2023)	1/25/2023
			301 CDL Scrubber Solution CDPV-10 Sample Results (12/12/2022-1/19/2023)	1/19/2023
			NDA Scan Data (dates 1/2022 - 12/2022)	12/2022
		ACE000011	300 Complex and Building 100 - Occupational/Environmental Chemical Accident Consequence Evaluation (ACE) for Fires	Rev. 11
		ACE000035	Site Fire Radiological Accident Consequence Evaluation (ACE)	Rev. 3

Inspection Procedure	Type	Designation	Description or Title	Revision or Date	
		FM-GH-27-01	Fire System Impairment Permit	Rev. 5	
		FM-HS-A-79-01	Compensatory Measures Evaluation Form	Rev. 0	
		FM-TRN-018	Toolbox Training - Reinforcement of CO2 System Zone 2 Compensatory Measures	Rev. 4	
		NFS-GH-62-01	NFS Monthly Combustible Control Inspection Form (performed weekly)	07/26/2022-01/24/2023	
		NFS-GH-946 - Attachment A	Operational Decision Making	Revision 3.A	
	Procedures			Completed SRE tests for Drains N302VENDRAIN 01A/01B/02A/02B/03A/03B (completed on 10/21/2022 and 1/15/2023)	1/15/2023
				Completed SRE Tests for Drains N302VENDRAIN002 (Completed dates 7/25/2022 @ 0900 and 1948, 10/14/2022, 10/15/2022)	10/15/2022
				Completed SRE Tests for Drain N302VENDRAIN001 (Completed date 4/30/2022)	4/30/2022
				Completed SRE Tests for Drain N302VENDRAIN003 (Completed date 10/2/2021)	10/2/2021
				SRE tests for N302VENDRAIN 01A/01B/02A/02B/03A/03B	10/21/2022
				Completed SRE Tests for Air Gaps N302XAIRGAP0J11 (Completed dates 1/2/2022, 2/6/2021, 6/5/2022, 7/10/2021, 7/17/2021)	6/5/2022
				Completed SRE Tests for Air Gap N302XAIRGAP0412 (Completed dates 2/18/2022, 4/4/2021, 8/4/2022, 8/5/2022, 9/5/2021)	8/4/2022
				Completed SRE Tests for Air Gap N302XAIRGAPA06 (Completed dates 1/17/2023, 2/8/2022, 7/29/2022, 9/5/2021)	1/17/2023
				Completed SRE Tests for Overflow N302XOVRFLO0A06 (Completed dates 6/10/2022, 6/23/2021)	6/10/2022
		Completed SRE Tests for Overflow N302XOVRFLO0J11 (Completed dates 1/2/2022, 6/23/2019)	1/2/2022		
		Completed SRE Tests for Overflow N302XOVRFLO0412 (Completed dates 6/5/2022, 6/23/2019)	6/5/2022		
	LOA-2375D-032	Process Ventilation Restart	10/6/2022		

Inspection Procedure	Type	Designation	Description or Title	Revision or Date	
		NFS-ACC-047	Calibration for Portable Measurement Systems Utilized for Quantitative and Qualitative Gamma Scanning	Rev. 10	
		NFS-ACC-062	Procedure for NDA of the 300 Complex Scrubber System, WD01/WD02, Fentons WF Tanks, and Process Off-Gas Ductwork	Rev. 23	
		NFS-GH-43	Safety-Related Equipment Control Program	Rev. 33	
		NFS-HS-A-16	Safety Audits, Assessments, and Inspections	Rev. 16	
		NFS-HS-A-61	Integrated Safety Analysis Accident Consequence Evaluations	Rev. 15	
		NFS-HS-A-68	ISA Risk Assessment Procedure	Rev. 10	
		NFS-HS-A-79	Identification and Control of IROFS Procedure	Rev. 15	
		SOP 401-08A	FMF, Area 800A Auxiliary Systems (U)	01/02/2023	
		SOP 401-11	FMF, Monitoring and Servicing of Area Process Ventilation Systems (U)	Revision 26.B	
		SOP-266-GA	Operation of 300 Complex Scrubber	Rev. 30.D	
	SOP-401-08A	Attachment C, Runsheet 80, ENCLOS - 1806 and 1807 Bottom Section Daily Inspection (U)	Rev. 38.B		
	Self-Assessments		4th Quarter 2022 ISA Audit for Production Fuel Facility Radiological ACE	Rev. 5	
			1st Quarter 2022 ISA Chemical ACE Audit - Occupational/Environmental Chemical Accident Consequence Evaluation 300 Complex and Building 100 Fires	09/02/2022	
			3rd Quarter 2022 Chemical IROFS Audit for Fuel Production, Recovery and Supporting Areas	09/12/2022	
			1st Quarter 2022 ISA Fire Risk Evaluation (FRE) Audit - FHA-B304 FRE	02/21/2022	
	88135.02	Corrective Action Documents	91183		
			91221		
			91285		
			91297		
91309					
91367					
		91453			

Inspection Procedure	Type	Designation	Description or Title	Revision or Date
		91568		
		91587		
		91618		
		91620		
		91654		
		91762		
		91814		
		91819		
		91864		
		91934		
		91964		
		91986		
		Corrective Action Documents Resulting from Inspection	91555	
	91578			
	Procedures	NFS-CL-10-08	NCS BIDG 306 and 307	Rev. 034
NFS-GH-43-04		SRE Operational Testing Guide	Rev. 1	
NFS-HS-A-12		Radiation Technician Training Procedure	Rev. 013	
88135.04	Work Orders	WR298378	Area A	