



**UNITED STATES
NUCLEAR REGULATORY COMMISSION**
REGION II
245 PEACHTREE CENTER AVENUE NE, SUITE 1200
ATLANTA, GEORGIA 30303-1257

January 26, 2018

Mr. Joel W. Duling
President
Nuclear Fuel Services, Inc.
P. O. Box 337, MS 123
Erwin, TN 37650

**SUBJECT: NUCLEAR FUEL SERVICES, INC. – U. S. NUCLEAR REGULATORY
COMMISSION INTEGRATED INSPECTION REPORT NUMBER 70-143/2017-005**

Dear Mr. Duling:

This letter refers to the inspections conducted from October 1 to December 31, 2017, at the Nuclear Fuel Services, Inc. (NFS) facility in Erwin, TN. The purpose of these inspections was to determine whether activities authorized under the license were conducted safely and in accordance with U.S. Nuclear Regulatory Commission (NRC) requirements. The enclosed report presents the results of the inspections. The findings were discussed with members of your staff at the exit meetings held on October 25, November 16 and after the end of the quarter on January 11, 2018.

During the inspections, NRC staff examined activities conducted under your license, as they related to public health and safety and to confirm compliance with the Commission's rules and regulations and with the conditions of your license. Within these areas, the inspections consisted of selected examination of procedures and representative records, observations of activities, and interviews with personnel. The inspections covered the following areas: safety operations, radiological controls, facility support, and other areas.

Based on the results of these inspections, no cited violations or deviations were identified.

In accordance with Title 10 of the *Code of Federal Regulations* Section 2.390 of the NRC's "Rules of Practice and Procedure," a copy of this letter and enclosure will be made available electronically for public inspection in the NRC Public Document Room or from the NRC's Agencywide Documents Access and Management System (ADAMS), accessible from the NRC Web site at <http://www.nrc.gov/reading-rm/adams.html>.

J. Duling

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Should you have any questions concerning these inspections, please contact Leonard Pitts of my staff at 404-997-4708.

Sincerely,

/RA/

Omar R. López-Santiago, Chief
Projects Branch 1
Division of Fuel Facility Inspection

Docket No. 70-143
License No. SNM-124

Enclosure:
NRC Inspection Report 70-143/2017-005
w/Attachment: Supplemental Information

cc: (See page 3)

cc:

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SUBJECT: NUCLEAR FUEL SERVICES, INC. – U. S. NUCLEAR REGULATORY
 COMMISSION INTEGRATED INSPECTION REPORT NUMBER 70-143/2017-005

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 ADAMS: Yes ACCESSION NUMBER:ML18029A125 SUNSI REVIEW COMPLETE FORM 665 ATTACHED

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U. S. NUCLEAR REGULATORY COMMISSION
REGION II

Docket No.: 70-143

License No.: SNM-124

Report No.: 70-143/2017-005

Licensee: Nuclear Fuel Services, Inc.

Facility: Nuclear Fuel Services, Inc.

Location: Erwin, TN 37650

Dates: October 1 through December 31, 2017

Inspectors: L. Harris, Senior Resident Inspector
L. Pitts, Senior Fuel Facility Inspector
T. Vukovinsky, Senior Facility Inspector
B. Adkins, Senior Fuel Facility Inspector
K. Kirchbaum, Fuel Facility Inspector
K. McCurry, Fuel Facility Inspector
N. Peterka, Fuel Facility Inspector

Approved by: O. López-Santiago, Chief
Projects Branch 1
Division of Fuel Facility Inspection

Enclosure

EXECUTIVE SUMMARY

Nuclear Fuel Services, Inc.
NRC Integrated Inspection Report 70-143/2017-005
October 1 – December 31, 2017

Inspections were conducted by the resident and regional inspectors during normal and off-normal hours in safety operations, radiological controls, effluent control and environmental protection, transportation, as well as other areas. The inspectors performed a selective examination of licensee activities that was accomplished by direct observation of safety-significant activities and equipment, tours of the facility, interviews and discussions with licensee personnel, and a review of facility records. No safety significant findings were identified during this inspection.

Safety Operations

- Plant operations were performed safely and in accordance with license requirements. Items relied on for safety were properly implemented and maintained in order to perform their intended safety function. (Paragraphs A.1 and A.2)
- The Nuclear Criticality Safety (NCS) program was properly implemented and maintained in order to assure that normal and credible abnormal conditions remained subcritical as required by license and regulatory requirements. Criticality analysis demonstrated double contingency and adequate control of NCS parameters. (Paragraphs A.3 and A.5)
- The Fire Protection program and systems were adequately maintained in accordance with the license application and regulatory requirements. (Paragraph A.4)

Radiological Controls

- The licensee adequately implemented the Radiation Protection program consistent with the license application and regulatory requirements. (Paragraph B.1)

Facility Support

- The post maintenance testing and surveillance programs were implemented in accordance with the license application and regulatory requirements for work control and safety-related equipment testing. (Paragraphs C.1 and C.2)
- Adverse conditions were adequately identified, evaluated, and entered into the corrective action program. (Paragraph C.3)
- The graded biennial emergency drill was implemented in accordance with the Emergency Plan and regulatory requirements. (Paragraph C.4)

Other Areas

None

Attachment:

Supplemental Information

REPORT DETAILS

Summary of Plant Status

The following facility process areas were operating during the inspection period: Naval Fuel Manufacturing Facility (FMF) and the Blended Low Enriched Uranium (BLEU) Preparation Facility (BPF) which includes the Uranium (U)-Metal, U-Oxide, Solvent Extraction and the down-blending lines.

A. Safety Operations

1. Plant Operations Routine (Inspection Procedures (IPs) 88135 and 88135.02)

a. Inspection Scope

The inspectors performed routine tours of the fuel manufacturing areas housing Special Nuclear Material (SNM), reviewed log sheets, and interviewed operators, front-line managers, maintenance mechanics, radiation protection (RP) staff, laboratory managers, and process engineering personnel regarding issues with plant equipment and to verify the status of the process operations. The inspectors observed operational and shift turnover meetings throughout the inspection period to gain insight into safety and operational issues.

During the inspection period, the inspectors interviewed operators, front-line managers, maintenance technicians, engineers, RP technicians, and nuclear materials control technicians to verify that each of the individuals demonstrated adequate knowledge of the nuclear criticality safety (NCS) posting requirements, hazards, and the operations procedures associated with their assigned duties.

The routine tours included walk-downs of the FMF, BPF, commercial development line areas, miscellaneous storage areas, the Waste Water Treatment Facility (WWTF), and Building 440. During routine tours, the inspectors verified that operators were knowledgeable of their duties and attentive to any alarms or annunciators at their respective stations. The inspectors observed activities during normal and upset conditions to verify that operators complied with procedures and material station limits. The inspectors noted that safety controls, including Item Relied On For Safety (IROFS), were in place, properly labeled, and functional to ensure proper control of SNM. The inspectors verified the adequacy of communications between supervisors and operators within the operating areas. The inspectors reviewed operator log books, standard operating procedures (SOPs), maintenance records, and Letters of Authorization (i.e., temporary procedures) to obtain information concerning operating trends and activities. The inspectors verified that the licensee actively pursued corrective actions for conditions requiring temporary modifications and compensatory measures.

The inspectors performed periodic tours of the outlying facility areas to determine that equipment and systems were operated safely and in compliance with the license. The inspectors focused on potential wind-borne missile hazards, potential fire hazards with combustible material storage and fire loading, hazardous chemical storage, the physical condition of bulk chemical storage tanks and piping, storage of compressed gas containers, and potential degradation of plant security features. The inspectors attended various plan-of-the-day meetings and met daily with the Plant Shift Superintendent

throughout the inspection period in order to determine the overall status of the plant. The inspectors evaluated the adequacy of the licensee's response to significant plant issues as well as their approach to solving various plant problems during these meetings.

b. Conclusion

No violations of more than minor significance were identified.

2. Safety System Inspection (IP 88135.04)

a. Inspection Scope

The inspectors performed walk-downs of safety-significant systems involved with the processing of SNM. As part of the walk-downs, the inspectors verified as-built configurations matched approved plant drawings. The inspectors interviewed operators to confirm that plant personnel were familiar with the assumptions and controls associated with the IROFS systems and instrumentation for maintaining plant safety. The inspectors also verified that IROFS assumptions and controls were properly implemented in the field. The inspectors reviewed the related Integrated Safety Analysis (ISA) to verify system abilities to perform functions were not affected by outstanding design issues, temporary modifications, operator workarounds, adverse conditions, or other system-related issues. The inspectors also verified that there were no conditions that degraded plant performance and the operability of IROFS, safety-related devices, or other support systems essential to safety system performance. Safety significant functions, tests, inspections to assure operability of the safety system for area 200 in the 302 production area was specifically inspected.

To determine the correct system alignment, the inspectors reviewed procedures, drawings, related ISAs, and regulatory requirements such as Title 10 of the *Code of Federal Regulations* (10 CFR) Section 70.61, "Performance Requirements." During the walk-downs, the inspectors verified all or some of the following as appropriate:

- Controls in place for potential criticality, chemical, radiological, and fire safety hazards
- Process vessel configurations maintained in accordance with NCS Evaluations
- Correct valve position and potential functional impacts such as leakage
- Electrical power availability
- Major system components correctly aligned, labeled, lubricated, cooled, and ventilated
- Hangers and supports correctly installed and functional
- Lockout/Tag-Out program appropriately implemented
- Cabinets, cable trays, and conduits correctly installed and functional
- Visible cabling in good material condition
- No interference of ancillary equipment or debris with system performance

b. Conclusion

No violations of more than minor significance were identified.

3. Nuclear Criticality Safety (IP 88135.02)

a. Inspection Scope

During daily production area tours, the inspectors verified that various criticality controls were in place, that personnel followed criticality station limit cards, and that containers were adequately controlled to minimize potential criticality hazards. The inspectors reviewed a number of criticality-related IROFS for operability. The inspectors noted that operators were knowledgeable of the requirements associated with IROFS. The inspectors performed the tours inside various process areas when SNM movements were taking place within the facility.

As part of routine day-to-day activities on-site, the inspectors reviewed corrective action program (CAP) entries associated with criticality safety aspects. The inspectors evaluated the licensee's response to such entries and had discussions with NCS engineers and production personnel to determine safety significance and compliance with procedures.

b. Conclusion

No violations of more than minor significance were identified.

4. Fire Protection Quarterly (IP 88135.05)

a. Inspection Scope

During routine plant tours, the inspectors verified that transient combustibles were being adequately controlled and minimized in selected process areas. Various fire barriers and doors were examined and found to be properly maintained and functional in accordance with site procedures. The inspectors reviewed active fire impairments in selected process areas and determined they were implemented per site procedure.

The inspectors conducted a walk-down of Buildings 333 and 440 and determined that the Pre-Fire plan drawing matched the as-found condition for various fire protection components like extinguishers, and postings. The material condition of fire protection components was adequate. The inspectors noted the fire water supply to the surrounding area fire hydrants was properly aligned for operational status. The inspectors also reviewed qualifications of selected staff assigned to the areas regarding fire suppression systems.

The inspectors reviewed a sampling of fire-related Problem Identification, Resolution, and Correction System (PIRCS) entries to verify that corrective actions were appropriate and that appropriate compensatory actions were implemented as applicable.

b. Conclusion

No violations of more than minor significance were identified.

5. Nuclear Criticality Safety (IP 88015)

a. Inspection Scope

The inspectors reviewed selected nuclear criticality safety evaluations (NCSEs) to determine if they were properly reviewed and approved, in-place prior to conduct of new or changed operations, and of sufficient detail and clarity to permit independent review. The inspectors reviewed the selected NCSEs to determine whether calculations were performed within their validated area of applicability and consistent with the validation report. The inspectors reviewed the selected NCSEs and associated assumptions and calculations to verify that they were consistent with the commitments in Chapter 5 of the License Application, including the consideration of the Double Contingency Principle, assurance of sub-criticality under normal and credible abnormal conditions including use of an approved margin of sub-criticality, technical practices and methodologies, and proper use of NCS parameters. The NCSEs were selected based on factors such as risk-significance, whether or not they were new or revised, and operating history. The following NCSEs were reviewed:

- 54X-06-0024, Nuclear Criticality Safety Evaluation for the Area 600 of the Production Facility, Revision (Rev. 3), dated December 21, 2006
- 54X-04-0006, Nuclear Criticality Safety Evaluation for the Area 500 and Area 400 Discard Columns of the Production Fuel Facility, Rev. 0, dated November 19, 2004

The inspectors reviewed accident sequences in the above NCSEs to determine whether normal and credible abnormal conditions were systematically identified in accordance with the commitments and methodologies in the License Application for the analysis of process upsets. This included the review of accident sequences that the licensee determined to be not credible to determine whether the bases for incredibility were consistent with the commitments, definitions, and methodologies in the License Application, and were documented in sufficient detail to permit an independent assessment of credibility.

The inspectors reviewed the selected NCSEs listed above to verify that they were performed in accordance with NCS program procedures and received appropriate independent review and approval. The inspectors reviewed the licensee's PIRCS system through review of NCS-related entries to verify that audit observations and findings were communicated to licensee management and were appropriately followed up on.

The inspectors performed walk-downs in Areas 300 - 600 to determine whether existing plant configuration and operations were covered by, and consistent with, the process description and safety basis in the NCSEs. The inspectors verified that selected engineered controls established in the NCSEs, including physical barriers, spacing controls, and safety related valves, were appropriately included in process and system descriptions and drawings. The inspectors also reviewed performance verifications of two safety related valves and inspection and analytical data of one column to verify the valves were properly tested and the column had adequate dimensions, density, and material concentrations. The inspectors reviewed operating procedures and postings to verify that selected administrative controls established in the NCSEs were included.

The inspectors reviewed the (ISA summary and supporting ISA documentation to determine whether the controls identified in the ISA were supported by technical basis in the NCSEs. The inspectors reviewed the licensee's implementation of NCS-related procedures and controls to verify that the licensee had appropriately considered sources of common cause failures such that the controls remained sufficiently reliable to meet the performance requirements of 10 CFR 70.61. The inspectors also reviewed control flow downs to verify that selected passive engineered controls that were relied on in the NCSE were identified and tracked as Configuration Controlled Equipment.

The inspectors accompanied an NCS engineer on a walk-down of Areas 300 - 600 to determine whether the NCS function assesses field compliance with established NCS controls as required by Section 5.3.4 of the License Application. The inspectors reviewed recent quarterly NCS audit reports to ensure that the audits were comprehensive and that any identified audit findings and recommendations were entered into the licensee's corrective action system. The inspectors reviewed results from the independent triennial audit that was conducted in August 2017 by an independent consultant. The inspectors verified that the individual was highly experienced in the field of NCS and that the scope of the audit was appropriate to ensure compliance with license requirements and applicable American Nuclear Society (ANS) Standards. The inspectors verified that any identified findings and recommendations were entered into the licensee's corrective action system. The results of the audit were discussed with the licensee's NCS Manager.

The inspectors reviewed NCS program procedures that were revised since the last NCS inspection to ensure that the changes were appropriate and consistent with license requirements. The inspectors reviewed training records and interviewed NCS staff to determine if NCS engineers were qualified to perform their assigned duties consistent with the requirements of Section 5.3.3 of the License Application. The inspectors interviewed multiple operators to determine their knowledge level with respect to basic NCS concepts, parameters, and required response actions due to posting violations or criticality alarms. The inspectors reviewed operator training records and conducted interviews of training staff to verify that the licensee is compliant with the requirements of Section 5.3.2, Employee Training, of the License Application.

The inspectors performed interviews with the licensee to discuss the design, testing, maintenance, and reliability of the Criticality Accident Alarm System (CAAS). The inspectors reviewed recent detector placement calculations and performed interviews with the licensee to discuss the licensee's methodology for determining detector placement and coverage. The following documents were reviewed:

- 21T-01-1220-HEA-17-01, Demonstration of Criticality Alarm System Coverage Building. 206-East, dated November 22, 2002.
- SA-00322[P000.2], Setpoint Analysis for Gamma Detector Calibration Response, dated September 24, 2014.
- NOOXCRTDETSYS, IROFS 000-FACILITYSUPPORT, dated September 21, 2017.

b. Conclusion

No violations of more than minor significance were identified.

B. Radiological Controls

1. Radiation Protection Quarterly (IP 88135.02)

a. Inspection Scope

During tours of the production areas, the inspectors observed RP controls and practices implemented during various plant activities including the proper use of personnel monitoring equipment, required protective clothing, and frisking methods for detecting radioactive contamination on individuals exiting contamination controlled areas. The inspectors noted that plant workers properly wore dosimetry and used protective clothing in accordance with applicable Special Work Permits (SWPs). The inspectors also noted that radiation area postings complied with plant procedures and included radiation maps with up-to-date radiation levels. The inspectors monitored the operation of RP instruments and verified calibration due dates.

The inspectors performed numerous partial reviews of SWPs during the inspection period in different operational areas, but conducted a more thorough review for the following SWPs and posted radiologically controlled areas:

- SWP 17-04-008 AREA

b. Conclusion

No violations of more than minor significance were identified.

C. Facility Support

1. Post Maintenance Testing (IP 88135.19)

a. Inspection Scope

The inspectors witnessed and/or reviewed the post-maintenance tests (PMTs) listed below to verify that procedures and test activities confirmed safety systems and components (SSCs) operability and functional capability following the described maintenance. The inspectors reviewed the licensee's completed test procedures to ensure any of the SSC safety function(s) that may have been affected were adequately tested, that the acceptance criteria were consistent with information in the applicable licensing basis and/or design basis documents, and that the procedure had been properly reviewed and approved. The inspectors also witnessed and/or reviewed the test data to verify that test results adequately demonstrated restoration of the affected safety function(s). The inspectors verified that PMT activities were conducted in accordance with applicable work order instructions or licensee procedural requirements. Furthermore, the inspectors verified that problems associated with PMTs were identified and entered into the licensee's PIRCS.

- SRE Test: N302VALVETG1903
- SRE Test: N306VALVETWA874

b. Conclusion

No violations of more than minor significance were identified.

2. Surveillance Testing (IP 88135.22)

a. Inspection Scope

The inspectors witnessed portions of and/or reviewed completed test data for the following surveillance tests of risk-significant and/or safety-related systems to verify that the tests met the requirements of the ISA, commitments, and licensee procedures. The inspectors confirmed the testing effectively demonstrated that the SSCs were operationally capable of performing their intended safety functions and fulfilled the intent of the associated safety-related equipment (SRE) test requirement.

The inspectors discussed surveillance testing requirements with operators performing the associated tasks and determined that their procedural knowledge was adequate. The inspectors verified that any test equipment or standards used to conduct the test were within calibration. The inspectors determined that effective communications between personnel performing these tests were used to complete each activity.

- SRE Test N302XFLMARR0D02 -IROFS-302-DURECOVAREA D 302
- SRE Test N304XXXPSVDL01 - IROFS 304-LAAREA LA
- SRE TEST N302KCONDEN0201
- SRE TEST N302VALVETW0B82

b. Conclusion

No violations of more than minor significance were identified.

3. Corrective Action Program (CAP) Review (IP 88135)

a. Inspection Scope and Observations

The inspectors reviewed the PIRCS to ensure that items adverse to safety were being identified and tracked to closure in accordance with program procedures. The inspectors routinely attended daily PIRCS screening committee meetings and periodic Corrective Action Review Board meetings to evaluate site management's response and assignment of corrective actions or investigations to various issues. The inspectors also performed daily screenings of items entered into the CAP to aid in the identification of repetitive equipment failures or specific human performance issues for follow-up.

The inspectors reviewed CAP entries that occurred during the inspection period to assess and evaluate the safety significance of issues. For items identified to be more safety significant, the inspectors conducted an additional evaluation to verify the licensee was adequately addressing and correcting the issues to prevent recurrence.

b. Conclusion

No violations of more than minor significance were identified.

4. Evaluation of Exercises and Drills (IP 88051)

a. Inspection Scope

The inspectors reviewed the emergency drill scenario and discussed the exercise objectives with licensee personnel before the exercise. The inspectors walked down the plant to assess the effectiveness of the visual aids used in the drill and verified that the licensee had not pre-staged equipment in anticipation of the exercise.

The inspectors observed and evaluated the licensee's graded biennial exercise conducted on October 25, 2017. The scenario was initiated by an accident involving heavy machinery that breached a warehouse containing stored, contaminated materials and resulted in a fire inside the building that was significant enough to require offsite assistance. The accident caused a false criticality safety alarm to provide confusing indications and delay the team response. The scenario also included five injured personnel that required offsite evacuation.

At the initiation of the emergency drill, the inspectors verified that the licensee confirmed site accountability, assessed the accident scenario, analyzed condition, and classified the event. The event was classified as a site area emergency in accordance with the Emergency Plan. The inspectors observed the activation of the Emergency Operations Center (EOC)/emergency organization and verified that all required positions were staffed in accordance with the Emergency Plan. The inspectors verified that the protective action recommendations determined by the EOC/emergency organization were appropriate for the accident scenario and in accordance with the Emergency Plan.

The inspectors verified that the initial offsite notifications were within the time period specified in the Emergency Plan and included the required information. The inspectors verified that the onsite communications to the occupational workers were consistent with the protective action recommendations implemented by the EOC/emergency organization. The occupational workers participated in the protective action and personnel accountability in accordance with approved procedures.

The inspectors confirmed press releases were developed for release by the EOC/emergency organization communicators. The inspectors verified that the press releases were communicated to the Emergency Director (ED) prior to issuance and were in accordance with the Emergency Plan.

The inspectors verified that the ED maintained adequate command and control of the EOC/emergency organization. The inspectors verified that the ED utilized the dose assessment, radiation survey results, environmental monitoring results, etc., during the assessment of the accident scenario.

The inspectors observed members of the licensee's emergency response team assemble at the designated assembly area and the arrival of the off-site emergency responders including fire, EMT, and local police. The inspectors observed the emergency response team's search and rescue activities for casualties, assessment of the affected area, and response to additional emerging situations. The Incident Commander and Fire Brigade leader maintained command and control of the emergency response team and coordinated action with the off-site emergency

responders. The inspectors verified that the emergency response team activities were appropriate for the exercise scenario and were appropriate in meeting the drill objectives.

The inspectors observed the staff critiques of the emergency exercise. The inspectors verified that the critiques were effective at identifying lessons learned or areas of improvement. The inspectors verified that the licensee initiated documentation of items discussed after the emergency exercise in the CAP.

b. Conclusion

No violations of more than minor significance were identified.

D. Special Topics

None.

E. Exit Meetings

The inspection scope and results were presented to members of the licensee's staff at various meetings throughout the inspection period and were summarized on October 25, 2017, to R. Freudenberger and staff, as well as on November 16, 2017, to M. McKennon and staff, and on January 11, 2018.

No dissenting comments were received from the licensee. Proprietary and classified information was discussed but not included in the report

SUPPLEMENTAL INFORMATION

1. KEY POINTS OF CONTACT

<u>Name</u>	<u>Title</u>
C. Barron	Emergency Preparedness Manager
C. Brown	MC&A Department Section Manager
N. Brown	NCS Department Section Manager
T. Cloyd	Fire Protection Engineer
D. Deming	Manager, Program Field Office (Bettis)
J. Duling	President
J. Eidens	BMPC Program Field Office (KAPL)
T. Evans	Security Section Manager
J. Faddis	Environmental Unit Manager
R. Freudenberger	Safety & Safeguards Director
J. Griffith	Environmental Scientist
J. Hagemann	Work Management Section Manager
T. Knowles	Licensing Manager
R. Mauer	ISA Manager
J. May	T&WM Ops Unit Manager
B. McKeehan	Transportation and Waste Unit Manager
M. McKinnon	Operations Director
M. Moore	Environmental Protection & Industrial Safety Section Manager
A. Morie	Safety & Safeguards Program Manager
J. Nagy	Nuclear Safety Officer Chief
B. Rice	NCS Engineer
R. Rice	Radiation Protection and Health Physics Unit Manager
S. Sanders	Training Manager
R. Shackelford	Nuclear Safety & Licensing Section Manager
S. Skiles	NCS Engineer
R. Storey	Configuration Management Unit Manager

2. LIST OF ITEMS OPENED, CLOSED, AND DISCUSSED

None.

3. INSPECTION PROCEDURES USED

88135	Resident Inspector Program For Category I Fuel Cycle
88135.02	Plant Status
88135.04	ISA Implementation
88135.05	Fire Protection
88135.17	Permanent Plant Modifications
88135.19	Post Maintenance Testing
88135.22	Surveillance Testing
88015	Nuclear Criticality Safety
88051	Evaluation of Exercises and Drills

4. DOCUMENTS REVIEWED

Records:

21T-01-1220-HEA-17-01, Demonstration of Criticality Alarm System Coverage Bldg. 306-East, dated November 22, 2002
 21T-17-0867, Nuclear Criticality Safety Design Considerations, Rev. 5, dated October 2, 2017
 21T-17-0966, Nuclear Criticality Safety Engineer Qualification Program, Rev. 1, dated November 13, 2017
 23T-98-0011, "Attachment II – Inspection Data Sheet; Attachment III – Analytical Data Sheet," Purchase Order No. 970400255, Identification No. 6300 60072-025, dated February 19, 1999
 27T-15-2655, Nuclear Fuel Services 2015 Annual Refresher Training
 54X-04-0006, NCSE for Area 500 and Area 400 Discard Columns of the Production Fuel Facility, Rev. 0, dated November 19, 2004
 54X-06-0024, Nuclear Criticality Safety Evaluation for the Area 600 of the Production Facility, Rev. 3, dated December 21, 2006
 54X-07-0008, Control Flowdown and Field Verification Checklist, Control Flowdown and Field Verification for Area 500 and Area 400 Discard of the Production Fuel Facility, Rev. 3, dated March 14, 2007
 54X-11-0003, "Control Flowdown and Field Verification for Area 600," Rev. 4, dated June 2, 2011
 N000CRITDETSYS, IROFS 000-FACILITYSUPPORT, dated September 2, 2017
 SA-00322[P000.2], Setpoint Analysis for Gamma Detector Calibration Response, dated September 24, 2014
 Schott Process Systems, Inc. "Material Certification," Customer Order No. C970400255, dated January 25, 1999
 SRE Performance Verification, Equipment No. N302VALVEBAA525, Component No. 302-BA-A525, procedure IROFS 302-600700A, Revision 3, dated December 5, 2016
 SRE Performance Verification, Equipment No. N302VALVEFVA601, Component No. 302-FV-A601, procedure IROFS 302-600700A, Rev. 2, dated April 18, 2017

Procedures:

NFS-HS-A-05, Calibrating Radiation Monitoring Instruments, Rev. 21, dated :March 17, 2017
 NFS-HS-CL-04, Nuclear Criticality Safety Configuration Control Requirements, Rev. 11, effective November 3, 2017
 NFS-HS-CL-10, Nuclear Criticality Safety Fuel Manufacturing Facility, Rev. 30, effective November 3, 2017
 NFS-HS-CL-10-06, Rev. 9, effective May 10, 2013
 SOP-401-04-302, Area 400-500, Rev. 45, dated July 21, 2017
 SOP-401-05-302, Area 500 Accountability and Storage, Rev. 14, dated January 22, 2017
 SOP-401-06-302, Area 600-Building 302, Rev. 49, dated January 4, 2017
 SOP-401-02-302 Area 200 Rev. 050
 NFS-HS-E-02, Emergency Response Organization, Rev. 031

Audits:

21T-17-0315, NCS Audit of the NCSE for Area 500 and Area 400 Discard Columns of the Production Fuel Facility, Rev. 0, Seventh Audit, dated February 3, 2017
 21T-17-0597, Nuclear Criticality Safety Audit of the Nuclear Criticality Safety Evaluation for Area 600 of the Fuel Manufacturing Facility, Ninth Audit, Rev. 3, dated June 2, 2017

NETS-RPT-17-0001, Independent Triennial Nuclear Criticality Safety Program Review for Nuclear Fuel Services, Inc., dated August 21-24, 2017

Training Records:

27T-16-0206, NFS Training Department – Annual Refresher Training Test A

27X-16-0010, NFS Training Department 302-Common (Test A)

PIRCS Written as a Result of the Inspection:

61018, 61024, 61391, 61731

PIRCS Reviewed:

59304, 59396, 59434, 60581, 60826, 60833, 60840, 60842, 60855, 60858, 60862, 60870, 60872, 60880, 60887, 60894, 60924, 60941, 60945, 60957, 610944, 60977, 61004, 61110, 61286, 61289, 61403 61595