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

January 27, 2015

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

SUBJECT: NUCLEAR REGULATORY COMMISSION INTEGRATED INSPECTION REPORT NUMBER 70-143/2014-005

Dear Mr. Duling:

This refers to the inspections conducted from October 1, 2014, to December 31, 2014, at the Nuclear Fuel Services (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 Nuclear Regulatory Commission (NRC) requirements. The enclosed report presents the results of the inspections. The findings were discussed with members of your staff at an exit meeting held on January 8, 2015.

During the inspections, the 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. Areas examined during the inspections are identified in the enclosed report. Within these areas, the inspections consisted of selected examination of procedures and representative records, observations of activities, and interviews with personnel.

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

In accordance with 10 CFR 2.390 of the NRC's "Rules of Practice and Procedure," a copy of this letter and its enclosure will be made available electronically for public inspection in the NRC Public Document Room or from the NRC's document system (ADAMS), accessible from the NRC web site at http://www.nrc.gov/reading-rm/adams.html.

Should you have any questions concerning these inspections, please contact us.

Sincerely,

/RA/

James A. Hickey, Chief
Projects Branch 1
Division of Fuel Facility Inspection

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

Enclosure:
NRC Inspection Report 70-143/2014-005
w/Attachment: Supplementary Information

cc: (See page 3)

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U. S. NUCLEAR REGULATORY COMMISSION
REGION II

Docket No.:	70-143
License No.:	SNM-124
Report No.:	70-143/2014-005
Licensee:	Nuclear Fuel Services, Inc.
Facility:	Erwin Facility
Location:	Erwin, TN 37650
Dates:	October 1 through December 31, 2014
Inspectors:	C. Stancil, Senior Resident Inspector N. Pitoniak, Acting Resident Inspector D. Hartland, Senior Fuel Facility Project Inspector R. Gibson, Senior Fuel Facility Project Inspector M. Thomas, Senior Fuel Facility Project Inspector S. Sanchez, Senior Emergency Preparedness Inspector B. Adkins, Senior Fuel Facility Project Inspector T. Sippel, Fuel Facility Inspector N. Peterka, Fuel Facility Inspector G. Goff, Fuel Facility Inspector
Approved by:	J. Hickey, Chief Project Branch 1 Division of Fuel Facility Inspection

Enclosure

EXECUTIVE SUMMARY

Nuclear Fuel Services (NFS), Inc.
NRC Integrated Inspection Report 70-143/2014-005
October 1 – December 31, 2014

Inspections were conducted by resident and regional inspectors during normal and off-normal hours in safety operations, radiological controls, facility support, and other areas. The inspectors performed a selective examination of licensee activities which were 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.

Safety Operations

- Plant operations were performed safely and in accordance with license requirements. The items relied on for safety (IROFS) were properly implemented and maintained in order to perform their intended safety function. (Paragraph A.1)

- The licensee adequately implemented the Nuclear Criticality Safety Program, conducted audits and investigations, reviewed events and maintained and implemented appropriate Nuclear Criticality Safety Controls. (Paragraphs A.2 – A.6)

- The site's Fire Protection program and systems were adequately maintained in accordance with the license and regulatory requirements. (Paragraph A.7)

Radiological Controls

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

- The licensee's Radioactive Waste Management program was implemented in accordance with NRC requirements (Paragraph B.2).

- The Environmental Protection program was implemented in accordance with the license application and regulatory requirements. (Paragraph B.3)

Facility Support

- The post maintenance testing and surveillance programs were implemented in accordance with the license and site guidance 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 Emergency Preparedness program was implemented in accordance with the Emergency Plan and regulatory requirements. (Paragraph C.4)

Other Areas

- The licensee satisfactorily addressed the commitments in Confirmatory Order EA-1-076, Section V.5 and incorporated the traits of a healthy nuclear safety culture. (Paragraph D.1)

Attachment:
Key Points of Contact
List of Items Opened, Closed, and Discussed
List of Inspection Procedures Used
Documents Reviewed

REPORT DETAILS

Summary of Plant Status

The facility began the inspection period with the following process areas operating: Naval fuel manufacturing facility (FMF); and the Blended Low Enriched Uranium (BLEU) Preparation Facility (BPF) which includes the U-Metal, Uranium (U)-Oxide, Solvent Extraction (SX), and the down-blending (DB) lines. By the end of the quarter, the BPF had all processes shutdown with exception of Building 440 loading and transportation due to contract completion.

A. Safety Operations

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

a. Inspection Scope and Observations

The inspectors performed routine tours of plant operating areas housing special nuclear material (SNM) and determined that equipment and systems were operated safely and in compliance with the license. Daily operational and shift turnover meetings were observed throughout the period to gain insights into process safety and operational issues. The inspectors reviewed selected licensee-identified issues and corrective actions for previously identified issues. These reviews focused on plant operations, safety-related equipment (valves, sensors, instrumentation, in-line monitors, and scales), and items relied on for safety (IROFS).

The routine tours included walk-downs of the BPF, commercial development line, FMF, storage areas, and the 234 Building. The inspectors verified that there was adequate staffing and that operators were attentive to their duties and knowledgeable of the status of alarms and annunciators. The inspectors observed activities during normal and upset conditions for compliance with procedures and station limits. The inspectors noted that safety controls were in place 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 walked down portions of safety-significant operating systems and verified that IROFS were identified and operable. The inspectors reviewed operator log books, maintenance records, and Letters of Authorization (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 and determined that equipment and systems were operated safely and in compliance with the license. Inspectors focused on potential wind-borne missile hazards, potential fire hazards with combustible material storage and fire loading, hazardous chemical storage, storage of compressed gas containers, and potential degradation of plant security features. In addition, inspectors walked down the licensee's emergency response facilities for familiarization and to ensure the facilities were maintained in a readily available status.

The inspectors attended various plan-of-the-day meetings 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.

Safety System Walk-down (IP 88135.04)

The inspectors performed walk-downs of safety-significant systems involved with the processing of SNM. As part of the walk-downs, 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 Analyses (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, the operability of IROFS, safety-related devices, or other support systems essential to safety system performance. The following process area and/or system was specifically inspected:

- Building 302 Recovery Area H

To determine the correct system alignment, the inspectors reviewed procedures, drawings, related ISAs, and regulatory requirements such as 10 CFR Part 70.61. During the walk-downs, the inspectors verified all or some of the following as appropriate:

- Controls in place for potential criticality and chemical safety hazards
- Process vessel configurations maintained in accordance with Nuclear Criticality Safety Evaluations (NCSEs)
- 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 findings of significance were identified.

2. Criticality Safety (IP 88135)

a. Inspection Scope and Observations

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, specifically for Building 302 Recovery Area H.

The inspectors performed the tours inside various process areas when restrictions on SNM movements were in effect. The inspectors also observed and critiqued the emergency criticality exercise conducted on November 19, 2014.

b. Conclusion

No findings of significance were identified.

3. Nuclear Criticality Safety Program (IPs 88015 & 88016)

a. Inspection Scope and Observations

The inspectors evaluated the adequacy of the licensee's nuclear criticality safety (NCS) program and analyses to assure the safety of fissile material operations. The inspectors reviewed selected NCS documentation to determine that criticality safety of risk-significant operations was assured through engineered and administrative controls, with adequate safety margin, preparation and review by qualified staff demonstrated adequate identification and control of NCS hazards to assure operations within subcritical limits through appropriate limits on controlled parameters. The inspector interviewed licensee criticality engineers, managers, and operators regarding operations, equipment and controls. The inspectors reviewed selected NCS-related items relied on for safety (IROFS), including FA8-01, FA8-02, FA8-05, FA8-09, FA8-14, and FA8-15, to determine that the performance requirements have been met for selected accident sequences.

The NCS evaluations and supporting documents reviewed were:

- NCS-03-02-08, Control Flowdown and Field Verification for Area 800, Rev. 9; 54T-14-0024,
- Nuclear Criticality Safety Evaluation for the Uranium Metal Sampling and the Uranium Metal Shear System, Rev. 5; NFS-HS-CL-10-8,
- Nuclear Criticality Safety Buildings 306 and 307 – Area 800 and Tube Cleaning Room, Rev. 28

b. Conclusion

No findings of significance were identified.

4. Nuclear Criticality Safety Inspections, Audits, and Investigations (IP 88015)

a. Inspection Scope and Observations

The inspectors reviewed the commitments for audits and walkdowns, and ensured that the licensee was meeting the commitments. The inspectors also reviewed the results of the most recent NCS audits and walkdowns to assure that appropriate issues were identified and resolved. The inspectors reviewed the eleven recorded walkdowns that were completed since the last NCS inspection (NCS-2014-16 to NCS-2014-25). The inspectors verified that the licensee's NCS audits were conducted in accordance with written procedures, including the license commitment to audit all areas within a two year period. The inspectors noted that the walkdowns were performed by NCS engineers who reviewed open NCS issues from previous audits; reviewed the adequacy of control

implementation; reviewed plant operations for compliance with license requirements, procedures and postings; and examined equipment and operations to determine that past evaluations remained adequate. The inspectors confirmed that deficiencies identified during audits were appropriately captured in the licensee's corrective action program and resolved in a timely manner.

b. Conclusion

No findings of significance were identified.

5. Nuclear Criticality Safety Event Review and Followup (IPs 88015 & 88016)

a. Inspection Scope and Observations

The inspectors reviewed the licensee response to a selection of recent internally-reported events (e.g., 43868, 45019, 45052, 45116, 45547, 50577), and a recent NCS-related event that the licensee reported to the NRC (Event Notification 50577). The inspectors determined that the licensee adequately evaluated whether these events were reportable to the NRC. The inspectors reviewed the progress of investigations and interviewed licensee staff and observed that the events were investigated in accordance with procedures and appropriate corrective actions were assigned and tracked. The inspectors had no immediate safety concerns relative to Event Notification 50577.

b. Conclusion

No findings of significance were identified, and corrective actions were adequately tracked by the licensee.

6. Plant Activities (IP 88015)

a. Inspection Scope and Observations

The inspectors performed plant walkdowns of the 300 Complex, Wastewater Treatment Facility (WWTF), and the 310 Warehouse to determine whether risk-significant fissile material operations were being conducted safely and in accordance with regulatory requirements. The inspectors interviewed operations staff and NCS engineers both before and during walkdowns. The inspectors verified that controls identified in NCS analyses were installed or implemented and were adequate to ensure safety. The inspectors also verified that safety was maintained for observed facility operations. The cognizant NCS engineers were knowledgeable and interacted regularly with operators on the process floors. The inspectors verified the adequacy of management measures for assuring the continued availability, reliability, and capability of safety-significant controls relied upon by the licensee for controlling criticality risks.

b. Conclusion

No findings of significance were identified.

7. Fire Protection Quarterly (IP 88135.05)

a. Inspection Scope and Observations

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 following area was specifically inspected:

- Building 301 Commercial Development Line

b. Conclusion

No findings of significance were identified.

B. Radiological Controls

1. Radiation Protection Quarterly (IP 88135.02)

a. Inspection Scope and Observations

During tours of the production areas, inspectors observed radiation protection 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 radiation protection instruments and verified calibration due dates. Inspectors specifically reviewed the following SWPs:

- SWP 15869, Building 306 Hoist Replacement
- SWP 15871, Excavate to Identify Water Line Leak, Repair, Removal
- SWP 14-11-09, HVAC Filter Replacement
- SWP 15900, Building 303, Area 600 Component Repair

b. Conclusion

No findings of significance were identified.

2. Radioactive Waste Processing, Handling, Storage, and Transportation (IP 88035)

a. Inspection Scope and Observations

The inspectors evaluated whether the licensee had established and maintained adequate procedures and a quality assurance program to ensure compliance with the requirements of 10 CFR Part 20 and 10 CFR Part 61, as applicable to low-level radioactive waste form, classification, stabilization, and shipment manifests/tracking.

The inspectors reviewed procedures and subsequently observed performance of tasks related to those procedures. The procedures were clearly written, adequately delineated responsibilities, and were effective at accomplishing the tasks. The inspectors observed operators performing radioactive waste activities and determined that the operators were familiar with their responsibilities as they performed their tasks in accordance with on-site procedures.

The inspectors reviewed the radioactive waste management quality assurance program and determined that the licensee was performing the required audits. The findings from these audits were entered into the licensee's corrective action program (CAP) for resolution. The inspectors determined that the licensee's CAP was effective. Based on the above, the licensee continued to implement the radioactive waste management program in accordance with the license and regulations.

The inspectors reviewed the licensee's program for classifying low-level radioactive waste. For this effort, the inspectors reviewed the procedures for classifying waste as well as records relating to waste. Also, the inspectors reviewed the licensee's program for ensuring that waste was properly packaged to ensure the waste form met the requirements of 10 CFR 61.56. Based on the above, the inspectors determined that the licensee was in compliance with federal regulations and the license.

The inspectors reviewed the licensee's procedures for labeling waste shipments and tracking radioactive waste. The procedures were adequate to ensure that radioactive waste was properly labeled, and that these procedures specified actions to be taken should the shipments not reach the intended destination in the time specified. Additionally, the inspectors reviewed the procedures for placement, inspection, and repackaging of radioactive waste and found them to be adequate.

The inspectors performed walk-downs of selected radioactive material processing, handling, and storage areas. Adequate postings were visible for the processing of specific material and subsequent storage in designated areas. The inspectors noticed that the containers were properly labeled to reflect their contents and most containers were in good physical condition.

b. Conclusion

No findings of significance were identified.

3. Effluent Control and Environmental Protection (IP 88045)

a. Inspection Scope and Observations

The inspectors interviewed licensee staff on program changes and verified that there were not any significant program changes within the last 12 months. Furthermore, the inspectors determined that there were no significant personnel changes during this same time period.

The inspectors verified that the program functions remained independent from operations and, thus, in accordance with license requirements. In addition, the inspectors reviewed revisions to any procedures revised since the last inspection and determined that any changes complied with procedural requirements and did not diminish safety.

The inspectors reviewed recent internal and external self-assessments/audits and verified that the audits were performed within the correct frequency; within the appropriate scope; and satisfied the quality assurance requirements of Chapter 9 of the license application. Any findings were submitted in a timely manner into the CAP (PIRCS-- Problem, Identification, Resolution, and Correction System).

The inspectors reviewed program requirements in the license application and determined that the quality control of laboratory measurements was implemented in accordance with procedures. The inspectors verified that the chain of custody of various samples was documented on the appropriate form. Also, inspectors verified the techniques used to verify the accuracy of measurements were in compliance with procedures.

The inspectors reviewed the second 2013 and first 2014 semi-annual effluent reports and determined that the licensee was in compliance with 10 CFR 70.59. Also, the inspectors verified that the licensee maintained records and reports in accordance with 10 CFR 20.2101 and 20.2106.

In addition, the inspectors reviewed records of airborne effluents and found all results to be below 10 CFR 20 requirements. Furthermore, the inspectors observed air filter collections for stacks and off-site ambient air monitors and determined that licensee actions were in compliance with approved procedures. During the above accompaniments, the inspectors noted that licensee staff demonstrated adequate knowledge about the systems and sampling activities. Additionally, the inspectors confirmed that air monitoring and air filter analyzing equipment were recently calibrated and functioning properly. Licensee staff checked and adjusted flow meters when necessary as per procedure.

The inspectors reviewed records of liquid effluents discharges and verified all results were below 10 CFR 20 limits. The inspectors also reviewed monthly averages for WWTF liquid effluent discharges to the Nolichucky River for 2013 and 2014 and determined that the radiological content in these discharges was less than federal regulatory limits and licensee action levels. During a walk-down of the WWTF, the inspectors observed the three safety-related valves which regulated discharges to the Nolichucky River. These three valves were the only equipment under the jurisdiction of the environmental program at the WWTF and were found to be in adequate condition. Functional testing results for these valves were reviewed and found to be acceptable. All liquid effluent monitoring equipment was operating normally and found to be calibrated in accordance with 10 CFR 20.1501 and procedures. Also, the inspectors observed the West Ditch and Banner Spring storm/surface water run-off sluices and found them to be in adequate condition.

Inspectors observed sewer water sample collections and verified the collection was performed by procedure. Inspectors also reviewed the sewer results and found them to be below 10 CFR 20 limits. Based on these results, inspectors determined that the licensee was in compliance with radiological limits and 10 CFR 20.2003.

The inspectors reviewed the public dose assessment and determined that the average annual effluent concentrations released from January 2013 through June 2014 did not exceed the values specified in Table 2 of Appendix B of 10 CFR Part 20. Also, the total dose to the hypothetical, public individual likely to receive the highest dose from licensed operations did not exceed the 10 CFR 20.1301(a)(1) limit for 2013. The inspectors reviewed the airborne portion of the public dose assessment and verified that result was in compliance with the As Low As Reasonably Achievable (ALARA) constraint required by 10 CFR 20.1101(d).

The inspectors reviewed environmental monitoring stations such as groundwater wells and on-site/off-site ambient air monitors and found these mechanisms to be properly mapped in procedures. Also, the inspectors reviewed the associated sampling points for soil, surface water, sediment/silt, and vegetation and determined that the sampling points were in compliance with the license requirements and procedures. The results for the aforementioned were below regulatory limits. The inspectors reviewed corrective actions related to the environmental program entered into PIRCS since January 2013. The inspectors confirmed that the corrective actions were adequate to address the concerns.

The inspectors also toured the on-site environmental laboratory and found environmental samples adequately stored and organized. Although no laboratory analysis equipment was in use during the visit, all laboratory equipment observed appeared to be in adequate working condition.

b. Conclusion

No findings of significance were identified.

C. Facility Support

1. Post Maintenance Testing (IP 88135.19)

a. Inspection Scope and Observations

The inspectors witnessed and reviewed the post-maintenance tests (PMTs) listed below, to verify that procedures and test activities confirmed SSC 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 (WO) instructions or licensee procedural requirements. Furthermore, the inspectors verified that problems associated with PMTs were identified and entered into the CAP.

- PMT for Failure of CAS Detector 311 E, Work Request (WR) 225310
- PMT for Erecting Radiological Tent and Installing New Packing Material in Building 302 Area 600, WRs 225236 and 225229
- PMT for Replacing Hydrogen Detectors in Building 302 Area 600, WR 225938

- PMT for Installing Device A303 Column Mounting Bracket, WR 226229
- PMT for Replacing Upper Section of Column 0J11, WR 219475

b. Conclusion

No findings of significance were identified.

2. Surveillance (SRE) Testing (IP 88135.22)

a. Inspection Scope and Observations

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 procedure requirements. The inspectors confirmed whether 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 test requirement.

- N000XCRITDETSYS, Criticality Accident Alarm System
- N302XOVRFLO0J11, Building 302 Overflow
- N302XWOGVNT0H08 and N302XWOGVNT0H07, Recovery Area H Vents
- N302VALVETG0HA7 and N302VALVETG0H61, Recovery Area H SRE Valves
- N301XFRDAMP0001, N301XFRDAMP0002 and N301XFRDAMP0003 Building 301 SRE Fire Dampers

b. Conclusion

No findings of significance were identified.

3. Corrective Action Program Review (IP 88135)

a. Inspection Scope and Observations

The inspectors reviewed the licensee's CAP to ensure that items adverse to safety were being identified and tracked to closure. 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 followup. The inspectors reviewed CAP entries that occurred during the inspection period to assess and evaluate the safety significance of issues. Furthermore, the inspectors conducted periodic reviews of licensee audits and third-party reviews of safety significant processes to determine their effectiveness and whether the licensee entered results into their CAP, specifically the licensee's CAP trending program and cold weather preparations.

b. Conclusion

No findings of significance were identified.

4. Emergency Preparedness Drill (IP 88135)

a. Inspection Scope and Observations

On November 19, 2014, the inspectors observed an Emergency Preparedness (EP) training drill associated with a simulated criticality event. This drill was intended to identify any licensee weaknesses and deficiencies in classification, notification, dose assessment, and protective action recommendation development activities. The inspectors observed emergency response operations in the Emergency Control Center and on scene to verify that event classification and notifications were done in accordance with NFS-GH-903, Emergency Plan, and licensee conformance with other applicable emergency plan implementing procedures. The inspectors also attended the post-drill critiques to compare any inspector-observed weaknesses with those identified by the licensee in order to verify whether the licensee was properly identifying EP-related issues and entering them into the CAP, as appropriate.

b. Conclusion

No findings of significance were identified.

D. Other Areas

1. Review of Confirmatory Order EA-1-076 Corrective Actions

a. Inspection Scope and Observations

The inspectors reviewed corrective actions implemented by the licensee to address Section V.5 of Confirmatory Order EA-10-076, which required the licensee to conduct integrated independent safety culture assessments using a variety of appropriate assessment tools (which may have included, but were not limited to, an independent third party review, employee surveys, Nuclear Safety Review Board inputs, self-assessments) no later than June 2013. The safety culture assessments included the following provisions and attributes, fully met by the licensee:

- the integrated assessment results will be shared with the NFS staff within 30 days of completion of results;
- the integrated assessment results will be provided to the NRC within 30 days of completion of results;
- the corrective action plans to address the issues identified in these integrated assessments will be provided to the NRC within 60 days of completion of results;
- appropriate and timely corrective actions will be implemented to address the issues identified in these assessments;
- effectiveness reviews of corrective actions will be implemented within one year of completion of corrective actions;
- NFS will inform the NRC when it has determined that improvements in safety culture are sufficient and sustainable; and
- the above actions involving independent safety culture assessments will continue until NRC has concluded that the actions were fully effective.

The licensee had an independent third party conduct a safety culture assessment in 2013, the results of which were provided to the NRC in a letter dated July 18, 2013. The assessment included the following recommendations:

- continue with the safety culture improvement efforts that are part of the 2011 Safety Culture Improvement Plan, as well as the initiatives that have been implemented since 2012, making sure to focus on those which indications suggest have the greatest potential to be beneficial;
- consider conducting a self-assessment of the PIRCS;
- review individual survey item means, especially those associated with the Respectful Work Environment Trait;
- capitalize on the fact that employees are heavily influenced by what they see other employees do;
- consider recruiting employees to teach others about behaviors and attitudes characteristic of a healthy safety culture; and
- measure progress periodically, particularly with groups or behaviors that have been a particular focus of efforts.

In response to the recommendations, the licensee developed an improvement plan which was submitted to the NRC in a letter dated August 19, 2013. The improvement actions were grouped into the same four focus areas which were identified during the previous improvement plan implemented in 2013 as required by Section V.4 of the Confirmatory Order. The licensee then notified the NRC in a letter dated June 18, 2014, that the corrective actions in the plan were complete, including the effectiveness reviews, and provided a basis for why the safety culture improvements were sufficient and sustainable.

The inspectors determined that the third-party safety culture assessment was conducted independently and with qualified personnel and that the assessment data supported the findings documented in the report. The inspectors also reviewed corrective actions taken in each of the focus areas and the effectiveness reviews of those actions which included a review of documentation and interviews with a cross section of personnel to evaluate satisfactory completion of the commitments in the Order.

(1) Leadership: The actions in the leadership area were targeted to improve the free and open exchange of ideas and overall transparency including communication of strategic direction. The actions included:

- Complete a series of “roundtables” to facilitate improved communication on perspectives and issues important to the workforce. The licensee continued to conduct roundtable meetings periodically to identify and discuss employee concerns. The inspectors noted that the licensee conducted 34 roundtable sessions across seven departments with participation by approximately 300 personnel during 2014.
- Provide learning content focused on safety culture using a computer application called SCORE (Safety Culture is Our Responsibility). The inspectors reviewed data related to the SCORE applications. Approximately 70% of salaried employees and 60% of hourly employees have participated in this application. Station personnel met quarterly to review safety culture dashboard metrics and feedback from employees to discuss future SCORE topics. Interviews with

various personnel indicated a positive outlook on the program and a positive reinforcement of select safety culture attributes.

- Extend the observation program to include third-tier managers in an effort to increase engagement of the workforce and management team. The inspectors identified that third tier managers have been incorporated into the Senior Management Observation (SMO) program. This action added 30 additional personnel to the program.
- Enhance supervisor training on behaviors of a healthy safety culture as referenced in INPO 12-012 Addendum 1. The inspectors noted that training was provided to all site personnel on behaviors of a healthy safety culture through internal communications, surveys, use of the SCORE application, and through various posters and communications throughout the plant. Supervisors and managers received focused training to support observations through the SMO program and the Positive Reinforcement (+R) observation programs. The inspectors reviewed training material developed to support these activities.
- Engage the workforce in further examination of the 2013 safety culture assessment results at the department and sub-department level. The inspectors observed that the licensee maintained a Safety Culture Dashboard that included previously identified safety culture deficiencies. Each trait was assigned a Subject Matter Expert (SME) and was updated on a periodic basis. Updates were based on employee feedback provided through surveys, roundtable discussions, internal communication meetings, and the PIRC system.
- Regularly examine/measure key safety culture health attributes in improvement focus areas to determine effectiveness of improvement efforts. The inspectors reviewed the licensee's assessment of actions addressed by the site Leadership Focus Group. The Leadership Focus Group periodically reviewed actions committed to by the site in the safety culture improvement plan. The inspectors noted that improvements and recommendations made by this group were assigned actions and tracked to determine effectiveness. Interviews with employees at various organizational levels provided a positive response on improved timely and effective communications of important issues to personnel at all levels.

(2) Respectful Work Environment: The actions in the work environment area were focused on providing an environment that was seen as one where respect was evident, opinions were valued, and trust was fostered among individuals and work groups throughout the organization. The actions included:

- Continue the use of a Work Environment focus group of employees to assist and advise on workforce communications and provide feedback to the leadership team on opportunities for improvement. The inspectors reviewed Work Environment focus group meeting minutes and interviewed various site personnel regarding the focus group activities. The group met approximately every month and addressed issues of concern to employees. Examples of concerns addressed were facility material condition improvements and timely communications of plant status and reporting requirements due to inclement weather.
- Complete physical workplace environment improvements, focused on common use areas. Included, for example, were walkways, lunchrooms, change rooms, key restrooms, and vending equipment. The inspectors observed facility upgrades completed or in progress related to lunchroom upgrades, locker room

and change area renovations to include upgraded HVAC systems and restroom facilities, outdoor covered walkway construction, and construction of an on-site cafeteria. Interviews with various site personnel indicated a large improvement in facility conditions addressing employee concerns.

- Pilot a class on dealing with differing opinions, challenging others, and having open dialog when stakes are high. Use feedback from the pilot class participants to evaluate methodology and potential for further use. The inspectors identified that the licensee piloted a course entitled "Crucial Conversations" to address methods to communicate effectively in various situations. The first course was conducted in August 2013. The site had held subsequent sessions of this course with approximately 200 site personnel from all levels of employment attending. The inspectors observed a training session conducted during the inspection period and found it to be effective in enhancing open communication at the plant.

(3) Responsiveness: The actions in this area were focused on engaging the workforce in the problem resolution process such that followup input is received, actions are explained, and status/priority is communicated. The actions included:

- Take actions, including education, designed to better focus the corrective action program on the safe, reliable operation of the plant. The independent assessment noted that a very low threshold for documenting deficiencies may have been overloading the corrective action program. To address this issue, the licensee revised the applicable procedure to focus the definition of a qualified problem to a condition, situation, or issue that was adverse to the safe, secure, reliable, and compliant operation of the facility. A toolbox was generated to train the workforce on the changes to the definition of a qualified problem. Although some progress had been made, the inspectors noted during interviews that some employees still believed that the CAP was being overloaded with "unqualified" problems. The licensee indicated that it would continue with its efforts to correct this issue.
- Continue the use of the responsive focus group to advise on workforce communications and provide feedback to the leadership team on opportunities for improvement. An enhancement to the CAP as result of a recommendation made by the group was to include an option for the reporting individual to indicate whether they wished to be contacted to discuss the resolution of the problem. In addition, an automatic process by which individuals could complete a survey to provide feedback regarding the effectiveness of the action to address the problem was added. Interviews with plant employees provided a positive response to the feedback processes that were implemented.
- NRC inspectors reviewed Unresolved Item (URI) 70-143/2012-007-02, Deficiencies in consistent application of the CAP in Security and Material Control and Accountability (MC&A). To correct the deficiencies, the licensee appointed Departmental Performance Improvement Coordinators (DPICs) for Security and MC&A and other groups attending the PIRCS screening meetings. The inspectors attended the meetings and observed effective interaction of the DPICs during the screening process. The inspectors also noted that security and MC&A-related qualified problems, as defined in CAP program procedures, were being documented as PIRCS and being appropriately screened and investigated. The inspectors had no further issues and URI 70-143/2012-007-02 is closed.

(4) Communication: The actions in this area were intended to foster communications focus on safety and ensure the flow of information up and across the organization is seen as important as the flow of information down the organization. The actions included the continued use of the communications group for providing feedback to the leadership team on opportunities for improvement. Some enhancements implemented by the group included workforce involvement, input into all-hands meetings, and increased awareness of open forums of communication for raising concerns, including the Employee Concerns and Ombudsman Programs. Members of the group conducted periodic roundtables with other focus group members and the leadership team to ensure strategic alignment of overall safety culture improvement efforts.

The inspectors also reviewed safety culture enhancements implemented under previous improvement plans and initiatives:

- Senior Management Observations (SMOs): The inspectors reviewed SMO observation schedules and area assignments. SMO observations were discussed at daily plan-of-the-day meetings to ensure requirements were met and deficiencies of the program were prioritized. The inspectors noted that the licensee conducted 445 observations during the previous 12 months. Feedback was provided on the spot and documented to identify weaknesses that required corrective actions. The inspectors accompanied SMOs performing observation activities and interviewed various personnel to determine knowledge level and understanding of the program. Site personnel were generally receptive to program activities and the feedback provided.

- Human Performance/Conduct of Operations: The inspectors noted that the licensee had an effective program in place to screen events entered in the CAP as conduct of operations issues and grade the events based on severity level for tracking and trending. The inspectors noted that the licensee identified an adverse trend in May 2014, with regard to conduct of operations events and took appropriate action to address the issue.

  The inspectors also noted that events were screened to determine if a safety culture implications review was required. Investigations of those events were conducted to determine whether any weaknesses existing in the safety culture significantly contributed to the performance deficiency. The results of the investigation were reviewed to identify root and contributing causes of the event that were based on organization culture, as applicable, and identify actions to address the causes.

  The inspectors noted that the licensee also implemented an effective human performance improvement program. The inspectors noted that each operational process area had a team which met periodically to discuss proposed enhancements to the applicable process with an emphasis on eliminating work-arounds, burdens, and error-likely situations. The program also emphasized the use of “house rules” and error prevention tools to reduce frequency events, and each area tracked such errors with an event clock.

- Nuclear Safety Review Board (NSRB): The inspectors observed a licensee presentation at an NSRB meeting and interviewed NSRB members. The licensee established the NSRB to provide on-going independent oversight by high-level external experts. The members had diverse backgrounds and experience in the nuclear industry. The inspectors noted that the board met periodically with the licensee and provided valuable insight into progress made to improve safety culture at the facility.

The inspectors selected employees from all levels across the organization to interview regarding the assessment [safety culture survey] and the overall safety culture at the site. While the selection primarily focused on MC&A, operations and security, a random sample of employees from other departments was also interviewed. Several employees recalled taking the safety culture survey and had seen improvements in the overall safety culture at the site. Many employees recalled receiving the results of the survey as well. In general, the employees interviewed knew several options to raising a safety concern (through direct line management, the CAP, the Employee Concerns Program, the Ombudsman Program, the NRC, etc.) and were comfortable doing so.

In addition, the inspectors interviewed management and staff, and attended several meetings (e.g., plan of the day, work control, and CAP screening) to assess the emphasis placed on achieving the site's established goals of traits of a healthy nuclear safety culture. In evaluating the licensee's implementation of their safety culture-related corrective actions, the inspectors observed that the licensee had incorporated these traits.

b. Conclusion

The inspectors determined that the 2013 third-party safety culture assessment was conducted by independent and qualified personnel and that the assessment data supported the findings documented in the assessment report. The inspectors also reviewed corrective actions taken in each of the focus areas and the effectiveness reviews of those actions which included a review of documentation and interviews with a cross section of personnel, and determined that the licensee satisfactorily addressed the commitments in Section V.5 of the Order. In evaluating the licensee's implementation of their Safety Culture related corrective actions, the inspectors observed that the licensee had incorporated the traits of a healthy nuclear safety culture.

E. Exit Meeting

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 November 6 and December 11, 2014, and January 8, 2015, to J. Duling and his staff. Proprietary and classified information was discussed but not included in the report.

SUPPLEMENTARY INFORMATION

1. KEY POINTS OF CONTACT

Name	Title
S. Barron	Emergency Preparedness Manager
C. Brown	MC&A Department Section Manager
N. Brown	NCS Department Section Manager
T. Coates	Senior Advisory Engineering Section Manager
R. Dailey	Engineering Director
R. Dotson	Quality Manager
R. Droke	Senior Regulatory Advisor
J. Duling	President
R. Freudenberger	Safety & Safeguards Director
J. Hagemann	Work Management Section Manager
R. Holley	Environmental Unit Manager
H. Jimenez	WWTF Manager
N. Kenner	Safety Culture Improvement Section Manager
J. May	Transportation and Waste Operation Unit Manager
M. McKinnon	Operations Director
M. Moore	Environmental Protection & Industrial Safety Section Manager
S. Morie	Decommissioning Environmental Unit Manager
J. Nagy	Nuclear Safety Officer Chief
A. Sabisch	Licensing and ISA Manager
S. Sanders	Training Manager
R. Shackelford	Nuclear Safety & Licensing Section Manager
M. Tester	Radiation Protection Unit Manager
K. Weir	Security Section Manager

2. LIST OF ITEMS OPENED, CLOSED, AND DISCUSSED

Closed		
70-143/2012-007-02	URI	Deficiencies in consistent application of the CAP in Security and MC&A (Paragraph D.1.3)
Discussed		
50577	EN	Unanalyzed Condition (Paragraph A.5)

3. INSPECTION PROCEDURES USED

40100	Independent Safety Culture Assessment Followup
88015	Nuclear Criticality Safety Program
88016	Nuclear Criticality Safety Evaluations and Analyses
88035	Radioactive Waste Management
88045	Effluent Control and Environmental Protection
88135	Resident Inspection Program For Category I Fuel Cycle Facilities
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
92703	Followup of Confirmatory Action Letters or Orders

4. DOCUMENTS REVIEWED

Procedures:
23T-11-0038, Calibration System Manual, Revision (Rev.) 26
23T-11-0066, Calibration of Weight or Mass Measuring Systems, Rev. 9
FM-WST-046, Rev. 2, Ninety Day Area Hazardous Waste Container Inspection
FM-WST-047, Rev. 2, Weekly Inspection Log
FM-WST-048, Rev. 2, Request for Transfer to the 310 Warehouse
FM-WST-049, Routine Packaged A-O Managed Waste, Rev. 2
LOA-2227U-002, Rev. 0
LOA-LAB-14-002
NFS-ACC-032, Building 310 Storage Procedure, Rev. 22
NFS-ACC-118, Operation of Antech Segmented Gamma Scan System, Rev. 6
NFS-CAP-002, Problem Resolution: Developing Corrective Actions, Rev. 0
NFS-CAP-003, Apparent Cause Analysis, Rev. 1
NFS-CAP-004, Common Factors Analysis, Rev. 0
NFS-CAP-005, Safety Culture Implication Review, Rev. 0
NFS-CAP-008, Full and Small Team Investigations, Rev. 1
NFS-CAP-009, The NFS Corrective Action Program, Rev. 4
NFS-CAP-009-01, Corrective Action Program (CAP) Screening Process, Rev. 1
NFS-CAP-010, Assigning and Performing Effectiveness Evaluations, Rev. 0
NFS-DOC-001, Document Standards and Control, Rev. 004
NFS-DOC-002, NFS Writer's Guide, Rev. 005
NFS-EC-1, Calibration of Weight or Mass Measuring System, Rev. 10
NFS-GH-27, Impairments to Fire Protection Systems, Rev. 11
NFS-GH-35, Reporting of Incidents Involving Spills of Oils, Chemicals, or Radioactive
NFS-GH-37, Industrial Tracks, Rev. 15
NFS-GH-038, Identification and Handling of Potential Hazardous Waste, Rev. 4
NFS-GH-40, Gaseous Effluent Action Points, Rev. 7
NFS-GH-43, Safety-Related Equipment Control Program, Rev. 23
NFS-GH-55, Conducting and Documenting Integrated Safety Analysis, Rev. 8
NFS-GH-65, Problem Identification, Rev. 8, dated October 28, 2013
NFS-GH-910, Fire Protection Program, Rev. 5
NFS-GH-911, Integrated Safety Analysis (ISA) Program, Rev. 6
NFS-GH-945, Comprehensive Assessment Program
NFS-HS-A-5, Calibrating Radiation Monitoring Instruments, Rev. 19
NFS-HS-A-10, Determining Gaseous Effluent Flow Rates and Demonstrating Isokinetic
NFS-HS-A-16, Safety Audits, Assessments, and Inspections, Rev. 15
NFS-HS-A-27, Routine Estimation of Offsite Dose from Radioactive Gaseous Effluents, Rev. 9
NFS-HS-A-50, Guidelines for Government Agency Notification, Rev. 21
NFS-HS-A-54, Effluent Control & Environmental Monitoring Action Levels and MDC Requirements, Rev. 11
NFS-HS-A-58, Nuclear Criticality Safety Evaluations, Rev. 13
NFS-HS-A-63, Verification and Validation of Nuclear Criticality Safety Analysis Codes, Rev. 6
NFS-HW-A-66, Routine Estimation of Offsite Dose from Radioactive Liquid Effluents, Rev. 3
NFS-HS-A-67, Documenting the Safety and Regulatory Review of Facility Changes, Rev. 1
NFS-HS-A-79, Identification and Control of Items Relied on for Safety (IROFS) Procedure, Rev. 10
NFS-HS-A-99, Environmental Safety Data Verification/Validation, Rev. 2

NFS-HS-B-10, Routine Air and Stack Sampler Calibration, Rev. 13
NFS-HS-B-16, Routine Sampling of Sanitary Sewer and Groundwater Treatment Facility Effluent, Rev. 30
NFS-HS-B-18, Collection and Analysis of NFS Stack Samples, Rev. 22
NFS-HS-B-20, Routine Sampling of Environmental Media, Rev. 22
NFS-HS-B-49, Posting Radiological Areas and Inspecting Radiation Warning Signs, Rev. 7
NFS-HS-B-67, Storm Water Procedure, Rev. 10
NFS-HS-B-73, Analysis of Environmental Liquid and Environmental Air Samples, Rev. 11
NFS-HS-B-95, Testing/Inspection of Fire Barrier Systems, Rev. 3
NFS-HS-E-08, Off-Site Radiological Emergency Assessment, Rev. 25
NFS-OS-006, Program for Plant Label, Markings, and Signs, Rev. 3
NFS-WM-HTG-003, Recommended In Maintenance/Post Maintenance Testing, Rev. 0
NFS-WST-031, Waste Packaging For Disposal inside MAA, Rev. 10
SOP-335 A, General Requirements for Waste Handling/Packaging
SOP-335 J, Waste Packaging for NNSS Disposal
SOP 335 K, NNSS Certification & Shipping Documentation, Rev. 18
SOP 401-08, Area 800, Rev. 22
SOP 408, WWTF & Utilities Operations, Rev. 9
SOP-299, Waste Water Treatment Facility, Rev. 19
SRE Test N302XWOGVNT0H07, Rev. 2
SRE Test N302XWOGVNT0H08, Rev. 2
SRE Test N302VALVETG0HA7, Valve, Rev. 1
SRE Test N302VALVETG0H61, Valve, Rev. 1
SRE Test N302XOVRFLO0J11, Overflow, Rev. 2
SRE Test N301XFRDAMP0001, Fire Damper, Rev. 1
SRE Test N301XFRDAMP0002, Fire Damper, Rev. 1
SRE Test N301XFRDAMP0003, Fire Damper, Rev. 1

Records:
2012 Environmental Safety Triennial Independent Audit
2014 Monthly Inspection/
2014 Quarterly Environmental Audits
21T-14-0861, Items Relied on for Safety (IROFS) and Safety-Related Equipment (SRE) – Fire Prevention and Mitigation, Rev. 11
21T-14-0883, Items Relied on for Safety (IROFS) and Safety-Related Equipment (SRE) – Building 301 General, Rev. 18
27T-14-0141, December Toolbox, Rev 3
54T-13-0004, 310 Warehouse, Rev. 2
54T-14-0001, Nuclear Criticality Safety Evaluation for Uranium Recovery Solvent Extraction Areas G, H, and J, Rev. 3
54T-14-0024, Nuclear Criticality Safety Evaluation for the Uranium Metal Sampling and the Uranium Metal Shear System, Rev. 5
54T-14-0028, Addendum 1 to the Nuclear Criticality Safety Evaluation of Lab B in Building 110 and Building 131 Lab, Inspecting and Repackaging Waste Building 110A, Rev. 0
54X-14-0007, Nuclear Criticality Safety Evaluation For Area B (Building 302 and 303) of the Production Fuel Facility, Rev. 5
54X-14-0008, Control Flowdown and Field Verification For Area B (Building 302 and 303), Rev. 5
Average Radioactivity In Stream Sediment, Soil, and Vegetation (Semi-Annual Reports), 2013-present
Biannual Effluent Monitoring Report, January – June 2014

Biannual Effluent Monitoring Report, July – December 2013
C-HS-005, NFS Environmental Policy, Rev. 4, dated October 26, 2012
Calibration Records for PI-00805/0806
Calibration Records for Scales PWI-0756, WI-0718, WI-0702, WI-A801, WI-0601, WI-0718, WI-0701
Capital Project and Procurement Request (CPPR), System Network Upgrade, dated October 31, 2014
Discharge to Municipal Sewer (monthly composite of daily samples), (July-December 2013, January-June 2014, and July 2014–present)
DPIC Trend Analysis Report for 2013-Q4, dated May 13, 2014
Environmental Air Sampler Data, 2013
Environmental Air Sampler Data, 2014
Environmental Radiological Monitoring Program Action Levels and MDC Requirements, Rev. 2, 7/25/13 (Technical Basis Document)
General Engineering Laboratories, Inc., - Various Isotopic Analysis Requests
GLQ-14-002, Classified Setpoint Analysis for FA8-015 (U), dated October 27,2014
Groundwater Monitoring Data, Monthly and Quarterly Reports, 2013-2014 (present)
IROFS 330-WWTFXX (testing of SRE valves), May and November of 2014
LOA-LAB-14-002, Authorization to Store Waste Containers on a Cart Located in the Standards Products Laboratory
Martin Creek Downstream (monthly grab samples), (July-December 2013, January-June 2014, and July 2014–present)
Martin Creek Upstream (monthly grab samples), (July-December 2013, January-June 2014, and July 2014–present)
Monthly Discharge Monitoring Reports to the State of Tennessee, January-September 2014
Monthly Inspections by ENV Dept., November and December 2013
Monthly Radioactive Airborne Effluent Reports, January – September 2014
Monthly Sewer Reports, dated November 2013 – September 2014
NCS-03-02-08, Control Flowdown and Field Verification for Area 800, Rev. 9, 05/30/13
NFS ALARA Program – Performance Report for Environmental-Radiological, 3rd Quarter 2013, 4th Quarter 2013, 1st Quarter 2014, 2nd Quarter 2014
NFS-HS-CL-10-8, Nuclear Criticality Safety Buildings 306 and 307 – Area 800 and Tube Cleaning Room, Rev. 28, dated May 9, 2013
NFS-HS-CL-10-12, Nuclear Criticality Safety Buildings 302 and 303 – Recovery
NFS-HS-CL-19, Nuclear Criticality Safety Buildings 300 and 310, Rev. 19
NFS-HS-CL-19-01, Nuclear Criticality Safety 300/310 Warehouses, Rev. 9
Organizational Chart for Environmental Safety
Plant Superintendent's Log, dated November 17, 2014
Quarterly Assessment of Radioactive Liquid and Gaseous Effluents, 2nd Quarter 2014, August 28, 2014
Semi-Annual Banner Spring Branch Downstream Report (Monthly Composites of Weekly Samples) (July-December 2013, January-June 2014, and July 2014–present)
Semi-Annual Nolichucky River Downstream (monthly grab samples), (July-December 2013, January-June 2014, and July 2014–present)
Semi-Annual Nolichucky River Upstream (monthly grab samples), (July-December 2013, January-June 2014, and July 2014–present)
Semi-Annual Waste Water Treatment Facility Monthly Composites of Batch Samples Discharged to Nolichucky River, (July-December 2013, January-June 2014, and July 2014–present)
Semi-Annual West Ditch Report (Monthly Composites of Weekly Samples) (July-December Sewer Sample Results, dated November 4, 2014

Special Work Permit SWP-15656, 60-inch Duct to Offgas Stack
SRE Test Reports for Column-M804/OVRFLO-M804, (2013, January-June 2014, and July 2014–present)
Stack Effluent Results, September 2014
WWTF Batches to Nolichucky River Results, November 2013 – September 2014

Audits and Assessments/Investigations:
NCS-2014-16, NCS-2014-17, NCS-2014-18, NCS-2014-18, NCS-2014-19, NCS-2014-20,NCS-2014-21, NCS-2014-22, NCS-2014-23, NCS-2014-24, NCS-2014-25

Drawings:
307-MOS27-D, T3X CARTXX-C801 (Stainless Steel Cart), Rev. B

Problem Identification Resolution and Correction System (PIRCS):
41823, 42623, 43490, 43868, 44071, 44084, 44425, 44509, 44515, 44740, 45019, 45052, 45116, 45365, 45370, 45442, 45545, 45547, 45635, 45636, 45638, 45659, 45695, 45813, 45817, 45823, 45948, 45958, 46025, 46027, 46036, 46039, 46055, 46064, 46161, 46330, 46537, 46672

PIRCS Written as a Result of the Inspection:
45630, Fire Door FD340 Propped Open
45646, Multiple Inventory Stickers on Criticality Detector
45648, CAAS SRE Test Without Procedure in Hand
45741, Decision to Restart Area 300-500
45868, Inadequate Criticality Accident Alarm System SRE Test Documentation
46052, Column Cracked Holleander Fitting
46156, Operator Failed to Close Leak Check Valve per Procedure
46211, 800 Tag Missing/Hard to Read, Tapping of Gages, VAGAS Software Set-Up
46212, IROFS Procedure Non-Compliance Involving WWTF Tanks 27 and 31
46213, Late CAP Entry for Mispositioned Valve
46219, Security Feature Enhancement