



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

April 30, 2015

Mr. Joseph W. Shea
Vice President, Nuclear Licensing
Tennessee Valley Authority
1101 Market Street, LP 3D-C
Chattanooga, TN 37402-2801

**SUBJECT: SEQUOYAH NUCLEAR PLANT - NRC INTEGRATED INSPECTION REPORT
05000327/2015001 AND 05000328/2015001**

Dear Mr. Shea:

On March 31, 2015, the U.S. Nuclear Regulatory Commission (NRC) completed an inspection at your Sequoyah Nuclear Plant, Units 1 and 2. On April 20, the NRC inspectors discussed the results of this inspection with Mr. Carlin and other members of your staff. Inspectors documented the results of this inspection in the enclosed inspection report.

NRC inspectors documented one finding of very low safety significance (Green) in this report. This finding involved a violation of NRC requirements. The NRC is treating this violation as a non-cited violation (NCV) consistent with Section 2.3.2.a of the Enforcement Policy.

If you contest the violation or significance of this NCV, you should provide a response within 30 days of the date of this inspection report, with the basis for your denial, to the U.S. Nuclear Regulatory Commission, ATTN: Document Control Desk, Washington DC 20555-0001; with copies to the Regional Administrator, Region II; the Director, Office of Enforcement, U.S. Nuclear Regulatory Commission, Washington, DC 20555-0001; and the NRC resident inspector at the Sequoyah Nuclear Plant.

If you disagree with a cross-cutting aspect assignment in this report, you should provide a response within 30 days of the date of this inspection report, with the basis for your disagreement, to the Regional Administrator, RII, and the NRC resident inspector at the Sequoyah Nuclear Plant.

In accordance with Title 10 of the *Code of Federal Regulations* 2.390, "Public Inspections, Exemptions, Requests for Withholding," of the NRC's "Rules of Practice," a copy of this letter, its enclosure, and your response (if any) will be available electronically for public inspection in the NRC's Public Document Room or from the Publicly Available Records (PARS) component of

J. Shea

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Sincerely,

/RA/

Michael F. King, Chief
Reactor Projects Branch 6
Division of Reactor Projects

Docket Nos.: 50-327, 50-328
License Nos.: DPR-77, DPR-79

Enclosure:

| IR 05000327/2015001, 05000328/2015001
w/Attachment: Supplementary Information

cc: via ListServ distribution

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Letter to Joseph W. Shea from Michael F. King dated April 30, 2015.

SUBJECT: SEQUOYAH NUCLEAR PLANT - NRC INTEGRATED INSPECTION REPORT
05000327/2015001 AND 05000328/2015001

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U. S. NUCLEAR REGULATORY COMMISSION

REGION II

Docket Nos.: 50-327, 50-328

License Nos.: DPR-77, DPR-79

Report Nos.: 05000327/2015001, 05000328/2015001

Licensee: Tennessee Valley Authority (TVA)

Facility: Sequoyah Nuclear Plant, Units 1 and 2

Location: Sequoyah Access Road
Soddy-Daisy, TN 37379

Dates: January 1 - March 31, 2015

Inspectors: G. Smith, Senior Resident Inspector
W. Deschaine, Resident Inspector
R. Hamilton, Senior Health Physicist (Sections 2RS6, 2R7)
A. Nielsen, Senior Health Physicist (Sections 2RS6, 2R7)

Approved by: Michael F. King, Chief
Reactor Projects Branch 6
Division of Reactor Projects

Enclosure

SUMMARY

IR 05000327/2015-001, 05000328/2015-001; 1/1/2015-3/31/2015; Sequoyah Nuclear Plant, Units 1 and 2; Fire Protection.

The report covered a three-month period of inspection by resident inspectors and regional inspectors. There was one NRC identified violation documented in this report. The significance of inspection findings is indicated by their color (i.e., greater than Green, or Green, White, Yellow, Red) and determined using Inspection Manual Chapter (IMC) 0609, "Significance Determination Process" (SDP) dated June 2, 2011. Cross-cutting aspects are determined using IMC 0310, "Aspects within the Cross-Cutting Areas" dated December 4, 2014. All violations of NRC requirements are dispositioned in accordance with the NRC's Enforcement Policy dated February 4, 2015. The NRC's program for overseeing the safe operation of commercial nuclear power reactors is described in NUREG-1649, "Reactor Oversight Process," Revision 5.

A. NRC-Identified and Self-Revealing Findings

Cornerstone: Initiating Events

Green. A self-revealing Green non-cited violation (NCV) of Technical Specification (TS) 6.8.1.f, "Fire Protection Program Implementation," was identified for the licensee's failure to follow a fire protection procedure. Specifically, the licensee failed to isolate the fire main from the cable spreading room (CSR) header during testing as required by procedure. This resulted in pressurization of the fire header to the cable spreading room which then caused a rupture of one of the sprinkler heads in the room. The licensee entered this issue into their corrective action program (CAP) as problem evaluation report (PER) 1001695. As immediate corrective actions, the licensee replaced the failed sprinkler head and conducted a formal review of the incident.

The finding was determined to be more than minor because it was associated with the human performance attribute of the initiating events cornerstone and affected the cornerstone objective to limit the likelihood of events that upset plant stability and challenge critical safety functions during shutdown as well as power operations. Specifically, the excessive amount of water sprayed in the CSR increased the likelihood of a plant transient due to the potential impact on non-waterproof junction boxes located in the CSR as well as safety-related instrument racks located in the auxiliary instrument room (AIR) directly below the CSR. Using Appendix A, Exhibit 1, "Initiating Events Screening Questions," the finding was determined to be of very low safety significance because the deficiency did not cause a reactor trip nor a loss of mitigation equipment relied upon to transition the plant from the onset of the trip to a stable shutdown condition. The finding was determined to have a cross-cutting aspect in the avoid complacency component of the human performance area [H.12], because the technicians failed to properly implement appropriate error reduction techniques while performing a fire protection procedure. (Section 1R05)

B. Licensee-Identified Violations

None

REPORT DETAILS

Summary of Plant Status:

Unit 1 operated at or near 100 percent rated thermal power (RTP) until March 11, 2015, when Unit 1 experienced an automatic reactor trip due to a negative rate trip. The negative rate was caused by a dropped rod which inserted enough negative reactivity to result in a temporary drop of 10 percent RTP in 2 seconds thereby exceeding the trip setpoint of a 5 percent RTP drop over the same period. The cause of dropped rod was attributed to a temporary loss of circuit continuity to the control rod drive mechanism associated with rod H-4. Following troubleshooting activities, Unit 1 achieved criticality on March 14 and reached 75 percent RTP on March 16. The unit continued to operate at reduced RTP of 75 percent for the remainder of the inspection period due to various reactor core end-of-life considerations.

Unit 2 operated at or near 100 percent RTP until January 5, 2015, when power was reduced to 76 percent RTP to remove the 2C hotwell pump from service. The licensee discovered a cooling water leak in the associated motor oil cooler. Following repairs to the oil cooler, the 2C hotwell pump was restarted and the unit was returned to 100 percent RTP on January 7. On March 2, Unit 2 experienced an automatic reactor trip due to a turbine trip. The turbine trip was caused by actuation of a differential current relay, #280. Subsequent investigation revealed an open circuit on the differential current relay wiring to the current transformer (CT) located on the 'C' phase (neutral end) of the main generator. The open circuit was a result of degradation of the connection of the relay wiring to the current transformer. Following replacement of the CT, as well as other repairs, Unit 2 achieved criticality on March 7 and reached 100 percent RTP on March 11 where it operated for the remainder of the inspection period.

1. REACTOR SAFETY

Cornerstones: Initiating Events, Mitigating Systems, and Barrier Integrity

1R01 Adverse Weather Protection

.1 Impending Adverse Weather Conditions - Freeze Protection

a. Inspection Scope

After the licensee completed preparations for seasonal low temperatures, the inspectors walked down the various structures, systems, and components (SSC) in the auxiliary building, turbine building, emergency raw cooling water (ERCW) building, and emergency diesel generator (EDG) building. These SSCs were selected because their safety related functions could be adversely affected by cold weather. The inspectors observed plant conditions and evaluated those conditions using criteria documented in Procedure 0-OPS-000-006.0, Rev. 59, "Freeze Protection." The inspectors paid particular attention to the operation of heat trace circuits, the use of space heaters, and the integrity of weatherized enclosures to ensure the operability of the affected SSC. During the week of February 9, 2015, the site experienced a period of adverse weather (i.e. extreme cold) which is defined as "less than 25 degrees Fahrenheit (F) or less than 32 degrees F for eight hours." These low temperatures required special performance of Appendix I, "Extreme Cold Weather Performance," of Procedure 0-OPS-000-006.0. This

appendix provided additional guidance to ensure SSCs remained functional during extreme cold temperatures. The inspectors verified that the adverse cold conditions were adequately addressed by the licensee in order to assure continued operation of safety-related equipment. Documents reviewed are listed in the Attachment. This activity constituted one inspection sample.

b. Findings

No findings were identified.

1R04 Equipment Alignment

.1 Partial System Walk-down

a. Inspection Scope

The inspectors performed the below listed partial system walk-downs in order to verify the operability of redundant or diverse trains and components when safety equipment was inoperable. The inspectors focused on identification of discrepancies that could impact the function of the system and, therefore, potentially increase risk. The inspectors reviewed applicable operating procedures, walked down control system components, and determined whether selected breakers, valves, and support equipment were in the correct position to support system operation. The inspectors also verified that the licensee had properly identified and resolved equipment alignment problems that could cause initiating events or impact the capability of mitigating systems or barriers and entered them into the CAP. The inspectors completed three samples.

- Unit 1 'A' containment spray (CS) train while 'B' CS pump was out-of-service (OOS)
- Unit 1 'B' EDG while the 'A' EDG was OOS
- Unit 1 'B' safety injection (SI) train while the 'A' SI pump was OOS

b. Findings

No findings were identified.

1R05 Fire Protection

.1 Fire Protection Tours

a. Inspection Scope

The inspectors conducted a tour of the four areas important to safety listed below to assess the material condition and operational status of fire protection features. The inspectors evaluated whether: combustibles and ignition sources were controlled in accordance with the licensee's administrative procedures; fire detection and suppression equipment was available for use; passive fire barriers were maintained in good material condition; and compensatory measures for OOS, degraded or inoperable fire protection

equipment were implemented in accordance with the licensee's fire plan. Documents reviewed are listed in the Attachment. The inspectors completed four samples.

- control building elevation 706 (cable spreading room)
- control building elevation 669 (mechanical equipment room, 250 VDC battery and battery board rooms)
- control building elevation 685 (auxiliary instrument rooms)
- turbine building elevation 706

b. Findings

Introduction. A Green self-revealing NCV of TS 6.8.1.f "Fire Protection Program Implementation," was identified for the licensee's failure to adequately follow a fire protection surveillance procedure that resulted in a sprinkler actuation in the CSR. The sprinkler actuation resulted in 230 gallons of water being sprayed from a broken head into the room

Description. On March 17, 2015, during the performance of a fire protection surveillance procedure, 0-SI-FPU-013-620.0, "Fire Detection Panel 0-L-620 Test," Rev. 7, the fire technicians inadvertently caused a pressurization of the fire header supplying the cable spreading room, located on the 706' elevation of the control building. Immediately following the pressurization of the header, a single sprinkler head upper support structure failed and resulted in a water deluge from the failed head into the room. The technicians isolated the fire header to the room to halt the water spray. The licensee determined that approximately 230 gallons of water were sprayed into the room. Some water migrated into the next lower elevation, 685', which compromises the AIR. The AIR houses all the associated circuitry for the reactor protection system and the emergency core cooling circuits such as SI signals. During an inspection of the AIR, the licensee noted that no water was introduced into electronic racks and no safety related components were directly impacted by this procedural error.

The licensee entered this event into their CAP as PER 1001695. Upon further analysis of this event, the licensee determined that during the performance of 0-SI-FPU-013-620.0, the technicians became distracted by an unrelated fire alarm. The procedure was suspended so the technicians could investigate the alarm. Following resolution of the alarm, the technicians recommenced the procedure. However, upon restart of the procedure, the technicians inadvertently omitted Step 6.5.4 which manually isolated the fire header flow control valve, (FCV)-26-211, to the CSR by closing the header isolation valve, 0-26-1125. The subsequent step in the procedure opened (FCV)-26-211. This action then pressurized the system up to the sprinkler heads in the CSR and one head ultimately failed open resulting the deluge.

Analysis. The licensee's failure to follow fire protection surveillance procedure, 0-SI-FPU-013-620.0, was a performance deficiency. The finding was determined to be greater than minor because it was associated with the human performance attribute of the initiating events cornerstone and affected the cornerstone objective to limit the

likelihood of events that upset plant stability and challenge critical safety functions during shutdown as well as power operations. Specifically, the excessive amount of water sprayed in the CSR increased the likelihood of a plant transient due to non-waterproof junction boxes located in the CSR as well as safety-related instrument racks located in the AIR directly below the CSR.

The inspectors performed the significance determination process using NRC Inspection Manual Chapter 0609, "Significance Determination Process." Because the finding affected the initiating events cornerstone while the plant was at power, Attachment 0609.04, "Initial Characterization of Findings," directed evaluation of the finding using Appendix A. Using Appendix A, Exhibit 1, "Initiating Event Screening Questions," the inspectors determined the finding to be of very low safety significance because the deficiency did not cause a reactor trip nor a loss of mitigation equipment relied upon to transition the plant from the onset of the trip to a stable shutdown condition. Using Manual Chapter 0310, "Aspects Within the Cross-Cutting Areas," the inspectors identified a cross-cutting aspect in the avoid complacency component of the human performance area, because the technicians failed to properly implement appropriate error reduction techniques while performing a fire protection procedure. [H.12]

Enforcement. Units 1 and 2 TS 6.8.1.f, "Fire Protection Program Implementation," requires, in part, that written procedures be established, implemented, and maintained covering the activities involved with fire protection program implementation. Fire protection procedure, 0-SI-FPU-013-620.0, "Fire Detection Panel 0-L-7620 Test," Rev. 7, requires in part that valve 0-26-1125 be closed prior to actuating the zone FCV, 0-FCV-26-211. Contrary to the above, on March 17, fire technicians failed to implement fire protection Procedure 0-SI-FPU-013-620.0. Specifically, fire technicians failed to close zone isolation valve, 0-26-1125 prior to actuating the zone FCV, 0-FCV-26-211, as directed by the procedure. This resulted in a sprinkler actuation in the CSR. Because the finding was of very low safety significance and has been entered into the licensee's CAP as PER 1001695, this violation is being treated as an NCV, consistent with Section 2.3.2 of the Enforcement Policy: NCV 05000327/2015001-01, "Failure to Follow Procedure Results in an Inadvertent Sprinkler Deluge in the Cable Spreading Room."

.2 Annual Drill Observations

a. Inspection Scope

On February 12 and March 18, 2015, the inspectors observed an announced fire drill in the 'B' high pressure fire pump (HPFP) house for the 'D' and 'A' fire crews, respectively. The scenario was a fire in the diesel-driven HPFP storage tank. The inspectors assessed fire alarm effectiveness; response time for notifying and assembling the fire brigade; the selection, placement, and use of firefighting equipment; use of personnel fire protective clothing and equipment (e.g., turnout gear, self-contained breathing apparatus); communications; incident command and control; teamwork; and firefighting strategies. The inspectors also attended the post-drill critique to assess the licensee's ability to review fire brigade performance and identify areas for improvement. Following the critique, the inspectors compared their findings with the licensee's observations and

to the requirements specified in the licensee's fire protection report. This activity constituted one inspection sample.

b. Findings

No findings were identified.

1R06 Flood Protection Measures

Annual Review of Cables Located in Underground Bunkers/Manholes

a. Inspection Scope

The inspectors conducted a review of licensee inspections of safety-related cables located in underground bunkers and/or manholes (MH) subject to flooding. Specifically, inspectors performed a walk-down of MHs 13A and MH 13B on February 11 and March 5, 2015, respectively. The purpose of the walk-downs was to determine if water was present and, if found, whether it would affect safety-related system operation. Noted deficiencies identified by the inspectors were entered into the CAP. The inspectors also reviewed the subject maintenance records to ensure the MH inspections were conducted in accordance with the applicable work order (WO). In addition, the inspectors reviewed the licensee's CAP to ensure that the licensee was (in general) identifying underground cabling issues and that they were properly addressed for resolution. The inspectors completed one sample.

b. Findings

No findings were identified.

1R07 Heat Sink Performance

a. Inspection Scope

The inspectors evaluated the maintenance inspections of the Unit 1 'A' and 'B' EDG heat exchangers to in order to determine the fouling conditions within the heat exchanger tubes. The inspectors noted that, in general, the heat transfer surfaces were in good condition and that the periodic biocide injections into the ERCW system, upstream of the heat exchangers, were culminating in the desired results. The inspectors were also particularly interested in whether there were any previously undetected adverse performance trends. The inspectors verified the results were within the acceptance criteria. The inspectors verified that the test results were appropriately categorized against pre-established acceptance criteria and that the frequency of testing was sufficient to detect degradation prior to loss of heat removal capability below design basis values. The inspectors also determined the tube plugging guidance addressed the evaluation of remaining performance margin prior to plugging. The inspectors also reviewed work documents detailing observations and results of the last internal inspection of the heat exchangers. The inspectors completed one sample.

b. Findings

No findings were identified

1R11 Licensed Operator Regualification Program

.1 Quarterly Review

a. Inspection Scope

The inspectors performed one licensed operator requalification program review. The inspectors observed a simulator session on January 27, 2015. The training scenario involved charging pump failure; reactor trip and anticipated transient without scram; and an unisolable main steam line break (faulted steam generator) outside of containment. The inspectors observed crew performance in terms of: communications; ability to take timely and proper actions; prioritizing, interpreting and verifying alarms; correct use and implementation of procedures, including the alarm response procedures; timely control board operation and manipulation, including high risk operator actions; oversight and direction provided by shift manager, including the ability to identify and implement appropriate TS action; and, group dynamics involved in crew performance. The inspectors also observed the evaluators' critique and reviewed simulator fidelity to verify that it matched actual plant response. Documents reviewed are listed in the Attachment. This activity constituted one inspection sample.

b. Findings

No findings were identified

.2 Quarterly Review of Licensed Operator Performance

a. Inspection Scope

The inspectors observed and assessed licensed operator performance in the main control room during periods of heightened activity or risk. The inspectors reviewed various licensee policies and procedures such as OPDP-1, "Conduct of Operations", NPG-SPP-10.0, "Plant Operations", and 0-GO-5, "Normal Power Operation". The inspectors utilized activities such as post-maintenance testing, surveillance testing, unplanned transients, infrequent plant evolutions, plant startups and shutdowns, reactor power and turbine load changes, and refueling and other outage activities to focus on the following conduct of operations as appropriate:

- operator compliance and use of procedures
- control board manipulations
- communication between crew members
- use and interpretation of plant instruments, indications and alarms

- use of human error prevention techniques
- documentation of activities, including initials and sign-offs in procedures
- supervision of activities, including risk and reactivity management
- pre-job briefs

Specifically, the inspectors observed licensed operator performance during the following activities:

- Unit 2 reactor startup on March 7
- Unit 1 reactor startup on March 14

Documents reviewed are listed in the Attachment. This activity constituted one inspection sample.

b. Findings

No findings were identified

1R12 Maintenance Effectiveness

a. Inspection Scope

The inspectors reviewed the functional failure listed below to verify the effectiveness of the licensee's activities in terms of: appropriate work practices; identifying and addressing common cause failures; scoping in accordance with 10 CFR 50.65(b); characterizing reliability issues for performance; trending key parameters for condition monitoring; charging unavailability for performance; classification in accordance with 10 CFR 50.65(a)(1) or (a)(2); appropriateness of performance criteria for SSCs and functions classified as (a)(2); and appropriateness of goals and corrective actions for SSCs and functions classified as (a)(1). Documents reviewed are listed in the Attachment. The inspectors completed one sample.

- Cause Determination Evaluation (CDE) #2755 – Functional Failure of 1-FCO-030-0106-A (auxiliary building isolation damper)

b. Findings

No findings were identified.

1R13 Maintenance Risk Assessments and Emergent Work Control

a. Inspection Scope

The inspectors reviewed the following activities to determine whether appropriate risk assessments were performed prior to removing equipment from service for maintenance. The inspectors evaluated whether risk assessments were performed as

required by 10 CFR 50.65(a)(4), and were accurate and complete. When emergent work was performed, the inspectors reviewed whether plant risk was promptly reassessed and managed. The inspectors also assessed whether the licensee's risk assessment tool used and risk categories were in accordance with procedures NPG-SPP-07.1, "On-Line Work Management," Revision 15 and NPG-SPP-09.11.1, "Equipment Out of Service Management," Revision 10. Documents reviewed are listed in the Attachment. The inspectors completed five samples.

- Unit 1 'A' EDG planned outage to install Fukushima modifications
- Unit 2 'A' EDG planned outage to install Fukushima modifications
- emergent failure of refueling water storage tank channel IV level transmitter
- emergent failure of yard area common electrical board
- elevated risk due Unit 2 'B' EDG outage combined with a Unit 2 reactor trip

b. Findings

No findings were identified.

1R15 Operability Determinations and Functionality Assessments

a. Inspection Scope

For the operability evaluations described in the PERs listed below, the inspectors evaluated the technical adequacy of the evaluations to ensure that TS operability was properly justified and the subject component or system remained available, such that no unrecognized increase in risk occurred. The inspectors compared the operability evaluations to the updated final safety analysis report (UFSAR) descriptions to determine if the system or component's intended function(s) were adversely impacted. In addition, the inspectors reviewed compensatory measures implemented to determine whether the compensatory measures worked as stated and the measures were adequately controlled. The inspectors also reviewed a sampling of PERs to assess whether the licensee was identifying and correcting any deficiencies associated with operability evaluations. Documents reviewed are listed in the Attachment. The inspectors completed five samples.

- PER 914979, Unit 1 charging pump seal leakage
- PER 981891, Unit 1 A Train emergency gas treatment system controller, 1-PDIC-65-80 program malfunction
- PER 990740, Crack identified in the main control room (MCR) ceiling challenging MCR envelope
- PER 987214, 1A/1B D/G cable lug crimps past determination of operability (PDO)
- PER 996865, Incorrect thermal overload (TOL) installed in MOVs 63-6&7 (sump swap-over valves)

b. Findings

No findings were identified.

1R18 Plant Modifications

.1 Temporary Modifications

a. Inspection Scope

The inspectors reviewed the temporary modification listed below and the associated 10 CFR 50.59 screening, and compared it against the UFSAR and TS to verify whether the modification affected operability or availability of the affected system.

- SQN-0-2015-032-001 – Temporary Station Air Compressor

Following installation and testing, the inspectors observed indications affected by the modification, discussed them with operators, and verified that the modification was installed properly and its operation did not adversely affect safety system functions. Documents reviewed are listed in the Attachment. The inspectors completed one sample.

b. Findings

No findings were identified.

1R19 Post-Maintenance Testing

a. Inspection Scope

The inspectors reviewed the post-maintenance tests associated with the following WOs listed below to assess whether procedures and test activities ensured system operability and functional capability. The inspectors reviewed the licensee's test procedure to evaluate whether: the procedure adequately tested the safety function(s) that may have been affected by the maintenance activity; the acceptance criteria in the procedure were consistent with information in the applicable licensing basis and/or design basis documents; and the procedure had been properly reviewed and approved. The inspectors also witnessed the test or reviewed the test data to determine whether test results adequately demonstrated restoration of the affected safety function(s). Documents reviewed are listed in the Attachment. The inspectors completed five samples.

- WO 115932176, Disassemble, inspect and clean DG 1A2 air start compressor discharge check valve
- WO 115955617, Adjust the water regulating valves (TCVs) for all chillers water cooled condensers and oil coolers

- WO 116006758, Preventive maintenance for Train 'B' reactor vessel level indication system transmitter panel isolation valves
- WO 116109424, Belt inspection, lube & cleaning component cooling system and (AFW) pump cooler A-A
- WO 116231869, 1B residual heat removal pump room cooler bearing lube, pulley alignment, and belt tensioning

b. Findings

No findings were identified.

1R22 Surveillance Testing

a. Inspection Scope

For the surveillance tests identified below, the inspectors assessed whether the SSCs involved in these tests satisfied the requirements described in the TS surveillance requirements, the UFSAR, applicable licensee procedures, and whether the tests demonstrated that the SSCs were capable of performing their intended safety functions. This was accomplished by witnessing testing and/or reviewing the test data. Documents reviewed are listed in the Attachment. The inspectors completed five samples.

In-Service Tests:

- 2-SI-SXP-062-201.B, Centrifugal Charging Pump 2B-B Performance Test, Revision 19
- 1-SI-SXP-063-201.A, Safety Injection Pump 1A-A Performance Test, Revision 17

Routine Surveillance Tests:

- 0-SI-NUC-000-007.0 Measurement of At Power MTC, Revision 18 (Unit 1)
- 0-SI-NUC-000-038.0, Shutdown Margin, Revision 79
- 2-SI-SFT-030-001.A, Air Return Fan 2A Quarterly Test, Revision 6

b. Findings

No findings were identified.

Cornerstone: Emergency Preparedness

1EP6 Drill Evaluation

a. Inspection Scope

Resident inspectors evaluated the conduct of routine licensee emergency drill on March 17 to identify any weaknesses and deficiencies in classification, notification, and

protective action recommendation (PAR) development activities. The inspectors observed emergency response operations in the simulated control room to verify that event classification and notifications were done in accordance with EPIP-1, "Emergency Plan Classification Matrix," Revision 51. The drill included aspects of the licensee's severe accident mitigation guidelines (SAMG). The inspectors evaluated the use of the SAMGs within the technical support center (TSC). The inspectors also attended the licensee critique of the drill to compare any inspector observed weakness with those identified by the licensee's TSC members in order to verify whether the licensee was properly identifying deficiencies. The inspectors completed one sample.

b. Findings

No findings were identified.

2. RADIATION SAFETY (RS)

Cornerstones: Public Radiation Safety (PS)

2RS6 Radioactive Gaseous and Liquid Effluent Treatment

a. Inspection Scope

Event and Effluent Program Reviews: The inspectors reviewed the 2012 and 2013 Annual Radiological Effluent Release Report (ARERR) documents for consistency with the requirements in the Offsite Dose Calculation Manual (ODCM) and TS details. Routine and abnormal effluent release results and reports, as applicable, were reviewed and discussed with responsible licensee representatives. Status of the radioactive gaseous and liquid effluent processing and monitoring equipment and activities, and changes thereto, as applicable, described in the UFSAR and current ODCM were discussed with responsible staff.

Walk-Downs and Observations: The inspectors walked-down selected components of the gaseous and liquid discharge systems to ascertain material condition, configuration and alignment. Walk-downs included visual inspections of Auxiliary Building Vent Monitor (0-RE-90-101B), Shield Building Vent Monitor (0-RE-90-400), Waste Disposal System Liquid Discharge Monitor (0-RE-90-122), Lower Compartment (1-RE-90-106), Containment Building Upper Compartment (1-RE-90-112), and Essential Raw Cooling Water Discharge Monitors (0-RE-90-133, 140 and 0-RE-90-134, 141). The inspectors observed the material condition of abandoned in place liquid waste processing equipment for indications of degradation or leakage that could constitute a possible release pathway to the environment.

Sampling and Analyses: The inspectors observed the collection and processing of liquid sample from cask decontamination drain tank, also a routine air sample of the containment lower via 1-RE-90-106. The results of the chemistry count room's intra-laboratory comparison program from all four quarters of 2014 were reviewed and discussed with licensee personnel.

Dose Calculations: The inspectors reviewed the dose calculation results for three gas and three liquid release permits. Updated results for the most recent land use census data were evaluated against assumptions used to calculate offsite dose results. In addition, the inspectors reviewed selected abnormal release data and resultant dose calculations for 2014.

Ground Water Protection Implementation: The inspectors reviewed the licensee's continued implementation of the industry's Ground Water Protection Initiative (Nuclear Energy Institute (NEI) 07-07) and reviewed recent monitoring well results. The inspectors discussed program guidance for dealing with spills, leaks, and unexpected discharges with licensee staff and reviewed recent entries into the 10 CFR 50.75(g) decommissioning file. The inspectors reviewed and discussed the licensee's program for monitoring of structures, systems, and components with the potential to release radioactive material to the environment. Potential effluent release points due to onsite surface water bodies were also evaluated. The inspectors discussed well sample data trends for the site.

Problem Identification and Resolution: The inspectors reviewed selected PER documents in the areas of effluent processing and groundwater protection. The inspectors evaluated the licensee's ability to identify, characterize, prioritize, and resolve the identified issues in accordance with NPG-SPP-22.300, Corrective Action Program, Rev. 2.

Effluent process and monitoring activities were evaluated against details and requirements documented in the UFSAR Sections 11 and 12; TS Sections 6.8 Procedures and Programs and 6.9 Reporting Requirements; ODCM Rev. 58; 10 CFR Part 20; 10 CFR, Appendix I to Part 50; NEI 07-07 and approved licensee procedures. In addition, ODCM and UFSAR changes since the last onsite inspection were reviewed against the guidance in NUREG-1301 and Regulatory Guide (RG) 1.109, RG 1.21, and RG 4.1.

Documents reviewed are listed in the Attachment.

b. Findings

No findings were identified.

2RS7 Radiological Environmental Monitoring Program (REMP)

a. Inspection Scope

REMP Implementation: The inspectors observed routine sample collection and surveillance activities as required by the licensee's REMP. The inspectors noted the material condition and operability of airborne particulate filter and iodine cartridge sample stations and observed collection of weekly air samples at selected monitoring locations. The inspectors checked environmental thermoluminescent dosimeters for material condition at selected sites. In addition, the inspectors reviewed and evaluated

land use census results, changes to the ODCM, monitoring for hard-to-detect radionuclides, and sample collection and processing activities.

The inspectors reviewed calibration records for selected environmental air samplers. The inspectors also reviewed the 2012 and 2013 Radiological Environmental Operating Reports, the 2013 Annual Radioactive Effluent Report, and procedural guidance for environmental sample collection and processing. Selected environmental measurements were reviewed for consistency with licensee effluent data, evaluated for radionuclide concentration trends, and compared with detection level sensitivity requirements.

Ground Water Protection: The inspectors reviewed the licensee's groundwater monitoring program as part of Inspection Procedure 71124.06.

Meteorological Monitoring Program: The inspectors observed the physical condition of the meteorological tower and its instrumentation and discussed equipment operability and maintenance history with licensee staff. The inspectors evaluated transmission of locally generated meteorological data to other licensee groups such as main control room operators. For the meteorological measurements of wind speed, wind direction, and temperature, the inspectors reviewed recent calibration records for applicable tower instrumentation. The inspectors also evaluated measurement data recovery.

Problem Identification and Resolution: The inspectors reviewed corrective action documents in the areas of radiological environmental monitoring and meteorological tower maintenance. The inspectors evaluated the licensee's ability to identify and resolve the issues. The inspectors also reviewed recent self-assessment results.

REMP implementation and meteorological monitoring activities were reviewed against the guidance and requirements of 10 CFR Part 20; Appendices E and I to 10 CFR Part 50; TS Section 6; FSAR Chapter 2; ODCM; RG 4.15, "Quality Assurance for Radiological Monitoring Programs (Normal Operation) - Effluent Streams and the Environment"; Safety Guide 23, "Onsite Meteorological Programs"; Branch Technical Position, "An Acceptable Radiological Environmental Monitoring Program" – 1979; and approved licensee procedures. Documents reviewed are listed in the report Attachment.

b. Findings

No findings were identified.

4. OTHER ACTIVITIES

4OA1 Performance Indicator (PI) Verification

a. Inspection Scope

Cornerstone: Barrier Integrity

The inspectors sampled licensee submittals for the two PIs listed below for the period from January 2014 through December 2014 for both Unit 1 and Unit 2. Definitions and guidance contained in Nuclear Energy Institute (NEI) 99-02, Regulatory Assessment Indicator Guideline, Revision 7, were used to determine the reporting basis for each data element in order to verify the accuracy of the PI data reported during that period.

- Reactor Coolant System Activity
- Reactor Coolant System Leakage

The inspectors reviewed portions of the operations and chemistry logs to verify whether the licensee had accurately determined and reported the reactor coolant system (RCS) activity and leakage during the previous four quarters for both units. The inspectors also observed the performance of Procedure 0-SI-OPS-068-137.0, "RCS Water Inventory," which determines the amount of RCS leakage. Documents reviewed are listed in the Attachment.

Cornerstone: Public Radiation Safety

The inspectors reviewed the Radiological Control Effluent Release Occurrences PI results for the Public Radiation Safety Cornerstone from June 2014 through December 2014. For the assessment period, the inspectors reviewed cumulative and projected doses to the public and PER documents related to radiological effluent technical specifications/ODCM issues including abnormal effluent releases. Documents reviewed are listed in the Attachment.

Cornerstone: Occupational Radiation Safety

The inspectors reviewed the Occupational Exposure Control Effectiveness PI results from June 2014 through December 2014. For the assessment period, the inspectors reviewed electronic dosimeter alarm logs and corrective actions related to controls for exposure significant areas. Documents reviewed are listed in the report Attachment.

b. Findings

No findings were identified.

4OA2 Problem Identification and Resolution

.1 Daily Review

a. Inspection Scope

As required by Inspection Procedure 71152, "Identification and Resolution of Problems," and in order to help identify repetitive equipment failures or specific human performance issues for follow-up, the inspectors performed a daily screening of items entered into the licensee's CAP. This was accomplished by reviewing the description of each new PER and attending daily management review committee meetings.

b. Findings and Observations

No findings were identified.

.2 Annual Follow-up of Selected Samples

a. Inspection Scope

The inspectors conducted a detailed review of condition report PER 665633, "Implementation of SQN Freeze Protection."

The inspectors evaluated the following attributes of the licensee's actions:

- complete and accurate identification of the problem in a timely manner
- evaluation and disposition of operability/reportability issues
- consideration of extent of condition, generic implications, common cause, and previous occurrences
- classification and prioritization of the problem
- identification of apparent and contributing causes of the problem
- identification of any additional condition reports
- completion of corrective actions in a timely manner

Documents reviewed are listed in the Attachment.

b. Findings

No findings were identified.

4OA3 Event Follow-up

.1 Unit 2 Automatic Reactor Trip

a. Inspection Scope

On March 2, 2015, the inspectors responded to an automatic reactor trip of Unit 2 due to a turbine trip from 100 percent power. The cause of the turbine trip was due to an actuation of the differential current relay across the 'C' phase of the main generator. Subsequent investigation revealed that the current transformer on the neutral side of the 'C' phase had a degraded connection which caused the inadvertent actuation of the relay. The inspectors evaluated plant status, mitigating actions, and the licensee's classification of the event, to enable the NRC to determine an appropriate NRC response. The inspectors discussed the trip with operations, engineering, and licensee management personnel to gain an understanding of the event and assess follow-up actions. The inspectors reviewed operator actions taken to determine whether they were in accordance with licensee procedures and TS, and reviewed unit and system indications to verify whether actions and system responses were as expected and designed. The inspectors also reviewed the initial licensee notifications to verify that they met the requirements specified in NUREG-1022, "Event Reporting Guidelines." The event was reported to the NRC as event notification (EN) 50856, and documented in the licensee's CAP as PER 993857. Documents reviewed are listed in the Attachment.

b. Findings

No findings were identified.

.2 Unit 1 Automatic Reactor Trip

a. Inspection Scope

On March 11, 2015, the inspectors responded to an automatic reactor trip of Unit 1 due to a negative rate trip caused by a dropped control rod, H-8. The cause of the trip was attributed to an intermittent connection of the power cable to the movable gripper coil. The licensee developed plans to perform a detailed inspection of the cable connection on the reactor vessel head during the next refueling outage when the dose rates are lower. The inspectors evaluated plant status, mitigating actions, and the licensee's classification of the event, to enable the NRC to determine an appropriate NRC response. The inspectors discussed the trip with operations, engineering, and licensee management personnel to gain an understanding of the event and assess follow-up actions. The inspectors reviewed operator actions taken to determine whether they were in accordance with licensee procedures and TS, and reviewed unit and system indications to verify whether actions and system responses were as expected and designed. The inspectors also reviewed the initial licensee notifications to verify whether they met the requirements specified in NUREG-1022, "Event Reporting Guidelines." The event was reported to the NRC as event notification (EN) 50878 and documented in

the licensee's corrective action program as PER 997605. Documents reviewed are listed in the Attachment.

b. Findings

No findings were identified.

4OA6 Meetings, Including Exit

.1 Exit Meeting Summary

On April 20, 2015, the resident inspectors presented the inspection results to Mr. Carlin and other members of his staff, who acknowledged the finding. The inspectors asked the licensee whether any of the material examined during the inspection should be considered proprietary. No proprietary information was identified.

ATTACHMENT: SUPPLEMENTAL INFORMATION

SUPPLEMENTAL INFORMATION

KEY POINTS OF CONTACT

Licensee personnel

J. Alfultis, Senior Manager of Projects
J. Carlin, Site Vice President
A. Day, Senior Manager of Chemistry
D. Erb, Director of Work Control
M. Halter, Senior Manager of Radiation Protection
E. Henderson, Licensing Manager
J. Johnson, Program Manager Licensing
A. Little, Senior Manager of Nuclear Site Safety
T. Marshall, Director of Nuclear Plant Operations
W. Pierce, Site Engineering Director
P. Pratt, Plant Manager
M. Purcell, Senior Manager of Quality Assurance
M. Rasmussen, Director of Maintenance
K. Smith, Director of Training

NRC personnel

A. Hon, Project Manager, Office of Nuclear Reactor Regulation

LIST OF ITEMS OPENED, CLOSED, AND DISCUSSED

Opened and Closed

05000327/2015001-01	NCV	Failure to Follow Procedure Results in an Inadvertent Sprinkler Deluge in the Cable Spreading Room (Section 1R05)
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LIST OF DOCUMENTS REVIEWED

Section 1R01: Adverse Weather Protection

Procedures

0-OPS-000-006.0, Freeze Protection, Rev. 59

Section 1R05: Fire Protection

Procedures

SQN-FPR-Part-II, SQN Fire Protection Report Part II – Fire Protection Plan, Revision 33

FPDP-1, Conduct of Fire Protection, Revision 4

NPG-SPP-18.4.7, Control of Transient Combustibles, Rev. 6

0-SI-FPU-410-703.0, Inspection of FPR Required Fire Doors, Rev. 6

0-SI-FPU-013-620.0, Fire Detection Panel 0-L-620 Test, Rev. 7

Other documents

CON-0-685-00, Fire Protection Pre-Fire Plans Control Building - El. 685, Revision 6

FPDP-5-3, NPG Fire Drill Evaluation Report, Prepared 1/29/2015

Section 1R11: Licensed Operator Regualification

Other documents

LOR SEG S-10 – CCP Failure, MSLB outside Cont on SG #2, RCP Trip & ATWS, Faulted #2 SG

Section 1R12: Maintenance Effectiveness

Procedures

TI-4, Maintenance Rule Performance Indicator Monitoring, Trending, and Reporting – 10CFR50.65, Revision 27

Other documents

Cause Determination Evaluation #2755 – SQN 1-FCO-030-0106-A

Section 1R13: Maintenance Risk Assessments and Emergent Work Evaluation

Procedures

NPG-SPP-09.11.1, Equipment Out of Service Management, Rev 10

NPG-SPP-07.3, Work Activity Risk Management Process, Revision 16

NPG-SPP-07.2.4, Forced Outage or Short Duration Planned Outage Management, Revision 5

NPG-SPP-07.2, Outage Management, Revision 5

GOI-6, Apparatus Operations, Revision 170

Section 1R15: Operability Evaluations

Procedures

NEDP-22, Functional Evaluations, Rev. 15

OPDP-8, Limiting Conditions for Operation Tracking, Rev. 18

NPG-SPP-03.5, Regulatory Reporting Requirements, Revision 11

SI-251.1, Channel Calibration of Class 1E Motor Operated Valve Overload Relay Heaters [C.1], Rev.33

PERs

914979, Unit 1 CVCS CCP Seal Leakage

981891, Unit 1 A Train EGTS controller 1-PDIC-65-80 – program malfunction

990740, Crack identified in the Main Control Room (MCR) ceiling challenging MCR envelope

987214, 1A/1B D/G Cable Lug Crimps (PDO)

996865, Incorrect Thermal Overload (TOL) installed in MOVs 63-6&7 (Sump Swap-over valves)

Section 1R18: Plant Modifications

Procedures

NPG-SPP-09.3, Plant Modifications and Engineering Change Control, Revision 18

NPG-SPP-09.4, 10 CFR 50.59 Evaluations of Changes, Tests, and Experiments, Revision 9

NPG-SPP-09.5, Temporary Modifications, Revision 9

Temporary Modification

SQN-0-2015-032-001 – Temporary Station Air Compressor

Section 1R19: Post Maintenance Testing

Procedures

MMDP-1, Maintenance Management System, Revision 30

MMDP-3, Guidelines for Planning and Execution of Troubleshooting Activities, Revision 10

NPG-SPP-06.5, Foreign Material Control, Revision 6

NPG-SPP-06.1, Work Order Process Initiation, Revision 5

NPG-SPP-06.3, Pre-/Post-Maintenance Testing, Revision 1

NPG-SPP-06.9, Testing Programs, Revision 1

NPG-SPP-06.9.1, Conduct of Testing, Revision 9

NPG-SPP-06.9.3, Post-Modification Testing, Revision 6

Work Orders

115932176, Disassemble, inspect and clean DG 1A2 air start compressor discharge check valve

115955617, Adjust the water regulating valves (TCVs) for all chillers water cooled condensers and oil coolers

116006758, Preventive Maintenance for Train 'B' RVLIS transmitter panel isolation valves

116109424, Belt inspection, lube & cleaning CCS and AFW pump cooler A-A

116231869, RHR pump 1B room cooler bearing lube, pulley alignment and belt tensioning

Section 1R22: Surveillance Testing

Procedures

2-SI-SXP-062-201.B, Centrifugal Charging Pump 2B-B Performance Test, Revision 19
 1-SI-SXP-063-201.A, Safety Injection Pump 1A-A Performance Test, Revision 17
 0-SI-NUC-000-007.0 Measurement of At Power MTC, Revision 18 (Unit 1)
 0-SI-NUC-000-038.0, Shutdown Margin, Revision 79
 2-SI-SFT-030-001.A, Air Return Fan 2A Quarterly Test, Revision 6

Section 1EP6: Drill Evaluation

Other documents

SQN Drill Guide, March 17, 2015

Section 2RS6: Radioactive Gases and Liquid Effluent Treatment

Procedures, Guidance Documents, and Manuals

SQN Offsite Dose Calculation Manual, Rev. 58
 Sequoyah Nuclear Plant Updated Final Safety Report Chapter 11, Radioactive Waste Management
 2012 Annual Radioactive Effluent Release Report Sequoyah Nuclear Plant
 2013 Annual Radioactive Effluent Release Report Sequoyah Nuclear Plant
 0-SI-CEM-077-410.4, Waste Gas Decay Tank Release, Rev. 24
 0-SI-CEM-090-470.5, Auxiliary Building Sampler Flow Estimation, Rev. 10
 1-SI-CEM-090-470.4, Unit 1 Shield Building Sampler Flow Estimation, Rev. 8
 2-SI-CEM-090-470.4, Unit 2 Shield Building Sampler Flow Estimation, Rev. 9
 0-SI-CEM-030-410.2, Containment Upper and Lower Compartment Purge, Rev. 38
 0-SI-CEM-030-410.1, Containment (Lower Compartment) Vent to Auxiliary Building Exhaust, Rev. 35
 0-TI-CEM-090-016.1, Sampling Methods-Operable Containment Radiation Monitors, Rev. 20
 0-TI-CEM-090-016.2, Sampling Methods-Inoperable Containment Radiation Monitors, Rev. 11
 0-TI-CEM-090-016.3, Sampling Methods - Auxiliary Building Exhaust Radiation Monitor, Rev. 30
 0-TI-CEM-030-030.0, Manual Calculation of Plant Gas, Iodine, and Particulate Release Rates for Offsite Dose Calculation Manual (ODCM) Compliance, Rev. 13
 0-TI-CEM-000-016.2, Liquid Effluent Sampling – Radioactive, Rev. 12
 0-TI-CEM-260-012.8, Manual Liquid Pre-Release Permit Generation, Rev. 1
 0-TI-CEM-260-012.9, Manual Gaseous Pre-Release Permit Generation, Rev. 0
 0-PI-CEM-000-010.3, Ground Water Monitoring, Rev. 12
 CHEM-005, Strategic Plan for Ground Water Protection, Rev. 3
 NPG-SPP-05.14, Guide for Communicating Inadvertent Radiological Spills/Leaks to Outside Agencies, Rev. 3
 NPG-SPP-05.15, Fleet Ground Water Protection Program, Rev. 4
 TI-18, Radiation Monitoring, Rev. 49

Records and Data Reviewed

Sequoyah Annual Radionuclide Trending and Assessment Report for 2013, 6/11/2014
 Gaseous Radioactive Waste Release Permit 2014243.028.009.G, 12/15/2014

Gaseous Radioactive Waste Release Permit 2014252.031.038.G, 12/30/2014
 Gaseous Radioactive Waste Release Permit 2013189.028.005, 10/11/2013
 Liquid Radioactive Waste Release Permit 2015006.007.001.L, 1/5/2015
 Liquid Radioactive Waste Release Permit 2015002.014.013.L, 1/2/2015
 Liquid Radioactive Waste Release Permit 2014156.007.066.L, 11/18/2014
 Spreadsheet well tritium sampling results from 2013 and 2014

Work Order 111931185, 0-SI-SFT-030-132.A, Auxiliary Building Gas Treatment System Filter, 9/25/13
 Work order 112083323, 0-SI-SFT-031-143A, Control Building Emergency Filter Train A Test, 5/15/2012
 Work order 113874056, 0-SI-SFT-031-143A, Control Building Emergency Filter Train A Test, 9/24/13
 Work order 111595181, 0-SI-SFT-031-144A, Control Building Emergency Ventilation Train A Test, 7/14/11
 Work order 112467373, 0-SI-SFT-031-144A, Control Building Emergency Ventilation Train A Test, 4/9/13
 Work order 112090285, 0-SI-SFT-065-001.A, A Train Emergency Gas Treatment System Filter Test, 5/6/12
 Work order 113996913, 0-SI-SFT-065-001.A, A Train Emergency Gas Treatment System Filter Test, 3/27/14
 Work order 112072365, 0-SI-SFT-065-001.B, Emergency Gas Treatment System Filter B Train, 9/18/12
 Work order 113874055, 0-SI-SFT-065-001.B, Emergency Gas Treatment System Filter B Train, 4/1/14
 Work order 113996906, 0-SI-SXX-000-141.0, Train A Emergency Gas Treatment System Charcoal Sample, 4/29/14
 Work order 113874352, 0-SI-SXX-000-141.0, Train B Emergency Gas Treatment System Charcoal Sample, 4/1/14
 Work order 110785305, 1-SI-SFT-030-007 A Containment Purge Air Exhaust Filter 1A Test, 7/19/11
 Work order 112094229, 1-SI-SFT-030-007 A Containment Purge Air Exhaust Filter 1A Test, 5/14/13
 Sequoyah Nuclear Plant Risk Analysis of Systems, Structures and Components and Work Practices That Involve a Credible Mechanism for Licensed Material to Impact Ground Water, June 2011
 Self-Assessment Report, SQN-RP-FSA-15-001, Public Safety Baseline Inspection Results of Radiochemistry Cross Check Program for 1st -4th quarters 2014
 Table: Annual Dispersion Factors (Historical baseline set 1972-1975)

CAP Documents

PER 737521
 PER 738676
 PER 742542
 PER 766364
 PER 768864
 PER 788613
 PER 824084

PER 950980

Section 2RS7: Radiological Environmental Monitoring Program (REMP)

Procedures and Guidance Documents

0-ODI-999-001, Collection of Radiological Environmental Monitoring Samples, Rev. 0
 EPC-SOP-9.4, Inspection of Meteorological Facilities, Rev. 2
 NPG-SPP-22.300, Corrective Action Program, Rev. 2

Records and Data

Annual Radioactive Effluent Release Report, 2013
 Annual Radiological Environmental Operating Report, 2012 and 2013
 Meteorological Data Recoverability Report, 2012 and 2013
 Calibration Data Sheets, Radiological Environmental Monitoring Air Sampler Gas Meters,
 4/23/14 and 6/5/14
 Risk Analysis of Systems, Structure and Components and Work Practices that Involve a
 Credible Mechanism for Licensed Material to Impact Groundwater, June 2011
 Work Order 114725777, SI-89 Meteorological Monitoring instrumentation Semi-Annual CC,
 12/9/13
 Work Order 113997282, SI-89 Meteorological Monitoring instrumentation Semi-Annual CC,
 5/9/13
 Results of Environmental Cross Check Program, 1st Quarter 2014 and 3rd Quarter 2013
 Sample Report, DAW, 3/22/12

CAP Documents

Audit SSA 1310, Chemistry, Radwaste, Effluent and Environmental Monitoring, August 2013
 PER 730191
 PER 756809
 PER 835572
 PER 847499
 SR 983041

Section 4OA1: Performance Indicator (PI) Verification

NPG-SPP-02.2, Performance Indicator Program, Rev. 7
 SI-422.1, Monthly 10CFR50 Appendix I Dose Calculations for Liquid and Gaseous Effluents,
 Rev. 0014
 Gaseous Radioactive Waste Release Permit 2014243.028.009.G, 12/15/2014
 Gaseous Radioactive Waste Release Permit 2014252.031.038.G, 12/30/2014
 Liquid Radioactive Waste Release Permit 2015006.007.001.L, 1/5/2015
 Liquid Radioactive Waste Release Permit 2015002.014.013.L, 1/2/2015
 ED Alarm Logs, June 2014 – January 2015
 PER 913363
 PER 913354
 PER 897326

Section 40A2: Problem Identification and Resolution

Procedures

NPG-SPP-22.300, "Corrective Action Program," Revision 2

Other documents

Apparent Cause Evaluation for PER 665633, Implementation of SQN Freeze Protection

Section 40A3: Event Followup

Procedures

E-0, Reactor Trip or Safety Injection, Rev. 36

CAP Documents

PER 997605, Unit 1 Reactor Trip Report

PER 993857, Unit 2 Reactor Trip Report