



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

November 7, 2019

Mr. Daniel G. Stoddard
Senior Vice President and Chief Nuclear Officer
Dominion Energy
Innsbrook Technical Center
5000 Dominion Blvd., Floor: IN-2SW
Glen Allen, VA 29060

SUBJECT: VIRGIL C. SUMMER NUCLEAR STATION – NRC INSPECTION REPORT
05000395/2019003

Dear Mr. Stoddard:

On September 30, 2019, the U.S. Nuclear Regulatory Commission (NRC) completed an inspection at Virgil C. Summer Nuclear Station. On October 22, 2019, the NRC inspectors discussed the results of this inspection with Mr. G. Lippard and other members of your staff. The results of this inspection are documented in the enclosed report.

No NRC-identified or self-revealing findings were identified during this inspection.

A licensee-identified violation which was determined to be of very low safety significance is documented in this report. We are treating this violation as a non-cited violation (NCV) consistent with Section 2.3.2 of the Enforcement Policy.

This letter, its enclosure, and your response (if any) will be made available for public inspection and copying at <http://www.nrc.gov/reading-rm/adams.html> and at the NRC Public Document Room in accordance with 10 CFR 2.390, "Public Inspections, Exemptions, Requests for Withholding."

Sincerely,

/RA/

Randall A. Musser, Chief
Reactor Projects Branch 3
Division of Reactor Projects

Docket No. 05000395
License No. NPF-12

Enclosure:
As stated

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SUBJECT: VIRGIL C. SUMMER NUCLEAR STATION – NRC INSPECTION REPORT
05000395/2019003 DATED NOVEMBER 7, 2019

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U.S. NUCLEAR REGULATORY COMMISSION
Inspection Report

Docket Number: 05000395

License Number: NPF-12

Report Number: 05000395/2019003

Enterprise Identifier: I-2019-003-0019

Licensee: Dominion Energy

Facility: Virgil C. Summer Nuclear Station

Location: Jenkinsville, SC

Inspection Dates: July 01, 2019 to September 30, 2019

Inspectors: A. Beasten, Resident Inspector
C. Dykes, Health Physicist
C. Fontana, Emergency Preparedness Inspector
E. Hilton, Resident Inspector
R. Kellner, Senior Health Physicist
N. Lacy, Operations Engineer
D. Lanyi, Senior Operations Engineer
W. Loo, Senior Health Physicist
T. Nazario Cruz, Senior Resident Inspector
A. Nielsen, Senior Health Physicist
J. Reece, Senior Resident Inspector
J. Rivera, Health Physicist
S. Sanchez, Senior Emergency Preparedness Inspector
J. Walker, Emergency Preparedness Inspector

Approved By: Randall A. Musser, Chief
Reactor Projects Branch 3
Division of Reactor Projects

Enclosure

SUMMARY

The U.S. Nuclear Regulatory Commission (NRC) continued monitoring the licensee's performance by conducting a NRC inspection at Virgil C. Summer Nuclear Station in accordance with the Reactor Oversight Process. The Reactor Oversight Process is the NRC's program for overseeing the safe operation of commercial nuclear power reactors. Refer to <https://www.nrc.gov/reactors/operating/oversight.html> for more information. A licensee-identified non-cited violation is documented in report section: 71114.04.

List of Findings and Violations

No findings or violations of more than minor significance were identified.

Additional Tracking Items

None.

PLANT STATUS

Unit 1 operated at or near rated thermal power for the entire inspection period.

INSPECTION SCOPES

Inspections were conducted using the appropriate portions of the inspection procedures (IPs) in effect at the beginning of the inspection unless otherwise noted. Currently approved IPs with their attached revision histories are located on the public website at <http://www.nrc.gov/reading-rm/doc-collections/insp-manual/inspection-procedure/index.html>. Samples were declared complete when the IP requirements most appropriate to the inspection activity were met consistent with Inspection Manual Chapter (IMC) 2515, "Light-Water Reactor Inspection Program - Operations Phase." The inspectors performed plant status activities described in IMC 2515 Appendix D, "Plant Status" and conducted routine reviews using IP 71152, "Problem Identification and Resolution." The inspectors reviewed selected procedures and records, observed activities, and interviewed personnel to assess licensee performance and compliance with Commission rules and regulations, license conditions, site procedures, and standards.

REACTOR SAFETY

71111.01 - Adverse Weather Protection

Seasonal Extreme Weather Sample (IP Section 03.02) (1 Sample)

- (1) The inspectors evaluated readiness for seasonal extreme weather conditions prior to the onset of Hurricane Dorian during a walkdown of the protected area for the following: service water system and refueling water storage tank.

71111.04Q - Equipment Alignment

Partial Walkdown Sample (IP Section 03.01) (3 Samples)

The inspectors evaluated system configurations during partial walkdowns of the following systems/trains:

- (1) Walkdown of 'A' and 'B' motor driven emergency feedwater (MDEFW) during maintenance on turbine driven emergency feedwater (TDEFW) on July 9, 2019
- (2) Walkdown of 'A' residual heat removal (RHR) during maintenance on 'B' RHR on July 10, 2019
- (3) Walkdown of 'B' motor driven emergency feedwater (MDEFW) pump and TDEFW pump during maintenance on 'A' MDEFW pump on August 19, 2019

71111.05Q - Fire Protection

Quarterly Inspection (IP Section 03.01) (5 Samples)

The inspectors evaluated fire protection program implementation in the following selected areas:

- (1) Control room (fire zone CB17.01) on July 23, 2019

- (2) Intermediate building 412 foot (ft) elevation (fire zones IB25.01.01, .01.02, .01.03, .01.04, .01.05) on July 31, 2019
- (3) Heating, ventilation, and air conditioning (HVAC) chilled water pump rooms (fire zones IB07.01, 07.02, 07.03) on July 31, 2019
- (4) Control building cable spreading rooms (fire zones CB04, CB15) on August 14, 2019
- (5) Control building 412 ft elevation (fire zones CB02, CB05) on August 14, 2019

71111.06 - Flood Protection Measures

Inspection Activities - Internal Flooding (IP Section 02.02a.) (2 Samples)

The inspectors evaluated internal flooding mitigation protections in the:

- (1) Emergency Diesel Generator (EDG) building completed on September 18, 2019
- (2) Auxiliary building, elevations 374 ft and 388 ft, completed on September 18, 2019

71111.11B - Licensed Operator Regualification Program and Licensed Operator Performance

Licensed Operator Regualification Program (IP Section 03.04) (1 Sample)

The inspectors completed an inspection to verify the licensee's ability to evaluate the performance of their licensed operators during the conduct of examinations, to assess their ability to properly develop and administer requalification annual operating tests and biennial written examinations, to evaluate the performance of the control room simulator and their testing and maintenance of the simulator, to ensure that licensed individuals satisfy the conditions of their licenses, and to assess their effectiveness in ensuring that operator license conditions are satisfied.

(1) Biennial Regualification Written Examinations

The inspectors evaluated the quality of the licensed operator biennial requalification written examination administered during August 2019.

Annual Regualification Operating Tests

The inspectors evaluated the adequacy of the facility licensee's annual requalification operating test.

Administration of an Annual Regualification Operating Test

The inspectors evaluated the effectiveness of the facility licensee in administering requalification operating tests required by 10 CFR 55.59(a)(2) and that the facility licensee is effectively evaluating their licensed operators for mastery of training objectives.

Regualification Examination Security

The inspectors evaluated the ability of the facility licensee to safeguard examination material, such that the examination is not compromised.

Remedial Training and Re-examinations

The inspectors evaluated the effectiveness of remedial training conducted by the licensee and reviewed the adequacy of re-examinations for licensed operators who did not pass a required requalification examination.

Operator License Conditions

The inspectors evaluated the licensee's program for ensuring that licensed operators meet the conditions of their licenses.

Control Room Simulator

The inspectors evaluated the adequacy of the facility licensee's control room simulator in modeling the actual plant, and for meeting the requirements contained in 10 CFR 55.46.

Problem Identification and Resolution

The inspectors evaluated the licensee's ability to identify and resolve problems associated with licensed operator performance.

71111.11Q - Licensed Operator Requalification Program and Licensed Operator Performance

Licensed Operator Performance in the Actual Plant/Main Control Room (IP Section 03.01) (1 Sample)

- (1) The inspectors observed and evaluated licensed operator performance in the control room during the replacement of a fuse in the 'B' rod control cabinet on July 3, 2019, TDEFW pump main steam supply valve operability test (surveillance test procedure STP 121.002C) on July 25, 2019, EDG 'B' operability test (STP 125.002B) on July 30, 2019, and EFW pump suction pressure I instrument test (STP 396.011) on September 1, 2019.

Licensed Operator Requalification Training/Examinations (IP Section 03.02) (1 Sample)

- (1) The inspectors observed and evaluated an operator requalification simulator training scenario on September 16, 2019

71111.12 - Maintenance Effectiveness

Routine Maintenance Effectiveness Inspection (IP Section 02.01) (1 Sample)

The inspectors evaluated the effectiveness of routine maintenance activities associated with the following equipment and/or safety significant functions:

- (1) Maintenance Rule evaluation for 'A' EDG and diesel heat exchanger tube bundles (CR-19-01690) completed on September 12, 2019

Quality Control (IP Section 02.02) (1 Sample)

The inspectors evaluated maintenance and quality control activities associated with the following equipment performance activities:

- (1) HVAC chill water system pump 'A' motor (Condition Reports CRs 19-01023 and 19-01024) completed on September 24, 2019

71111.13 - Maintenance Risk Assessments and Emergent Work Control

Risk Assessment and Management Sample (IP Section 03.01) (3 Samples)

The inspectors evaluated the risk assessments for the following planned and emergent work activities:

- (1) Emergent work replacing FU-4 fuse in 'B' rod control cabinet on July 3, 2019
- (2) Yellow risk condition for maintenance on TDEFW pump on July 9, 2019
- (3) Yellow risk condition for 'B' train solid state protection system (SSPS) testing on August 30, 2019

71111.15 - Operability Determinations and Functionality Assessments

Operability Determination or Functionality Assessment (IP Section 02.02) (5 Samples)

The inspectors evaluated the following operability determinations and functionality assessments:

- (1) CR-19-02443, 'B' MDEFW discharge piping found in contact with pipe support on July 10, 2019
- (2) CR-18-01032, Past (revised) operability review for steam generator (SG) power operated relief valve (PORV) failure to open (dated February 6, 2019) completed on September 16, 2019
- (3) CR-19-02923, HVAC system mechanical water chiller 'C' completed on September 13, 2019
- (4) CR-19-02875, 'A' EDG fuel accumulator tank indication dry light energized while the wet light extinguished completed on September 9, 2019
- (5) CR-19-01023, HVAC system chill water pump 'A' motor completed on September 19, 2019

71111.18 - Plant Modifications

Temporary Modifications and/or Permanent Modifications (IP Section 03.01 and/or 03.02) (2 Samples)

The inspectors evaluated the following temporary or permanent modifications:

- (1) The inspectors evaluated a temporary modification, installation of electrical jumper to bypass annunciator BAR #19-03, work order (WO)1913802; inspection was completed on September 5, 2019
- (2) The inspectors evaluated a permanent modification, fire service piping repairs WO1910544; inspection was completed on September 30, 2019

71111.19 - Post-Maintenance Testing

Post-Maintenance Test Sample (IP Section 03.01) (4 Samples)

The inspectors evaluated the following post maintenance tests:

- (1) Remove component cooling water (CCW) 'B' discharge header relief valve WO1909054, and swap breaker on CCW 'B' pump WO1814554, review completed on August 5, 2019
- (2) Post maintenance test for control room pressure boundary WO1819325 on August 26, 2019; repair door DRCB/503 WO1905157, review completed on August 27, 2019
- (3) 'A' chill water pump motor post maintenance test WO1906231, review completed on September 24, 2019
- (4) Replace purge meter on the inside of bubbler cabinet, 'A' diesel fuel oil storage tank bubbler, WO1913948 on September 6, 2019

71111.22 - Surveillance Testing

The inspectors evaluated the following surveillance tests:

Surveillance Tests (other) (IP Section 03.01) (5 Samples)

- (1) STP 125.002B, "Diesel Generator B Operability Test," Revision 3, WO1909358 on July 2, 2019
- (2) STP 125.002B, "Diesel Generator B Operability Test," Revision 3, WO1909359 on July 30, 2019
- (3) STP 125.002A, "A Diesel Generator Operability Test," Revision 2, WO1910758 on August 13, 2019
- (4) STP 396.054, "EFW Pump Suction Header Pressure Transmitter," Revision 5, WO1910835 on September 18, 2019
- (5) STP 106.001, "Moveable Rod Insertion Test," Revision 6, WO1911497 on September 20, 2019

Inservice Testing (IP Section 03.01) (1 Sample)

- (1) STP 121.002C, "Turbine Driven Emergency Feedwater Pump Mainsteam Supply Valve Operability Test," Revision 0, WO1909686 on July 25, 2019

FLEX Testing (IP Section 03.02) (1 Sample)

- (1) ERMP-100.011, "FX 1MW Combustion Turbine Generator Preventive Maintenance," Revision 1, WO1816619 and WO1816431 on September 24, 2019

71114.01 - Exercise Evaluation

Inspection Review (IP Section 02.01-02.11) (1 Sample)

- (1) The inspectors evaluated the biennial emergency plan exercise during the week of August 26, 2019. The exercise scenario began with a simulated loss of AC power to all but one emergency safety bus. An Alert was declared for loss of AC power to the safety buses for 15 minutes or longer. A subsequent aftershock from an earlier

earthquake occurred, which led to a loss of coolant accident. Additionally, high radiation levels are indicated in the reactor building (RB). Concurrently, a high-pressure alarm in the RB occurred and one of the RB spray pumps tripped. This prompted the declaration of a Site Area Emergency for loss of a barrier and the potential loss of containment. A drop in containment pressure was caused from the failure of one of the instrument penetrations. The field team reported dose rates meeting the criteria that satisfied the simulated conditions for a General Emergency. This allowed the Offsite Response Organizations to demonstrate their ability to implement emergency actions.

The inspectors also observed the licensee's demonstration of a 50.54(hh)(2) scenario.

71114.04 - Emergency Action Level and Emergency Plan Changes

Inspection Review (IP Section 02.01-02.03) (1 Sample)

- (1) The inspectors evaluated submitted Emergency Action Level, Emergency Plan, and Emergency Plan Implementing Procedure changes during the week of August 26, 2019. This evaluation does not constitute NRC approval.

71114.06 - Drill Evaluation

Drill/Training Evolution Observation (IP Section 03.02) (1 Sample)

The inspectors evaluated:

- (1) On July 17, 2019, the inspectors reviewed and observed the performance of an Emergency Planning Drill that involved simulated multiple equipment failures and the declaration of an Alert, Site Area Emergency and General Emergency. The inspectors assessed emergency procedure usage, emergency plan classification, notifications and the licensee's identification and entrance of any drill problems into their corrective action program. This inspection evaluated the adequacy of the licensee's conduct of the drill and critique performance. Drill issues were captured by the licensee in CR-19-02575 and were reviewed by the inspectors.

71114.08 - Exercise Evaluation Scenario Review

Inspection Review (IP Section 02.01 - 02.04) (1 Sample)

- (1) The inspectors reviewed and evaluated in-office, the proposed scenario for the biennial emergency plan exercise at least 30 days prior to the day of the exercise.

RADIATION SAFETY

71124.01 - Radiological Hazard Assessment and Exposure Controls

During facility tours, the inspectors directly observed radiological postings, dosimetry placement, container labeling, and radiological surveys for areas established within the restricted area.

Radiological Hazard Assessment (IP Section 02.01) (1 Sample)

The inspectors evaluated radiological hazards assessments and controls.

(1) Samples included the following:

Radiological surveys

- AB 526-07-12, 04/16/2019; AB 526-07-12, 07/10/2019
- AB 526-13-18, 1/16/2019; AB 526-13-18, 7/10/2019
- AB 436-36, 05/08/2018; AB 436-36, 04/24/2019
- AB 463-11, 12, 13, Waste Monitor Tanks & Pumps, 08/04/2019; AB 463-11, 12, 13, Waste Monitor Tanks & Pumps, 08/11/2019

Air sample survey records

- Spent Fuel Purification Pump Inspection and measurement xPP0014 A/S # 1104, 05/15/2019
- Cutting leak-off pipes A/S # 1266, 06/11/2019
- RB412 @ Power entry A/S # 1696, 08/15/2019

Instructions to Workers (IP Section 02.02) (1 Sample)

The inspectors evaluated instructions to workers including, labels, radiation work permits and electronic dosimeter alarm setpoints used to access high radiation areas.

(1) Reviewed items included:

Radiation work permits (RWP), including RWPs for airborne areas if available

- RWP 19-01003, I & C Maintenance Activities, Revision 00
- RWP 19-01903, Unidentified leakage investigation @ "B: RCDT pump, Revision 00
- RWP 18-40005, Drive Box/ Detector/ 5 & 10 Path Activities, Revision 00

Electronic alarming dosimeter alarms

- ED Alarm records from 10/2018 - 7/30/2019

Locations containing radioactive materials

- RCA Hot Warehouse
- HAB
- Radwaste Filter drum shield wall

Contamination and Radioactive Material Control (IP Section 02.03) (1 Sample)

The inspectors evaluated licensee processes for monitoring and controlling contamination and radioactive material. The inspectors verified transactions nationally tracked sources had been reported and the following sealed sources are accounted for and are intact:

(1) Sources included:

- Source 182, Victoreen 848-8 Cs 137
- Source 86CS25- 4671GF, JLS Am241- Cs137
- Source 106, Victoreen 878 -10 Cs137

Radiological Hazards Control and Work Coverage (IP Section 02.04) (1 Sample)

The inspectors evaluated in-plant radiological conditions during facility walkdowns and observation of radiological work activities.

- (1) Risk significant radiological work activities
 - RB412 'A' Loop work for RCDT 'B' pump work, RWP 19-01903
 - No other significant work packages were available for review during this inspection

High Radiation Area and Very High Radiation Area Controls (IP Section 02.05) (1 Sample)

- (1) The inspectors evaluated risk-significant high radiation area and very high radiation area controls, including postings and physical controls.

Radiation Worker Performance and Radiation Protection Technician Proficiency (IP Section 02.06) (1 Sample)

- (1) The inspectors evaluated radiation worker awareness and performance and radiation protection technician proficiency.

71124.06 - Radioactive Gaseous and Liquid Effluent Treatment

Inspectors evaluated licensee performance in ensuring gaseous and liquid effluent processing systems are maintained to properly mitigate, monitor and evaluate radiological discharges to the public. Inspectors reviewed compensatory measures for out-of-service effluent monitors.

Walk Downs and Observations (IP Section 02.01) (1 Sample)

The inspectors walked down the following gaseous and liquid radioactive effluent monitoring and filtered ventilation systems to assess the material condition and verify proper alignment according to plant design:

- (1)
 - RM-A3 Main Plant Vent Exhaust Monitor
 - RM-A4 Reactor Building Purge Exhaust Monitor
 - M-L5 Liquid Waste Effluent Monitor
 - Fuel Handling Building A, B, and C Ventilation Filtration System
 - Auxiliary Building B Ventilation Filtration System

Calibration and Testing Program (Process & Effluent Monitors) (IP Section 02.02) (1 Sample)

The inspectors reviewed the following gaseous and liquid effluent monitor instrument calibrations or tests by reviewing information not limited to but including alarm set points, periodicity, and National Institute of Standards and Traceability for sources used for the following sample set of monitors:

- (1)
 - RM-A10 Waste Gas Discharge Monitor Calibrations, 3/21/17 and 9/19/18
 - RM-L9 Liquid Waste Discharge Monitor Calibrations, 9/28/16 and 3/28/18

Sampling and Analysis (IP Section 02.03) (1 Sample)

The inspectors reviewed the following radioactive effluent sampling and analysis activities:

- (1)
 - The inspectors observed sampling, analysis, and release permit preparation for Liquid Waste Monitor Tank A on 8/20/19

Effluent discharges with inoperable monitors:

- None were available for review during this inspection period

Instrumentation and Equipment (IP Section 02.04) (1 Sample)

The inspectors reviewed flow rates for effluent stack and related vent flow and surveillances. Inspectors also reviewed maintenance and methodologies for one high-range effluent monitor relied on in emergency operating procedures for decision making. Some records reviewed were:

- (1)
 - Auxiliary Building HEPA and Charcoal Ventilation Filtration Testing, XAA0041, 5/30/18
 - RM-A14 Reactor Building Purge Exhaust High Range Monitor Calibrations, 11/13/17 and 1/16/19

Dose Calculations (IP Section 02.05) (1 Sample)

The inspectors reviewed required annual reports for changes, release permits and the offsite dose calculation manual for changes and results. Some documents reviewed included the following:

- (1)
 - Gaseous Waste Release Permit No. 25, Main Plant Vent, 5/17/19
 - Liquid Waste Release Permit No. WM-19-80, Waste Monitor Tank A, 8/20/19

Abnormal gaseous or liquid tank discharges:

- None were available for review during this inspection period

71124.07 - Radiological Environmental Monitoring Program

Site Inspection (IP Section 02.01) (1 Sample)

The inspectors performed walkdowns of sampling stations, thermoluminescent locations and meteorological instrumentation. Inspectors also performed observations of preparation and collections of different environmental sample types. Inspectors reviewed sampling results and maintenance, calibration, quality control and ground water records.

- (1) Records reviewed, and samples observed included but were not limited to the following:

Walkdowns, Calibrations, and Maintenance Record Review

- Location 6, Environmental air sampling station, thermoluminescent dosimeter (TLD) monitoring, and garden plot
- Location 7, Environmental air sampling station, thermoluminescent dosimeter (TLD) monitoring, and garden plot
- Location 8, Environmental air sampling station and thermoluminescent dosimeter (TLD) monitoring
- Location 30, Environmental air sampling station and thermoluminescent dosimeter (TLD) monitoring
- Location 77, Monthly combined discharge environmental sample station
- Environmental Air Sampler Calibration Records: S/N 10314, 2/28/2017, 4/5/2017, 4/11/2018, 10/17/2018; S/N 12069, 9/28/2016, 4/5/2017, 10/11/2017, 7/11/2018; S/N 12070, 9/28/2016, 4/5/2017, 10/11/2017, 4/11/2018; S/N 12294, 10/17/2016, 5/17/2017, 11/15/2017, 5/24/2018, 11/28/2018; S/N 12296, 6/15/2016, 12/14/2016, 6/14/2017, 12/13/2017, 6/7/2018, 11/5/2018; S/N 12415, 8/15/2016, 10/18/2017, 4/11/2018, 10/17/2018

Environmental Sample Collections and Preparation Observation

- Location 6, Environmental air sampling station
- Location 7, Environmental air sampling station
- Location 8, Environmental air sampling station
- Location 30, Environmental air sampling station
- Location 77, Monthly combined discharge environmental sample station

Licensee Actions in Response to Missed Sample, Inoperable Sampler, Lost TLD or Anomalous Measurement

- Site 19 (Control location 21 miles from Summer Station), April 2017, TLD missing
- Site 108 (Groundwater), March 2018, Mechanical Failure

Sampling Program for the Potential of Licensed Material Entering Groundwater

- Liquid Radwaste Discharge Line from Aux Building to Penstocks
- Spent Fuel Pool Liner
- Refueling Water Storage Tank (RWST)
- Fuel Transfer Tube Joint Penetration

Groundwater Protection Initiative (GPI) Implementation (IP Section 02.02) (1 Sample)

- (1) The inspectors reviewed the licensees continuing implementation of the voluntary NEI/Ground Water Protection Initiative.

71124.08 - Radioactive Solid Waste Processing and Radioactive Material Handling, Storage, and Transportation

Radioactive Material Storage (IP Section 02.01) (1 Sample)

The inspectors evaluated radioactive material storage areas for compliance with postings, labels, radiological controls and physical controls during plant walk downs. Inspectors also

evaluated the material condition of several containers of radioactive materials (at least five) for signs of degradation.

(1) Radioactive Material Storage Areas:

- Hot Warehouse
- RCA Yard
- Hot Trash Storage Cage

Radioactive Waste System Walkdown (IP Section 02.02) (1 Sample)

The inspectors observed radioactive waste processing systems and processes during plant walkdowns. The inspectors also evaluated changes to radwaste systems, waste stream mixing methodologies and process control program descriptions.

(1) Radioactive Waste Systems:

- Liquid Radwaste
- Spent Resin Transfer & Dewatering

Waste Characterization and Classification (IP Section 02.03) (1 Sample)

The inspectors evaluated radioactive waste characterization and classification.

(1) Radioactive Waste Streams:

- Primary Resin
- Dry Active Waste
- Radwaste Resin

Shipment Preparation (IP Section 02.04) (1 Sample)

No shipments were available to observe during the week of onsite inspection.

- (1) The inspectors reviewed training records and discussed training curricula with licensee staff in-lieu of direct observation of outgoing shipments.

Shipping Records (IP Section 02.05) (1 Sample)

The inspectors evaluated non-excepted package shipment records.

(1) Shipping Records:

- 17-044
- 18-004
- 18-018
- 18-020
- 18-041
- 19-013

OTHER ACTIVITIES – BASELINE

71151 - Performance Indicator Verification

The inspectors verified licensee performance indicators submittals listed below:

EP01: Drill/Exercise Performance (IP Section 02.12) (1 Sample)

- (1) EP01: Drill & Exercise Performance for the period July 1, 2018, through June 30, 2019.

EP02: ERO Drill Participation (IP Section 02.13) (1 Sample)

- (1) EP02: Emergency Response Organization Drill Participation for the period July 1, 2018, through June 30, 2019.

EP03: Alert & Notification System Reliability (IP Section 02.14) (1 Sample)

- (1) EP03: Alert & Notification System Reliability for the period July 1, 2018, through June 30, 2019.

MS06: Emergency AC Power Systems (IP Section 02.05) (1 Sample)

- (1) Unit 1: July 1, 2018 through June 30, 2019

MS07: High Pressure Injection Systems (IP Section 02.06) (1 Sample)

- (1) Unit 1: July 1, 2018 through June 30, 2019

MS09: Residual Heat Removal Systems (IP Section 02.08) (1 Sample)

- (1) Unit 1: July 1, 2018 through June 30, 2019

OR01: Occupational Exposure Control Effectiveness Sample (IP Section 02.15) (1 Sample)

- (1) October 1, 2018 to July 1, 2019

PR01: Radiological Effluent Technical Specifications/Offsite Dose Calculation Manual Radiological Effluent Occurrences (RETS/ODCM) Radiological Effluent Occurrences Sample. (IP Section 02.16) (1 Sample)

- (1) October 1, 2018 to July 1, 2019

71152 - Problem Identification and Resolution

Annual Follow-up of Selected Issues (IP Section 02.03) (3 Samples)

The inspectors reviewed the licensee's implementation of its corrective action program related to the following issues:

- (1) CR-19-00702, CR-19-02961, RCS elevated unidentified leakage
- (2) CR-19-01926, 'A' EDG jacketwater thermostatic valve power pill
- (3) CR-19-02923, HVAC mechanical water chiller 'C'

INSPECTION RESULTS

Licensee-Identified Non-Cited Violation	71114.04
<p>This violation of very low safety significance was identified by the licensee and has been entered into the licensee corrective action program and is being treated as a non-cited violation, consistent with Section 2.3.2 of the Enforcement Policy.</p> <p>Violation: From May 2007 through July 2019, the licensee failed to maintain the effectiveness of its emergency plan by not recognizing non-conservative emergency action level (EAL) radiation monitor threshold values. As a result of a fleet Core Damage Assessment procedure revision, the licensee discovered that the calculated threshold for two containment air radiation monitors, for the EAL condition of Fuel Clad Barrier Loss 3.A, was non-conservative. Because of this error, the classification of a General Emergency (GE) may not have occurred in a timely manner for a condition involving a Potential Loss of Containment Barrier 3.A.</p> <p>Therefore, contrary to 10 CFR 50.54(q)(2) and 10 CFR 50.47(b)(4), V.C. Summer failed to maintain the effectiveness of its emergency plan by not updating EAL radiation monitor threshold values, thus rendering the affected EAL ineffective.</p> <p>Significance/Severity: Green. The inspectors evaluated this issue as an ineffective EAL per IMC 0609, Appendix B, Figure 5.4-1. The inspectors screened this issue as a Green NCV (Licensee Identified) because prior to the inspection, V.C. Summer investigated the cause and conducted a safety analysis review of the issue and implemented corrective actions. Also, given that there were redundant means of classification in the Fission Product Barrier Degradation category the proper classification would still be declared.</p> <p>Corrective Action References: The licensee took several corrective actions to address the issues with their EALs. Those changes were addressed in a revision to the licensee's Emergency Classification Procedure (EPIP-1).</p> <p>Corrective Action Reference Nos.: Condition Report CR-19-01822</p>	

EXIT MEETINGS AND DEBRIEFS

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

- On October 22, 2019, the inspectors presented the NRC inspection results to Mr. G. Lippard and other members of the licensee staff.
- On August 30, 2019, the inspectors presented the Emergency Preparedness Exercise Inspection Exit Meeting inspection results to R. Justice and other members of the licensee staff.

DOCUMENTS REVIEWED

Inspection Procedure	Type	Designation	Description or Title	Revision or Date
71111.11B	Miscellaneous	JPSF-143	Respond to Reactor Building Flooding	Rev 2019
		2019 BRE Week 3 Biennial Examination	RO and SRO	Rev 0
		Five (5) Licensed Operator Medical Records	Five (5) Licensed Operator Medical Records	8/8/2019
		IST 10.05	Reactor Trip Due to High Positive Flux Rate	5/20/16
		IST 10.7	Reactor Trip After Closure of "C" FCV	8/11/17
		IST 2.4	Hot Standby to 100% Power	9/9/16
		IST 5.0	53R Core Testing Procedure	11/18/15
		IST 7.4	LOCA with LOSP	6/30/17
		IST 7.5	100% Unisolable Main Steamline Break	6/23/17
		IST 7.9	Trip of One Reactor Coolant Pump	10/21/16
		IST 8.15.01	Shutdown Margin Verification	8/10/17
		IST 8.4.1	Quadrant Power Tilt Ratio	4/22/16
		IST 8.9.1A	Steam Generator PORV Operability Test	7/28/17
		IST SIM-3.3	50% Steady State Accuracy Test	12/18/18
		JPP-029	Reset the P-A Converter per AOP-403.6	Rev 2019
		JPP-089	Isolate "B" Steam Generator Due to a Steam Generator Tube Rupture (EOP-4.0)	Rev 2019
		JPP-099	Manually Close "A" MSIV to Isolate "A" S/G per GOP-8	Rev 2019
		JPP-157	Respond to a Loss of Condensate Pump IAW AOP-208.1	Rev 2019
		JPPF-012A	Locally Start "A" Emergency D/G During a Loss of Offsite Power	Rev 2019
		JPPF-113	Fill the Condensate Storage Tank Using Fire Service Water	Rev 2019
		JPS-020	Establish Excess Letdown to Volume Control Tank (VCT)	Rev 2019
		JPS-024	Respond to Feed Pump Speed Control Failure	Rev 2019
		JPSC-048	Classify Emergency (GE- Loss of AC Power)	Rev 2019

Inspection Procedure	Type	Designation	Description or Title	Revision or Date
		JPSC-063	Classify Emergency (UE-Loss of AC Power)	Rev 2019
		JPSF-046	Perform Lineups of the Chemical and Volume Control System Per GOP-1/SOP-102	Rev 2019
		Remedial Training Plans (VSC-TQP-0116A Att. XII)	for seven (7) Licensed Operators from current Requalification Cycle	8/8/2019
		Resumption of Active NRC License Qualification	(OAP-110.2 Att. VII) for four (4) licensed operators	8/8/2019
		SBT Records Associated with Requalification Scenario 0-LOR-SIM-SA-302R	75% Power, BOL, SGTL to SGTR	Rev 0
		SBT Records Associated with Requalification Scenario 0-LOR-SIM-SA-304R	75% Power SBLOCA	Revision 0
		SBT Records Associated with Requalification Scenario 0-LOR-SIM-SA-305R	100% Power Seismic LBLOCA	Revision 0
		SBT Records Associated with Requalification Scenario 0-LOR-SIM-SA-308R	100% Power Feed Line Break	Revision 0
		Scenario 0-LOR-SIM-SA-302R, 75% Power	BOL, SGTL to SGTR	Revision 0

Inspection Procedure	Type	Designation	Description or Title	Revision or Date
		Scenario 0-LOR-SIM-SA-304R	75% Power SBLOCA	Revision 0
		Scenario 0-LOR-SIM-SA-305R	100% Power Seismic LBLOCA	Revision 0
		Scenario 0-LOR-SIM-SA-308R	100% Power Feed Line Break	Revision 0
		Shift D Licensed Operator RQ 17.1-17.13	Training Attendance Records	8/8/2019
		Shift D Licensed Personnel Quarterly Proficiency Time Records	(OAP-110.2 Att. V)	8/8/2019
	Procedures	VCS-TQP-0101.01A	Personnel Qualification Tracking and Maintenance	Rev 1, Change A
		VCS-TQP-0405	Regulatory Exam Security	Rev 1, Change F
		VCS-TQP-0408	Development, Review, and Validation of Licensed Operator Requalification Annual and Biennial Exams	Rev 1, Change B
		VCS-TQP-0804	Licensed Operator Requalification Training Program	Rev 1, Change C
		VCS-TQP-1101	Simulator Discrepancy Reporting	Rev 1
		VCS-TQP-1103	Simulator Conduct of Operations and Configuration Management	Rev 2
71124.01	Corrective Action Documents	CR-18-05148, CR 18-05206, CR 18-05419, CR 19-01319		11/2018-8/2019
	Miscellaneous	TWR # 2.2.1-19-009	Fuel Cycle 25 Alpha Characterization	04/09/2019
71124.06	Corrective Action Documents	CR-16-04319, CR-18-05166, CR-18-05762,		8/2016 - 3/2019

Inspection Procedure	Type	Designation	Description or Title	Revision or Date
		CR-19-00242		
	Corrective Action Documents Resulting from Inspection	CR-19-02996	Effluent monitor calibration procedures were not revised with updated calibration source re-certification data after repair of the source holder.	08/23/2019
	Procedures	STP-360.045	Main Plant Vent Atmospheric Radiation Monitor RM-A13	Rev. 10
		STP-360.047	Reactor Building Purge Exhaust System Atmospheric Radiation Monitor RM-A14 Calibration	Rev. 8
71124.07	Calculations	GW Results 2016, 2017, and 2018	Groundwater Sample Analysis Results Spreadsheet	Various
	Corrective Action Documents		Condition Reports (CRs): 16-04859 CRs 17-02039, 18-00264, 18-00582, 18-01810, 18-02446, 18-03161, 18-03935, 19-00791, 19-00934, and 19-01607	Various
	Miscellaneous		VC Summer 2017 Annual Radiological Environmental Operating Report	4/25/2018
			V. C. Summer/SCE&G Offsite Dose Calculation Manual (ODCM), Revision 31	6/11/2019
			Annual Meteorological Data Recovery Summary - January 1, 2019 to June 1, 2019	06/20/2019
			VC Summer 2018 Annual Radiological Environmental Operating Report	04/25/2019
		1st and 3rd Quarter	V. C. Summer Nuclear Station Interlaboratory Intercomparison Program Environmental Cross Check Data Sheet June 2016 to December 2018	Various
	Procedures	HPP-1053	COMBINED WASTEWATER DISCHARGE FLOWMETER OPERATION, MAINTENANCE AND CALIBRATION	Revision 7
		VCS-HPP-1051	ENVIRONMENTAL AIR SAMPLER CALIBRATION AND MAINTENANCE	Revision 0
	Radiation Surveys		2018 Environmental TLD Analysis Results - Mirion Technologies	06/19/2019
	Self-Assessments	QA-AUD-201806	Station Radiation Control & Environmental Monitoring	6/5/18
	Work Orders	Work Order # 1811712	Meteorological Tower Channel A Calibration	9/13/2018

Inspection Procedure	Type	Designation	Description or Title	Revision or Date
		Work Order # 1820370,	Meteorological Tower Channel B Calibration	2/4/2019
71124.08	Procedures	PCP-001	Process Control Program for Solid Radioactive Waste	Rev. 12
71151	Miscellaneous		ED Dose and Dose Rate Alarm Summary Report	October 1, 2018 to July 1, 2019
		October 2018 to May 2019	Monthly Performance Indicator Data for Radiation Safety	Various
		October 2018 to May 2019	Monthly Performance Indicator Data for Public Radiation Safety (Effluents)	Various