



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

November 8, 2018

Mr. George A. Lippard III
Vice President, Nuclear Operations
South Carolina Electric & Gas Company
Virgil C. Summer Nuclear Station
Bradham Blvd & Hwy 215
P.O. Box 88, Mail Code 800
Jenkinsville, SC 29065

**SUBJECT: VIRGIL C. SUMMER NUCLEAR STATION, UNIT 1 – NUCLEAR REGULATORY
COMMISSION INTEGRATED INSPECTION REPORT 05000395/2018003**

Dear Mr. Lippard:

On September 30, 2018, the U.S. Nuclear Regulatory Commission (NRC) completed an inspection at your Virgil C. Summer Nuclear Station, Unit 1. On October 10, 2018, the NRC inspectors discussed the results of this inspection with you and other members of your staff. The results of this inspection are documented in the enclosed report.

No NRC-identified or self-revealing findings were identified during this inspection. However, inspectors documented a licensee-identified violation which was determined to be of very low safety significance in this report. 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; and the NRC resident inspector at the Virgil C. Summer Nuclear Station.

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.: 50-395
License No.: NPF-12

Enclosure:
IR 05000395/2018003

cc: Distribution via ListServ

SUBJECT: VIRGIL C. SUMMER NUCLEAR STATION, UNIT 1 – NUCLEAR REGULATORY
 COMMISSION INTEGRATED INSPECTION REPORT 05000395/2018003
 , 2018

DISTRIBUTION:

M. Kowal, RII
 K. Sloan, RII
 OE Mail
 RIDSNRRDIRS
 PUBLIC
 RidsNrrPMSummer Resource

ADAMS Accession No. ML

OFFICE	RII/DRP	RII/DRP	RII/DRP	RII/DRP	RII/DRS	RII/DRS
NAME	JReece	EHilton	RTaylor	RMusser	SSanchez	JTornow
DATE	11/ 1 /2018	11 / 1/2018	11/ 8 /2018	11/ 8 /2018	10/29/2018	11/ 2 /2018
OFFICE	RII/DRS					
NAME	CFontana					
DATE	11/ 1 /2018					

OFFICIAL RECORD COPY

U.S. NUCLEAR REGULATORY COMMISSION

REGION II

Docket No: 50-395

License No: NPF-12

Report No: 05000395/2018003

Enterprise Identifier: I-2018-003-0050

Licensee: South Carolina Electric & Gas (SCE&G) Company

Facility: Virgil C. Summer Nuclear Station, Unit 1

Location: Jenkinsville, SC 29065

Dates: July 1, 2018 through September 30, 2018

Inspectors: J. Reece, Senior Resident Inspector
E. Hilton, Resident Inspector
S. Sanchez, Senior Emergency Preparedness Inspector
(Sections 71114.04, 71114.05, and 71151)
C. Fontana, Emergency Preparedness Inspector (Sections 71114.02,
71114.03, 71114.04, and 71151)
J. Tornow, Physical Security Inspector (Sections 71114.03, 71151)

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 licensee's performance by conducting a baseline inspection at Virgil C. Summer Nuclear Station, Unit 1, 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. NRC and self-revealed findings, violations, and additional items are summarized in the table below.

List of Findings and Violations

No findings were identified.

Additional Tracking Items

Type	Tracking number	Title	Report Section	Status
Licensee Event Report (LER)	05000395/2017-001-01	C Main Feedwater Pump Failure to Trip Results in Loss of Emergency Feedwater Autostart Actuation Signal	71153	Closed

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

External Flooding (1 Sample)

The inspectors evaluated readiness to cope with external flooding on July 24, 2018.

Impending Severe Weather (1 Sample)

The inspectors evaluated readiness for impending adverse weather conditions for Hurricane Florence on September 13, 2018.

71111.04 - Equipment Alignment

Partial Walkdown (5 Samples)

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

- (1) 'A' motor driven and turbine driven emergency feedwater (MDEFW & TDEFW) components while 'B' MDEFW pump was tagged out for maintenance; inspection was completed on July 9, 2018
- (2) 'A' and 'B' MDEFW during scheduled maintenance on TDEFW pump and associated components; inspection was completed on July 10, 2018
- (3) 'B' emergency diesel generator (EDG) during scheduled maintenance on 'A' EDG; inspection was completed on August 23, 2018
- (4) 'A' EDG during emergent work on 'B' EDG; inspection was completed on August 29, 2018
- (5) 'B' MDEFW and TDEFW components during scheduled maintenance on 'A' MDEFW; inspection was completed on September 17, 2018

71111.05AQ - Fire Protection Annual/Quarterly

Quarterly Inspection (6 Samples)

The inspectors evaluated fire protection program implementation in the following selected areas. A licensee identified violation is documented in the Inspection Results section below.

- (1) Auxiliary building switchgear room 412 elevation (fire zone AB01.10); inspection was completed on July 13, 2018
- (2) Auxiliary building switchgear room 463 elevation (fire zone AB01.29); inspection was completed on July 13, 2018
- (3) Heating, ventilation, and air conditioning (HVAC) chilled water pump rooms (fire zones IB07.01, 07.02, 07.03); inspection was completed on July 13, 2018
- (4) Auxiliary building 397/388 elevations (fire zone AB01.04); inspection was completed on July 16, 2018
- (5) Auxiliary building 436 elevation (fire zones AB01.18.01, AB01.18.02); inspection was completed on July 17, 2018
- (6) Relay room solid state protection system (SSPS) instrumentation and vital inverters (fire zones CB06, CB10, CB12); inspection was completed on September 11, 2018

71111.06 – Flood Protection Measures

Internal Flooding (1 Sample)

The inspectors evaluated internal flooding mitigation protection in the EDG building; inspection was completed on September 26, 2018.

71111.11Q - Licensed Operator Requalification Program and Licensed Operator Performance

Operator Requalification (1 Sample)

The inspectors observed and evaluated an operator requalification simulator training scenario occurring on September 6, 2018, involving multiple failures leading to entry into abnormal operating procedures followed by emergency operating procedures in order to combat the problems.

Operator Performance (3 Samples)

The inspectors observed and evaluated:

- (1) Control room operator monitoring of issues relating to service water pinhole leak; observation was completed on July 3, 2018
- (2) 'A' EDG maintenance run; observation was completed on August 23, 2018
- (3) Backflush, reverse flow through heat exchangers, and alternate seal injection pump functional test; observation was completed on September 23, 2018

71111.12 - Maintenance Effectiveness

Routine Maintenance Effectiveness (2 Samples)

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

- (1) 'A' safety-related chiller trip during a post maintenance run; inspection was completed on August 15, 2018
- (2) 'B' steam generator (SG) power operated relief valve (PORV) failed to open during surveillance test; inspection was completed on September 10, 2018

71111.13 - Maintenance Risk Assessments and Emergent Work Control (5 Samples)

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

- (1) Yellow risk condition for scheduled maintenance of TDEFW; inspection was completed on July 10, 2018
- (2) Emergent work control for work order (WO)1814261, 'A' train safety-related chiller shutdown; inspection was completed on August 6, 2018
- (3) Yellow risk condition for SSPS testing on 'B' train, WO1811694; inspection was completed on August 10, 2018
- (4) Emergent work control for condition report (CR)-18-03383, excessive air leak on air start solenoid valve for 'B' EDG; inspection was completed on August 22, 2018
- (5) Emergent work control for CR-18-03524, 'B' EDG surveillance test failure; inspection was completed August 29, 2018

71111.15 - Operability Determinations and Functionality Assessments (5 Samples)

The inspectors evaluated the following operability determinations and functionality assessments in review of Condition Reports:

- (1) CR-18-02706, 'B' service water (SW) piping pinhole leak; inspection was completed on July 13, 2018
- (2) CR-18-02797, 'A' SW piping pinhole leak; inspection was completed on July 17, 2018
- (3) CR-18-02718, 'B' SW pipe tee with gouged area evaluated as a flaw impacting American Society of Mechanical Engineers (ASME) code requirements; inspection was completed on July 17, 2018
- (4) CR-18-03024, 'C' SW pump motor bearing cooling pipe nonconforming condition; inspection was completed on July 30, 2018
- (5) CR-18-03536, 'B' EDG SW inlet pipe and pipe support non-conformance; inspection was completed on September 1, 2018

71111.18 - Plant Modifications (1 Sample)

The inspectors evaluated permanent modification, engineering change request (ECR) 50890, External Flooding Protection; inspection was completed on September 26, 2018

71111.19 - Post Maintenance Testing (PMT) (5 Samples)

The inspectors evaluated the following post maintenance tests:

- (1) WO1802663, 'B' MDEFW replace oil in pump bearings; inspection was completed on July 9, 2018
- (2) WO1809754, PMT for IFV02030-MS, TDEFW steam supply; inspection was completed on July 16, 2018
- (3) WO1714776, replace valve and piping for 'C' SW pump motor upper bearing cooling; inspection was completed on July 31, 2018
- (4) WO1815079, PMT for 'A' EDG maintenance; inspection was completed on August 22, 2018
- (5) WO1808163, Oil leak on inboard bearing housing for 'A' chilled water pump; inspection was completed on September 26, 2018

71111.22 - Surveillance Testing

The inspectors evaluated the following surveillance tests:

Routine (1 Sample)

Surveillance Test Procedure (STP) 125.002B, "Diesel Generator B Operability Test," Revision 3; inspection was completed on July 5, 2018

In-service (3 Samples)

- (1) STP 205.003, "Charging/Safety Injection Pump and Valve Test," Revision 8B; inspection was completed on July 12, 2018
- (2) STP 222.002, "Component Cooling Pump Test," Revision 10B; inspection was completed on July 19, 2018
- (3) STP 205.004, "RHR Pump and Valve Operability Test," Revision 9B; inspection was completed on August 16, 2018

EMERGENCY PREPAREDNESS

71114.02 - Alert and Notification System Testing (1 Sample)

The inspectors evaluated the maintenance and testing of the alert and notification system during the week of September 10, 2018.

71114.03 - Emergency Response Organization Staffing and Augmentation System (1 Sample)

The inspectors evaluated the readiness of the Emergency Response Organization during the week of September 10, 2018.

71114.04 - Emergency Action Level and Emergency Plan Changes (1 Sample)

The inspectors evaluated submitted Emergency Action Level, Emergency Plan, and Emergency Plan Implementing Procedure changes during the week of September 10,

2018. This evaluation does not constitute NRC approval.

71114.05 - Maintenance of Emergency Preparedness (1 Sample)

The inspectors evaluated the maintenance of the emergency preparedness program during the week of September 10, 2018.

OTHER ACTIVITIES – BASELINE

71151 - Performance Indicator Verification (6 Samples)

The inspectors verified licensee performance indicators submittals listed below for the period from July 1, 2017, through June 30, 2018. Inspection was completed on September 28, 2018.

- (1) Mitigating Systems Performance Index (MSPI) – Emergency AC Power
- (2) MSPI – High Pressure Safety Injection (SI)
- (3) MSPI – Residual Heat Removal (RHR)
- (4) EP01: Drill & Exercise Performance
- (5) EP02: Emergency Response Organization Drill Participation
- (6) EP03: Alert & Notification System Reliability

71152 - Problem Identification and Resolution

Annual Follow-up of Selected Issues (1 Sample)

The inspectors reviewed the licensee's implementation of its corrective action program related to the following issue and completed the inspection on August 3, 2018.

CR-18-02931, SWH-4021 not repaired as required by CR-04-01705; observations are documented in the Inspection Results of this report.

71153 - Follow-up of Events and Notices of Enforcement Discretion

Licensee Event Report (LER) (1 Sample)

The inspectors evaluated and closed the following LER which can be accessed at the following website: <https://lersearch.inl.gov/LERSearchCriteria.aspx>

LER 2017-001-01, C Main Feedwater Pump Failure to Trip Results in Loss of Emergency Feedwater Autostart Actuation Signal

OTHER ACTIVITIES – TEMPORARY INSTRUCTIONS, INFREQUENT AND ABNORMAL

60855.1 - Operation of an Independent Spent Fuel Storage Installation (ISFSI) (1 Sample)

The inspectors completed an inspection of the ISFSI on September 18, 2018.

INSPECTION RESULTS

Licensee Identified Non-Cited Violation	71111.05
<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: V.C. Summer Operating License condition 2.c(18) states in part that the licensee shall implement and maintain in effect all provisions of the approved fire protection program that comply with 10 CFR 50.48(c), National Fire Protection Association (NFPA) 805 of which Chapter 3, Section 3.2.3, "Procedures," states, "Procedures shall be established for implementation of the fire protection program."</p> <p>Contrary to the above, on January 10, 2017, the licensee failed to implement an established procedure, FPP-025, "Fire Containment", Revision 6D, to ensure fire door DRAB/319 "closes and latches on its own power."</p> <p>Significance/Severity Level: A similar NRC identified Green NCV was documented in NRC Inspection Report 05000395/2015002 for which the significance evaluation bounds the significance of this event because the duration of door opening was 1 hour versus 12 hours for the previous event.</p> <p>Corrective Action Reference(s): The licensee has documented this problem in their CAP as CR-18-03936.</p>	

Observation	71152
<p>The inspectors reviewed CRs related to SW pipe support, SWH-4021, and specifically focused on the following performance attributes: identification of corrective actions were appropriately focused to correct the problem, actions taken resulted in the correction of the identified problem, and completion of corrective action in a timely manner commensurate with the safety significance.</p> <p>On July 18, 2018, the inspectors identified a deficiency for a safety-related pipe support on the suction piping for the 'B' train SW booster pump. Specifically, the support clamp on the pipe was noticeably rotated such that the pipe support was no longer in a direct alignment. The inspectors reported the problem to the licensee who initiated CR-18-02931 for corrective action in accordance with their CAP. The inspectors also performed a historical search in the licensee's CAP database and identified CR-04-01705 that was initiated on June 1, 2004, and documented a similar problem for the same support.</p> <p>The inspectors' review of CR-04-01705 noted that the initial assessment determined the rotation was approximately 6 degrees which was within the tolerable limits and therefore presented no consequent engineering concerns. The inspectors also noted that the licensee assigned corrective action (CA) 001 that required a VT-3 examination of the support which was completed on April 30, 2005, and CA002 that required an evaluation of the VT-3 results by plant support engineering, which was completed on May 5, 2005. The VT-3 inspection found SWH-4021 at 8 degrees rotation and the engineering evaluation considered the support to be operable but degraded. Additionally, the licensee determined rework should be</p>	

completed on a high priority basis. The licensee initiated work order (WO) 0416366-006 to return SWH-4021 to design requirements. The inspectors reviewed the adequacy of this WO and noted that the completion remarks stated, "Returned SWH-402[1] to design. See Disposition 1 accept as is CER-05-2017." The inspectors noted that Non-conformance Disposition 1 addressed a welding gap issue on SWH-4021 and not a rotation issue. Consequently, no work was performed on SWH-4021 and the operable but degraded condition remained until discovery by the inspectors in 2018.

Minor Violation	71152
<p>Minor Violation: The inspectors concluded that rotation of the safety-related SW pipe support, SWH-4021, was a condition adverse to quality (CAQ) identified in CR-04-01705. The inspectors also concluded that the failure to correct this CAQ was a minor violation of 10 CFR 50, Appendix B, Criterion XVI, "Corrective Action," which states in part that CAQs are promptly identified and corrected.</p> <p>Screening: The inspectors determined that the degradation of SWH-4021 was minor based on the absence of any deformed components on the pipe support, and that the respective train of the SW system remained overall operable. The licensee corrected the CAQ during the quarter using WO 1813577, Return SWH-4021 to design requirements.</p> <p>Enforcement: This failure to comply with 10 CFR 50, Appendix B, Criterion XVI constitutes a minor violation that is not subject to enforcement action in accordance with the NRC's Enforcement Policy.</p>	

EXIT MEETINGS AND DEBRIEFS

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

The inspectors confirmed that proprietary information was controlled to protect from public disclosure.

On September 13, 2018, the inspectors presented the emergency preparedness inspection results to Mr. George Lippard and other members of the licensee staff.

On October 10, 2018, the inspectors presented the quarterly resident inspector inspection results to Mr. George Lippard and other members of the licensee staff.

DOCUMENTS REVIEWED

71111.01 – Adverse Weather Protection

OAP 109.1, Guidelines for Severe Weather

71111.04 - Equipment Alignment

FSAR Chapter 9.2.6, Condensate Storage Facilities

FSAR Chapter 8.3, Onsite Power Systems

FSAR Chapter 10.4.9, Emergency Feedwater System

Design Bases Document (DBD) – Diesel Generator Engine Support and Control Systems,
Rev 12

DBD - Emergency Feedwater System, Rev 16

SOP-211, Emergency Feedwater System, Rev. 14G

SOP-306, Emergency Diesel Generator, Rev 19E

SOP-307, Diesel Generator Fuel Oil System, Rev 13D

Technical Specification (TS) 3/4.8.1, A.C. Sources

TS 3/4.7.1.2, Emergency Feedwater System

71111.05AQ - Fire Protection Annual/Quarterly

V.C. Summer Unit 1 Fire Pre-Plans

PTP-114.002, Fire Extinguisher Checks, Rev. 18A

V.C. Summer Unit 1 FSAR, Chapter 9.5.1, Fire Protection

STP-728.039, Auxiliary Building Fire Barrier Inspection, "Elevation 412'," Rev 5E

STP-728.040, Auxiliary Building Fire Barrier Inspection, "Elevations 400', 397', 388', 374',"
Rev 4C

STP-728.037, Auxiliary Building Fire Barrier Inspection, "Elevations 502'6", 485', 475', 474'
and 463'," Rev 4I

STP-728.038, Auxiliary Building Fire Barrier Inspection, "Elevations 448", 447', 436', and 426',"
Rev 4E

STP-728.044, Control Building Elevation 436' Fire Barrier Inspection, Rev 7J

STP-728.050, Intermediate Building Elevation 412', Fire Barrier Inspection, Rev 4F

71111.04 – Flood Protection Measures

WO 1713599, Calibration of DG Bldg sump level switches

WO 1713598, Calibration of DG Bldg sump level switches

WO 1805229, Calibration of DG Bldg sump level switches

WO 1507377, Calibration of DG Bldg sump level switches

71111.12 - Maintenance Effectiveness

Maintenance Rule evaluation for CR-18-01032

STP-121.002A, Steam Generator PORV Operability Test, Rev. 0D

Maintenance Rule evaluation for CR-18-01820

Technical Work Record # ZS44163: Emerson EXV and Driver Board Design, Operation, and
Testing

CR-18-01820, Equipment Apparent Cause Evaluation

71111.13 - Maintenance Risk Assessments and Emergent Work Control

SSP-001, Planning and Scheduling Maintenance Activities, Rev. 24H
OAP-100.6, Control Room Conduct and Control of Shift Activities, Rev. 4L
OAP-102.1, Conduct of Operations Scheduling Unit, Rev. 8E
WO 1811694001, SSPS Testing
CR-18-03383, Excessive Air Leak on Air Start Solenoid Valve
CR-18-03524, 'B' EDG Surveillance Test Failure

71111.15 - Operability Evaluations

Engineering Services Procedure (ES)-120 Operability Determination for CR-18-02706
RELIEF REQUEST RR-4-15, REQUEST FOR ALTERNATIVE TO IMPLEMENT CODE CASE N-513-4, "EVALUATION CRITERIA FOR TEMPORARY ACCEPTANCE OF FLAWS IN MODERATE ENERGY CLASS 2 OR 3 PIPING"
RELIEF REQUEST RR-4-15, REQUEST FOR ALTERNATIVE TO IMPLEMENT CODE CASE N-513-4, "EVALUATION CRITERIA FOR TEMPORARY ACCEPTANCE OF FLAWS IN MODERATE ENERGY CLASS 2 OR 3 PIPING" RESPONSE TO REQUEST FOR ADDITIONAL INFORMATION
ES-120 Operability Determination for CR-18-02797
CR-18-03144, Growth of Flaw Area
Non-conforming notice (NCN) Evaluation for CR-18-02718
CR-18-02857, 'A' SW 2nd Pinhole Leak
Relief Request RR-4-16, REQUEST FOR ALTERNATIVE TO IMPLEMENT CODE CASE N-513-4, "EVALUATION CRITERIA FOR TEMPORARY ACCEPTANCE OF FLAWS IN MODERATE ENERGY CLASS 2 OR 3 PIPING"
RELIEF REQUEST RR-4-16, REQUEST FOR ALTERNATIVE TO IMPLEMENT CODE CASE N-513-4, "EVALUATION CRITERIA FOR TEMPORARY ACCEPTANCE OF FLAWS IN MODERATE ENERGY CLASS 2 OR 3 PIPING" RESPONSE TO REQUEST FOR ADDITIONAL INFORMATION
Non-conforming notice (NCN) Evaluation for CR-18-03024
ES-120 Operability Determination for CR-18-03536

71111.18 – Plant Modifications

ECR-50890, External Flooding Protection

71114.02 - Alert and Notification System Evaluation

Procedures and Reports

EP-100, South Carolina Electric and Gas Company, V.C. Summer Nuclear Station, Radiological Emergency Plan (E-Plan), Rev. 69
VCS-EPMP-0100, Maintenance of Early Warning Siren System (EWSS), Rev. 1
VCS-EPMP-107, Siren Radio System Maintenance, Rev. 0

Records and Data

Documentation of monthly siren testing for 4th quarter 2017 to 2nd quarter 2018
Documentation of bi-weekly siren tests for 4th quarter 2017 to 2nd quarter 2018
Siren Maintenance records: 2017 to 2018
2017 and 2018 V.C. Summer Emergency Planning Calendar and Planning Information mailers to members of the public in the 10-mile EPZ
V.C. Summer EWSS evaluation letter to FEMA, 11/7/16

FEMA Early Warning Siren System (EWSS) approval letter, 11/22/16
FEMA Alert and Notification System Design Report, 4/7/17

Corrective Action Program Documents

CR-17-03480, Siren 54 Fairfield battery failure
CR-18-00050, Battery failure on EWSS siren #N84
CR-18-00128, EWSS siren #F14 failed growl test
CR-18-00173, EWSS siren #L80 communication failure
CR-18-00330, EWSS siren L80 communication failure
CR-18-00535, EWSS siren L80 communication failure
CR-18-00953, EWSS siren L80 communication failure
CR-18-02098, Offsite warning system indicated all sirens failed communication in EOF during 5/23/18 drill
CR-18-02390, EWSS siren # N9 sounded but did not rotate
CR-18-02586, XAM 0205 has power failure and charger failure present for siren #205
CR-18-02604, XAM0054-F5-10 battery failure for siren #54
CR-18-02709, XAM 0054- Offsite EWSS communication failure for EWSS #54
CR-18-02730, XAM 0054- Offsite EWSS communication failure for EWSS #54
CR-18-02751, XAM 0054- Offsite EWSS communication failure for EWSS #54
CR-18-02803, XAM0096-R5-10, battery failure for siren #R96
CR-18-02804, Siren #F54 auto current failure
CR-18-03102, Communication failure on siren #F54
CR-18-3206, EP to track siren #82 communication failures

71114.03 - Emergency Response Organization Staffing and Augmentation System

Procedures

SAP-0127, Emergency Preparedness, Rev. 5
VCS-TQP-0917, Emergency Preparedness Training Program, Rev. 1
VCS-EPP-0023, Technical Support Center, Rev. 1
VCS-EPP-0028, Operational Support Center, Revision 1
VCS-EPP-0030, Remote Technical Support Center, Rev. 1
VCS-EPP-0031, Remote Operational Support Center, Rev. 1
VCS-EPP-0032, Alternate Emergency Response Facility, Rev. 1
VCS-EPP-0051, Emergency Operations Facility, Rev. 1
VCS-TQP-0605, Emergency Response Organization Training, Rev. 1, Change A
EP-10, Radiation Emergency Plan, Rev. 69

Records and Data

Various ERO Staff Training Records and Qualifications
Various Drill Rosters, Manning Charts and Final Reports
ERO Communications Directory, Rev. 133
ERO 4 Team Rotation, Rev. 128

Corrective Action Program Documents

CR-16-04461, Procedure feedback had not been submitted to operations in a timely manner
CR-16-05821, ERO members that were on duty that either did not respond or were not able to respond within the 1 hour requirement.

CR-17-000582, 3 ERO members that were on duty that either did not respond or were not able to respond within the 1 hour requirement.

CR-17-04287, Inaccurate PI Data Reported to NRC

CR-17-05084, Failure to Maintain ERO Qualification

71114.04 - Emergency Action Level and Emergency Plan Changes

Procedures

EP-100, Virgil C. Summer Radiation Emergency Plan, Rev. 68 & 69

VCS-EPAP-0001, Emergency Plan Changes, Rev. 1

VCS-EPP-0001, Classification of Emergencies, Rev. 0

VCS-EPP-0002, Communication and Notification, Rev. 3

VCS-EPP-0005, Offsite Dose Calculation, Rev. 21C & 0

VCS-TQP-0917, Emergency Preparedness Training Program, Rev. 1

Change Packages

10 CFR 50.54(q) Screen and Evaluation for EPP-0002, Communication and Notification, Rev. 3, dated 5/17/18

10 CFR 50.54(q) Screen & Evaluation for VCS-EPP-0001, Rev. 0, dated 10/2/17

10 CFR 50.54(q) Screen & Evaluation for EP-100, Rev. 69, dated 11/15/17

10 CFR 50.54(q) Screen & Evaluation for VCS-EPP-0005, Rev. 0, dated 7/42/18

Corrective Action Program Documents

CR-17-04581, 50.54(q) screen/evaluation is to occur for every change/revision

CR-17-0482, CR should evaluate whether or not these procedures are still EPIP's

CR-18-02441, VCS-EPP-0108 Revision 0, Emergency Action Level Technical Basis Document was issued on 6/5/18

CR-17-05009, Annunciator for seismic instrumentation relocated to adjacent panel without revision to EALs

CR-18-01314, Old revision of EP-100 intermingled with new revision at an offsite response organization location

71114.05 - Maintenance of Emergency Preparedness

Procedures

EP-100, Virgil C. Summer Radiation Emergency Plan, Rev. 69

SAG-01, Self-Assessment Guidelines, Rev. 2

SAP-0999, Corrective Action Program, Rev. 18, Change A

SAP-0999D, Resolution of QA Findings & Organizational Effectiveness Areas for Improvement, Rev. 2

SAP-1350, Self-Assessment & Benchmarking, Rev. 11

VCS-EPAP-0105, Conduct of Drills & Exercises, Rev. 1

VCS-EPAP-0108, Emergency Action Level (EAL) Reference Manual, Rev. 0

VCS-EPAP-0109, Equipment Related to Emergency Preparedness, Rev. 0A

VCS-EPP-0001, Classification of Emergencies, Rev. 0

VCS-EPP-0001, Attachment 1, EAL Classification Matrix – Unit 1, Rev. 0

Records and Data

08/31/16 Hostile Action Drill with C-ERO Drill & B-Ops Shift, dated 9/21/16
10/12/16 A-ERO Drill & C-Ops Shift, dated 12/7/16
11/09/16 VCS Mini-Scenario to 2016 SCANA Fall (Company-Wide) Cyber/Blackstart Drill with A-ERO Team, dated 1/17/17
02/15/17 B-to-A ERO Turnover Training Drill with A-Ops Shift, dated 3/16/17
07/12/17 D-ERO Training Drill with B-Ops Shift, dated 8/25/17
09/13/17 C-ERO Training Drill with A-Ops Shift, dated 10/30/17
10/04/17 C-ERO Training Drill with D-Ops Shift, dated 11/21/17
10/31/17 NRC Evaluated Exercise with C-ERO Team & D-Ops Shift, dated 12/4/17
12/05/17 Radiological Monitoring Drill, dated 1/18/18
12/06/17 Annual Medical Drill, dated 1/18/18
02/06/18 Full-Scale Drill with D-ERO Team & B-Ops Shift, dated 3/12/18
03/28/18 Training Drill with B-ERO Team & D-Ops Shift, dated 5/11/18
05/23/18 Full-Scale Drill with A-ERO Team & B-Ops Shift, dated 7/2/18
06/19/18 Unannounced Off Hours Facility Augmentation Drill, dated 7/18/18
50.54(q) Qualification records, dated 8/9/18
EITER Equipment Tracking Sheets, 2017-2018
KLD TR-486 VCS Nuclear Station Development of Evacuation Time Estimates Expanded EPZ Boundary, April 2012 Final Report, Rev. 5
KLD TR-998 VCS Nuclear Station 2018 Population Update Analysis Final Report, Rev. 0, dated 4/26/18
Letters of Agreement
QA-AUD-2017-04, Emergency Plan Audit, dated 2/23/17
QA-AUD-2018-05, Emergency Plan Audit, dated 6/15/18
Self-Assessment, EP Exercise & NRC Inspection Readiness, dated 9/11/17

Corrective Action Program Documents

CR-18-00144, Performance during 2018 1Q ERO tabletops
CR-18-00551, Items identified in the 2/6/18 ERO drill
CR-18-00957, Letters of Agreement could not be completed within window for certification
CR-18-01315, Emergency Plan audit inspection discrepancies identified during inspection of the EOF
CR-18-02301, 6/5/18 2Q Emergency Management Oversight Committee meeting & actions
CR-18-01057, Audit identified issues in OSC with the AAP telephone room emergency kits
CR-18-01684, Difference between the planned scenario guide & the actual events
CR-18-01713, Performance during the 2018 2Q ERO tabletops
CR-18-01846, Missed RSPS during the 2Q ERO tabletops – regulatory notification requirement
CR-18-02158, RSPS drill objective was evaluated as “needs improvement”

71151 - Performance Indicator Verification

Procedures

VCS-EPAP-0106 Emergency Preparedness Performance Indicator Procedure. Rev. 2

Records and Data

DEP opportunities documentation for 4th quarter 2017, and 1st and 2nd quarters 2018

Siren test data for 4th quarter 2017, and 1st and 2nd quarters 2018
Drill & exercise participation records of ERO personnel for 4th quarter 2017, and 1st and 2nd quarters 2018

Corrective Action Program Documents

CR-18-02305, EP to evaluate the process for selecting DEP opportunities

71152 - Problem Identification and Resolution

Engineering Information Request 80756: Provide operational criteria for S-321- 001 (Pipe Support Erection Standards) that provides an angular tolerance of +/- 3 degrees for liner supports

60855.1 - Operation of an Independent Spent Fuel Storage Installation (ISFSI)

List of CR's (17) initiated in 2018

List of ISFSI related procedures and Technical Reports

Technical Work Record #DKC2018-05: CR-18-01072-001 States ZWM-25016 Term Block Acceptability on HI-STORM FW Casks

FSAR Chapter 9.1.5.1, Spent Fuel Dry Cask Storage