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

October 29, 2013

Mr. David A. Heacock
President and Chief Nuclear Officer
Virginia Electric and Power Company
Dominion Nuclear
Innsbrook Technical Center
5000 Dominion Boulevard
Glen Allen, VA 23060-6711

SUBJECT: SURRY POWER STATION – NRC INTEGRATED INSPECTION REPORT 05000280/2013004, 05000281/2013004

Dear Mr. Heacock:

On September 30, 2013, the United States Nuclear Regulatory Commission (NRC) completed an inspection at your Surry Power Station Units 1 and 2. On October 9, 2013, the NRC inspectors discussed the results of this inspection with Mr. D. Lawrence and other members of your staff. The inspectors documented the results of this inspection in the enclosed inspection report.

This inspection examined activities conducted under your licenses as they related to safety and compliance with the Commission's rules and regulations and with the conditions of your licenses. The inspectors reviewed selected procedures and records, observed activities, and interviewed personnel.

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

In accordance with Title 10 of the Code of Federal Regulations 2.390, "Public Inspections, Exemptions, Requests for Withholdings," 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 Public Document Room or from the Publicly Available Records (PARS) component of the NRC's Agencywide Documents Access and Management System (ADAMS). ADAMS is accessible from the NRC Web site at http://www.nrc.gov/reading-rm/adams.html (the Public Electronic Reading Room).

Sincerely,

/RA/

Gerald J. McCoy, Chief
Reactor Projects Branch 5
Division of Reactor Projects

Docket Nos.: 50-280, 50-281
License Nos.: DPR-32, DPR-37

Enclosure: Inspection Report 05000280/2013004, 05000281/2013004
w/Attachment: Supplemental Information

cc: Distribution via Listserv

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Letter to David A. Heacock from Gerald J. McCoy dated October 29, 2013

SUBJECT: SURRY POWER STATION – NRC INTEGRATED INSPECTION REPORT 05000280/2013004, 05000281/2013004

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U.S. NUCLEAR REGULATORY COMMISSION

REGION II

Docket Nos.:	50-280, 50-281
License Nos.:	DPR-32, DPR-37
Report No:	05000280/2013004, 05000281/2013004
Licensee:	Virginia Electric and Power Company (VEPCO)
Facility:	Surry Power Station, Units 1 and 2
Location:	5850 Hog Island Road Surry, VA 23883
Dates:	July 1, 2013 through September 30, 2013
Inspectors:	P. McKenna, Senior Resident Inspector R. Cureton, Acting Senior Resident Inspector J. Nadel, Resident Inspector D. Mills, Nuclear Systems Engineer K. Roche, Reactor Operations Engineer
Approved by:	Gerald J. McCoy, Chief Reactor Projects Branch 5 Division of Reactor Projects

Enclosure

SUMMARY OF FINDINGS

IR 05000280/2013004, 05000281/2013004; 07/01/2013–09/30/2013004; Surry Power Station, Units 1 and 2: Routine Integrated Inspection Report.

The report covered a three month period of inspection by resident inspectors. No NRC-identified or self-revealing findings were identified. The NRC's program for overseeing the safe operation of commercial nuclear power reactors is described in NUREG-1649, "Reactor Oversight Process" Revision 4, dated December 2006.

REPORT DETAILS

Summary of Plant Status

Unit 1 operated at or near rated thermal power (RTP) throughout the inspection period.

Unit 2 operated at or near RTP throughout the inspection period.

1. REACTOR SAFETY

Cornerstones: Initiating Events, Mitigating Systems, and Barrier Integrity

1R04 Equipment Alignment

.1 Partial Walkdown

a. Inspection Scope

The inspectors conducted three equipment alignment partial walkdowns to evaluate the operability of selected redundant trains or backup systems, listed below, with the other train or system inoperable or out of service. The inspectors reviewed the functional systems descriptions, Updated Final Safety Analysis Report (UFSAR), system operating procedures, and Technical Specifications (TS) to determine correct system lineups for the current plant conditions. The inspectors performed walkdowns of the systems to verify that critical components were properly aligned and to identify any discrepancies which could affect operability of the redundant train or backup system.

- ‘B' train of the Unit 1 charging system while the 'C' train was inoperable for planned maintenance
- Motor driven fire pump while diesel driven fire pump was inoperable.
- 'B' train of the Unit 1 containment instrument air system while the 'A' containment instrument air dryer was OOS due to a failure.

b. Findings

No findings were identified.

1R05 Fire Protection

.1 Quarterly Fire Protection Reviews

a. Inspection Scope

The inspectors conducted tours of the five areas listed below that are important to reactor safety to verify the licensee’s implementation of fire protection requirements as described in fleet procedures CM-AA-FPA-100, “Fire Protection/Appendix R (Fire Safe Shutdown) Program,” Revision 8, CM-AA-FPA-101, “Control of Combustible and Flammable Materials,” Revision 4, and CM-AA-FPA-102, “Fire Protection and Fire Safe

Shutdown Review and Preparation Process and Design Change Process," Revision 4. The reviews were performed to evaluate the fire protection program operational status and material condition and the adequacy of: 1) control of transient combustibles and ignition sources; 2) fire detection and suppression capability; 3) passive fire protection features; 4) compensatory measures established for out-of-service, degraded or inoperable fire protection equipment, systems, or features; and 5) procedures, equipment, fire barriers, and systems so that post-fire capability to safely shutdown the plant is ensured. The inspectors reviewed the corrective action program to verify fire protection deficiencies were being identified and properly resolved.

- Emergency Service Water Pump House at the Low Level Intake Structure
- Unit 1 Main Steam (MS) Valve House and Auxiliary Feedwater (AFW)/Safeguards Basement
- Unit 2 MS Valve House and AFW/Safeguards Basement
- Unit 2 Cable Spreading Room
- Mechanical Equipment Room #1

b. Findings

No findings were identified.

1R11 Licensed Operator Requalification Program

.1 Resident Inspector Quarterly Review

a. Inspection Scope

LORP Scenario RQ-13.7-SP-1

The inspectors observed and evaluated a licensed operator simulator exercise given on September, 17, 2013. The scenario involved a pressurizer pressure control channel failure, a loss of 480V vital bus concurrent with a loss of a power range nuclear instrument, a loss of main condenser vacuum which required a unit trip, and a small break loss of coolant accident in which the normal path of safety injection fails. This scenario was intended to exercise the entire operations crew and assess the ability of the operators to react correctly to multiple failures. The inspectors observed the crew's performance to determine whether the crew met the scenario objectives; accomplished the critical tasks; demonstrated the ability to take timely action in a safe direction and to prioritize, interpret, and verify alarms; demonstrated proper use of alarm response, abnormal, and emergency operating procedures; demonstrated proper command and control; communicated effectively; and appropriately classified events per the emergency plan. The inspectors observed the post training critique to determine that weaknesses or improvement areas revealed by the training were captured by the instructor and reviewed with the operators.

b. Findings

No findings were identified.

.2 Resident Inspector Observation of Control Room Operations

a. Inspection Scope

During the inspection period, the inspectors conducted observations of licensed reactor operator activities to ensure consistency with licensee procedures and regulatory requirements. For the following activities, the inspectors observed the following elements of operator performance: 1) operator compliance and use of plant procedures including technical specifications; 2) control board component manipulations; 3) use and interpretation of plant instrumentation and alarms; 4) documentation of activities; 5) management and supervision of activities; and 6) control room communications.

- Unit 1 remote start of emergency diesel generator (EDG) #1
- Unit 2 manipulation of all control rods during control testing.
- Unit 1 primary plant dilution for reactivity control.
- Unit 1 deboration for reactivity control.

b. Findings

No findings were identified.

1R12 Maintenance Effectiveness

a. Inspection Scope

For the one equipment issue listed below and the periodic evaluation, the inspectors evaluated the effectiveness of the corresponding licensee's preventive and corrective maintenance. The inspectors performed a detailed review of the problem history and associated circumstances, evaluated the extent of condition reviews, as required, and reviewed the generic implications of the equipment and/or work practice problems. The inspectors performed walkdowns of the accessible portions of the system, performed in-office reviews of procedures and evaluations, and held discussions with system engineers. The inspectors compared the licensee’s actions with the requirements of the Maintenance Rule (10 CFR 50.65), station procedures ER-AA-MRL-10, “Maintenance Rule Program,” Revision 5, and ER-AA-MRL-100, “Implementing the Maintenance Rule,” Revision 6.

- CR 512152, 1-RM-RI-128 containment high range radiation monitor spiking
- Maintenance rule (a)(3) periodic evaluation for time period January 1, 2011, to June 30, 2012

b. Findings

No findings were identified.

1R13 Maintenance Risk Assessments and Emergent Work Control

a. Inspection Scope

The inspectors evaluated, as appropriate, the four activities listed below for the following: 1) the effectiveness of the risk assessments performed before maintenance activities were conducted; 2) the management of risk; 3) that, upon identification of an unforeseen situation, necessary steps were taken to plan and control the resulting emergent work activities; and, 4) that maintenance risk assessments and emergent work problems were adequately identified and resolved. The inspectors verified that the licensee was complying with the requirements of 10 CFR 50.65(a)(4) and the data output from the licensee's safety monitor associated with the risk profile of Units 1 and 2. The inspectors reviewed the corrective action program to verify deficiencies in risk assessments were being identified and properly resolved.

- Unit 1 and Unit 2 risk while the 'A' low head safety injection pump was tagged out for maintenance on July 18, 2013
- Unit 1 and Unit 2 risk during monthly testing of EDG #2 on August 5, 2013
- Unit 1 and Unit 2 risk while Surry County was in a severe thunderstorm warning on August 10, 2013
- Unit 1 and Unit 2 risk while EDG #1 was tagged out for an 18 month maintenance package on August 13, 2013

b. Findings

No findings were identified.

1R15 Operability Evaluations

a. Inspection Scope

The inspectors reviewed the five operability evaluations listed below, affecting risk-significant mitigating systems, to assess as appropriate: 1) the technical adequacy of the evaluations; 2) whether continued system operability was warranted; 3) whether other existing degraded conditions were considered; 4) if compensatory measures were involved, whether the compensatory measures were in place, would work as intended, and were appropriately controlled; and 5) where continued operability was considered unjustified, the impact on TS Limiting Conditions for Operation and the risk significance. The inspectors' review included verification that operability determinations were made as specified in OP-AA-102, "Operability Determination," Revision 10. The inspectors reviewed the licensee's corrective action program to verify deficiencies in operability determinations were being identified and corrected.

- CR 518985, 2-MS-TV-220, Unit 2 TDAFW pump turbine trip valve, observed in an abnormal position.
- CR 522448, EDG #1 lube oil circulating pump found not running
- CR 524610, 1-SW-P-1C, emergency service water pump low shaft speed

- CR 523010, EDG #1 exhaust expansion joint hole
- CR 525007, Low areas in James River intake channel

b. Findings

No findings were identified.

1R18 Plant Modifications

.1 Temporary Modifications

a. Inspection Scope

The inspectors reviewed temporary modification, S2-13-126, "Install Tye Wrap on Terry Turbine Trip/Throttle Valve" to verify that the modification did not affect system operability or availability as described by the TS and UFSAR. In addition, the inspectors verified that the temporary modification was in accordance with CM-AA-TDC-204, "Temporary Modifications," Revision 3, and for the related work package, that adequate controls were in place, procedures and drawings were updated, and post-installation tests verified the operability of the affected systems.

b. Findings

No findings were identified.

.2 Permanent Modifications

a. Inspection Scope

The inspectors reviewed the completed permanent plant modification design change package (DCP) SU-08-0013, "Auxiliary Feedwater Cross-tie MOV and Actuator Modification." The inspectors conducted walkdowns of the completed modification, reviewed the 10 CFR 50.59 Safety Review/Regulatory Screening, technical drawings, test plans, and the modification package to assess the TS implications. The inspectors also verified that the permanent modification was in accordance with licensee procedure CM-AA-DDC-201, "Design Changes," Revision 11; VPAP-0301, "Design Change Process," Revision 31; and for the related work package, that adequate controls were in place, procedures and drawings were updated, and post-installation tests verified the operability of the affected systems. In addition, the inspectors reviewed calculations and conducted interviews with licensee personnel.

b. Findings

No findings were identified.

1R19 Post Maintenance Testing

a. Inspection Scope

The inspectors reviewed five post maintenance test procedures and/or test activities for selected risk-significant mitigating systems listed below, to assess whether: 1) the effect of testing on the plant had been adequately addressed by control room and/or engineering personnel; 2) testing was adequate for the maintenance performed; 3) acceptance criteria were clear and adequately demonstrated operational readiness consistent with design and licensing basis documents; 4) test instrumentation had current calibrations, range, and accuracy consistent with the application; 5) tests were performed as written with applicable prerequisites satisfied; 6) jumpers installed or leads lifted were properly controlled; 7) test equipment was removed following testing; and 8) equipment was returned to the status required to perform in accordance with VPAP-2003, “Post Maintenance Testing Program,” Revision 14.

- 2-OPT-CH-003, Rev. 56, Charging Pump Operability and Performance Test for 1-CH-P-1C, following a comprehensive mechanical and electrical maintenance package on the 'C' charging pump
- 0-ECM-1404-04, Rev. 6, Motor Verification and Load Checks, following maintenance on the vent stack #2 radiation monitor vacuum pump 1-VG-P-1
- 0-IPM-MS-RM-001, Rev. 11, Steam Generator N-16 Leakrate Monitor Calibration, following a physical adjustment of the detector after it was found outside the proximity band to the steam piping
- 1-OPT-EG-009, Rev. 50, Number 1 Emergency Diesel Generator Major Maintenance Operability Test, following 18-month maintenance package
- 0-OPT-FP-009, Rev. 22, Diesel Driven Fire Protection Water Pump 1-FP-P-2, following overspeed trip adjustment

b. Findings

No findings were identified.

1R22 Surveillance Testing

a. Inspection Scope

For the seven surveillance tests listed below, the inspectors examined the test procedures, witnessed testing, or reviewed test records and data packages, to determine whether the scope of testing adequately demonstrated that the affected equipment was functional and operable, and that the surveillance requirements of TS were met. The inspectors also determined whether the testing effectively demonstrated that the systems or components were operationally ready and capable of performing their intended safety functions.

In-Service Testing:

- 1-OPT-CH-002, Rev. 55, Charging Pump Operability and Performance Test for 1-CH-P-1B

Surveillance Testing:

- 0-OPT-EG-006, Rev. 8, EDG Compressor Discharge Valve Leak Test
- 0-OPT-VS-002, Rev. 30, Auxiliary Building Filter Exhaust Fan Testing
- 1-OPT-RX-005, Rev. 28, Control Rod Assembly Partial Movement
- 0-OPT-SW-002, Rev. 55, Emergency Service Water Pump 1-SW-P-1B Test
- 0-EPT-0104-01, Rev. 15, 2B Semi-Annual Station Battery Test

RCS Leak Rate Determination

- 1-OPT-RC-10.0, Rev. 43, Reactor Coolant Leakage - Computer Calculated

b. Findings

No findings were identified.

1EP6 Drill Evaluation

Emergency Preparedness (EP) Drill

a. Inspection Scope

On September 17, 2013, the inspectors reviewed and observed a licensee simulator-based licensed operator requalification training evolution involving a pressurizer pressure control channel failure, a loss of 480V vital bus concurrent with a loss of a power range nuclear instrument, a loss of main condenser vacuum which required a unit trip, and a small break loss of coolant accident in which the normal path of safety injection fails. The inspectors assessed the licensee emergency procedure usage, emergency plan classifications, and notifications. The inspectors observed the post training critique to determine that weaknesses or improvement areas revealed by the training were captured by the instructor and reviewed with the operators.

b. Findings

No findings were identified.

4. OTHER ACTIVITIES

4OA1 Performance Indicator (PI) Verification

a. Inspection Scope

The inspectors performed a periodic review of four Unit 1 and 2 PIs to assess the accuracy and completeness of the submitted data and whether the performance indicators were calculated in accordance with the guidance contained in NEI 99-02, "Regulatory Assessment Performance Indicator Guideline," Revision 6. The inspection was conducted in accordance with NRC Inspection Procedure 71151, "Performance Indicator Verification." Specifically, the inspectors reviewed the Unit 1 and Unit 2 data reported to the NRC for the period July 1, 2012, through June 30, 2013. Documents reviewed are listed in the Attachment.

- Unit 1 Auxiliary Feedwater MSPI
- Unit 2 Auxiliary Feedwater MSPI
- Unit 1 Emergency AC Power MSPI
- Unit 2 Emergency AC Power MSPI

b. Findings

No findings were identified.

4OA2 Identification and Resolution of Problems

.1 Daily Reviews of items Entered into the Corrective Action Program

a. Inspection Scope

As required by NRC 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 review was accomplished by reviewing daily CR report summaries and periodically attending daily CR Review Team meetings.

b. Findings

No findings were identified.

.2 Annual Sample: Review of CR 483763, Inadvertent Train A Hi-Hi Consequence Limiting System (CLS) Actuation Due to Latching Relay Replacement in a Supervised Circuit

a. Inspection Scope

The inspectors performed an in-depth review of the licensee's root cause analysis and corrective actions associated with CR 483763, the inadvertent train A Hi-Hi CLS actuation due to a latching relay replacement in a supervised circuit. Specifically, the inadvertent Hi-Hi CLS actuation occurred while the licensee's was clearing tags in preparation for the post modification testing (PMT) after the design change was installed. The inspectors assessed the licensee's problem identification threshold, cause analyses, extent of condition reviews, compensatory actions, and the prioritization and timeliness of the licensee's corrective actions to determine whether the licensee was appropriately identifying, characterizing, and correcting problems associated with this issue and whether the planned or completed corrective actions were appropriate. The inspectors compared the actions taken to the requirements of the licensee's corrective action program (CAP) as specified in procedure, PI-AA-200, "Corrective Action Program," Revision 21 and 10 CFR 50, Appendix B. In addition, the inspectors reviewed the corrective action program for similar issues, and interviewed engineering personnel to assess the effectiveness of the implemented corrective actions.

b. Findings and observations

No findings were identified.

Surry determined that the root cause was that the engineering risk analysis (ERA) performed for this modification failed to eliminate or mitigate all potential adverse consequences for the HI-HI CLS relay replacement. Additionally, the ERA did not consider the partial engineered safeguards features (ESF) actuation a credible event due to the low probability of occurrence. Lifting one lead on a relay could have eliminated the consequences of this event, but it was not considered during the modification planning and risk analysis. The licensee's corrective actions centered on procedural changes in their design changes and ERA procedures to provide for a higher focus on consequences than on probability in risk assessments. The inspectors reviewed the procedural changes and all condition reports associated with the inadvertent HI-HI CLS activation to verify that the corrective actions taken were effective. The inspectors did not identify any additional issues from this review. The inspectors determined the licensee's evaluation of the issue appropriately identified the root and contributing causes. Additionally, the inspectors determined that the corrective actions developed as a result of the root cause analysis were reasonable commensurate with the safety significance of the ESF systems.

.3 Semi-Annual Trend Review

a. Inspection Scope

The inspectors performed a review of the licensee's correction action program documents to identify trends that could indicate the existence of a more significant safety

issue. The inspectors' review was focused on repetitive equipment and corrective maintenance issues, but also considered the results of daily inspector corrective action program item screening discussed in Section 4OA2.1. The review included issues documented outside the normal correction action program in system health reports, corrective maintenance work orders, component status reports, site monthly meeting reports, and maintenance rule assessments. The inspectors' review nominally considered the six month period of January through June, 2013, although some examples expanded beyond those dates when the scope of the trend warranted.

The inspectors compared and contrasted their results with the results contained in the licensee's latest integrated assessment reports. Corrective actions associated with a sample of the issues identified in the licensee's trend report were reviewed for adequacy.

b. Assessment and Observations

No findings of significance were identified. In general, the licensee has identified trends and has addressed the trends with their corrective action program. No new adverse trends were identified this period that had not already been identified by the licensee.

4OA3 Event Follow-up

(Closed) Licensee Event Report, 05000281/2013-002-00, Partially Open Valve Results in Pump Inoperability that Exceeded Technical Specifications Actions

At 21:00 on June 23, 2013, with both Unit 1 and Unit 2 operating at 100%, an operator identified a discrepancy with the valve position on the Unit 2 turbine driven auxiliary feedwater (TDAFW) pump turbine trip throttle valve. The licensee's investigation determined that vibrations from the infrequently run "B" motor driven auxiliary feedwater (MDAFW) pump caused the valve to move in the closed direction. The licensee determined the apparent cause of the Unit 2 trip throttle valve abnormal position was thread wear between the screw spindle (stem) and sliding nut. The licensee's corrective action included securing the trip throttle valve handwheel in the open position with a securing device and a future action to inspect the thread fit between the spindle and sliding nut in the Unit 2 TDAFW pump turbine trip throttle valve and repair as necessary. The inspectors reviewed the LER, the licensee's apparent cause analysis, and corrective action documents to verify the accuracy of the LER and that the corrective actions were appropriate. This LER is in the licensee's CAP as CR519812. No findings or violations were identified.

4OA5 Other Activities

.1 Quarterly Resident Inspector Observations of Security Personnel and Activities

a. Inspection Scope

During the inspection period, the inspectors conducted observations of security force personnel and activities to ensure that the activities were consistent with the licensee

security procedures and regulatory requirements relating to nuclear plant security. These observations took place during both normal and off-normal plant working hours.

These quarterly resident inspector observations of security force personnel and activities did not constitute any additional inspection samples. Rather, they were considered an integral part of the inspectors' normal plant status review and inspection activities.

b. Findings

No findings were identified.

4OA6 Meetings, Including Exit

Exit Meeting Summary

On October 9, 2013, the inspection results were presented to Mr. D. Lawrence and other members of your staff, who acknowledged the findings. 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. Eggart, Manager, Radiation Protection & Chemistry
B. Garber, Supervisor, Station Licensing
A. Harrow, Manager, Organizational Effectiveness
L. Hilbert, Manager, Outage and Planning
R. Johnson, Manager, Operations
L. Lane, Site Vice President
D. Lawrence, Director, Station Safety and Licensing
C. Olsen, Director, Station Engineering
J. Rosenberger, Nuclear Site Engineering
R. Scanlan, Manager, Maintenance
K. Sloane, Plant Manager
M. Smith, Manager, Nuclear Oversight
N. Turner, Supervisor, Emergency Preparedness
M. Walker, Maintenance Rule Coordinator

LIST OF ITEMS OPENED, CLOSED AND DISCUSSED

Closed

05000281/2013-002-00	LER	Partially Open Valve Results in Pump Inoperability that Exceeded Technical Specifications Actions (Section 4OA3)

List of Documents Reviewed

Section 1R04: Equipment Alignment

Procedures
1-OP-46.2C, Instrument Air System Alignment, Rev. 48
1-OP-52.2A, Fire Protection System Alignment, Rev. 13

Drawings
11448-FM-075J, Flow/Valve Operating Numbers Diagram, Containment Instrument Air System, Rev. 45
11448-FM-088B, Flow/Valve Operating Numbers Diagram, Chemical and Volume Control System, Rev. 15

Section 1R05: Fire Protection

Procedures
1-FS-FP-126, Mechanical Equipment Room - Unit 1 Elevation 45 Feet - 3 inches, Rev. 3
2-FS-FP-127, Cable Spreading Room - Unit 2 Elevation 45 Feet – 3 inches, Rev. 3
1-FS-FP-140, Safeguards Basement – Unit 1 Elevation 11 Feet – 6 Inches, Rev. 2
2-FS-FP-140, Safeguards Basement – Unit 2 Elevation 11 Feet – 6 Inches, Rev. 3

1-FS-FP-141, Safeguards Spray Side – Unit 1 Elevation 27 Feet – 6 Inches, Rev. 2

Attachment

2-FS-FP-141, Safeguards Spray Side – Unit 2 Elevation 27 Feet – 6 Inches, Rev. 2
1-FS-FP-142, Main Steam Valve House and AFW – Unit 1 Elevation 27 Feet – 6 Inches, Rev. 1
2-FS-FP-142, Main Steam Valve House and AFW – Unit 2 Elevation 27 Feet – 6 Inches, Rev. 1
0-FS-FP-211, Emergency Service Water Pump House – Low Level Elevation 18 Feet, Rev. 2

Section 1R11: Licensed Operator Requalification Program

Procedures

1-AP-10.07, Loss of Unit 1 Power, Rev. 67
1-AP-14.00, Loss of Condenser Vacuum, Rev.14
1-AP-16.00, Excessive RCS Leakage, Rev. 19
1-AP-31.00, Increasing or Decreasing RCS Pressure, Rev. 19
1-E-0, Reactor Trip or Safety Injection, Rev. 67
1-E-1, Loss of Reactor or Secondary Coolant, Rev. 39

Other Documents

RQ-13.7-SP-1, Pressurizer Pressure Control Channel Failure, Loss of 1H1-2 48V Emergency Bus Coincident with Loss of N-43, Loss of Condenser Vacuum, SBLOCA with Failure of 1867C/D to Auto Open, Rev. 0

Section 1R12: Maintenance Effectiveness

Procedures

ER-AA-MRL-10, Maintenance Rule Program, Rev. 5
ER-AA-MRL-100, Implementing Maintenance Rule, Rev. 6

Condition Reports

430784	430520	430521	481907	484118	512152
522580	519844	517696	516893	516884	497024

Other Documents

SAR001763, Surry Power Station Maintenance Rule (a)(3) Formal Self-Assessment, 10/26/13
SU-VTM-000-38-V659-00004, Installation, Operation and Maintenance Instruction Manual – High Range Containment Monitor Model 875, 06/01/06

Section 1R15: Operability Determinations and Functionality Assessments

Procedures

0-AP-12.01, Loss if Intake Canal Level, Rev. 29
0-MCM-0703-01, Emergency Service Water Pump Diesel Engine Service and Inspection, Rev. 24
0-OPT-SW-003, Emergency Service Water Pump, Rev. 48
0-OPT-SW-009, Emergency Service Water Pump, Rev. 14

Condition Reports

523010
525007
527457
527890

Drawings
4977-00-35-01, Condition Survey of Entrance Channel to Intake Flume Surry Nuclear Power Plant, 09/03/13

Other Documents
ESI-EMD Diesel Generator Owners Group Lube Oil Issue and Guidance Document, Rev. 2
ETE-SU-2013-0041, EDG #1 Exhaust Collar Removal/Reinstallation, Rev. 0
ETE-SU-2013-0042, EDG #1 Expansion Joint Defect, Rev. 0
ME-0166, Surry Power Station Intake Canal Inventory, Rev. 3
ME-0652, Pipe 2000 Model of Abnormal Procedure AP12.01 Flow Alignment, Rev. 0

Section 1R18: Plant Modifications
Procedures
CM-AA-RSK-10001, Engineering Risk Assessment, Rev. 8
CM-AA-400, 10 CFR 50.59 and 10CFR 42.78 – Changes, Tests, and Experiments, Rev. 2
2-OPT-FW-003, Turbine Driven Auxiliary Feedwater Pump Surveillance Test, Rev. 51
CM-AA-DDC-201, "Design Changes," Rev. 11
VPAP-0301, "Design Change Process," Rev. 31

Temporary Modifications
S2-13-126, 2-MS-TV-220 Handwheel Position

Permanent Modifications
DCP-SU-08-0013, Auxiliary Feedwater Cross-Tie MOV Valve and Actuator Modification

Vendor Tech Manuals
SU-VTM-000-38-G005-00001, Operating Instructions Easy Flow Body Combined Trip Throttle Valve

Condition Reports
518985

Work Orders
38103390363
38103390391

Section 1R19: Post Maintenance Testing
Procedures
0-MPT-0704-01, Diesel Fire Pump Engine Inspection, Rev. 17
0-OP-FP-003, Administrative Control of 1-FP-36 or 1-FP-37, Rev. 15
0-OPT-FP-009, Diesel Driven Fire Protection Water Pump 1-FP-P-2, Rev. 22
1-OPT-EG-009, Number 1 Emergency Diesel Generator Major Maintenance Operability Test, Rev. 50
1-OPT-EG-010, Number 1 EDG Overspeed Trip Test, Rev. 18

Condition Reports
523246
523968

Maintenance Orders/Work Orders
38103150156
38103153377
38103353411
38103403681

Other Documents
ET-S-97-0235, Diesel Driven Fire Pump Speed, Rev. 0
ET-S-07-0026, Diesel Driven Fire Pump Speed Setting for 0-OPT-FP-009, Rev. 0

Section 1R22: Surveillance Testing

Procedures
0-EPT-0104-01, Semi-annual Station Battery Test, Rev. 15

Condition Reports
524849
524851
524819
525995

Maintenance Orders/Work Orders
38103271739

Section 1EP6: Drill Evaluation

Procedures
EPIP-1.01, Emergency Manager Controlling Procedure, Rev.55
EPIP-1.03, Response to an Alert, Rev. 22
EPIP-2.01, Notification of State and Local Governments, Rev. 42

Section 4OA1: Performance Indicator Verification

Procedures
ER-AA-SPI-1001, Implementation of the Consolidated Data Entry (CDE) Reporting for Mitigating System Performance Index (MSPI), Rev. 2
ER-AA-SPI-1002, Maintaining the MSPI Basis Document, Rev. 1

Other Documents
Monthly PI Reports with Associated Data, July 2012 to June 2013
Technical Report SE-0006, NRC MSPI Basis Document Surry Power Station, Rev. 1

Section 4OA2: Identification and Resolution of Problems

Procedures
CM-AA-DDC-201, Design Changes, Rev. 11
CM-AA-DDC-301, Post Design Change Testing, Rev. 3
CM-AA-ECR-1001, Engineering Challenge Reviews, Rev. 3
CM-AA-RSK-1001, Engineering Risk Assessment, Rev. 8
WM-AA-301, Operational Risk Assessment, Rev 10

Condition Reports
498410
428780
400908
400920
383847
381146

Other Documents
ACE 018415, Inadvertent Unit 1, “A” Train HI-CLS and SI, 03/17/11
ACE 018690, Unit 2 experienced a Train “B” SI during 2-PT-8.4 testing, 10/20/11
Audit 13-05, Corrective Action and Independent Review Activities, 07/30/13
Nuclear Oversight – Surry Site Vice President Briefs, 01/08/2013 – 09/03/13
Nuclear Oversight Department Current Open Issues/AFIs, 09/13
RCE 001092, Inadvertent Train “A” Hi-Hi CLS Actuation Due to Latching Relay Replacement in a Supervised Circuit, 03/04/13
RP, SI, and CLS Relay Strategic Plan

LIST OF ACRONYMS

ADAMS	Agencywide Document Access and Management System
AFW	Auxiliary Feedwater
CA	Corrective Action
CAP	Corrective Action Program
CDE	Consolidated Data Entry
CFR	Code of Federal Regulations
CR	Condition Report
CLS	Consequence Limiting System
EDG	Emergency Diesel Generator
EP	Emergency Preparedness
ERA	Engineering Risk Analysis
ESF	Engineered Safety Function
LER	Licensee Event Report
LOCA	Loss of Coolant Accident
MDAFW	Motor Driven Auxiliary Feedwater
MOV	Motor Operated Valve
MS	Main Steam
MSPI	Mitigating Systems Performance Index
NEI	Nuclear Energy Institute
NRC	Nuclear Regulatory Commission
PARS	Publicly Available Records
PI	Performance Indicator
PMT	Post Maintenance Test
RCE	Root Cause Evaluation
RCS	Reactor Coolant System
RP	Reactor Protection
RTP	Rated Thermal Power
SI	Safety Injection
TDAFW	Turbine Driven Auxiliary Feedwater
TS	Technical Specifications
UFSAR	Updated Final Safety Analysis Report
VEPCO	Virginia Electric and Power Company
WO	Work Order

Attachment