

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

April 23, 2018

Mr. Daniel Stoddard Senior Vice President and Chief Nuclear Officer Innsbrook Technical Center 5000 Dominion Boulevard Glen Allen, VA 23060-6711

SUBJECT: SURRY POWER STATION – NUCLEAR REGULATORY COMMISSION INTEGRATED INSPECTION REPORT 05000280/2018001 AND 05000281/2018001

Dear Mr. Stoddard:

On March 31, 2018, the United States Nuclear Regulatory Commission (NRC) completed an inspection at your Surry Power Station, Units 1 and 2. On April 12, 2018, the NRC inspectors discussed the results of this inspection with Mr. R. Simmons, Surry Plant Manager, and other members of your staff. The inspectors documented the results of this inspection in the enclosed inspection report.

The NRC inspectors did not identify any finding or violation of more than minor significance.

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**/

Steven D. Rose, Chief Reactor Projects Branch 4 Division of Reactor Projects

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

Enclosure: Inspection Report 05000280/2018001 and 05000281/2018001

cc w/ encl: Distribution via ListServ

D. Stoddard

SUBJECT: SURRY POWER STATION – NUCLEAR REGULATORY COMMISSION INTEGRATED INSPECTION REPORT 05000280/2018001 AND 05000281/2018001 April 23, 2018

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|--------|-----------|-----------|-----------|-----------|-----------|--|
| NAME | PMcKenna | CRead | DJackson | JDodson | SRose | |
| DATE | 4/16/2018 | 4/16/2018 | 4/23/2018 | 4/18/2018 | 4/20/2018 | |

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U.S. NUCLEAR REGULATORY COMMISSION Inspection Report

| Docket Numbers: | 50-280, 50-281 |
|------------------------|--|
| License Numbers: | DPR-32, DPR-37 |
| Report Numbers: | 05000280/2018001 and 05000281/2018001 |
| Enterprise Identifier: | I-2018-001-0065 |
| Licensee: | Virginia Electric and Power Company (VEPCO) |
| Facility: | Surry Power Station, Units 1 and 2 |
| Location: | 5850 Hog Island Road Surry, VA 23883 |
| Inspection Dates: | January 1, 2018 – March 31, 2018 |
| Inspectors: | P. McKenna, Senior Resident Inspector C. Read, Resident Inspector |
| Approved By: | Steven D. Rose, Chief Reactor Projects Branch 4 Division of Reactor Projects |

SUMMARY

The U.S. Nuclear Regulatory Commission (NRC) continued monitoring licensee's performance by conducting a quarterly integrated inspection at Surry Power Station, Units 1 and 2, 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

None.

| Туре | Issue number | Title | Report | Status |
|------|----------------------|---------------------------------|---------|--------|
| | | | Section | |
| LER | 05000280/2018-001-00 | Loss of 4160 Volt Emergency | 71153 | Closed |
| | | Bus and Start of Emergency | | |
| | | Diesel Generator due to Opening | | |
| | | Emergency Bus Potential | | |
| | | Transformer Drawer | | |

Additional Tracking Items

PLANT STATUS

Unit 1 operated at or near 100 percent rated thermal power for the entire inspection period.

Unit 2 began the inspection period at or near 100 percent rated thermal power. On January 6, 2018, the unit was down powered to 75 percent due to clogging of the trash racks in the high level intake structure. The unit was returned to full rated thermal power on January 7, 2018, and remained at or near full rated thermal power for the remainder of the 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 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

Impending Severe Weather (1 Sample)

The inspectors evaluated readiness for impending adverse weather conditions for extreme cold and snow during period of January 2 – January 4, 2018.

71111.04 - Equipment Alignment

Partial Walkdown (4 Samples)

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

- (1) Number 1 and 2 emergency diesel generators (EDGs) while number 3 EDG was out of service for a four-day maintenance availability.
- (2) "B" main control room (MCR) and emergency switchgear room (ESGR) chilled water loop while "A" MCR and ESGR chilled water loop was inoperable.
- (3) Unit 2 charging component cooling water following performance testing of the Unit 2 charging component cooling water pumps.
- (4) Unit 2 containment spray (CS) system following performance testing of CS pumps.

Complete Walkdown (1 Sample)

The inspectors evaluated system configurations during a complete walkdown of the Unit 1 auxiliary feedwater (AFW) system.

71111.05AQ - Fire Protection Annual/Quarterly

Quarterly Inspection (5 Samples)

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

- (1) Unit 2 Safeguards Building
- (2) Unit 1 Safeguards Building
- (3) Unit 1 and Unit 2 Battery Rooms
- (4) Unit 1 and Unit 2 Fuel Oil Pump Rooms
- (5) Mechanical Equipment Rooms (MERs) 3, 4, and 5

Annual Inspection (1 Sample)

The inspectors evaluated fire brigade performance on February 26, 2018, during a simulated fire in the Unit 1 turbine building basement in the main turbine air side oil cooler.

71111.11 - Licensed Operator Regualification Program and Licensed Operator Performance

Operator Requalification (1 Sample)

The inspectors observed and evaluated a simulator scenario involving a loss of the "D" transfer bus, flooding from bearing cooling water, loss of bearing cooling water, faulted steam generator inside containment with automatic HI-HI consequence limiting system failure with an alert declaration on January 23, 2018.

Operator Performance (1 Sample)

The inspectors observed and evaluated licensed operator performance in the main control room during 2-OPT-RX-005, "Unit 2 Control Rod Assembly Partial Movement Test," on January 9, 2018; 2-OSP-TM-004, "Unit 2 Turbine Trip Test," on January 11, 2018; 2-OP-CS-006, "Unit 2 Containment Spray MOV Stroke Testing," on January 25, 2018; and switching from manual to automatic control of the 'B' main feedwater control valve during troubleshooting of the valve and controller on March 7, 2018.

71111.12 - Maintenance Effectiveness

Routine Maintenance Effectiveness (1 Sample)

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

(1) Station service and instrument air systems

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) Unit 1 and Unit 2 risk while divers were cleaning the Unit 2 high level intake structure and operators had to reduce power on Unit 2 to 75 percent with the "D" main condenser waterbox out of service, on January 6 to 8, 2018
- (2) Unit 1 and Unit 2 risk during the inadvertent loss of the 1J bus and the emergency start of number 3 EDG, on January 17, 2018
- (3) Unit 1 and Unit 2 risk while performing major preventative maintenance on number 3 EDG, on February 11 to 15, 2018
- (4) Unit 1 and Unit 2 risk during the unplanned inoperability of the "A" train of MCR and ESGR chilled water, on February 26 to 28, 2018
- (5) Unit 2 risk while replacing an "H" bus degraded voltage relay, on March 14, 2018

71111.15 - Operability Determinations and Functionality Assessments (3 Samples)

The inspectors evaluated the following operability determinations and functionality assessments:

- (1) CR 1089409, Circulating water system isolation motor operated valve (MOV) as-found opening running current exceeded engineering technical evaluation value.
- (2) CR 1088716, CS MOVs leaking refueling water storage tank (RWST) water into the containment sump.
- (3) CR 1090799, "A" Train of MCR and ESGR chilled water cross-tie with central chilled water system unprotected from tornado missile hazard in cable spreading room.

71111.19 - Post Maintenance Testing (7 Samples)

The inspectors evaluated the following post-maintenance tests:

- (1) 0-MPM-0204-01, "Instrument Air Dryer Valves, Desiccant, and Cartridge Maintenance," Revision 15, after the completion of a maintenance package on the Unit 2 "D-1" instrument air dryer, on January 16, 2018.
- (2) 2-IPT-CC-CW-L-202, "Intake Canal Level Probe 2-CW-LS-202 Time Response Test and Channel Calibration," Revision 13, after channel 3 probe replacement due to probe failure, on January 25, 2018.
- (3) 0-OP-VS-006, "Control Room and Relay Room Ventilation System," Revision 72, after the completion of a maintenance package on the "B" MCR Chiller, on January 30, 2018.
- (4) 0-OPT-EG-009, "Number 3 Emergency Diesel Generator Major Maintenance Operability Test," Revision 59, following the completion of a 18-month periodicity maintenance package on number 3 EDG, on February 14, 2018.
- (5) 1-OPT-FW-003, "Turbine Driven Auxiliary Feedwater Pump Performance Test," Revision 53, after the completion of the Unit 1 turbine driven auxiliary feed water pump maintenance package, on February 21, 2018.
- (6) 1-PT-18.8, "Charging Pump Service Water Performance Test," Revision 38, after the completion of a Unit 1 charging service water (SW) pump maintenance package, on March 1, 2018.

(7) 2-PT-2.33A, "Emergency Bus Undervoltage and Degraded Protection Test "H" Train, Revision 7, following the replacement of a failed degraded voltage relay, on March 14, 2018.

71111.22 - Surveillance Testing

The inspectors evaluated the following surveillance tests:

Routine (3 Samples)

- (1) 2-OPT-CS-006, "Unit 2 RWST Chemical Addition Tank and Containment Spray System MOV Stroke Test," Revision 17, on January 25, 2018.
- (2) 1-OPT-EG-001, "Number 1 Emergency Diesel Generator Monthly Start Exercise Test," Revision 70, on February 5, 2018.
- (3) 1-OPT-CH-003, "Charging Pump Operability and Performance Test for 1-CH-P-1C," Revision 61, on March 9, 2018.

In-service (1 Sample)

(1) 1-OPT-SI-005, "Unit 1 Low Head Safety Injection Pump Test," Revision 33, on January 10, 2018

71114.06 - Drill Evaluation

Emergency Planning Drill (1 Sample)

The inspectors evaluated a licensee emergency planning drill involving dropped control rod, fuel damage, loss of coolant accident, and radiological release leading to a General Emergency declaration on March 27, 2018.

OTHER ACTIVITIES – BASELINE

71151 - Performance Indicator Verification (6 Samples)

The inspectors verified licensee performance indicators submittals listed below for the period from January 1, 2017 through December 31, 2017.

- (1) Units 1 and 2 Unplanned Scrams per 7000 Critical Hours
- (2) Units 1 and 2 Unplanned Scrams with Complications
- (3) Units 1 and 2 Unplanned Power Changes per 7000 Critical Hours

71152 - Problem Identification and Resolution

<u>Semiannual Trend Review</u> (1 Sample)

The inspectors reviewed the licensee's corrective action program for trends that might be indicative of a more significant safety issue.

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

Licensee Event Reports (1 Sample)

The inspectors evaluated the following licensee event report which can be accessed at <u>https://lersearch.inl.gov/LERSearchCriteria.aspx</u>:

(1) Licensee Event Report (LER) 05000280/2018-001-00, Loss of 4160 Emergency Bus and Start of Emergency Diesel Generator due to Opening Emergency Bus Potential Transformer Drawer, on January 17, 2018.

INSPECTION RESULTS

| Observation | 71152 |
|---|------------|
| The inspectors performed a review of the licensee's corrective action program do | cuments to |
| identify trends that could indicate the existence of a more significant safety issue. | The |
| inspectors' review was focused on repetitive equipment and corrective maintenan | ce issues, |
| but also considered the results of daily inspector corrective action program item se | creening. |
| The review included issues documented outside the normal correction action proc | gram in |
| system health reports, corrective maintenance work orders, component status rep | orts, site |
| monthly meeting reports, and maintenance rule assessments. The inspectors' rev | view |
| nominally considered the six month period of July through December, 2017, altho | ugh some |
| examples extended 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 condition report trending/human performance trends. Corrective actions associated with a sample of the issues identified in the licensee's trend report were reviewed for adequacy. 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.

| Observation | 71153 |
|--|------------------|
| The licensee conducted an Apparent Cause Evaluation (ACE) and determined the | 9 |
| operations team, while reviewing the electrical tag-out walkdown task, did not ade | quately |
| perceive and manage the risk of opening the 1J emergency bus potential transfor | mer |
| drawer under the existing plant conditions. Therefore, contingencies, stop criteria | , and other |
| risk mitigation actions were not established. Additionally, the operator who opene drawer did not understand the impact to the 1 Lemorganay bus LIV econoring circuit | d the |
| opening the 1 lemergency bus potential transformer drawer. The inspectors revi | when ewed the |
| LER, the associated ACE and corrective actions, and interviewed licensee staff. | This LER is |
| closed. | |
| | |

EXIT MEETINGS AND DEBRIEFS

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

On April 12, 2018, the inspector presented the quarterly resident inspector inspection results to R. Simmons, Surry Plant Manager, and other members of the licensee staff.

DOCUMENTS REVIEWED

IP 71111.01: Adverse Weather Protection

<u>Procedures</u> 0-OP-ZZ-021, Severe Weather Preparation, Rev. 19

Condition Reports

| 1086901 | 1086910 | 1086911 | 1086930 | 1086933 | 1086939 |
|---------|---------|---------|---------|---------|---------|
| 1086946 | 1086948 | 1086949 | 1087126 | 1087190 | 1087227 |
| 1087253 | 1087277 | 1087278 | 1087343 | 1087344 | 1087506 |

IP 71111.04: Equipment Alignment

Procedures

0-OP-VS-006A, Control Room and Relay Room Ventilation System Alignment, Rev. 13 1-OP-EG-001A, EDG 1 System Alignment, Rev. 14 1-OP-FW-001A, Auxiliary Feedwater System Valve Alignment, Rev. 7 2-OP-51.5A, Charging Pump CC & SW Systems Valve Alignment, Rev. 17 2-OP-EG-001A, EDG 2 System Alignment, Rev. 14 2-OP-CS-001A, Containment Spray System Alignment, Rev. 7

<u>Condition Reports (*NRC Identified)</u>

*1087624 *1089170 *1091603 *1091572

<u>Drawings</u>

11448-FB-041A, Flow/Valve Operating Numbers Diagram Chilled Water Systems, Sheet 1, Rev. 38; Sheet 2, Rev. 72; Sheet 3, Rev. 72

- 11448-FM-068A, Flow/Valve Operating Numbers Diagram Feedwater System, Sheet 1, Rev. 65; Sheet 3, Rev. 66; Sheet 4, Rev. 30
- 11548-FM-071B, Flow/Valve Operating Numbers Diagram Circulating and Service Water System, Sheet 1, Rev. 67; Sheet 2, Rev. 34

IP 71111.05: Fire Protection

Procedures

- 0-FS-FP-115, Mechanical Equipment Room #3 Elevation 9 Feet 6 Inches, Rev. 4
- 0-FS-FP-125, Mechanical Equipment Room #4 Elevation 9 Feet 6 Inches, Rev. 0
- 0-FS-FP-186, Fuel Oil Pump House A Elevation 16 Feet, Rev. 1
- 0-FS-FP-187, Fuel Oil Pump House B Elevation 16 Feet, Rev. 1
- 0-FS-FP-224, Mechanical Equipment Room #5 Elevation 27 Feet 6 Inches, Rev. 4
- 1-FS-FP-109, Battery Room 1A Elevation 9 Feet 6 Inches, Rev. 3
- 1-FS-FP-110, Battery Room 1B Elevation 9 Feet 6 Inches, Rev. 1
- 1-FS-FP-139, Safeguards Valve Pit Unit 1 Elevation 28 Feet 6 Inches, 19 Feet 6 Inches, and 12 Feet, Rev. 2
- 1-FS-FP-140, Safeguards Basement Unit 1 Elevation 11 Feet 6 Inches, Rev. 2
- 1-FS-FP-141, Safeguards Spray Side Unit 1 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-109, Battery Room 2A Elevation 9 Feet 6 Inches, Rev. 3
- 2-FS-FP-110, Battery Room 2B Elevation 9 Feet 6 Inches, Rev. 4

2-FS-FP-139, Safeguards Valve Pit – Unit 2 Elevation 28 Feet - 6 Inches, 19 Feet - 6 Inches, and 12 Feet, Rev. 1
2-FS-FP-140, Safeguards Basement - Unit 2 Elevation 11 Feet - 6 Inches, Rev. 3
2-FS-FP-141, Safeguards Spray Side - Unit 2 Elevation 27 Feet - 6 Inches, Rev. 2
2-FS-FP-142, Main Steam Valve House and AFW - Unit 2 Elevation 27 Feet - 6 Inches, Rev. 1
SA-AA-115, Conduct of Fire Drills, Rev. 2

<u>Condition Reports</u> (*NRC Identified) 1087699 1087795 *1088185 *1091578 1092910 1093328

IP 71111.11: Licensed Operator Regualification Program Procedures

0-AP-13.00, Turbine Building or #3 MER Flooding, Rev. 30
0-AP-53.00, Loss of Vital Instrumentation/Controls, Rev. 22
1-AP-10.07, Loss of Unit 1 Power, Rev. 76
1-E-0, Reactor Trip or Safety Injection, Rev. 50
1-E-2, Faulted Steam Generator Isolation, Rev. 20
1-ES-0.1, Reactor Trip Response
1-FR-Z.1, Response to Containment High Pressure, Rev. 20
2-OP-CS-006, "Unit 2 Containment Spray MOV Stroke Testing, Rev. 4
2-OPT-RX-005, Control Rod Assembly Partial Movement, Rev. 36
2-OSP-TM-004, Turbine Trip Test, Rev. 14

IP 71111.12: Maintenance Effectiveness

<u>Procedures</u> EA-AA-MRL-10, Maintenance Rule Program, Rev. 6 EA-AA-MRL-100, Implementing Maintenance Rule, Rev. 11

Condition Reports

| 1086932 | 1085840 | 1084717 | 1083273 | 1068563 | 1065169 |
|---------|---------|---------|---------|---------|---------|
| 1065067 | 1063590 | 1089221 | | | |

Other Documents CA3069927 CA3053931 System Monitoring Plan for Instrument Air System dated 3/1/2017 System Monitoring Plan for Service Air System dated 3/1/2017 System Health Report for Instrument Air System dated 3Q 2017 System Health Report for Service Air System dated 1Q 2017

IP 71111.13: Maintenance Risk Assessments and Emergent Work Control

<u>Procedures</u> 0-OP-ZZ-021, Severe Weather Preparation, Rev. 19 WM-AA-20, Risk Assessment of Maintenance Activities, Rev. 2 WM-AA-301, Operational Risk Assessment, Rev. 19

Other Documents

EOOS Scheduler's Risk Evaluation for Surry Power Station, January 6-8, 2018 EOOS Scheduler's Risk Evaluation for Surry Power Station, January 17, 2018 EOOS Scheduler's Risk Evaluation for Surry Power Station, February 12-15, 2018 EOOS Scheduler's Risk Evaluation for Surry Power Station, February 27-28, 2018 EOOS Scheduler's Risk Evaluation for Surry Power Station, March 14, 2018

IP 711111.15: Operability Determinations and Functionality Assessments

Procedures

0-AP-12.00, Service Water System Abnormal Conditions, Rev. 15 0-AP-13.00, Turbine Building or #3 MER Flooding, Rev. 30 0-AP-37.01, Abnormal Environmental Conditions, Rev. 70 0-FCA-7.00, Limiting Mechanical Equipment Room 3 or 4 Fire, Rev. 11

<u>Condition Reports</u> 1026537 1088716 1089409 1090799 1091065

<u>Drawings</u>

11448-FB-27B, Plumbing Service Building Surry Power Station – Unit 1, Rev. 24

11448-FB-041A, Flow/Valve Operating Numbers Diagram, Chilled Water System, Surry Power Station Unit 1, Sheet (1), Rev. 38

11448-FB-041A, Flow/Valve Operating Numbers Diagram, Chilled Water System, Surry Power Station Unit 1, Sheet (2), Rev. 72

Other Documents

11548-FM-084A, Flow/Valve Operating Numbers Diagram Containment Spray System, Rev. 50 ETE-CME-2015-1022, Implementation of Motor Operated Valve Setup Windows for Surry Unit 2, Rev. 2

ETE-SU-2018-1001, Central Chilled Water System to MCR/ESGR Chilled Water System Cross Connect Isolation, Rev. 0

ME-0237, Calculation of Allowed Set-Up Torque Valves to Ensure Positive Margin for SPS CW Butterfly Valves (MOVs), Rev. 1

IP 71111.19: Post Maintenance Testing

Procedures

0-ECM-1400-03, PdMA Online Testing of Low Voltage Motors, Rev. 1

0-MCM-0130-05, Goulds 3996 Pump Overhaul, Rev. 11

0-MCM-0417-52, William Powell Swing Check Valve Inspection and Overhaul Model 2342, Rev. 11

0-MCM-0607-02, Eaton (Hayward) 53BTX Duplex Basket Strainer Maintenance, Rev. 4 0-MCM-1005-3, Orifice Plate Inspection, Rev. 5

0-MOP-VS-009, Return to Service of Control Room Chiller 1-VS-E-4B, Rev.12

0-MPM-0204-01, Instrument Air Dryer Valves Desiccant, and Cartridge Maintenance, Rev. 15 0-OP-VS-006, Control Room and Relay Room Ventilation System, Rev. 72

0-OPT-EG-009, Number 3 Emergency Diesel Generator Major Maintenance Operability Test, Rev. 59 0-OPT-ZZ-008, ASME System Pressure Tests, Rev. 11

1-OPT-FW-003, Turbine Driven Auxiliary Feedwater Pump Performance Test, Rev. 53 1-PT-18.8, Charging Pump Service Water Performance Test, Rev. 38

2-IPT-CC-CW-L-202, Intake Canal Level Probe 2-CW-LS-202 Time Response Test and Channel Calibration, Rev. 13

2-PT-2.33A, Emergency Bus Undervoltage and Degraded Protection Test "H" Train, Rev. 7

| Condition Rep | <u>orts</u> | | | |
|---------------|-------------|---------|------------|---------------|
| 1087760 | 1088512 | 1089021 | 1089951 | 1091928 |
| | | | | |
| Work Orders | | | | |
| 38102628132 | 3810 | 3432755 | 3810343393 | 6 38103704208 |
| 38103711630 | 3810 | 3732910 | 3810380642 | 8 38103849394 |
| 38103725009 | 3810 | 3749694 | 3810384779 | 5 |

IP 71111.22: Surveillance Testing

Procedures

1-OPT-CH-003, Charging Pump Operability and Performance Test for 1-CH-P-1C, Rev. 61 1-OPT-EG-001, Number 1 Emergency Diesel Generator Monthly Start Exercise Test, Rev. 70 1-OPT-EG-005, Number 1 Emergency Diesel Generator Fuel Oil System Tests, Rev. 23 1-OPT-SI-005, LHSI Pump Test, Rev. 33

2-OPT-CS-006, RWST Chemical Addition Tank and Containment Spray System MOV Stroke Test, Rev. 17

Condition Report 10888716

| 38103845014 | 38103848783 | 38103603697 | 38103759386 |
|-------------|-------------|-------------|-------------|
| 38103604160 | 38103603702 | | |

IP 71114.06: Emergency Preparedness Drills

Procedures 0-AP-1.00, Rod Control System Malfunction, Rev. 27 0-AP-10.01, Loss of Vital Bus 1, Rev. 19 0-AP-23.00, Rapid Load Reduction, Rev. 46 1-E-0, Reactor Trip or Safety Injection, Rev. 50 EPIP-1.03, Response to Alert, Rev. 23 EPIP-1.04, Response to Site Area Emergency, Rev. 23 EPIP-1.05, Response to General Emergency, Rev. 25 EPIP-1.06, Protective Action Recommendations, Rev. 12 EPIP-2.01, Notification of State and Local Governments, Rev. 44

Condition Reports

| 1093318 | 1093338 | 1093340 | 1093377 | 1093434 | 1093435 |
|---------|---------|---------|---------|---------|---------|
| 1093437 | 1093438 | | | | |

IP 71151: Performance Indicator Verification

Procedures

ER-AA-SPI-101, Implementation of the Consolidated Data Entry (CDE) Reporting for Mitigating System Performance Index (MSPI), Rev. 0

NEI 99-02, Regulatory Assessment Performance Indicator Guideline, Rev. 7

SU-2014-0082, MSPI Basis Document, Rev. 0

Other Documents

4Q/2017 Performance Indicators – Surry 1 and 2 - Unplanned Scrams per 7000 Critical Hours, dated 02/01/18

4Q/2017 Performance Indicators - Surry 1 and 2 - Unplanned Power Changes per 7000 Critical Hours, dated 02/01/18

4Q/2016 Performance Indicators – Surry 1 and 2 - Unplanned Scrams with Complications, dated 02/01/18

Unit 1 Control Room Narrative Log, 01/01/2017 – 12/31/2017 Unit 2 Control Room Narrative Log, 01/01/2017 – 12/31/2017

IP 71152: Identification and Resolution of Problems

| Condition R | <u>leports</u> | | | | |
|-------------|----------------|---------|---------|---------|---------|
| 1071468 | 1071660 | 1073511 | 1073741 | 1075024 | 1075071 |
| 1075811 | 1075806 | 1075983 | 1076497 | 1076859 | 1079430 |
| 1079812 | 1083300 | 1083833 | 1083169 | 1087973 | 1090962 |
| 1091263 | | | | | |

Other Documents

PIR1033141, Procedure Review and Validation Process Self-Assessment, 12/14/17

PIR1039125, Design Change/50.59 Quality Self-Assessment, 11/30/17

PIR1067510, Work Observation Program Self-Assessment, 12/14/17

PIR1072447, Fleet Review of the Standard Design Process, 11/15/17

Station Performance Improvement Meeting Agenda and Supporting Documentation, 10/11/17 Station Performance Improvement Meeting Agenda and Supporting Documentation, 02/07/18

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

Condition Report 1088074