



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

August 8, 2011

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

SUBJECT: SURRY POWER STATION - NRC EMERGENCY PREPAREDNESS
INSPECTION REPORT 05000280/2011501 AND 05000281/2011501

Dear Mr. Heacock:

On July 22, 2011, the U.S. Nuclear Regulatory Commission (NRC) completed an inspection at your Surry Power Station, Units 1 and 2. The enclosed inspection report documents the inspection results, which were discussed on July 22, 2011, with Mr. B. Stanley and other members of your staff.

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

Based on the results of this inspection, no findings of significance were identified.

In accordance with 10 CFR 2.390 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 NRC's document system (ADAMS). ADAMS is accessible from the NRC Website at <http://www.nrc.gov/reading-rm/adams.html> (the Public Electronic Reading Room).

Sincerely,

/ RA / A. Nielsen for B. Bonser

Brian Bonser, Chief
Plant Support Branch 1
Division of Reactor Safety

Docket No.: 50-280, 50-281
License No.: DPR-32, DPR-37

Enclosure:
Inspection Report 05000280/2011501 and 05000281/2011501
w/Attachment: Supplemental Information

cc w/encl.: (See page 2)

August 8, 2011

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

SUBJECT: SURRY POWER STATION - NRC EMERGENCY PREPAREDNESS INSPECTION
REPORT 05000280/2011501 AND 05000281/2011501

Dear Mr. Heacock:

On July 22, 2011, the U.S. Nuclear Regulatory Commission (NRC) completed an inspection at your Surry Power Station, Units 1 and 2. The enclosed inspection report documents the inspection results, which were discussed on July 22, 2011, with Mr. B. Stanley and other members of your staff.

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

Based on the results of this inspection, no findings of significance were identified.

In accordance with 10 CFR 2.390 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 NRC's document system (ADAMS). ADAMS is accessible from the NRC Website at <http://www.nrc.gov/reading-rm/adams.html> (the Public Electronic Reading Room).

Sincerely,

/ RA / A. Nielsen for B. Bonser

Brian Bonser, Chief
Plant Support Branch 1
Division of Reactor Safety

Docket No.: 50-280, 50-281
License No.: DPR-32, DPR-37

Enclosure:
Inspection Report 05000280/2011501 and 05000281/2011501
w/Attachment: Supplemental Information

*See previous concurrence page

cc w/encl.: (See page 2)

PUBLICLY AVAILABLE NON-PUBLICLY AVAILABLE SENSITIVE NON-SENSITIVE
ADAMS: Yes ACCESSION NUMBER: ML112210624 SUNSI REVIEW COMPLETE FORM 665 ATTACHED

OFFICE	RII: DRS	RII: DRS	HQ	RII: DRS	RII: DRP		
SIGNATURE	RA	RA	RA - VIA EMAIL	RA -AN FOR BB	RA		
NAME	M. SPECK	W. LOO	C. MURRAY	B. BONSER	G. MCCOY		
DATE	08/04/2011	08/04/2011	08/04/2011	08/08/2011	08/04/2011		
E-MAIL COPY?	YES NO	YES NO	YES NO	YES NO	YES NO	YES NO	YES NO

OFFICIAL RECORD COPY DOCUMENT NAME: G:\DRS\IPSB1\EMERGENCY PREPAREDNESS\SURRY\INSPECTION REPORTS\SURRY 05000280,281-2011501 REV1.DOCX

cc w/encl:

Gerald T. Bischof
Site Vice President
Surry Power Station
Virginia Electric and Power Company
Electronic Mail Distribution

B. L. (Sonny) Stanley
Director, Nuclear Safety and Licensing
Virginia Electric and Power Company
Electronic Mail Distribution

Lillian M. Cuoco, Esq.
Senior Counsel
Dominion Resources Services, Inc.
Electronic Mail Distribution

Chris L. Funderburk
Director, Nuclear Licensing & Operations Support
Virginia Electric and Power Company
Electronic Mail Distribution

Ginger L. Melton
Virginia Electric and Power Company
Electronic Mail Distribution

Virginia State Corporation Commission
Division of Energy Regulation
P.O. Box 1197
Richmond, VA 23209

Attorney General
Supreme Court Building
900 East Main Street
Richmond, VA 23219

Senior Resident Inspector
Surry Power Station
U.S. Nuclear Regulatory Commission
5850 Hog Island Rd
Surry, VA 23883

Michael M. Cline
Director
Virginia Department of Emergency Services Management
Electronic Mail Distribution

Letter to David A. Heacock from Brian Bonser dated August 8, 2011.

SUBJECT: SURRY POWER STATION - NRC EMERGENCY PREPAREDNESS
INSPECTION REPORT 05000280/2011501 AND 05000281/2011501

Distribution w/encl:

C. Evans, RII EICS (Part 72 Only)
L. Douglas, RII EICS (Linda Douglas)
OE Mail (email address if applicable)
RIDSNRRDIRS
PUBLIC
RidsNrrPMSurry Resource

U. S. NUCLEAR REGULATORY COMMISSION

REGION II

Docket Nos: 05000280, 05000281

License Nos: DPR-32, DPR-37

Report Nos: 05000280/2011501 and 05000281/2011501

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 18-22, 2011

Inspectors: M. Speck, Senior Emergency Preparedness Inspector
C. Murray, Emergency Preparedness Specialist
W. Loo, Senior Health Physics Inspector

Approved by: Brian Bonser, Chief
Plant Support Branch 1
Division of Reactor Safety

Enclosure

SUMMARY OF FINDINGS

IR 05000280/2011501 and 05000281/2011501; 08/18/2011 - 08/22/2011; Surry Power Station, Units 1 and 2; Exercise and baseline inspection.

The report covered an announced inspection by one emergency preparedness inspector, one emergency preparedness specialist, and one health physics inspector. The NRC's program for overseeing the safe operation of commercial nuclear power reactors is described in NUREG-1649, "Reactor Oversight Process."

A. NRC-Identified and Self-Revealing Findings

Cornerstone: Emergency Preparedness

No findings were identified.

B. Licensee-Identified Violations.

None

REPORT DETAILS

1. REACTOR SAFETY

Cornerstone: Emergency Preparedness

1EP1 Exercise Evaluation

a. Inspection Scope

Prior to the inspection activity, the inspectors conducted an in-office review of the exercise objectives and scenario submitted to the NRC to determine if the exercise would test major elements of the emergency plan as required by 10 CFR 50.47(b)(14). This inspection activity represents one sample on a biennial cycle.

The onsite inspection consisted of the following review and assessment:

- The adequacy of the licensee's performance in the biennial exercise conducted on July 19, 2011, was reviewed and assessed regarding the implementation of the Risk Significant Planning Standards (RSPSs) in 10 CFR 50.47 (b)(4), (5), (9), and (10), which address emergency classification, offsite notification, radiological assessment, and protective action recommendations respectively.
- The overall adequacy of the licensee's emergency response facilities with regard to NUREG-0696, "Functional Criteria for Emergency Response Facilities" and Emergency Plan commitments. The facilities assessed were the Control Room simulator, Operations Support Center (OSC), Technical Support Center (TSC), and Local Emergency Operations Facility (LEOF).
- Other performance areas besides the RSPS, such as the emergency response organization's (ERO) recognition of abnormal plant conditions, command and control, intra-and inter-facility communications, prioritization of mitigation activities, utilization of repair and field monitoring teams, interface with offsite agencies, and the overall implementation of the emergency plan and its implementing procedures.
- Past performance issues from NRC inspection reports, and Federal Emergency Management Agency (FEMA)/Department of Homeland Security (DHS) exercise reports to determine effectiveness of corrective actions as demonstrated during this exercise to ensure compliance with 10 CFR 50.47(b)(14).
- The post-exercise critique process, and the presentation to the licensee's senior management conducted on July 21, 2011, to evaluate the licensee's self-assessment of its ERO performance during the exercise and to ensure compliance with 10 CFR 50, Appendix E.IV.F.2.g.

The inspectors reviewed various documents which are listed in the Attachment.

b. Findings

No findings were identified.

Enclosure

1EP4 Emergency Action Level (EAL) and Emergency Plan Changes

a. Inspection Scope

Since the last NRC inspection of this program area, Revision 55, of the Surry Emergency Plan was implemented based on the licensee's determination in accordance with 10 CFR 50.54(q) that the changes resulted in no decrease in the effectiveness of the Plan, and that the revised Plan continued to meet the requirements of 10 CFR 50.47(b), and Appendix E to 10 CFR Part 50. The inspector conducted a review of the Plan changes and a sampling review of the implementing procedure changes made between September 1, 2010, and June 30, 2011, to evaluate for potential decreases in effectiveness of the Plan. This review was not documented in a Safety Evaluation Report and does not constitute formal NRC approval of the changes. Therefore, these changes remain subject to future NRC inspection in their entirety.

The inspection was conducted in accordance with NRC Inspection Procedure 71114, Attachment 04, "Emergency Action Level and Emergency Plan Changes". The applicable planning standard 10 CFR 50.47(b)(4), and related requirements contained in 10 CFR 50.54(q), and Appendix E to 10 CFR Part 50 were used as reference criteria. This inspection activity represents one sample on an annual cycle.

The inspector reviewed various documents which are listed in the Attachment.

b. Findings

No findings were identified.

4. OTHER ACTIVITIES

4OA1 Performance Indicator (PI) Verification

a. Inspection Scope

The inspectors sampled licensee submittals for the three performance indicators (PI) listed below. For each of the submittals, the inspectors reviewed the period from July 1, 2010, through March 31, 2011. To verify the accuracy of the PI data reported during that period, PI definitions and guidance contained in Nuclear Energy Institute (NEI) 99-02, Regulatory Assessment Indicator Guideline, Revision 6, were used to verify the basis in reporting for each data element.

- Emergency Response Organization Drill/Exercise Performance (DEP)
- Emergency Response Organization Readiness (ERO)
- Alert and Notification System Reliability (ANS)

The inspectors reviewed portions of the raw PI data developed from monthly performance indicator reports and discussed the methods for compiling and reporting the PIs with the responsible emergency preparedness personnel. The inspectors also independently screened drill and exercise opportunity evaluations, drill participation reports, and drill evaluations. Selected reported values were calculated to verify their accuracy. The inspectors compared graphical representations from the most recent PI

report to the raw data to verify that the data was correctly reflected in the report. Reviewed documents are listed in the Attachment.

The inspection was conducted in accordance with NRC Inspection Procedure 71151, "Performance Indicator Verification." This inspection activity represents three samples on an annual cycle.

The inspectors reviewed various documents which are listed in the Attachment.

b. Findings

No findings were identified.

4OA6 Meetings, Including Exit

On July 22, 2011, the lead inspector for the emergency preparedness inspection presented the inspection results to Mr. B. Stanley, and other members of the onsite management staff. The inspectors confirmed that proprietary information was not provided or taken during the inspection.

ATTACHMENT: SUPPLEMENTAL INFORMATION

SUPPLEMENTAL INFORMATION

KEY POINTS OF CONTACT

Licensee personnel

G. Bischof, Site Vice President
J. Eggart, Manager, Radiation Protection and Chemistry
B. Garber, Supervisor, Licensing
W. Hoffner, Fleet EP Manager
R. Johnson, Manager, Operations
C. Olsen, Manager, Site Engineering
K. Sloane, Plant Manager
M. Smith, Manager, Nuclear Oversight
B. Stanley, Director, Station Safety and Licensing
N. Turner, EP Supervisor

ITEMS OPENED, CLOSED, AND DISCUSSED

None

LIST OF DOCUMENTS REVIEWED

Section 1EP1: Exercise Evaluation

Procedures

CPIP-3.3, Surry LEOF Activation, Rev. 14
 CPIP-6.0, LEOF Recovery Manager Guidance, Rev. 10
 CPIP-6.2, Radiological Assessment Coordinator, Rev. 13
 EPIP-1.01, Emergency Manager Controlling Procedure, Rev. 53
 EPIP-1.03, Response to Alert, Rev. 19
 EPIP-1.04, Response to Site Area Emergency, Rev. 19
 EPIP-1.05, Response to General Emergency, Rev. 21
 EPIP-1.06, Protective Action Recommendations, Rev. 8
 EPIP-2.01, Notification of State and Local Governments, Rev. 40
 EPIP-2.02, Notification of NRC, Rev. 22
 EPIP-3.02, Activation of Technical Support Center, Rev. 28
 EPIP-3.03, Activation of Operational Support Center, Rev. 16
 EPIP-4.01, Radiological Assessment Director Controlling Procedure, Rev. 25
 EPIP-4.02, Radiation Protection Supervisor Controlling Procedure, Rev. 23
 EPIP-4.03, Dose Assessment Controlling Procedure, Rev. 15
 EPIP-4.04, Emergency Personnel Radiation Exposure, Rev. 9
 EPIP-4.07, Protective Measures, Rev. 13
 EPIP-4.09, Source Term Assessment, Rev. 17
 EPIP-4.14, In-Plant Monitoring, Rev. 7
 EPIP-4.16, Offsite Monitoring, Rev. 16
 EPIP-4.17, Monitoring of Emergency Response Facilities, Rev. 12
 EPIP-4.18, Monitoring of LEOF, Rev. 11
 EPIP-4.27, Exposure Control Emergency Response, Rev. 8
 EPIP-5.03, Personnel Accountability, Rev. 26
 EPIP-5.04, Access Control, Rev. 12
 EPIP-5.08, Damage Control Guideline, Rev. 9
 NE-1307, Core Damage Assessment Guideline, Rev. 2
 NE-GL-0035, PC-MIDAS Guideline, Rev. 5
 PI-AA-200, Administrative Procedure-Corrective Action, Rev. 16
 0-AP-10.13, Loss of Main Control Room Annunciators, Rev. 8
 0-AP-37.01, Abnormal Environmental Conditions, Rev. 57
 0-AP-50.00, Opposite Unit Emergency, Rev. 34
 1-AP-20.02, Loss of Unit 1 Plant Computer, Rev. 8
 1-E-0, Reactor Trip or Safety Injection, Rev. 64
 1-E-1, Loss of Reactor or Secondary Coolant, Rev. 36
 1-ECA-1.1, Loss of Emergency Coolant Recirculation, Rev. 33
 1-FR-C.2, Response to Degraded Core Cooling, Rev. 23
 1-FR-Z.1, Response to Containment High Pressure, Rev. 18
 1-FR-Z.2, Response to Containment Flooding, Rev. 5
 1-OP-CS-004, Refueling Water Storage Tank Makeup, Rev. 16
 Drawing 11448-FE-1F, 480V One Line Diagram Surry Power Station – Unit 1, Rev. 25

Documentation

Control Room (Simulator), Technical Support Center, Operational Support Center, Local Emergency Operations Facility, Joint Information Center - Documentation packages (logs, event notification forms, Protective Action Recommendations, Media releases, and Radiological Dose/Core damage Assessments)

Surry Power Station Exercise 2009 – FEMA After-Action Final Report dated October 28, 2009

Corrective Action - Condition Reports (CRs)

435091: State Field Monitoring Team dispatched close to site without Recovery Manager aware

435088: Rad monitor reading inconsistent with plant alignment

435069: Initial responders did not activate TSC

435049, 435250: Auto-ringdown phone issues

435045: Health Physics access/familiarity with MCR

435014: LEOF HVAC degraded

434989, 434977, 434986: Telephone equipment issues

434972: EPIP-3.03 not in OSC foot locker

434876: ENS line noisy

434870: Siren issues

434845: Simulator equipment deficiency

435033, 435042, 435268: Dose Tracking issues

435037, 435044, 435046, 435253: Drill controller issues

435034: Inaccurate release time provided to NRC

435050: Incorrect simulation

Section 1EP4: Emergency Action Level (EAL) and Emergency Plan ChangesChange packages

SEP, Surry Power Station Emergency Plan, Rev. 55

Emergency Action Level Technical Bases, Rev. 1

EPIP-1.01, Emergency Manager Controlling Procedure, Rev. 53

EPIP-2.01, Notification of State and Local Governments, Rev. 40

EPIP-2.02, Notification of NRC, Rev. 22

EPIP-3.05, Augmentation of Emergency Response Organization, Rev. 7

EPIP-4.01, Radiological Assessment Director Controlling Procedure, Rev. 25

EPIP-4.03, Dose Assessment Team Controlling Procedure, Rev. 15

EPIP-4.15, Onsite Monitoring, Rev. 8

EPIP-4.18, Monitoring of LEOF, Rev. 11

Section 4OA1: Performance Indicator (PI) VerificationProcedures

EP-AA-103, Emergency Preparedness Performance Indicators, Rev. 0

EP-AA-400, Drill and Exercise Program, Rev. 1

O-LSP-EW-001, Early Warning System Polling Functional Test, Rev. 10

O-LSP-EW-002, Early Warning System Siren Activation Monitoring, Rev. 7

Condition Report 425410 - Siren failure

Condition Report 405579 – Siren test not counted in PI

Condition Report 150140 – ANS not per FEMA approved document

Records and Data

Documentation of Performance Indicator data from July 1, 2010, through March 31, 2011, for DEP, ANS, and ERO

LIST OF ACRONYMS USED

ADAMS	Agency-wide Documents Access and Management System
ANS	Alert and Notification System
CFR	Code of Federal Regulations
DEP	Drill and Exercise Performance
DHS	Department of Homeland Security
EAL	Emergency Action Level
EOF	Emergency Operations Facility
ERO	Emergency Response Organization
FEMA	Federal Emergency Management Agency
NEI	Nuclear Energy Institute
NRC	Nuclear Regulatory Commission
OSC	Operations Support Center
PARS	Publicly Available Records
PI	Performance Indicator
RSPS	Risk Significant Planning Standard
TSC	Technical Support Center