



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

August 8, 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 EMERGENCY PREPAREDNESS  
INSPECTION REPORT 05000280/2013503 AND 05000281/2013503**

Dear Mr. Heacock:

On July 19, 2013, 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 that were discussed on July 18, 2013, with Mr. K. Sloane 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.

No findings were identified during this inspection.

In accordance with Title 10 of the *Code of Federal Regulations* (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 Agencywide Documents Access and

Management System (ADAMS), accessible from the NRC Website at <http://www.nrc.gov/reading-rm/adams.html> (the Public Electronic Reading Room).

Sincerely,

*/RA/*

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

Docket Nos. 50-280 and 50-281  
License Nos. DPR-32 and DPR-37

Enclosure:  
Surry Inspection Report 05000280/2013503  
and 05000281/2013503  
w/Attachment: Supplemental Information

cc: (See page 3)

Management System (ADAMS), accessible from the NRC Website at <http://www.nrc.gov/reading-rm/adams.html> (the Public Electronic Reading Room).

Sincerely,

**/RA/**

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

Docket Nos. 50-280 and 50-281  
License Nos. DPR-32 and DPR-37

Enclosure:  
Surry Inspection Report 05000280/2013503  
and 05000281/2013503  
w/Attachment: Supplemental Information

cc: (See page 3)

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ADAMS:  Yes      ACCESSION NUMBER: ML13220B069       SUNSI REVIEW COMPLETE       FORM 665 ATTACHED

OFFICE	RII:DRS/PSB1	RII:DRP/BR5	RII:DRS/PSB1				
SIGNATURE	BRB1 fir MES4	GJM1	BRB1				
NAME	M. Speck	G. McCoy	B. Bonser				
DATE	8/ 8 /2013	7/ 31 /2013	8/ 8 /2013				
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**U.S. NUCLEAR REGULATORY COMMISSION**

**REGION II**

Docket Nos: 05000280 and 05000281

License Nos: DPR-32 and DPR-37

Report Nos: 05000280/2013503 and 05000281/2013503

Licensee: Virginia Electric and Power Company (VEPCO)

Facility: Surry Power Station, Units 1 and 2

Location: 5850 Hog Island Rd  
Surry, VA 22883

Dates: July 15 – 19, 2013

Inspectors: M. Speck, Senior Emergency Preparedness Inspector  
W. Loo, Senior Health Physicist  
R. Cureton, Senior Resident Inspector  
J. Nadel, Resident Inspector

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

Enclosure

## **SUMMARY OF FINDINGS**

IR 0500028/2013503 and 05000281/2013503; 07/15/2013 – 07/19/2013; Surry Power Station, Units 1 and 2; Exercise and Baseline Inspection

The report covered an announced inspection by one emergency preparedness inspector, one senior health physicist, one senior resident inspector, and one resident inspector. No 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

### 1. REACTOR SAFETY

Cornerstone: Emergency Preparedness

#### 1EP1 Exercise Evaluation

##### a. Inspection Scope

Prior to the arrival onsite, the inspectors conducted an in-office review of the exercise objectives and scenario submitted to the U.S. Nuclear Regulatory (NRC) using Inspection Procedure (IP) 71114.08, "Exercise Evaluation, Scenario Review," to determine if the exercise would test major elements of the emergency plan as required by Title 10 of the *Code of Federal Regulations* (10 CFR) 50.47(b)(14).

The onsite inspection consisted of the following review and assessment:

- The adequacy of the licensee's performance in the biennial exercise, conducted on July 16, 2013, was reviewed and assessed regarding the implementation of the Risk Significant Planning Standards (RSPS) 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, Technical Support Center (TSC), Operations Support Center (OSC), and Local Emergency Operations Facility (LEOF).
- Other performance areas, 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 the 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 18, 2013, to evaluate the licensee's self-assessment of its ERO performance during the exercise and to ensure compliance with 10 CFR 50, Appendix E, Subsection IV.F.2.g.

The inspectors reviewed various documents which are listed in the Attachment. This inspection activity satisfied one inspection sample for the exercise evaluation on a biennial basis.

b. Findings

No findings were identified.

4. OTHER ACTIVITIES

4OA1 Performance Indicator Verification

a. Inspection Scope

The inspectors sampled licensee submittals relative to the Performance Indicators (PI) listed below for the period of July 1, 2012, through March 31, 2013. To verify the accuracy of the PI data reported during that period, PI definitions and guidance contained in NEI 99-02, "Regulatory Assessment Performance Indicator Guideline," Revision 6, was used to confirm the reporting basis for each data element.

Emergency Preparedness Cornerstone

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

For the specified review period, the inspectors examined data reported to the NRC, procedural guidance for reporting PI information, and records used by the licensee to identify potential PI occurrences. The inspectors verified the accuracy of the DEP through review of a sample of drill and event records. The inspectors reviewed selected training records to verify the accuracy of the ERO PI for personnel assigned to key positions in the ERO. The inspectors verified the accuracy of the PI for ANS reliability through review of a sample of the licensee's records of periodic system tests. Licensee procedures, records, and other documents reviewed within this inspection area are listed in the Attachment.

The inspectors reviewed various documents which are listed in the Attachment. This inspection activity satisfied one inspection sample for each of the three Emergency Preparedness PI, i.e., DEP, ERO, and ANS, on an annual basis.

b. Findings

No findings were identified.

4OA6 Meetings, Including Exit

On July 18, 2013, the lead inspector presented the inspection results to Mr. K. Sloane, Plant Manager, and other members of the plant staff. The inspectors confirmed that proprietary information was not provided during the inspection.

ATTACHMENT: SUPPLEMENTAL INFORMATION



## **SUPPLEMENTAL INFORMATION**

### **KEY POINTS OF CONTACT**

#### **Licensee Personnel**

P. Blasioli, Manager, Nuclear Protection Services and Emergency Preparedness  
J. E. Collins, EP Manager  
W. Detwiler, EP Drill and Exercise Developer  
B. Garber, Supervisor, Licensing  
A. LaFrance, Lead Reactor Engineer  
L. Lane, Site Vice President  
D. Lawrence, Director, Station Safety and Licensing  
J. Pollard, Licensing Engineer  
L. Rollings, EP Specialist  
W. Thompson, EP Specialist  
K. Sloane, Plant Manager  
N. Turner, EP Supervisor

#### **ITEMS OPENED, CLOSED, AND DISCUSSED**

None

### **LIST OF DOCUMENTS REVIEWED**

#### **1EP1 Exercise Evaluation**

##### **Procedures**

CPIP-3.3, Surry LEOF Activation, Rev. 18  
CPIP-6.0, LEOF Recovery Manager Guidance, Rev. 12  
CPIP-6.2, Radiological Assessment Coordinator, Rev. 14  
EPIP-1.01, Emergency Manager Controlling Procedure, Rev. 55  
EPIP-1.03, Response to Alert, Rev. 22  
EPIP-1.04, Response to Site Area Emergency, Rev. 22  
EPIP-1.05, Response to General Emergency, Rev. 24  
EPIP-1.06, Protective Action Recommendations, Rev. 9  
EPIP-2.01, Notification of State and Local Governments, Rev. 42  
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. 19  
EPIP-3.05, Augmentation of Emergency Response Organization, Rev. 10  
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-4.17, Monitoring of Emergency Response Facilities, Rev. 13  
EPIP-4.33, Health Physics Network Communications, Rev. 7  
EPIP-4.27, Exposure Control Emergency Response, Rev. 8  
EPIP-5.03, Personnel Accountability, Rev. 26

EPIP-5.08, Damage Control Guideline, Rev. 9  
 NE-1307, Core Damage Assessment Guideline, Rev. 2  
 PI-AA-200, Administrative Procedure-Corrective Action, Rev. 21  
 1-E-0, Reactor Trip or Safety Injection, Rev. 67  
 1-E-2, Faulted Steam Generator Isolation, Rev. 17  
 1-ES-0.1, Reactor Trip Response, Rev. 49  
 1-AP-22.00, Fuel Handling Abnormal Conditions, Rev. 24  
 1-AP-53.00, Loss of Vital Instrumentation/Controls, Rev. 19  
 1-AP-10.01, Loss of Operations Vital Bus I, Rev. 18  
 Surry Power Station Emergency Action Level Technical Bases Document, Rev. 3  
 Surry Power Station Emergency Action Level Matrices, Rev. 3  
 Surry Power Station Emergency Plan, Rev. 58  
 1-FR-H.1, Response to Loss of Secondary Heat Sink, Rev. 33

#### Records and Data

2011, 2012, and 2013 Emergency Exercise and drill scenario documents  
 Control Room, Technical Support Center, Operations Support Center, Joint Information Center,  
 Emergency Operations Facility - Documentation packages (logs, event notification forms,  
 Protective Action Recommendations, Media releases, and Radiological Dose Assessments)  
 NRC/FEMA 2013 Graded Exercise Management Debrief

#### Corrective Action Program documents

520740, OCC accountability card reader misread  
 520764, EP drill communication challenges  
 520766, Broken frisker at old admin building hallway  
 520802, July 2013 EP Graded Exercise Equipment Issues  
 520848, Wireless phone from TSC State & Local communicator to LEOF had dead battery  
 521082, Locality phone calls to Recovery Managers phone created distractions  
 521494, Exercise Conduct unexpected safety injection and rad monitor problems  
 521497, NEDS ban Objective Met with Problem in CRS  
 521518, CERC Dose assessment and communications objectives Met with Problem  
 521591, TSC Enhancements  
 521595, Control Room Simulator Critique Comments  
 521610, OSC Critique Comments/enhancements  
 521614, LEOF Exercise comments/Enhancements

#### **Section 40A1: Performance Indicator Verification**

##### Procedures

EP-AA-103, Emergency Preparedness Performance Indicators, Rev. 2  
 0-LSP-EW-001, Early Warning System Polling Functional Test, Rev. 10 performance  
 dated Jan 8 and January 22, 2013  
 0-LSP-EW-002, Early Warning Siren System Activation, Rev 9 performance dated  
 March 13, 2013

Records and Data

Drill and Exercise Performance opportunities documentation from 3<sup>rd</sup> Quarter 2012, through 1<sup>st</sup> Quarter 2013

Drill and exercise participation records of ERO personnel from 3<sup>rd</sup> Quarter 2012, through 1<sup>st</sup> Quarter 2013

Siren Test results from 3<sup>rd</sup> Quarter 2012 through 1<sup>st</sup> Quarter 2013

Corrective Action Program documents

520868, Two DEP unsuccessful Opportunities in PAR Notifications

521073, One unsuccessful EAL Classification due to controller intervention

**LIST OF ACRONYMS USED**

ANS	Alert and Notification System
DEP	Drill and Exercise Performance
DHS	Department of Homeland Security
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
PI	Performance Indicator
RSPS	Risk Significant Planning Standard
TSC	Technical Support Center