



UNITED STATES  
NUCLEAR REGULATORY COMMISSION  
WASHINGTON, D.C. 20555-0001

January 23, 2012

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, UNIT NOS. 1 AND 2 - AUDIT OF VIRGINIA  
ELECTRIC AND POWER COMPANY'S MANAGEMENT OF REGULATORY  
COMMITMENTS (TAC NOS. ME6575 AND ME6576)

Dear Mr. Heacock:

In Regulatory Issue Summary 2000-17, "Managing Regulatory Commitments Made by Power Reactor Licensees to the NRC [Nuclear Regulatory Commission] Staff," dated September 21, 2000, the NRC informed licensees that the Nuclear Energy Institute (NEI) document NEI 99-04, "Guidelines for Managing NRC Commitment Changes," contains acceptable guidance for controlling regulatory commitments and encouraged licensees to use the NEI guidance or similar administrative controls to ensure that regulatory commitments are implemented and that changes to the regulatory commitments are evaluated and, when appropriate, reported to the NRC. The NRC Office of Nuclear Reactor Regulation has instructed its staff to perform an audit of licensees' commitment management programs once every 3 years to determine whether the licensees' programs are consistent with the industry guidance in NEI 99-04, and that the regulatory commitments are being effectively implemented.

D. Heacock

- 2 -

On August 9-10, 2011, the NRC staff performed an audit of Virginia Electric and Power Company's (the licensee) commitment management program at Surry Power Station, Unit Nos. 1 and 2. The NRC staff concludes that based on the audit: (1) the licensee had implemented NRC commitments on a timely basis, and (2) the licensee had implemented an effective program for managing NRC commitment changes. Details of the audit are set forth in the enclosed audit report.

Sincerely,



Karen Cotton, Project Manager  
Plant Licensing Branch II-1  
Division of Operating Reactor Licensing  
Office of Nuclear Reactor Regulation

Docket Nos. 50-280 and 50-281

Enclosure:  
Audit Report

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AUDIT REPORT BY THE OFFICE OF NUCLEAR REACTOR REGULATION  
REGULATORY COMMITMENTS MADE BY VIRGINIA ELECTRIC AND POWER COMPANY  
SURRY POWER STATION, UNIT NOS. 1 AND 2  
DOCKET NOS. 50-280 AND 50-281

1.0 INTRODUCTION AND BACKGROUND

In Regulatory Issue Summary 2000-17, "Managing Regulatory Commitments Made by Power Reactor Licensees to the NRC [Nuclear Regulatory Commission] Staff," dated September 21, 2000, the (NRC informed licensees that the Nuclear Energy Institute (NEI) document NEI 99-04, "Guidelines for Managing NRC Commitment Changes," contains acceptable guidance for controlling regulatory commitments and encouraged licensees to use the NEI guidance or similar administrative controls to ensure that regulatory commitments are implemented and that changes to the regulatory commitments are evaluated and, when appropriate, reported to the NRC.

The NRC Office of Nuclear Reactor Regulation (NRR) has instructed its staff to perform an audit of licensees' commitment management programs once every 3 years to determine whether the licensees' programs are consistent with the industry guidance in NEI 99-04, and that the regulatory commitments are being effectively implemented.

NEI-99-04 defines a regulatory commitment as an explicit statement to take a specific action agreed to, or volunteered by, a licensee and submitted in writing on the docket to the NRC. NRR guidelines direct the NRR Project Manager to audit the licensee's commitment management program by assessing the adequacy of the licensee's implementation of a sample of commitments made to the NRC in past licensing actions (amendments, reliefs, exemptions, etc.) and activities (bulletins, generic letters, etc.). The audit is to be performed every 3 years.

2.0 AUDIT PROCEDURE AND RESULTS

The regulatory commitment management audit was previously performed at Surry Power Station, Unit Nos. 1 and 2 (Surry 1 and 2) on July 29, 2008, covering the period of approximately 3 years. The current audit was performed at Surry 1 and 2 on August 9-10, 2011, verifying the regulatory commitments made by Virginia Electric and Power Company (the licensee) since the previous audit.

The audit consisted of two major parts: (1) verification of the licensee's implementation of NRC commitments that have been implemented and (2) verification of the licensee's program for managing changes to NRC commitments.

Enclosure

## 2.1 Verification of Licensee's Implementation of NRC Commitments

The primary focus of this part of the audit is to confirm that the licensee has implemented commitments made to the NRC as part of past licensing actions/activities. For commitments not yet implemented, the NRC staff determines whether they have been captured in an effective program for future implementation.

### 2.1.1 Audit Scope

The audit addressed a sample of commitments made during the review period. The audit focused on regulatory commitments (as defined above) made in writing to the NRC as a result of past licensing actions (amendments, exemptions, etc.) or licensing activities (bulletins, generic letters, etc.). Before the audit, the NRC staff searched ADAMS (Agencywide Documents Access and Management System) for the licensee's submittals since the last audit and selected a representative sample for verification.

The audit excluded the following types of commitments that are internal to licensee processes:

- (1) Commitments made on the licensee's own initiative among internal organizational components.
- (2) Commitments that pertain to milestones of licensing actions/activities (e.g., respond to an NRC request for additional information by a certain date). Fulfillment of these commitments was indicated by the fact that the subject licensing action/activity was completed.
- (3) Commitments made as an internal reminder to take actions to comply with existing regulatory requirements such as regulations, Technical Specifications (TSs), and Updated Final Safety Analysis Reports. Fulfillment of these commitments was indicated by the licensee having taken timely action in accordance with the subject requirements.

### 2.1.2 Audit Results

The attached Audit Summary provides details of the audit and its results.

The NRC staff reviewed documents generated by the licensee for the commitments listed in Table 1. After identification, most commitments were managed through the Surry Central Reporting System. The NRC staff found that the licensee had properly addressed each regulatory commitment selected for this audit. As a result of reviewing the licensee's information, as well as information from other sources, the NRC staff found no reason to differ from the licensee's reported status of the audited commitments. Thus, the NRC staff concludes that the procedure used by the licensee to manage commitments is appropriate and effective.

## 2.2 Verification of the Licensee's Program for Managing NRC Commitment Changes

The primary focus of this part of the audit is to verify that the licensee has established administrative controls for modifying or deleting commitments made to the NRC. The NRC staff compared the licensee's process for controlling regulatory commitments to the guidelines in NEI-99-04, which the NRC has found to be an acceptable guide for licensees to follow for

managing and changing commitments. The process used at North Anna Power Station, Unit Nos. 1 and 2 is contained in "Commitment Management," LI-AA-110, Revision 0. In general, Revision 0, follows the guidance of NEI-99-04; it sets forth the need for identifying, tracking, and reporting commitments, and it provides a mechanism for changing commitments. The audit reviewed a sample of commitment changes that included changes that were or will be reported to the NRC. The audit also verifies that the licensee's commitment management system includes a mechanism to ensure traceability of commitments following initial implementation. This ensures that licensee personnel are able to recognize that future proposed changes to the affected design features or operating practices require evaluation in accordance with the commitment change control process.

### 3.0 CONCLUSION

The NRC staff concludes that based on the above audit: (1) the licensee had implemented, or is tracking for future implementation, regulatory commitments; and (2) the licensee had implemented an effective program to manage regulatory commitment changes.

### 4.0 LICENSEE PERSONNEL CONTACTED FOR THIS AUDIT

Candee Lovett, Licensing Engineer, Licensing Department, Surry Power Station

Principal Contributor: K. Cotton

Attachment: Summary of Audit Results

**Regulatory Commitments Made During the Period from 01/2008 – 2/2011  
Surry Power Station Units 1 and 2 for Audit**

<b>Item No.</b>	<b>Commitments</b>	<b>Letter Serial No.</b>	<b>Letter Date</b>	<b>Letter Subject</b>	<b>Status</b>
1	<ul style="list-style-type: none"> <li>• The Surry Power Station, Unit Nos. 1 and 2 (Surry, 1 and 2) Updated Final Safety Analysis Report (UFSAR) revisions will be completed by the end of the spring 2009 Unit 1 refueling outage.</li> <li>• Regarding evaluation of the industry/Nuclear Regulatory Commission (NRC) Technical Specifications Task Force (TSTF) Traveler that will be developed as a follow-up to Generic Letter (GL) 2008-01, the completion date for this corrective action is dependent on the approval of the TSTF. Virginia Electric and Power Company (VEPCO, the licensee), is continuing to support the industry and Nuclear Energy Institute (NEI) Gas Accumulation Management Team activities regarding the resolution of generic technical specification (TS) changes via the TSTF Traveler process. After NRC approval of the Traveler, VEPCO will evaluate its applicability to Surry 1 and 2 and evaluate adopting the Traveler to either supplement or replace the current TS requirements.</li> </ul>	08-0013B	10-14-08	Nine-Month Response to NRC GL 2008-01, "Managing Gas Accumulation in Emergency Core Cooling, Decay Heat Removal, And Containment Spray Systems" (Agencywide Documents Access and Management System (ADAMS) Accession No. ML082890094)	OPEN: Waiting NRC TSTF approval

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	<ul style="list-style-type: none"> <li>• VEPCO will monitor the results of industry testing and analytical programs related to gas accumulation and pump suction acceptance criteria and determine if any additional changes to any licensing basis documents are required. The completion date for this corrective action is dependent on the completion of industry testing and analytical programs.</li> <li>• VEPCO will revise current fill and vent and test procedures as appropriate to assure sufficiently full acceptance criteria, based upon the technical criteria developed for this response, by adding Ultrasonic Testing (UT), venting or other confirmation means at select locations. These changes will be completed prior to the completion of the Unit 1 spring 2009 refueling outage.</li> </ul>				
2	The Pressurizer Safety Valve maintenance strategy will be revised prior to the next refueling outage to address aging issues.	08-0342	06-30-08	Licensee Event Report (LER) 50-281/2008-001-00 (ADAMS Accession No. ML081980059)	CLOSED
3	Corrective actions for resolution of potential chemical and downstream effects on the reactor core and flowpaths will be determined and reported to the NRC within 90 days following the issuance of revised WCAP-16793-NP and the	09-002	02-27-09	Updated Supplemental Response to NRC GL 2004-02, Potential Impact of Debris Blockage on Emergency Recirculation during Design	OPEN: Waiting on Westinghouse issuance of WCAP

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	associated NRC Safety Evaluation (SE) Report.			Basis Accidents at Pressurized-Water Reactors ADAMS Accession No. ML090641018	
4	<ul style="list-style-type: none"> <li>• VEPCO will perform the final acceptance of the Surry 2 uncertainty analysis to ensure the results are bounded by the statements contained in this License Amendment Request (LAR) (Attachment 5 Section I.1.D.4.1). (Prior to operating above 2546 megawatt (MWt) (98.4% rated power (RP)).)</li> <li>• Technical Requirements Manual (TRM) will be revised to include ultrasonic flow meter (UFM) administrative controls (Attachment 1 Section 3.0). (Prior to operating above 2546 MWt (98.4% RP).)</li> <li>• Revise procedures, programs, and documents for the new UFM (including transducer replacement) (Attachment 5 Section I.1, I.1.D.1.1, I.1.H, VII.1, VII.2.A, and VII.4). (Prior to operating above 2546 MWt (98.4% RP).)</li> <li>• Appropriate personnel will receive training on</li> </ul>	09-223	01-27-10	LAR Measurement Uncertainty Recapture (MUR) Power Uprate (ADAMS Accession No. ML100320264)	CLOSED

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	<p>the UFM and affected procedures (Attachment 5 Sections I.1.D.1.1, VII.2.A, VII.2.D, and VII.3). (Prior to operating above 2546 MWt (98.4% RP).)</p> <ul style="list-style-type: none"> <li>• The FAC CHECWORKS SFA models will be updated to reflect the MUR power uprate conditions (Attachment 5 Section IV.1.E.iii). (Prior to operating above 2546 MWt (98.4% RP).)</li> <li>• Simulator changes and validation will be completed (Attachment 5 Section VII.2.C). (Prior to operating above 2546 MWt (98.4% RP).)</li> <li>• Revise existing plant operating procedures related to temporary operation above full steady-state licensed power levels (Attachment 5 Section VII.4). (Prior to operating above 2546 MWt (98.4% RP).)</li> <li>• Process UFSAR changes in accordance with Title 10 of the <i>Code of Federal Regulations</i>, (10 CFR) Part 50, Section 50.59 (Attachment 1,</li> </ul>				

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	<p>Section 3.0). (In accordance with 10 CFR 50.71(e)).</p> <ul style="list-style-type: none"> <li>• UFM commissioning and calibration will be completed (Attachment 5, Section I.1.D.2.1). (Prior to operating above 2546 MWt (98.4% RP).)</li> <li>• Confirm flow normalization factors (Attachment 5, Section I.1.G). (Prior to operating above 2546 MWt (98.4% RP).)</li> <li>• Rescaling and calibration of main turbine first stage pressure input to anticipated transient without scram (ATWS) mitigation system (AMSAC) (Attachment 5, Sections II.2.28, VII.2.B, VIII.2, and VIII.3). (Prior to operating above 2546 MWt (98.4% RP).)</li> <li>• Determine environmental qualification (EQ) service life for excore detectors (Attachment 5, Sections III.2.A and V.1.C). (Prior to operating above 2546 MWt (98.4% RP).)</li> <li>• The ex-core neutron detectors are scheduled to</li> </ul>				

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	<p>be replaced (Attachment 5, Section V.I.C). (Unit 1: Fall 2010 Refueling Outage. Unit 2: Spring 2011 Refueling Outage.)</p> <ul style="list-style-type: none"> <li>• Revise emergency operating procedure (EOP) setpoints (Attachment 5, Section VII.2.A). (Prior to operating above 2546 MWt (98.4% RP).)</li> <li>• The UFM feedwater flow and temperature data will be compared to the feedwater flow venturis output and the feedwater RTD output (Attachment 5, Section I.1.D.2.1). (Prior to operating above 2546 MWt (98.4% RP).)</li> </ul>				
5	<p>As a conservatism, the proposed change includes a commitment to use a 4.7 leakage factor throughout the period of application of the proposed change.</p>	09-295	05-05-09	Proposed Emergency LAR, Modified Interim Alternate Repair Criteria for Unit 1 B Steam Generator (SG) Tube Repair (ADAMS Accession No. ML09120444)	CLOSED
6	<ul style="list-style-type: none"> <li>• VEPCO commits to monitor for tube slippage as part of the SG tube inspection program for Unit 1 and Unit 2. (Starting with Unit 2 Refueling Outage 22 and during subsequent Unit 1 and Unit 2 SG inspections)</li> </ul>	09-455B (supersedes 09-455 and 09-455A)	09-30-09	Proposed LAR, One-Time Alternate Repair Criteria for SG Tube Inspection/Repair for Units 1 And 2 (ADAMS Accession No. ML09806358)	CLOSED

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	<ul style="list-style-type: none"> <li>• VEPCO commits to perform a one-time verification of the tube expansion to locate any significant deviations in the distance from the top of tubesheet to the beginning of expansion transition. If any significant deviations are found, the condition will be entered into the plants corrective action program and dispositioned. Additionally, VEPCO commits to notify the NRC of significant deviations. (Prior to the startup following Unit 2 Refueling Outage 22 and Unit 1 Refueling Outage 23)</li> <li>• VEPCO commits to plug eleven Unit 2 tubes that have been identified as not being expanded within the tubesheet in either the hot leg or cold leg. (During the Unit 2 Refueling Outage 22)</li> <li>• VEPCO commits to plug three Unit 1 tubes that have been identified as not being expanded within the tubesheet in either the hot leg or cold leg. (During the Unit 1 Refueling Outage 23)</li> <li>• VEPCO commits to the following: For the</li> </ul>				

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	<p>Condition Monitoring assessment, the component of operational leakage from the prior cycle from below the H* distance will be multiplied by a factor of 2.03 and added to the total accident leakage from any other source and compared to the allowable accident induced leakage limit. For the Operational Assessment, the difference between the allowable accident induced leakage and the accident induced leakage from sources other than the tubesheet expansion region will be divided by 2.03 and compared to the observed operational leakage. An administrative operational leakage limit will be established to not exceed the calculated value. (For every operating cycle following Unit 2 Refueling Outage 22 and Unit 1 Refueling Outage 23)</p>				
7	<p>The Surry UFSAR will be revised to address retention of irradiated reactor vessel material surveillance capsules which do not require testing to satisfy American Society for Testing and Materials (ASTM) E-185.</p>	09-507A	09-13-10	<p>Revised Reactor Vessel Materials Surveillance Capsule Withdrawal Schedules - UFSAR Change (ADAMS Accession No. ML102570804)</p>	CLOSED
8	<p>Review results of the replaced Supervisory Data Logging Card tests to determine options to reduce future failures.</p>	10-055	01-28-10	<p>LER 50-281/2009-001-00 (ADAMS Accession No. ML112081979)</p>	CLOSED

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9	<ul style="list-style-type: none"> <li>• The core reload process for Surry Power Station will ensure the Conditions and Limitations of the NRC SE for Optimized ZIRLO, as addressed in Attachment 1, are met when a batch of Optimized ZIRLO is implemented.</li> <li>• VEPCO will confirm that Westinghouse will provide additional confirmatory data associated with lead test assembly programs at other facilities prior to subsequent cycles of operation with Optimized ZIRLO fuel rod cladding.</li> </ul>	10-074	02-10-10	LAR for Use of Optimized ZIRLO Fuel Rod Cladding (ADAMS Accession No. ML100470738)	CLOSED
10	Upon NRC approval of the TSTF traveler, VEPCO will evaluate it for applicability to Surry 1 and 2. If a license amendment is determined to be necessary, VEPCO will submit a license amendment(s) within one year of NRC approval of the TSTF traveler.	10-304	06-08-10	Response to Request for Additional Information, GL 2008-01, -"Managing Gas Accumulation in Emergency Core Cooling, Decay Heat Removal and Containment Spray Systems" (ADAMS Accession No. ML101600115)	OPEN: Waiting on NRC TSTF approval.

D. Heacock

- 2 -

On August 9-10, 2011, the NRC staff performed an audit of Virginia Electric and Power Company's (the licensee) commitment management program at Surry Power Station, Unit Nos. 1 and 2. The NRC staff concludes that based on the audit: (1) the licensee had implemented NRC commitments on a timely basis, and (2) the licensee had implemented an effective program for managing NRC commitment changes. Details of the audit are set forth in the enclosed audit report.

Sincerely,

*/RA/*

Karen Cotton, Project Manager  
Plant Licensing Branch II-1  
Division of Operating Reactor Licensing  
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