

February 16, 2005

Mr. David A. Christian  
Sr. Vice President and Chief Nuclear Officer  
Virginia Electric and Power Company  
Innsbrook Technical Center  
5000 Dominion Blvd.  
Glen Allen, Virginia 23060-6711

SUBJECT: NORTH ANNA POWER STATION, UNITS 1 AND 2 - AUDIT OF VIRGINIA  
ELECTRIC AND POWER COMPANY'S MANAGEMENT OF REGULATORY  
COMMITMENTS (TAC NOS. MC3323 AND MC3324)

Dear Mr. Christian:

On May 27, 2003, the Office of Nuclear Reactor Regulation Office Instruction LIC-105, "Managing Regulatory Commitments Made by Licensees to the NRC [Nuclear Regulatory Commission]," was published. LIC-105 provides the NRC staff and its stakeholders with a common reference for handling regulatory commitments made to the NRC by licensees for commercial nuclear reactors. The guidance is consistent with the industry guidance prepared by the Nuclear Energy Institute's (NEI's) NEI 99-04, "Guidance for Managing NRC Commitment Changes." LIC-105 specifies that once every 3 years the NRC staff will audit a licensee's commitment management program.

On June 23, 2004, the NRC staff performed an audit of Virginia Electric and Power Company's (VEPCO's) commitment management program at North Anna Power Station, Units 1 and 2. The NRC staff concludes that based on the audit (1) VEPCO had implemented NRC commitments on a timely basis, and (2) VEPCO had implemented an effective program for managing NRC commitment changes. Details of the audit are set forth in the enclosed audit report.

Sincerely,

*/RA/*

Stephen Monarque, Project Manager, Section 1  
Project Directorate II  
Division of Licensing Project Management  
Office of Nuclear Reactor Regulation

Docket Nos. 50-338 and 50-339

Enclosure: Audit Report

cc w/encl: See next page

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DATE	2/15/05	2/15/05	2/16/05

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AUDIT REPORT BY THE OFFICE OF NUCLEAR REACTOR REGULATION  
REGULATORY COMMITMENTS MADE BY VIRGINIA ELECTRIC AND POWER COMPANY  
NORTH ANNA POWER STATION, UNIT NOS. 1 AND 2  
DOCKET NOS. 50-338 AND 50-339

## 1.0 INTRODUCTION

On May 27, 2003, the NRR Office Instruction LIC-105, "Managing Regulatory Commitments Made by Licensees to the NRC," was published. LIC-105, which is publicly available electronically from the Agencywide Documents Access and Management Systems (ADAMS) Public Electronic Reading Room on the Internet at the NRC web site (Accession Number ML022750041), provides the NRC staff and its stakeholders with a common reference for handling regulatory commitments made by licensees for commercial nuclear reactors to the NRC staff. The guidance is consistent with the industry guidance prepared by the Nuclear Energy Institute's (NEI's) NEI 99-04, "Guidance for Managing NRC Commitment Changes."

According to LIC-105 a "regulatory commitment" is 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. LIC-105 further directs 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

Since no such audit was performed before issuance of LIC-105, the NRC staff defined the period covered by this audit to go back approximately 3 years from the date of the audit. The audit was performed at North Anna Power Station on June 23, 2004.

The primary focus of the audit was to confirm that Virginia Electric and Power Company (VEPCO) has implemented those commitments made to the NRC as part of past licensing actions/activities. For commitments that had not yet been implemented, the NRC staff ascertained that they had been captured in an effective program for future implementation.

### 2.1 Audit Scope

Before the audit, the NRC staff searched ADAMS for VEPCO's licensing action and licensing activity submittals dated in the last 3 years. These commitments are shown on Table 1.

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VEPCO's commitments are tracked by the Corrective Action System. The Corrective Action System is a computer database that is used to assign and track commitments to an effective completion. Commitments that are entered into the Corrective Action System are either tracked as a Plant Issue Resolution or on a Commitment Data form. Most of VEPCO's commitments that are shown on Table 1 were tracked as a Plant Issue Resolution. During the June 23, 2004 audit, the NRC staff reviewed the Plant Issue Resolution reports, VEPCO's submittals, and other documents related to the commitments.

LIC-105 limits the audit of commitments to those made in writing to the NRC as a result of past licensing actions (amendments, exemptions, etc.) or licensing activities (bulletins, generic letters, etc.). Accordingly, the audit excluded the following types of commitments:

- (1) Commitments as a result of Licensee Event Reports (LERs) - These commitments are controlled by VEPCO's LER process, which is imposed by Title 10 of the *Code of Federal Regulations* (10 CFR) Section 50.73.
- (2) Commitments made on VEPCO's own initiative among internal organizational components and not reported to the NRC staff.
- (3) Commitments integrated into the Updated Final Safety Analysis Reports, Quality Assurance Program, Site Security Plan, Emergency Plan, or other documents governed by a change control mechanism contained in regulations such as 10 CFR 50.59 or 50.54.

## 2.2 Audit Results

The NRC staff reviewed reports generated by the Corrective Action System for the commitments listed in Table 1 in order to evaluate the status of completion. The NRC staff found that VEPCO's commitment tracking program had captured all of the pending regulatory commitments that were identified by the NRC staff. The NRC staff also reviewed plant issue resolutions that had been revised as a result of commitments made by VEPCO to NRC. These procedures are identified in the right-hand column of Table 1.

The NRC staff reviewed several of VEPCO's commitments that had been impacted by the replacement of the reactor pressure vessel (RPV) heads. VEPCO had committed to several inspections of the RPV upper heads; however, these inspections were no longer being performed because these heads had been replaced. For instance, the NRC staff reviewed VEPCO's commitment to perform bare-metal visual inspections of the RPV upper heads during future refueling outages (RFOs) at North Anna until these heads were replaced. Because VEPCO replaced the RPV upper heads in a subsequent RFO, this negated the need to continue to perform these inspections. Therefore, the NRC staff considers this commitment to have been completed.

By letter dated November 5, 2001, VEPCO committed to inspect Penetration Nos. 3, 11, 31, 33, 52, 57, 60, and 66 at North Anna, Unit 1 during subsequent RFOs. While performing an RPV upper head examination during the fall 2001 RFO, VEPCO had discovered relevant indications on these eight penetrations. As a result, VEPCO made a commitment to inspect these eight penetrations. Additionally, as part of its response to Bulletin 2002-02, "Reactor Pressure Vessel Head and Vessel Head Penetration Nozzle Inspection Programs," dated September 12, 2002, VEPCO made another commitment to perform a bare-metal visual and best effort

non-visual inspection of the RPV upper head at North Anna during the next RFO for each unit. During the spring 2003 and fall 2002 RFOs, VEPCO replaced the RPV upper heads for North Anna, Units 1 and 2, respectively. This action nullified the need to inspect the replaced RPV upper heads and their penetrations. Furthermore, NRC Order EA-03-009, "Issuance of First Revised NRC Order Establishing Interim Inspection Requirements for Reactor Pressure Vessel Heads at Pressurized Water Reactors," dated February 20, 2004, provides the inspection requirements for the replacement RPV upper heads. As such, the NRC staff considers these commitments involving the inspection of the replaced RPV upper heads to be completed.

### 2.3 Verification of VEPCO's Program for Managing NRC Commitment Changes

The NRC staff reviewed VEPCO's procedure entitled "Commitment Management," VPAP-2801, Revision 3, against NEI 99-04. Attachments 3 and 4 of VPAP-2801, Revision 3 provide details on the commitment management process that closely follows the guidance of NEI-99-04. In general, VPAP-2801, Revision 3 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 NRC staff found that VEPCO had properly addressed each regulatory commitment selected for this audit. As a result of reviewing VEPCO's information, as well as information from other sources, the NRC staff found no reason to differ from VEPCO's reported status of the audited commitments. Thus, the NRC staff concludes that the procedure used by VEPCO to manage commitments is appropriate and effective.

### 3.0 CONCLUSION

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

### 4.0 VEPCO PERSONNEL CONTACTED FOR THIS AUDIT

M. Whalen  
J. Leberstein

Principal Contributor: S. Monarque

Date: February 16, 2005

**TABLE 1**  
**AUDITED WRITTEN COMMITMENTS AND RELATED INFORMATION**

<b>VEPCO'S Submittal</b>	<b>NRC TAC NO.</b>	<b>VEPCO Issuance</b>	<b>Summary of Commitment</b>	<b>VEPCO's Implementation Status</b>
11/5/2001 Ser 01-490A	MB2641	Response to Bulletin 2001-01 for North Anna, Unit 1	The 11/05/2001 letter provided the following commitment on the inspection of the reactor vessel upper head. (1) Periodic inspection of the indications associated with these eight penetrations (i.e., Penetration Nos. 3, 11, 31, 33, 52, 57, 60, 66) will be performed during subsequent RFO, as required by ASME Section XI, to minimize the probability of a rapidly propagating fracture of the pressure boundary.	Completed. The Unit 1 reactor vessel head was replaced during the subsequent (spring 2003) RFO. NRC Order EA-03-009 established the inspection requirements for the replacement head.
01/11/2002 Ser 01-490E	MB2642	Response to Bulletin 2001-01 for North Anna, Unit 2	The 01/11/2002 letter provided the following commitment regarding the inspection of the Unit 2 reactor vessel head. "Submit a copy of the final metallurgical analysis report, when received from Westinghouse."	Completed. The Unit 2 analysis was received on March 22, 2002.
04/01/2002 Ser 02-168	MB4557 and MB4558	Bulletin 2002-01 for North Anna, Units 1 and 2	The 04/01/2002 letter provided the following commitment. "A qualified bare metal visual inspection of the reactor vessel head inside the ventilation shroud will be performed during each scheduled RFO for North Anna, until each unit's reactor vessel head is replaced."	Completed. The Unit 2 RPV head was replaced during the subsequent (fall 2002) RFO. Likewise, the Unit 1 RPV head was replaced during the spring 2003 RFO.
09/12/2002 Ser 02-491	MB5903 and MB5904	Bulletin 2002-02 for North Anna, Units 1 and 2	The 09/12/2002 letter provided a commitment to perform a bare metal visual and best effort non-visual inspection of the RPV head and upper head penetrations for the North Anna units during the next scheduled RFO for each unit.	Completed. By letter dated 01/23/2003, the Unit 2 RPV head was replaced during the fall 2002 RFO, and the Unit 1 RPV head was replaced during the spring 2003 RFO.

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02/14/2003 Ser 02-633	N/A	Commitment change for steam generator power operated relief valves (SG PORVs) for North Anna, Unit 2	Revise existing commitment associated with the operation of the SG PORVs.	Pending. Plant Issue Resolution N-2004-409, VEPCO intends to submit a basis change that incorporates this revised commitment.
05/21/2003 Ser 03-350	N/A	10 CFR 50.46 Annual Report of ECCS model changes	Complete re-analysis of the large-break loss-of-coolant accident for North Anna by June 30, 2004	Completed. The re-analysis was submitted on 6/18/2004.
2/12/2004 Ser 03-494A	MB6957 and MB6958	Request for amendment to extend inverter allowed outage time	The 2/12/2004 letter provided the following commitments. (1) entry into extended inverter completion time will not be planned concurrent with emergency diesel generator maintenance, and (2) entry into extended completion time will be planned concurrent with planned maintenance on another RPS/ESFAS channel.	Completed. Staff issued the amendments on 5/12/2004. VEPCO has completed bases and UFSAR changes that implement commitments. Refer to Plant Issue Resolution N-2002-3519-R1, N-2002-3519-R7, N-2002-3519-R3
11/17/2003 Ser 03-459A	MC0548 and MC0549	Response to Bulletin 2003-02	(1) Perform a bare metal visual examination on the 50 bottom mounted instrumentation penetration nozzles during the Unit 2 spring 2004 RFO and the Unit 1 Fall 2002 RFO, and (2) perform a bare metal visual examination of the bottom mounted instrumentation penetration nozzles during subsequent RFOs. This schedule may be adjusted in the future should ongoing research and inspection results justify a less frequent inspection schedule.	Completed. For Units 1 and 2, Plant Issue Resolution N-2004-0035-R1 and N-2004-0035-R2. For future outages, augmented Inspection Manual Attachment 44 will govern future inspections at both units.
01/28/04 Ser 03-348	MC1917 and MC1918	Commitment change on leak detection system used to monitor high energy piping outside of containment	Eliminates the leak detection system used for monitoring the main steam and main feedwater system piping. Adds a commitment to modify daily operator's logs to document no piping or weld leakage from MS and FW lines in the mechanical equipment room.	Pending. Refer to Plant Issue Resolution 2004-0331, daily operator logs 1-LOG-6C and 2-LOG-6C

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11/10/2003 Ser 03-313G  01/06/2004 Ser 03-313J  06/16/2004 Ser 03-407A	MB4714 and MB4715	License amendment request to replace Westinghouse fuel with Framatome fuel at North Anna, Units 1 and 2	VEPCO's letters dated November 10, 2003, January 6, 2004, and June 16, 2004, provided the following commitments: (1) Add a 64 degree penalty to the peak cladding temperature, calculated by disabling the Forslund Rohsenow correlation for rod to droplet heat transfer (on the hot rod) when $T_{wall} > T_{min}$ . This departure from the methodology in the approved RLBLOCA topical, EMF-2103(P)(A), will be documented in the UFSAR, (2) the first report of LBLOCA PCT effects made per the provisions of 10 CFR 50.46(a)(3)(ii) following operation with Framatome fuel will include an additional 8 degree on the reported 95/95 PCT result, and (3) in future North Anna RLBLOCA analyses, the assumed treatment of RWST temperature in the containment pressure analyses will be either a biased lower bound or sampled range that encompasses the allowable TS values. This modeling change will be incorporated into the first RLBLOCA reanalysis following operation with Framatome fuel.	Completed. Plant Issue Resolution N-2002-0751-R38.  Pending Plant Issue Resolution N-2002-0751-R39.  Pending Plant Issue Resolution N-2002-0751-R40.  Pending Plant Issue Resolution N-2002-0751-R43.  Completed. Plant Issue Resolution N-2004-0075-R1  Completed. Plant Issue Resolution N-2004-0054-R1  Pending. Plant Issue Resolution N-2004-0054-R2
06/18/2004 Ser 03-407B	MB4714	License amendment request to replace Westinghouse fuel with Framatome fuel at Unit 1	VEPCO's letter dated June 18, 2004 provided the following commitment: provide confirmation of the adequacy of previous responses to requests for additional information and any necessary clarifications, resulting from the revised Unit 1 realistic large break LOCA analyses.	Completed. Plant Issue Resolution N-2002-0751-R41, and VEPCO's letter dated June 18, 2004.
06/18/2004 Ser 03-313N	MB4714 and MB4715	License amendment request to replace Westinghouse fuel with Framatome fuel at North Anna, Units 1 and 2.	VEPCO's letter dated June 18, 2004, provided the following commitment: VEPCO will conduct a review of Framatome ANP's design control processes and documentation related to the RLBLOCA analysis for North Anna Units 1 and 2. This review is expected to be completed by July 30, 2004.	Completed. Plant Issue Resolution N-2002-0751-R42

Mr. David A. Christian  
Virginia Electric and Power Company

North Anna Power Station  
Units 1 and 2

cc:

Mr. C. Lee Lintecum  
County Administrator  
Louisa County  
Post Office Box 160  
Louisa, Virginia 23093

Mr. Jack M. Davis  
Site Vice President  
North Anna Power Station  
Virginia Electric and Power Company  
Post Office Box 402  
Mineral, Virginia 23117-0402

Ms. Lillian M. Cuoco, Esq.  
Senior Counsel  
Dominion Resources Services, Inc.  
Building 475, 5th floor  
Rope Ferry Road  
Waterford, Connecticut 06385

Dr. Robert B. Stroube, MD, MPH  
State Health Commissioner  
Office of the Commissioner  
Virginia Department of Health  
Post Office Box 2448  
Richmond, Virginia 23218

Dr. W. T. Lough  
Virginia State Corporation Commission  
Division of Energy Regulation  
Post Office Box 1197  
Richmond, Virginia 23218

Old Dominion Electric Cooperative  
4201 Dominion Blvd.  
Glen Allen, Virginia 23060

Mr. Chris L. Funderburk, Director  
Nuclear Licensing & Operations Support  
Dominion Resources Services, Inc.  
Innsbrook Technical Center  
5000 Dominion Blvd.  
Glen Allen, Virginia 23060-6711

Office of the Attorney General  
Commonwealth of Virginia  
900 East Main Street  
Richmond, Virginia 23219

Senior Resident Inspector  
North Anna Power Station  
U. S. Nuclear Regulatory Commission  
1024 Haley Drive  
Mineral, Virginia 23117