

VIRGINIA ELECTRIC AND POWER COMPANY
RICHMOND, VIRGINIA 23261

September 5, 2008

U.S. Nuclear Regulatory Commission
Attention: Document Control Desk
One White Flint North
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Serial No. 08-0541
NL&OS/GDM R0
Docket Nos. 50-338/339
50-280/281
License Nos. NPF-4/7
DPR-32/37

VIRGINIA ELECTRIC AND POWER COMPANY (DOMINION)
NORTH ANNA AND SURRY POWER STATION UNITS 1 AND 2
NRC GENERIC LETTER (GL) 2004-02, POTENTIAL IMPACT OF DEBRIS
BLOCKAGE ON EMERGENCY RECIRCULATION DURING DESIGN BASIS
ACCIDENTS AT PRESSURIZED-WATER REACTORS
REQUEST FOR EXTENSION OF COMPLETION DATES FOR CORRECTIVE
ACTIONS

In a letter dated November 15, 2007 (Serial No. 07-0660), Dominion submitted schedule extension requests for both units of North Anna and Surry Power Stations to extend the completion date for corrective actions associated with GL 2004-02. The request was primarily for the completion of downstream effects evaluations and chemical effects testing and evaluation. The requested extension date for the North Anna and Surry units was November 30, 2008. In a letter dated December 13, 2007, the NRC granted Dominion an extension to May 31, 2008 citing the importance of prompt closure of GL 2004-02 and the potential for schedule improvement.

It later became evident that not all of the remaining corrective actions could be completed by May 31, 2008. In a letter dated May 21, 2008 (Serial No. 08-0275), Dominion requested an extension until September 30, 2008 to complete GL 2004-02 corrective actions for North Anna and Surry. The requested extension period was to complete the remaining chemical effects testing and evaluation and downstream effects analyses. By letter dated July 1, 2008, the NRC approved the extension request.

Request for Extension for North Anna Units 1 and 2 and Surry Units 1 and 2

Significant progress has been made to complete the remaining chemical effects testing and evaluation and the downstream component wear, system performance, and pump seal evaluations. As further discussed below, the completed chemical effects evaluations for North Anna and Surry have concluded that the quantity of aluminum in containment that is subject to spray or submergence during a design basis accident must be reduced to ensure proper containment sump performance. In addition, further analysis of High Head Safety Injection (HHSI) pump wear and seal performance is required to determine a more realistic evaluation of pump performance under expected post-accident conditions.

- Chemical Effects Testing/Evaluation Results - Dominion has completed chemical effects testing and evaluations for North Anna and Surry Units 1 and 2. The test results indicate that aluminum remediation by encapsulation, removal and/or relocation is required for the Surry Unit 1 and North Anna Units 1 and 2 containments to ensure that the containment sump strainers can effectively perform their design function in a post-accident environment.

The required aluminum reduction for Surry Unit 1 consists of either removing or protecting an aluminum storage box in containment. The aluminum remediation effort required for North Anna Units 1 and 2 is considerably more extensive than Surry. Several activities are underway to decrease the amount of aluminum in containment that is subject to corrosion including: 1) the determination of the number of control rod drive mechanisms (CRDM) and reactor protection instrumentation (RPI) connectors that are subject to spray, 2) the implementation of procedure changes to ensure that the CRDM fans are not restarted when the Quench Spray and/or Recirculation Spray (RS) systems are in operation, and 3) the encapsulation, removal, and/or relocation of aluminum ladders to eliminate the chemical effects of the containment sprays. These activities will be completed by the current September 30, 2008 extension date for Surry Unit 1 and North Anna Unit 1 and prior to restart of North Anna Unit 2 after entering a mid September 2008 refueling outage.

- Downstream Effects Analysis Results (Pump Wear and Seal Performance) - The downstream effects evaluations that were performed for the RS system and the Emergency Core Cooling System (ECCS) pumps have concluded that the RS and Low Head Safety Injection (LHSI) pumps' wear and seal performance are expected to be acceptable for post-accident sump conditions. However, the initial evaluations performed for HHSI pump wear and seal performance indicated that additional analysis using more realistic, yet conservative, operating conditions is required to confirm proper pump performance under expected post-accident operating conditions. This confirmatory analysis is ongoing by the original pump manufacturer and favorable results are expected. However, the Surry and North Anna evaluations will not be completed, reviewed and accepted until October 31, 2008.
- Licensing and Design Basis Documentation Update - Due to the need for an extension to complete the HHSI pump wear and seal evaluations for Surry and North Anna Units 1 and 2, additional time is also required to complete the necessary design and licensing bases documentation updates upon completion of these activities.

Therefore, based on the information discussed above, an extension is requested to November 30, 2008 for Surry and North Anna Units 1 and 2. The remaining

milestones for the completion of GL 2004-02 corrective actions for Surry and North Anna units are provided in the attachment.

Basis for the Extension Request

This extension request is supported by the previous extension request bases included in Dominion's November 15, 2007 letter, as updated by the May 21, 2008 letter, which addressed the three criteria contained in SECY-06-0078 dated March 31, 2006, "Criteria for Evaluating Delay of Hardware Changes," and the applicable elements of the NRC justification for continued operation in the "Summary of July 26-27, 2001 Meeting with Nuclear Energy Institute and Industry on ECCS Strainer Blockage in PWRs," dated August 14, 2001 for each plant. The bases included in the November 15, 2007 and May 21, 2008 letters, remain valid and applicable for this extension request and continue to confirm that North Anna and Surry Units 1 and 2 will continue to meet their current plant licensing bases regarding the function and operability of the containment sumps during the period of the requested extensions in that:

- The plants have completed considerable physical modifications and analytical activities, including replacing the ECCS and RS strainers, to ensure a high degree of Emergency Core Cooling System (ECCS) and Recirculation Spray (RS) System (as applicable) performance,
- The plants have implemented mitigative measures to minimize the risk of degraded ECCS and RS (as applicable) functions during the extension period, and
- The plants have plant-specific plans with milestones and schedules to address the outstanding technical issues with sufficient conservatism to address uncertainties (see attachment).

Furthermore, a risk assessment associated with the extension for the completion of the Surry and North Anna Units 1 and 2 GL 2004-02 corrective actions was previously performed and was also provided in our November 15, 2007 letter. The risk assessment determined that the risk was "small" for an extension of corrective action completion until November 30, 2008 and remains valid for the Surry and North Anna extension requests to November 30, 2008 contained herein as well.

Therefore, Dominion has established that there is reasonable assurance during the requested extension period that North Anna Units 1 and 2 and Surry Units 1 and 2 will provide acceptable strainer function with adequate margin for uncertainties, as previously confirmed in the NRC's July 1, 2008 letter.

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ATTACHMENT

GL 2004-02 Project Milestone Schedules

**Virginia Electric and Power Company
(Dominion)
North Anna and Surry Power Stations Units 1 and 2**

NORTH ANNA UNITS 1 AND 2 MILESTONE SCHEDULE

UNIT	TASK	TARGET COMPLETION
HHSI Pump Analysis		
1&2	HHSI Pump Wear Evaluation	10/31/08
1&2	HHSI Pump Seal Evaluation	10/31/08
Plant Modifications		
1	Reduce Aluminum Inventory in Containment	09/30/08
2	Reduce Aluminum Inventory in Containment	10/15/08* *Prior to restart from refueling outage.
GSI-191 Design Basis Documentation		
1&2	Field Change Unit 2 Containment Sump Strainer Design Change Package	11/15/08
1&2	Update documentation for complete compliance with GSI-191	11/30/08

SURRY UNITS 1 AND 2 MILESTONE SCHEDULE

UNIT	TASK	TARGET COMPLETION
HHSI Pump Analysis		
1&2	HHSI Pump Wear Evaluation	10/31/08
1&2	HHSI Pump Seal Evaluation	10/31/08
Plant Modifications		
1	Reduce Aluminum Inventory in Containment	09/30/08
License Amendment Request (LAR)		
1&2	Obtain NRC Approval of LAR to delete obsolete RS system minimum flow value	09/30/08
1&2	Incorporate approved LAR into Licensing and Design Bases	10/22/08
GSI-191 Design Basis Documentation		
1&2	Field Change Unit 1 Containment Sump Strainer Design Change Package	11/15/08
1&2	Update documentation for complete compliance with GSI-191	11/30/08