

August 6, 2012

U.S. Nuclear Regulatory Commission
Attention: Document Control Desk
Washington, D.C. 20555

Serial No. 12-476
NL&OS/ETS
Docket Nos. 50-338/339
License Nos. NPF-4/7

VIRGINIA ELECTRIC AND POWER COMPANY (DOMINION)
NORTH ANNA POWER STATION UNITS 1 AND 2
RESPONSE TO REQUEST FOR ADDITIONAL INFORMATION
ELIMINATION OF THE STEAM GENERATOR WATER LEVEL LOW COINCIDENT
WITH STEAM FLOW/FEEDWATER FLOW MISMATCH REACTOR TRIP

In an April 2, 2012 letter (Serial No. 12-070), Dominion requested amendments, in the form of changes to the Technical Specifications (TS) to Facility Operating License Numbers NPF-4 and NPF-7 for North Anna Power Station Units 1 and 2, respectively. The proposed amendment will delete the Steam Generator Water Level Low Coincident with Steam Flow/Feedwater Flow Mismatch Reactor Trip Function from the Unit 1 and Unit 2 North Anna Power Station TS. In a July 10, 2012 e-mail, the NRC requested additional information to complete the review on the proposed amendments. The attachment to this letter provides the requested information.

Dominion continues to request approval of the proposed amendments by March 31, 2013 with a staggered implementation schedule. Once approved, the amendments will be implemented during the spring 2013 refueling outage for Unit 2 and the fall 2013 refueling outage for Unit 1 following installation of Steam Generator (SG) narrow range level Median Signal Selector (MSS) switches in the feedwater control system.

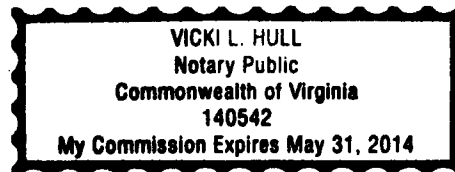
If you have any questions or require additional information, please contact Mr. Thomas Shaub at (804) 273-2763.

Very truly yours,



J. Alan Price
Vice President – Nuclear Engineering

COMMONWEALTH OF VIRGINIA)
)
COUNTY OF HENRICO)



The foregoing document was acknowledged before me, in and for the County and Commonwealth aforesaid, today by J. Alan Price, who is the Vice President – Nuclear Engineering of Virginia Electric and Power Company. He has affirmed before me that he is duly authorized to execute and file the foregoing document in behalf of that Company, and that the statements in the document are true to the best of his knowledge and belief.

Acknowledged before me this 6TH day of August, 2012.

My Commission Expires: May 31, 2014

Vicki L. Hull
Notary Public

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NER

Commitments made in this letter: None

Attachment:

1. Response to Request for Additional Information

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Attachment

Response to Request for Additional Information

**Elimination of the Steam Generator Water Level Low Coincident with Steam
Flow/Feedwater Flow Mismatch Reactor Trip**

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

**Response to Request for Additional Information
Elimination of the Steam Generator Water Level Low Coincident with Steam
Flow/Feedwater Flow Mismatch Reactor Trip**

Background

In an April 2, 2012 letter (Serial No. 12-070), Dominion requested amendments, in the form of changes to the Technical Specifications (TS) to Facility Operating License Numbers NPF-4 and NPF-7 for North Anna Power Station Units 1 and 2, respectively. The proposed amendment will delete the Steam Generator Water Level Low Coincident with Steam Flow/Feedwater Flow Mismatch Reactor Trip Function from the Unit 1 and Unit 2 North Anna Power Station TS. This trip function will be deleted from TS Table 3.3.1-1 Item 15. In a July 10, 2012 e-mail the NRC requested additional information to complete the review on the proposed amendments. The requested information is provided below.

NRC Requested Information

NRC Question 1

In the license amendment request (LAR), the statement is made that "the three outputs from the steam generator narrow-range level channels are processed in the Westinghouse 7300 Process Protection Racks of the reactor protection system (RPS), and then are inputted to the respective MSS". Based upon this statement, it is unclear to the staff exactly how the signals are routed to the median signal selector (MSS), which is used for steam generator water level control. In order for the staff to make a finding relative to IEEE 279-1971, Clause 4.7.2, which covers isolation between control and protection systems, please provide clarification regarding how the steam generator water level signals travel to the RPS and MSS, respectively. If the signals do pass through the RPS, please provide information regarding what isolation device(s) are used between the RPS and MSS that are credited for complying with Clause 4.7.2.

Dominion Response

IEEE 279-1971, Clause 4.7.2 requires that the transmission of signals from protection system equipment for control system uses shall be through isolation devices which shall be classified as part of the protection system and shall meet all the requirements of IEEE 279-1971.

The Westinghouse 7300 Process Protection Racks of the reactor protection system (RPS) contain qualified isolation devices for each of the three narrow-range level channels for each steam generator. The isolation devices are located in the Westinghouse 7300 Process Protection Racks, and the feedwater control components (including the proposed MSS device) are/will be located in the Westinghouse 7300 Process Control Racks. Currently, an isolated signal from each of the three channels per steam generator is used for indication and AMSAC, and an isolated signal from one of the three channels is also used for steam generator level control. Following

installation of the MSS devices, an isolated signal from each of the three channels will be used by the feedwater control system. Figure 1 below illustrates the isolation configuration for a SG level channel.

NRC Question 2

Item 14 of Table 3.3.1-1 of the Technical Specification indicates that three channels of steam generator water level are required for operations and that Surveillance Requirement 3.3.1.1 applies to those channels. SR 3.3.1.1 mandates a channel check of these channels be performed "in accordance with the Surveillance Frequency Control Program". Please confirm that this channel check can still be accomplished with the installation of the MSS, and provide the frequency of the channel checks performed on the steam generator water level channels. Staff is looking to ensure that the MSS installation will not impact the system's compliance with Clause 4.9 of IEEE 279-1971, which addresses sensor checking capability.

Dominion Response

The frequency of Surveillance Requirement 3.3.1.1 for Item 14 of Table 3.3.1-1 of the Technical Specifications is specified in the NAPS Surveillance Frequency Control Program (SFCP) as every 12 hours. The SFCP provides the following direction for this item:

Performance of the CHANNEL CHECK once every 12 hours ensures that gross failure of instrumentation has not occurred. The Frequency is based on operating experience that demonstrates channel failure is rare. The CHANNEL CHECK supplements less formal, but more frequent, checks of channels during normal operational use of the displays associated with the LCO required channels.

The channel check surveillance is unchanged by installation of the MSS card in the feedwater control system since the indication for each channel, including the control board indicators and the inputs to the Plant Computer System (PCS), is unaffected by this change for the three channels. For two of the three channels (Channels 1 and II), the isolated signal currently used for indication will now also be used as an input to the steam generator level control system similar to Channel III signal. No other change will be made to the control board indicators or inputs to the PCS or MUX devices as a result of the installation of the MSS cards. The new configuration of Channel I and II for use by the feedwater control system will be similar to the present arrangement and use of the Channel III signal. The channel check is performed using the control board indication.

Following this change, each of the three channels will have equivalent configurations with respect to Clause 4.9 of IEEE 279-1971 as the existing configuration of Channel III. Therefore there is no effect on the system's compliance with Clause 4.9 of IEEE 279-1971.

Figure 1

