VIRGINIA ELECTRIC AND POWER COMPANY
RICHMOND, VIRGINIA 23261

June 4, 2013

Attention: Document Control Desk
U.S. Nuclear Regulatory Commission
Washington, D.C. 20555-0001

Serial No.: 13-311
SPS-LIC/CGL R2
Docket Nos.: 50-280
50-281
License Nos.: DPR-32
DPR-37

VIRGINIA ELECTRIC AND POWER COMPANY
SURRY POWER STATION UNITS 1 AND 2
RESPONSE TO REQUEST FOR ADDITIONAL INFORMATION FOR PROPOSED LICENSE AMENDMENT REQUEST REGARDING TEMPORARY SERVICE WATER JUMPER TO THE COMPONENT COOLING HEAT EXCHANGERS

In a letter dated September 26, 2012 (Serial No. 12-615), Virginia Electric and Power Company (Dominion) requested an amendment in the form of changes to the Technical Specifications (TS) to Facility Operating Licenses DPR-32 and DPR-37 for Surry Power Station Units 1 and 2, respectively. The proposed amendments establish the requirements for the use of a temporary supply line (jumper) to provide service water (SW) to the component cooling heat exchangers (CCHXs). Use of the temporary SW jumper is required to facilitate planned maintenance activities (i.e., cleaning, inspection, repair (as needed), and recoating (as needed)) on the existing, single, concrete-encased SW supply piping to the CCHXs.

In a May 15, 2013 e-mail from Ms. Karen Cotton Gross (NRC Project Manager) to Mr. Gary Miller (Dominion Corporate Licensing), the NRC staff requested additional information regarding the proposed SW jumper amendment. The attachment to this letter provides the requested information.

The information provided in this letter does not affect the conclusion of the significant hazards consideration discussion in the Dominion letter dated September 26, 2012 (Serial No. 12-615).

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Dominion continues to request approval of the proposed license amendments by September 30, 2013 with a 30-day implementation period.

If you have any questions, please contact Mr. Gary Miller at (804) 273-2771.

Sincerely,

E. S. Grecheck
Vice President – Nuclear Engineering and Development

Attachment:
Response to NRC Request for Additional Information dated May 15, 2013

Commitments made in this letter: None

COMMONWEALTH OF VIRGINIA)
)
COUNTY OF HENRICO)

The foregoing document was acknowledged before me, in and for the County and Commonwealth aforesaid, today by E. S Grecheck, who is Vice President – Nuclear Engineering and Development, 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 the Company, and that the statements in the document are true to the best of his knowledge and belief.

Acknowledged before me this 4TH day of June, 2013.

My Commission Expires: May 31, 2014.

VICKI L. HULL
Notary Public
Commonwealth of Virginia
140542
My Commission Expires May 31, 2014

Vicki L. Hull
Notary Public (SEAL)

cc: Region II Administrator
U. S. Nuclear Regulatory Commission
Marquis One Tower
245 Peachtree Center Ave., NE
Suite 1200
Atlanta, Georgia 30303-1257

State Health Commissioner
Virginia Department of Health
James Madison Building – 7th floor
109 Governor Street, Suite 730
Richmond, Virginia 23219

Ms. K. Cotton Gross
NRC Project Manager Surry
U. S. Nuclear Regulatory Commission
One White Flint North
Mail Stop O8 G-9A
11555 Rockville Pike
Rockville, MD 20852-2738

Dr. V. Sreenivas
NRC Project Manager North Anna
U. S. Nuclear Regulatory Commission
One White Flint North
Mail Stop O8 G-9A
11555 Rockville Pike
Rockville, MD 20852-2738

NRC Senior Resident Inspector
Surry Power Station

Attachment

Response to NRC Request for Additional Information dated May 15, 2013

Surry Power Station
Units 1 and 2
Virginia Electric and Power Company (Dominion)

RESPONSE TO NRC REQUEST FOR ADDITIONAL INFORMATION DATED MAY 15, 2013

In a May 15, 2013 e-mail from Ms. Karen Cotton Gross (NRC Project Manager) to Mr. Gary Miller (Dominion Corporate Licensing), the NRC staff requested additional information regarding the SW jumper proposed amendment. The following discussion provides the requested information.

NRC Question 1

Chapter 10 of the Code of Federal Regulations, Part 50, Appendix A, Criterion 44, "Cooling water", requires each unit at a nuclear power facility to have a system to transfer heat from structures, systems, and components (SSC) important to safety to an ultimate heat sink under normal operating and accident conditions. Surry Power Station (SPS) uses service water as cooling water for heat exchangers that remove heat from the component cooling water system resulting from the operation of various SSCs. SPS uses river water as a source for the service water system.

By letter dated September 26, 2012, Virginia Electric and Power Company (licensee) requested an amendment to their operating license for SPS to facilitate inspection, cleaning and repair of the service water system. In order to dewater the SW piping and continue to provide the required cooling water, the licensee must install a temporary SW jumper from "C" Circulating Water (CW) supply piping to the "A" and "B" component cooling water heat exchangers (CCHXs). The license amendment request (LAR) states that the design temperature range for this piping is 32°F to 80°F and that the temporary jumper will not be put into service if the SW supply (i.e., the river water) is above 80°F. The LAR does not specify if the 80°F is an instantaneous temperature reading or an average taken over a period of time. In addition, the LAR does not contain any information about provisions or contingencies should the SW supply exceed 80°F.

The staff requests that the licensee provide the following information:

1.1 What does the 80°F temperature limit represent (e.g., instantaneous temperature, 30 min./hourly/daily average, etc.)?

1.2 When are the temperature readings taken?

Dominion Response to Questions 1.1 and 1.2

The 80°F SW temperature limit is an operational restriction that is in place for sufficient cooling capability of the 30" jumper. To prevent jumper operation with SW temperature in excess of 80°F, the instantaneous CW temperature is logged by operations personnel at each waterbox inlet four times a day. The Operations logs specify target times as 03:00, 09:00, 15:00, and 21:00 for these log entries to be recorded. The individual

values of, as well as the average of, the inservice waterbox inlet CW temperatures will be monitored while the SW jumper is in service. As noted in the response to Question 1.4 below, if the average of the inservice waterbox inlet CW temperatures exceeds 70°F, trending of the temperature will be initiated.

Historical data for the Units 1 and 2 inlet CW temperatures from October and November of 2011 and 2012 were reviewed. The maximum monthly temperatures are as follows:

Unit 1	2011 Max Inlet CW Temp (°F)	2012 Max Inlet CW Temp (°F)
October	76	77.1
November	60.3	64.9

Unit 2	2011 Max Inlet CW Temp (°F)	2012 Max Inlet CW Temp (°F)
October	75.9	76.7
November	60.3	Not in service

It should be noted that the maximum October 2011 and 2012 inlet CW temperatures, which are below the 80°F temperature limit, occurred early in the month. Because the Unit 1 fall 2013 refueling outage is scheduled to commence in late October, an inlet CW temperature approaching 80°F is not anticipated while the SW jumper is in service.

1.3 What is the contingency to restore normal SW should the temperature exceed 80°F?

Dominion Response to Question 1.3

The contingency action plan discussed in our September 26, 2012 letter (Serial No. 12-615) describes the actions that will be taken to restore the normal 42-inch Service Water (SW) supply line in the event of moderate-to-high volume leakage, extreme weather conditions, or particular plant conditions. The same actions would be taken to restore the normal SW in the unlikely event that the SW temperature would exceed 80°F, which is an operational restriction that is in place for sufficient cooling capability of the 30-inch jumper.

The contingency action plan has the following four phases of activity:

Phase I	Evacuation	Remove equipment, debris, and personnel from the piping.
Phase II	Restore System Integrity	Establish flow path integrity by installing manways and removing or installing blanks.
Phase III	Reflood	Open stop logs and flood up to installed SW-MOV-102 valve.
Phase IV	Flow	Open SW-MOV-102 valve and restore flow to "C" and "D" CCHXs.

The details of the contingency action plan are provided in Section 4.3 (Contingency Action Plan) in Attachment 1 of our September 26, 2012 letter.

1.4 Is the temperature trended to project future temperature, and if so how long before the temperature is projected to exceed 80°F is the contingency to restore normal SW put in place?

Dominion Response to Question 1.4

While the SW jumper is in service, if the average of the inservice waterbox inlet CW temperatures exceeds 70°F, trending of the temperature will be initiated. The timing of the actions that would be taken to restore the normal SW and to prevent jumper operation with SW temperature in excess of 80°F will be dependent upon the progression of the temperature increase.

1.5 If the temperature is not trended, please provide an explanation of how you intend to determine when to restore normal SW to prevent the temporary SW jumper from being in service with the supply water greater than 80°F.

Dominion Response to Question 1.5

As noted in the Response to Question 1.4, the waterbox inlet CW temperature will be trended and action will be taken to restore the normal SW as necessary to prevent jumper operation with SW temperature in excess of 80°F.

NRC Question 2

Chapter 10 of the Code of Federal Regulations, Part 50, Appendix A, Criterion 44, "Cooling water," requires that the cooling water system have suitable isolation capabilities to assure the system can perform its safety function during offsite and onsite power operation. Surry Power Station (SPS) uses service water as cooling water for heat exchangers that remove heat from the component cooling water system resulting from the operation of various SSCs.

By letter dated September 26, 2012, Virginia Electric and Power Company (licensee) requested an amendment to their operating license for SPS to facilitate inspection, cleaning, and repair of the service water system. In order to dewater the SW piping and continue to provide the required cooling water, the licensee must install a temporary SW jumper from "C" Circulating Water (CW) supply piping to the "A" and "B" component cooling water heat exchangers (CCHXs). The license amendment request (LAR) states that [the] safety-related function of the jumper is to provide the system pressure boundary to deliver cooling water flow to the CCHXs while precluding flooding. The upstream isolation valve on the temporary jumper does not have automatic isolation capabilities. In order to preclude flooding should the pipe rupture, an operator must manually close the valve. The LAR states that "A 24 hours/day flood watch will be in effect when the jumper is in service, and an operator will be present with 24 hours/day administrative control of the installed manual isolation valve and the SW MOVs in accordance with Station Procedures. (Note: These functions may be performed by the same individual.)" The wording in the LAR does not provide enough clarification for what functions the same individual may perform.

The staff requests that the licensee provide the following information:

1. *Clarification for what functions the same individual may perform (i.e., can one individual be the flood watch and manual/MOV operator).*

2. *Justification for allowing the same individual to perform multiple functions.*

Dominion Response to Questions 2.1 and 2.2

The following clarification is provided regarding the personnel for the flood watch and administrative control responsibilities. The flood watch and administrative control functions will not be performed by the same individual. One individual will have responsibility for the flood watch duties when the jumper is in service. A second individual from Operations will have responsibility for the administrative control of the installed manual isolation valve and the SW motor-operated valves (MOVs). The administrative control of the installed manual isolation valve and the SW MOVs may be performed by the same individual. It is acceptable for the individual from Operations to

have the administrative control of the installed manual isolation valve and the SW MOVs. In the event that the SW jumper has to be isolated (i.e., manual isolation valve 1-SW-939 closed) and the normal SW supply restored (i.e., SW MOVs 1-SW-MOV-102A and / or 1-SW-MOV-102B opened), these functions can be performed by the same individual since these activities would be related and sequential actions to be taken in the Turbine Building basement.

NRC Question 3

Chapter 10 of the Code of Federal Regulations, Part 50, Appendix A, Criterion 44, "Cooling water", requires each unit at a nuclear power facility to have a system to transfer heat from structures, systems, and components (SSC) important to safety to an ultimate heat sink under normal operating and accident conditions. Surry Power Station (SPS) uses service water as cooling water for heat exchangers that remove heat from the component cooling water system resulting from the operation of various SSCs.

By letter dated September 26, 2012, Virginia Electric and Power Company (licensee) requested an amendment to their operating license for SPS to facilitate inspection, cleaning, and repair of the service water system. In order to dewater the SW piping and continue to provide the required cooling water, the licensee must install a temporary SW jumper from "C" Circulating Water (CW) supply piping to the "A" and "B" component cooling water heat exchangers (CCHXs). To ensure adequate cooling is available to the reactor core in the event of a loss of normal decay heat removal (e.g., loss of SW to the CCHXs), the licensee will use Operations Surveillance Procedure 1-OSP-ZZ-004, "Unit 1 Safety Systems Status List for Cold Shutdown/Refueling Conditions," during cold shutdown and refueling shutdown conditions. The LAR states that operators will perform this procedure at the beginning of each shift when fuel is in the vessel. The LAR does not specify whether an operator will perform the procedure at the beginning of the shift if there is no fuel in the reactor but fuel will be loaded later in the shift.

The staff request[s] that the licensee clarify whether procedure 1-OSP-ZZ-004 will be performed only at the beginning of each shift if there is fuel in the reactor or if the procedure will be preformed when fuel is or will be in the reactor anytime during the shift.

Dominion Response to Question 3

Procedure 1-OSP-ZZ-004 as currently written addresses the staff's question. The Initial Conditions in 1-OSP-ZZ-004 state the following:

3.1 The RCS temperature is less than or equal to 200°F.

3.2 Fuel is in the Reactor Vessel or is scheduled to be on-loaded.

In addition, Step 6.1.5 states: "IF Refueling activities are in progress or are scheduled to be performed, THEN perform Attachment 7, Refueling Shutdown Requirements or Attachment 8, Refueling Operations Requirements ... ." The refueling shutdown requirements addressed in Attachment 7 are refueling containment integrity, Residual Heat Removal (RHR) pump and heat exchanger operability, Reactor Coolant System (RCS) boron concentration, and RHR temperature. The refueling operations requirements addressed in Attachment 8 are refueling containment integrity, radiation monitor operability, source range detector operability, cavity level, RHR pump and heat exchanger operability, direct communication between the control room and the manipulator crane, RCS boron concentration, RHR temperature, reactor shutdown greater than 100 hours, control room and relay room emergency ventilation operability, control room chiller operability, main control room/emergency switchgear room air handling unit operability, 120 volt vital bus operability, spent fuel pool cooling operability, and spent fuel pool makeup water source operability.