

VIRGINIA ELECTRIC AND POWER COMPANY
RICHMOND, VIRGINIA 23261

July 30, 2015

10 CFR 50.90

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

Serial No.: 15-023A
SPS LIC/CGL: R1
Docket Nos.: 50-280/281
License Nos.: DPR-32/37

VIRGINIA ELECTRIC AND POWER COMPANY
SURRY POWER STATION UNITS 1 AND 2
UPDATE REGARDING FLUENCE ASSESSMENT TO ENCOMPASS
REACTOR VESSEL NOZZLES RELATED TO LICENSE AMENDMENT
REGARDING CLARIFICATION OF REACTOR COOLANT SYSTEM
HEATUP AND COOLDOWN LIMITATIONS TECHNICAL SPECIFICATION FIGURES

By letter dated June 3, 2014 (Serial No. 14-262), Virginia Electric and Power Company (Dominion) submitted a license amendment request (LAR) to revise the Surry Power Station (Surry) Units 1 and 2 Technical Specifications (TS) Figures 3.1-1 and 3.1-2, *Surry Units 1 and 2 Reactor Coolant System Heatup Limitations* and *Surry Units 1 and 2 Reactor Coolant System Cooldown Limitations*, respectively. The response to an NRC request for additional information (RAI) was provided to the NRC on February 4, 2015 (Serial No. 15-023). The NRC approved the LAR and issued TS Amendments 285/285 on June 26, 2015.

The February 4, 2015 letter stated that, upon receipt of the NRC RAI, Dominion initiated discussions with Westinghouse to determine a schedule for amending the axial extent of the fluence model to encompass the reactor vessel (RV) inlet and outlet nozzles. Westinghouse indicated they could complete the requested revision of the fluence model by June 30, 2015. This statement, which was provided in the RAI response, was also reflected in the NRC's Safety Evaluation (SE) for TS Amendments 285/285. The purpose of this letter is to provide an update to the NRC regarding the status of the fluence assessment for the RV inlet and outlet nozzles. Westinghouse completed a revision of the existing fluence model to include the axial extent of the RV inlet and outlet nozzles. On June 30, 2015, Westinghouse transmitted a draft report to Dominion with conservative two-dimensional synthesis fluence results that correspond to a location where the vessel shell weld attaches to the inlet and outlet nozzle forgings (i.e., at the lowest intersection of the nozzle weld at the reactor vessel shell).

The draft report confirms that eight of the twelve inlet and outlet nozzles on the Surry Units 1 and 2 RVs will have maximum fast neutron fluence less than the 1×10^{17} n/cm² (E > 1 MeV) fluence threshold. The calculation was performed for an

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effective full power years (EFPY) value beyond the Surry projected end-of-life (i.e., calculated for 54 EFPY). The current Surry end-of-life is defined as 48 EFPY in the existing TS pressure-temperature (P-T) limits curves. There are four nozzles (two nozzles on each of the RVs) that will require additional detailed fluence calculations at a more precise location in the nozzle.

Based upon our current understanding of the information in the draft Westinghouse report, Dominion will request Westinghouse to perform additional detailed fluence calculations to project the maximum fast neutron fluence at end-of-life for the remaining two nozzles on each reactor vessel. It is anticipated that the revised, more precise calculations for the remaining four nozzles will be completed by October 30, 2015. As previously committed in our February 4, 2015 letter, if the revision of the fluence model indicates the neutron fluence exposure of the inlet and outlet nozzles would be greater than $1 \times 10^{17} \text{ n/cm}^2$ ($E > 1 \text{ MeV}$) at the end of the licensed operating period, Dominion will notify the NRC accordingly and provide a schedule for determining the impact on the Surry Units 1 and 2 TS P-T limits curves.

Should you have any questions or require additional information, please contact Mr. Gary D. Miller at (804) 273-2771.

Respectfully,



Mark D. Sartain
Vice President – Nuclear Engineering

Commitment contained in this letter:

1. If the revision of the fluence model indicates the neutron fluence exposure of the inlet and outlet nozzles would be greater than $1 \times 10^{17} \text{ n/cm}^2$ ($E > 1 \text{ MeV}$) at the end of the licensed operating period, Dominion will notify the NRC accordingly and provide a schedule for determining the impact on the Surry Units 1 and 2 TS P-T limits curves.

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