

VIRGINIA ELECTRIC AND POWER COMPANY
RICHMOND, VIRGINIA 23261

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United States Nuclear Regulatory Commission
Attention: Document Control Desk
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Docket Nos. 50-280
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License Nos. DPR-32
DPR-37
NPF-4
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Gentlemen:

VIRGINIA ELECTRIC AND POWER COMPANY
SURRY POWER STATION UNITS 1 AND 2
NORTH ANNA POWER STATION UNITS 1 AND 2
RESPONSE TO NRC BULLETIN NO. 89-03
POTENTIAL LOSS OF REQUIRED SHUTDOWN MARGIN
DURING REFUELING OPERATIONS

NRC Bulletin No. 89-03 addresses the potential loss of required shutdown margin during the movement and placement of fuel during refueling operations. The bulletin also identifies actions requested to assure that adequate shutdown margin is maintained during refueling operations. The purpose of this letter is to respond to NRC Bulletin No. 89-03 relative to refueling operations at Surry and North Anna Power Stations.

The primary reason for a potential loss in shutdown margin during refueling operations is the grouping of fuel assemblies at some intermediate position prior to placement in the final core configuration. This situation potentially exists when refueling is done by in-core shuffling. In-core shuffles are not used in refueling operations at Surry or North Anna. In fact, compliance with current fuel onload sequence procedures precludes an in-core shuffle.

There have been situations in the past at both stations where the onload sequence pattern has been deviated from and assemblies have been placed at intermediate positions along the baffle. This practice is normally followed when bowed assemblies need to be "boxed in". Prior knowledge of these situations is generally not known until loading of the fuel assembly into its final location is attempted. Inverse count rate is monitored in these cases.

As stated in the bulletin, inverse count rate monitoring may not provide adequate warning of an approach to criticality. In order to prevent loss of shutdown margin during the onload sequence, the refueling procedures for Surry and North Anna will be revised to specify spacing requirements for placing fuel assemblies at intermediate positions. The required spacing will ensure maintenance of a minimum 5% shutdown margin, based on spent fuel

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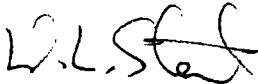
pool criticality analyses. The required revisions to the Surry and North Anna refueling procedures will be completed prior to the next refueling at each unit.

Sessions are currently conducted prior to each refueling outage to familiarize personnel performing fuel movements with the appropriate procedures and to stress the need for procedural adherence. This practice will continue and, therefore, the personnel performing fuel movements will be familiar with the above refueling procedure revisions. In addition, the training of the refueling SRO present during refueling operations includes criticality control and the potential consequences of loss of shutdown margin.

The planned refueling procedure revisions, along with familiarization sessions conducted prior to each refueling outage, will ensure that adequate shutdown margin is maintained during refueling operations.

Should you have questions regarding this information, please contact us.

Very truly yours,



W. L. Stewart
Senior Vice President - Nuclear

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