

From: Miller, Ed
Sent: Friday, May 1, 2020 3:23 PM
To: diane.aitken@dominionenergy.com
Subject: Draft RAI Rx Vessel Surveillance Capsule Schedule
Attachments: Request for Additional Information.docx

Diane,

Attached is the NRC staff's draft RAI for the subject request. The questions are being transmitted to you to determine 1) If the question clearly conveys the NRC information needs, 2) Whether the regulatory basis for the question is clear, and 3) If the information has already been provided in existing docketed correspondence. Additionally, review of the draft question will allow you to determine whether you are able to support a 30 day response time. Thank you.

Ed Miller
(301) 415-2481

Hearing Identifier: NRR_DRMA
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Recipients:
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REQUEST FOR ADDITIONAL INFORMATION
BY THE NUCLEAR METHODS AND FUEL ANALYSIS BRANCH
RELATED TO
REVISED REACTOR VESSEL MATERIAL SURVEILLANCE CAPSULE WITHDRAWAL SCHEDULE
DOMINION ENERGY VIRGINIA
NORTH ANNA POWER STATION UNITS 1 AND 2
L-2020-LLL-0038

INTRODUCTION

By letter dated November 25, 2019, Dominion Energy Virginia, the licensee for the North Anna Power Station, Units 1 and 2 (NAPS 1 and 2), submitted a request to revise the surveillance capsule withdrawal schedules for both units. Among other things, the request would revise projected fluence values for the standby capsules beyond end of life and update the fluence values for capsules removed to date. The NRC staff has reviewed the request and determined that additional information is required to complete its review, regarding the fluence values.

REGULATORY BASIS

The NRC staff review of the revised fluence projections was performed in consideration of the requirements contained in the General Design Criteria (GDCs) located in Appendix A, "General Design Criteria for Nuclear Power Plants," of Part 50, "Domestic Licensing of Production and Utilization Facilities," to Title 10, "Energy" of the *US Code of Federal Regulations* (10 CFR 50). Specifically, GDCs 14, "Reactor Coolant Pressure Boundary," 30, "Quality of Reactor Coolant Pressure Boundary," and 31, "Fracture Prevention of Reactor Coolant Pressure Boundary," apply. These GDC require the design, fabrication, and maintenance of the reactor coolant pressure boundary with adequate margin to assure that the probability of rapidly propagating failure of the boundary is minimized. In particular, GDC 31 explicitly requires consideration of the effects of irradiation on material properties.

NRC Regulatory Guide 1.190, "Calculational and Dosimetry Methods for Determining Pressure Vessel Neutron Fluence," provides guidance on methods for determining reactor pressure vessel fluence that are acceptable to the NRC staff, based on the requirements identified above (ML010890301).

REQUEST

The request stated that revised fluence values were generated and documented in WCAP-18105-NP, Revision 2, "Extended Beltline Pressure Vessel Fluence Evaluations Applicable to NAPS 1 & 2." Please provide this document, as well as any additional detail required to evaluate the acceptability of the fluence estimates in accordance with RG 1.190. If the fluence evaluations do not adhere to RG 1.190, provide additional justification that the

fluence calculations address the requirement to consider the effects of irradiation on vessel material properties, consistent with the GDCs identified above.