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Vice President - Nuclear Group

March 16, 1992

U. S. Nuclear Regulatory Commission
Attn: Document Control Desk
Washington, DC 20555

Subject: Beaver Valley Power Station, Unit No. 1
Docket No. 50-334, License No. DPR-66
RT-PTS Flux Reduction Program

This submittal is provided as required by 10 CFR 50.61 (b)(4) for licensees who have projected that material in the reactor pressure vessel beltline region will exceed the PTS screening criterion before the expiration date of the Operating License. As identified in our December 16, 1991, submittal, we projected that lower shell plate B6903-1 will exceed the screening criterion by 2°F. The regulations require that we submit an analysis and schedule for implementation of a neutron flux reduction program to avoid exceeding the PTS screening criterion. Attached is a description of the flux reduction program and implementation schedule for the Unit 1 reactor pressure vessel.

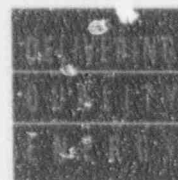
In addition, the NRC responded on February 6, 1992, to our request for approval of the methodology for margin determination as derived from Regulatory Guide 1.99, revision 2. Approval was granted; however, we were requested to verify the fluence value for lower shell plate B6903-1 and resubmit RT-PTS calculations incorporating the verified fluence value and limiting the data for chemistry factor determination to transverse direction only.

The NRC noted, while reviewing our December submittal, that the lower shell plate fluence value differed from the value on record contained in the Westinghouse surveillance capsule V report, WCAP-9860. We have determined that the capsule V fluence value was updated in subsequent surveillance capsule reports submitted to the NRC. Capsule U (WCAP-10867, 1985) and capsule W (WCAP-12005, 1988) correctly reported an updated capsule V fluence value of 0.291×10^{19} n/cm² based on spectrum averaged reaction cross sections derived from the results of capsule U. Therefore, the fluence value for capsule V as reported in our December submittal (WCAP-13106) has been verified as correct and should be used in place of the value contained in WCAP-9860, dated January, 1981.

Our December 16 submittal also contained a specific determination of the chemistry factor used in the PTS calculation since we had credible surveillance capsule data. The NRC indicated that Branch

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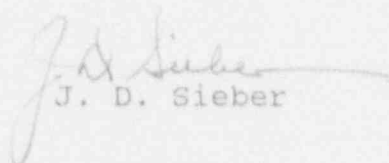
Technical Position MTEB-5.2 limits calculation of this factor to the use of transverse direction data only. The Unit 1 RT-PTS calculations were performed in accordance with the current PTS rule (10CFR50.61). Regulatory Guide 1.99, revision 2, was used in calculating the chemistry factor based upon surveillance capsule data. The guidelines specified that each adjusted RT-NDT should be used in the calculation of the chemistry factor. Therefore, in making this calculation, both transverse and longitudinal data were used, consistent with the approach used in the development of Regulatory Guide 1.99, revision 2. A review of the technical basis for revision 2 shows that both longitudinal and transverse data were used in its development. This is not explicitly stated in the technical basis, but the tabulated data represents both orientations and was verified by comparison with surveillance capsule reports.

As a result of this review, we have not recalculated the RT-PTS values limiting data to transverse direction only. The attached flux reduction program assumes that both longitudinal and transverse data are acceptable for use. If it is determined that Regulatory Guide 1.99 revision 2 is not considered an acceptable method to follow, we would request further discussions of these calculations.

During the development of the flux reduction program for Unit 1, the required flux reduction factors were calculated using the results of the PTS evaluation (WCAP-13106 submitted December 16, 1991). Additionally, the average flux of Cycles 1 through 6 was updated to include Cycles 7, 8, and 9. This updated flux was then used to calculate the fluence accumulated through Cycle 9 (8.6 EFPY). This has resulted in revised RT-PTS values for Unit 1. The new values are tabulated in Table 3 of the attached WCAP-13208. It should be noted that the limiting material now exceeds the 270°F PTS screening criterion by 1°F instead of 2°F. These new values were used throughout the development of the flux reduction program as detailed in the attached report.

If you have any questions regarding this submittal, please contact Mr. Steve Sovick at (412) 393-5211.

Sincerely,


J. D. Sieber

Attachments

cc: Mr. L. W. Rossback, Sr. Resident Inspector
Mr. T. T. Martin, NRC Region I Administrator
Mr. A. W. DeAgazio, Project Manager
Mr. M. L. Bowling (VEPCO)