

May 16, 2000

Carl Terry, BWRVIP Chairman
Niagara Mohawk Power Company
Post Office Box 63
Lycoming, NY 13093

SUBJECT: BWR INTEGRATED SURVEILLANCE PROGRAM (BWRVIP-78)
(TAC NO. M99894)

Dear Mr. Terry:

On March 14, 2000, NRC staff met with representatives from the Boiling Water Reactor Vessel and Internal Project (BWRVIP) to discuss your proposal for a BWR reactor pressure vessel Integrated Surveillance Program (ISP). As a result of these discussions, it became apparent that there is continuing interest on the part of BWR licensees to seek the deferral of reactor pressure vessel (RPV) surveillance capsule withdrawals and/or deferral of the testing of previously withdrawn capsules. These deferrals would be sought to enable licensees to support the ISP by making their surveillance program materials more readily available for the ISP, or to defer testing which may not be required under the proposed ISP.

Although the staff has not completed our review of the ISP, and therefore no weight can be given to the potential benefits of the ISP at this time, the staff confirmed at the March 14, 2000, meeting that the NRC supports the concept of one cycle capsule deferrals for the purpose of supporting the ISP, provided an adequate technical basis for the deferrals can be developed. In general, this adequate technical basis will require each licensee seeking a capsule deferral to demonstrate that the deferral of the capsule in question will not adversely impact the licensee's ability to ensure that the integrity of the RPV will be maintained through the period of the deferral. Deferral for one cycle is expected to be sufficient to permit the staff adequate time to complete our review of the ISP.

In light of information presented by the BWRVIP, the staff is reconsidering the required bases under which a licensee can request deferral of the removal of a surveillance capsule from the RPV or deferral of the testing of a capsule which has already been removed. The staff has determined that deferral of these actions may be requested for no more than 1 refueling cycle. In order to facilitate the development of deferral requests, the licensee's request for deferral should address the following points:

- (1) Explain how this deferral is consistent with the ISP plan submitted by the BWRVIP on December 28, 1999 (BWRVIP-78). It is the staff's understanding that the proposed ISP was not designed to be an "optimized" program regarding the removal schedule of capsules which support the ISP. Likewise, additional capsules not originally scheduled to be included in the ISP may be incorporated into later ISP designs. The licensee should address how the deferral of the removal or testing their next capsule for one cycle is either (1) an express outcome of the ISP as submitted or (2) not prohibited by the current ISP proposal (i.e., that testing of the capsule at this time is not critical to achieving data which is of particular value to the ISP).
- (2) Explain how the acquisition of materials property data in accordance with the facility's plant-specific Appendix H program is not necessary at this time to ensure that the integrity for the facility's RPV will be maintained through the period of deferral. Examples of rationales which the staff would find acceptable include: (1) the materials in the facility's surveillance program lack unirradiated baseline data so that no meaningful estimation of material property shift can be made; (2) the next capsule represents the first capsule to be withdrawn by the plant so that an insufficient number of data points (< 2) will be available to use the data within the Regulatory Guide 1.99, Rev. 2, "Radiation Embrittlement of Reactor Vessel Materials," Position 2 methodology for plant-specific modifications to the embrittlement correlations and the ability to monitor RPV embrittlement will not be significantly affected by a one cycle deferral; (3) the data from the capsule would not be expected to provide Charpy shift values large enough (i.e. > 56 F for welds, or > 34 F for plates or forgings) to be distinguishable from the scatter in the Charpy test method.
- (3) Explain how deferral of the acquisition of dosimetry data from the capsule to be tested does not affect the validity of the facility's RPV integrity assessments through the period of the deferral. This is a particularly important point for facilities which intend to defer the withdrawal or testing of their first surveillance capsule. Any potential non-conservatisms in the licensee's current methodology when compared to a methodology that would be expressly acceptable to the staff, i.e., a methodology which complies with Draft Regulatory Guide (DG) 1053 (formerly DG-1025, "Calculational and Dosimetry Methods for Determining Pressure Vessel Neutron Fluence"), should be evaluated, quantitatively or qualitatively. In particular, the licensee should state why their facility's currently approved P-T limit curves will be adequate over the period of deferral without the assessment of the capsule's dosimeter wire data and the associated recalculation of RPV fluences. Compensatory actions, for example, utilizing 32 EFPY P-T limit curve when the actual RPV usage is much less, may also be considered as a basis for not needing to recalculate RPV fluences for the period of deferment.

Carl Terry

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If you have any questions regarding this letter or the attachment, please contact either Gene Carpenter (301 415-2169) or Matthew Mitchell (301 415-3303) of my staff.

Sincerely

/ra by/

Jack R. Strosnider, Director
Division of Engineering
Office of Nuclear Reactor Regulation

cc: See next page

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