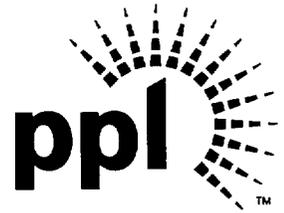


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U.S. Nuclear Regulatory Commission
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**SUSQUEHANNA STEAM ELECTRIC STATION
REQUEST FOR A ONE CYCLE EXTENSION FOR
SURVEILLANCE CAPSULE TESTING
PLA-5325**

**Docket Nos. 50-387
and 50-388**

References: 1) Letter, J. Strosnider (USNRC) to C. Terry (Niagara Mohawk), "BWR Integrated Surveillance Program (BWRVIP-78), May 16, 2000.

The purpose of this letter is to request an extension for one cycle for reporting the results from the surveillance capsule testing for Susquehanna SES Unit 1 required by 10 CFR 50, Appendix H.

On March 14, 2000, representatives of the Boiling Water Reactor Vessel and Internals Project (BWRVIP) met with the NRC staff to discuss the proposed BWR reactor pressure vessel Integrated Surveillance Program (ISP). During discussions it became apparent that it may be appropriate for BWR licensees to seek deferral of their currently scheduled surveillance capsule withdrawal and/or deferral of the testing of previously withdrawn capsules. The staff indicated that even though their review of the ISP is incomplete that they supported the concept of the deferral for support of the ISP for a period of one operating cycle.

As a result of the meeting and to facilitate the development of deferral requests, the NRC issued guidance to the BWRVIP providing three points that each licensee's request should address (Reference 1). The present schedule would remove the Unit 1 capsules in April 2002 at 15 Effective Full Power Years (EFPY). Using the guidance provided by the NRC and with information provided below to address the NRC technical issues, the Susquehanna Steam Electric Station (SSES) requests an extension for reporting the results from Unit 1's surveillance capsule testing required by 10 CFR 50, Appendix H. By applying the one cycle criteria to the test reporting schedule, PPL Susquehanna, LLC proposes that the reporting time period be extended until April 2005 (24 months from the current report due date of April 2003).

A008

1. NRC Guidance

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 the capsules that 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).

PPL's Response:

BWRVIP-78, as submitted to the NRC in December 1999 and changes made to date, identifies the SSES Unit 1 surveillance plate C2433-1 and welds 402K9171, 411L3021 with testing after 22 EFPY in 2011. These are representative plate and weld material for the SSES Unit 1 vessel as well as a number of other BWR vessels in the Integrated Surveillance Program (ISP). Under the ISP, the SSES Unit 1 surveillance plate was also selected to represent SSES Unit 1 and Vermont Yankee beltline plate materials. The surveillance weld materials were selected for SSES Unit 1 and LaSalle. However, the limiting material for SSES Unit 1 is a non-beltline material and weld.

The first capsule for the SSES Unit 1 was removed during refuel outage (RIO6) in the Spring 1992 at approximately 6 EFPY. To meet the existing schedule for reporting the test results before April 2003 could require testing of the SSES Unit 1 material before the BWRVIP ISP is approved by the NRC and before the testing program and contracts are initiated for implementation of the ISP. However, deferring the testing until it can be part of the ISP project will ensure consistent test data between all the ISP capsules being tested.

The deferral of the removal and testing of the SSES Unit 1 capsules in 2002 is an express outcome of the ISP as submitted. The importance of the SSES capsules to the overall ISP test matrix is recognized as an integral part of this program and therefore testing of this next capsule in 2002 would upset the testing matrix.

2. NRC Guidance

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 correlation 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 and forgings) to be distinguished from the scatter in the Charpy test method.

PPL's Response:

The capsule removed from the SSES reactor vessel will be the second of the scheduled withdrawals. The information obtained from testing of the specimens will not provide any specific benefit until the second capsule is removed and tested to provide 2 data points. Additionally, the overall limiting material is non-beltline material. The affect after 32 EFPY on the beltline material is not expected to exceed the Charpy shift values, as noted by the NRC above, from the non-beltline material.

Additionally, before the deferral period begins, the SSES will be using P-T limit curves based on 32 EFPY rather than a lesser EFPY reflecting current conditions. This added conservatism provides additional assurances that the SSES Unit 1 RPV is operated within adequate safety limits to ensure its integrity during the deferral period.

3. NRC Guidance

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 the 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 fluence for the period of deferment.

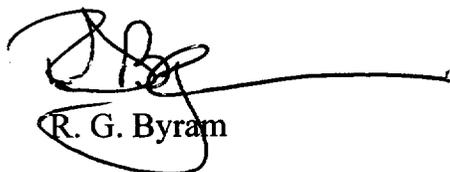
PPL’s Response:

SSES has already committed to using a 32 EFPY P-T limit. The 32 EFPY curve is based on the increased flux associated with SSES’s power uprate and documented in our submittals from testing our first surveillance capsule specimens in 1992 and 1993. The use of the limiting curve is to be continued until a new fluence determination using methods that are expressly acceptable to the staff has been completed and reported. We have also committed to perform revised fluence calculations using Regulatory Guide 1.190, “Calculational and Dosimetry Methods for Determining Pressure Vessel Neutron Fluence”, before the end of the next two cycles on Units 1 and 2 (PLA-5300, dated May 22, 2001).

Therefore, because of the extreme conservatism that is assured by using a P-T limit curve based on 32 EFPY rather than a limit curve representing an actual EFPY, the integrity of the SSES Unit 1 RPV remains compliant with existing assessments and requirements for the duration of the extension and beyond.

We request that this extension request be approved by December 1, 2001. This request is similar to the requests approved for Peach Bottom Nuclear Power Station (7/14/00), Dresden Nuclear Power Station Unit 2 and 3 (12/22/00), Pilgrim Nuclear Power Station (1/2/01) and Fermi 2 (1/16/01). If you have any questions, please contact Mr. C. T. Coddington at (610) 774-4019.

Sincerely,



R. G. Byram

copy: NRC Region I
Mr. S. Hansell, NRC Sr. Resident Inspector
Mr. R. Schaaf, NRC Project Manager