

September 7, 2007

LICENSEE: PPL Susquehanna, LLC

FACILITY: Susquehanna Steam Electric Station, Units 1 and 2

SUBJECT: SUMMARY OF TELEPHONE CONFERENCE CALL HELD ON  
AUGUST 23, 2007, BETWEEN THE U.S. NUCLEAR REGULATORY  
COMMISSION AND PPL SUSQUEHANNA, LLC, CONCERNING DRAFT  
REQUESTS FOR ADDITIONAL INFORMATION PERTAINING TO THE  
SUSQUEHANNA STEAM ELECTRIC STATION, UNITS 1 AND 2, LICENSE  
RENEWAL APPLICATION

The U.S. Nuclear Regulatory Commission (NRC or the staff) and representatives of PPL Susquehanna, LLC held a telephone conference call on August 23, 2007, to discuss and clarify the staff's draft requests for additional information (D-RAIs) concerning the Susquehanna Steam Electric Station, Units 1 and 2, license renewal application. The telephone conference call was useful in clarifying the intent of the staff's D-RAIs.

Enclosure 1 provides a listing of the participants and Enclosure 2 contains a listing of the D-RAIs discussed with the applicant, including a brief description on the status of the items.

The applicant had an opportunity to comment on this summary.

**/RA/**

Evelyn Gettys, Project Manager  
License Renewal Branch A  
Division of License Renewal  
Office of Nuclear Reactor Regulation

Docket Nos. 50-387 and 50-388

Enclosures:  
As stated

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September 7, 2007

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FACILITY: Susquehanna Steam Electric Station, Units 1 and 2

SUBJECT: SUMMARY OF TELEPHONE CONFERENCE CALL HELD ON AUGUST 23, 2007, BETWEEN THE U.S. NUCLEAR REGULATORY COMMISSION AND PPL SUSQUEHANNA, LLC, CONCERNING DRAFT REQUESTS FOR ADDITIONAL INFORMATION PERTAINING TO THE SUSQUEHANNA STEAM ELECTRIC STATION, UNITS 1 AND 2, LICENSE RENEWAL APPLICATION

The U.S. Nuclear Regulatory Commission (NRC or the staff) and representatives of PPL Susquehanna, LLC held a telephone conference call on August 23, 2007, to discuss and clarify the staff's draft requests for additional information (D-RAIs) concerning the Susquehanna Steam Electric Station, Units 1 and 2, license renewal application. The telephone conference call was useful in clarifying the intent of the staff's D-RAIs.

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**TELEPHONE CONFERENCE CALL  
SUSQUEHANNA STEAM ELECTRIC STATION, UNITS 1 AND 2  
LICENSE RENEWAL APPLICATION**

LIST OF PARTICIPANTS  
AUGUST 23, 2007

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Evelyn Gettys  
Simon Sheng  
Duane Filchner  
Jeff Weik  
Mike Detamore

**AFFILIATIONS**

U.S. Nuclear Regulatory Commission (NRC)  
NRC  
PPL Susquehanna, LLC (PPL)  
PPL  
PPL

DRAFT REQUESTS FOR ADDITIONAL INFORMATION  
SUSQUEHANNA STEAM ELECTRIC STATION, UNITS 1 AND 2  
LICENSE RENEWAL APPLICATION

August 23, 2007

The U.S. Nuclear Regulatory Commission (NRC or the staff) and representatives of PPL Susquehanna, LLC held a telephone conference call on August 23, 2007, to discuss and clarify the following draft requests for additional information (D-RAIs) concerning the Susquehanna Steam Electric Station (SSES), Units 1 and 2, license renewal application (LRA).

D-RAI 4.2.1-1

Section 4.2.1 of the Susquehanna LRA, "Neutron Fluence," provides the calculated reactor pressure vessel (RPV) beltline fluence values at 54 effective full power years (EFPY) for both units. Please confirm that this fluence calculation is consistent with that associated with the current pressure-temperature (P-T) limits, valid for 35.7 EFPY for Unit 1 and 30.2 EFPY for Unit 2. Provide the fluence values and approximate expiration dates corresponding to these EFPYs for the current P-T limits.

**Discussion:** The discussion between the staff and the applicant eliminated this D-RAI . Therefore, this question is withdrawn and will not be sent as a formal RAI.

D-RAI 4.2.5-1

In the July 28, 1998, SER on BWRVIP-05, the NRC staff concluded that examination of the RPV circumferential shell welds would need to be performed if the corresponding volumetric examinations of the RPV axial shell welds revealed the presence of an age-related degradation mechanism. Confirm whether or not previous volumetric examinations of the RPV axial shell welds have shown any indication of cracking or other age-related degradation mechanisms in the welds. Please also confirm whether there are any flaw evaluations performed to date on RPV flaws as a result of previous volumetric examinations of the RPVs, and, if flaw evaluations exist, why they are not considered as TLAAs.

**Discussion:** The applicant indicated that the question is clear. This D-RAI will be sent as a formal RAI.

D-RAI 4.7.3-1

LRA Section 4.7.3 states that, based on BWRVIP-25, "BWR Core Plate Inspection and Flaw Evaluation Guidelines," the core plate hold-down bolts will have at least 81-percent preload remaining at 54 EFPY and, based on the GE extended power uprate (EPU) analyses of the core plate hold-down bolts, the preload at the end of 60 years would be adequate to prevent lateral motion of the core plate for the period of extended operation. This conclusion is not supported by any Susquehanna plant-specific evaluation. Please provide the following additional information:

- (1) Demonstrate the applicability of the BWRVIP-25 loss of preload analysis to the Susquehanna units. Identify the temperature of the bolts during the normal operation and the projected bolt neutron fluence at the end of the period of extended operation for the Susquehanna units. Provide a plant-specific evaluation demonstrating that the loss of preload due to stress relaxation for the Susquehanna RPV core plate hold-down bolts is bounded by the value of 19 percent from Appendix B of BWRVIP-25.
- (2) Perform a plant-specific core plate hold-down bolt analysis using the BWRVIP-25 Appendix A methodology, demonstrating that the axial and bending stresses for the mean and highest loaded hold-down bolts will not exceed the American Society of Mechanical Engineers Boiler and Pressure Vessel Code Section III allowable stresses for  $P_m$  (primary membrane) and  $P_m + P_b$  (primary membrane plus bending) as a result of a plant-specific reduction in the bolt preload at the end of the extended period of operation. State clearly the assumptions on which the plant-specific analysis was based.
- (3) Provide sufficient information regarding the "GE EPU analyses" on the core plate hold-down bolts so that the staff can determine whether the Susquehanna hold-down bolts are adequate to prevent lateral motion of the core plate for the period of extended operation.

**Discussion:** The applicant indicated that the question is clear. This D-RAI will be sent as a formal RAI.

#### D-RAI 4.7.3-2

LRA Appendix C discussed the applicant's response to BWRVIP report application action items. The majority of these BWRVIP reports are related to degradation of the structural integrity of austenitic stainless steel RPV internals due to irradiation assisted stress corrosion cracking, and the associated BWRVIP application action items require evaluation of TLAA for these RPV internals for the period of extended operation. Except for a couple of cases, the LRA plant-specific responses to these BWRVIP reports do not address TLAA. Please address the TLAA for RPV internals discussed in the Appendix C and demonstrate that the Susquehanna RPV internals are bounded by these BWRVIP reports. For the Susquehanna RPV internals which are not bounded by these BWRVIP reports, discuss any additional programs and activities to be implemented in the extended period of operation so that their TLAAs will be acceptable. Further, perform a similar evaluation for Susquehanna RPV core shrouds, referencing BWRVIP-76, "Boiling Water Reactor Core Shroud Inspection and Flaw Evaluation Guidelines."

**Discussion:** Based on the discussion with the applicant, the staff agreed to revise this question as follows. The revised question will be sent as a formal RAI.

RAI 4.7.3-2

LRA Appendix C discussed the applicant's response to BWRVIP report application action items. The BWRVIP reports addressing the TLAA regarding irradiation assisted stress corrosion cracking (IASCC) in austenitic stainless steel RPV internals are BWRVIP-25, BWRVIP-26-A, "BWR Top Guide Inspection and Flaw Evaluation Guidelines," BWRVIP-76, "BWR Core Shroud Inspection and Flaw Evaluation Guidelines," and BWRVIP-47-A, "BWR Lower Plenum Inspection and Flaw Evaluation Guidelines." Although managing TLAA using aging management programs or other measures is stated in Appendix C in your response to BWRVIP report application action items, IASCC in austenitic stainless steel RPV internals should be discussed in the TLAA section to build the connection between LRA Section 4.0 and Appendix C. Further, the fact that BWRVIP-47 is under the NRC staff review doesn't imply that you don't need to address it. In addition to your plant-specific evaluation using BWRVIP-76, you need to make a commitment to follow all BWRVIP-76 requirements and limitations, as adjusted by the NRC staff's safety evaluation on the BWRVIP-76 report.

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