

Timothy S. Rausch
Sr. Vice President & Chief Nuclear Officer

PPL Susquehanna, LLC
769 Salem Boulevard
Berwick, PA 18603
Tel. 570.542.3445 Fax 570.542.1504
tsrausch@pplweb.com



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U. S. Nuclear Regulatory Commission
Attn: Document Control Desk
Mail Station OP1-17
Washington, DC 20555

**SUSQUEHANNA STEAM ELECTRIC STATION
RESPONSE TO NRC'S SECOND REQUEST FOR
ADDITIONAL INFORMATION ON PROPOSED
REVISION 1 TO RELIEF REQUEST RR-02
PLA-6675**

**Docket No. 50-387
and 50-388**

Attachment 1 contains the PPL Susquehanna, LLC's (PPL) response to the NRC Staff's questions on proposed Revision 1 to IST Relief Request RR-02. The question was received via email dated November 4, 2010 and was discussed with the NRC Staff during a phone conversation on November 9, 2010.

Should you have any questions, please contact Cornelius T. Coddington at (610) 774-4019.

Sincerely,

T. S. Rausch

Attachment

Copy: NRC Regional I
Mr. P. W. Finney, NRC Sr. Resident Inspector
Mr. R. R. Janati, DEP/BRP
Mr. B. K. Vaidya, NRC Project Manager

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ATTACHMENT 1 TO PLA-6675

RESPONSE TO QUESTIONS ON REVISION 1

TO

RELIEF REQUEST RR-02 FOR

SUSQUEHANNA SES UNITS 1 AND 2

RAI RR-02-2:

During a review of historical relief requests (References 3 & 4) for Susquehanna MSRVs, the following was noted:

“A 24-month fuel cycle has been implemented at Susquehanna SES Unit 1. Each refueling outage, PPL removes and tests six of the sixteen Main Steam SRVs so that all valves are removed and are tested every three refueling outages. ***Subsequent to completion of as-found testing, each SRV in the removed complement is disassembled*** to perform an inspection and maintenance activities, including disc and seat inspection for evidence of degradation such as leakage or misalignment. Any SRV that failed the as-found set pressure test is inspected to determine the cause. All adverse conditions are corrected, the disc and seats are lapped, and the valve is reassembled. Each SRV is then recertified for service through inspection and testing consistent with ASME OM Code requirements, including set pressure, seat tightness, stroke time and disc lift verifications, solenoid coil pick up/drop out, and air actuator integrity tests. After recertification testing, the SRVs are stored in controlled areas at the recertification vendor facility and at Susquehanna SES.” [References 3 and 4, emphasis added.]

Please state whether the above procedure is applicable for these relief requests, and if not, provide the justification.

PPL’s Response to RAI RR-02-2

The procedure referenced in RAI RR-02-2 is applicable for Revision 1 to RR-02 for both Susquehanna SES Units.

RAI RR-02-3:

During a review of historical relief requests (References 3 & 4) for Susquehanna MSRVs, the following was noted:

“Additionally, ***as required by the Code, if the as-found set-pressure of any SRV is found to be ≥ 3% above the nameplate set-pressure, two additional SRVs from the same valve group will be tested.*** If the as-found set-pressure of any of these additional SRVs is found to be > 3% above the nameplate set-pressure, then all remaining SRVs of that same valve group shall be tested.” [References 3 and 4, emphasis added.]

In addition, Reference 1 states:

“Also, the testing history shows that since commercial operation, Susquehanna has had only two ‘as-found’ set pressure test acceptance criteria failures (above +3%) of the tested valves, which required additional MSRVs to be tested.” [Emphasis added.]

And,

“Additional valves above the Code required minimum 20% will be tested if the as-found setpoint exceeds +3% of the nameplate. No additional valves will be tested if the as-found setpoint is below the nameplate setpoint.” [Emphasis added.]

The applicable ASME Code for SSES is the ASME OM Code 1998 Edition through OMB-2000 Addenda. I-1330(c)(1) states:

“For each valve tested for which the as-found set-pressure (first test actuation) exceeds the greater of either the +/- tolerance limit of the Owner-established set-pressure acceptance criteria of I3110(e) or +/- 3% of valve nameplate set-pressure, two additional valves shall be tested from the same valve group.” [Emphasis added.]

Please explain the basis for testing additional valves only when the as-found set-pressure is greater than +3% of the nameplate set-pressure.

PPL’s Response to RAI RR-02-3

The exemption to the Code requirement for testing additional valves only when the as-found set pressure is greater than +3% was approved in a letter from NRC to PPL, dated March 10, 2005 (Reference 5). The basis for the relief was that at the time of the original submittal of Relief Request RR-02 (May 28, 2004) the MSRV set point tended to drift downward with an average set point drift percentage of -0.705% and a standard deviation of 1.43%. This information was based on 255 tests. Only two as-found set pressure tests were above +3%.

During the phone conversation on November 9, 2010, the NRC Staff requested an update of the above data. The set point testing results (for both units) for the time period from initial operation to March 2010, which comprises 295 tests shows that the average of the set point drift percentage is -0.78%. This indicates that the MSRVs continue to drift slightly downward, not upward. The calculated standard deviation was determined to be 1.56%. There are still only two as-found set pressure tests above +3%.

In addition, only the upper set point pressure (+3%) is used to satisfy the ASME Code for overpressurization of the Reactor Pressure Boundary.

References:

1. Letter from Timothy S. Rausch of PPL Susquehanna, LLC to NRC, "Susquehanna Steam Electric Station Proposed Revision 1 to RR-02 To Provide A Grace Period For The Test Frequency For Main Steam Relief Valves For Third 10-Year Interval In-Service Testing Program Plan For Susquehanna SES Unit 1 and Unit 2," dated June 1, 2010. (PLA-6614; ML1016108050; TAC No. ME4068 & ME4069)
2. Letter from Timothy S. Rausch of PPL Susquehanna, LLC to NRC, "Susquehanna Steam Electric Station Response to NRC Request For Additional Information On Proposed Revision 1 to RR-02," dated October 15, 2010. (PLA-6652; ML1016108050; TAC No. ME4068 & ME4069)
3. Letter from Timothy S. Rausch of PPL Susquehanna, LLC to NRC, "Susquehanna Steam Electric Station Proposed One Time Relief Request To Extend The Test Frequency For A Main Steam Safety Relief Valve For Third 10-Year Interval In-Service Testing Program Plan For Susquehanna SES Unit 1," dated December 10, 2009. (PLA-6585; ML093631136; TAC No. ME2888)
4. Letter from Timothy S. Rausch of PPL Susquehanna, LLC to NRC, "Susquehanna Steam Electric Station Proposed One Time Relief Request To Extend The Test Frequency For Main Steam Safety Relief Valves For Third 10-Year Interval In-Service Testing Program Plan For Susquehanna SES Unit 1," dated November 20, 2009. (PLA-6584; ML0933505300; TAC No. ME2629)
5. Letter from Richard J. Laufer of NRC to Bryce L. Shriver of PPL Susquehanna, LLC, "Susquehanna Steam Electric Station, Units 1 and 2 – Third 10-Year Interval Inservice Testing (IST) Program Plans (TAC Nos. MC 3382, MC3383, MC3384, MC3385, MC3386, MC3387, MC3388, MC3389, MC4421, MC4422)," dated March 10, 2005.