July 7, 2003

Mr. Bryce L. Shriver
Senior Vice President
and Chief Nuclear Officer
PPL Susquehanna, LLC
769 Salem Boulevard, NUCSB3
Berwick, PA 18603-0467

SUBJECT: REQUEST FOR ADDITIONAL INFORMATION (RAI) - SUSQUEHANNA STEAM ELECTRIC STATION, UNITS 1 AND 2 (SSES 1 AND 2) - LONG-TERM STABILITY SOLUTION (TAC NOS. MB9008 AND MB9009)

Dear Mr. Shriver:

In reviewing your application of May 6, 2003, concerning an amendment to delete SSES Technical Specifications (TSs) 3.3.1.3, "Oscillation Power Range Monitor Instrumentation," and revise TS 3.4.1, "Recirculation Loops Operating," the U.S. Nuclear Regulatory Commission staff has determined that additional information contained in the enclosure to this letter is needed to complete its review. These questions were previously faxed to your staff on July 1, 2003. As agreed to by your staff, we request you respond within 30 days of the date of this letter.

If you have any questions, please contact me at 301-415-1030.

Sincerely,

/RA/

Richard V. Guzman, Project Manager, Section 1
Project Directorate I
Division of Licensing Project Management
Office of Nuclear Reactor Regulation

Docket Nos. 50-387 and 50-388

Enclosure: RAI

cc w/encl: See next page

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REQUEST FOR ADDITIONAL INFORMATION

RELATING TO LONG-TERM STABILITY SOLUTION

SUSQUEHANNA STEAM ELECTRIC STATION, UNITS 1 & 2

DOCKET NOS. 50-387 AND 50-388

The Nuclear Regulatory Commission staff is reviewing the proposed license amendment to Facility Operating License Nos. NPF-14 and NPF-22 requesting to delete Technical Specifications (TSs) 3.3.1.3, "Oscillation Power Range Monitor (OPRM) instrumentation," and to revise TS 3.4.1, "Recirculation Loop Operating," dated May 6, 2003. The staff has determined that the information requested below will be needed to complete its review:

1. According to guidance specified in Generic Letter 94-02, both SSES Units 1 and 2 are Long-Term Stability Option III - OPRM system plants. OPRM Instrumentation should be included in TSs based on Title 10 of the *Code of Federal Regulations* (10 CFR), Section 50.36 to meet requirements stated in General Design Criterion (GDC) 10, 12 and 13 of 10 CFR Part 50, Appendix A. Provide the technical basis for the proposed deletion of TS 3.3.1.3 and the regulatory basis for a conclusion that you still meet the requirements stated in GDC 10, 12, and 13.

2. Describe in detail the current implementation status of the OPRM system including system calibration and trip set-point based on the approach stated in NEDO-32465-A, "Reactor Stability Detect and Suppress Solutions Licensing Basis Methodology for Reload Applications," or based on the approach of using plant-specific data. Also, provide detailed results of the system tests.

3. Describe in detail the alternate method to detect and suppress thermal-hydraulic instability oscillations. Justify that the alternate method is an adequate means for safe operation under extended power uprate conditions without an operable OPRM system.

4. Clarify whether Figure 3.4.1-1, "Thermal Power Stability Restrictions" of TS 3.4.1 is a permanent core flow map for Susquehanna plant operation, or is cycle dependent. Also, justify that the alternative method is updated to correspond to changes in core/fuel design and power operation and is sufficient to detect and suppress thermal-hydraulic instability oscillation under all possible operating conditions.

5. The generic solution to deal with 10 CFR Part 21 on the non-conservative generic DIVOM (Delta critical power ratio (CPR) to Initial CPR vs. Oscillation Magnitude) curve has been an open end issue for at least the last 2 years. It is the individual utility's responsibility to make sure that their own long-term stability option is working rather than waiting for a final unpredicted result. Current operating experience at other boiling-water reactors demonstrates that a plant-specific input for the OPRM trip set-point works well. Provide the rationale why, the OPRM system for SSES was never armed.

Enclosure

Susquehanna Steam Electric Station,
Units 1 &2

cc:

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