

50-287/388



UNITED STATES
NUCLEAR REGULATORY COMMISSION

WASHINGTON, D.C. 20555-0001

July 8, 1998

Mr. Robert G. Byram
Senior Vice President-Generation
and Chief Nuclear Officer
Pennsylvania Power and Light Company
2 North Ninth Street
Allentown, PA 18101

SUBJECT: REQUEST FOR ADDITIONAL INFORMATION FOR SUSQUEHANNA STEAM
ELECTRIC STATION, UNITS 1 AND 2, INSERVICE TESTING RELIEF
REQUESTS (TAC NOS. MA0340 AND MA0341)

Dear Mr. Byram:

On November 14, 1997, you submitted a revised relief request in response to NRC's safety evaluation (SE) dated July 17, 1997, for the Susquehanna Steam Electric Station, Units 1 and 2, inservice testing program. NRC's SE dated July 17, 1997, denied an earlier relief request RR-15 following your submittals dated August 4, 1995, April 23, and May 6, 1996. Prior to this denial, RR-15 had been granted in NRC's SE dated April 26, 1995, for an interim period of one year or to the next refueling outage, whichever was later.

The staff has determined that additional information, as described below, is required in order to complete our review of this latest revision of RR-15. Revised RR-15 states that establishing a single repeatable reference point required in OM-6, Paragraph 5.2, for the emergency condenser water circulating pumps, OP-171-A/B, is impracticable because (1) the pumps operate under a variety of flow rate and differential pressure conditions, and (2) a single repeatable reference point cannot be established without rendering a safety system inoperable. Under these conditions, it appears that an alternative test method involving the use of pump curves is appropriate. NUREG-1482, "Guidelines for Inservice Testing at Nuclear Power Plants," Section 5.2, "Use of Variable Reference Values for Flow Rate and Differential Pressure During Pump Testing," provides the following guidelines:

- (1) Curves are developed, or manufacturers' pump curves are validated, when the pumps are known to be operating acceptably.
- (2) The reference points used to develop or validate the curve are measured using instruments at least as accurate as required by the Code.
- (3) Curves are based on an adequate number of points, with a minimum of five.
- (4) Points are beyond the "flat" portion (low flow rates) of the curve in a range which includes or is as close as practicable to design basis flow rates.
- (5) Acceptance criteria based on the curves do not conflict with Technical Specification or Facility Safety Analysis Report operability criteria, for flow rate and differential pressure, for the affected pumps.
- (6) If vibration levels vary significantly over the range of pump conditions, a method for assigning appropriate vibration acceptance criteria should be developed for regions of the pump curve.

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- (7) When the reference curve may have been affected by repair, replacement, or routine service, a new reference curve will be determined or the previous curve revalidated by an inservice test.

Discuss each of these seven elements and provide justification if the elements are not followed. If a proposed alternative includes an enhanced periodic maintenance program, provide details of the program, including the frequency of maintenance, and provide the basis for a finding that this proposed alternative will not compromise the operational readiness of the pumps in question.

Sincerely,

/s/

Victor Nerses, Senior Project Manager
 Project Directorate I-2
 Division of Reactor Projects - I/II
 Office of Nuclear Reactor Regulation

Docket Nos. 50-387 and 50-388

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Victor Nerses, Senior Project Manager
Project Directorate I-2
Division of Reactor Projects - I/II
Office of Nuclear Reactor Regulation

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