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WENZINGER, E.C. Region 1 (Post 820201)

SUBJECT: Forwards revised response to NRC 920526 ltr re violations noted in Insp Repts 50-387/92-06 & 50-388/92-06. Corrective actions: improved version of EPA logic cards will be utilized for redesigned RPS power supply in lieu of existing cards.

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JUN 03 1993

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**SUSQUEHANNA STEAM ELECTRIC STATION  
REVISED REPLY TO NOTICE OF VIOLATION  
(387/92-06-01)  
PLA-3972**

**FILE R41-2**

Docket Nos. 50-387  
50-388

Dear Mr. Wenzinger:

This letter provides a revised response to the Notice of Violation for NRC Combined Inspection Report 50-387/92-06 and 50-388/92-06 dated May 26, 1992. Pennsylvania Power and Light Company's original response was submitted on July 2, 1992.

The attached revision identifies PP&L's modifications to resolve the RPS/EPA breaker trips.

We trust that the commission will find the revised response acceptable.

Very truly yours,

  
R. G. Byram

Attachment

cc: NRC Document Control Desk (original)  
Mr. G. S. Barber, NRC Sr. Resident Inspector  
Mr. R. J. Clark, NRC Sr. Project Manager

9306070379 930603  
PDR ADOCK 05000387  
Q PDR

*Handwritten initials/signature*

REPLY TO A NOTICE OF VIOLATION

A. Violation (387/92-06-01)

10CFR Part 50 Appendix B, Criterion XVI, Corrective Action, and the Susquehanna Quality Assurance Project require that measures be established to assure that conditions adverse to quality, are promptly identified and corrected, including corrective action taken to preclude repetition.

Contrary to the above, since 1984, there have been 34 separate instances where Reactor Protection System (RPS) Electrical Protection Assembly (EPA) breakers were found tripped or where they were known to have tripped. The EPA breaker trips were attributable to "unknown causes" or to problems with EPA logic cards and related components. The frequency of these trips has increased within the past year even through the licensee has taken action to preclude repetition. Thus, the licensee's corrective actions to date have been ineffective and EPA breaker trips continue to occur.

Response

1. Reason for the Violation:

The reason for the violation was:

Prior to 1991, PP&L believed timely and effective efforts to correct EPA breaker trips were being undertaken. These efforts concentrated on an industry effort under the BWR Owner's Group (Electrical Protection Assembly (EPA) study dated January 25, 1991). This effort while beneficial in determining the potential root causes for failures did not provide comprehensive corrective actions. Management recognized in 1991 the need for a more aggressive effort to preclude future breaker trips and established a task team to improve RPS reliability. Current corrective actions resulting from this task team should substantially reduce and/or eliminate future plant transients from EPA/RPS breaker trips.

2. Corrective Steps Which Have Been Taken and the Results Achieved:

- a. The problems related to EPA breaker trips due to large motor starts and the RPS distribution panel design have been resolved through design modification changes.
- b. Short term action to preclude further EPA breaker trips included:
  1. Modifying the EPA enclosures by installing louvers to enhance and redirect ventilation cooling air to reduce premature thermal aging.

2. EPA breaker setpoint calibration procedures have been revised to preclude the wave shape effects which resulted in false EPA trips.
3. EPA breaker programs have been evaluated and revised to incorporate the "lessons learned" from the previous trips.
4. Replacement of EPA breaker components prior to the components end-of-life cycle is being performed.

These activities are completed on Unit 1 and Unit 2.

Results of these short term actions have increased the reliability of the RPS power supply.

- c. An EPA/RPS breaker task force was formed in May, 1991 to define the RPS power supply problem(s) and to make recommendations. As recommendations were developed, work documents were issued for items which could be completed using established work group processes. Long term recommendations were also identified. A separate team was formed to scope and evaluate the long term recommendations.

3. Corrective Steps Which Will Be Taken to Avoid Further Violations:

Modifications to the RPS Power Supply System were scoped and analyzed and several options were considered. The option chosen for the redesigned RPS power supply will utilize an improved version of EPA logic cards in lieu of the existing cards and supply enhanced cooling to the EPA enclosures.

PP&L believes that these actions, along with the actions already completed, will substantially reduce plant transients caused by EPA/RPS breaker trips.

4. Date of Full Compliance:

Installation and implementation of the RPS modifications identified in 3 will be completed in the Unit 2 6th Refueling and Inspection Outage and in the Unit 1 8th Refueling and Inspection Outage.

