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SUBJECT: Forwards Proposed Amends 134 & 84 to Licenses NPF-14 & NPF-22, respectively re LOCA/false LOCA testing.

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Director of Nuclear Reactor Regulation  
Attention: Dr. W. R. Butler, Project Director  
Project Directorate I-2  
Division of Reactor Projects  
U.S. Nuclear Regulatory Commission  
Washington, D.C. 20555

SUSQUEHANNA STEAM ELECTRIC STATION  
PROPOSED AMENDMENT 134 AND 84 TO  
LICENSE NO'S. NPF-14 AND NPF-22  
LOCA/FALSE LOCA TESTING  
PLA-3416 FILE R41-2, A17-2

Docket Nos. 50-387  
50-388

Dear Dr. Butler:

Pursuant to the requirements of 10CFR50.90, Pennsylvania Power & Light Company requests amendments, in the form of Technical Specification changes, to Operating Licenses NPF-14 and NPF-22 for Susquehanna Steam Electric Station Units 1 and 2. Marked-up revisions to affected Technical Specification pages are included as Attachment 1 to this PLA.

Background

Presently, the Unit 2 Susquehanna Technical Specifications (4.5.1.e) require the LOCA/False LOCA interlocks between Unit 1/Unit 2 RHR (LPCI) and Core Spray pumps be tested "During the first simultaneous shutdown of Units 1 and 2 of duration greater than 7 days that occurs more than 5 years following the previous testing...".

As presently written, testing would be required once every five years during a dual unit outage lasting longer than seven days. On the other hand, the testing may not occur at all if there is not a dual unit outage of significant length.

In this regard, we evaluated the basis for Specification 4.5.1.e and determined the interlocks should be tested because they are an important feature of the Emergency Core Cooling System (ECCS) and the Electrical Systems. We also concluded the interlocks could be tested every 18 months, 'piece-by-piece' utilizing existing Surveillance procedures for the RHR System, Core Spray System and the Diesel Generators, and that a dual unit outage was not necessary to perform this surveillance.

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### Description of Changes

The proposed changes (Refer to Attachment 1 for marked-up pages) modify the Technical Specifications by requiring the LOCA/False LOCA testing be performed every 18 months and by incorporating language which allows the tests to be successfully completed by any series of sequential, overlapping or total channel steps such that the entire channel is tested.

Also, we are proposing to incorporate the same requirements into the Unit 1 Specifications.

### Safety Assessment

If a Loss of Coolant Accident (LOCA) were to occur in either Unit, three different signals can be expected:

- Low reactor water level
- Low reactor pressure
- High drywell pressure

Any combination of these signals will energize the K10A and K10B relays in the Residual Heat Removal (RHR) and Core Spray (CS) systems, denoting a LOCA condition.

A false LOCA condition also energizes the K10A/K10B relays however in this case, water inventory in the vessel is normal.

The RHR System on each Unit consists of two divisions (loops) each with two pumps. Similarly, the CS system is a two loop design, with two pumps in each loop. The occurrence of a LOCA in one Unit will cause all the RHR and CS pumps in that Unit, to start. Interlocks, in the form of relays and contacts prevent starting of similar RHR and CS pumps in the non-LOCA Unit. The purpose of these interlocks is to prevent overloading the diesel generators should a LOOP occur and to ensure that in case a LOCA false LOCA occurs, the utilization voltage limitation is not exceeded, thereby ensuring adequate cooling capacity is available for both Units.

Each Unit has two dedicated pumps in their respective RHR and Core Spray systems. The 'A' and 'C' core spray pumps and 'A' and 'B' RHR pumps are the dedicated Unit 1 components. The 'B' and 'D' Core Spray pumps and 'C' and 'D' RHR pumps are the dedicated components in Unit 2.

In evaluating the need to test these interlocks we examined twelve Surveillance procedures and determined that with the exception of a few relays and contacts, the interlocks associated with Surveillance 4.5.1.e were being tested periodically (18 months). Subsequent to the evaluation, eight of the twelve surveillances were revised to include the additional relays and



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contacts. Therefore, Surveillance 4.5.1.e is being met and since the surveillances being followed are performed every 18 months, the Tech Specs are being modified accordingly.

Both the proposed frequency and the method of testing by "pieces" is consistent with other Logic System functional tests in the Technical Specifications. This provides further evidence of the acceptability of this approach.

#### No Significant Hazards Evaluation

The proposed changes do not involve a significant increase in the probability or consequences of accident previously evaluated. The proposed changes ensure the LOCA/False LOCA interlocks are tested, and tested more frequently than presently required. This increases the probability that the diesel generators will not be overloading and that the utilization voltage limitation is not exceeded. In turn reliability of components is increased.

The proposed changes do not create the possibility of a new or different kind of accident from any previously evaluated. The LOCA/False LOCA test is not being modified rather it will be performed more frequently utilizing more than one surveillance procedure. There are no new test methods or activities which could be postulated to cause a new or different type of accident.

The proposed changes do not involve a reduction in the margin of safety. The margin is actually increased because testing of the interlocks will occur more frequently thereby increasing their reliability.

#### Implementation

There is no firm 'need' date for these changes, however PP&L requests as expeditious a review as can be accomplished but no later than December 31, 1990.

If you have any questions, please contact D. J. Walters at (215) 770-6536.

Very truly yours,



H. W. Keiser

cc: Document Control Desk (original)  
NRC Region I  
Mr. M. C. Thadani, NRC Project Manager  
Mr. G. S. Barber, NRC Senior Resident Inspector



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