

BEFORE THE  
UNITED STATES NUCLEAR REGULATORY COMMISSION

In the Matter of

PP&L, INC.

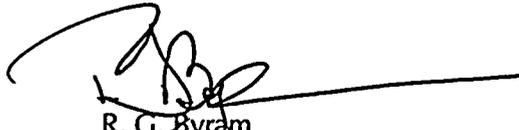
Docket No. 50-388

PROPOSED AMENDMENT NO. 185  
FACILITY OPERATING LICENSE NO. NPF-22  
SUSQUEHANNA STEAM ELECTRIC STATION  
UNIT NO. 2

Licensee, PP&L, Inc., hereby files proposed Amendment No. 185 to its Facility Operating License No. NPF-22 dated March 23, 1984.

This amendment contains a revision to the Susquehanna SES Unit 2 Technical Specifications.

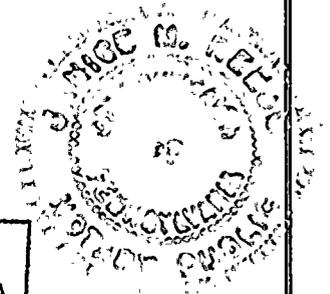
PP&L, INC.  
BY:

  
R. G. Byram  
Sr. Vice President - Generation and Chief Nuclear Officer

Sworn to and subscribed before me  
this 5<sup>th</sup> day of August, 1998.

  
Notary Public

NOTARIAL SEAL  
JANICE M. REESE, Notary Public  
City of Allentown, Lehigh County, PA  
My Commission Expires June 11, 2001



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## SAFETY ASSESSMENT

### REACTOR STEAM DOME PRESSURE-LOW ALLOWABLE VALUE

#### BACKGROUND:

The Core Spray and LPCI initiation logic has a low pressure permissive function which prevents the Core Spray System injection valves HV-252-F005A/B and the LPCI System injection valves HV-251-F015A/B from opening until reactor pressure has decreased to the systems' design pressure. The purpose of this permissive is to prevent Core Spray and LPCI system overpressurization and prevent fuel clad temperature limits from being exceeded. The permissive signals are initiated from four pressure instruments that sense reactor steam dome pressure.

Analysis has determined an Allowable Value range for "Reactor Steam Dome Pressure - Low" based on analytical limits for the RHR and Core Spray piping design pressures and the 400 psig limit provided in the SSES FSAR. The Upper Allowable Value ensures that the pressure instruments are set so that they actuate at a pressure that prevents Core Spray and LPCI system overpressurization. The Lower Allowable Value ensures that the pressure indicating switches are set so that they actuate at a pressure which allows Core Spray and LPCI injection to occur in time to prevent fuel clad temperature limits from being exceeded.

#### DESCRIPTION OF PROPOSED CHANGE:

The proposed change to the Unit 2 Technical Specifications Table 3.3.5.1-1 "Emergency Core Cooling System Instrumentation" updates the values for both the Core Spray (CS) and LPCI "Reactor Steam Dome Pressure-Low" Allowable Values. Specifically the currently specified value of "≥ 416" psig is proposed to be changed to "≥403 psig and ≤ 437 psig" for Functions 1.c, 1.d, 2.c, and 2.d.

Function 1.c and 2.c are the ECCS initiation functions associated with CS and LPCI and 1.d and 2.d are the injection permissives. The functions are separated in the Technical Specification Table solely to ensure that the proper actions are taken for each function. The instrumentation and allowable values are identical for both functions.

Attachment 3 contains the markup pages of the current Technical Specification pages that reflect the change.

SAFETY ANALYSIS:

The functional design basis of the Core Spray and LPCI systems is to inject water into the reactor vessel to cool the core during a LOCA by opening the Core Spray and LPCI injection valves when reactor pressure drops below the reactor vessel low pressure permissive. The upper analytical limit for the permissive is the Core Spray and LPCI systems' maximum design pressure, and the lower analytical limit is the lowest pressure which allows injection to prevent exceeding the fuel cladding temperature limit. The new allowable values were selected to lie within the upper and lower limits to ensure there will be no change in the required logic or functions of the Core Spray and LPCI systems. These new values do not affect the LOCA nor its "limiting fault" frequency of occurrence and do not introduce any new accidents or malfunctions of equipment important to safety. Since they do not affect the LOCA, they do not change the probability of occurrence of the LOCA. The new allowable values do not change the logic or function of the reactor vessel low pressure permissive. These new values simply provide the basis for which the associated pressure instruments are to be set to ensure proper operation of Core Spray and LPCI within the design pressures as described above.

CONCLUSIONS:

The proposed change to SSES Unit 1 and Unit 2 Technical Specification Surveillance Requirements enhances the assurance that the CS and RHR systems perform their design basis LOCA function.



**NO SIGNIFICANT HAZARDS CONSIDERATIONS AND ENVIRONMENTAL ANALYSIS**

**REACTOR STEAM DOME PRESSURE-LOW, ALLOWABLE VALUE**

**NO SIGNIFICANT HAZARDS CONSIDERATIONS**

Pennsylvania Power and Light Company has evaluated the proposed Technical Specification change in accordance with the criteria specified by 10 CFR 50.92 and has determined that the proposed change does not involve a significant hazards consideration. The criteria and conclusions of our evaluation are presented below.

- 1. The proposed change does not involve a significant increase in the probability or consequences of an accident previously evaluated.**

This proposal does not involve an increase in the probability or consequences of an accident previously evaluated. The proposed amendment changes the "Reactor Steam Dome Pressure-Low" Allowable Values so to provide further assurance that the Core Spray and RHR systems will perform their LOCA design basis function.

The functional design basis of the Core Spray and LPCI is to inject water into the reactor vessel to cool the core during a LOCA by opening the Core Spray and LPCI injection valves when reactor pressure drops below the reactor vessel low pressure permissive. The upper analytical limit for the permissive is the Core Spray and LPCI systems' maximum design pressure, and the lower analytical limit is the lowest pressure which allows injection to prevent exceeding the fuel cladding temperature limit. The new allowable values were selected to lie within the upper and lower limits to ensure there will be no change in the required logic or functions of the Core Spray and LPCI systems. These new values do not affect the LOCA nor its "limiting fault" frequency of occurrence and do not introduce any new accidents or malfunctions of equipment important to safety. Since they do not affect the LOCA, they do not change the probability of occurrence of the LOCA. The new allowable values do not change the logic or function of the reactor vessel low pressure permissive. These new values simply provide the basis for which the associated pressure instruments are to be set to ensure proper operation of Core Spray and LPCI within the design pressures as described above. Therefore, the change in allowable values does not increase the probability of occurrence or the consequences of an accident or malfunction of equipment important to safety.

Based upon the analysis presented above, PP&L concludes that the proposed action does not involve an increase in the probability or consequences of an accident previously evaluated.

- 2. The proposed change does not create the possibility of a new or different kind of accident from any accident previously evaluated.**

This proposal does not create the probability of a new or different type of accident from any accident previously evaluated. The new allowable values do not change any plant systems, structures, or components, nor do they change any existing or create any new Core Spray and LPCI logic or functions. The new allowable values were selected to ensure the required operation of the Core Spray and LPCI systems within the maximum design pressures.

Therefore, the proposed change does not create the possibility of a new or different kind of accident from any accident previously evaluated.

- 3. The proposed change does not involve a significant reduction in the margin of safety.**

The change does not involve a reduction in the margin of safety. Technical Specification Bases Section B3.3.5.1 9 (ECCS Instrumentation) identifies that the low reactor steam dome pressure signals are used as permissives for operation of the low pressure ECCS subsystems. The new allowable values were selected so as to not impact the logic, redundancy, operability or surveillance requirements for these subsystems. The new allowable values maintain the margin requirements of the Core Spray and LPCI system pressures such that they do not exceed their system maximum design pressures and that system pressures are high enough to ensure that the ECCS injection prevents the fuel peak cladding temperature from exceeding the limits of 10CFR50.46.

Therefore, the margin of safety is enhanced by the proposed changes.

#### ENVIRONMENTAL ANALYSIS

An environmental assessment is not required for the proposed change because the requested change conforms to the criteria for actions eligible for categorical exclusion as specified in 10 CFR 51.22(c)(9). The requested change will have no impact on the environment. As discussed above, the proposed change does not involve a significant hazards consideration. The proposed change does not involve a significant change in the types or significant increase in the amounts of effluents that may be released off-site. In addition, the proposed change does not involve a significant increase in the individual or cumulative occupational radiation exposure.