

October 31, 1997

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

SUBJECT: CORRECTION TO SAFETY EVALUATION SUPPORTING AMENDMENT NO. 136 TO
FACILITY OPERATING LICENSE NO. NPF-22 FOR SUSQUEHANNA STEAM ELECTRIC
STATION, UNIT 2 (TAC NO. M98166)

Dear Mr. Byram:

On April 9, 1997, the Commission issued Amendment 136 for Susquehanna Steam Electric Station, Unit 2. The purpose of this letter is to provide a revised page for the safety evaluation (SE) that was included in the amendment package. Please replace page 2 of the SE with the attached page which has the modification in underlined text. The change was made to highlight, as indicated in the conclusion on the same page, the fact that the ATRIUM-10 mechanical design criteria approved by the amendment was applicable to Condition 5 only.

If you have any questions concerning this change. Please contact me at 301-415-1402.

Sincerely,

/s/
Chester Poslusny, Senior Project Manager
Project Directorate I-2
Division of Reactor Projects - I/II
Office of Nuclear Reactor Regulation

Docket No. 50-388

Enclosure: Page 2 of SE

cc w/encl: See next page

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UNITED STATES
NUCLEAR REGULATORY COMMISSION
WASHINGTON, D.C. 20555-0001

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A handwritten signature in cursive script, appearing to read "Chester Poslusny".

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

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cc w/encl: See next page

Mr. Robert G. Byram
Pennsylvania Power & Light Company

Susquehanna Steam Electric Station,
Units 1 & 2

cc:

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Core Loading Evaluation

The licensee also stated that the ATRIUM-10 fuel weighs approximately the same as the current 9x9 fuel and is compatible with the refueling platform main grapple. Hence the refueling platform main hoist is sufficient to handle the new fuel. Further, the ATRIUM-10 fuel channel design is identical to that of the current fuel and its lower tie plate has similar dimensions to the current fuel. The staff finds that this new fuel can be safely loaded into the reactor core because it is physically similar to the current 9x9 fuel.

Support of fuel load in Operational Condition 5 requires consideration of core shutdown margin (SDM) and fuel bundle mechanical integrity. Core SDM is defined as the amount of shutdown core reactivity with all the control rods inserted and with the strongest worth control rod fully withdrawn at 68° F and at zero Xenon concentration. The licensee's methodology for calculating SDM is contained in References 4 and 5, both previously approved by the NRC. Core SDM for beginning of cycle loading is greater than 1.00% $\Delta k/k$, which satisfies the TS value of 0.38% $\Delta k/k$. Therefore, the staff finds that the ATRIUM-10 fuel can be loaded and placed in its planned Cycle 9 configuration and remain subcritical with the strongest worth control rod withdrawn.

The Fuel and Equipment Handling Accidents were also considered. Since the ATRIUM-10 fuel is unexposed and the bundle weight is approximately the same as for the 9x9-2 design, the Fuel Handling Accident involving the drop of an ATRIUM-10 bundle with its dose consequences is bounded by the current 9x9-2 analysis.

Mechanical Design

TS Section 6.9.3.2 would be revised to include the NRC-approved topical report ANF-89-98(P)(A) Revision 1 and Revision 1, Supplement 1, "Generic Mechanical Design Criteria for BWR Fuel Designs," (Reference 1) describing the criteria used by SPC to design boiling-water reactor (BWR) fuel assemblies. The ATRIUM-10 mechanical design has been analyzed according to this generic mechanical design criteria as applicable to Condition 5.

SPC mechanical design calculations using the above NRC-approved methodology demonstrate that ATRIUM-10 complies with the criteria applicable to Condition 5. This plant-specific application of the NRC-approved criteria is acceptable by the staff along with the proposed TS reference change.

In conclusion, the proposed changes to the SSES Unit 2 TS support loading of ATRIUM-10 fuel during Operational Condition 5. Approved methodologies are used to analyze shutdown margin and fuel bundle integrity during fuel loading in Operational Condition 5. The staff has concluded that all applicable limits for CONDITION 5, refueling, such as nuclear (shutdown margin), and accident analysis limits are met. Therefore, the changes are acceptable.

ENCLOSURE

Corrected by letter dated October 31, 1997