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

OCT 27 1987

MEMORANDUM FOR: W. Butler, Project Director
Project Directorate I-2
Division of Reactor Projects - I/II

FROM: M. W. Hodges, Chief
Reactor Systems Branch
Division of Engineering & Systems Technology

SUBJECT: REVISION TO SAFETY EVALUATION FOR SUSQUEHANNA UNIT NO. 1 CYCLE 4 RELOAD

REFERENCES:
1. Letter PLA-2930, H. W. Keiser (PPLCo) to Director (ONRR), dated October 15, 1987, "Corrections to Proposed Amendment No. 100 to License No. NPF-14."
2. Memorandum, M. W. Hodges (SRXB/DEST) to W. Butler (PD I-2), SE for Susquehanna Unit No. 1 Cycle 4 Reload, dated September 17, 1987.

Plant Name:	Susquehanna Steam Electric Station Unit No. 1
Docket No.:	50-387
TAC No.:	65636
Project Directorate:	Project Directorate I-2
Project Manager:	M. C. Thadani
Review Branch:	SRXB/DEST
Review Status:	Modification to SE

Based on information submitted by the Pennsylvania Power and Light Company in Reference 1 related to corrected analyses for the Cycle 4 reload of Susquehanna Unit No. 1, we find that some revision to the Safety Evaluation transmitted to you in Reference 2 is necessary. The licensee's reanalyses are in the areas of thermal-hydraulic stability and the rod drop accident. The enclosed SE Supplement prepared by the Reactor Systems Branch finds the conclusions of the original evaluation are unchanged but a text change is required to account for the new information. No changes to the proposed Technical Specifications in the original submittal are required. Our SALP for this TAC is unchanged.

M. Wayne Hodges

M. W. Hodges, Chief
Reactor Systems Branch
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Enclosure: As stated

cc w/enclosure:
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SUPPLEMENT TO SAFETY EVALUATION FOR
SUSQUEHANNA UNIT 1 CYCLE 4 RELOAD

By memorandum, M. W. Hodges (SRXB) to D. L. Wigginton (DRP) dated September 17 1987, the Reactor Systems Branch provided a safety evaluation (SE) of the proposal by Pennsylvania Power and Light Company (the licensee) to reload and operate the Susquehanna Unit 1 for Cycle 4. The original proposal was submitted by letter dated June 19, 1987. In a later submittal dated October 15 1987, the licensee informed the NRC that revised analyses in the areas of thermal-hydraulic stability and the Control Rod Drop Accident result in necessary corrections in the basis documentation for the licensee's reload safety analysis.

In the first change, the cycle-specific stability analysis was redone to correct a code input error in the void coefficient for the 68/45 power/flow setpoint. The calculated statepoint value has changed from 0.66 to 0.70. Since the revised value remains within the acceptable range for this evaluation the staff conclusion remains unchanged. Since the numerical value for this statepoint was not identified in the original SE (Section 3.2, first paragraph), no text change is required.

In the second change, the Control Rod Drop Accident was reanalyzed using a more conservative control rod pattern. This resulted in a change in peak deposited enthalpy from 91 to 191 cal/gm and number of failed fuel rods from zero to less than 60. The staff notes that the Safety Evaluation Report for the Susquehanna Unit 1 Operating License (NUREG-0776) dated April 30, 1981, concluded that a previous conservative analysis assuming 770 failed fuel rods resulted in calculated doses which are within 10 CFR Part 100 guidelines. The staff conclusion that the Susquehanna Unit No. 1 is effectively designed to control the release of radioactive fission products following a postulated control rod drop accident is unchanged. The revised numbers do however require a text change in our September 17 SE which is as follows:

Section 4.3, second paragraph should be replaced in its entirety to read:

"The control rod drop accident was analyzed with approved ANF methodology. The resulting maximum fuel enthalpy of 191 cal/gm is within the established

limit of 230 cal/gm and the estimated number of failed rods is within the previously reviewed and accepted FSAR analysis value of 770 failed rods. The analysis and results, as identified in the licensee's October 15, 1987 submittal (Ref. 17), are acceptable."

The following Reference should be added:

17. Letter, H. W. Keiser (PPLCo) to Director (ONRR), "Corrections to Proposed Amendment No. 100 to License No. NPF-14," dated October 15, 1987 (PLA-2930).

Finally, we note that no changes to the original proposed TS changes for the Cycle 4 reload are required as a result of the revised analyses.