PRIORITY 1
(ACCELERATED RIDS PROCESSING)

REGULATORY INFORMATION DISTRIBUTION SYSTEM (RIDS)

ACCESSION NBR:9411020220 DOC.DATE: 94/10/28 NOTARIZED: YES DOCKET #
FACIL:50-387 Susquehanna Steam Electric Station, Unit 1, Pennsylva 05000387
50-388 Susquehanna Steam Electric Station, Unit 2, Pennsylva 05000388
AUTH.NAME AUTHOR AFFILIATION
BYRAM,R.G. Pennsylvania Power & Light Co.
RECIP.NAME RECIPIENT AFFILIATION
Document Control Branch (Document Control Desk)

SUBJECT: Forwards Proposed Amends 176 & 130 to Licenses NPF-14 & NPF-22,respectively,adding ref PL-NF-90-001,Suppl to Section 6.9.3.2.Topical Rept PL-NF-90-001,Suppl 1 also encl.

DISTRIBUTION CODE: A001D COPIES RECEIVED:LTR 1 ENCL 1 SIZE: ST 12
TITLE: OR Submittal: General Distribution

NOTES: 05000387

	RECIPIENT ID CODE/NAME	COPIES LTTR	COPIES ENCL	RECIPIENT ID CODE/NAME	COPIES LTTR	COPIES ENCL
	PD1-2 LA	1	1	PD1-2 PD	1	1
	POSLUSNY,C	1	1			
INTERNAL:	ACRS	6	6	FILE CENTER 01	1	1
	NRR/DE/EELB	1	1	NRR/DRCH/HICB	1	1
	NRR/DRPW	1	1	NRR/DSSA/SPLB	1	1
	NRR/DSSA/SRXB	1	1	NUDOCS-ABSTRACT	1	1
	OGC/HDS2	1	0			
EXTERNAL:	NOAC	1	1	NRC PDR	1	1
NOTES:		1	1			

NOTE TO ALL "RIDS" RECIPIENTS:
PLEASE HELP US TO REDUCE WASTE! CONTACT THE DOCUMENT CONTROL DESK, ROOM P1-37 (EXT. 504-2083) TO ELIMINATE YOUR NAME FROM DISTRIBUTION LISTS FOR DOCUMENTS YOU DON'T NEED!

TOTAL NUMBER OF COPIES REQUIRED: LTTR 20 ENCL 19

PRIORITY 1 DOCUMENT

PP&L Pennsylvania Power & Light Company
Two North Ninth Street • Allentown, PA 18101-1179 • 610/774-5151

Robert G. Byram
Senior Vice President—Nuclear
610/774-7502
Fax: 610/774-5019

OCT 28 1994

U.S. Nuclear Regulatory Commission
Attn.: Document Control Desk
Mail Station P1-137
Washington, D.C. 20555

SUSQUEHANNA STEAM ELECTRIC STATION
PROPOSED AMENDMENT NO. 176 TO
LICENSE NO. NPF-14 AND NO. 130 TO
LICENSE NO. NPF-22 : ADDITION OF REFERENCE
PL-NF-90-001, SUPPLEMENT 1 TO SECTION 6.9.3.2
PLA-4218 FILES A17-2/R41-2

Docket Nos. 50-387
and 50-388

Dear Sir:

The purpose of this letter is to propose changes to the Susquehanna SES Units 1 and 2, Technical Specifications. The proposed change incorporates minor changes to PP&L's reload methodology as described in PL-NF-90-001, Supplement 1 and requests incorporation of this report into the list of references of Section 6.9.3.2.

The attached assessment provides the safety basis for this proposed change and concludes that the change involves no significant hazards. The change has been reviewed by the Plant Operations Review Committee (PORC) and the Susquehanna Review Committee (SRC).

PP&L is planning to incorporate this proposed change into the reload design for the upcoming Refueling and Inspection Outage, as a result we ask that the NRC complete its review no later than January 15, 1995. Any questions on this submittal should be directed to Mr. A. K. Maron at (610) 774-7852.

Very truly yours,

R. G. Byram

Attachments

A001
1/1

cc: NRC Region I
Mr. C. Poslusny, Jr., NRC Sr. Project Manager - OWFN
Ms. M. Banerjee, NRC Sr. Resident Inspector - SSES
Mr. W. P. Dornsife, PA DER

SAFETY ASSESSMENT

ADDITION OF REFERENCE PL-NF-90-001, SUPPLEMENT 1 TO SECTION 6.9.3.2

BACKGROUND

PP&L is currently performing reload licensing analysis to establish Minimum Critical Power Ratio (MCPR) operating limits using NRC approved methods. The attached supplement to PP&L's approved methodology documents two minor changes to this methodology. First, PP&L intends to begin using RETRAN-02 MOD005.1 (which has been NRC approved for licensing applications) in place of RETRAN-02 MOD004. Second, a generic loss of feedwater heating methodology is proposed.

DESCRIPTION OF CHANGES

Add reference #20 (Unit 1) and #18 (Unit 2) to Section 6.9.3.2, "PL-NF-90-001, Supplement 1, 'Application of Reactor Analysis Methods for BWR Design and Analysis: Loss of Feedwater Heating Changes and Use of RETRAN MOD 5.1', September, 1994"

SAFETY ANALYSIS

Analysis

PP&L has performed several of the its recent reload analyses in-house and has gained considerable knowledge regarding the associated methodologies. Specifically, these NRC approved methods have been used for calculating the operating limits for Unit 1 Cycle 7, Unit 1 Cycle 8, Unit 2 Cycle 6, and Unit 2 Cycle 7 (first power uprate cycle).

As a result of this experience gained, along with the desire to upgrade our analytical methods to use state-of-the-art methods, it is PP&L's intent to enhance its licensing methods. As part of this intent, the attached Supplement 1 to PP&L's NRC approved methodology (PL-NF-90-001-A) documents two minor changes to our methodology. First, PP&L intends to begin using RETRAN-02 MOD005.1 (which has been NRC approved for license applications) in place of RETRAN-02 MOD004. Second, a generic loss of feedwater heating methodology is proposed.

PP&L's currently approved methodology (PL-NF-90-001-A, "Application of Reactor Analysis Methods for BWR Design and Analysis" and PL-NF-89-005-A, "Qualification of Transient Analysis Methods for BWR Design and Analysis") utilizes RETRAN-02 MOD004 with minor modifications to perform reload licensing analyses to establish MCPR operating limits. This proposed change is to replace RETRAN-02 MOD004 with RETRAN MOD005.1 for future licensing analyses. NRC's April 12, 1994, letter entitled "Acceptance for Referencing of the RETRAN-02 MOD005.1 Code" documents NRC's acceptance of MOD005.1 for licensing applications. In addition to the extensive testing performed by EPRI, PP&L has conducted its own

comparison of MOD004 and MOD005.1 for four licensing transients which use the RETRAN code. Results of this comparison (peak powers, peak pressures, and trip timing) were essentially the same for both codes. Therefore, upgrading of the RETRAN code from MOD004 to MOD005.1 is justified.

Section 2.3 of PP&L's approved methodology (PL-NF-90-001-A) describes the current Loss of Feedwater Heating (LOFWH) analysis methodology. At the time of its development PP&L desired to perform cycle specific analyses to confirm the applicability of the NRC approved generic correlation. The addition of supporting confirmation analysis was believed necessary since the correlation at that time would have been based on only two cycles of data. Since that time, PP&L has performed LOFWH analysis on four additional cycles, including power uprate. Each time, the results confirmed the validity of the generic correlation. Additionally, the results of all six reloads have demonstrated that transient fuel Linear Heat Generation Rate (LHGR) limits would not be violated for a LOFWH event. Therefore, unless a significant change to the operation of SSES Units is made (e.g., introduction of reload quantities of a new fuel type), PP&L does not intend to perform cycle specific analyses.

Noteworthy are two additional aspects of PP&L's Susquehanna Units. First, a single failure in the feedwater heater system would be expected to produce a feedwater temperature decrease significantly less than the 100°F assumed in the NRC approved methodology. Second, the LOFWH is not the limiting event for establishing MCPR operating limits. The Generator Load Rejection Without Bypass typically produces a ΔCPR which is at least 0.10 greater than the LOWFH. Therefore, the LOFWH is not expected to impact the MCPR operating limit for Susquehanna.

CONCLUSION

The upgrade to RETRAN-02 MOD005.1 from MOD004 in PP&L's licensing analysis methods is acceptable and technically justified. In addition, the use of the generic correlation for the LOFWH event has been proven to be technically correct and will not impact the MCPR operating limit for the SSES units.

NO SIGNIFICANT HAZARDS CONSIDERATIONS

The proposed changes do not:

I. Involve a significant increase in the probability or consequences of an accident previously evaluated.

Incorporation of these proposed minor changes into PP&L's NRC approved methodology for performing reload licensing analysis is considered to be an enhancement to the currently approved methodology. Upgrading of the RETRAN code allows for taking advantage of state-of-the-art technology, while utilization of the generic correlation for the LOFWH event supports consistency in licensing analysis performance. Results of incorporating these changes will not significantly increase the probability or the consequences of an accident previously evaluated.

II. Create the possibility of a new or different kind of accident from any accident previously evaluated.

As stated above, the incorporation of these minor changes are considered enhancements, allowing PP&L to more efficiently and cost effectively continue to perform future reload licensing analysis. Therefore, the incorporation of these changes will not create the possibility of a new or different kind of accident from any accident previously evaluated.

III. Involve a significant reduction in a margin of safety.

In addition to the extensive testing perform by EPRI, PP&L has performed its own comparison tests utilizing RETRAN MOD005.1 in place of MOD004 for four licensing transients that use the RETRAN code. Results of this comparison were essentially the same for both codes and support this proposed change. Also, the Loss of Feedwater Heating event is not a limiting event for establishing MCPR Operating Limits for Susquehanna. Therefore, the incorporation of these changes will have no impact on current safety margins, nor will they involve a significant reduction in the margin to safety.

ENVIRONMENTAL CONSEQUENCES

This request is consistent with the Susquehanna design basis, in that the revised methodology yields the same results as that which is currently approved. Therefore, no environmental consequences that have not been previously considered are anticipated.

IMPLEMENTATION

PP&L is planning to incorporate this proposed change into the reload design for the upcoming Refueling and Inspection Outage, as a result we ask that the NRC complete its review no later than January 15, 1995.