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BUTLER,W.R. Project Directorate I-2

SUBJECT: Forwards revised response to Question 4 of 910604 request for addl info re MCPR operating limits.

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JUN 21 1991

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, DC 20555

SUSQUEHANNA STEAM ELECTRIC STATION
REVISED RESPONSE TO QUESTION #4
OF RAI ON PL-NF-90-001
PLA-3595 FILES A7-8C/A17-2/R41-2

Docket Nos. 50-387
and 50-388

Reference: PLA-3578, H. W. Keiser to W. R. Butler, "Final Response to RAI on PL-NF-90-001" dated June 4, 1991.

Dear Dr. Butler:

Based on recent discussions with Mr. Larry Phillips and Mr. Larry Kopp of NRR, PP&L is providing the attached revision to our response to Question 4 of the referenced submittal.

Any questions on the attachment should be directed to Mr. R. Sgarro at (215) 774-7916. PP&L appreciates the continuing NRC efforts in support of this review.

Very truly yours,

H. W. Keiser

H. W. Keiser

Attachment

A001 1/1

cc: Document Control Desk (original)
NRC Region I
Mr. G. S. Barber, NRC Sr. Resident Inspector - SSES
Mr. J. J. Raleigh, NRC Project Manager - OWFN

QUESTION 4

Without the SCU methodology, the safety limit and event-specific RCPR will be calculated separately in determining the operating limit MCPR. Modify the technical specifications to include the safety limit MCPR.

RESPONSE 4

In the PP&L SCU methodology, the operating limit MCPR is determined directly to demonstrate compliance with the applicable SAFDL (see response to Question 3). As demonstrated by the responses to Questions 1 and 2 (Reference 4-1), PP&L believes its SCU methodology is a logical extension of currently used NRC approved SCU methods and that the PP&L method conforms to the applicable regulations. Therefore, use of the SAFDL (i.e., 99.9% of the fuel rods expected to avoid boiling transition) as the "THERMAL POWER, High Pressure and High Flow" safety limit in the technical specifications is appropriate. In addition, the analyses performed to date demonstrate that the application of PP&L's SCU methodology produces more conservative MCPR operating limits than those produced by our current fuel vendor's NRC approved licensing methods. These analyses are a further demonstration of the overall conservatism of the PP&L approach.

However, interactions with the NRC have indicated that the staff would prefer that a MCPR value which assures that 99.9% of the fuel pins are expected to avoid boiling transition be included as the "THERMAL POWER, High Pressure and High Flow" safety limit. Therefore, a MCPR safety limit value, which is calculated using ANF's NRC approved methodology will continue to be included in the Susquehanna Technical Specifications. For Unit 2 Cycle 5, the safety limit MCPR was calculated to be 1.06.

As further confirmation of the adequacy of the MCPR operating limits calculated using PP&L's SCU methodology, additional analyses will be supplied as part of each reload licensing submittal. These analyses determine the ΔCPR for all events which utilize the PP&L SCU methodology (i.e., GLRWOB, FWCF, and RWE events). The analyses will be based on expected plant and system

performance for the cycle being evaluated and no explicit code uncertainty will be applied. As an example, confirmatory calculations were performed for the GLRWOB and RWE events for Unit 2 Cycle 5, and the results are presented in Table 4-1 along with the MCPR operating limits produced by PP&L's SCU methodology.

TABLE 4-1
RESULTS OF U2C5 CONFIRMATORY CALCULATIONS

EVENT	CONFIRMATORY CALC ΔCPR	CONFIRMATORY CALC ΔCPR + 1.06	SCU METHOD MCPR OL
GLRWOB	0.20	1.26	1.32
RWE	0.16	1.22	1.27

Reference

4-1 "Initial Response to RAI on PL-NF-90-001(SCU Questions)", Susquehanna Letter PLA-3566, April 23, 1991.