July 14, 1983

DMB 016

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Dockets Nos. 50-277
and 50-278

Mr. Edward G. Bauer, Jr.
Vice President and General Counsel
Philadelphia Electric Company
2301 Market Street
Philadelphia, Pennsylvania 19101

Dear Mr. Bauer:

SUBJECT: MARK I CONTAINMENT LONG TERM PROGRAM - PLANT UNIQUE ANALYSIS REPORT LOADS EVALUATION

The NRC staff and its consultant Brookhaven National Laboratory (BNL) are reviewing the structural aspects of your plant unique analysis report. As a result of our review to date we have prepared the enclosed request for additional information.

To expedite this review it is requested that within three weeks of the date of this letter a meeting between the NRC and our consultants, and you and your contractor be held to discuss your response to these issues. Since it is our intent to resolve these issues at this meeting, it is imperative that you have a representative at this meeting that has the authority to make the decisions necessary to accomplish this goal.

It is suggested that this meeting be held at your contractors office; however, we are amenable to having it wherever it is most convenient. Please notify your project manager within seven days of receipt of this letter with a proposed meeting date. If you cannot meet the three week schedule, propose an alternative one.

This request for information was approved by the Office of Management and Budget under clearance number 3150-0091 which expires October 31, 1985.

Sincerely,

"ORIGINAL SIGNED BY
JOHN F. STOLZ"

John F. Stolz, Chief
Operating Reactors Branch #4
Division of Licensing

Enclosure: As stated

cc w/enclosure
See next page

OFFICE		ORB#4:DL	C-ORB#4:DL	ORB#2:DL		
SURNAME		GGears:cf	JStolz	BSiegel		
DATE		7/14/83	7/14/83	7/14/83		

Crystal River Unit No. 3
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REQUEST FOR ADDITIONAL INFORMATION

ITEM 1: AC section 2.1

Section 2.1 of the Acceptance Criteria states that "as part of the PUA, each licensee shall specify procedures (including the primary system parameters monitored) by which the operator will identify the SBA, to assure manual operation of the ADS within the specified time period. Longer time periods may be assumed for the SBA in any specific PUA, provided (1) the chugging load duration is correspondingly increased, (2) the procedures to assure manual operation within the assumed time period are specified, and (3) the potential for thermal stratification and asymmetry effects are addressed in the PUA."

The PUAR does not specifically address the above requirement. Clarification is needed.

ITEM 2: AC section 2.13.8

Section 2.13.8 of the AC states that as part of the PUAR each licensee is required to either demonstrate that previously submitted pool temperature analyses are sufficient or provide plant-specific pool temperature response analyses to assure that SRV discharge transients will not exceed certain pool temperature limits. No such discussion has been found in the PUAR and must therefore be provided. Also include a description of the pool temperature monitor system.

ITEM 3: PUAR section 7.2.3, AC section 2.3

The LDR and NUREG-0661 specify a minimum of four tests as a data base for obtaining net torus vertical loads. NEDE-21944-P shows that of the 1/4-scale tests for Peach Bottom, four were done with a Δp of 7.61 inches H_2O, and only one test was conducted at 0 Δp. The Peach Bottom PUAR states that both units 2 and 3 operate with no pressure differential between drywell and wetwell. Therefore, this appears to be a significant exception to the AC. Were other tests at 0 Δp conducted for Peach Bottom? How were the loads arrived at? Justification of this apparent exception to the AC is needed.

The above comments apply not only to the net torus vertical loads but to all loads for which the QSTF tests at 0 Δp played a crucial role, such as impact and drag loads, etc.

ITEM 4: PUAR section 6.2.2.1, AC section 2.3

Are the empirical scale factors used to provide additional margins for the pool swell loads as mentioned on p. 6-5 of the PUAR the same as those in the AC?

ITEM 5: PUAR section 6.2.2.4, AC sections 2.11.1, 2.12.1
What is the plant unique multiplication factor based on pool to vent area ratio used for CO torus shell loads for Peach Bottom? Are total responses to CO and post chug loadings obtained by absolute summing all the individual frequency responses? Were pre-chug loads calculated as specified in the LDR?

ITEM 6: PUAR section 6.2.3, AC section 2.13.9
The measured peak pressures of the in-plant SRV discharge tests mentioned on p. 6-9 of the PUAR are higher than the values in Table 6-3 for design case torus pressures. Clarify this apparent discrepancy.

ITEM 7: PUAR section 6.2.3, AC section 2.13.3.3
On p. 6-13 the PUAR states that the "multiple valve design case pressure was calculated as 1.2 times the SRSS of pressures due to six adjacent valves". This is an exception to the AC and needs clarification and justification.

ITEM 8: PUAR section 7.2.3.2, AC section 2.6
Have pool swell loads on the vent header in the Peach Bottom vent bays (those without vent header deflectors) been calculated? How do these loads compare to the loads on the protected vent headers in the non-vent bays?

ITEM 9: PUAR section 7.2.3.2, AC section 2.6
Figure 7-8 of the PUAR showing the pool swell impact loading sequence needs clarification. Are the pool surfaces and impact times labeled correctly in this figure?

ITEM 10: PUAR section 7.2.3 and 7.2.4, AC section 2.11, 2.12
Vent system CO and chugging loads are mentioned briefly in sections 7.2.3.5 and 7.2.3.6 of the PUAR. SRV discharge drag loads on the vent system are mentioned in 7.2.4. The implication in the PUAR is that all these loads were calculated exactly as given in the LDR and the AC. Is this correct? For instance, were multivent chugging loads calculated based on an exceedance probability of 10^{-4} per LOCA as specified in the AC?

ITEM 11: PUAR section 7.2.4, AC section 2.16.4

The PUAR mentions T-quencher bubble drag loads on the downcomers but does not specifically mention drag loads on the SRV lines. Were these calculated along with other submerged structure drag loads? If not, why was it felt to be unnecessary?

ITEM 12: AC section 2.13

Line clearing and thrust loads on the T-quencher are not specifically mentioned in the PUAR. Were these loads calculated and what values were obtained?

ITEM 13: PUAR sections 8.23, 8.24, AC section 2.7, 2.8, 2.9, 2.14

Sections 8.2.3 and 8.2.4 briefly mention LOCA and SRV loads on torus internal structures were calculated "based on LDR methodology". Does this mean complete compliance with LDR and AC specifications with no deviations? For instance, have FSI effects for submerged structure loadings been accounted for as specified in the AC?

ITEM 14:

Indicate whether all loads covered by the LDR and the AC have been considered during the plant unique analysis and provide justification if any load has been neglected.