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U.S. Nuclear Regulatory Commission
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Washington, D. C. 20555

SUSQUEHANNA STEAM ELECTRIC STATION
SPENT FUEL POOL COOLING
PLA-4238 FILE R41-2

Docket Nos. 50-387/NPF-14
and 50-388/NPF-22

References: *Letter from Joseph W. Shea to R.G. Byram, "Susquehanna Steam Electric Station, Units 1 and 2, Draft Safety Evaluation Regarding Spent Fuel Pool Cooling Issues", dated November 3, 1994.*

Dear Sir:

PP&L has completed our review of the referenced draft final safety evaluation regarding spent fuel pool cooling for factual accuracy. Our comments were discussed in a November 21, 1994 telecon between your Mr. Joseph Shea and Mr. Steve Jones and our Mr. Jim Kenny and others. The following are the remaining comments noted at the conclusion of the referenced telecon.

PP&L SER COMMENTS:

1) Page 7, Section 2.6, last sentence of first paragraph reads: "Table 9.2-3 of reference 8 lists the design makeup rate for each ESW loop to each pool as 60 GPM."

COMMENT:
It is suggested that this statement be revised to; "Table 9.2-3 of reference 8 lists the design makeup rate for each fuel pool as 60 GPM."

The referenced FSAR table lists item 11 as "Makeup to Fuel Pools". Each ESW loop can supply 30 GPM to each pool. Note that calculations indicate that throttled flow of 35 GPM per line will be achieved.

Enclosure 2

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2) Page 7, Section 2.7, the sentence which reads "However, the safety-related load center rooms are located within Zone I and Zone II, and the safety-related control structure chilled water system cools the air supplied to the load center rooms from the reactor building general area."

COMMENT:
The above statement is correct for Unit 1 but not for Unit 2. The Unit 2 safety-related load center room is cooled by a direct expansion cooling unit. The cooling water for the direct expansion unit is ESW. This configuration is described in FSAR Section 9.4.2.2.2.

3) Page 17, Section 4.2.1, the sentence which reads "Because the control room indication is not fully qualified and redundant, the staff considers these alternative methods appropriate for backup indication."

COMMENT:
When the pools are crosstied, the level and temperature indication is redundant. Unit 1 is powered from distribution panel 1Y226 and Unit 2 is powered from 2Y226.

4) Page 26, Section 4.3.2, item (2); "Plant procedures ensure no ESW system heat loads are dissipated through a spray loop with a failed open spray bypass valve, except ECCS and RCIC room coolers."

COMMENT:
This is accurate only after the first 8 hours of an accident. As modeled in EC-016-1002, there are no restrictions with regard to the alignment of ESW during the initial 8 hours of the event. The analysis assumes that after 8 hours, all ESW heat loads on the loop with the failed open bypass valve are shed with the exception of the ECCS and RCIC room coolers. This action to shed loads is prescribed in SSES emergency procedure EP-PS-102 to address the unlikely occurrence that the bypass valve could not be closed.

5) Page 27, Section 4.3.3, second paragraph, last sentence reads "There was no emergency lighting in areas that require valve manipulation."

COMMENT:
Though no emergency lights are located in the areas that require valve manipulation, essential lighting is provided in those areas. The essential lighting power supplies are fed from Class 1E 480VAC MCC's which are diesel generator backed.

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6) Page 32, Section 4.4.2.1, assumption 8, which reads "emergency switchgear room fan operating with cooling coils receiving 27 GPM of control structure chilled water at 47°F".

COMMENT:
The above statement is correct for Unit 1 but not for Unit 2. The Unit 2 safety-related load center room is cooled by a direct expansion cooling unit. The cooling water for the direct expansion unit is ESW. This configuration is described in FSAR Section 9.4.2.2.2.

7) Page 32, Section 4.4.2.1, it is suggested that a tenth significant assumption be added which identifies that 30 day summer weather was assumed. The average outdoor summer air temperature is calculated for a 24 hour period using data and methodology contained in 1985 ASHRAE Fundamentals. The 5% summer design day average temperature was used for the entire 30 day period analyzed. Additionally, the solar gains were also calculated for the roof and walls of the reactor building (including the refueling floor). Thus the analysis assumes 30 straight days of sunny hot weather.

8) Page 34, Section 4.4.2.2, top paragraph, the sentence which reads "PP&L calculated the moisture accumulation in the recirculation plenum by integrating the calculated concentration of condensed vapor entrained in the flow entering the recirculation plenum (1000 CFM inleakage plus pressure driven flow)."

COMMENT:
The calculation used a mass flow balance to determine the flow to the recirculation plenum from the refueling floor. It is recommended that the sentence be rewritten as follows;

"PP&L calculated the moisture accumulation in the recirculation plenum by integrating the calculated mass flow of condensed vapor entrained in the flow entering the recirculation plenum."

9) Page 34, Section 4.4.2.2, second sentence of the second paragraph, the sentence which reads "The unanalyzed condition was accumulation of condensate within the recirculation plenum to the extent that water overflowed into the SGTS ductwork."

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COMMENT:
This statement is true for the two pool boil case but not for the single pool boil case which is being discussed in this section. In the two pool boil case, condensation in the plenum occurs at a much faster rate than in the SGTS ductwork such that the plenum fills faster than the duct and begins to overflow into the duct. In the single pool case, the opposite is true, the duct condensation fills the duct before the plenum fills and overflows into the duct.

In addition to the above comments, PP&L will provide a separate response to the request contained on page 35 of the referenced document to define our use of the RHR system to prevent spent fuel pool boiling resulting from a seismic event.

Should you have any questions on this letter, please contact Mr. James M. Kenny at (610) 774-7904.

Very truly yours,

R. G. Byram

cc: NRC Region I
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