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SUBJECT: Provides response to GL 92-01 re info not available upon original response due to incomplete surveillance specimen testing. S

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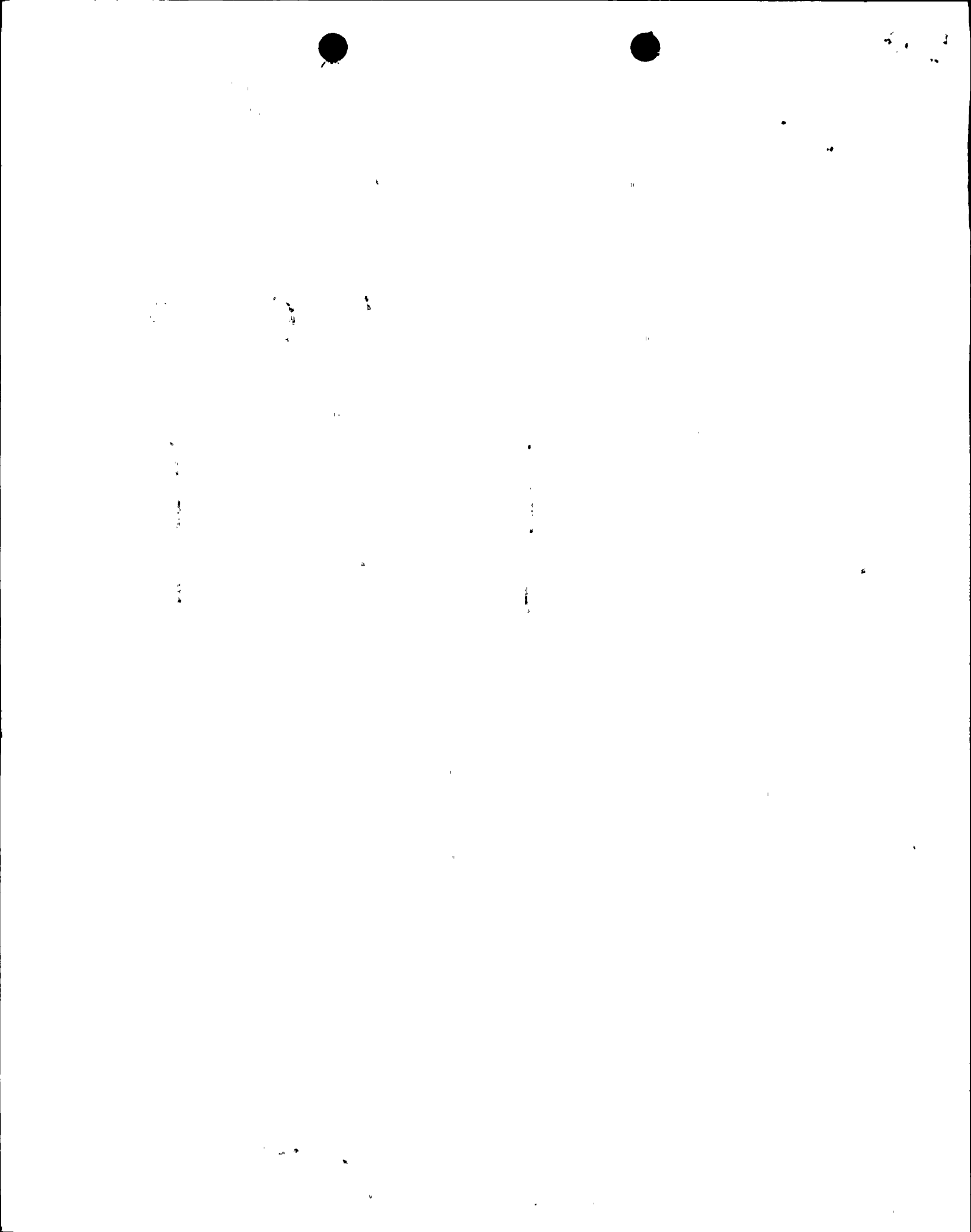
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Robert G. Byram
Senior Vice President-Nuclear
215/774-7502

OCT 07 1993

Director of Nuclear Reactor Regulation
Attention: Mr. M. L. Boyle, Acting Project Director
Project Directorate I-2
Division of Reactor Projects
U.S. Nuclear Regulatory Commission
Washington, D.C. 20555

SUSQUEHANNA STEAM ELECTRIC STATION
SUPPLEMENTAL RESPONSE TO GENERIC LETTER 92-01
PLA-4031 **FILE R41-2A**

Docket Nos. 50-387
and 50-388

Dear Mr. Boyle:

- Reference: 1) PLA-3804, H.W. Keiser to C.L. Miller, "Response to Generic Letter 92-01", dated July 8, 1992.
- 2) PLA-3953, R.G. Byram to C.L. Miller, "Submittal Of Reactor Vessel Material Surveillance Test Report Per 10CFR50 Appendix H for Unit 1", dated April 8, 1993.
- 3) PLA-4026, R.G. Byram to C.L. Miller, "Submittal of Reactor Vessel Material Surveillance Test Report Per 10CFR50 Appendix H For Unit 2", dated September 28, 1993.

This letter serves to provide a supplementary response to Generic Letter 92-01 regarding certain information that was not available to Pennsylvania Power & Light Company at the time of our original response because the surveillance specimen testing was not complete. This testing is now complete and the respective items are listed below for your information.

Item 2.b.(5): What are the sulfur contents of the weld materials used in the Susquehanna reactor shells?

PP&L Response to Item 2.b.(5)

For Unit 1 : Sulfur contents of the weld materials can be found in Tables 3-1 and 3-3 on pages 3-5 and 3-7 respectively of our report attached to the referenced PLA-3953.

For Unit 2 : Sulfur contents of the weld materials can be found in Tables 3-1 and 3-3 on pages 9 and 11 respectively of our report attached to the referenced PLA-4026.

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Item 2.b.(6) : Which weld heats were used for producing each beltline weld?

PP&L Response To Item 2.b.(6)

For Unit 1 : Specific heats were not identified during construction for each weld as stated on page 3-2, paragraph 3.2.1 of our report attached to the referenced PLA-3953.

For Unit 2 : Specific heats were not identified during construction for each weld as stated on page 6, paragraph 3.2.1 of our report attached to the referenced PLA-4026.

Item 3.a : Describe the consideration given to determining the effect of lower irradiation temperature on the reference temperature and on the Charpy upper shelf energy (USE). Adjust the Rt_{ndt} to account for any expected embrittlement.

PP&L Response to Item 3.a

For Unit 1 : PP&L reviewed the operating temperatures recorded in the recirculation lines at four different locations and determined the average operating temperature over operating cycles 2 thru 6 to be 524.89°F. Table 7-1 on page 7-6 of our report attached to the referenced PLA-3953 shows that the non-beltline P/T curve is still limiting at all pressures, with a minimum difference of 3.1° at 1400 psi. The 0.11°F of operating below 525° will have less than 3.1° effect on the reference temperature, and therefore no further consideration will be given to this effect for Unit 1. In addition, the following factors will keep low temperature embrittlement under control for both Units 1 and 2 in the future:

- A. Power uprate will increase the operating temperature in the reactors above 525° most of the rest of the operating life since they operate base load virtually 100% of the time. Power uprate is scheduled to start the spring of 1995 for Unit 1 and spring of 1994 for Unit 2.
- B. The P/T curves in the future will be adjusted, if necessary, to conform to the tested material properties coming from the surveillance samples.

For Unit 2 : PP&L reviewed the operating temperatures recorded in the recirculation lines at four different locations and determined the average operating temperature over operating cycles 2 thru 5 to be 523.25°F. Table 7-1 on page 67 of our report attached to the referenced PLA-4026 shows that the non-beltline P/T curve is limiting at all pressures, with a minimum difference

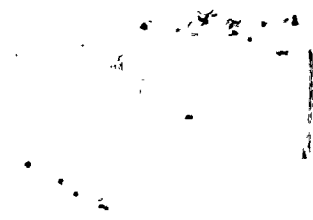
of 2.0° at 1400 psi and current power levels. The 1.75°F of operating below 525° may have more than 2° effect on the reference temperature. However, the actual measured shifts in the reference temperature were -2.0 and +5.7° for the 30 and 50 ft-# energies. The RG 1.99 rev 2 calculated shift was 11°. Because the measure shifts were less than calculated, no further consideration will be given to the temperature effect until the next set of specimens are tested at 15 years EFPY operating time. In addition, comments A and B above are applicable for Unit 2 also.

No lowering of the tested USE is noted in the reports on the first surveillance specimens from Units 1 and 2. Therefore, no further consideration will be given to a temperature effect on this parameter at this time.

Very truly yours,


R. G. Byram

cc: NRC Document Control Desk (original)
NRC Region I
Mr. G. S. Barber, NRC Sr. Resident Inspector - SSES
Mr. R. J. Clark, NRC Sr. Project Manager - Rockville
Mr. K. O. Cozens, NUMARC



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