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SUBJECT: Forwards final results of unit 2 core shroud insp per reporting requirements of GL 94-03.

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OCT 25 1995

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SUSQUEHANNA STEAM ELECTRIC STATION
GENERIC LETTER 94-03: FINAL INSPECTION
RESULTS FOR UNIT 2 CORE SHROUD
PLA-4382 FILE R41-2 **Docket No. 50-388**

References: PLA-4192 from R.G. Byram to Mr. C.L. Miller, "Initial Response to Generic Letter 94-03," dated August 24, 1994.
PLA-4239 from R.G. Byram to USNRC, "Supplemental Response to Generic Letter 94-03," dated December 22, 1994.
PLA-4317 from R.G. Byram to USNRC, "Unit 2 7th Refuel and Inspection Outage Core Shroud Inspection Scope and Schedule," dated May 22, 1995.

This letter provides the final results of the Susquehanna Steam Electric Station (SSES) Unit 2 core shroud inspections per the reporting requirements of NRC Generic Letter 94-03. All Unit 2 core shroud horizontal welds have been ultrasonically inspected in accordance with the guidelines as defined in the BWR Core Shroud Inspection and Flaw Evaluation Guidelines prepared by General Electric Nuclear Energy for the BWROG Vessel Internals Inspection project, GENE-523-113-0894 for Category B plants. Significant cracking (> 10% of weld length) was found in three of the welds (see "Inspection Results" in Attachment 1 to this PLA).

PP&L conducted an analytical evaluation of the cracking found and the effects on core shroud structural integrity. In order to verify the results of this evaluation, PP&L contracted with Structural Integrity Associates to provide an independent review. These evaluations provided the assurance that operation of SSES Unit 2 is justified for at least an additional cycle. A copy of PP&L's final evaluation results, EC-062-1030, Rev. 0, "Unit 2 Shroud Defect Evaluation", less appendices, is included as Attachment 2 to this PLA. The appendices to EC-062-1030, Rev. 0 are available upon NRC request.

If you have any questions, please call our Mr. Rocco R. Sgarro at 610-774-7552.

Very truly yours,

R.G. Byram

300118

Attachment: Inspection Results

A018 1/1 Change ltr, NRC PDR, Encl w/out Prop

copy: NRC Region I
Ms. M. Banerjee - NRC Sr. Resident Inspector
Mr. C. Poslusny - NRR Sr. Project Manager

AFFIDAVIT

COMMONWEALTH OF PENNSYLVANIA)
: SS
COUNTY OF LEHIGH)

I, ROBERT G. BYRAM, being duly sworn according to law, state that I am Senior Vice President - Nuclear of Pennsylvania Power & Light Company and that the facts set forth on the attached Final Inspection Results For Unit 2 Core Shroud regarding Generic Letter 94-03 issued pursuant to 10CFR50.54(f) are true and correct to the best of my knowledge, information and belief.

Robert G. Byram
Senior Vice President - Nuclear

Sworn to and subscribed
before me this 25 day
of October, 1995.

Martha C. Sedora
Notary Public

Notarial Seal
Martha C. Sedora, Notary Public
Allentown, Lehigh County
My Commission Expires Jan. 15, 1998
Member, Pennsylvania Association of Notaries

INSPECTION RESULTS
UNIT 2 CORE SHROUD

PP&L committed to perform the scope of shroud inspections defined by GENE-523-113-0894, "BWR CORE SHROUD INSPECTION AND FLAW EVALUATION GUIDELINES" for Category B plants during the Unit 2 7th Refueling and Inspection Outage (U2-7RIO) in the referenced PLA-4317. We also stated our intent to inspect all remaining shroud welds (required for Category C plant inspections) during the U2-7RIO, outage schedule permitting. GENE-523-113-0894, Table 3.2 for Limited Inspection (Category B), requires expansion of inspections to Category C, Comprehensive Inspection, any time significant cracking is identified.

All circumferential welds in the shroud were inspected by UT methods (H1 through H7), or enhanced VT (H8 and H9). H3, H6A, H7, H8, and H9 were free of any indications.

Welds H1, H2, H4, H5, and H6B all were found to have indications which required analysis. All analysis performed with the Distributed Ligament Length (DLL) computer code determined that all welds passed the minimum safety factor requirements of 2.8 for upset stress conditions and 1.4 for faulted stress conditions, after applying 3.5 years of operation and growth to the crack sizes. Safe operation of the shroud can be assured for the next cycle of operation without installing a repair at this time.

A summary of the inspection results is tabled below.

Weld	Inspection Coverage in %	Number of Cracks	Degree of Cracking in degrees	Inches of Cracking	Longest Crack in inches	Deepest Crack in inches
H1	83.95	10	21.52	41.32	8.39	0.60
H2	83.97	35	94.10	180.68	16.22	0.65
H3	83.9	0	NA	0	0	0
H4	83.48	30	68.29	123.4	15.71	0.7
H5	82.18	6	4.69	8.48	2.51	0.40
H6A	82.19	0	NA	0	0	0
H6B	84.34	22	120.47	211.06	42.99	0.75
H7	84.33	0	NA	0	0	0
H8	VT-1	0	NA	NA	NA	NA
H9	VT-1	0	NA	NA	NA	NA

ATTACHMENT 2