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ACCESSION NBR: 8909250036 DOC. DATE: 89/09/18 NOTARIZED: NO DOCKET #
 FACIL: 50-387 Susquehanna Steam Electric Station, Unit 1, Pennsylv 05000387
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 KEISER, H.W. Pennsylvania Power & Light Co.
 RECIP. NAME RECIPIENT AFFILIATION
 RUSSELL, W.T. Region 1, Ofc of the Director

SUBJECT: Forwards Rev 0 to SEA-CW-033, "Unit 1 4RIO CRD Bolt Defect Evaluation."

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Pennsylvania Power & Light Company

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SEP 18 1989

Mr. William T. Russell
Regional Administrator Region I
U.S. Nuclear Regulatory Commission
475 Allendale Road
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SUSQUEHANNA STEAM ELECTRIC STATION
UNIT 1 - 4RIO CRD BOLT EVALUATION
PLA-3250 FILES R41-2, A22-7F

Docket Nos. 50-387
and 50-388

Dear Mr. Russell:

This letter transmits to you a copy of Pennsylvania Power & Light Company's evaluation of cracking in Susquehanna SES Unit 1 CRD bolts. The bolts were selected from CRD units that had no maintenance history and which also failed to pass the visual examinations. The worse cases were selected from the rejected bolts and were subjected to a destructive metallurgical examination to determine crack depths.

The evaluation concluded the following:

- o All of the bolts examined had linear defects with depths ranging from 0.006 to 0.040 inches. The average depth was 0.021 inches corresponding to a reduction in area of 5 percent if the defect extends 360° around the circumference of the bolt.
- o Pitting depths were found to progress no more than 0.05 inches if no crack extended the defect to greater depths.
- o Unusual "ring" type pitting was found on one bolt and this was attributed to water standing in the bolt hole. The depth of the "ring" was 0.015 inches corresponding to a reduction in area of 3.6 percent.
- o Area pitting was found on one bolt and was attributed to a fingerprint.

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PLA-3250
W. T. Russell
Files R41-2,A22-7F

- o The effect of time in service appears to be a factor in producing pits and cracking.

Very truly yours,



H. W. Keiser

cc: NRC Document Control Desk (original)
NRC Region I
Mr. G. S. Barber, NRC Sr. Resident Inspector
Mr. M. C. Thadani, NRC Project Manager



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