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NUCLEAR ENGINEERING & SERVICES DEPARTMENT

January 17, 1992

Docket Nos. 50-278

License Nos. DPR-56

U.S. Nuclear Regulatory Commission
Attn: Document Control Desk
Washington, DC 20555

SUBJECT: Peach Bottom Atomic Power Station, Unit 3
Supplemental Information Concerning the Request for NRC Approval of Weld Overlay in Accordance with Generic Letter 88-01

REFERENCE:

(1) Letter from G. J. Beck (PECo) to USNRC, dated March 21, 1991

(2) Letter from G. J. Beck (PECo) to USNRC, dated April 19, 1991

(3) Letter from G. J. Beck (PECo) to USNRC, dated October 18, 1991

(4) Letter from G. J. Beck (PECo) to USNRC, dated November 14, 1991

(5) Telecon Between PECo and USNRC Staff, dated November 19, 1991

(6) Letter from C. L. Miller (USNRC) to G. J. Beck (PECo), dated December 6, 1991

Dear Sir:

In accordance with the "Staff Position on Reporting Requirements" provided in the Generic Letter 88-01 ("NRC Position on IGSCC in BWR Austenitic Stainless Steel Piping"), Philadelpnia Electric Company (PECo) notified the NRC in the Reference 3 letter of a crack-like indication in a weld of the Reactor Water Cleanup (RWCU) system piping in Peach Bottom Atomic Power Station

(PBAPS) Unit 3. In the Reference 3 letter we provided a description of the indication. In the Reference 4 letter a finalized design calculation for the repair of the weld and a final report for completion of the weld overlay was provided to the NRC. Subsequent to the submittal of this package, a conference call (Reference 5) was held to clarify staff concerns about certain issues contained in the Reference 4 letter. In the Reference 6 letter, the staff requested that the licensee confirm in writing all the commitments and clarifications made during the telecon.

The following is our response to these commitments and clarifications:

Item 1

"During the telephone conference, the licensee stated that a weld mockup was used to successfully demonstrate adequate cooling. The staff requested that the licensee submit further information to support their conclusion that adequate cooling water was used during the weld overlay repair."

Response

As stated in Attachment II to the Reference 4 letter, the flow maintained through the pipe during the overlay was measured to be 125 gpm, which was the same flow used for the Unit 2 RWCU weld overlay. This flow for the Unit 2 RWCU weld overlay was considered acceptable by General Electric as discussed in the Attachment 2 to the Reference 2 letter.

The water cooling technique was verified by conducting a mockup for the Unit 2 overlay. The mockup test confirmed that acceptable results were found with virtually no water flow. Additionally, for the Unit 2 overlay design, General Electric has stated in Attachment 1 to the Reference 1 letter. . . "Because no credit is being taken for the effect of weld residual stresses in arresting crack growth, the cooling water flow and temperature requirements. . . need not be strictly enforced. These values shall serve as a guide only."

Item 2

"The licensee has committed to inspecting the pipe supports and hangers and performing additional evaluations if necessary to demonstrate acceptable hanger and support performance."

Response

A walkdown was performed on the adjacent pipe supports to evaluate any effect due to the shrinkage after performing the overlay. All adjacent supports were found to be acceptable.

Item 3

"The staff requested that the licensee provide the calculations that addressed the effect of the shrinkage induced stresses on the affected piping system."

Response

A summary of the calculation was provided in Attachment II to the Reference 4 letter. The effect of the shrinkage on existing pipe stresses was determined to be acceptable based on Code allowables. The calculation utilized a simple beam analysis method for determining the additional stress caused by the measured shrinkage (i.e. deflection) of the piping due to the overlay. Calculation PM-570 is available for your review at the PECo Nuclear Group Headquarters or we can arrange to meet with you in your offices at your convenience.

Item 4

"The licensee was also asked to address the cumulative shrinkage effect and the effect of the increase in dead-weight and stiffness resulting from weld overlay repairs on the piping system."

Response

The subject overlay is currently the only overlay in the PBAPS, Unit 3 RWCU piping. If additional overlays are required in the future, cumulative shrinkage will be addressed.

With regard to additional deadweight and stiffness due to the overlay, the applicable pipe stress calculation was reviewed and it was concluded that ample margin exists to accommodate the sirgle 3.625" long x 0.38 thick overlay.

If you have any questions, please do not hesitate to contact us.

Very truly yours,

G. J. Beck, Manager
Licensing Section

Attachment
cc: T. T. Martin, Administrator, Region I, USNRC
J. J. Lyash, USNRC Senior Resident Inspector, PBAPS

bcc: R. A. Burricelli, Public Service Electric & Gas
T. M. Gerusky, Commonwealth of Pennsylvania
R. I. McLean, State of Maryland
H. C. Schwemm, Atlantic Electric
C. D. Schaefer, Delmarva Power & Light Company
D. B. Miller - PB, SMO-1
D. M. Smith - 52C-7
D. R. Helwig - 63C-1
K. P. Powers - PB, A4-1S
J. B. Cotton - 53A-1
R. N. Charles - 51A-1
J. A. Basilio/TRL - 52A-5
A. A. Fulvio - PB, A4-1S
R. R. Gallagher - PB
A. R. Diederich - 62A-3
A. D. Dycus/ISEG - PB, A3-1S
C. J. McDermott - MO, S13-1
J. T. Robb - 62C-3
J. W. Austin - PB, A4-4N
R. E. Ciemiewicz - 63B-3
D. M. Groves - 62B-3
S. G. MacNichol - 63B-1
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