

PHILADELPHIA ELECTRIC COMPANY

NUCLEAR GROUP HEADQUARTERS

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NUCLEAR ENGINEERING & SERVICES DEPARTMENT

April 1, 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 November 14, 1991
(2) Letter from G. J. Beck (PECo) to USNRC,
dated January 17, 1992
(3) Telecon Between PECo and USNRC Staff,
dated January 30, 1992

Dear Sir:

This letter is in response to a January 30, 1992 telecon (Reference 3) in which the Nuclear Regulatory Commission staff requested further clarification to the Reference 2 correspondence discussing the weld overlay repair of a crack-like indication in the weld of the Reactor Water Cleanup (RWCU) system piping in Peach Bottom Atomic Power Station, Unit 3. These clarifications are discussed below.

The Reference 2 letter provided a brief discussion of the mock-up for the PBAPS, Unit 2 weld overlay. The primary intent of the mockup was to qualify the weld procedure and the welders. The mockup was not intended to measure the effects of residual weld stresses in arresting crack growth and as such, there were no efforts made to measure those stresses in the mockup.

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Additional clarification was requested by the NRC staff concerning the acceptability of the water flow through the pipe during the weld overlay. As stated in the Reference 1 letter, the flow maintained through the pipe during the overlay process was measured to be 125 gpm, which is the normal operating flow for an RWCU pump. Since this flow was 5% below the recommended flow, a review of the as left condition was performed by General Electric. This review concluded that the reduced flow was acceptable in this case for the following reasons:

- Previous applications of weld overlays have demonstrated that some residual compressive stresses were present with little or no flow.
- The flow in this case was very near the recommended flow, i.e. 95%, and would produce essentially the same residual compressive stresses as 100% flow.
- General Electric confirmed that the intent of the recommended flow value in their specification was not to provide an absolute minimum, but an adequate flow to produce residual compressive stresses.
- The weld overlay that was applied was designed as a full structural overlay. As such, the added presence of residual compressive stresses in the inside diameter of the pipe would provide added conservatism to assure long term continued integrity of the pipe.

It is our conclusion that the overlay meets all requirements defined by the approved design calculation and that all effects due to overlay have been considered.

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 1, USNRC
J. J. Lyasu, USNRC Senior Resident Inspector, PBAPS