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November 27, 1985

Docket No. 50-278

Mr. John F. Stolz, Chief
Operating Reactors Branch #4
Division of Licensing
U.S. Nuclear Regulatory Commission
Washington, D.C. 20555

SUBJECT: Peach Bottom Atomic Power Station, Unit 3
Recirculation Inlet Safe End Crack Indications

REFERENCE: (1) Letter, S. L. Daltroff, PECO, to
J. F. Stolz, USNRC, dated October 11, 1985
(2) Letter, S. L. Daltroff, PECO, to
J. F. Stolz, USNRC, dated November 15, 1985

Dear Mr. Stolz:

In the referenced October 11, 1985 Philadelphia Electric Company letter, a justification was provided for returning Unit 3 to power operation with recirculation inlet safe end crack indications in accordance with Generic Letter 84-11. As a result of NRC recommendations provided in a November 6, 1985 telecon regarding the status of the recirculation inlet safe ends, this letter proposes additional surveillance measures applicable to Peach Bottom Unit 3, fuel cycle 7 operations.

In the referenced November 15, 1985 Philadelphia Electric Company letter, a justification for continued operation without weld repairs was provided for recirculation system welds 2-AS-8 (pipe-to-suction valve weld on the 'A' recirculation line) and 2-BD-12 (pipe-to-discharge valve weld on the 'B' recirculation line). As a result of NRC recommendations provided in a November 19, 1985 telecon, the additional surveillance measures, as described later in this letter, are applicable to these two welds.

The attachment to the reference (1) letter provided the results of a fracture mechanics analysis supporting continued operation for one full fuel cycle without performing any inlet safe end repairs. The analysis calculated an allowable operating

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time of 13,400 hours at operating temperature based on Peach Bottom Unit 3 lifetime water chemistry. To improve the safety margin, the licensee committed in the referenced letter to more stringent reactor water chemistry limits during cycle 7 operation. Further, the letter identified PECO's plans to install a crack growth verification monitoring system on the reactor recirculation system, and further committed to replacement of the recirculation inlet safe ends during the next Unit 3 refueling outage using safe ends with the tuning fork design thermal sleeve attachment. The safe end material will be 316 NG, not 316 L as specified in our reference (1) submittal.

In addition to these commitments, licensee proposes the following additional surveillance measures for Peach Bottom Unit 3, cycle 7 operation.

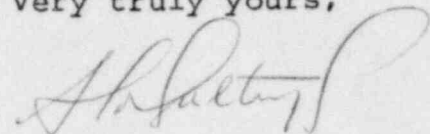
1. In lieu of Peach Bottom Technical Specification 3.6.C.1 and 3.6.C.3, the limiting conditions for operation associated with reactor coolant leakage, as shown on Attachment 1, shall apply during fuel cycle 7. The proposal would establish lower allowable leakage limits by reducing the allowable unidentified leakage from 5 gpm to 2 gpm, and the rate of change of unidentified leakage from 2 gpm per 24 hours to 1 gpm per 24 hours. The proposal would require corrective measures to be successful within 12 hours; otherwise, a unit shutdown would be initiated.
2. A unit shutdown to accommodate an ultrasonic examination of two recirculation inlet safe ends will be implemented at approximately mid-cycle. The 'J' safe end, and tentatively the 'F' safe end, are the preferred choices for the examination. For the purpose of this examination, mid-cycle is defined to be any time between 8 and 10 months of accumulated reactor power operation (reactor power operation is as defined in the Peach Bottom Technical Specifications). The proposed examination schedule provides the flexibility needed to coordinate the start of the examination with other considerations, such as the availability of inspection personnel and other work priorities at the station.
3. An ultrasonic examination of recirculation system welds 2-AS-8 and 2-BD-12 will also be performed during the mid-cycle outage described in item 2 for the inlet safe ends.

The results of the examinations described in items 2 and 3 will be evaluated against the existing fracture mechanics analyses on file. If the results of the evaluation do not dispute the validity of the existing analyses, it is proposed that the unit be permitted to return to service without prior NRC approval. A report describing the results of the examinations will be submitted within 30 days following completion of these examinations.

The proposed primary coolant system leakage limits and mid-cycle ultrasonic examination provide additional assurance that Unit 3 can be operated safely with the recirculation inlet safe end crack indications through fuel cycle 7.

If you have any questions or require additional information, please do not hesitate to contact us.

Very truly yours,



Attachment

cc: Dr. Thomas E. Murley, Administrator, Region I, USNRC
T. P. Johnson, Resident Site Inspector

ATTACHMENT 1
PEACH BOTTOM ATOMIC POWER STATION - UNIT NO. 3
TEMPORARY REACTOR COOLANT SYSTEM LEAKAGE SPECIFICATIONS

In lieu of Peach Bottom Technical Specifications 3.6.C.1 and 3.6.C.3 on reactor coolant leakage, Unit 3 shall conform to the following Limiting Conditions for Operation during fuel cycle 7.

1. Reactor coolant system leakage to the primary containment shall be limited to:
 - a. With reactor coolant temperature above 212 degrees F, the leak rate from unidentified* sources shall not exceed 2 gallons per minute.
 - b. When the reactor is operated in the "Run" mode, the rate of change of unidentified* leakage shall not exceed 1 gallon per minute per 24-hour surveillance period.
 - c. With reactor coolant temperature above 212 degrees F, the total leak rate shall not exceed 25 gpm averaged over any 24-hour surveillance period.

2. Action Statement
 - a. If the reactor coolant system leak rate is greater than the limits in 1.a and 1.b above, reduce the leak rate to within the limits within 12 hours or be in at least Hot Shutdown within the next 12 hours and in Cold shutdown within the following 24 hours.
 - b. If the reactor coolant system leak rate is greater than the limit in 1.c above, be in at least Hot Shutdown within the next 12 hours and Cold Shutdown within the following 24 hours.

*The unidentified leakage as determined by the drywell sump collection and flow monitoring system, may be adjusted by an identified leakage measurement.