PHILADELPHIA ELECTRIC COMPANY

NUCLEAR GROUP HEADQUARTERS

955-65 CHESTERBROOK BLVD.

WAYNE, PA 19087-5691

(215) 640-6600

C. A. McNEILL, Jr.
EXECUTIVE VICE PRESIDENT - NUCLEAR

October 30, 1989

Docket Nos. 50-277
50-278

License Nos. DPR-44
DPR-56

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

SUBJECT: Peach Bottom Atomic Power Station, Units 2 and 3
Generic Letter 89-16, "Installation of a Hardened Wetwell Vent"

Gentlemen:

NRC Generic Letter (GL) 89-16, "Installation of a Hardened Wetwell Vent," dated September 1, 1989, required Philadelphia Electric Comp y (PECo) to submit a response which provides notification of our plans for addressing the hardened wetwell vent issue. GL 89-16 directed licensees with Mark I plants to voluntarily proceed with plant modifications and provide an estimated schedule in the response; otherwise, provide cost estimates for implementation of a hardened vent by pipe replacement for NRC staff use in performing plant-specific backfit analyses.

Our response, provided in the attachment, provides notification that we will proceed with plant modifications to improve the current venting capabilities at Peach Bottom Atomic Power Station. The establishment of criteria and schedule for assessing and implementing potential modifications is described in the response.

If you have any questions, or require additional information, please contact us.

Very truly yours,

Attachment

cc: W. T. Russell, Administrator, Region I, USNRC
T. P. Johnson, USNRC Senior Resident Inspector

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ATTACHMENT

PEACH BOTTOM ATOMIC POWER STATION, UNITS 2 AND 3
RESPONSE TO GENERIC LETTER 89-16
"INSTALLATION OF A HARDENED WETWELL VENT"

Peach Bottom was chosen as a reference plant for the Reactor Safety Study (WASH-1400) and the recently published NUREG-1150, entitled Severe Accident Risks: An Assessment for Five U.S. Nuclear Power Plants. NUREG-1150 provides a state-of-the-art understanding of severe accident risk and also provides an update of the risk from WASH-1400. Both studies concluded that the risk of a severe accident at Peach Bottom is extremely low. Changes in plant configuration and procedures, the evolution of Probabilistic Risk Assessment (PRA) methodology, and an increased understanding of severe accident phenomena have all contributed to a factor of 30 decrease in total core damage frequency (CDF) from that in WASH-1400 to that in NUREG-1150. In fact, the most dominant scenario from WASH-1400, the loss of decay heat removal (TW), has decreased three orders of magnitude due to a more realistic assessment of containment venting using existing equipment and successful injection following venting.

Peach Bottom has implemented Revision 3 of the BWROG Emergency Operating Procedures (EOP) Guidelines which incorporate the use of existing hardware to vent the primary containment. Detailed emergency procedures exist for each of the nine identified vent paths and are prioritized in order to minimize the impact of containment venting on the environment, personnel, and equipment. The hard-piped vent paths from the torus are prioritized first since they provide the best choice for satisfying the criteria of a scrubbed release with little impact on personnel and equipment. The hard-piped 6 inch Integrated Leak Rate Test (ILRT) flow path is the principal vent path capable of handling depressurization flow rates associated with decay heat. This particular flow path originates from the wetwell airspace and discharges outside the reactor building.

The emergency procedures regarding venting were used as the basis in NUREG-1150 in determining the probability of failing to successfully implement the requirements for venting. Given the time, procedures, and hardware available, a failure to vent rate of 1 in 100 (.01) was used to represent operator failure. In addition, an extensive NRC review of the venting capacity at Peach Bottom was conducted during the Emergency Operating Procedure Inspection (50-277(8)/88-200) in August, 1988. The inspection team concluded that PECo was capable of carrying out the provisions of the EOPs concerning primary containment venting using existing equipment except under the special conditions associated with station blackout.

To further improve the current venting capabilities at Peach Bottom, Philadelphia Electric Company (PECo) will proceed with plant modifications. The analysis in NUREG-CR-5225 Addendum 1 and SECY 89-017 indicate the greatest risk reduction potential from installation of a hardened vent is achieved in reducing even further the probability of the postulated loss of decay heat removal scenario (TW) assuming little credit for existing venting capability. PECo will use TW criteria (i.e., clean steam vent) as the assessment basis when determining the risk reduction potential of modifications at Peach Bottom. PECo will be working with the BWR Owner's Group to develop generic design criteria for the hardened vent. It is anticipated that the design criteria will be available for NRC review by April 30, 1990. Specific design details will be developed as PECo completes the appropriate portions of the Individual Plant Examination (IPE) for Peach Bottom and studies the possibility of systems interaction effects between the vent and existing plant design. Evaluation of containment venting impact on scenarios other than TW will be conducted during the Peach Bottom IPE process.

Using the risk reduction potential as a measure assures Philadelphia Electric will address and reduce the appropriate severe accident risk contributors while providing a plant-specific basis of assessing the most effective modifications. This maintains a continued PECo position of providing and enhancing the protection of the public health and safety.

The modifications will be implemented prior to restart following the second refueling outage (Reload 9) at each unit. These outages are currently projected to occur in the fall of 1992 for Unit 2 and fall of 1993 for Unit 3.