10 CFR 50.54(f) NRCB 89-02

## PHILADELPHIA ELECTRIC COMPANY

NUCLEAR GROUP HEADQUARTERS 955-65 CHESTERBROOK BLVD. WAYNE, PA 19087-5691

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January 16, 1990

Docket Nos. 50-352 50-353 50-277 50-278

License Nos. NPF-39 NPF-85 DPR-44 DPR-56

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

SUBJECT: Limerick Generating Station, Units 1 and 2 Peach Bottom Atomic Power Station, Units 2 and 3 Response to NRC Bulletin 89-02, "Stress Corrosion Cracking of High-Hardness Type 410 Stainless Steel Internal Preloaded Bolting in Anchor Darling Model S350W Swing Check Valves or Valves of Similar Design"

Dear Sir:

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This letter provides the response for Limerick Generating Station (LGS), Units 1 and 2, and Peach Bottom Atomic Power Station (PBAPS), Units 2 and 3, to NRC Bulletin 89-02, "Stress Corrosion Cracking of High-Hardness Type 410 Stainless Steel Internal Preloaded Bolting in Anchor Darling Model S350W Swing Check Valves or Valves of Similar Design." This response is being submitted in accordance with 10 CFR 50.54(f). The Philadelphia Electric Company (PECO) received Bulletin 89-02 on July 24, 1989. The Bulletin requested licensees of operating reactors to identify, disassemble, and inspect certain types of swing check valves which may contain Type 410 stainless steel (SS) bolting material. Specifically, the licensees were to disassemble and inspect safety-related Anchor Darling Model S350W swing check valves supplied with internal retaining block studs of ASTM specification A193 Grade B6 Type 410 SS. In addition, licensees were requested to review the design of other safety-related check valves to determine if similar designs and materials to that of the Anchor Darling valves were used. The Reporting Requirements delineated in this Bulletin have been restated below followed by our response.

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### Reporting Requirements

Activities performed in response to this Bulletin shall be documented and maintained in accordance with plant procedures for safety-related equipment and reported as follows.

- Addressees who do not have Anchor Darling Model S350W swing check valves with Type 410 SS bolts subject to this Bulletin and do not have valves of similar design with preloaded Type 410 SS bolt material shall within 180 days of receipt of this Bulletin provide a letter of confirmation to the NRC of these facts.
- Addressees who do have swing check valves subject to this Bulletin shall provide a letter to the NRC within 60 days of completion of the inspections stating the number of valves inspected and the number of valves found to have service induced cracking of bolting.

The documentation of the valve inspections to be maintained by the licensee shall summarize the inspection findings and include the items listed below.

- The number and location of subject swing check valves inspected.
- b. The number of subject swing check valves where broken and/or cracked retaining block bolts are found.
- c. The extent of any cracking found, the nondestructive examination methods used and the acceptance criteria employed.
- d. The number of subject bolts that were replaced and the type of material used.
- e. The results of any failure analysis.
- 3. Licensees unable to meet the schedules shall submit a report to the staff with technical justification and alternative schedules as appropriate within 30 days after the need for schedular relief is realized.

#### RESPONSE

# Limerick Generating Station, Units 1 and 2

On October 14, 1988, the NRC issued Information Notice No. 88-85, "Broken Retaining Block Studs on Anchor Darling Check Valves," which advised licensees of potential problems regarding the failure of retaining block studs on Anchor Darling check valves and possible generic implications. Specifically, the Information Notice identified Anchor Darling check valves containing ASTM A193 Grade B6 Type 410 SS retaining block stud material. In response to this Information Notice, a review of safety-related systems was performed for LGS Units 1 and 2, to determine if check valves as described in the Information Notice were installed at LGS. This review revealed that four (4) Anchor Darling valves, containing ASTM A193 Grade B6 Type 410 SS stud material, had been installed in the following systems during construction of LGS Units 1 and 2.

### Unit 1

o High Pressure Coolant Injection (HPCI) system

- HPCI system suction check valve from the Condensate Storage Tank
- HPCI system suction check valve from the Suppression Pool

Unit 2

- o HPCI system
  - HPCI system suction check valve from the Condensate Storage Tank
  - HPCI system suction check valve from the Suppression Pool

Each of these values contained two (2) Type 410 SS retaining block studs. The studs, in each of the four values, were removed and replaced with AISI designation Type 17-4PH SS as recommended by the value manufacturer, and as specified in NRC Information Notice No. 88-85. This work was completed by August 29, 1989. The Type 410 SS retaining block studs removed were visually inspected and no signs or cracking or corrosion were evident. Therefore, the appropriate corrective actions regarding the Anchor Darling check values were being performed as identified by Information Notice 88-85 and were in progress prior to the issuance of Bulletin 89-02.

Bulletin 89-02 also required that we review the design of other safety-related check valves to determine if similar designs and material selection to that of the Anchor Darling Model \$350W swing check valve were used. Accordingly, a review was performed of safetyrelated systems to determine if other check valves, supplied by other manufacturers, which are of the same or similar design to that of the Anchor Darling Model \$350W swing check valve, were installed or stored at LGS. Based on this review, no valves designated for safety-related applications were identified as having internal preloaded bolting material of ASTM A193 Grade B6 Type 410 SS or Type 410 SS in any other form. In addition, a review of pending plant modifications was performed, and we determined that there were no outstanding modifications involving the installation of swing check valves in safety-related systems. Since no other safety-related valves contained Type 410 SS internal preloaded bolting material, and since the retaining block studs in the Anchor Darling Model S350W swing check valves previously identified were replaced with studs of suitable material, no further action is necessary. Accordingly, this

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response is being provided within 180 days from the date of our receipt of Bulletin 89-02.

### Peach Bottom Atomic Power Station, Units 2 and 3

In response to Bulletin 89-02, a review of safety-related systems was performed, for PBAPS Units 2 and 3, to determine if Anchor Darling S350W swing check valves containing internal preloaded Type 410 SS bolts, or valves of similar design containing similar material, were installed at PBAPS. This review revealed that no Anchor Darling S350W swing check valves, or valves of similar design, containing internal preloaded Type 410 SS bolts were installed at PBAPS. Therefore, no further action is necessary. Accordingly, this response is being provided within 180 days from the date of our receipt of Bulletin 89-02.

In addition, PBAPS performed a review of pending plant modifications associated with the use of swing check valves. This review identified eight (8) safety-related check valves, containing Type 410 SS internal preloaded bolting material, scheduled to be installed during a future plant modification. Specifically, the eight check valves were to be installed on the Emergency Diesel Generator-Diesel Air Start receiver tank outlets during a modification scheduled for implementation in mid 1990. The valves will be returned to the manufacturer and the Type 410 SS bolts will be replaced with bolts of suitable material prior to installation.

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

Very truly yours,

S.a. Hunger. J.

G. A. Hunger, Jr. Director Licensing Section Nuclear Services Department

cc: W. T. Russell, Administrator, Region I, USNRC T. J. Kenny, USNRC Senior Resident Inspector, LGS

J. J. Lyash, USNRC Senior Resident Inspector, PBAPS

COMMONWEALTH OF PENNSYLVANIA :

COUNTY OF CHESTER

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D. R. Helwig, being first duly sworn, deposes and says:

That he is Vice President of Philadelphia Electric Company; and that he has read the attached response to NRC Bulletin 89-02, "Stress Corrosion Cracking of High-Hardness Type 410 Stainless Steel Internal Preloaded Bolting in Anchor Darling Model Valves of Similar Design," for Limerick Generating Station, Units 1 and 2, and Peach Bottom Atomic Power Station, Units 2 and 3, and knows the contents thereof; and that the statements and matters set forth therein are true and correct to the best of his knowledge, information and belief.

Vice Presiden

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Subscribed and sworn to before me this / day of January 1989. 1990

Notary Public

NOTARIAL SEAL ANGELA G. OLENGINSKI, Notary Public Wayne. Chester County My Commission Expires Sept. 31, 1993