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JOSEPH W. GALLAGHER
MANAGER
ELECTRIC PRODUCTION DEPARTMENT

January 21, 1981

Re: Docket Nos. 50-277
50-278

NUREG 0619

Mr. Darrell G. Eisenhut, Director
Division of Licensing
Office of Nuclear Reactor Regulation
US Nuclear Regulatory Commission
Washington, DC 20555

Dear Mr. Eisenhut:

This is a follow-up to our letter sent to you on December 24, 1980, and concerns NUREG 0619, "BWR Feedwater Nozzle and Control Rod Drive Return Line (CRDRL) Nozzle Cracking".

Philadelphia Electric Company has been following the technical developments concerning the nozzle cracking problems described in NUREG 0619 on a continuing basis and has already implemented many of the changes called for by the NUREG. The following is a point by point description of our implementation program at Peach Bottom:

Part I- Feedwater Nozzles

1. Nozzle Modification - We have completely implemented clad removal and installation of "triple sleeve" spargers on Peach Bottom Unit No. 2 during the Spring of 1980 and have scheduled the same job for Unit No. 3 for the Spring of 1981.

2. System Modification - the following modifications are scheduled for completion prior to June 30, 1983.

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A. Feedwater system low flow controller.

A "low-flow" control valve will be provided on one of the three discharge lines from the reactor feed pumps on each reactor unit. The control valve will be installed in parallel with the existing feed pump discharge valve and will be provided with controls to more effectively control reactor water level during startup, eliminating the need to "jog" the feed pumps.

B. Reroute of the reactor water cleanup system.

The reactor water cleanup system return line to the reactor will be modified such that the RWCU flow is returned to both feedwater lines.

3. Operating Procedures

A. Reactor Water Cleanup flow will be directed to all feedwater nozzles during low flow conditions prior to turbine loading after the system modifications described in 2B above are implemented.

B. The Peach Bottom heat cycle consists of three trains of five feedwater heaters having drains which cascade to the next lower pressure heater. Sufficient extraction steam pressure must be available to establish proper drain flows during unit startup. Normally, sufficient pressure does not exist until the turbine has been loaded to 10%. Therefore, it is our intent to place the feedwater heaters in service as soon as practical with the fifth heaters valved into service at about 10% turbine load, the fourth heater at about 20%, and the third heater at approximately 25% turbine load.

C. A low-flow feedwater flow control system will be provided on one of the three reactor feed pumps for each reactor unit as noted in 2A. This system will facilitate control of reactor water level during unit startups such that feed pump on-off operations will be eliminated and feedwater temperature fluctuations will be minimized.

D. It is the intent of Philadelphia Electric Company to operate the Peach Bottom units to minimize the amount of time during which highly subcooled feedwater is supplied to the reactor vessel.

4. Inspection - We will initiate an inspection program as described in Table 2 of the NUREG for "triple-sleeve spargers with two piston-ring seals, clad removed".

5. Leak Testing - We currently have no plans to install an on-line leak detection system, however, we will apprise the Commission should we decide to install such a system.

Part II Control Rod Drive Return Line (CRDRL) Nozzles (Item numbers from Section 8 of NUREG 0619)

1. Nozzle Inspections - The nozzle on each unit was inspected with liquid penetrant and repaired. This inspection was repeated at the time each nozzle was capped after sustained operation in the isolated mode.

2. CRDRL Valved Out - Both units were operated with the CRDRL valved out as an interim measure, but this is no longer necessary since they were cut and capped.

3. Rerouting of the CRDRL - We have chosen to not exercise the option of rerouting the CRDRL.

4. Cap CRDRL Nozzle Without Reroute - The Peach Bottom vessels are both 251-inch BWR/4's and as such we have chosen to exercise the option of not rerouting the CRDRL.

A. In accordance with the Staff Position we have installed equalizer valves between the cooling water header and the exhaust water header on Unit No. 2 and have scheduled a similar installation on Unit No. 3 in the Spring of 1981.

B. Since our exhaust water header is stainless steel, the addition of flush ports is not necessary.

C. The replacement of carbon steel pipe in the flow stabilizer loop with stainless steel is not considered applicable to Peach Bottom due to its unique system configuration. Filters, with high differential pressure alarms, are presently installed for protection of the control rod drives from the carbon steel corrosion product carryover from the stabilizer loop. These filters are not in a location where their clogging would interfere with the cooling flow.

We completed testing on Unit No. 2, after all modifications were completed, to verify concurrent two CRD pump operation, satisfactory CRD operation, and required return flow capacity to the vessel. Similar testing will be performed on Unit No. 3 at the completion of the system modification in 1981.

5. Pressure Control Station to Cooling Water Header - The pressure control station is not required if the CRDRL is not rerouted.

6. This section is not applicable to operating plants.

7. Procedure for Achieving Maximum CRD flow to the RPV - We have established an operating procedure for achieving flow to the RPV in excess of the boil-off-rate.

It is our determination that the above steps, when completed, will constitute compliance with the objectives of NUREG 0619 as applicable to Peach Bottom Units 2 and 3. If you have any questions or require additional information, do not hesitate to contact us.

Very truly yours,

J. Gallagher

COMMONWEALTH OF PENNSYLVANIA :

ss.

COUNTY OF PHILADELPHIA :

J. W. Gallagher, being first duly sworn, deposes and says:

That he is Manager of the Electric Production Department of Philadelphia Electric Company; that he has read the foregoing response concerning NUREG 0619 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.

J. W. Gallagher

Subscribed and sworn to
before me this 21st day
of January, 1981

Elizabeth H. Boyer
Notary Public

ELIZABETH H. BOYER
Notary Public, Phila., Phila. Co.
My Commission Expires Jan. 30, 1982