

PHILADELPHIA ELECTRIC COMPANY

LIMERICK GENERATING STATION

P. O. BOX A

SANATOGA, PENNSYLVANIA 19464

(215) 327-1200 EXT. 2000

J. DOERING, JR.
PLANT MANAGER
LIMERICK GENERATING STATION

May 17, 1991

Mr. Robert Bauer, Jr.
Department of Environmental Resources
Bureau of Water Quality Management
Suite 6010, Lee Park
555 North Lane
Conshohocken, PA 19428

Subject: Unanticipated Bypass of Unit 1 Cooling Tower Blowdown
Limerick Generating Station NPDES Permit No. PA-0051926

Dear Mr. Bauer:

On May 12, 1991, at approximately 1400 hours the Unit 1 Cooling Tower experienced a failure of a joint between two concrete sections on the top of the outer wall of the lower raceway section of the tower. This failure allowed a large volume of Cooling Tower water to bypass the normal blowdown discharge pathway (Discharge 001). The overflowing water ran across the ground to a storm water runoff drain that directed the flow down an old stream bed and under the site boundary fence. The failure was discovered by Security personnel during routine rounds at 1600 hours. Upon verification of the failure at approximately 1605 hours the Main Control Room Shift Supervisor initiated reduction of the circulating water flow in the section of the raceway where the damage occurred. At 1620 hours, Operations began reducing Unit 1 reactor power so total circulating water flow through the cooling tower could be decreased. By 1705 hours, two of the circulating water pumps that send flow to the cooling tower were removed from service. As a result of these actions, the amount of overflow through the failed concrete joint decreased to approximately 100-300 gallons per minute.

All overflow from the tower was terminated by 1500 hours on May 13, 1991, when a Maintenance work group isolated the area of the raceway in the vicinity of the failed joint with sand bags. Maintenance personnel evaluated the extent of the damage, commenced repair work, and initiated a root cause investigation.

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Repair work consisted of replacing the two concrete sections to their original positions, and securing them with anchoring cables (2 each) attached to the corresponding inner wall section of the Cooling Tower raceway. The seals between the sections were also repaired. Unit 1 was restored to full power at 1523 hours on May 15, 1991.

Routine sampling and analysis of Unit 1 circulating water was performed by Chemistry personnel on May 12 and 13, 1991. The results indicated that our permit limits (at Discharge 001) were not exceeded in the cooling tower basin on either of these days.

On May 13, 1991, we performed a visual inspection of the overflow area, the storm drain, the connecting outfall, and areas downstream to ascertain if any observable environmental impact had occurred. There were no signs of any detrimental environmental effects on the aquatic life where the outfall entered the Schuylkill River or any place downstream within 100 yards. Additionally, there were no visible erosion or flooding effects. To check for thermal impact on the river, temperature readings were taken upstream, downstream, and within the outfall flow. The corresponding temperatures were 69 degrees F upstream and downstream, and 75 degrees F in the outfall stream.

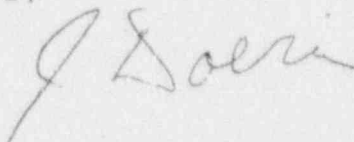
A 24 hour notification was made to Mr. David Burke of the Pennsylvania DER at 1408 hours on May 13, 1991, in accordance with the requirements of NPDES Permit, No. PA-0051926 since this incident is considered to be an unanticipated bypass of the normal cooling tower discharge. This follow up report is being submitted in accordance with the same permit. Based on our observations and analytical results, we conclude that no permit limits were exceeded.

The cause of the discharge was the unexpected failure of the Cooling Tower concrete sections. We are investigating the cause of the failure in accordance with our in-house event investigation process. Corporate Engineering, the Cooling Tower vendor (Marley), and site Maintenance and System Engineers are involved in the causal investigation. The investigation process will determine the root cause(s) and ensure appropriate

corrective measures. A visual inspection of the Unit 2 Cooling Tower will be conducted prior to completion of the current Refuel Outage. An inspection of the Unit 1 Cooling Tower is planned for the upcoming mid-cycle outage.

If you have any questions or require further information please contact Dan Shutt (x3465) of my staff.

Very truly yours,



DCS/cah

cc: U.S. Nuclear Regulatory Commission
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