

PHILADELPHIA ELECTRIC COMPANY

2301 MARKET STREET

P.O. BOX 8699

PHILADELPHIA, PA. 19101

(215) 841-4000

January 15, 1990

Mr. Robert Bauer, Jr.
Department of Environmental Resources
Bureau of Water Quality Management
1875 New Hope Street
Norristown, PA 19401

Subject: Follow-up to Noncompliance Letter
Limerick Generating Station
NPDES Permit No. PA-0051926

Reference: NPDES Noncompliance Letter dated 12/21/89

Dear Mr. Bauer:

This letter is a follow-up to the incidents documented in the December 21, 1989 noncompliance letter and documentation of an additional noncompliance of our permit limit for zinc as per your request. The referenced letter has been attached for your convenience.

One of the weekly samples for total zinc that was collected in December was above the permit limit of 1.0 mg/l. The result of the sample taken on 12/27/89 was 1.1 mg/l. Station personnel were notified of this noncompliance on 1/2/90. Immediate notification to your office at the DER was performed on the morning of 1/2/90. This noncompliance was determined to be due to the same circumstances that caused the previously reported incidents that occurred in November.

We have concluded preliminary investigations into our sampling method for total zinc, and determined that sampling inadequacies, rather than excessive chemical discharges, were the cause of the reported results.

The tendency for soluble zinc to adsorb onto suspended solids is a recognized occurrence in cooling water treatment. Between sampling events, the 001 discharge sample line experiences extremely low flow conditions, creating the potential for solids to accumulate. It was suspected that insufficient flushing of our 001 sample line prior to zinc sampling was resulting in excessive amounts of solids entering the sample, thus causing a positive error. A comparison of zinc levels in 001 samples during various stages of the flushing process was performed on 1/3/90. This comparison revealed that samples obtained from the 001 sample line during the early stages of the flush contained as much as 0.9 ppm more zinc than the samples obtained from the cooling tower basins, which are the sole source of zinc.

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Additionally, in the process of performing this comparison, it was confirmed that our colorimetric test continues to be a conservative control method. Results for the cooling tower basins, via this method, were at least 0.1 ppm higher than those determined by atomic absorption. These findings reaffirm our original contention that the actual total zinc discharges were likely to be within permit limitations.

Corrective Actions

Immediate corrective actions are to perform routine daily flushing of our 001 sample line and the use of a lower control range for total zinc during daily cooling tower monitoring. In addition, we are continuing to modify the sampling technique to better assure representative samples.

Sincerely,

Richard W. Duhal
for M. J. McCormick, Jr.
Plant Manager

Attachment A

cc: U.S. Nuclear Regulatory Commission w/attach.
Document Control Desk
Washington, D.C. 20555

Administrator Region I w/attach.
U.S. Nuclear Regulatory Commission
475 Allendale Road
King of Prussia, PA 19406

Station Resident NRC Inspector w/attach.
Tom Kenny, M.C.# NRC

Program Management Section (3WM52) w/attach.
Permits Enforcement Branch
Water Management Division
Environmental Protection Agency
Water Permits Section
Region III
841 Chestnut Building
Philadelphia, PA 19107

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December 21, 1989

Mr. Robert Bauer, Jr.
Department of Environmental Resources
Bureau of Water Quality Management
1875 New Hope Street
Norristown, PA 19401

SUBJECT: Noncompliance with NPDES permit
Limerick Generating Station
NPDES Permit No. PA-0051926

Dear Mr. Bauer:

DESCRIPTION OF NONCOMPLIANCE

Discharge Point 001 was sampled once per week for Total Zinc during November. Two of the five samples taken were above the permit limit of 1.0 mg/l. The results of samples taken on 11/1/89 and 11/17/89 were 1.1 and 1.5 mg/l respectively. Station personnel were notified of this noncompliance on 12/19/89. Immediate notification to DER was attempted and limited information was left with the answering service. A follow up call was made to your office the morning of 12/20/89 to assure appropriate notification.

CAUSE OF THE NONCOMPLIANCE

Station personnel perform daily zinc analysis on water from the cooling tower basins. This analysis is not an NPDES approved analytical method, but historical data shows that it traditionally yields slightly higher results than actually exist. This daily test is used to monitor and conservatively control the zinc residual below our NPDES limit. Samples are then sent offsite for analysis per the EPA approved method.

Daily analysis results for the period of noncompliance were lower than the official values giving us no indication that a noncompliance had occurred. In addition, daily pumping rates, and weekly chemical usage logs indicate that the conditions during the apparent noncompliance were not significantly different from normal operating conditions.

These conditions have been shown to be within NPDES limitations repeatedly during the 1989 year. Therefore it is felt that the apparent noncompliance is either the result of a random error, such as sample contamination, or the result of limitations in the daily zinc testing. Recently it has been discovered that this test can be negatively biased by cold water temperatures.

DURATION OF THE NONCOMPLIANCE

Supporting documentation indicates the zinc permit limit was exceeded from 10/30/89 through 11/1/89. During this 3 day period the zinc concentration was between 1.0 and 1.1 mg/l. Approximately 37 million gallons of cooling water was discharged at this concentration. The permit limit for discharge is 1.0 mg/l.

The apparent noncompliance on 11/17/89 is not supported by our daily zinc analysis, weekly metals analysis, chemical pumping rates, or chemical usage logs. Therefore it is our contention that only one release in excess of permit limitations occurred (11/1/89) for a duration of not more than 72 hours.

CORRECTIVE ACTION

No immediate corrective actions were taken because no knowledge of the event was available at the time of the occurrence.

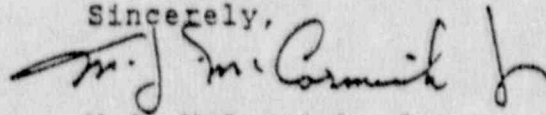
PREVENTION OF FUTURE OCCURRENCES

A procedure revision is already in place to compensate for cold water temperatures on daily analyses, which should allow us to collect more accurate daily zinc data; thus providing better control over the treatment process. In addition, our sampling process is being reviewed to identify potential sources of contamination. This review will be completed by January 15, 1990.

Both out-of-spec samples were analyzed offsite on 11/27/89. At that time the analyst was not aware of our permit limit for zinc and therefore not aware that a violation had occurred. This problem has already been remedied verbally, with the analyst. To ensure timely notification, a copy of the permit limits will be sent under cover letter to the appropriate department supervision by December 29, 1989.

In addition, we are examining the feasibility of maintaining the zinc concentrations in the cooling towers at a slightly lower level in order to provide additional assurance that the permit limit will not be exceeded.

Sincerely,



M.J. McCormick, Jr.
Plant Manager

cc: U.S. Nuclear Regulatory Commission
Document Control Desk
Washington, D.C. 20555

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U.S. Nuclear Regulatory Commission
475 Allendale Road
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