Robert W. Boyce
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September 27, 1996

Mr. Steven J. O'Neil,
Chief, Operations Section
Department of Environmental Resources
Bureau of Water Quality Management
Suite 6010, Lee Park
555 North Lane
Conshohocken, PA. 19428

SUBJECT: Limerick Generating Station, Bradshaw Reservoir
Non-Compliance of NPDES Permit No. PA0052221

Dear Mr. O'Neil:

DESCRIPTION OF THE NON-COMPLIANCE

During the month of August 1996, the NPDES limit for fecal coliform concentration at the discharge of the Bradshaw Reservoir pumps into the East Branch of the Perkiomen Creek was not met. The permit requires five consecutive grab samples each collected on different days, and the geometric mean of the five samples must be less than or equal to 200 colonies per 100 ml. An Ozone Disinfection System is utilized for treatment at the Bradshaw Reservoir Water Processing Facility.

On August 5, 1996, the geometric mean of the fecal coliform concentration was calculated to be 611 colonies per 100 ml, thereby exceeding the NPDES permit limit. On August 9, 1996, the fecal coliform concentration reached a geometric mean of less than 200 colonies per 100 ml, thereby re-establishing NPDES permit compliance.

CAUSE OF THE NON-COMPLIANCE:

The cause of this non-compliance was suspected to be a malfunctioning Ozone Disinfection System. Physical inspection and testing of the ozone gas diffusers and associated piping was conducted on August 22, 1996. This revealed that the seals on many of the ozone diffusers were leaking. This hampered the efficient dispersion of ozone gas in the water, which resulted in inadequate disinfection performance. Additional system performance review is ongoing to identify other causal factors.

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CORRECTIVE ACTIONS TAKEN:

On August 22, 1996, adjustments were made to the ozone gas flow balance to improve the performance of the system until repairs to the diffusers could be completed. Diffusers in the final contact chamber, which were severely leaking and causing the most ozone gas to be wasted, were isolated. Flow to the remaining diffusers in all three contact chambers was increased to establish the same total system flow.

CORRECTIVE ACTIONS TAKEN TO PREVENT RECURRENCE:

On September 17, 1996, the Ozone Disinfection System entered a maintenance outage to replace the seals on all 32 diffusers. Assessment of the Ozone Disinfection System is ongoing, and any additional corrective actions will be implemented to ensure NPDES Permit compliance. Currently, adjustments to the system were made to provide maximum disinfection capability.

If you have any questions please do not hesitate to contact Mr. James L. Kantner at (610) 718-3400.

Sincerely,

Robert W Bayer

FDL/DMS

cc: U. S. Nuclear Regulatory Commission
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