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FIELDS,J.S. Pennsylvania Power & Light Co.
RECIP.NAME RECIPIENT AFFILIATION
KOVAL,P. Pennsylvania, Commonwealth of,

SUBJECT: Submits update on activities to review & correct sewage treatment plant operating problems due to violations of NPDES permit & public complaints.

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JUL 26 1983

Mr. Paul Koval
Pa. Department Of Environmental Resources
Bureau Of Water Quality Management
P.O. Box 659
90 E. Union Street, 2nd Floor
Wilkes-Barre, PA. 18702

SUSQUEHANNA STEAM ELECTRIC STATION
SEWAGE TREATMENT PLANT UPDATE
NPDES PERMIT NO. PA0027448
ER 100450 FILE 012
PLE-3436

Dear Mr. Koval:

A meeting was held on June 29, 1983, at Susquehanna SES with Messrs. Stanley Lehman and John Jefferson of the Pa. Department of Environmental Resources (Pa. DER) to review both operation of the Susquehanna Sewage Treatment Plant (STP) and also NPDES permit violations. The following update is a report on activities directed by the Pennsylvania Power & Light Company (PP&L) to review and correct STP operating problems.

Beginning in February, 1983, PP&L set up a Task Force to review operation of the STP and also to determine the reason for violations of NPDES Permit No. PA0027448 limits. In the past, there have been violations of the following permit parameters:

Fecal coliform
Percent removal biochemical oxygen demand (85%)
Percent removal total suspended solids (85%)

In addition, there was some concern by PP&L that the actual flows going through the plant were higher than the flow recording equipment was reporting. In addition to the permit violations, there have been public complaints arising from malodors generated by the STP. It was the purpose of this Task Force to try to determine what caused these problems and recommend appropriate solutions.

The following is a summary of those activities undertaken to upgrade operation of this plant in order to meet permit requirements and avoid public complaints. These activities are as follows:

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1. Determine if the STP was overloaded to the point of not being able to be operated within permit limitations.

2. Determine methods of reducing total inflow, flow restricters and other methods of reducing water use were implemented. A contingency plan, that did not need to be implemented, included the use of more portable toilet facilities.

3. To treat high instantaneous loads estimated at a rate of 90,000 gpd all flows of raw sewage going into the plant are now directed into the surge tank. Previously, high volumes could go directly into the aeration tanks and lift the sludge blanket in the clarifiers. Surges usually occur around 0800, noon and 1530. To avoid these spikes, operating procedures levelized inflows by making certain that the surge tank levels are low during high peak periods so it can accept these high loads. By using the surge tank this way, we get some pretreatment. The steady flow to the aeration beds helps stabilize treatment by maintaining steady BOD loading on bacteria in beds eliminating peaks in the hydraulic load on the clarifiers.

4. To obtain pretreatment and deal with odor, continuous aeration of the surge tank was initiated rather than "timed" aeration. Previously "timed" aeration was used, and it was not sufficient to prevent the contents of the surge tank from occasionally going septic. Also, a third blower was operated to increase dissolved levels in the aeration tank to between 1.0 and 2.0 ppm.

5. The flow measuring device has been recalibrated to better determine discharge (average) flows. The existing 22½° weir, which was being overtopped, was replaced by a 60° weir. The design flow of the STP is 45,000 gallons per day (average); however, preliminary information indicates at least 60,000 gallons per day (average) is going through the station. It is essential that the correct flow is known to allow for proper operating and determine long term needs. A review is being conducted to determine the number of personnel who will permanently use this plant and also personnel needed during outages.

6. There are at present five rotating technicians who operate the STP. Recommendations to have one or two permanent people primarily responsible for STP operation are under review. However, to resolve present operating problems improved operator guidelines and procedures are being developed. New procedures will help the operators to better understand how the plant operates and develop a uniform method of operating the plant and reporting results.

7. Several problems in the past have been caused by equipment failure and unavailable spare parts. A spare parts list is being developed

in order to provide a supply of backup parts necessary for the operation of the STP.

This is the basic plan being followed to resolve STP problems.

If you have any questions or concerns, please contact me at (215) 770-5842.

Respectfully yours,

Jerome S. Fields
Sr. Environmental Specialist-Nuclear

JSF:mg
F-02

cc: Mr. A. Schwencer NRC
Mr. S. Lehman DER
Mr. J. Jefferson DER