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CALVERT CLIFFS NUCLEAR POWER PLANT DEPARTMENT
CALVERT CLIFFS NUCLEAR POWER PLANT
LUSBY, MARYLAND 20657

December 23,1991

Carol J. Coates
Maryland Department of Environment
2500 Broening Highway
Baltimore, Maryland 21224

Dear Ms. Coates:

RE: Maryland State Discharge Permit No. 86-DP-0187 and NPDES Permit No. MD0002399, Monitoring Point 101.

On December 16,1991 ,at approximately 0900, a sample for fecal coliform analysis was taken from Calvert Cliffs Nuclear Power Plant Sewage Treatment Plant effluent. The sample analysis indicated a fecal coliform concentration of >1600 MPN/100 ml sample which is greater than the daily maximum limit of 400 MPN/100 ml sample.

The cause of this event was investigated and the failure for this event may be traced to several possible plant evolutions:

1. The high fecal coliform concentration occured during a normally low flow period when the sodium hypochlorite pump could have been adjusted to a minimal flow rate. Also, this sample was taken during a week when substitute plant operators were on duty.

2. On Monday mornings, sewage is transferred from other locations on site to a tank truck and then delivered to the plant wetwell. If sewage is discharged too quickly into the wetwell, plant hydraulic overloading (temporary high flows) can occur.

3. A leak was found in the sodium hypochlorite tank line which may lead an operator to believe that the tank level changes indicate proper effluent disinfection. The proper amount of disinfectant may not of been delivered to the chlorine contact chamber.

4. The plant flow recorder had been found to be indicating a discharge rate 5000 to 7000 GPD lower than the flow integrator. This may result in a lower demand signal at the hypochlorite pump speed controller.

Several steps have been taken to prevent recurrence of this type of noncompliance:

1. The STP effluent will be sampled on Mondays and Thursdays to see if flow perturbations during the weekends and/or the sewage transfer on Mondays may be affecting Monday's fecal coliform sample.

2. The residual chlorine concentration in the contact chamber has been increased from 2-3 PPM to 4-5 PPM. The dechlorination feed flow rate has been increased accordingly.

3. The discharge rate of sewage from the tank truck to the wet well will be decreased to prevent possible plant hydraulic overloads.

4. Identified chlorine piping leaks will be repaired.

5. The flow recorder has been adjusted to agree with the flow integrator.

6. The Maryland Environmental Service will be requested to provide remedial training to their substitute plant personnel as necessary.

No impact upon the receiving water would be observed from this type of event. The effluent of the Sewage Treatment Plant is normally diluted with bay water at a minimum rate of at 1.0 million gallons per minute. All other analyses taken at the same time as these samples were within NPDES limits. The duration of this noncompliance is not known.

Sincerely,

James A. Szymkowiak

James A. Szymkowiak
Chemical Analyst

cc: Nuclear Regulatory Commission