

ENCLOSURE 1

ENVIRONMENTAL IMPACT APPRAISAL
BY THE OFFICE OF NUCLEAR REACTOR REGULATION
SUPPORTING AMENDMENT NO. _____
TO FACILITY LICENSE NO. DPR-44 AND DPR-56

PHILADELPHIC ELECTRIC COMPANY
PEACH BOTTOM ATOMIC POWER STATION

DOCKET NOS. 50-277 AND 50-278

Description of Proposed Action

By letter dated May 23, 1978, Philadelphia Electric Company requested an amendment to the Appendix B Environmental Technical Specifications (ETS) for the Peach Bottom Atomic Power Station. The proposed changes are to delete the protection limit for suspended solids and rely on the NPDES permit for control and monitoring of suspended solids. In addition the licensee requests to change the location and frequency of pH monitoring to be consistent with the pH monitoring requirements of the permit.

In our review as described below we have determined that we can delete both suspended solids and pH specifications entirely and rely on the permit for discharge limits and monitoring of these parameters. The licensee has agreed to these modifications.

This appraisal addresses the environmental effects of deleting the protection limits and monitoring for suspended solids and pH and instead relying on the NPDES permit conditions.

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Environmental Impacts of Proposed Action Suspended Solids

Specification 2.2 Suspended Solids requires that suspended solids in the effluents from the settling basin and the sewage plant not be 30 ppm greater than the concentration in the river water. Monitoring of suspended solids as required by Specification 3.2.2 consists of daily turbidity measurements in the settling basin. Once per week a grab sample is to be taken and analyzed gravimetrically for correlation with the daily measurements.

The NPDES permit requires that the daily average of suspended solids discharged from the settling basin not exceed 30 mg/l with a daily maximum of 100 mg/l. According to the permit, monitoring frequency is once per month.

The licensee's proposed change would delete from the ETS the protection limit specification related to suspended solids which is also the subject of an effluent limitation contained in the Peach Bottom NPDES permit. The requested elimination of the ETS limit on suspended solids will have no environmental effect on Conowingo Pond, since discharges must still comply with the limitations on suspended solids in the NPDES permit. The staff's analysis indicates that the limitations of the NPDES permit are as stringent as the present ETS limitations. The NPDES limit does not give credit for the suspended solids level of the inlet river water, while the ETS limit allows subtraction of the inlet suspended solids level from the outlet level. Under normal river conditions suspended solids level of the river is high and the NPDES permit is more limiting. The provisions in the NPDES permit for daily or weekly maximums tend to provide relief under this condition but do not fully do so. For example, if the suspended level of the river were 90 ppm (an infrequent but not improbable situation) and the outlet

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of the sewage treatment plant had an instantaneous spike to 100 ppm, this would be a reportable violation under the NPDES permit but not under the ETS. The staff concludes that elimination of this requirement from the ETS and relying on the NPDES permit limit would result in no environmental impact and is acceptable.

Licensee is also requesting a modification to the requirements relating to monitoring of suspended solids in the effluent from the settling basin and sewage treatment plant to eliminate the present requirement for daily turbidity measurements of these effluents. The licensee did not request a change in the requirements for weekly sampling and gravimetric analysis of these effluents. However, the staff proposes that monitoring be conducted monthly as specified in the NPDES permit.

In October 1977, the licensee made modifications to the settling basin which involved placing two settling basins in series so that the first basin absorbs hydraulic surges which tend to re-suspend solids and the second basin permits further settling of solids prior to discharge. In addition, an improved system for removal of settled solids from the basin was installed. Since the installation of these improvements, approximately one hundred daily samples have been taken and only one suspended solids deviation has occurred. This single deviation occurred when an operator erroneously placed two raw water service pumps in service in parallel. This resulted in substantial exceedance of the flow rate that would permit proper settling. However, the deviation was mitigated by the new system to such an extent that the suspended solids level in the effluent was less than 10 ppm above allowable limits.

Based upon the foregoing, the staff believes that the daily turbidity sampling has served the purpose of identifying problems with the operation of the settling basin and these problems have been corrected. The staff finds that continuing daily turbidity samples would serve no further useful purpose, would not result in any further environmental benefit, and is not necessary in view of the nature of the discharges from the settling basin and sewage treatment plant and the minimal impact of these discharges on Conowingo Pond. The staff concludes that monthly analyses of these effluents as required by the NPDES permit is adequate to assure that suspended solids levels will not have an adverse impact on Conowingo Pond.

pH

Specification 2.2.3 requires that the pH of effluents discharged from the settling basin and sewage plants be within the range of 6.0 to 9.0 before being discharged into the circulating water system. PH is measured continuously during discharge using electrometric procedures.

The NPDES permit requires that the pH from the settling basins be not less than six standard units and not greater than nine standard units. Monitoring is to be conducted once per month by grab sample.

The licensee did not request deletion of the pH protection limit from the ETS. However, the staff finds that as the same limit is contained in the permit and the bases for Specification 2.2.3 and the FES do not support any other need for NRC to separately limit pH, then the NRC can rely on the pH condition of the NPDES permit.

The licensee has requested the ETS monitoring requirements for pH to be consistent with the NPDES permit. The NPDES permit limitations on pH reflect the fact that the effluent from the sewage treatment plant and settling basin is conveyed to the Peach Bottom discharge canal where it is mixed with substantial quantities of cooling water prior to discharge to Conowingo Pond. As a result, the point of discharge to Conowingo Pond at the end of the discharge canal is designated as the monitoring point for pH sampling in the NPDES permit. Changing the location of the sampling point for pH in the ETS will have little effect on Conowingo Pond since any deviations in pH that might occur in the effluent from the relatively small flows from the settling basin and sewage treatment plant would be effectively diluted and buffered by the large cooling water flow prior to discharge to Conowingo Pond.

In conjunction with the request to change the pH sampling point, the licensee proposes a change in the frequency of pH monitoring. Specification 3.2.3 requires that pH be monitored either continuously, by monitoring equipment, or daily, using electrometric procedures, while the NPDES permit requires that the pH of the effluent from the discharge canal be monitored on a weekly basis. Due to the impact of the dilution and buffering action which occurs in the discharge canal, it is our view that the weekly monitoring requirement for pH will provide adequate assurance of the acceptability of the pH of the discharges to Conowingo Pond.

Based upon the foregoing, the staff concludes that revising the location and frequency of pH monitoring to conform to the requirements of the Peach Bottom NPDES permit issued by the Environmental Protection Agency and approved by the Commonwealth of Pennsylvania will have no environmental effects on Conowingo Pond.

Conclusion and Basis for Negative Declaration

On the basis of the foregoing analysis it is concluded that there will be no significant environmental impact attributable to the proposed action other than has already been predicted and described in the Commission's FES for the Peach Bottom Atomic Power Station. Having made this conclusion, the Commission has further concluded that no environmental impact statement for the proposed action need be prepared and that a negative declaration to this effect is appropriate.

PBAPS

MONITORING REQUIREMENTS (Continued)PROTECTION LIMITS (Continued)

2.2.4

Plant Chemical UsageObjective

To limit the usage of chemicals that are released or which may be released to Conowingo Pond.

Specification

The maximum use of chemicals at PBAPS shall not exceed twice the values given in the column titled "Estimated Usage (lbs/year)" in Table 2.2.4-1. Chemicals other than those listed in Table 2.2.4-1 shall not normally be discharged to Conowingo Pond.

Bases

The limiting of the quantities of chemicals which are released or may be released to Conowingo Pond will avoid adverse environmental impacts on the Conowingo Pond.

3.2.4

Plant Chemical UsageObjective

To monitor the usage of chemicals that are released or which may be released to Conowingo Pond.

Specification

The quantity of chemicals used at PBAPS, as listed in Table 2.2.4-1, shall be determined twice a year.

Bases

Monitoring the usage of chemicals PBAPS will assure compliance with the environmental technical specification.

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PEAPS

PROTECTION LIMITS (Continued)

MONITORING REQUIREMENTS (Continued)

Bases (Continued)

Bases (Continued)

maximum total chlorine residual of
0.1 mg/liter at the end of the
discharge canal.

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