



UNITED STATES ENVIRONMENTAL PROTECTION AGENCY

REGION II
26 FEDERAL PLAZA
NEW YORK, NEW YORK 10007

MAY 7 1973



Mr. L. Manning Muntzing
Director of Regulation
U.S. Atomic Energy Commission
Washington, D.C. 20545

Dear Mr. Muntzing:

In our previous review of the draft environmental impact statement for the Salon Nuclear Generating Station Units 1 and 2, we raised several questions concerning adverse environmental effects. Generally the responses to these questions in the final statement fall short of providing complete answers to the questions and of guaranteeing that the effects will be minimized.

The final environmental impact statement (EIS) is not conclusive as to whether operating procedures will be implemented which will reduce liquid radioactive discharges to "as low as practicable" levels.

If the plant technical specifications designate annual releases not to exceed those listed in Table 3.2 of the Final Statement, the environmental impact from this source is expected to be very small. Such releases could be considered "as low as practicable" and representative of the limitations of current technology. However, if the technical specifications allow releases to the limits of "existing regulations" (page 12-3) discharge quantities could be significantly larger. Allowing such specifications would not represent full utilization of the stated capability of the system and could not therefore be considered "as low as practicable." It is recommended that the former course be followed.

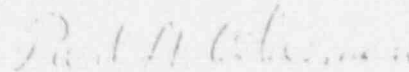
In accordance with Section 303(a) of the Federal Water Pollution Control Act Amendments (WPCAA) of 1972, presently adopted water quality standards of the State of New Jersey have been reviewed and their revision requested by EPA. Such revisions include those standards applicable to the Delaware River estuary. The recommended revisions include the following thermal allowances:

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1. No heat may be added, except in designated mixing zones, which would cause temperatures to exceed 85°F., or which would cause the monthly mean of the maximum daily temperature at any site, prior to the addition of any heat, to be exceeded by more than 4°F. during September through May, or more than 1.5°F. during June through August. The rate of temperature change in designated mixing zones shall not cause mortality of the biota.
2. As a guideline, mixing zones should be limited to no more than 1/4 of the cross-sectional area and/or volume of flow of stream or estuary, leaving at least 3/4 free as a zone of passage.

The Delaware River Basin Commission (DRBC) has assigned a mixing zone for the thermal effluent of the Salem plant based on surface distance from the discharge. The applicant's analysis of thermal impact presented only surface isotherms in accordance with the DRBC mixing zone designation. The recommended revised standards, however, call for the analysis of thermal effects on a two and/or three dimensional basis (cross sectional area and/or volume of flow). This will necessitate the reanalysis of the applicant's data to include surface and depth temperature profiles in order to determine compliance with revised standards. This type of analysis should be provided to EPA for our consideration in issuing a discharge permit for this facility.

Sincerely yours,



Paul H. Arbesman
Chief
Environmental Impact
Statement Branch



UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
WASHINGTON, D.C. 20460

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OFFICE OF THE
ADMINISTRATOR

Mr. L. Manning Muntzing
Director of Regulation
U.S. Atomic Energy Commission
Washington, D.C. 20545

Dear Mr. Muntzing:

We have reviewed the final environmental impact statement for the Indian Point No. 2 nuclear power plant and have identified several major concerns which have not been resolved. Our detailed comments are enclosed.

In general, the final statement is commendable in its identification of the possible environmental impacts from the full power operation of the Indian Point No. 2 employing the proposed once-through cooling system. As indicated in our comments on the draft statement, however, this operation may well lead to a violation of New York State's water quality standards with regard to thermal loading, dissolved oxygen levels, and biological damage. As a consequence, we note that the AEC is now requiring the applicant (Consolidated Edison) to adopt a closed-cycle cooling system in order to reduce such impacts and comply with the applicable standards. We understand that it is the intention of the AEC that this system be installed by 1978.

Although we support the adoption of a closed-cycle system for Indian Point No. 2, the Federal Water Pollution Control Act Amendments (P.L. 92-500), recently passed by Congress, sets July 1, 1977, as the latest date for the installation of best practicable control technology for all point sources. Thus, in the event that closed-cycle cooling is required as best practicable control technology under Section 301 of this Act, we recommend that the AEC and EPA staffs meet to develop a schedule for installation of the closed-cycle system which meets all requirements of P.L. 92-500.

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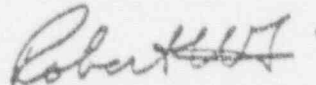
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In addition, we are concerned about possible impacts during the period of operation prior to completion of the closed-cycle system (i.e., the period when the Indian Point No. 2 plant may be operated at, or near, full power using the proposed once-through cooling system). During this period, the AEC staff predicts that a "sizable damage" to aquatic biota will occur. We agree with this assessment and recommend that every effort be made to reduce these impacts to a minimum. This is particularly critical when such impacts are considered in conjunction with the possible cumulative effects of other plants which are operating (or planned for the near future) on the river near the Indian Point complex. In our opinion, when these combined impacts are considered, the "sizable damage" may indeed prove to be irreversible.

In this regard, we believe that it is likely that plant operation during the interim period may need to be restricted to the degree appropriate to provide adequate protection for aquatic biota. This possibility prompted our request in comments on the draft statement that the expected "environmental damage for various levels of power output be included in the final statement. Although this information was not provided, we request that it be made available to us as soon as possible in order that the necessary discharge permit can be conditioned to protect the aquatic biota in the Hudson River. We will be happy to meet with you or members of your staff to accomplish this task.

Should you have any questions concerning our comments, please contact Mr. Sheldon Meyers, Director of EPA's Office of Federal Activities.

Sincerely yours,



Robert W. Fri
Deputy Administrator

Enclosure

Water Quality and Biological Effects

a. Effect on the biota:

The final statement describes a potentially enormous effect on the biota of the Hudson River. However, it is stated that, "The staff assessment indicates that, during the short term (up to about 5 years), a sizeable damage to the aquatic biota will occur but it is not expected to be irreversible." In doing such an impact analysis, it is necessary to consider the fact that by the end of the five-year period, other generating stations in the area (currently under construction) will be operating with the result that the "sizeable" damage may prove to be irreversible.

These other generating stations are:

- (a) Indian Point #3, on same site
- (b) Danskammer -- 23 miles upstream
- (c) Roseton numbers 1 and 2 -- 22 miles upstream
- (d) Lovett -- 1 mile downstream
- (e) Bowline numbers 1 and 2 -- 5 miles downstream

All indications are that many Hudson River species in the region of Indian Point are fast approaching their tolerance limits with respect to thermal and mechanical stress. Further operation of once-through cooling

systems, in conjunction with new additions (such as B...line 1 and 2), may exceed these limits with obvious results for stream biota.

b. Thermal considerations:

The AEC expresses doubt that thermal conditions caused by operation of Indian Point #2 will meet existing state regulations. Regulations allow the 4 degree isotherm to extend 2/3 of the distance across the river; the AEC estimates that under transient peak tide conditions, the isotherm may extend the entire distance across the river. If this estimate is correct, operation (at least at full power) of Indian Point #2 would violate New York State proposed regulations.

The final EIS thoroughly reviews the history of New York State's Thermal Criteria. However, on page III-II, the EIS states that EPA recommended a specific revision to the regulations on thermal discharges regarding estuaries. EPA in fact said, "...that the July 25, 1969 criteria adopted by New York State with changes as recommended by a majority of the Federal Thermal Task Force members would be approvable." EPA's current

opinion was expressed in our comments on the draft EIS and appear in Volume II of the final on pages 29-30. These comments represent our current position on New York State thermal criteria.

RADIOLOGICAL EFFECTS

Due to the fact that there are multiple units planned for the Indian Point site and because of the impact of the discharge of radioactive material, particularly the cesium isotopes, into the estuarine environment, it is extremely important that the AEC assure that all radioactive waste treatment systems, particularly the steam generator blowdown system, achieve "as low as practicable" discharges. The isotopic make-up of the contaminated steam generator blowdown, as estimated by the AEC in the statement, consists of about 35 Ci of radioactivity per year, approximately 21 Ci of which is due to Cs-134, Cs-136, Cs-137, and Mo-99. In our opinion, this amount of radioactivity exceeds the 5 Ci/year limit on liquid discharges contained in the proposed Appendix I to 10 CFR 50.