50-247

United States Department of the Interior

OFFICE OF THE SECRETARY
WASHINGTON, D.C. 20240

JUN 29 1972

Dear Mr. Muntzing:

This is in response to Mr. Rogers' letter of April 14, 1972, requesting our comments on the Atomic Energy Commission's draft statement dated April 13, 1972, on environmental considerations for Indian Point Nuclear Generating Plant, Unit No. 2, Westchester County, New York.

General

The statement seriously questions, as do we, the validity of some data presented by the applicant. In several places in the statement the AEC staff has disagreed with the computations and conclusions provided by the applicant.

It appears that the exact quantification of many of the probable environmental impacts cannot be made at this time. However, the data presented on Indian Point No. 1 (Chapter V) leaves no question that Indian Point No. 1 has a serious environmental effect on aquatic life in the river, especially fish. The statement presents a rather convincing analysis of the probable impacts of Unit No. 2 on aquatic life, especially as a threat to fish.

In addition, the statement in Table III-1 and on page III-7 and at other points recognizes the operation by sometime in 1974 of additional fossil and nuclear generating units, not now operating, on the Hudson River. These include Bowline Nos. 1 and 2, five miles below Indian Point, Roseton Nos. 1 and 2, 22 miles above, and Indian Point No. 3 at the site of Indian Point Nos. 1 and 2.

The environmental impacts of these five units are not included in the environmental impact assessments of this statement, although Indian Point No. 3 was apparently included in heat dissipation models by the applicant (page III-34) and the electric generating capacity of all five is included in the assessments of power supply available.

3567

When operational, these five units will increase the daily discharge of heat to the Hudson River between Albany and 59th Street by about 113 percent over discharges when Indian Point No. 2 is operating. Heat discharge will be increased about 260 percent over present discharge levels listed in Table III-1, when Indian Point No. 2 and the other five units go into operation.

The additional 415 billion BTU/day discharge of those five units in a 28-mile reach of river, in addition to the 310 billion to be discharged by Indian Point Nos. 1 and 2 and the Danskammer and Lovett Units, suggests that damages of Indian Point Units 1 and 2 will likely be but a small part of the damages occurring to aquatic resources during the next two to four years.

Therefore, the opportunity to evaluate the operation of Indian Point Units 1 and 2 over the next two to four years, and to determine the effects of those operations on the Hudson River conditions considered in the statement is foreclosed by the imminent addition of these five units to the Hudson River.

There is no assurance that the effects of any given unit may not be significantly greater when considered simultaneously with the others.

It appears a virtual certainty that significant impacts on the biota can be expected from the operation of Indian Point Nos. 1 and 2 with once-through cooling. These include entrainment of planktonic organisms including egg, larval, and fry stages of important fish, along with zooplankton and phytoplankton. Major losses may continue from impingement of large fish on screen structures. Toxic conditions from use of anti-fouling chemicals appear a certainty, and adverse impacts of huge quantities of heat discharged to the river are predictable as are probable conditions of lower dissolved oxygen levels.

Significant impacts are predictable on the fishery resources not only of the Hudson River but also of the New Jersey and Long Island coastlines. It appears necessary to correct the problems of Indian Point Nos. 1 and 2 and prevent additional problems at the other stations if the fishery resources of the Hudson River are to be managed and used for the public good.

Despite the extensive efforts undertaken in the past by the applicant to solve the problems of Unit No. 1 and to avoid problems in Unit No. 2, it does not appear that there is yet a basis to conclude that the efforts promise complete success short of discontinuation of pumping operations.

Nevertheless it seems reasonable to accept the staff's conclusion (page XI-55) that the short-term (2-4 years) operation of Unit No. 2 would not be expected to cause irreversible environmental damage to the aquatic biota.

However, the Department of the Interior is acutely aware of the likelihood of significant irreversible damage to the aquatic life should Unit No. 2 be operated as now proposed. The probable loss of fish eggs, larvae, and juveniles due to entrainment, and impingement at the Indian Point facilities in the magnitudes estimated, together with the related loss of faunal and floral plankton forms is unacceptable to this Department on a long-term basis.

The AEC proposal given in item 5.f page v to postpone a decision on corrective measures until the second year after steady state operation is achieved, suggests that any meaningful action to prevent significant environmental damage would not begin until three or more years from now. Construction time of one to three years could postpone effective preventative actions for up to six years. We consider this unacceptable since the predictable "short-term" damage to aquatic resources is of a sufficient magnitude to justify the best available corrective action now. Further quantification of the damage to the aquatic resources seems irrelevant to the basic objective of preventing the significant damage to these resources.

We presume that during the last several years the applicant has made meaningful studies of the alternative cooling systems in order to prepare the alternative section of the environmental statement. With these studies as a base, the design of an effective closed cycle cooling system within six months seems reasonable. Construction of the facilities within 12 to 30 months, depending on the system selected, should also be possible under a priority construction program.

Therefore, this Department recommends that the operating license for the Indian Point No. 2 should contain the following stipulations:

1. Within six months, the applicant shall present to the Atomic Energy Commission completed plans for a closed-cycle cooling system which will eliminate the need to withdraw cooling water from or discharge it into the Hudson River, except for quantities necessary as makeup water and blowdown discharges, respectively, from a closed-cycle cooling system. The plan shall include appropriate measures to minimize the effects of those limited withdrawals and discharges upon aquatic life.

2. The applicant shall construct and place in operation at the earliest possible time, and in no case later than July 1, 1975, the closed-cycle cooling system required in stipulation number 1 above.

3. During the interim period, any operation of Indian Point No. 1 and No. 2 with a once-through cooling system should be held to the minimum by drawing on other sources of power available to the applicant's system, and by publicly discouraging all unnecessary uses of electric energy within its service area, consistent with existing authorities.

4. The applicant should be required to adopt and employ all practical measures which may be developed in order to minimize any significant adverse impacts of the plant operation on the biota during the interim period.

5. The environmental study program outlined on page V-59 should be conducted as proposed, except that there should be no decrease in sampling efforts until an appropriate study interval after the closed-cycle cooling system becomes operational.

6. The proposed studies should include constant monitoring of the operations of Indian Point Nos. 1 and 2 in order to determine when severe adverse impacts are occurring and, where possible, operation of the plant should be shut down or reduce generation when major fish kills or other serious impacts are occurring at the plant.

7. The applicant will consult with the Bureau of Sport Fisheries and Wildlife on the development of the above studies as well as any plan which has the purpose of minimizing environmental degradation.

Comments addressing specific topics follow;

Land Use

The reference to the applicant's Supplement No. 1, which shows the layout of the buildings, park and lake area, should be page 2.3.1-2 instead of 2.21-2 as given on page V-1.

Cumulative Impacts

The statement pertains primarily to Unit No. 2, with some considerations being given to the cumulative effects of both Units Nos. 1 and 2. Since the construction of Unit No. 3 is about 70 percent complete and is scheduled to be operational in 1973, we believe that AEC would be remiss in meeting its obligation under P.L. 91-190 if the final statement were not expanded to include the effects of Unit No. 3.

It further appears that a more detailed discussion of the heat dissipation capacity of the entire Hudson River compared to the total heat load imposed by the various heat sources should be included in the statement. It appears that the cumulative thermal loading could appropriately be considered at this time. The New York Department of Environmental Conservation published an article in the New York Fish and Game Journal entitled, "Thermal Loading in the Marine District" in the July 1970 issue. This article pointed out the need to understand the ecology of the marine waters and the limits of tolerance of the member organisms in order to assess the environmental effects resulting from the operation of steam electric plants.

Impingement on Travelling Screens

Fish kills occurring on the travelling screens in the cooling water intake are discussed on page V-30 and V-46; however, the method of disposition of fish, and other accumulations on the screens is not described. The method of disposal of these solid wastes should be described in the final environmental statement.

Plant Dismantling and Decommissioning

The disposition of the site after the end of the useful life of the reactors needs to be clarified. It is stated on pages V-75 and V-76 that the reactor will be entombed with associated highly radioactive components and it is anticipated that this action would have no significant radiological impact on the environment. However, a basis for this conclusion is not given. We suggest that the statement include information on the anticipated quantities and longevities of the radioactive materials to be buried, the expected integrity of the entombing structures, and data on ground water. The burial of highly radioactive materials on the banks of the Hudson River would be a questionable action, particularly if long-lived radionuclides are involved.

Environmental Impact of Postulated Accidents

Section VI gives an adequate evaluation of impacts resulting from postulated accidents through Class 8 for airborne emissions. However, the environmental effects of accidental releases to water is lacking. Some of the accidents described in Table VI-1 could result in releases to the Hudson River and the effects could last for centuries. As we have stated in comments on previous environmental statements, we do not think that an analysis of only airborne emissions constitutes a complete evaluation of the possible impacts resulting from a major accident.

We also think that Class 9 accidents resulting in both air and water releases should be described and the impact on human life and the remaining environment discussed as long as there is any possibility of occurrence.

Alternative Fuels and Sources

The statement on page XI-3 refers to recent studies which indicate that coal-fired plants may lead to a radiation dose exposure to the general public similar to or greater than exposures derived from operation of powerplants using pressurized water reactors. We do not believe that there is uncontestable evidence to support this statement. If AEC retains this information in the final environmental

statement, we suggest that the radiological impact of Unit No. 2 should only be compared with modern fossil-fuel steam-electric plants with current emission control equipment.

Recreation

We believe that assessment of the impacts on recreational water for both primary and secondary contact activities should be expanded. The transfer of 14 acres to the Village of Buchanan to be developed by the Village as a public marina should increase the recreational value of boating; however, little or no mention is made of the effects of other water associated recreational activities.

Planned Environmental Studies

As we have stated previously, we believe sampling intensity, as mentioned on page V-59, should not be decreased until the effects of Units 1, 2, and 3 have been determined. Entrainment studies should also be continued until such time as definitive information has been gathered. These stipulations should be placed in the study plan outlines and included in the study discussions in the statement. We recommend that the operating license require the applicant to consult with the Bureau of Sport Fisheries and Wildlife on the development of the detailed plan to minimize environmental harm. We also request that this Department be advised of the plan when completed and review and comment on it in regard to our expertise and jurisdiction.

Benefit Description of Alternative Plant Designs

The benefits claimed on page XI-57 from research, local taxes and employment should be separated from other benefits in this table. The AEC's "Guide for Submission of Information on Costs and Benefits," dated May 1972, correctly distinguishes between these items and the generation of electricity and the production of other products. We also concur with the statement on page 4 of that report "that the calculation of indirect benefits is a complex and controversial matter, frequently involving a large number of assumptions." As further pointed out, the claiming of such benefits could result in multiple accounting. It appears that this statement has shown benefits for the

additional local taxes and employment without indicating that there would also be attendant increases in taxes paid by local and regional customers and that there would also be some increase in local services for the approximately 400 people expected to work at the plant.

Although significant benefits may be realized by the local community, these funds are ultimately paid by the local community and the other customers of the applicant, therefore, from a regional viewpoint taxes are essentially a transfer of funds and should not be indicated as benefits.

We appreciate this opportunity to comment on the statement. We hope these comments will be useful to you in the preparation of the final environmental statement.

Sincerely yours,

Deputy Assistant Secretary of the Interior

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

Regulatory File Cy.