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July 27, 1972

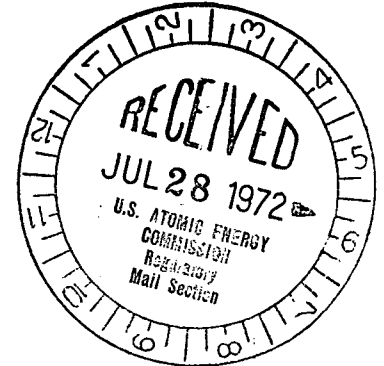
Mr. Daniel R. Muller, Assistant Director  
for Environmental Projects  
Directorate of Licensing  
U.S. Atomic Energy Commission  
Washington, D. C. 20545

Re: Docket No. 50-247

Dear Mr. Muller:

Consolidated Edison Company of New York, Inc.  
(Con Edison) respectfully submits the following response  
to the comments submitted by the Department of the  
Interior, dated June 29, 1972, on the Draft Detailed State-  
ment concerning environmental impacts of Indian Point Unit  
No. 2 prepared by the Atomic Energy Commission's Regulatory  
Staff.

The Department of the Interior (the Department)  
disagrees with Con Edison and the Regulatory Staff, par-  
ticularly with respect to short-term environmental impacts.  
This disagreement leads the Department to the conclusion  
that an alternate cooling system should be required at  
this time. Con Edison believes that the Department's con-  
clusion is based in large part on the unavailability to  
the Department of new data developed by Con Edison in  
response to initial questions raised by the AEC's Regula-  
tory Staff. As was noted in Con Edison's Comments on the  
Draft Detailed Statement dated May 30, 1972, the Draft  
Detailed Statement was prepared without the benefit of the  
new data and therefore discussed many potential problems  
in very general terms. The Department escalates the Regu-  
latory Staff's discussion of potential problems to the  
level of "a virtual certainty." We know of no evidence  
to support a conclusion that the potential impacts dis-  
cussed in the Draft Detailed Statement are a virtual cer-  
tainty. The data we have found suggest a contrary con-  
clusion. We urge that the Final Detailed Statement be  
based upon the most recent data submitted by Con Edison



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so that conclusions of a character as far reaching as those suggested by the Department can be made on the basis of all available facts.

Specifically the Department based its conclusion on significant impacts to be expected from the operation of Indian Point Units Nos. 1 and 2 described in the fifth paragraph on page 2 of its letter. We will address each impact separately.

1. Entrainment of Egg, Larval, and Fry Stages of Important Fish. This issue was raised by the Staff last fall and it was impossible to obtain data until the appropriate season of the year when these forms were present in the river. Con Edison is obtaining data now in connection with operation of Indian Point No. 1. Until the data are evaluated, it is impossible to predict the impact of entrainment on these organisms. The literature contains studies at other plants showing large rates of survival of these organisms under certain circumstances and large rates of mortality under other circumstances. Con Edison's biological consultants have advised that it is impossible to state the impact at Indian Point without obtaining actual data from plant operations, but that in no case will entrainment losses during the 5-year period of our biological study result in irreversible damage. It is significant that the entrainment rate postulated by the Regulatory Staff in the Draft Detailed Statement and by the Hudson River Fishermen's Association in testimony submitted to the Atomic Safety and Licensing Board is not supported by the limited data (as yet unevaluated) that have been collected this season. The assumption of total mixing has proved false this season. The larvae have been found to migrate vertically in the water column from night to day and with the fry to migrate to and concentrate in shoal areas early in their life stage. These latest data support the conclusion of the Regulatory Staff in the Draft Detailed Statement that the plant should be licensed to start-up and an aquatic biological study be conducted to ascertain its impact on the river.

2. Entrainment of Zooplankton and Phytoplankton. This subject has been studied and evaluated by Dr. Gerald J. Lauer of New York University. His report was submitted in evidence before the Atomic Safety and Licensing Board

and was enclosed as Exhibit H to Con Edison's Comments on the Draft Detailed Statement dated May 30, 1972. Dr. Lauer concluded, based on data from actual studies in the intake and discharge structures of Indian Point Unit No. 1, that entrainment of zooplankton and phytoplankton produces no significant impact.

3. Impingement of Large Fish on Screen Structures. There is absolutely no evidence to Con Edison's knowledge to support the statement of the Department that there is a virtual certainty of major losses from impingement of large fish on screen structures. For a number of years Con Edison has limited this problem of impingement of fish to small fish averaging 2 to 3 inches in length and weighing 0.2 to 0.4 ounces each. Con Edison did note in its Comments on the Draft Statement dated May 30, 1972 that the Regulatory Staff did not state the size of the impinged fish. This apparently has led the Department to the erroneous conclusion that large fish are impinged. We expect that the Regulatory Staff will clarify this point in the Final Detailed Statement.

The impingement problem requires a clarification of what is to be considered a significant adverse environmental impact. The Department states (on page 1) that the data presented on Indian Point No. 1 leaves no question that Indian Point No. 1 "has a serious environmental effect on aquatic life in the river, especially fish." While Con Edison has noted the destruction of organisms, we also observed that there has been no discernible impact on the aquatic life of the river. Every expert examining the current condition of the Hudson River in the area of Indian Point appears to be in agreement that now, after several years of operation of Indian Point No. 1, the area is abundant with aquatic life. This is supported by the recent initial decision of the Atomic Safety and Licensing Board with respect to Indian Point No. 2, which states (on page 41) as follows:

"In any event, there appears to be no evidence that the operation of Indian Point Unit No. 1 has had a measurable effect on fish populations in the Hudson River despite numbers collected on the screens."

It is also to be noted that the Department apparently failed to take account of the recent modifications to the once-through cooling system by the addition of air curtains and an ability to reduce intake velocities when fish counts are high during periods of low temperature.

4. Toxic Conditions From Use of Anti-Fouling Chemicals. The Department states that such toxic conditions appear "a certainty." This matter has been discussed at length before the Atomic Safety and Licensing Board, and data are presented in Appendix D and Appendix H to Con Edison's Comments on the Draft Detailed Statement dated May 30, 1972. These documents describe procedures established by Con Edison to minimize environmental impact and report on data taken in the discharge canal, in connection with lab studies, which establish that chlorination should not produce any significant environmental impacts.

5. Adverse Impacts of Huge Quantities of Heat. The Department does not state what these "adverse impacts" are. As indicated in Con Edison's Comments on the Draft Detailed Statement dated May 30, 1972, particularly Appendices B-1 and B-2, thermal discharges will be within state criteria. Such discharges will produce no significant adverse effects. There will be no interference with migratory fishes, and the river at Indian Point contains a sufficient volume of water so that resident fishes may find preferred temperatures at any season.

6. Lower Dissolved Oxygen Levels. Although the operation of the plant theoretically could reduce dissolved oxygen levels, a study of this phenomenon has established that the amount of the reduction is insignificant. This was submitted as Appendix C to Con Edison's Comments on the Draft Detailed Statement dated May 30, 1972.

Accordingly, with the exception of item 1 above, all the "significant impacts" referred to by the Department have been studied and it has been established that they produce no significant adverse impact. With respect to item 1, the study cannot be completed until completion of the appropriate season of the year. We believe it is unsound to state that there is a virtual certainty of a

significant impact on the basis of speculation unsupported by data and before the study which is currently underway has been completed.

The apparent unavailability to the Department of the information referred to above undoubtedly relates directly to the Department's conclusion (on page 3) that "the predictable 'short term' damage to aquatic resources is of a sufficient magnitude to justify the best available corrective action now." If all the information referred to above is objectively considered, in "balancing the overall benefits and costs" as mandated by the Calvert Cliffs decision, we believe that the Department's conclusion cannot be supported. Where the Department's conclusion is based on portions of the Draft Detailed Statement which speculated on theoretical potential effects, the Final Detailed Statement should clarify matters as indicated in Con Edison's Comments dated May 30, 1972 and the Appendices thereto.

For example, the Department notes (on page 3) that 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." As noted in Con Edison's Comments on the Draft Detailed Statement dated May 30, 1972, the magnitudes estimated by the Regulatory Staff are based on the use of erroneous equations and assumptions. The actual magnitude of entrainment is expected to be substantially less than that estimated by the Regulatory Staff, depending on phenomena such as the diurnal movement of larvae and early movement to feeding areas. Con Edison believes that the diurnal effect will reduce entrainment to one-third to one-half of the Regulatory Staff's prediction based on the proportion of daylight hours to darkness during the planktonic stage. In conjunction with proper estimates of estuary dilution flows, the entrainment could be further reduced to one-fifth to one-eighth of the Regulatory Staff's prediction. Further substantial reductions will be found to relate to the early movement into shallow feeding areas (unlike the area in front of the Indian Point intake).

The recommended stipulations of the Department

are based on its conclusion that an alternate cooling system should be required at the present time. Con Edison notes that item 1 contains no reference to the cost of the alternate cooling system. The law requires that the benefits of the proposed system should be considered along with its cost so that the public should not be required to bear a financial burden not commensurate with the environmental benefit.

Stipulation No. 3 has most serious adverse environmental implications. This stipulation would require that operation of Indian Point Nos. 1 and 2 be held to a minimum by drawing on other sources of power available to the applicant's system. This could require maximum operation of fossil-fueled plants located in New York City and render it impossible for Con Edison to comply with its commitment to New York City to obtain maximum generation of electricity outside of the City in order to reduce emissions from the burning of fossil fuels in the City. The Department is here suggesting trading a highly theoretical and speculative benefit to aquatic resources of the Hudson River for a continuation of air pollution problems in New York City. Con Edison does not believe this is in the public interest. It is also apparent that the Department has little concept of the operating characteristics of 873 MW nuclear power plants that are designed for base load operation with only limited load following capability and are incapable of operating as peaking units.

Stipulation No. 5 concerning the continuation of the environmental study program would appear to be inconsistent with the other recommendations calling for construction of an alternate cooling system. If the decision to build cooling towers has been made, the bio-study program would appear to have little significance for Indian Point Unit No. 2.

The Department further suggests that the Atomic Energy Commission should consider Indian Point No. 3 in licensing Indian Point No. 2. This is contrary to the Commission's Regulations 10 CFR Part 50, Appendix D. Since a full environmental review is required for Indian Point No. 3, no purpose is served by delaying consideration of Indian Point No. 2 until completion of the

Indian Point No. 3 review.

The Department also suggests that the Atomic Energy Commission assume jurisdiction over the entire Hudson River in licensing Indian Point No. 2. The Department refers to accumulative thermal loading in the Marine District. Con Edison disagrees that it would be proper for the AEC to take such an action. This subject was dealt with in Con Edison's response, dated June 27, 1972, to the Hudson River Fishermen's Association's comments on the Draft Detailed Statement and reference is made to that response.

Concerning the environmental effects of accidental releases to the Hudson River, we offer the following:

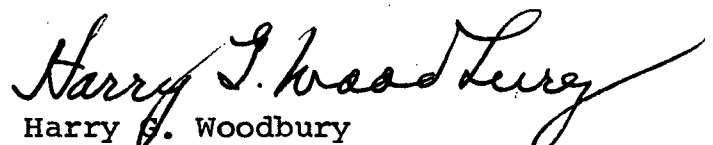
Inadvertent releases of radioactive liquid cannot occur because liquid wastes are sampled and analyzed to determine the quantity of radioactivity before any attempt is made to discharge them. If the activity levels are low enough to allow release, these liquids are released under controlled conditions. The radiation monitor provides surveillance and control over the operation, preventing the discharge valve from opening if the liquid activity level exceeds that which can be safely discharged.

Liquid discharges, due to the failure of any tank containing significant radioactivity will be collected by the various sumps. The tanks and the sumps are located in a leaktight-waterproof building and thus no discharge to the river can occur.

Major accidents could result in radioactive liquids being discharged to drains in the containment or auxiliary building; this liquid will be processed and purified by the liquid waste disposal system before release to the discharge canal.

Con Edison hopes that these comments will be of use to the Commission in preparing the Final Detailed Statement.

Very truly yours,

  
Harry G. Woodbury  
Executive Vice President

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