

Docket No. 50-286

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Mr. William J. Cahill, Jr.  
 Vice President  
 Consolidated Edison Company  
 of New York, Inc.  
 4 Irving Place  
 New York, New York 10003

JAN 15 1974

Dear Mr. Cahill:

In order that we may continue our environmental review of your application for operating the Indian Point Unit No. 3, additional information on those matters set forth in Enclosure 1 is needed.

In order to maintain our review schedule we will need an adequate response by February 1, 1974. Please inform us within seven days after receipt of this letter of the date you will be able to provide the required information. Your formal reply should consist of three signed originals and 297 additional copies as a sequentially numbered supplement to your Environmental Report. Please retain 100 of these copies until advised by us concerning further distribution.

If you desire to discuss the information requested, please contact Dr. Mary Jane Oestmann, AEC Environmental Project Manager, (301-433-6951).

Sincerely,

Original signed by  
 George W. Knighton

George W. Knighton, Chief  
 Environmental Projects Branch No. 1  
 Directorate of Licensing

Enclosure:  
 Request for Additional  
 Environmental Information

cc: See next page

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SURNAME	MJOestmann:mh	GWKnighton			
DATE	1/11/74	1/15/74			

Mr. William J. Cahill, Jr.

- 2 -

cc: Harry H. Voight, Esq.  
Joyce P. Davis, Esq.  
Edward J. Sack, Esq.  
Nicholar A. Robinson, Esq.  
Sarah Chassis, Esq.  
Angus Macbeth, Esq.  
Dr. John C. Geyer  
Mr. R. B. Briggs  
Samuel J. Jensch, Esq.  
Honorable George Segnit  
J. Bruce MacDonald, Esq.  
Honorable Louis J. Lefkowitz  
Atomic Safety and Licensing  
Appeal Board  
Atomic Safety and Licensing  
Board Panel  
Mr. Frank W. Karas

OFFICE						
SURNAME						
DATE						

ENCLOSURE I

REQUEST FOR ADDITIONAL ENVIRONMENTAL INFORMATION

INDIAN POINT UNITS NOS. 1, 2 AND 3

A. Biological Impacts

1. Provide a justification for suggesting a loss factor of 5% for the impingement of fish caught at the Unit No. 3 intake structure, used in Appendix FF of the Environmental Report, p. IV - 18. Include in your justification the data and logic used for this loss factor.
2. Provide all information available from the Indian Point site subsequent to that information reported in Appendix BB of the Environmental Report, relating to survival of impinged fish. Include the applicant's efforts and success in determining the survival of the impinged fish returned to the river.
3. Provide data and a regression analysis to evaluate the relationship between the number of white perch impinged (and probability of a white perch being impinged) and water temperature. Compare the number of perch impinged in relation to the population of perch in the river.
4. Provide copies of impingement data for different species of fish collected at Lovett and Danskammer plants from 1971 to the present. Provide similar data available for the Bowline and Roseton plants from the date of startup to the present time. Provide the monthly estimates of the number of fish impinged (and species composition) at the Indian Point Units Nos. 1, 2 and 3 and compare the results with those taken at the other plants for comparable time periods. Determine, if possible, the effect of the number of fish impinged on the total fish population.
5. Provide a summary report on the chlorination program carried out at the Unit Nos. 1 and 2 condensers during the summer - fall 1973. Include information relating to total residual chlorine analysis in terms of dates, times and places of sampling, the sampling analyses and results. Any information subsequent to that reported in Appendix Z to the Environmental Report regarding the sensitivity to residual chlorine of fish eggs, larvae and young juveniles in the vicinity of Indian Point should be provided.

6. Provide monthly densities (with a measure of variation) for microzooplankton (eg., copepods and cladocerans) and macrozooplankton (eg., Gammarus and Neomysis) taken in 1972 and 1973. Provide estimates for a best case, worst case, with supporting rationale, of monthly number and weight losses of microzooplankton and macrozooplankton due to entrainment at Indian Point Units Nos. 1, 2 and 3 at full flow.
7. Provide copies of all reports (monthly, semiannual, and annual) prepared by Texas Instruments, Inc., for Consolidated Edison subsequent to that already provided on:(a) Hudson River Ecological Study; (b) Cornwall Environmental Study; (c) Indian Point Impingement Study; (d) Ossining Environmental Study;(e) Evaluation of High Frequency Sonar For Fish Stock Evaluation in the Hudson River Estuary (issued in May 1973)(f) Intake-Discharge Structure Report. In reference to the October 1973 report on the 1973 Hudson River Program, p. I-3, provide further data for 1973 that will be available which will include: (a) ichthyoplankton data from April through July on all species; (b) beach seine collection data from March through December ; (c) transect ichthyoplankton data for 1973 egg and larvae season; and (d) mark-recapture population estimates for adult white perch and young striped bass and white perch.
8. Provide copies of the New York University 1971, 1972 and 1973 Annual Reports and other reports containing information on the entrainment studies and other ecological studies being conducted by the applicant's consultants at NYU.
9. In reference to Figure II-2 on page II-8 of the Texas Instruments Annual Report (April 1973), provide tabulation of data for minimum, maximum, and average daily water temperatures for all twelve months, including May, June, and July which have been provided in ER, IP-3, App. FF., pp. IV - 28 to IV - 30.
10. Provide analysis of the relationship between the water temperatures in the Indian Point vicinity and salt-intrusion length (or lower Hudson River freshwater flow). Report the time of year for the conditions above to apply.
11. Provide 1972-1973 information relating to: (a) standing crop estimates of eggs, larvae and juvenile striped bass, white perch, and shad; and (b) size and age composition of spawning stock of striped bass, white perch and shad. Provide gear efficiency correction for the collection of data for the standing crop estimates.

The following questions pertain to the report "1973 Hudson River Program - Fisheries Data Summary - May - July" prepared for Consolidated Edison Company by Texas Instruments, Inc., October 1973.

12. Provide the reasoning why there is not more overlap in the epibenthic-sled and Tucker-trawl stations during the sampling process. Supply information as to the importance of simultaneous sampling at the bottom and at a second point in the water column. Select which data were not obtained by simultaneous sampling at the bottom and at one or more points in the water column.
13. Supply the water quality data obtained for Transect 2 (June 28 - 29, 1973), pp, II C-5 through IIC-7. Justify the reasons why no water quality data, particularly temperature, were collected for Transect 1 (May 21 - 22, 1973), pp, IIC-2 through IIC-4. Explain the reasons why water quality data were not collected right at the beginning of the ichthyoplankton survey study. Present a description of plans to carry out further data reduction and data analysis of the transect data.
14. With respect to Figure 2, p. IA-7, what criteria were used in setting up the Tucker trawl stations? In particular, explain why so many surface trawls relative to subsurface trawls were taken.
15. Explain the extent of so large a variability (eg., 1 vs 1500 M<sup>3</sup>) in the volume values reported on pp. II A-3 to IIA-27. Provide information as to efforts taken to standardize towing speed and time during collection of the samples.
16. On page II A-3, yolk-sac larvae (3.1 to 6.2 mm) were found starting the week of April 30. However, striped bass were not found in the beachseines until the last week of June (p. II A-8) (mean length 16 mm and 23 mm). Was this seven to eight week period in between the April and June weeks longer than expected?
17. Describe any plans to extrapolate the beach seine results to depths >3 feet and distances offshore to >100 feet. Include the depths, distances and the reasoning for the extrapolations used of the beach seine results.
18. Provide any distinction made between beach areas, shoal areas, and deep water areas in collection of the data reported. Present adequate data to estimate relative abundance of the various stages of striped bass larvae in these three areas.

19. State criteria used in selecting the primary and alternative transects for conducting the ichthyoplankton survey. State the reasons for carrying out a second transect four weeks after the first transect and for not using the same transect both times.
20. In "general indication" No. 1, on p. I-2, it is stated that transport rates of striped bass eggs and larvae are not as great as previously estimated.
  - a. Provide the decrease in the new estimate of net downstream transport of striped bass eggs and larvae from the previous estimate.
  - b. Describe any differences in the estimates of the net downstream transport rate for the surface, 1/2 depth and bottom of the river.
  - c. Provide information as to the size of the larvae found in the revised estimate of transport rates.
21. In "general indication" No. 2, p. I-2, it is stated that the striped bass eggs and larvae concentrate near the river bottom:
  - a. In what sense is this finding that the eggs and larvae concentrate near the river bottom to be a new finding?
  - b. Describe plans for further data reduction and data analysis of the ichthyoplankton data.
22. In "general indication" No. 3, yolk sac larvae were found to be extended into the extreme lower estuary.
  - a. Describe the geographic extent of the "extreme lower estuary".
  - b. Provide the significance of this finding with respect to:
    - i. striped bass life cycle and behavior in the Hudson River
    - i.i. modification of entrainment models
  - c. What fraction of the eggs and yolk sac larvae were found below the salt front? Compare these results with those reported in the Carlson- McCann study.

- d. Provide information on the comparison of fresh water flow during May - July for 1973 with the flows for 1967 and 1968.
23. Describe how the straight lines drawn connecting successive data points in the figures presented in Section II-B should be interpreted.
24. From the data presented, compare the distribution of white perch eggs and larvae to the distribution of striped bass eggs and larvae.
25. Describe any problems in distinguishing between striped bass larvae and white perch larvae. Present the criteria used in the distinction of the two types of post sac larvae at each of the following standard lengths of 7, 9, 11, 13, 15, 17+ millimeters.
26. Provide data sheets for the period July to December 1972 and for 1973 comparable to those in the "Hudson River Ecology Study", First Semi-Annual Report Vol I, Appendix D by Texas Instruments.
27. Provide, if possible, actual data for each year for 1962 - 1973 and predicted estimates for 1974 - 1981 at each unit at Indian Point, Lovett, Danskammer, Bowline, Roseton and Cornwall power plants for:
  - a. Average intake flow in cfs.
  - b. Average heat discharge to the river in Btu/hr.
  - c. Total amount of sodium hypochlorite or other chlorinating agents used during each month, in pounds as  $Cl_2$ .

B. Non-biological Impacts

1. Provide information as to your plans for decommissioning Indian Point Unit No. 1. Identify which structures and facilities will be removed and those retained. Describe any action that will be taken to clear the site area where Unit No. 1 facilities are located. Identify any licensable quantities of radioactive materials that would be stored on site, the term of such storage, and arrangements for custodial care. Estimate the cost of decommissioning on the basis of the present economy. If decisions on these measures have not yet been made, provide information for each alternative that you believe to be practicable.