

# Natural Resources Defense Council, Inc.

36 WEST 44TH STREET  
NEW YORK, N.Y. 10036  
212 986-8310

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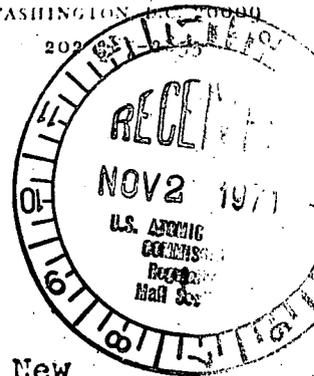
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Washington Office  
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WASHINGTON, D.C. 20036

October 27, 1971

Myron Karman, Esq.  
Counsel, Regulatory Staff  
U.S. Atomic Energy Commission  
Washington, D.C. 20545

In re: Consolidated Edison Company of New  
York (Indian Point Unit No. 2)  
Docket No. 50-247



Dear Mr. Karman:

I enclose copies of Set II of inquiries to Consolidated Edison and Set C of requests for the production of documents.

In accordance with the usual procedure, I request that the Staff comment on the responses that are received from Consolidated Edison. I hope for your full cooperation in meeting the expedited schedule in this proceeding.

Anthony Z. Roisman, on behalf of EDF, joins me in these requests.

Yours sincerely,

*Angus Macbeth, Jr.*  
Angus Macbeth

AM/js  
Enclosures  
cc:

Mr. Stanley T. Robinson, Jr. ✓  
Samuel W. Jensch, Esq.  
J. Bruce MacDonald, Esq.  
Leonard M. Trosten, Esq.  
Anthony Z. Roisman, Esq.  
Mr. R.B. Briggs  
Honorable William J. Burke

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# Natural Resources Defense Council, Inc.

36 WEST 44TH STREET  
NEW YORK, N.Y. 10036

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October 27, 1971

Leonard M. Trosten, Esq.  
LeBoeuf, Lamb, Leiby & MacRae  
1821 Jefferson Place, N.W.  
Washington, D.C. 20036

In re: Consolidated Edison Company of New  
York (Indian Point Unit No. 2)  
Docket No. 50-247

John H. Adams, Esq.  
*Executive Director*

Dear Mr. Trosten:

I enclose Set II of inquiries to Consolidated Edison to which we request a response in writing. I also enclose Set C of requests for the production of documents.

The orderly progress of these expedited hearings require speedy and complete answers from Consolidated Edison on the questions and requests put to them. I hope for your full cooperation on this matter.

Anthony Z. Roisman, on behalf of EDF, joins me in these requests.

Yours sincerely,

*Angus Macbeth, Jr.*

Angus Macbeth

AM/js  
Enclosures  
cc:

Mr. Stanley T. Robinson, Jr. ✓  
Samuel W. Jensch, Esq.  
J. Bruce MacDonald, Esq.  
Myron Karman, Esq.  
Anthony Z. Roisman, Esq.  
Mr. R.B. Briggs  
Honorable Williams J. Burke

Set II: Questions and Inquiries

1. What is the average tidal excursion of the Hudson River in the vicinity of Indian Point for flood and ebb tides; i.e. the downstream and upstream distance a particle would move during an average tidal cycle? If the movement is non-uniform across the depth or width of the river, give separate averages for appropriate segments of the river cross section.
2. What is the rate of net downstream particle displacement in the river at Indian Point? If the movement is non-uniform across the depth or width of the river, give separate rates for appropriate segments of the river cross section.
3. What are the horizontal and vertical dimensions of the water mass within which there is measurable current moving toward the intake structures of 1) Indian Point Units No. 1 and 2 when both are a) generating power under normal operating conditions; b) "throttled down"; ii) Indian Point Units No. 1, 2 and 3 when all are a) generating power under normal operating conditions; b) "throttled down"?
4. Within the water mass described in 3 above, what is the expected gradient of resultant shoreward flows in feet per second when 1) Indian Point Units No. 1 and 2 are both a) generating power under normal conditions; b) "throttled down"; ii) Indian Point Units No. 1, 2 and 3 are all a) generating power under normal operating conditions; b) "throttled down"?

5. In both vertical and horizontal dimensions, what are the distances from the intake point from within which a) 90%, b) 75%, c) 50%, d) 25%, e) 10% of the water passing the plant is withdrawn for cooling purposes when i) both Indian Point Unit No. 1 and 2 are generating power under normal conditions; ii) Indian Point Units No. 1, 2 and 3 are all generating power under normal conditions.

6a. In IP-73\*, how were night and day samples of planktonic striped bass weighted statistically to derive averages listed in table 6-8?

b. What other statistical weighting was used in deriving the averages?

7. With reference to IP-73, a) how close to the bottom was the plankton net operated during bottom tows? b) how close to the surface was the plankton net operated during surface tows? c) how close to the surface was the surface trawl operated during surface tows?

8. With reference to IP-73, p. 6-4, how were the following stages of fish development defined: a) yolk sac; b) larval c) prejuvenile; d) juvenile?

9. With reference to the stages defined in 8 above, what

\*References are to numbering system of documents supplied to Intervenor by Con Edison.

are the average development times and lengths of fish associated with each stage for a) striped bass, b) tomcod, c) white perch, d) alewife, e) blueback herring, f) American shad?

10. What is the average duration of the planktonic life in the Hudson estuary of a) striped bass, b) tomcod, c) white perch, d) alewife, e) blueback herring, f) American shad?

11. In the study described in IP-73, indicate who identified the larvae.

12. With reference to IP-73, indicate the reason why no mid-depth plankton samples were from March to June, 1970.

13. With reference to IP-73, what is the length of a generation (i.e. breeding cycle of the following invertebrates: a) Gammarus; b) Cyclops; c) Neomysis?

14. With reference to Environmental Report Supplement App. Q, p. 10-6, a) to the knowledge or opinion of Consolidated Edison what is the probable cause of post-larval stages avoiding the plankton nets in May and June? b) how is "post-larva" defined? c) what were the sizes of post-larval fish taken in May and June in i) the surface trawl, ii) the bottom trawl?

15. With reference to Indian Point Operating Report for October 1969, March 1970, p. 4, to the knowledge or opinion of Con Edison, what is the probable cause of the "rapid increase" in the number of dead fish "in front of the outer set of fine screens"?

16a. With reference to the Environmental Report Supplement, App. S, p. 22, are the dead fish which were taken out of the bays the same as those referred to in the report cited in 15 above?

b. If so, to the knowledge or opinion of Con Edison, how did the fish get transported into the bays?

17. With reference to the fish kills discussed in Environmental Report Supplement, App. S, p. 22, what was the probable number of fish killed outside the screens and not drawn into the bays?

18a. Were the fish kills discussed in Environmental Report Supplement, App. S, p. 22, involved at all in the malfunction necessitating shutdown which is cited in App. III to the Indian Point Operating Report for October 1969 - March 1970?

b. If so, what is the relation between the fish kills and the malfunction?

19. Assuming Indian Point Unit No. 2 begins full power operation in the summer of 1972, what arrangement of protective devices will be in operation at the intakes to Unit 1 and Unit 2? Give dimensions of screen frames, size and type of screening, distance apart, and details of any shielding devices that in any way impair or alter the flow of water into the intake.

20a. With reference to the Environmental Report Supplement,

("ERS") p. 2-3-3 -5, as presently installed, can the flow of each of the twelve discharge parts be regulated?

b. If so, to what extent can flow be regulated?

21a. With reference to ERS, p. 2-3-3 - 9, para. 4, were there any changes of the tide measurements made at the east bank of the river?

b. If so, what phenomena were observed and recorded?

22. With reference to ERS, p. 2-3-3-10, para 2, how does the water move from the lower to the upper layer?

23. With reference to ERS, p. 2-3-3-10, para. 4, at Indian Point what is the average depth of a) the upper layer; b) the lower layer; c) the layer of no net motion?

24. With reference to ERS, p. 2-3-3-7 and 2-3-3-10, para 4, what is the estimated seaward flow in summer when fresh water runoff is 4000 c.f.s.?

25. With reference to ERS, 2-3-6-5, indicate the evidentiary support for the statement that "striped bass spawn upriver from Indian Point.... Therefore their eggs and larvae are not vulnerable to the intake...".

26. To the knowledge or opinion of Con Edison what proportion of the entrained larvae of a) striped bass, b) tomcod, c) white perch, d) alewife, e) blueback herring, f) American shad, which enter Indian Point Unit No. 2 in the cooling water will survive, i.e. be alive in the estuary several days later?

27. Indicate the  $T$  temperature rise from intake point to exit from the cooling system for water passing through each of the following plants: a) Indian Point Unit No. 1, b) Indian Point Unit No. 2, c) Indian Point Unit No. 3, d) Lovett, e) Bowline, f) Danskammer, g) Roseton.

28. Indicate the dwell time for a particle between entering the cooling system and being returned to the estuary for each of the following plants: a) Indian Point Unit No. 1, b) Indian Point Unit No. 2, c) Indian Point Unit No. 3, d) Lovett, e) Bowline, f) Danskammer, g) Roseton.

29. With reference to ERS 2.5 (3), indicate and produce evidentiary support of figures indicating costs of cooling systems which are alternatives to once-through cooling.

Set C: Requests for the Production of Documents

1. Recorded minutes of meetings of a) the Hudson River Policy Committee, b) the Hudson River Technical Committee, c) the Fish Advisory Board.
2. The literature review on entrainment by Lauer, cited in IP-53.
3. The report on bicessays of various chemicals with striped bass and white perch by Lauer, cited in IP-53.
4. The records of catches of "key species" taken in 1971 in plankton nets, trawls and seines, including data indicating time of day, size of fish, stage of tide and other relevant supplementary data.