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November 27, 1972

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Re: Consolidated Edison Company
of New York, Inc.
Indian Point Unit No. 2
AEC Docket No. 50-247

Gentlemen:

Pursuant to the Board's order of November 22, 1972, Applicant submits the enclosed supplemental response to the "Outline Summary of Intervenors' Factual Position." Applicant, of course, reserves the right to modify or supplement its position as set forth in the enclosure, in light of evidence presented in the hearing.

Very truly yours,

LEBOEUF, LAMB, LEIBY & MACRAE
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Enclosure

cc: See page 2

cc w/enc.: Myron Karman, Esq.
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Honorable Louis J. Lefkowitz
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Board Panel

November 27, 1972

Applicant's Supplemental Response to "Outline Summary of Intervenors' Factual Position"

Pursuant to the order of the Atomic Safety and Licensing Board at the hearing conference held on November 22, 1972, Applicant submits the following supplemental response to the "Outline Summary of Intervenors' Factual Position," submitted on October 30, 1972 and amended on November 12, 1972.

Applicant controverts the following portions of the intervenors' Summary, for the reasons stated below, without necessarily agreeing or disagreeing with the remaining portions or their relevancy to this proceeding:*

2.c. Striped bass are in the planktonic mode for approximately the first six weeks of life.

Response:

(a) Unsubstantiated - more study needed.

(b) Available evidence indicates statement falsely overestimates length of planktonic period. Lawler, 10/30/72; Raney, 10/30/72.

2.d. During the planktonic stage of life, striped bass are moved southward from the major spawning areas to their nurseries in the areas of brackish water.

Response:

(a) Unsubstantiated - more study needed.

(b) Misleading - see 2.c. above.

(c) Available evidence indicates statement is false. 1 FES V-39 to 61, App. II-2, V-3; Raney, 10/30/72.

*Reference to a particular portion of the evidence does not necessarily mean that Applicant relies only on that portion.

2.e. Significant numbers of striped bass in the planktonic form are present in the immediate vicinity of Indian Point between approximately May 15th and July 30th.

Response:

The term "significant" is unsubstantiated and misleading.

3. While in the planktonic mode, and in the first weeks of the immediately following pelagic mode, striped bass in the Hudson are largely distributed by hydrological forces.

Response:

(a) Unsubstantiated - more study needed.

(b) Misleading - see 2.c. above.

(c) Available evidence indicates statement is false. 1 FES V-39 to 61, App. II-2, V-3; Raney, 10/30/72; Lauer, 10/30/72.

3.d. There is no reliable evidence that the fish in the planktonic mode in the vicinity of Indian Point vary significantly in horizontal distribution.

Response:

Available evidence indicates statement is false. Lawler, 10/30/72; Clark, 10/30/72.

9. Under normal operating conditions, planktonic and early pelagic organisms entering Indian Point Unit No. 1 between May 15th and July 30th will be subjected to:

9.a. A speedy temperature rise of 12.4° F. and will be exposed to the raised temperature for some time.

Response:

Misleading. Testimony of Lawler on Effect of Indian Point Plant on Dissolved Oxygen, 6/19/72 (follows Tr. 5797); Lauer, 10/30/72.

9.b. Repeated rapid changes of pressure.

Response:

Misleading. Testimony of Lawler on Effect of Indian Point Plant on Hudson River Dissolved Oxygen, 6/19/72 (follows Tr. 5797); Lauer, 10/30/72.

9.c. Mechanical damage.

Response:

Statement is unsubstantiated.

9.d. Periodic chemical damage.

Response:

Statement is misleading. Chlorination at Indian Point (follows Tr. 6052); Lauer, 10/30/72.

10. Under normal operating conditions, planktonic and early pelagic organisms entering Indian Point Unit No. 2 between May 15th and July 30th will be subjected to:

10.a. A speedy temperature rise of 14.9° F. and will be exposed to the raised temperature for some time.

Response:

See 9. and 9.a. above.

10.b. Repeated rapid changes of pressure.

Response:

See 9.b. above.

10.c. Mechanical damage.

Response:

See 9.c. above.

10.d. Periodic chemical damage.

Response:

See 9.d. above.

13. Fish in the planktonic form and in the first weeks of the immediately following pelagic mode entering the cooling systems of Indian Point Unit No. 1, Indian Point Unit No. 2, ... will suffer a severe adverse impact; it is most likely that all or nearly all striped bass will be killed by passage through the cooling systems as presently planned for operation.

Response:

(a) Unsubstantiated - more study needed.

(b) Available evidence indicates statement is false. Lauer, 10/30/72.

14. Approximately 20% of the annual production of striped bass in the Hudson will pass through the cooling systems of Indian Point Units 1 and 2 combined in the planktonic mode and the first weeks of the immediately following pelagic mode.

Response:

(a) Unsubstantiated.

(b) Available evidence indicates statement is false. Lauer, 10/30/72; Lawler, 10/30/72; Raney, 10/30/72.

16. Significant damage to the Hudson populations of white perch, alewife, blueback herring, bay anchovy, smelt and Atlantic silverside is probably due to their passage through the cooling systems at Indian Point Units 1 and 2, ...

Response:

(a) Unsubstantiated - more study needed.

(b) Available evidence indicates statement is false. McFadden, 10/30/72; Lauer, 10/30/72.

20. A significant proportion of Gammarus and Neomysis passing through the cooling systems of the plants will be killed during the summer period.

Response:

Available evidence indicates statement is false. Lauer, 4/5/72; Lauer, 10/30/72.

21. The proportion of Gammarus and Neomysis in the Hudson which will pass through the cooling systems of the plants is unknown.

Response:

Statement is misleading. Lauer, 4/5/72; Lauer, 10/30/72.

22. The precise impact of the loss of Gammarus and Neomysis passing through the cooling systems of the plants on the food supply of juvenile fish in the Hudson is unknown, but will involve a significant loss of food organisms.

Response:

(a) Misleading - see 21. above.

(b) Available evidence indicates statement is false. Lauer, 4/5/72; Lauer, 10/30/72.

23. A further adverse impact on the food chain will occur through a significant loss of phytoplankton as a result of passage through the cooling systems of Indian Point Unit No. 1, Indian Point Unit No. 2, ...

Response:

Available evidence indicates statement is false. 1 FES V-33 to 35, App. V-1; Lauer, 4/5/72; Lauer, 10/30/72.

24.a. Con Edison's records of fish kills have not been kept in a complete and uniform manner which would facilitate determining the influence on total fish killed of such factors as: (i) ambient temperature of the River, (ii) plume of heated water from discharge, (iii) velocity of water at intake, (iv) total volume of water withdrawn from the Hudson, (v) fish protection devices such as screens (fixed and travelling), louvres, baffles, sonic devices, electric fields or lights.

Response:

Statement is misleading. Stipulation on fish impingement experience, 10/30/72.

24.b. Con Edison's records of fish kills have: (i) omissions of days when counts were not made, (ii) periods within the day when screen washings were missed, (iii) omissions of fish killed and not counted.

Response:

Statement is misleading. Stipulation on fish impingement experience, 10/30/72.

27. Extrapolations from records of fish kills indicate that in a typical year approximately the following numbers of fish will probably be killed at the intake screens to Indian Point Unit No. 1 when the Plant is at full capacity under normal operating conditions:

Month	Fish Killed Per Day
Jan.	20,300
Feb.	7,600
March	4,200
April	1,000
May	500
June	500
July	1,900
Aug.	3,300
Sept.	1,900
Oct.	1,700

Month	Fish Killed Per Day
Nov.	1,600
Dec.	6,900

Response:

(a) Unsubstantiated.

(b) Available evidence indicates statement is false. Stipulation on fish impingement experience, 10/30/72.

29. During the winter months, fish will be attracted to the plant site by the thermal discharge plume from Indian Point Unit No. 1 and Indian Point Unit No. 2 and their vulnerability to death by impingement will be increased.

Response:

(a) Unsubstantiated.

(b) Available evidence indicates statement is false. Detailed Comments on Thermal Discharge Aspects of the AEC's Draft Statement (to be sponsored on 12/4/72 by Lawler); Lawler, Supplemental Study of Effect of Submerged Discharge of Indian Point Cooling Water on Hudson River Temperature Distribution, 6/19/72 (follows Tr. 5797); Raney testimony, 6/19 and 6/20/72.

30. On the average, at least 4 times as many fish will be killed at the Indian Point Unit No. 2 intake screens as will be killed at the Indian Point Unit No. 1 screens.

Response:

Statement is unsubstantiated.

31. It is likely that when Indian Point Unit Nos. 1 and 2 are operating at full capacity under normal conditions at least 7.5 million fish will be killed on the intake screens of the two plants, assuming continuing high population size.

Response:

(a) Unsubstantiated.

(b) Available evidence indicates statement is false. Stipulation on fish impingement experience, 10/30/72.

32. It is probable that the total fish kills will be made up of at least 5% striped bass.

Response:

(a) Unsubstantiated.

(b) Available evidence indicates statement is false. Stipulation on fish impingement experience, 10/30/72; Clark, 10/30/72.

34. The killing of fish on the intake screens of Indian Point Unit No. 1 and Indian Point Unit No. 2 will have a significant adverse impact on the fishery and general ecology of the Hudson, particularly on the white perch population.

Response:

(a) Unsubstantiated.

(b) Available evidence indicates statement is false. McFadden, 10/30/72; Lauer, 4/5/72; Lauer, 10/30/72; Clark, 10/30/72, 1 FES V-26-32.

35. The killing of eggs, larvae and fish by passage through the cooling systems at Indian Point Unit Nos. 1 and 2, ... or by impingement will have a significant adverse impact on the fishery and ecology of the Hudson, particularly on the annual production of striped bass which will be reduced by approximately 56%.

Response:

(a) Unsubstantiated.

(b) Available evidence indicates statement is false. Lawler, 10/30/72; McFadden, 10/30/72; Lauer, 10/30/72; Raney, 10/30/72; Clark, 10/30/72.

36. The Hudson nursery ground is a major contributor to the Mid-Atlantic and New England striped bass fishery.

Response:

(a) Unsubstantiated.

(b) Available evidence indicates statement is false. Clark, 10/30/72; Raney, 10/30/72; McFadden, 10/30/72.

37. There is no indication that compensatory effects will reduce the significance in the adult population of the percentage reduction in the larval, juvenile and young of year population.

Response:

Available evidence indicates statement is false. 1 FES V-54 to 61, VII-5 to 7; Lawler, 10/30/72; McFadden, 10/30/72.

38. The reduction of the annual striped bass population in the Hudson by 56% will result in a massive reduction in the striped bass fishery along the Mid- and North Atlantic coast as that year class enters the fishery four to five years later.

Response:

(a) Unsubstantiated.

(b) Available evidence indicates statement is false. Raney, 10/30/72; McFadden, 10/30/72; Lawler, 10/30/72; Clark, 10/30/72.

39. A serious reduction of the fishery will be caused by any continued reduction of the breeding stock.

Response:

(a) Statement is misleading.

(b) Available evidence indicates statement is false. Raney, 10/30/72; Lawler, 10/30/72; McFadden, 10/30/72; Clark, 10/30/72; 1 FES V-54 to 61, VII-5 to 7.

39.a. The indirect effects on the biota of the Hudson of the operation of Indian Point No. 2 with the present cooling system are unknown but there may be significant adverse effects.

Response:

Statement is misleading. Lauer, 4/5/72; Lauer, 10/30/72.

40. The total adverse impact on the fishing of the Hudson from the discharge of heated water is unknown, but the heated plumes from Indian Point and Lovett will interfere with the migrating and seasonal movements of fish in the Hudson to and from their spawning grounds.

Response:

Available evidence indicates statement is false. See evidence cited in 29. above.

41. Cooling water passing through Indian Point Unit No. 1 shows a loss of dissolved oxygen varying from .5 to 1.6 mg/litre.

Response:

Available evidence indicates statement is false. Testimony of Lawler on Effect of Indian Point Plant on Hudson River Dissolved Oxygen, 6/19/72 (follows Tr. 5797); Appendix C, General Comments on Dissolved Oxygen (to be sponsored by Lawler on 12/4/72); Applicant's Exhibit 3-B, Appendix J. (follows Tr. 4328).

43. The dissolved oxygen in the water entering Indian Point Unit No. 2 is below 6.0 mg/litre from June through September.

Response:

Available evidence indicates statement is false. See 41. above.

45. Control over expected chemical discharge from Indian Point Unit No. 2 is inadequate.

Response:

(a) Unsubstantiated.

(b) Available evidence indicates statement is false. 1 FES V-14 to 16; Appendix D, chlorination at Indian Point (follows Tr. 6052).

45.a. Chemical releases are dependent on operating and plant conditions, the timing of which cannot be controlled in most circumstances.

Response:

Statement is unsubstantiated.

46. The release of chlorine and its compounds will have a significant adverse impact on the fish and other aquatic biota in the vicinity of Indian Point.

Response:

(a) Unsubstantiated.

(b) Available evidence indicates statement is false. Lauer, 4/5/72; Lauer, 10/30/72; see Lawler testimony cited in 29. above.

47.a. The present cooling system has a significant adverse impact on fish of screenable and non-screenable sizes.

Response:

(a) Unsubstantiated - more study needed.

(b) Available evidence indicates statement is false. Lauer, 10/30/72; Lawler, 10/30/72; McFadden, 10/30/72.

47.b. The present cooling system has a significant adverse impact on the other aquatic life of the Hudson.

Response:

(a) Unsubstantiated - more study needed.

(b) Available evidence indicates statement is false. Lauer, 4/5/72; Lauer, 10/30/72; 1 FES V, App. V-1.

48.a. Reduction of volume of water withdrawn will proportionately reduce the amount of fish and other non-screenable organisms passing through the cooling system of Indian Point Unit No. 2.

Response:

Statement is misleading. 1 FES, App. XI-1; Lauer, 4/5/72; Lauer, 10/30/72.

49. The cost of a closed-cycle natural draft cooling towers at Indian Point is approximately $17.5 to $30 million.

Response:

Available evidence indicates statement is false. Newman, 10/30/72.

54. It will take no more than two and one-half years to construct a natural draft closed-cycle cooling system and place it in operation.

Response:

Available evidence indicates statement is false. Newman, 10/30/72.

56. The rate of production of power at Indian Point Unit No. 2 can be altered between 10 and 100% of full power in less than 20 minutes; Indian Point 2 can be brought from hot shutdown to 10% of full power in a short period.

Response:

Statement is misleading.

57. The fishery dependent on the Hudson has a multi-million dollar value.

Response:

Statement is unsubstantiated.

57.a. The 1970 value of the Atlantic striped bass fishery supported by the Hudson in terms of sports catch is approximately $73 million dollars.

Response:

Statement is unsubstantiated.

57.b. The 1970 value of the Atlantic striped bass fishery supported by the Hudson in terms of commercial catch is approximately $2.4 million dollars.

Response:

Statement is unsubstantiated.

59. Con Edison will be liable for approximately $75 million annually to the State of New York in civil penalties for fish taken at Indian Point No. 2.

Response:

Statement is unsubstantiated. Letter from Applicant to Board, 10/30/72.