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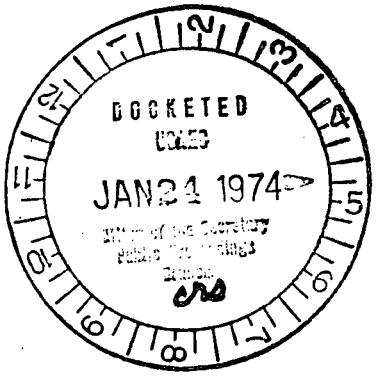


In re: Consolidated Edison Company
of New York, Inc.
Indian Point Unit No. 2
AEC Docket 50-247

Gentlemen:

I enclose herewith the record citations and responses to the Board's questions to counsel for the Hudson River Fishermen's Association which were outstanding at the close of oral argument on January 9, 1974.

In reading over the transcript of the oral argument, I have noticed a number of transcription errors. If it would be helpful to the Appeals Board, I would be pleased to offer a list of suggested record changes.

Yours sincerely,

Angus Macbeth

AM:ps

Angus Macbeth
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Citations to the Record in
In re Consolidated Edison Co. of New York
(Indian Point No. 2), Docket No. 50-247,
In Support of Oral Argument

At p. 53: Support for the position that although the factual data in the Hudson River Fisheries Investigation, 1965-1968 (the Carlson-McCann Report) are sound, the calculations and conclusions contained in the Report are significantly flawed and seriously underestimate the effect of the proposed Storm King Project on the Hudson striped bass fishery: Clark, Effects of Indian Point, October 30, 1972, following Tr. 6276 (shows reliance on data in Report throughout; p. 14 discusses calculation error); 1 FES App. V-3 (shows reliance on data in Report); Tr. 7253-7257 (shows reliance on data in Report by Applicant's witness Lawler); Tr. 8683-8685 (discussion of calculational error by HRFA witness Clark); Tr. 9324-9333 (discussion of calculational error by Staff witness Goodyear).

At p. 55-56: Support for position that the bulk of striped bass organisms reach the salt intruded region of the estuary within a few days after hatching: 1 FES A-V-52 to A-V-73.

Rate of growth of early striped bass is discussed at the following places: Clark, Effects of Indian Point, October 30, 1972 at 5 - 6, following Tr. 6276; 1 FES A-II-22 to A-II-23; Goodyear, Rate of Growth of Larval Striped Bass, February 22, 1973 following Tr. 9892.

At p. 56: Support for the position that the vast majority of striped bass fingerlings are found downstream from Indian Point: 1 FES V-40 to V-50; 1 FES A-V-61 to A-V-73.

At p. 58: Estimated reduction of young of the year striped bass due to the operation of the Bowline Point power plant: The Staff estimated that Bowline operating alone on the Hudson would reduce the young-of-the-year striped bass by 9.7 - 22.6% per year depending on flow conditions. No model run was made with only Indian Points 1 and 2 and Bowline operating, but a model run was performed with Roseton, Danskammer, Indian Points 1 and 2, Lovett and Bowline operating which showed a reduction of young-of-the-year striped bass varying between 38.2% and 64% depending on flow conditions. Goodyear, Probable Reduction in Young of the Year Striped Bass, February 8, 1973, following Tr. 10,021.

At p. 59: Evidence of rate of flow and temperature increase at Bowline and Indian Point 1 and 2:

| PLANT | TOTAL PLANT FLOW (gpm) | PLANT TEMPERATURE RISE AT RATED CAPACITY (°F) |
|---|---|---|
| Bowline 1 | 384,000 | 13.5 |
| Bowline 2 | 384,000 | 13.5 |
| Indian Point 1 | 318,000 | 12.0 |
| Indian Point 2 | 870,000 | 14.6 |

1 FES III - 7 to III - 13; Lawler on Cumulative Effects, March 30, 1973 at Table I-1 following Tr. 10,339 (all figures are for normal, full-flow operation).

At p. 66: Support for the position that there is no compensatory mechanism operating during the first year of life in the Hudson-spawned striped population at present population levels: Clark, Effects of Indian Point, October 30, 1972 at 49 - 56, following Tr. 6276 (growth rates, density in estuary, feeding habits, comparison to Sacramento-San Joaquin and Chesapeake); 1 FES V-54 to V-61 (growth of Hudson and Mid-Atlantic striped bass populations since 1930, regression analysis, effort and catch, comparison to shad and white perch); Goodyear, Rate of Growth of Larval Striped Bass, February 22, 1973 following Tr. 9892; Goodyear on Compensation, February 22, 1973, following Tr. 9892 (dominant year classes, effect of fishery, comparison to menhaden in New York, Sardine on West Coast and Shad in Hudson); Goodyear on Striped Bass Population, April 9, 1973 at 9 - 13, following Tr. 10,826 (history of fishery over last ten years).

At p. 115-116: Support for the position that in regard to natural draft cooling towers the Indian Point site is not significantly different from sites in the Appalachian region which now have natural draft cooling towers at which no significant adverse environmental effects from fogging, icing or drift have been observed: Aynsley on Alternatives to Once Through Cooling, October 30, 1972, at 13, following Tr. 6276; Tr. 8913 - 8919, 8970 - 8995.

At p. 116: Professional Qualification of Dr. Eric Aynsley: Tr. 8892 - 8895.

At. p. 119: Support for position that Applicant cannot presently estimate the effectiveness of the mitigation measures which it has proposed: Tr. 10, 518 - 19.

At 127: Support for the position that the regression analysis involving Hudson landings and mid-Atlantic catches five years later, while not strictly valid from a theoretical point of view, may legitimately be used as a predictive device in this case: Tr. 6838 - 8645.

At p. 128: The reference to Clark's independent analysis of the Hudson contribution to the mid-Atlantic fishery as appearing at Tr. 8560 et seq. is correct, but note should also be made of transcription errors in that discussion which are corrected at Tr. 8696 - 97.

At p. 128: Support for the position that Clark's best estimate of the Hudson contribution to the mid-Atlantic striped bass fishery is 80%: Tr. 8560 - 8565.

At p. 153: Discussion of Mr.Briggs exchange with Clark at Tr. 11,093, et seq: Mr. Briggs was probing Clark's statement that 10 million fish would be needed for Hudson stocking. He pointed out that Clark's October 30, 1972, testimony gave striped bass population figures derived from Carlson-McCann which indicated that the Hudson supported 2.4 million juveniles 16 weeks after spawning and 1.8 million juveniles 34 weeks after spawning. If

this was so, how could Clark justify the use of the 10 million replacement number? If this was not so, do not the impingement figures used by Clark have to be altered?

Clark pointed out that the population figures that he used from Carlson-McCann were relative and not absolute numbers. Tr. 11,094; Clark on Effects of Indian Point, October 30, 1972 at 12, following Tr. 6276. He further indicated that he would estimate the Carlson-McCann gear efficiency at approximately 10%. Tr. 11,095; 8822-23. This indicates that the Hudson in fact supports a population of approximately 24 million juveniles 16 weeks after spawning and 18 million juveniles after 34 weeks. Assuming that Indian Point 1 and 2 will reduce the striped bass production of the Hudson by 30 - 50%, this brings Clark's figure of requiring 10 million fish for Hudson stocking into the proper range depending on what age the fish are stocked at. There remains the problem that when the Carlson-McCann population figures are properly treated as relative numbers, the absolute impingement numbers at the plant cannot be used with the Carlson-McCann numbers in calculating the combined effect of entrainment or impingement unless the gear efficiency problem is first taken into account. This Clark did not do in his October 30, 1972 testimony. The Hudson River Fishermen's Association recognized this error and indicated in its Proposed Findings of Fact that the impingement had to be appropriately reduced before being integrated

with the relative numbers used by Carlson-McCann. HRFA Proposed Findings of Fact, June 11, 1973 at 3.41. The Licensing Board took cognizance of this problem in the Initial Decision and agreed that HRFA's estimate of impingement should be reduced. Initial Decision at 55 (note that "entrainment" in 1.13 has been corrected by the Licensing Board to read "impingement".)

At p. 158: Request as to the number of adult females necessary to supply 10 million fish of stocking size: HRFA accepts the Staff evidence that the efficiency of hatchery production is 0.8%. Goodyear on Artifical Propagation, April 23, 1973, following Tr. 11,220. Therefore it is necessary to have sufficient adult females to produce 1.25 billion eggs. At 50,000 eggs per pound of female, it would be necessary to have 2500 10-pound females to produce the requisite number of eggs. Ibid.

At p. 173: Support for position that Hudson River Policy Committee has refused to accept representative of environmental groups on the Committee: Letter of Hall to Woodbury, January 11, 1973 at 2, following Tr. 9386.