

UNITED STATES OF AMERICA
NUCLEAR REGULATORY COMMISSION

In the Matter of)
)
CONSOLIDATED EDISON COMPANY) Docket No. 50-247
OF NEW YORK, INC.)
(Indian Point Station,)
Unit No. 2))

AMENDMENT NO. 2 TO APPLICATION
FOR FACILITY LICENSE AMENDMENT
FOR EXTENSION OF OPERATION WITH
ONCE-THROUGH COOLING

On June 6, 1975, Consolidated Edison Company of New York, Inc., ("Con Edison"), as holder of Facility Operating License No. DPR-26, applied for an amendment of that license to extend until May 1, 1981 the period of interim operation using the installed once-through cooling system. Con Edison hereby amends that application for the purpose of transmitting Supplement No. 2 to the document entitled "Environmental Report to Accompany Application for Facility License Amendment for Extension of Operation with Once-Through Cooling for Indian Point Unit No. 2." This Supplement consists of Appendix D to the Environmental Report entitled, "First Annual Report for the Multiplant Impact Study of the Hudson River Estuary"

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(two volumes), dated July 1975, and revised and additional pages for insertion in the body of the Environmental Report.

CONSOLIDATED EDISON COMPANY
OF NEW YORK, INC.

BY Carl L. Newman
Carl L. Newman
Vice President

State of New York:
County of New York:

Subscribed and sworn to
before me this 8TH day
of August, 1975

John P. Hughes
Notary Public
JOHN P. HUGHES
Notary Public, State of New York
No. 31-1889550
Qualified in New York County
Commission Expires March 30, 1977

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CERTIFICATE OF SERVICE

I hereby certify that I have this 12th day of August, 1975 served the foregoing Amendment No. 2 to Application for Facility License Amendment for Extension of Operation with Once-Through Cooling, together with Supplement No. 2 to the Environmental Report, by depositing copies thereof in the United States mail with first class postage prepaid and properly addressed to the following persons:

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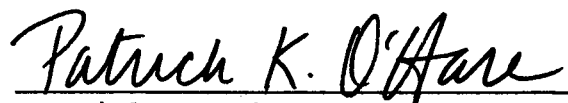
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Instructions for Handling
Supplement 2 to

REU 8-23-75
LML

Environmental Report to
Accompany Application for

Facility License Amendment
for Extension of Operation
With Once-Through Cooling

For Indian Point Unit No. 2

Remove

Insert

Table of Contents, III

Table of Contents, III

Page 1-2,3

Page 1-2,3

Page 2-1,2

Page 2-1,2

Page 2-18

Page 2-18, 18A, 18B

Page 2-23

Page 2-23

Page 3-3

Page 3-3

Page 8-7

Page 8-7

Appendix D; Save as
volumes 1 and 2 to this
supplement.

Move instructions for
supp. 1 from final page
of report to page following
Table of Contents.

Instructions for supp.2
becomes the page following
the Table of Contents.

Supervised per Amelt #2
and 8-8-75 50-247

4.1.3	Savings from Prevention of Non-Water Quality Environmental Impacts	4-26
4.1.4	Potential Finding that Cooling Tower is Not Required	4-30
4.2	Costs	4-34
4.2.1	Costs to the Fisheries	4-34
4.2.1.1	Striped Bass	4-34
4.2.1.1.1	Impact of Delay on Fishery	4-34
4.2.1.1.2	Monetized Value of Fishery Impact	4-36
4.2.1.2	Other Species	4-38
5.	ALTERNATIVES TO THE PROPOSED ACTION	5-1
5.1	Retention of Present License Condition	5-1
5.2	Operation with Once-Through Cooling System Beyond May 1, 1981	5-3
5.3	Derating and Reduced Flow Operations	5-4
6.	SUMMARY BENEFIT-COST ANALYSIS	6-1
6.1	Introduction	6-1
6.2	Effects of Closed Cycle Cooling	6-1
6.3	The Research Program and the Data Base for Decision-Making	6-3
6.4	The Period of the Extension	6-5
7.	ENVIRONMENTAL APPROVALS	
8.	SOURCES	8-1
8.1	Reports Previously Furnished	8-1
8.2	References	8-4
8.3	Exhibits	8-6
8.4	Appendices	8-7
9.	RESPONSES TO REQUEST FOR ADDITIONAL INFORMATION	

Accordingly, the present license, to the extent that it imposes a requirement for the installation of a system of closed-cycle cooling, does so only provisionally, and recognizes that in appropriate circumstances public policy may counsel a modification of the provisional requirement thus set.

1.2 Proposed License Amendment

The application for a license amendment, in support of which this Environmental Report is submitted, is being filed with the Nuclear Regulatory Commission in accordance with the provisions of subparagraph 2.E(1) (c) quoted in § 1.1 above. The requested amendment would change the terms of Condition 2.E(1) by substituting "May 1, 1981" for "May 1, 1979" wherever the latter date appears. The effect of the change would be to permit Con Edison to operate the facility with the present once-through cooling system until May 1, 1981. Since the spawning season for striped bass does not commence until approximately May 1 in any year, the modification would permit operation for two additional spawning seasons for that species, 1979 and 1980.

This application for an amendment to Facility Operating License No. DPR-26 is supported by substantial additional data and analyses arising out of Con Edison's Hudson River Ecology Study Program (described in § 3.2 below). These will include the results of studies performed for Con Edison during 1973 and 1974, and other biological data that were not available for consideration incident to the proceeding leading to the issuance of a full-term, full-power license. The data

gathered during the 1974 striped bass spawning season are particularly noteworthy because the facility operated at substantial power levels during that season as well as during most of the balance of that year. Although the complete results of the 1974 research efforts are not incorporated in this Report, they are expected to become available during the summer of 1975. These results will be submitted to the Commission by a supplement to this Report.

Con Edison believes that this Report shows that the Company should be permitted to complete its ecological study program before irretrievable environmental and economic commitments are made toward the construction of a closed-cycle cooling system. Con Edison expects to complete the study program and report thereon by about January 1, 1977. Based upon the results of the program to date, it is concluded that completion of the study program will provide the data to satisfactorily make the ultimate decision on whether environmental considerations require modification of the present cooling system. Con Edison believes as well that there is a substantial possibility that analysis of the improved data base will demonstrate that a closed-cycle cooling system should not be required for Indian Point 2.

The present Report is also addressed to the immediate environmental consequences of the requested extension of the period of operation with once-through cooling. As appears more fully in §§ 2, 4, 5, and 6 below, the benefits to be derived from granting the requested deferral of the installation of a closed-cycle cooling system far outweigh the environmental and other

2. ENVIRONMENTAL EFFECTS OF THE PROPOSED ACTION

2.1 Effects on Aquatic Biota

The potential ecological impacts of Indian Point Unit 2 operation with a once through cooling water system have been thoroughly reviewed elsewhere. See Applicant's Environmental Report for Indian Point Unit 2; Proceedings of Atomic Safety and Licensing Board, Indian Point Unit 2, NRC Dkt. No. 50-247. Since the conclusion of the Indian Point 2 operating license hearings, more than 20 reports on ecological studies, data assessments and explanatory documents have been provided the Regulatory Staff. See § 8.1 for a listing of these materials. These materials constitute new and relevant information which can be used to assess the real need for the cessation of operation with the present once-through cooling system at Indian Point 2. Additional data collected in 1974 will be submitted to the NRC during the summer of 1975 as a supplement to this Report in support of the requested extension. It is presently anticipated that more than 1500 pages of study methodology, results and analyses will be contained in the reports to be submitted shortly. These reports will contain new and significant information on entrainment, impingement, and thermal discharge impacts at Indian Point. In addition, an assessment of multiple power plant impacts will be presented, and an updated assessment of the hatchery rearing and stocking program will be submitted. These reports on data collected in 1974 are especially significant relative to the requested extension as they present

data gathered during the period of full power operation of Indian Point 2.

This Report by Con Edison will show, based on the sound ecological research principles set forth during the above noted proceedings, and supporting data gathered since those proceedings, that the requested two-year extension of operation of the once-through cooling system at Indian Point 2 will have no irreversible direct or indirect adverse impacts on the aquatic biota of the Hudson River.

This report provides in summary form the conclusions drawn to date on the potential impacts of the once through cooling system operation on benthic organisms, bacteria, phytoplankton, zooplankton and fishes. Emphasis is placed primarily on striped bass as it is widely considered to be the most important species in the Hudson River from the point of economic and social considerations.

In addition to the data presented here, it is important to note that during the period of the requested extension, the Environmental Technical Specification Requirements will remain in effect. These requirements currently mandate that Con Edison take "immediate corrective action . . . to reduce the number" of impinged fish when certain levels are reached. Facility Operating License No. DPR-26, App. B, § 4.1.2(a) (2) (VI). Other measures that will remain in effect are the limitation on delta T's across the condenser at Unit 2, and the chlorination frequency limits. Id. §§ 2.1.1 and 2.3.1.

Each of the species mentioned above will be discussed relative to entrainment and impingement impacts at Indian Point. In addition assessments of the anticipated impact of the requested extension of the once-through cooling system operation on these species will be presented.

Instruments Fisheries Survey of the Hudson River Vol IV at V-21). Entrainment declines also during this period (see NYU Progress Report 1971-72 at 215). Though this stage of development of the striped bass does experience entrainment impacts at Indian Point, based on the fact that large numbers of bass appear in waters downstream of Indian Point at the time when entrainment declines, it is concluded by Con Edison that the entrainment impacts during this life stage of the bass do not result in irreversible or adverse impacts to the species.

Late larvae and early juvenile vulnerability to entrainment is lower than that of earlier larvae because of increased swimming capability and preference for shoal areas of the river. The larvae and early juveniles concentrate in the shoals by mid-summer. Low numbers in entrainment and impingement samples during the summer and fall indicate that few are exposed to the plant or that they are able to avoid plant intakes. By fall, they are concentrated below Indian Point. See Table 2-8.

Based on entrainment impact estimates of striped bass discussed later (§§ 2.1.3.1.2-.3) and the above discussion of vulnerability it is concluded that the impact resulting during the requested extension of the interim operation period will not cause irreparable or irreversible damage to the striped bass population in the Hudson River.

* Acute and Chronic Effects of Evaporative Cooling Tower Blowdown and Power Plant Chemical Discharges on White Perch and Striped Bass (November 1974).

* Feasibility of Culturing and Stocking Hudson River Striped Bass (July 1974).

* Indian Point Impingement Study Report for the Period June 15, 1972 through December 31, 1973 (December 1974).

* Semi-Annual Progress Report for the Multiplant Impact Study of the Hudson River Estuary (February 1975).

* Second Semi-Annual Report Related to the Feasibility Study for Spawning, Hatching and Stocking Striped Bass in the Hudson River (November 1974).

8.4 Appendices

- A Lawler, Matusky & Skelly Engineers, Impact on the Hudson River Striped Bass Population due to Two Year Extension of Once-Through Cooling Operation at Indian Point Unit #2 (April 1975).
- B Mathematica, Inc., Alternative Procedures for Discounting Costs and Benefits of Privately Financed Pollution Control Projects (April 15, 1975).
- C Kenneth E. McConnell, An Economic Evaluation of Postponing Closed Cycle Cooling Construction on Indian Point 2 (April 28, 1975).