

William J. Cahill, Jr.  
Vice President

Regulatory

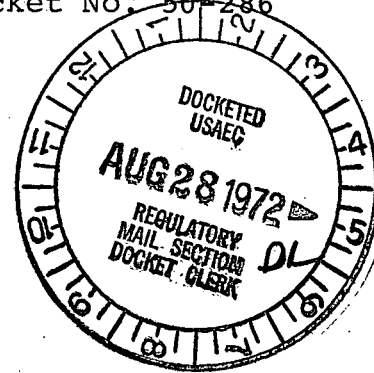
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Consolidated Edison Company of New York, Inc.  
4 Irving Place, New York, N Y 10003  
Telephone (212) 460-3819

August 22, 1972

Re Indian Point Unit No. 3  
Docket No. 50-286

Mr. Richard C. DeYoung  
Assistant Director for  
Pressurized Water Reactors  
Directorate of Licensing  
U. S. Atomic Energy Commission  
Washington, D. C. 20545



Dear Mr. DeYoung

In accordance with the discussions at our meeting with the AEC Staff on June 1, 1972, this letter contains Con Edison's current schedule for updating the Indian Point Unit No. 3 Environmental Report. The updating information will cover the items specified in your letter of April 24, 1972, as well as other topics where new information has been developed.

The information requested in Items a, d, e and f of your April 24th letter is scheduled to be submitted in Supplement 2 to the Environmental Report on September 7, 1972. Responses to Items b and c are scheduled to be submitted on October 2, 1972 (Supplement 3) and November 1, 1972 (Supplement 4), respectively. Responses to these last two items - thermal hydraulic model studies and biological effects of thermal discharges - depend on data which are not yet available from current studies.

In addition to the items cited above, the three supplements will also contain the following updated information:

Supplement 2 - September 7, 1972  
Radioactive discharges

Supplement 3 - October 2, 1972  
Effect of entrainment on plankton  
Environmental studies  
Effects of chemical discharges on biota

Supplement 4 - November 1, 1972  
Effects of impingement of fish on  
intake screens  
Effects of entrainment on fish eggs  
and larvae



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Mr. Richard C. DeYoung -2-  
Atomic Energy Commission

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Attachment "A" contains a more detailed outline of the contents of each of these supplements.

Our hope is that this schedule will permit the AEC environmental review to proceed on September 7, 1972 and a draft detailed environmental statement to be issued by the AEC no later than March 1973.

Very truly yours



William J. Cahill, Jr.  
Vice President

enc.  
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## ATTACHMENT A

Supplement 2 (September 7, 1972)

Received w/lt dated 8-22-72

## POPULATION STUDY (Item a of April 24, 1972 AEC Letter)

Population estimates for specified zones within a 60-mile radius of the Indian Point site have been updated to reflect the 1970 population census. Projections at 10-year intervals to the year 2010 have also been prepared. This information is presented in a report "Population Estimates for 1970 and the Population Projections to 2010 for Specified Zones Within a Sixty-Mile Radius of the Indian Point Nuclear Power Plant Site", which will be included in the Environmental Report. This report was filed in Supplement 7 to the Indian Point Unit No. 3 FSAR on August 1, 1972.

## ACCIDENTS (Item d of April 24, 1972 AEC Letter)

The section considers as required the environmental risks due to the postulated classes of accidents designated in the AEC's "Scope of Applicant's Environmental Reports", dated September 1, 1972 using the assumptions outlined in the proposed Annex to Appendix D to 10CFR50, issued December 1, 1971.

## ALTERNATIVES (Item e of April 24, 1972 AEC Letter)

This section presents a more detailed discussion of alternate cooling systems with regard to cost estimates, location and physical arrangement, structural modifications, design assumptions and chemical treatment techniques. Alternatives for fish protection will also be considered in more detail. An evaluation of the alternate cooling systems identified in the April 24, 1972 AEC letter is also presented.

## BENEFIT/COST ANALYSIS (Item f of April 24, 1972 AEC Letter)

The AEC "Guide for Submission of Information on Costs and Benefits of Environmentally Related Alternative Designs for Defined Classes of Completed and Partially Completed Nuclear Facilities", dated May 1972, is being followed insofar as feasible in compiling and organizing the information presented in this section.

## RADIOACTIVE DISCHARGES

This section contains a more realistic and comprehensive estimate of radioactive discharges associated with normal operating conditions which was filed in Supplement 7 to the FSAR on August 1, 1972, in response to questions on Section 11 of the FSAR.

### Supplement 3 (October 2, 1972)

#### THERMAL HYDRAULIC MODEL STUDIES (Item b of April 24, 1972 AEC Letter)

Tri-axial isothermal mappings of the Hudson River representing the thermal effect of Indian Point Units as developed by mathematical models will be presented. A combination of Hudson River hydrological and meteorological conditions, simulating severe ambients that could possibly occur at Indian Point for thermal dissipation, are considered. The results are used to show compliance with the applicable thermal criteria. The mathematical models include: (1) a three-dimensional, steady-state submerged discharge model to describe the near-field thermal plume, (2) two tidal-smoothed, (river cross-section) area averaged, steady-state convection - dispersion models to predict the far-field temperature distributions and (3) a density induced circulation model to recognize the effect of the net non-tidal or density circulation in thermal discharge studies.

#### EFFECTS OF ENTRAINMENT ON PLANKTON

This section will describe and quantify where possible the plant effects on phytoplankton and zooplankton which pass through the plant cooling system as follows: the effects of temperature, turbulence, pressure and chlorine (separate treatment where appropriate); the effects of entrainment on the plankton community of the river; the food web implications of this impact; and the methods for reducing plant effects. An attempt will be made to develop a mathematical model to quantify the plant effects on the life cycle of the striped bass population of the river.

#### ENVIRONMENTAL STUDIES

This section will discuss the following: a study of the population dynamics of white perch and striped bass to quantify the impact of fish impingement at the plant; studies of the species diversity and abundance of fish in the Hudson River as part of the study of the effect of thermal discharges; a survey of physical/chemical properties of the river, including the thermal plume and their correlation with the observed distribution of organisms; laboratory studies of the temperature preference and avoidance of fish and their correlation with field studies of the distribution and movements of fish in relation to the thermal plume; physiological studies for both thermal tolerance experiments and chronic exposure experiments; and the program for monitoring fish at the intakes and the various tests planned.

## EFFECTS OF CHEMICAL DISCHARGES ON BIOTA

The section will discuss the chemicals to be released during both normal operation and construction and testing and their uses; Con Edison's proposed discharge limits and maximum expected concentrations for each chemical; the basis for these limits (bioassays conducted at Indian Point); the potential toxicity of the chemicals and the expected effects of discharges from Indian Point; the potential for accidental releases from Indian Point; and the factors which might influence the impact of chemicals on the biota and their potential effects. Con Edison measures to protect biota from harmful chemical discharges conclude this section.

### Supplement 4 (November 1, 1972)

## BIOLOGICAL EFFECTS OF THERMAL DISCHARGES (Item c of April 24, 1972 AEC Letter)

This section will contain the following information: a description of the expected impact of the thermal discharge on the abundance, diversity, distribution, production, behavior and migration of various aspects of the biota, using data available from a wide variety of sources, including the studies at Indian Point; a discussion of the impacts on phytoplankton, zooplankton, invertebrates and fish; an analysis of the interactions of the species potentially affected by the plant by studying the community structure of the plankton; benthos and fish; and a description and analysis of the factors influencing the impact of the heated discharge. Con Edison's methods and plan for protecting the biota from detrimental impact conclude this section.

## EFFECTS OF IMPINGEMENT OF FISH ON INTAKE SCREENS

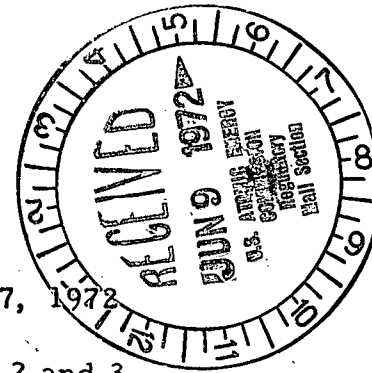
This section of the report will contain the following: a brief summary of the history of the fish problem at Indian Point; a discussion and a quantification where possible of the measures taken to date to reduce impingement; the expected impingement at Indian Point Unit No. 3 based on the adoption of the best configuration at Indian Point Units 1 and 2; a description of the species, numbers, sizes and seasonal aspect of the expected impingement; an analysis of the impact of the expected impingement at Indian Point Units 1, 2 and 3 based on a consideration of the population dynamics of the species involved; a projection of the expected effect on sport and commercial fisheries; and a description of the long-range plans for the resolution of the problem will conclude this section.

William J. Cahill, Jr.  
Vice President

Regulatory

File Cy.

Consolidated Edison Company of New York, Inc.  
4 Irving Place, New York, N Y 10003  
Telephone (212) 460-3819



June 7, 1972

Re: Indian Point Units 1, 2 and 3

AEC Docket Nos. 50-3, 50-247, and 50-286

Mr. Angelo Giambusso  
Deputy Director for Reactor Projects  
Directorate of Licensing  
U. S. Atomic Energy Commission  
Washington, D. C. 20545



Dear Mr. Giambusso:

This letter is in reply to your letter of May 12, 1972, concerning the AEC's revised guide for submission of benefit and cost information in environmental reports. In view of conversations between representatives of Con Edison and the Regulatory Staff as to the advanced state of the Regulatory Staff's preparation of the Final Detailed Statement, we understand that a revised benefit/cost analysis need not be furnished for the Indian Point Unit No. 2 facility.

With regard to the environmental documents on Indian Point Unit Nos. 1 and 3 which are currently in preparation, we will take into account the new guide in preparing the benefit/cost analysis. However, the schedules for preparing the Indian Point Unit No. 1 environmental report and the Indian Point Unit No. 3 benefit/cost analysis do not permit submitting these benefit/cost analyses until August, 1972.

Very truly yours,

William J. Cahill, Jr.  
Vice President

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