UNITED STATES OF AMERICA NUCLEAR REGULATORY COMMISSION

In the Matter of)		ple
CONSOLIDATED EDISON COMPANY)		
OF NEW YORK, INC. (Indian Point Station,)	Docket No.	50-286
Unit No. 3))	•	

APPLICANT'S MEMORANDUM IN RESPONSE TO INQUIRIES BY THE ATOMIC SAFETY AND LICENSING BOARD

At the fourth special prehearing conference held in the above captioned case on February 6, 1975, the Atomic Safety and Licensing Board ("the Board") posed a variety of questions to the parties with respect to matters that were of concern to it. Consolidated Edison Company of New York, Inc. ("Con Edison"), the Applicant, submits the instant memorandum in response to those questions.

These comments fall into three categories. First, they involve matters of law which may be involved in the proceeding. Second, they provide a basis for a finding by the Board that the stipulation executed by the parties on January 13, 1975 is in the public interest and should be approved. Third, they respond to various uncontested matters deemed by the Board to involve "extraordinary circumstances"

which the Board desires to explore pursuant to the Atomic Energy Commission's decision in this case dated July 16, 1974. CLI-74-28, RAI-74-7, 7, 9 (July 16, 1974).

1. Relationship of EPA Proceedings to Indian Point Unit 3 (Tr. 205-06).

By letter dated November 15, 1974, Applicant provided the Chairman of the Board copies of the petition for review filed in Consolidated Edison Co. of New York,

Inc. v. Train, No. 74-2438 (2d Cir., filed Nov. 6, 1974),
and the motion to transfer the case to the United States

Court of Appeals for the Fourth Circuit. The motion to transfer was granted on November 26, 1974, and the case has been consolidated with other petitions pending in that

Court. Briefs have not yet been filed.

In the event Applicant's petition for review is granted and the EPA regulation on steam electric effluent limitations and alternative effluent limitations is overturned, Applicant assumes that it would not automatically be released from the license condition requiring it to install a closed-cycle cooling system.

If the petition is denied, and Con Edison does not succeed in achieving this change to the effluent limitation guidelines, those guidelines nevertheless do not require the construction of cooling towers for Indian Point

2 or 3. Under EPA's interpretation of the law, the guidelines create a presumption that cooling towers are required
which a power plant owner is entitled to rebut pursuant to
§ 316(a) of the Federal Water Pollution Control Act. Con
Edison has already requested alternative effluent limitations
under § 316(a) for Indian Point 2 and 3. The requirements
for such an alternative effluent limitation are similar in
substance to the requirements of the Nuclear Regulatory
Commission for amendment of a license to delete the condition requiring cooling towers, although the statutory
language governing these proceedings is dissimilar.

Con Edison believes that its position before the Environmental Protection Agency challenging the guidelines and requesting alternative effluent limitations under § 316(a) is consistent with the position it is taking before the Nuclear Regulatory Commission to extend the period of time for operation with once—through cooling in order to obtain additional data from its ecological study program.

2. Relative Schedules for Indian Point Unit 2 and Unit 3 Cooling Towers (Tr. 207-08).

The Stipulation provides for a license condition requiring termination of once-through cooling at Indian Point 3 on September 15, 1980. This date, which represents a compromise among the parties, was selected based upon the assumption that the plant would be ready to commence power operations by May 1, 1975. The theory of the Stipulation was to follow the principles enunciated in the Appeal Board decision for Indian Point 2 adapted to the extent necessary for conditions unique to Indian Point 3. The construction of a cooling tower for Indian Point 3 will require relocation of a natural gas pipeline (described below) which would take approximately 15 months, only the last three of which represent field construction activity. The parties have agreed that relocation of the pipeline must precede excavation for the cooling tower. The date for termination of operation of the once-through cooling system, which is May 1, 1979 for Indian Point 2, thus became a date in the middle of the summer of 1980 for Indian Point 3. The parties agreed to continued operation to September 15, 1980 in order to avoid a summer shutdown of the

plant. Simultaneous blasting for cooling towers for both units also was a matter of concern.

This schedule has the additional benefit of permitting Con Edison to make important progress in its ecological study program so that a substantial amount of further data will be available. The September 15, 1980 date, however, does not permit Con Edison to complete that program prior to the time an application for an amendment of the license condition would have to be filed.

Consistent with the Appeal Board's decision in Indian Point 2, the Stipulation requires that Con Edison act with due diligence to obtain all required regulatory approvals for relocation of the pipeline and construction of the cooling tower within 12 months. There is included a provision that prevents the 12-month period from commencing to run prior to May 1, 1975. This provision was inserted to recognize the possibility that the Atomic Safety and Licensing Board might approve the issuance of a full-term operating license earlier than May 1, 1975.

Proposed license conditions (c) and (d), as set forth in paragraph 2 of the Stipulation, simply reiterate conditions imposed in the Indian Point 2 license.

While the date May 1, 1975 was assumed as the commencement date of power operations at Indian Point 3 for purposes of negotiating the Stipulation, it was recognized that the plant may not actually achieve power operations by that time. In order to assure that Con Edison would be unable to secure some data concerning actual operations of Indian Point 3 before the Commission is required to act on another application, paragraph (e) provides for an automatic extension of the termination date for oncethrough cooling for up to two years if power operations are not conducted during two spawning seasons. The number of days and power levels set forth in the condition represent a compromise among the parties concerning that level of operation below which ecological study data would not be regarded as convincing. Operation below the stipulated minimum levels during a spawning season would, of course, result in substantially diminished ecological impact. addition, Con Edison has agreed to a further condition restricting the operation of its pumps during periods of reduced power operation within the spawning season.

Paragraphs (f) and (g) represent a repetition of conditions imposed in the Indian Point 2 license.

In negotiating a stipulated license condition for Indian Point 3, Con Edison was required to assume that a cooling tower would be required for Indian Point 2 and Indian Point 3. The selected location for the Indian Point 3 cooling tower requires the relocation of Algonquin Gas's existing interstate gas pipeline, which crosses Indian Point 2 property at its southern edge. Following discussion with the parties, it was mutually agreed that it would be proper to assume that relocation of the pipeline would be required.

Paragraph (h) of the proposed license condition addresses the contingency that relocation of the pipeline is not required, and provides for adjustment of the date for termination of once-through cooling from September 15, 1980 to May 1, 1980.

Because of the extensive blasting that will be required for excavation prior to construction of a cooling tower for both Indian Point 2 and Indian Point 3, the parties have recognized in paragraph 2(i) of the Stipulation that it is not feasible to follow a construction schedule that

would require simultaneous excavation or related outage for both units. Paragraph (i) of the proposed license condition accordingly provides that the schedule for Indian Point 3 shall not be accelerated so as to cause an overlap of site preparation and outage for the two units.

No provision is made for an automatic extension of the construction schedule for Indian Point 3 in the event of a delay in, or extension of, the assumed construction of a cooling tower for Indian Point 2. Should a delay or extension occur in connection with Indian Point 2, Con Edison may be required to apply for a corresponding extension with respect to Indian Point 3 under the general provisions of the license condition.

Con Edison's schedule for a cooling tower for Indian Point 2 now shows a termination of operation with oncethrough cooling on May 1, 1979 in accordance with the terms of the operating license. As a result, there is no conflict between the present schedule for a cooling tower for Indian Point 2 and the schedule provided in the Stipulation for construction of a cooling tower for Indian Point 3. Con Edison is presently considering filing an application, pursuant to

the provisions of Condition 2.E(1)(c) of the Indian Point 2 operating license, to extend the period of operation with the once-through cooling system. The question of proper coordination with the cooling tower schedule for Indian Point 3 is a matter which will have to be taken into account in connection with that application.

Cost of Cooling Towers for Indian Point Unit 3 (Tr. 208).

Cost estimates for closed-cycle cooling alternatives for Indian Point 3 were originally presented in Table 17-3 of the Indian Point 3 Environmental Report.

These cost estimates were based on conceptual engineering work performed before September 1972. Since that submittal, the closed-cycle cooling system designed for Indian Point 3 has been modified.

The present engineering designs and cost analyses for cooling tower systems for Indian Point 2 are described in the cooling tower report submitted to AEC on December 1, 1974 under a license requirement. Copies of this cooling tower report were sent to each Board member on February 18, 1975. Details of the Indian Point 2 cooling tower cost analyses are presented in Section 5 of the report.

The Indian Point 3 cooling tower cost estimates, which are currently being prepared, are expected to be somewhat greater than the Indian Point 2 cooling tower costs.

4. Impact of Indian Point Unit 3 on the Hudson River and the Mid-Atlantic Fishery (Tr. 209).

Impact of the facility on the striped bass fishery of the Hudson River and of the Mid-Atlantic area has been the subject of continued research since the Indian Point 2 proceeding concluded. As indicated by Mr. Briggs, Tr. 209, the New York State Department of Environmental Conservation is currently conducting a federally-funded study of the contribution of the Hudson River striped bass population to the Atlantic stock of striped bass. The State has completed 2 years of fish tagging out of a planned 3-year program. The initial plan was to tag approximately 5000 fish/year, primarily young of the year, in the vicinity of the Tappan Zee Bridge. Due to a difficulty in capturing enough fish and the time required to apply tags, approximately 3500 fish have been tagged in the first two years.

To date there has only been one tag return in this study from any area beyond the Hudson. Since the fish are tagged as young of the year, they are not likely to be caught by sport fishermen (anticipated to be the primary source of tag returns) until they reach the sixteen inch legal size. An increase in the number of tag returns is expected in 1975 as some of the fish tagged in the first year of the study reach the legal catchable size.

The State has also been tagging adult striped bass captured by haul seine in the spring from the beaches on the eastern end of Long Island. Returns from this tagging study will provide data on the movements of adult striped bass migrating along the coast.

The Texas Instruments report entitled "Hudson River Ecological Study in the Area of Indian Point - 1973 Annual Report" dated July 1974 discusses movements of adult striped bass as determined by Hudson River tagging studies at pages III-36 to III-46, which are appended hereto as Exhibit A.

At the request of Con Edison, Texas Instruments is also conducting a study of the contribution of Hudson River-spawned striped bass to the Atlantic fishery. The main objective of the study is to establish the percentage of Hudson River striped bass taken in the Atlantic fishery (beyond the bounds of the Hudson River) in order to establish the significance of the contribution from the Hudson.

In 1974, Texas Instruments studied the feasibility of using meristic, morphometric, and biochemical characteristics to segregate striped bass originating from different spawning stocks. Twelve characteristics were identified that

can be used to separate individuals from Hudson River and Chesapeake Bay spawning stocks. The number of fish available from the Delaware River was too small for the type of analysis performed.) The analysis showed that the probability of correctly identifying the water body of origin of an individual fish from a mixed sample of Chesapeake Bay and Hudson River striped bass was eighty to eighty-three percent.

The meristic, morphometric, and biochemical characteristics found suitable for separating coastal spawning stocks will be applied to samples of striped bass collected from the Atlantic fishery in 1975 in order to estimate the relative contribution of the Hudson River. A spatial and temporal stratified sampling design will be employed to collect a representative sample of the striped bass. Samples of the spawning populations of the Roanoke and Delaware Rivers will also be collected in order to characterize the populations from these areas. Discriminant function analysis will be employed to assign an origin to each fish from the ocean sample.

In addition, Con Edison has contracted with the University of Rhode Island for an analogous population discrimination study of striped bass. This study is an investigation of variations in structure of scales collected from fish originating in different bodies of water, primarily the Chesapeake Bay area and the Hudson River. The premise for the study was that during the early non-migratory years of development within a body of water, the scales on a fish will develop in a way distinctive from the development of scales on fish originating in another water body.

The preliminary results of this investigation are promising. On the basis of a test set of scale samples (of known origin) subjected to the specific examination, reclassification to the correct water body ranged in accuracy from 65 to 70 percent. This methodology when applied with that being investigated by Texas Instruments, should increase the overall ability to accurately identify the origin of striped bass taken from the Mid-Atlantic fishery. It will also be possible to assess the staff's position as identified in the Final Environmental Statement for Indian Point 3 that the contribution of the Hudson to the Inner

Zone is as much as 90 percent and the contribution to the Outer Zone might range between 10 percent and 50 percent.

5. Data Acquisition Effect on Schedule for Closed-Cycle Cooling System in Relationship to Research and Development Program (Tr. 211).

As has been indicated in the above response, item 2, the Stipulation now requires termination of operation of Indian Point 3 with once-through cooling on September 15, 1981. This would require commencement of excavation for relocation By that time of the natural gas pipeline on July 15, 1978. Indian Point 2 will have operated through four spawning seasons and Indian Point 3 through two spawning seasons. perience, however, indicates that it may not be possible to fully analyze data from operations in 1977 in time to submit an application to eliminate the cooling tower requirement reasonably in advance of the July 15, 1978 date. Accordingly, an application based on six plant spawning seasons may request a further extension of the period of operation with once-through cooling to permit complete analysis of data and a review by the Commission.

By December 31, 1976 Indian Point 2 will probably have completed operation through three spawning seasons and Indian Point 3 through one spawning season. If at that time our consultants believe that adequate data have been obtained,

Con Edison may file an application during 1977 either to extend the period of operation with once-through cooling or to eliminate the cooling tower condition from the license. This would provide more time for evaluation of the application prior to July 15, 1978.

Although the concept of the Stipulation is to follow the Indian Point 2 Appeal Board decision, which does not provide for completion of the ecological study program, Con Edison believes that the Stipulation is more advantageous than the present license for Indian Point 2 in that it allows for significant accumulation of ecological data. The data based on Indian Point 2 operation are expected to be of substantial benefit in evaluating the ecological impact of Indian Point 3. However, since the other parties were not willing to allow sufficient time for completion of the ecological study program, it may still be necessary, if justified by the data, to request an extension of the period of operation with once-through cooling for Indian Point 3, as is contemplated for Indian Point 2 by the terms of its license.

6. Plant Shutdown for Mitigation of Effects (Tr. 211-12).

The desirability of implementing any mitigation measure is dependent upon the results of the ecological study program. Con Edison has agreed that it will request permission to construct a closed-cycle cooling system if the study program shows that such a system is necessary to protect the aquatic ecosystem of the Hudson River. The implementation of a mitigation measure such as requiring alternate plant operating modes pending completion of the closed-cycle cooling system would then be dependent upon whether the study program showed that interim operation would create a substantial or irreversible adverse impact. The decision on whether or not to implement such a mitigation measure would, in Con Edison's view, be based upon a benefit/cost analysis of the benefits to the environment from such a shutdown balanced against the economic costs of replacing the plant output with energy from other sources and, if those sources utilize oil, the impact on oil consumption. We cannot anticipate at this time what the results of such an analysis might The analysis of the need for plant shutdowns will be based on data acquired through the end of 1975.

Shutdown of Unit 3 would not be considered an alter-

native mitigating measure to the construction of a closed-cycle cooling system should the ecological study program show that a long-term mitigation measure is required.

7. Impact of Operation of Other Plants on the Hudson River (Tr. 212).

In response to the Board's inquiry, we append hereto as Exhibit B a Texas Instruments report prepared for Con Edison titled "Semi-Annual Progress Report for the Multiplant Impact Study of the Hudson River Estuary; May - November 1974". The report was issued in February 1975.

- 8. Status of Required Permits for Indian Point Unit 3 Operation (Tr. 213, 217).
- Conservation Water Quality Certification pursuant to § 401

 of the Federal Water Pollution Control Act. Con Edison

 applied for the issuance of this certification on October 4,

 1973. On October 4, 1974, at the request of the Department

 of Environmental Conservation, that application was with
 drawn and Con Edison resubmitted an amended request for the

 certification. Notice of this request has been published in

 appropriate newspapers in the community.

Con Edison has advised the Department of Environmental Conservation of the fuel loading schedule and the
desirability of obtaining the certification prior to commencement of fuel loading. Discussions have been held between Con
Edison and the Department and, to the best of Con Edison's
knowledge, the Department is actively working on this certification.

(B) <u>U.S. Environmental Protection Agency Discharge</u>

Permit pursuant to § 402 of the Federal Water Pollution Control

Act (NPDES Permit). Con Edison filed an application for this

permit on July 9, 1974 in accordance with EPA regulations which

require filing of the application at least six months prior to commencement of operation. On February 13, 1975, Region II of EPA was notified that Con Edison intends to seek alternative § 301 thermal effluent limitations pursuant to § 316(a) of the Federal Water Pollution Control Act. Information with respect to the NPDES application for Indian Point Units 1 and 2 filed with EPA on September 10, 1974 was incorporated by reference.

On February 24, 1975, EPA Region II issued a final determination with respect to NPDES Permit No. NY 0004472 for Indian Point Units 1 and 2. This Permit will become effective on March 31, 1975 unless Con Edison requests and is granted an adjudicatory hearing under 40 C.F.R. Part 125. No draft or final NPDES Permit has yet been received with respect to Indian Point Unit 3.

9. Impact of Refusal of Buchanan to Grant Variance for Construction of Cooling Tower (Tr. 213).

In Con Edison's view, it is premature for the Board to consider the possibility that the Village of Buchanan may deny the request for a zoning variance for the construction of a cooling tower. No formal adverse action has been taken on Con Edison's variance request, and it would be unseemly for the Board to speculate on the results of this local government proceeding. Moreover, there is authority for the proposition that questions of compliance with local zoning ordinances should form no part of the Commission's deliberative process in discharging its licensing function, Industrial Waste Disposal Corp., 1 AEC 339, 410 (1960), motion to dismiss denied sub nom. Harris County v. <u>United States</u>, 292 F.2d 370 (5th Cir. 1961), and the Commission has held that its general practice is "to pursue its administrative procedures while other state and local proceedings are under way. " Wisconsin Elec. Power Co. (Koshkonong Units 1 & 2), CLI-74-45, RAI-74-12 928, 930 (Dec. 17, 1974); see also Jersey Central Power & Light Co. (Forked River Nuclear Generating Station, Unit 1), LBP-73-23, RAI-73-7, 550, 560 & n.81 (July 9, 1973), aff'd, ALAB-139, RAI-73-7, 535

(July 31, 1973).

While it is clear that the Nuclear Regulatory
Commission's jurisdiction is pre-emptive with respect to
state and local efforts to regulate matters of radiological
health and safety at utilization facilities, Northern States
Power Co. v. Minnesota, 447 F.2d 1143 (8th Cir. 1971), aff'd,
405 U. S. 1307 (1972), the question of pre-emption in the
area of thermal discharges (which were not within the AEC's
original jurisdiction, New Hampshire v. AEC, 406 F.2d 170
(1st Cir.), cert. denied, 395 U. S. 962 (1969), is still
obscure. Indeed, the traditional distinction between radiological health and safety, on the one hand, and environmental
protection, on the other, is one the utility of which this
very Board has questioned. Tr. 243.

Regardless of whether the Atomic Energy Act, as amended, would be held to pre-empt the action of the Village authorities, remedies are available under the law of New York, including an action for declaratory relief or a proceeding under Article 78 of the Civil Practice Law and Rules. Whether such actions would prevail must be a matter of speculation given the present status of the variance request.

Finally, if the Village of Buchanan refuses to grant the requested zoning variance, it will be open to Con Edison to move the NRC for relief from the license condition relating to alternative cooling systems.

10. Relationship of Indian Point Unit 2 and Unit 3
Plans for Quality Assurance, Physical Security
and Emergencies (Tr. 223, 241).

The Physical Security Plan, the Emergency Plan, and the Quality Assurance Program for Operating Nuclear Plants cover all three facilities at the Indian Point site. A separate plan in these areas does not exist for Indian Point Unit 3.

11. Financial Position of Con Edison (Tr. 222, 224).

A copy of a statement by Mr. John F. Cioffi,
Assistant Controller of Con Edison, is appended hereto as
Exhibit C. That statement supplements the Foster Associates report that was incorporated in the Regulatory Staff's
Supplement No. 1 to the Safety Evaluation Report for Indian
Point 3.

12. Explanation of Reference in Stipulation to Issuance of License by May 1, 1975 (Tr. 215-16).

The date "May 1, 1975," referred to by the Board, appears in the Stipulation in only one place. Paragraph

(b) of the proposed license condition set forth in paragraph 2 of the Stipulation provides in the final sentence:

"If this license is issued before May 1, 1975, the twelvementh deadline shall be June 1, 1976."

At the time the Stipulation was being negotiated by the parties, it was contemplated that Indian Point 3 would be ready to load fuel early in 1975 and that it might be ready to commence power operations prior to May 1, 1975. It was also anticipated that the withdrawal of requests for hearing by all parties would enable the Board to proceed expeditiously once it received the Stipulation. In short, it appeared to the parties that there was a possibility that either an interim license or a full-power, full-term license could be issued prior to May 1, 1975. The provision quoted above simply recognizes that possibility. It provides that Con Edison's obligation to proceed with due diligence to obtain the approval from other agencies required for a cooling

tower shall not commence prior to June 1, 1975, even if a license is issued earlier than May 1, 1975.

13. Con Edison Report To Be Filed in Indian Point Unit 2
Proceeding after 1974 Spawning Season (Tr. 214).

In accordance with the requirements of Operating
License No. DPR-26, a report on the results of the ecological
studies performed during 1974 (including assessment of the
results of the striped bass spawning season) will be filed with
the Commission in the Indian Point 2 docket and made publicly
available as soon as it is available. Data for the report
run through the end of calendar year 1974, and the reduction
and analysis require substantial time. At present, Con Edison
expects to have the report ready for filing on or about
July 1, 1975.

14. Con Edison Report To Be Filed in Indian Point Unit 2
Proceeding after 1974 Spawning Season (Tr. 214).

License No. DPR-26, a report on the results of the empirical study performed during 1974 (including the striped bass spawning season) will be filed with the Commission in the Indian Point 2 docket and made publicly available as soon as it is available. Data for the report run through the end of calendar year 1974, and the reduction and analysis require substantial time. At present, Con Edison expects to have the report ready for filing on or about July 1, 1975.

Applicant will be pleased to discuss the foregoing matters at the Board's next special prehearing conference.

Respectfully submitted,

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Partner

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March 10, 1975

UNITED STATES OF AMERICA NUCLEAR REGULATORY COMMISSION

In the Matter of)
CONSOLIDATED EDISON COMPANY	
OF NEW YORK, INC.) Docket No. 50-286
(Indian Point Station, Unit No. 3))

CERTIFICATE OF SERVICE

I hereby certify that I have this 10th day of March, 1975, served the foregoing document entitled "Applicant's Memorandum in Response to Inquiries by the Atomic Safety and Licensing Board" by mailing copies thereof first class, postage prepaid, and properly addressed to the following persons:

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