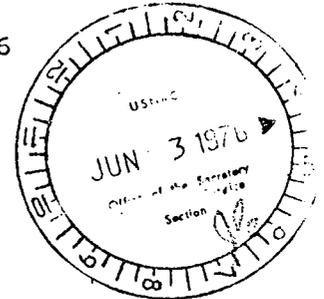


William J. Cahill, Jr.
Vice President

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

May 27, 1976



Director of Nuclear Reactor Regulation
ATTN: Director, Division of Site
Safety and Environmental Analysis
U.S. Nuclear Regulatory Commission
Washington, D.C. 20555

Re: Indian Point 2
Docket No. 50-247

Dear Sir:

Consolidated Edison Company of New York, Inc. (Con Edison) respectfully submits the annexed responses to comments you have received from others on the Draft Environmental Statement for Selection of Preferred Closed-Cycle Cooling System at Indian Point Unit No. 2 dated February 1976.

Sincerely yours,

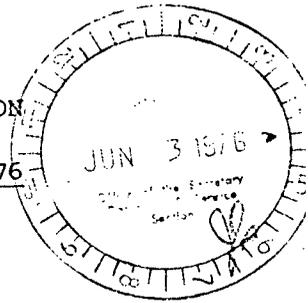
A handwritten signature in cursive script that reads "William J. Cahill, Jr.".

William J. Cahill, Jr.
Vice President

Enc.

8111070452 760527
PDR ADOCK 05000247
D PDR

CON EDISON'S RESPONSES TO COMMENTS
ON DRAFT ENVIRONMENTAL STATEMENT FOR SELECTION
OF PREFERRED CLOSED-CYCLE COOLING SYSTEM
AT INDIAN POINT UNIT NO. 2 DATED FEBRUARY 1976



1. Hudson River Fishermen's Association
Dated April 8, 1976

HRFA states that the May 1, 1979 date for termination of operation of the present once-through cooling system may not be extended without (1) an additional showing by Con Edison, (2) an environmental impact statement, and (3) a hearing. This ignores the terms of License No. DPR-26, as amended on May 6, 1974, and the proceedings which preceded it.

The license specifically provides that the May 1, 1979 date shall be postponed in the event of a failure to obtain all governmental approvals required to proceed with the construction of the closed-cycle cooling system by December 1, 1975. The schedule was discussed in great detail in testimony presented during the Indian Point 2 operating license hearings and was the subject of specific findings by the Licensing Board, which were reviewed by the Appeal Board. The May 1, 1979 date was established on the basis of proceeding as rapidly as practicable after obtaining all necessary governmental approvals. Accordingly, no additional showings are necessary.

The environmental consequences of such a delay were considered by the Appeal Board when it approved these licensing terms. HRFA implies that the May 1, 1979 date is fixed in concrete. The Appeal Board, however, said that flexibility is needed in setting this date. ALAB-188, p. 181. HRFA also ignores the fact that the Appeal Board rejected HRFA's analysis of ecological impact, and in comparing Con Edison's and the AEC staff's model, concluded that Con Edison's model "more nearly conforms to reality and is superior to the staff's model". ALAB 188, p. 130. These findings are based on extensive environmental analysis by the Appeal Board and on the evidence contained in the enormous hearing record in the Indian Point 2 license proceeding. This record is more than adequate to support the license conditions and in particular its provisions for extension of the May 1, 1979 date, and there is no requirement in either law or reason for an additional showing, an additional environmental impact statement or an additional hearing beyond the voluminous material previously submitted in the Indian Point 2 proceeding. Of course, Con Edison would be entitled to a hearing in the event the May 1, 1979 date were not deemed appropriately extended by the Staff.

2. Federal Power Commission
Dated March 22, 1976

Con Edison concurs in the comments of the Federal Power Commission that a summer outage would be undesirable. It should be noted that the origin of the summer outage lies in the Indian Point 2 operating license proceeding. In that proceeding Con Edison was asked to submit a schedule for constructing a cooling tower as rapidly as possible without considering any other factor, such as need for power supply. The schedule submitted showed a termination of operation with once-through cooling on April 1. Although minor adjustments to this schedule were made by the Licensing Board and the Appeal Board, this is essentially the schedule which became part of the license condition without any consideration being given to the impact of a summer outage on summer peak load.

3. Environmental Protection Agency
Dated April 14, 1976

A. Radiological Dose Estimates

The radioactive release estimates were originally prepared on the basis of limits set forth in Part 20 because Appendix I had not been promulgated as a final regulation at the time Con Edison submitted its report "Economic and Environmental Impacts of Alternative Closed-Cycle Cooling Systems for

Indian Point Unit No. 2" (the "Cooling Tower Report"). Con Edison has no objection to comparing the releases to the requirements of Appendix I to Part 50.

B. Noise Impacts

The information requested is contained in Appendix G to Con Edison's Cooling Tower Report.

C. Impact on Birds

A report on this subject has concluded that cooling towers less than 500 feet high would probably not be in migratory pathways except under unusual meteorological conditions. Temme, Jackson and Peterman, Environmental Studies Center, Semi-annual Report, Davis-Besse Bird Hazard Contract, December 1975. This report noted that another researcher (Mudge, J.E., 1975)* had found 424 birds recovered at the Three Mile Island Station during two years of monitoring. See also Rybak, Jackson and Vessey, Impact of Cooling Towers on Bird Migration, Bowling Green State University, Sixth Bird Control Seminar (1973).

We are not aware of any source of data which would permit computation of precise bird mortality rates at Indian Point.

D. Economic Impacts

EPA requested cooling tower costs in mills per kilowatt-hour in order to determine the economic impact on ratepayers. The

*Evaluation of Cooling Tower Ecological Effects -- An Approach and Case History, American Nuclear Society, 21st Annual Meeting, New Orleans.

purpose of the economic analysis was merely to compare alternative closed-cycle cooling systems. Furthermore, the purpose of a benefit/cost analysis is to compare total costs to total benefits to determine the net benefit to society as a whole. The costs or benefits to any particular member of society should not be part of this type of analysis.

Although mills per kilowatt hour and comparison to total plant and system generating costs could be computed, this would not determine the impact on ratepayers. Rate design does not spread costs equally among all classes of customers so that it is not possible to translate with precision any one item of system cost to an impact on any particular class of customer.

Con Edison because of its high costs, which result in high rates for electric service, must avoid all unnecessary operating costs. In a recent decision of the Public Service Commission granting Con Edison only approximately 26% of a rate increase requested, it was noted:

"... the economy of New York City is in an extraordinarily precarious condition, and high utility rates are one important reason. We refer here not merely to the effect of these utility rates on commerce and industry in the City, and, therefore, equally directly, on the levels of employment the companies in the City are able to provide, but also on the welfare of its inhabitants, many of them oppressed by depression, unemployment, and inflation, including inflation in

the rates they have to pay for such an essential service as electricity." Consolidated Edison Company of New York, Inc., Opinion No. 76-3, p. 6 (N.Y.P.S.C., February 27, 1976).

There is no question that the cost of cooling towers are very substantial additional costs.

EPA questions the cost of gas turbines of \$315/KW in 1979. The cost estimate cited by EPA of \$215/KW in 1981 appears to originate in an estimate submitted by Con Edison to the NRC in September 1972 with escalation at the rate of 5% per year. Con Edison's most recent estimate is that submitted in January 1976 in the report on the Economic and Environmental Impacts of Alternative Closed-Cycle Cooling Systems for Indian Point Unit No. 3, which shows a cost of \$330/KW in 1981. This latter number reflects the site and environmental related constraints on new gas turbine installations.

EPA states that its sources indicate that plant downtime for tying in a closed-cycle cooling system should not exceed 2-3 months. This subject was reviewed at the Indian Point 2 operating license hearings and the Con Edison testimony which explained the basis for the 7-month downtime was upheld.

EPA questions the inclusion of taxes in the cost estimates. Beyond question taxes are a cost and must be included in any calculation of total costs. The fact that they are

excluded as transfer payments for purposes of certain types of benefit/cost analyses on the theory that they are both benefits and costs at the same time is not determinative for a presentation of total costs. In any event, Con Edison presented the cost data with and without transfer payments in its Cooling Tower Report, p. 5-16.

EPA also notes the discrepancy between using present capacity of 873 MWe in some places and the future uprating capacity of 1033 MWe in other places. Con Edison agrees that the 1033 MWe number should be used in the Final Environmental Statement. The use of the 873 MWe number was very conservative.

4. Department of Commerce - National Oceanic
and Atmospheric Administration
Dated March 3, 1976

This Administration asked for inclusion of data on inversion frequencies in the evaluation of the meteorological impact of cooling tower plumes. These data have been analyzed by Con Edison and the results of the analysis were used for the cooling tower plume evaluations.

5. Department of Agriculture - Soil Conservation Service
Dated April 12, 1976

The Soil Conservation Service has stated that there

is a lack of discussion of the effects of drift on grasses and legumes (which can and do serve erosion control purposes). Since it was obviously impossible in the time allowed to analyze every botanical species indigenous to the region, species of known sensitivity to a saline aerosol were selected for experimentation. In the categories in question, the bush bean was chosen for analysis because of its extreme sensitivity to a saline aerosol. Tests were also performed on the black locust, which can be used for soil erosion control. Results were reported in Con Edison's Cooling Tower Report, Appendix E.

6. Department of the Interior
Dated April 26, 1976

The Department of the Interior requested additional information on the site plans for a park which will be disrupted by the construction of the cooling tower. The information requested is contained in Con Edison's Cooling Tower Report, pages 6-69 and 6-70.

The Department of the Interior also inquired as to the disposal of the excavated material. This matter has been under review, and present plans are for use of the excavated material to construct a road north of the site along the waterfront. Applications for permits will be filed shortly.

The Department also recommended that asbestos not be

used in the cooling tower construction. Asbestos would only be used in the construction of the cooling tower in the standard form of asbestos boards, which is a common construction material in use throughout the United States. A prohibition of the use of this material for cooling tower construction prior to any finding by an appropriate governmental body that its use is hazardous and should be discontinued would be highly discriminatory. Such a variance from standard construction practice would substantially increase the cost of construction.

The Department of the Interior also commented on the use of the Amertap system to clean condensers. This system is supplemental to chlorination and would not constitute a complete replacement. Con Edison will comply with EPA guideline effluent limitations for chlorine discharges.

7. Department of Environmental Conservation
Dated April 19, 1976

Cover Letter

DEC is correct that the analysis in the Final Environmental Statement should be based on the plant capacity of Unit 2, 1033 MWe. The use of the 873 MWe number was very conservative.

Comment 2

DEC requested information on the seismic design for

the cooling tower. The cooling tower is not a Class 1 structure and its failure would have no effect on nuclear safety. Safety considerations are discussed in Con Edison's Cooling Tower Report, pages 3-14 and 3-15.

Comment 3

See response 3.C above.

Comment 4

DEC inquired as to possible reduction of the "cut-in" time by performing work in earlier outages. This possibility was reviewed in the Indian Point 2 licensing proceeding. The Licensing Board accepted Con Edison's testimony that 7 months were required for the final outage and this finding was affirmed by the Appeal Board. (ALAB-188, April 4, 1974.)

The 7-month cut-in time is made up of 4 months for connection of the new system to the existing system and 3 months for completion of wiring, checkout of circuits, testing, startup tests and debugging. No work can be done during an earlier outage which would materially reduce the 4-month connection period.

Comments 7 & 8

DEC inquired as to plans for the disposal of excavated material. As noted above, present plans are to use the excavated material to construct a road north of the site along the waterfront.

Comment 18

DEC requested that beneficial use of the waste heat be considered. Con Edison has considered this possibility and has concluded that no such use is practical at Indian Point.

Comment 21

DEC suggests that land might be available for a spray pond in view of the size of the site. Sufficient useful land is not available on the site because of pre-existing uses of the site and constraints imposed by the topography of the site.

Comment 25

See response above to Comments 7 and 8.

Comments 27 & 30

DEC commented on the potential safety implications of the location of the cooling tower. Con Edison intends to locate the tower a distance from containment such that in the event of failure, no Class I structure would be affected. In the unlikely event of a failure of the tower shell, the failure mode would be an inward collapse similar to that which occurred at Ferrybridge, England.

Comment 31

DEC suggested use of the service water as cooling tower makeup. The service water will be used for the dilution

of chemical and radiological effluents. Any change in this plan will increase the cost of the program.

Comment 32

DEC noted the failure of the NRC staff to refer to certain permits.

Con Edison also noted the lack of reference to a state permit for an air contamination source. Such a permit, however, was received from DEC dated April 26, 1976. The permit had certain conditions to it which are now being reviewed by Con Edison.

It may not be necessary to obtain an SPDES permit or modification of the existing NPDES permit since discharges are expected to be within the limits of the present permit.

Recently developed plans do require permits for disposal of excavated material. Applications will be filed shortly.

Comment 45

DEC inquired as to the compliance of radiological effluents with Appendix I guidelines and EPA proposed standards. Con Edison expects that radiological effluents will comply with Appendix I guidelines and, therefore, will meet the proposed requirements of EPA.

Comment 53

DEC has noted the potential for qualification of the

cooling tower as a pollution control device. If Con Edison constructs the cooling tower, it will probably attempt to obtain certification of the tower as a pollution control device, exempt from real property taxation. Although it would seem that the tower should qualify for such exemption, this exemption is interpreted narrowly and we cannot be sure that it would be issued.

If the cooling tower qualifies as a pollution control facility, it would also qualify for Federal tax-exempt industrial development bond financing. These possibilities might reduce the cost estimates for taxes and interest but would not materially change the incremental generating costs.

8. Department of Housing and Urban Development
Dated April 22, 1976

The Department of Housing and Urban Development recommended that the Staff comment on whether the cumulative impact of at least two on-site closed-cycle cooling systems at Indian Point has been assessed. In view of the NRC Staff's position in the Indian Point Unit 3 FES that an additional closed-cycle cooling system should be built on this site and the data contained in the Indian Point Unit 3 cooling tower report filed January 30, 1976, Con Edison believes it is proper that the FES associated with the choice of an alternative closed-cycle

cooling system for Indian Point Unit 2 address the cumulative impact of two closed-cycle cooling systems at the Indian Point site.