

5-17-73

BEFORE THE UNITED STATES  
ATOMIC ENERGY COMMISSION

LED

In the Matter of )  
 )  
Consolidated Edison Company ) Docket No. 50-247  
of New York, Inc. )  
(Indian Point Station, Unit No. 2) )

APPLICANT'S MEMORANDUM IN SUPPORT OF  
PROPOSED FINDINGS OF FACT AND  
CONCLUSIONS OF LAW

At the conclusion of the evidentiary hearing in this proceeding it is important that the Board consider several salient points.

First, with regard to the record developed on radiological safety matters, Applicant has demonstrated that the operation of the Indian Point 2 facility will comply with the requirements of the Atomic Energy Commission's regulations and that there is reasonable assurance that the public health and safety will be protected. Throughout this hearing, the Board has required that the record be fully developed on questions pertaining to the safety of this facility and the contentions raised by the Citizens Committee for the Protection of the Environment. The

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intervenor's position remains essentially what it has been since the outset of the hearing, that is, that insufficient information is available on nuclear power reactors in general to allow Indian Point 2 to operate. That basic contention is translated at times into a request that the Board determine that inadequate "conservatism" exists in the design and construction of the plant or that the plant does not represent the "safest design". It is plain, however, that the intervenor's remedy lies with Congress -- where it is free to press for a moratorium on operation of nuclear power plants. Alternatively, CCPE can petition the Atomic Energy Commission to amend its safety criteria for the licensing of these facilities. Such contentions, however, are beside the point in this hearing, which is properly concerned with determining whether this particular plant has satisfied the requirements of existing law and regulations.

Turning to the environmental issues presented in this proceeding, the Board faces an entirely different kind of problem. There is no dispute among any of the parties whether the Indian Point 2 plant should commence productive operation with its once-through cooling system as soon as possible. Moreover, the parties generally agree that the

environmental effects of operating the plant need to be carefully studied; and that a detailed evaluation should be made of the environmental and economic benefits and costs of an alternative to the presently designed once-through cooling system.

The root question is whether unacceptable damage will be done to the Hudson River fishery during the next several years while studies to determine the true environmental impact of the plant, and the best measures to mitigate that impact, are carried out. Stated another way, should the consumers be burdened with a \$20 million per year bill for an alternative cooling system on the basis of an unverified, experimental mathematical model.

We submit it is not possible to determine on the basis of existing data that long-term operation of Indian Point 2 with once-through cooling will create an unacceptably adverse impact on the River. There are simply too many uncertainties, such as lack of knowledge about the basic life cycle of striped bass in the River, the extent of mortality caused by the plant, the size and character of the fish population involved and the role of the Hudson River to the coastal commercial and sports fishery.

The critical issue facing this Board is whether to require now that the public ultimately bear the very large financial burden of an alternative closed-cycle cooling system -- and the attendant esthetic and possible environmental disadvantages -- on the basis of speculation. We refer to such matters as blowdown and salt drift from a closed-cycle system. There must also be considered the huge size of a natural draft cooling tower, approximately 450 feet high and the same width, which will dominate the landscape around Indian Point and make the structure visible for many miles, assuming that the necessary permits can be obtained for its construction -- an assumption for which there is no reliable evidence and indeed some contrary indications in view of the May 9, 1973 letter to the Board from the Mayor of the Village of Buchanan.

NEPA requires that a rational attempt be made to ascertain the environmental costs and benefits of proposed action, and that if irreversible harm will not occur during short-term operation of Indian Point 2 an adequate opportunity be afforded to evaluate the benefits and costs of proposed alternative measures for reducing the environmental effects of operation. This is precisely the course of action recommended by Applicant. Is it necessary

to require that the environmental disadvantages of a closed-cycle cooling system be borne by the people of Westchester, Orange and Rockland Counties in order to prevent irreversible damage? Is it in the public interest and consistent with the balancing required by NEPA and the Calvert Cliffs' decision\* to impose a huge cost on the consumers without clear environmental advantages? The answer to both questions is clearly "no".

As a matter of logic, the Board should not require that this step be taken -- which clearly involves an "irretrievable commitment of resources" -- unless it is convinced by the evidence in this proceeding that:

- (1) the Mid-Atlantic fishery will be rapidly and irreversibly harmed by operation of the once-through cooling system,
- and (2) that a research program to evaluate the actual -- as opposed to speculative -- environmental significance of operating the present system cannot produce the necessary information quickly enough to permit steps to avert such damage.

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\*The National Environmental Policy Act of 1969 requires that environmental amenities and values "be given appropriate consideration in decisionmaking along with economic and technical considerations . . . ". § 102(2)(B) As stated in the Calvert Cliffs' case, "Congress did not establish environmental protection as an exclusive goal; rather, it desired a reordering of priorities, so that environmental costs and benefits will assume their proper place along with other considerations". Calvert Cliffs' Coordinating Comm. v. AEC, 449 F.2d 1109, 1112 (D.C. Cir. 1971).

On both of these points, we submit that the evidence justifies deferring the ultimate decision until not later than 1977 when Con Edison will have completed its research program on the Hudson River, and permitting operation of Indian Point 2 with its presently designed once-through cooling system until September 1, 1981.

The date of January 1, 1977 for conclusion of the ecological study program was based on the assumption that Indian Point 2 will be in operation, at least at the 50% of full power level, during the bass spawning season of 1973 and full operation from 1973 onward. If the plant should not be in operation during ecologically significant seasons during these initial years, Applicant may be required to continue the program beyond the January 1, 1977 date on the basis that it was not possible to obtain essential data. Since the plant would not have been in operation during ecologically significant periods, the impacts contemplated by the January 1, 1977 date would not have occurred. The date of September 1, 1981 is based on the assumption that the cognizant agency will have made a final determination by May 1, 1977 whether a single natural draft cooling tower system shall be constructed for

Indian Point 2. This allows four months for regulatory review of the results of the ecological study program. If there should be delay in that review, or if the regulatory determination should be challenged in the courts, Applicant might be required to request an extension of the September 1, 1981 date.

Applicant, with the advice of its consultants, has analyzed the probable impact of Indian Point plant operation upon the Hudson River fishery over the next decade and has concluded it will be neither substantially nor irreversibly adverse. In addition to the considered opinion of the qualified experts, this analysis includes a computer simulation model designed to predict the impact on the striped bass population from operation of once-through cooling. The model predicts a 2-4% reduction in annual recruitment as a result of operation of Indian Point Units 1 and 2 in contrast to the 7 to 50% reduction postulated by the Staff. The model also predicts that even after 10 years of operation of power plants on the River -- including the Bowline and Roseton Units -- the reduction in the total striped bass population does not exceed the order of 13%. This prediction assumes a relatively small degree of compensation -- a biological phenomenon

shown by expert testimony to be operative in all animal populations. It also makes more realistic assumptions concerning actual behavior of larvae in the River and the extent of mortality of entrained organisms than are set forth in the testimony of the Staff and the intervenors. The evidence submitted by Applicant also demonstrates that to the extent it is possible to quantify the benefits and costs in monetary terms, the environmental damage anticipated by the Staff and HRFA does not justify construction of an alternative cooling system.

NEPA also requires a realistic balancing of benefits and costs. It is inconsistent with that statute for estimates of environmental damage to be simplistically exaggerated when performing this balance. It is just such an analysis -- one which rests on innumerable unproven assumptions and misuse of data collected for other purposes -- which has been presented to the Board as justification for precipitate decisionmaking here. For example, absent data that can only be produced by Con Edison's research program, the Staff takes the position that it must make a plethora of unfounded assumptions including:

100% mortality of entrained organisms;

even distribution of striped bass eggs and larvae laterally and vertically in the estuary;

rate of migration of larvae past Indian Point;

80% contribution of the Hudson River to the striped bass population of the Mid-Atlantic;

no compensatory mechanisms;

an "endless belt" recirculation of larvae at the plants.

If the Staff should be wrong on any of these assumptions, it would have a crucial impact on the Staff's conclusion as to the impact of the plants on the striped bass fishery of the Mid-Atlantic.

Under these circumstances the Board should consider with particular care the competing estimates of environmental damage in light of the background and experience of the witnesses. In this respect, it is incontrovertible that Applicant's consultants represent as competent a group of expert biologists and engineers as can be assembled to address the complex problems facing the Board. Dr. Lawler, Dr. Lauer, Dr. Raney, Dr. McFadden and Dr. Stevens are all recognized and highly experienced scientists. The testimony of these men is based in many instances on personal, first-hand

experience with the Hudson River and the Indian Point power plants. To the extent there is uncertainty about the sharply divergent opinions expressed in this hearing, in reaching its decision the Board must carefully weigh the consequences to the public of making a premature judgment based upon inadequate data.

This leads to the heart of the problem. Given the competing estimates of environmental damage from the once-through cooling system, can a post-operational research program reasonably detect serious damage if it actually occurs before it is too late to remedy it? This is a critical question. If there is indeed damage to the fishery caused by the once-through cooling systems -- but it is merely temporary -- when properly quantified such damage could not logically justify the costs and other disadvantages of backfitting an arbitrarily-selected alternative to the present cooling system for Indian Point 2.

Neither the Staff nor the intervenors have presented probative and substantial evidence as to the irreversibility of damage which may occur to the fishery over the next 8 to 10 years while data are being collected which are essential to a rational decision here. Notwithstanding this fact, the Staff and intervenors argue that

there is both clear proof of prospective damage so substantial as to be irreversible and that it will not be possible to detect this damage actually occurring in time to avert it.

These arguments are patently contradictory and totally inconsistent with the willingness of the Staff and intervenors to postulate severe environmental damage on the basis of the presently inadequate data and mathematical modeling techniques. If the sort of damage predicted by the Staff and intervenors were actually to take place, it should be readily detectable by the program planned by Applicant, based upon the best scientific guidance available to the Company.

Applicant's research program is ambitious, but no more so than other important research undertakings and biological management systems. Applicant has clearly stated its willingness to modify the program in response to the advice of qualified experts. The data gathered in the research program will be public information and can be utilized by the AEC or other responsible Federal or New York State agencies in determining what should most appropriately be done, both at the end of the research program and during its progress. Thus, considered decisions

can be made at any time during the period of the program, or at the end thereof, without a serious risk of permanently harming the fishery. Even if the worst conceivable situation should occur and the existence of the Hudson River striped bass were actually jeopardized, restocking -- together with other remedial measures which are presently available -- could be utilized to restore the population.

The form of operating license submitted to the Board herewith contains the only condition which the Applicant proposes be included to protect environmental values. That condition reads:

"Operation of the facility with its presently designed once-through cooling system shall be permitted until September 1, 1981. Unless otherwise authorized by an amendment to this operating license following review of the results of licensee's ecological study program, operation shall be permitted after September 1, 1981 only if a closed-cycle cooling system shall have been installed by that date."

Applicant considers that the plan of action it has proposed to the Board clearly is in the public interest. It would permit the productive use of the Indian Point 2 plant coupled with a responsible program to study the true environmental impact, provide for the contingency that the best predictions are wrong, and analyze both interim and

permanent measures to mitigate environmental damage so as to reach the optimum balance of benefits and costs.

We urge the Board to determine that the record fully supports the issuance of the requested license to operate the Indian Point 2 facility.

Respectfully submitted,

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