



# United States Department of the Interior

OFFICE OF THE SECRETARY  
WASHINGTON, D.C. 20240

50-286

In reply refer to:  
PEP ER 73/1405

DEC 13 1973

Dear Mr. Muller:

Thank you for your letter of October 17, 1973, requesting our comments on the Atomic Energy Commission's draft environmental statement, dated October 1973, on environmental considerations for Indian Point Nuclear Generating Plant, Unit No. 3, Westchester County, New York.

## General

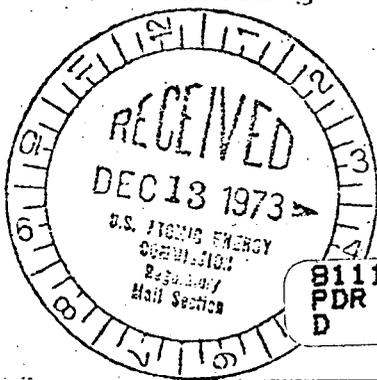
This Department is extremely pleased with the generally thorough and indepth coverage of the environmental effects which are expected to occur as a result of this project.

The indepth analysis performed by the AEC staff and the resulting conclusions and specific recommendations are evident throughout the document. The AEC deserves recognition for this outstanding draft environmental statement.

Our comments relate to several significant generic concerns for nuclear powerplants, the time required for the conversion to closed-cycle cooling, and other suggestions that would reduce the environmental impacts or improve the environmental statement. They are presented according to the format of the statement or according to specific subjects.

## Timing of the Closed-Cycle Cooling System

The regeneration cycle of many fish species of importance to sport and commercial fishing interests is long; for example, the striped bass require about 6 years. If the closed-cycle cooling system for Units 2 and 3 are not operating prior to May 1, 1978, the effects of once-through cooling would be experienced by striped bass and other



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aquatic organisms in the Hudson River through 1984. These effects could be devastating. We strongly recommend that AEC reconsider this deadline of May 1, 1978.

The applicant has been fully aware for years of the general concerns for adverse impacts on aquatic life, including those of the Atomic Energy Commission. It does not appear to be in the public interest to delay the closed-cycle operation of units 2 and 3 until 1978 if there is a reasonable possibility that such a system could be operating prior to this date.

Our letter of December 4, 1972, to you recommended the installation of closed-cycle cooling for unit 2 by July 1, 1975. It appears to us that if appropriate action had been undertaken at that time unit 3 could have begun its closed-cycle operation by the summer of 1976 rather than two years later.

Every effort should be made to minimize unnecessary further damage to the fishery resources of the Hudson River. Consideration should be given to requiring interim operation standards to be implemented at Indian Point. Criteria have been developed for the operation of the Bowline Point Generating Station downstream and across the river from Indian Point, which are designed to reduce the mortalities associated with impingement and entrainment during peak periods of fish activity in the area. Bowline Point criteria could be used as a model for criteria to be applied at Indian Point.

#### The Site

This section should be expanded to include a description of the existing and future proposed steam electric generating facilities which will be constructed by the utilities including the proposed pump storage project at Storm King. Other agencies such as the New York City Transit Authority have proposed development of additional steam electric powerplants. The City of New York is considering diversions of water for municipal and industrial purposes. Descriptions of these existing and future proposed projects are necessary to adequately describe the cumulative impacts of man's use of the Hudson River estuary.

### Geology and Geography

The brief description of geology and geography, presented on pages II-15 and II-16, is inadequate for evaluating whether the geologic and seismic conditions and the physical properties of the natural materials on which the plant is founded have been investigated in sufficient detail. The history of earthquakes in the region has been briefly summarized but the seismic-design criteria for plant construction and the methods of their derivation are not included. This inadequacy could be alleviated if the geology and seismology have been taken into account according to AEC's "Seismic and Geologic Siting Criteria for Nuclear Power Plants" (10 CFS 100, Appendix A, Federal Register, Vol. 36, No. 228, Nov. 25, 1971). If this has been done we suggest that it be indicated along with a reference to the AEC Criteria.

### Macroinvertebrates

Compared with extensive detail found in sections dealing with fish species, plankton, etc., the benthic section on macroinvertebrates and benthic organisms appears to be deficient. We suggest that this section recognize that due to pollution control programs, the quality of the water has improved in recent years. This is evident by the reappearance of blue crabs in the lower Hudson River in the vicinity of Indian Point.

### Impacts of Station Operation on Land Use

We have been aware of the applicant's intentions of providing recreation opportunities on its site for some time. It is indicated on page V-2 that a Master Land Use plan has been developed for the plant site and that the 80-acre woodland recreational facility will be available for public use. We are pleased with this planning and suggest that a description of these plans, including a timetable for implementation should be included in the final statement.

### Effects on Historical Landmarks

No existing or proposed units of the National Park System will be adversely affected by the proposal. It does not appear that any site registered as a National Historic, Natural, or Environmental Education Landmark or any site listed as eligible for such registration will be adversely affected.

We are pleased that evidence of consultation with both the Advisory Council on Historic Preservation and the State Historic Preservation Officer both of which reveal an effort to comply with Section 106 of the National Historic Preservation Act of 1966 and Executive Order 11593.

#### Thermal Effects on Water Uses

Anticipated impacts of thermal effluents on aquatic biota in the Hudson River appear to have been exhaustively analyzed. However, little or no information is included in the effect of the raised water temperature on other uses of the river water upstream and downstream from Indian Point, particularly at points between 90 and 120 miles downstream of Troy, New York. It is recognized that the effects will be partially inseparable from those of other powerplants such as the Lovett and Bowline fossil-fuel plants, and that the effects would presumably not be significant after May 1, 1978, when a closed-cycle cooling system would become operational. However, it is suggested that assurances be given that thermal effects evaluated in the statement include effects on other industrial uses of the water, particularly the important use of the water as a coolant.

#### Cumulative Impacts

We believe it imperative, when considering impacts on fish and wildlife resources, that all units operating or planned on the Hudson River estuary be considered. The fishery loss associated with steam-electric power plants withdrawing water from the river should be discussed more thoroughly. Such an overall analysis of impacts would be more informative than a discussion of only the Indian Point Nuclear Generating Station's impacts.

The principal emphasis of the biological impacts have related to the effects on striped bass resources. Many pages of testimony have been presented, both pro and con, as to the significance of thermal pollution, chemical impacts, entrainment, and impingement on the resources of the Hudson River. Much of this testimony is centered on whether or not installation of a closed-cycle cooling system is necessary to prevent unacceptable adverse effects on the striped bass population. The AEC has recognized and we concur that the effects on other species are equally as important although not as much information has been presented.

### Transmission Facilities

It is stated on page V-4 that chemical treatment shall be used only after consultation with recognized experts in this type of work. Since no specific chemicals are mentioned, it must be emphasized that the applicant should consult the Environmental Protection Agency, the New York Department of Environmental Conservation and the Bureau of Sport Fisheries and Wildlife of this Department when chemical control of vegetation or pests is contemplated.

### Sampling Methods

Three important considerations which tend to reduce the reliability of the fish count studies of impinged fish are discussed on page V-36. We suggest that a fourth factor be considered. The data collected in substantiation of air current use is suspect because, as pointed out by MRPC in their letter of July 16, 1973, to Consolidated Edison, the air current creates a positive outflow away from the screen. Fish which have already been damaged or killed by impingement are thus moved out into the river rather than onto the traveling screens to be enumerated. We understand that the applicant has designed studies to determine the extent of this problem.

It appears that the AEC staff has evaluated extensively the studies and study techniques accomplished at Indian Point. However, it appears that the efficiency of gear used in capturing various species of larvae, juvenile and adult fishes by various consultants who have worked on the river should receive additional consideration. Certain types of gear such as beach seines to enumerate striped bass may be found to be inappropriate.

### Chemical Discharges

Due to the recognized detrimental environmental impacts of chlorine on the aquatic environment, consideration should be given to the elimination of this element from powerplant effluents. Although an alternative biocide system is discussed on page X1-50, the feasibility of this alternative at Indian Point 3 is not given. We are aware that the discharge of chlorine after the closed-cycle cooling system is in operation will be greatly reduced.

### Solid Radioactive Wastes

The solid radioactive wastes are described as evaporator concentrates from the liquid waste processing system along with spent resins, filter sludges, air filters, miscellaneous paper and rags. It is estimated that about 1,000 drums, having an estimated total activity of approximately 4,900 curies, will be shipped offsite annually to a licensed burial facility at Morehead, Kentucky. We think that the impact evaluation would be greatly improved if it specified the kinds of radionuclides, their physical states, their concentrations in wastes, and the estimated total volume of wastes for the expected operating life of the plant.

We also suggest that the statement include an evaluation of the ultimate disposal sites for all radioactive wastes generated by Unit 3. The statement should also include Federal and State Licensing provisions, criteria, and responsibilities for the site in regard to : (1) determination of the hydrogeologic suitability of the site to isolate the wastes of the Indian Point Station from the biosphere; (2) surveillance and monitoring of the site; and (3) any remedial or regulatory actions that might be necessary during the period in which the wastes will be hazardous.

### Major Accidents

The environmental effects of Class 9 accidents which would result in both air and water releases of radioactive materials should be described along with the potential impacts on human life and the remaining environment as long as there is any possibility of occurrence. The consequences of an accident of this severity could have far-reaching effects on land and in the Hudson River estuary which could persist for centuries affecting millions of people.

The recent bulging of the steel liner for the containment used at Indian Point No. 2 dramatically displays the significant problems associated with nuclear plants and also the very real potential for major accidents.

### Alternative Fish Protection Measures

The second sentence, paragraph 2, page X1-51 should read 0.5 fps rather than 0.5 ppm.

Environmental Costs

The Pollution Committee of the American Fishery Society, Southern Division, in 1970 published a report entitled, "Monetary Values of Fish," which described cost of fish replacement. Although these values do not reflect the true environmental costs, they may be useful in arriving at a minimal dollar value of fish resources impacted by power-plants. As an example, replacement costs for white perch range from 5 cents per fish, 1 inch long up to 60 cents per fish, 12 inches long. These values are more appropriate to use than values of adult fish to the sport and commercial harvest because of problems relating to estimating the survival of fishes through various life history stages and the value of fish which have been incorporated into food webs. They would be of much more value than those values included in Table XI-15 which places a relative value on the magnitude of resource losses.

Table A-6

Footnote a. indicates that the river temperature at the mouth is 70°F. Data compiled by NOAA in National Ocean Survey publication 31-1, "Surface Water Temperature and Density for North and South America" indicates that the mean monthly temperatures near the Battery for the months of July and August have been 71.4°F and 73.2°F respectively.

We hope these comments will be helpful in the preparation of the final environmental statement.

Sincerely yours,

(Signed) William A. Vogely

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