UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
WASHINGTON, D.C. 20460

MAY 19 1975

OFFICE OF THE ADMINISTRATOR

Mr. Daniel R. Muller
Assistant Director for Environmental Projects
Division of Reactor Licensing
U.S. Nuclear Regulatory Commission
Washington, D.C. 20555

Dear Mr. Muller:

The Environmental Protection Agency has reviewed the final environmental impact statement for the proposed issuance of a license to Consolidated Edison Company of New York, Inc. for the operation of the Indian Point Nuclear Generating Plant, Unit 3 and has the following comments.

Pursuant to Section 402 of the Federal Water Pollution Control Act Amendments of 1972 (FWPCA), EPA issued the National Pollutant Discharge Elimination System (NPDES) permit for Indian Point Units 1 and 2 on February 8, 1975. The permit requires installation of a closed-cycle cooling system for Unit 2 based upon the Final Effluent Guidelines for Steam Electric Power Plants (published in the Federal Register on October 8, 1974) and review of information concerning Section 316(a) (thermal discharge effects) and Section 316(b) (cooling water intake design structure) of the FWPCA. The permit requires the company to cease once-through cooling for Unit 2 by May 1, 1979. Although closed-cycle cooling is not required for Unit 1, the permit requires the reduction of fish impingement for Unit 1 and includes applicable thermal water quality requirements for the combined discharge of Units 1 and 2. The permit also requires compliance with chemical limitations (by July 1, 1977 as required by the Act) based upon the Guidelines.

5604

Con Edison originally filed an NPDES permit application for the construction phase of Unit 3 with EPA on January 9, 1974. An application for discharges resulting from operation of Unit 3 was subsequently filed on July 9, 1974. A preliminary version of the Draft Permit for Indian Point Unit 3 has been sent to the New York State Department of Environmental Conservation requesting certification pursuant to Section 401 of the FWPCA.

Public Notice of the Draft Permit for Indian Point Unit 3 will be issued in the near future. Since Unit 3 will commence commercial operation after January 1, 1974, the Draft Permit will require the installation of a closed-cycle cooling system in accordance with the Guidelines. It should be noted that Con Edison has not requested alternative thermal limitations pursuant to Section 316(a) in a timely manner, as required by the Section 316(a) regulations. The company will be required to cease once-through cooling for Unit 3 by September 15, 1980, as required in the stipulation agreement to which the NRC, Save our Stripers, Con Edison, Hudson River Fisherman's Association, NYS Attorney General and NYS Atomic Energy Council were parties. It is anticipated that the requirements specified in the permits for Indian Point Units 1 and 2, Roseton, Danskammer, Bowline Point and Lovett and the forthcoming permit for Indian Point Unit 3 will greatly reduce the impact of Indian Point alone and the cumulative impacts with respect to impingement, entrainment, thermal and chemical discharges.

The effects of the three units comprising the Indian Point facility on the aquatic biota of the Hudson River are considered to be extremely severe in the present operating mode. The U.S. Environmental Protection Agency concurs with the NRC staff on the severity of the following problems:

1. Entrainment of aquatic biota, including phytoplankton, planktonic crustaceans, larval stages of benthic invertebrates, and the eggs, larvae and juveniles of many fish species will be severe. Species that are expected to incur substantial mortalities due

to entrainment include Neomysis (a mysid crustacean and an important constituent of the diet of many fish species), striped bass, white perch, tomcod, blueback herring, alewife and bay anchovy.

2. Impingement of fish on the intake screens of all three Indian Point units will result in an annual loss estimated by the applicant to be 2.6 million young-of-the-year fish. EPA is also concerned about the impingement of rare and endangered species of the Atlantic sturgeon.

3. Reductions of 21 to 32% of young-of-the-year striped bass per spawning season will occur due to the operation of all three units at Indian Point. Substantial reductions in the populations of other fish species such as white perch, tomcod, blueback herring, alewife and bay anchovy are also expected. These reductions increase drastically when the impact of the Bowline, Lovett, Danskammer and Roseton plants are considered.

4. The discharges from all three units will exceed the New York State thermal criteria under certain conditions and the possibility of violations of the criteria increases if the thermal discharges from the other plants are included with those of Indian Point.

5. EPA seconds the NRC's determination that the applicant supply actual measurements of plumes from Units 1 and 2. The EPA is aware of no extenuating circumstances that would preclude taking such measurements and making such data available.

While the final statement indicates a candid response to EPA's comments, the following comments are submitted for your attention:

1. Impingement will continue to be a major problem at Indian Point. Since the fine-mesh fixed screens must be regularly removed for cleaning, for what percentage of the time are they actually in place in front of Units 1 and 2? The applicant may wish to consider moving the travelling screens on Units 1 and 2 flush with the river and thus eliminating the forebays which may act as fish traps.

2. In response to EPA's concerns regarding extremely low summertime dissolved oxygen (DO) concentrations, the final statement references a value of 4.65 ppm for the lowest mean monthly DO concentration in the Indian Point region. It must be recognized that New York State regulations for class SB waters require a minimum of 5 ppm. In addition, mean monthly DO values are of little use in evaluating the effect of DO on fish life.

3. In response to our concern regarding chlorine discharge concentrations greater than 0.1 ppm, the final statement states that during December 1973, the residual chlorine at the discharge (of Unit 2) canal ranged from 0.1 - 0.3 ppm. It is clear that, in winter, biofouling occurs less frequently and the applicant chlorinates less. Winter concentrations of chlorine are, therefore, not of paramount significance as compared to summer conditions. Since Unit 2 operated during the summer of 1974, such data should be available.

4. The final statement's estimate of the survival rate for striped bass ichthyoplankton after passage through the cooling system seems highly optimistic. For example, short term survival probability for yolksac larvae is estimated at 0.4 and at 0.3 for nonscreenable juveniles. Long term survival is estimated at 10% lower than this. Considering thermal effects, chlorination, pressure changes, and mechanical damage plus a considerable retention time in a diffuser line with a 10 fps velocity, these figures certainly seem optimistic.

5. A conclusion is reached on page V-183 of the final statement that reductions in the fish populations (other than striped bass) in the Hudson River Estuary are not expected to be irreversible. In support of this conclusion, studies prepared by Texas Instruments, Inc. for Con Edison have been cited. The reversibility of the fish population reduction is based on a straight forward connection of consecutive data points. However, if these data points were analyzed by regression analysis, the line of best fit would show a pronounced downward trend (negative slope). In addition, such a result is confirmed by a study performed by New York University. Although this study was used in previous statements regarding the other Indian Point units, it is not acknowledged in this final statement.

We continue to share NRC's concern for the white perch population in the Hudson River. We are not sure, however, that it will survive once-through cooling at Indian Point until 1980 or 1982. All indicators seem to point downwards.

It is EPA's opinion that the degree of uncertainty of the data and mathematical models used in the Indian Point Unit 3 final statement suggest that the predicted environmental damage associated with the once-through cooling operation of all units at the facility could be severe. This raises concern about the acceptability of once-through cooling of Units 2 and 3 for up to seven years. The requirements of the NPDES permits for all Indian Point units will reflect EPA's concern for minimizing these impacts in the shortest period of time.

We would be pleased to discuss these comments with you or members of your staff.

Sincerely yours,

Rebecca W. Hanmer

for Sheldon Meyers
Director
Office of Federal Activities