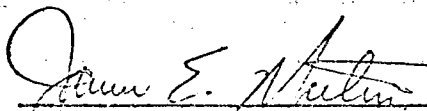


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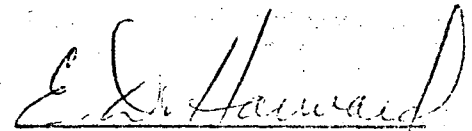
INDIAN POINT NUCLEAR GENERATING UNIT 2

Project Officer: Gerald Pliner

Reviewed By:

  
James E. Martin, Ph.D.  
Acting Chief  
Nuclear Facilities Branch

Approved By:

  
Ernest D. Harward  
Deputy Director  
Division of Environmental  
Radiation

September 1970

U.S. DEPARTMENT OF HEALTH, EDUCATION, AND WELFARE  
Public Health Service  
Environmental Health Service  
Bureau of Radiological Health  
Division of Environmental Radiation  
Nuclear Facilities Branch

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The evaluation presented in this report is directly responsive to the requirements placed on Federal agencies by the National Environmental Policy Act and as such is intended to state the position of the Department of Health, Education, and Welfare on the environmental effects of the operation of the facility. The report is also intended, in the traditional role of the Public Health Service, to provide information to the particular State health department involved for use in conducting their radiological health program for the facility.

## SUMMARY AND CONCLUSIONS

This report summarizes the conclusions drawn from an updating of two previous evaluations by the Public Health Service of the environmental effects of Indian Point Nuclear Generating Unit 2. The facility is a 2758 Mwt Westinghouse pressurized water reactor (PWR) that will be operated by the Consolidated Edison Company on the east bank of the Hudson River at Indian Point, Village of Buchanan, in Westchester, County, New York. This updating is based primarily on information supplied in the facility's Final Safety Analysis Report (FSAR),<sup>(1)</sup> including amendments 1-23, and the facility proposed technical specifications.<sup>(2)</sup> The Applicant's Environmental Report--Operating License Stage<sup>(3)</sup> has been reviewed, but was used only as a secondary source of information due to its lack of technical data. The conclusions drawn from this review are listed below:

1. The estimate of liquid radioactivity discharges (0.0252 Ci/yr exclusive of  $^3\text{H}$ ) for 1 percent defective fuel and the statement that radioactivity concentrations in the discharge canal will be 0.002 percent of maximum permissible concentrations are, in our judgment, not adequately documented. Current PWR operating experience indicates that both will be considerably higher and the applicant has not presented new design information to support lower estimated discharges.
2. The environmental statement does not, but should, contain a commitment by the company to use all radioactive waste treatment and

holdup systems to their fullest capacity in order to keep discharges as low as practicable. In meeting this objective we believe the gaseous waste holdup capacity should be expanded to 60 days minimum.

3. The proposed technical specification for the site gaseous waste discharge limit would be excessive if calculated by the method indicated by the applicant. Discharge limits for the Indian Point facility should also be applied to Consolidated Edison Nuclear Units 4 and 5 if these additional units are built at the proposed location about 1500 meters south of the Indian Point site.

4. The environmental surveillance program for the facility would be adequate if modified to include TLD's with a minimum sensitivity of 5-10 mr/month and gamma spectroscopy of drinking water and Hudson River and lake water samples.

5. At this stage of the construction of the plant the only alternative action is not to operate it, a choice that is unreasonable in view of the minimal environmental effects expected. Therefore, with the qualifications stated in this report, we are of the opinion that Indian Point Nuclear Generating Unit 2 can be operated along with Unit 1 without any significant impact on the environment and with minimal risk to public health.

#### RADIOACTIVE WASTE DISPOSAL

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Point plant should also be applied to Consolidated Edison Nuclear Units 4 and 5 if these additional units are built. We consider the location of Units 4 and 5 as being at the same site since the radioactive waste discharges from these two plants will result in radiation exposure to the same population group. The two sites are only 1500 meters apart, and will discharge radioactive materials to the same water and air environment.

Estimates for gaseous releases from Indian Point Unit 2 are based on a 45-day holdup. We believe that this capacity should be expanded to 60 days and that the applicant should commit himself to utilize this capacity to its fullest extent at all times. A 60-day holdup time was selected to achieve a reduction of short-lived nuclides such as I-131 to essentially zero. The remainder of the waste disposal system should be utilized to its fullest capacity in order to keep both liquid and gaseous releases from the plant to as low a level as practicable. This position is taken because: 1) gaseous releases during normal operations at Indian Point Unit 1 have been much higher than at other similar operating PWR's which could be interpreted to indicate that gaseous waste holdup was not used to its fullest extent,<sup>(4,5)</sup> and 2) the potential expansion of nuclear capacity at this location warrants a full commitment to use all systems for each unit to their capacity to keep the cumulative population doses as low as practicable.

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$$\sum_{u=1}^{u=3} \left[ f_u(x/Q)_u \times \sum \frac{R_i Q_{ui}}{MPC_i} \right] \leq 1$$

where  $u$  = an index for each of the three units onsite

$Q_{ui}$  = the average release rate from unit  $u$  of radioisotope  $i$

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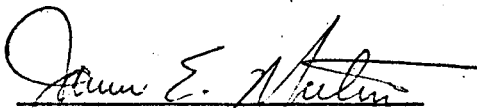
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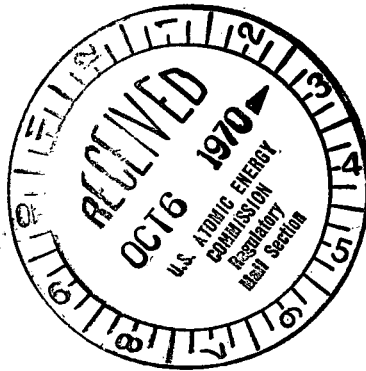


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Dept of Health, Education & Welfare.

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Harold L. Price

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raises the issue as to whether it would be more appropriate for the Commission to review and endorse environmental rpts as accurate and complete before submitting them to Federal agencies for review and comment

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