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R. DeYoung, Assistant Director for Pressurized Water Reactors, L

RADIOLOGICAL ASSESSMENT BRANCH SECTION 11.6, 12.1, and 12.2 INPUT TO SER

Plant name: Indian Point 3
Licensing stage: OL
Docket number: 50-286
Responsible branch: PWR - 1
Project Manager: H. Specter
Date request received by RA-L: 2/12/73
Requested completion date: 2/15/73
Description of response: Sections 11.6, 12.1 and 12.2 of Indian Point 3 SER
Radiological Assessment Branch review status: Complete

RAB input for sections 11.6 (Radiological Environmental Monitoring), 12.1 (Shielding), and 12.2 (Health Physics Program) of the Indian Point 3 Safety Evaluation Report is attached.

This input was generated by S. Block and W. Kreger.

61.
Harold R. Denton, Assistant Director
for Site Safety
Directorate of Licensing

Enclosure:
As stated

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DATE ▶	2/15/73	2/15/73	2/16/73	2/ /73		

11.6 Radiological Environmental Monitoring

A pre-operational radiological environmental monitoring program has been in effect at the Indian Point site since 1958. Consequently, more than fifteen years of baseline data will be available prior to unit 3 start up which can be used to predict and evaluate the potential effects of plant operation.

The proposed unit 3 monitoring program includes sampling of airborne particulates and radioiodines, lake and well water, drinking water, Hudson River water, Hudson River bottom sediments, soil, aquatic and land vegetation, milk and Hudson River fish. The program also includes gamma spectroscopy of drinking water, Hudson River water and lake water. Tritium analysis is performed on drinking water. Airborne particulates are sampled at 21 stations which are located generally within 3 miles of the plant. In addition, direct measurements of gamma background are made annually at selected areas within a 5 mile radius of the plant. Thermoluminescent dosimeters (TLD's) are also located at specified off-site locations as well as at a number of points on the site perimeter, for the purpose of measuring ambient radiation levels. The program described above conforms with the basic principles set forth in Regulatory Guide 4.1 for measuring and reporting radioactivity in the environs of nuclear power plants.

We conclude that the radiological environmental monitoring program as defined in the FSAR is acceptable.

12. Radiation Protection

12.1 Shielding

The radiation shielding and expected personnel occupancy factor are designed to allow plant operation at the maximum calculated power levels with 1.0% fuel defects without exceeding radiation doses permitted by 10 CFR Part 20 for both occupational and non-occupational personnel. The shielding for the Indian Point 3 plant is similar to other pressurized water reactors, from which considerable operating data have been obtained. On the basis of our comparison of the Indian Point 3 shielding design with that of other such plants, we conclude that the shielding is adequate to protect the health and safety of the public and operating personnel.

12.2 Health Physics Program

Radiation protection operating experience gained at Indian Points 1 and 2 is being used to benefit the planned radiation safety program of Indian Point 3. The personnel monitoring program, the protective equipment that will be supplied to operations and maintenance personnel, and the portable radiation monitoring equipment and laboratory equipment available for day to day use are designed to insure that occupational exposures are maintained within the established guidelines of 10 CFR 20. The administrative controls and procedures, as well as the organization and staffing for carrying them out, are appropriate for implementing the rules and regulations set forth in 10 CFR 20. As a result of these factors, we conclude that the Health Physics program is acceptable.