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Richard DeYoung, Assistant Director for Pressurized Water Reactors, L  
RADIOLOGICAL ASSESSMENT BRANCH SECTION 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: 4/30/73  
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Description of response: Section 12.2 of Indian Point 3 SER  
Review status: Complete

RAB input for section 12.2 (Ventilation) of the Indian Point 3 Safety Evaluation Report is attached. The section 12.2 previously submitted (March 2, 1973) for the Health Physics Program should be changed to Section 12.3. We are recommending that a total of three continuous particulate monitors with remote readout provisions be installed in areas of routine occupancy so that control of inhalation of radioactive materials will not be completely dependent upon periodic surveys with portable instrumentation.

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

Original signed by  
H. R. Denton

Harold R. Denton, Assistant Director  
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Enclosure:  
As stated

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DATE		5/24/73	5/24/73	5/24/73	5/23/73	

## 12.2 Ventilation

The Indian Point-3 Station ventilation system is designed to provide a suitable environment for operations personnel. The primary Auxiliary Building Ventilation System allows control of flow direction of airborne radioactivity from low activity areas to higher activity areas in accordance with recommended practice. Also, the Control Room Air Conditioning, Heating, and Ventilation System is designed to permit removal of airborne particulate radioactivity from the air entering the air conditioned control room. The Ventilation system is designed to vent all compartments potentially containing airborne radioactivity to the outside.

The gaseous and particulate radioactivity monitoring system is designed to provide radiation detection equipment to provide adequate information and warning to assure that personnel exposures do not exceed 10 CFR 20 limits and to meet the intent of 10 CFR 50 criterion 64 on monitoring radioactivity releases. Included in the proposed functions of the system are: to warn operating personnel of any radiation health hazard that might develop and to give early warning of a plant malfunction which might lead to a airborne inhalation hazard.

In the Indian Point Unit 3 design, airborne gaseous and particulate radioactivity are only monitored continuously in the plant vent, the containment system and the air ejector off gas system. These fixed monitoring stations function primarily to monitor effluent releases and plant processes. They are not effective for assuring inplant control of personnel exposures. In-plant monitoring for radioactivity in air at Indian Point Unit 3 is principally performed using portable gas and particulate monitoring equipment of which the station has some 15 units. The staff feels that the guidance established in the Regulatory Guide 8.8 "Information Relevant to Maintaining Occupational Radiation Exposures As Low As Practicable -- (Nuclear Reactors)" should be applied to the IP-3 situation. Section C.3k, "Facility and Equipment Design" states that "whenever practicable, radiation and airborne contamination monitoring equipment with remote readout will be included in areas to which personnel normally have access (where special conditions warrant, portable instrumentation may be substituted)." To conform with this guidance, as well as that of ICRP 12,\* the applicant should include the following compartments in a fixed gaseous and particulate radioactivity monitoring program; the radwaste area, the fuel handling and storage area, and the control room. It is our opinion that the addition of these three fixed monitors coupled with Health Physics procedures on use of portable air and gas monitors will provide an adequate air monitoring program for in plant personnel radiation protection.

\*ICRP

General Principles of Monitoring for Radiation Protection of Workers"

SURNAME ▶

DATE ▶