

**John D. O'Toole**  
Vice President

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July 20, 1984

Re: Indian Point Unit No. 2  
Docket No. 50-247

Director of Nuclear Reactor Regulation  
U. S. Nuclear Regulatory Commission  
Washington, D. C. 20555

ATTN: Mr. Steven A. Varga, Chief  
Operating Reactors Branch No. 1  
Division of Licensing

Dear Mr. Varga:

Transmitted as Attachment 1 to this letter are responses to the questions contained in your letter dated May 29, 1984 on external flooding conditions for Indian Point Unit No. 2.

Should you or your staff have any questions, please contact us.

Very truly yours,



attach.

cc: Senior Resident Inspector  
U. S. Nuclear Regulatory Commission  
P. O. Box 38  
Buchanan, New York 10511

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Attachment 1

Question

1. Describe the plant's operating procedures for initiating action for various conditions of the Hudson River water level cited in your letter of February 14, 1983 (IP-2 to NRC).

Response

Con Edison has an Abnormal Operating Procedure (AOP) A-25-A "Plant Flooding - Conventional Side", which describes the actions to be taken for different Hudson River water levels. The following actions are to be taken upon increasing river water level:

- (1) Examine seals on the service water piping and conduit for leakage as river water levels approach 8'-6" mean sea level (msl) and 13'-6" msl, respectively. Seals on piping and/or conduit will be tightened upon observing leakage. These and other protective measures for the service water valve and strainer pit are specified in the procedure for equipment protection purposes, since service water pumps will continue to operate; and
- (2) Ensure the doors and louvers on both the Primary Auxiliary Building entrance from the transformer yard and the Auxiliary Boiler Feedwater Building entrance also from the transformer yard are closed if the river water level exceeds 15'-0" msl.

AOP A-25-A and the IP1 & 2 Emergency Plan also describe when the appropriate classification of emergency shall be declared based on river water level. A Notification of Unusual Event would be declared when the river water level exceeds 13'-11" msl. An Alert would be declared when the river water level equals 15'-0" msl and a Site Area Emergency would be declared when the river water exceeds 15'-0" msl. Thus a Site Area Emergency would be declared before the river water level reaches 15'-3" msl.

Question

2. Are the service water pumps for IP2 required in hot and cold shutdown conditions? If so, what provisions are available to protect the service water pumps for water levels including wave action in excess of 15'-3" msl?

Response

During hot and cold shutdown conditions, the service water pumps are required to operate to maintain the dissipation of reactor fuel decay heat to the Hudson River.

The only components of the service water pumps that would be affected by a flood are the service water pump motor and the electrical terminal box that connects the service water pump to its power supply. The terminal box is located at elevation 18'-8" msl and the bottom of the pump motor is located at 17'-5" msl. These components are located at high enough elevations so that they are protected from any credible wave action in excess of 15'-3" msl. Further, since a Site Area Emergency with all its attendant emergency response support would be activated prior to reaching 15'-3" msl (See response to Question 1), no other precautions need be taken to protect the service water pumps from high river water levels. (See also response to Question 5)

Question

3. Are the IP2 service water pumps identical to those for IP3? If not, describe the difference.

Response

With regard to flooding, the six IP2 service water pumps are identical to the corresponding IP3 pumps in location (with respect to each plant) and function, but the pumps were made by different manufacturers.

Question

4. Define minimum flood protection level for each of the safety-related facilities.

Response

The following are the minimum flood protection levels for each safety-related facility:

<u>Safety-Related Facility</u>	<u>Level (Elev.)</u>
Diesel Generator Building	72'
Fuel Storage Building	70'
Service Water Pump Area	17'-5"
Control Building	15'-6"
Turbine Hall	28'
Primary Auxiliary Building	19'
Auxiliary Feedwater Building	19'-8"

Question

5. Indian Point 3 has a Technical Specification (3.12) requiring action when water levels in the Hudson River exceed El. 11'-0" msl. What additional flood protection does IP2 have that would preclude the necessity of similar Technical Specifications?

Response

Actions to be taken by Con Edison when the Hudson River water level approach 8'-6" msl and higher river water levels are described in an Abnormal Operating Procedure (See response to Questions 1 & 2). Based on a detailed study performed for the IP2 Final Safety Analysis Report (FSAR) and further supported by the Indian Point Probabilistic Safety Study (IPPSS), Con Edison believes tha the likelihood of the river water level in the Hudson River reaching 15'-0" msl is very small. Even if the river water level rises to above 15'-6" msl, the only safety-related equipment that could be affected would be the 480V switchgear located at elevation 15'-6" msl in the Control Building. If the 480V switchgear is lost, IP2 has the Alternate Safe Shutdown System which would not be affected by such flooding (refer to NRC Safety Evaluation Report, dated 12/18/80) to safely shutdown the reactor. Since the likelihood of the river water level rising to 15'-0" msl is very small, the probability of the river water level ever rising to 17'-5" msl is negligible. Therefore, with procedures in place to respond to such improbable events, should they occur, no other precautions are needed for the service water pumps or any other safety equipment, and Con Edison believes such Technical Specifications for flooding are unwarranted for either IP2 or IP3.