Peter Zarakas
Vice President

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4 Irving Place, New York, NY 10003
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July 30, 1980

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

Director of Nuclear Reactor Regulation
ATTN: Mr. Steven A. Varga, Chief
Operating Reactors Branch No. 1
Division of Licensing
U. S. Nuclear Regulatory Commission
Washington, D. C. 20555

Dear Mr. Varga:

As required by your June 13, 1980 letter which forwarded the NRC Regulatory Staff's interim safety evaluation of the Indian Point Unit No. 2 auxiliary feedwater system, the Attachment to this letter provides the design information regarding those modifications addressed in Sections C.2 and C.4 of that safety evaluation. In accordance with the requirements of the Director's February 11, 1980 Confirmatory Order, these modifications will be completed by August 11, 1980.

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

Very truly yours,

Peter Zarakas
Vice President

attach.

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ATTACHMENT

I. Design of the AFW System automatic initiation signals (Ref: Section C.2, Recommendation GL-5, of the June 13, 1980 NRC Interim Safety Evaluation):

Recommendation GL-5 of the NRC's Bulletins and Orders (B&O) Task Force is identical to the long-term requirements of the TMI Lessons Learned Task Force Recommendation 2.1.7a. By letters dated October 17, 1979, November 20, 1979, December 14, 1979 and December 31, 1979, Con Edison provided its response and commitments regarding Recommendation 2.1.7a. In addition, Con Edison responded by separate letters dated December 19, 1979 and April 14, 1980 to B&O Task Force requests for information regarding Recommendation GL-5.

By August 11, 1980, modifications will be completed which will upgrade the Indian Point Unit No. 2 auxiliary feedwater system automatic initation signals and circuits to meet safety-grade requirements. The basic design approach for the planned modifications is to establish two independent and separate logic trains for auxiliary feedwater initiation. One logic train will be associated with motor-driven auxiliary feed pump no. 21 while the second logic train will be associated with motor-driven pump no. 23. Each of these two logic trains will be powered from separate D.C. batteries. Actuation signals for turbine-driven auxiliary feed pump no. 22 will be developed from both of these logic trains through an interposing circuit powered from a third D.C. battery.

The details of the planned circuitry modifications are shown on the following enclosed drawings:

(1) UE&C Drawing No. 9321-LL-3118, Sheet No. 1
(2) " " " " " " , Sheet No. 1A
(3) " " " " " " , Sheet No. 15
(4) " " " " " " , Sheet No. 16
(5) " " " " " " , Sheet No. 17
(6) " " " " " " , Sheet No. 20
(7) " " " " " " , Sheet No. 20A
(8) " " " " " " , Sheet No. 21
(9) " " " " " " , Sheet No. 21A
(10) " " " " " " , Sheet No. 22

II. Design of the independent power supplies to the valve position controllers (Ref: Section C.4, Plant Specific Recommendation (Long Term) No. 2, of the June 13, 1980 NRC Interim Safety Evaluation):

This long term plant specific recommendation of the B&O Task Force was described in NRC letters dated November 7, 1979 and March 5, 1980. The auxiliary feedwater flow regulating valve position controllers are all powered from the same non-Class IE power supply and fail open on loss of air or power to the controllers. Although these valves do fail to their safe position on loss of the common power source, the B&O Task Force has required that, for the long term, the power supplies for the valve controllers should be transferred to Class IE power supplies and upgraded to meet safety-grade requirements.

By August 11, 1980, modifications will be completed which will supply the auxiliary feedwater regulating valve position controllers from Class IE power supplies. The individual valve power supplies were assigned to assure independence and redundancy as well as unitization between the auxiliary feedwater pump trains.

Each motor-driven auxiliary feed pump will be "unitized" with its associated regulating valves. Motor-driven pump no. 21, which feeds steam generators 21 and 22, is powered from 480V Bus 3A which in turn can be powered from diesel generator no. 22. The pump 21 regulating valves to steam generators 21 and 22 (FCV-406A and B, respectively) will both be powered from Class IE Instrument Bus 23 which is normally powered from 480V Bus 3A and utilizes battery no. 23 as an emergency backup power supply. The battery charger for battery no. 23 is also normally powered from 480V Bus 3A. Motor-driven pump 23 and its associated regulating valves (FCV-406 C and D) to steam generators 23 and 24 will likewise be modified. Since pump 23 is powered from 480V Bus 6A/Diesel Generator no. 23 both regulating valves will be powered from Class IE Instrument Bus 24/battery no. 24 which in turn are powered from 480V Bus 6A.

Since the turbine-driven auxiliary feedwater pump no. 22 can supply all four steam generators, each of the four associated regulating valves will be powered from a different Class IE Instrument Bus (all with emergency battery backup power) for maximum redundancy and flexibility. In addition, although the steam supply pressure control valve (PCV-1139) to the turbine-driven pump no. 22 is presently powered from a Class IE D.C. power source (Battery 22), it will be transferred to the battery no. 21 D.C. power source. This will unitize the turbine-driven pump pressure regulating valve with the CCR speed indicator for the pneumatic turbine speed hand controller (HCV-1118) which is also powered from D.C. battery 21 via Class IE Instrument Bus 21. Consequently, all steam supply control for the turbine-driven pump will now be normally powered via the 480V Bus 5A/Diesel Generator No. 21/Instrument Bus 21/Battery no. 21 power train.

The details of the planned modifications are shown on the following enclosed drawings:

(1) Con Edison Drawing No. A208502-0.
(2) UE&C Drawing No. 9321-LL-3118, Sheet No. 21.

The modifications detailed above will provide safety-related Class IE power supplies to the auxiliary feedwater regulating valve position controllers as required. In addition, the power supplies have been selected and modified such that the three trains of auxiliary feedwater are unitized to the maximum extent possible. The power supplies for the pump regulating valves have been selected to match the availability of the valves with the availability of their associated pumps and with the availability of respective steam generator level and auxiliary feedwater flow indications already powered from the four Class IE instrument buses.