John D. O'Toole
Vice President

Consolidated Edison Company of New York, Inc.
4 Irving Place, New York, NY 10003
Telephone (212) 460-2533

June 22, 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:

By letter dated April 2, 1984, we provided plant specific design information relating to the proposed modification of the reactor trip breakers to provide automatic actuation of the shunt trip attachment. In a telephone conference on May 24, 1984 between Messrs. Polk, Dunning and Trehan of your staff and members of the Con Edison staff, Mr. Dunning requested additional clarifying information concerning the proposed modification, as follows:

1. verification that the operability of the control room manual reactor trip switch contacts and associated wiring to the shunt and undervoltage trip attachments would be independently tested prior to start up after each refueling,

2. verification that the shunt and undervoltage trip devices would be tested in a manner that would individually verify the operability of each device

3. clarification of the use and relevance of the red test verification lamp on the RPS panel.

Attachment A to this letter contains our response to Mr. Dunning's request.

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

Very truly yours,

John D. O'Toole
Vice President

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

Attachment A

Response to NRC's May 24, 1983 Request for Additional Information Concerning Testing of the Reactor Trip Breaker Automatic Shunt Trip

Consolidated Edison Company of New York, Inc.
Indian Point Unit No. 2
Docket No. 50-247
June, 1984

At present, Indian Point Unit No. 2 test procedure PT-R51, Revision 1, provides for independent testing of the shunt and undervoltage trip devices from the manual reactor trip switches in the Central Control Room. The test methodology serves to independently verify the operability of the manual reactor trip switch contacts and associated wiring required for operation of the shunt and undervoltage trip devices. This test is performed at each refueling outage prior to unit startup. No changes to this test procedure will be required to satisfy NRC positions following installation of the automatic shunt trip modification.

With both reactor trip breakers open, the manual reactor trip switch on the flight panel is held in the depressed position. This action deenergizes the MT 2X auxiliary relays in each train. Deenergizing the MT 2X relays in each train results in completing the reactor trip logic matrices in each train. With the logic matrices completed through the reactor trip relay contacts (RT-11, RT-12) the undervoltage trip devices in each train are deenergerized. Deenergizing the undervoltage trip device actuates a relay which is in parallel with the undervoltage trip device in each train. That relay actuates a red test lamp on the RPS panel indicating loss of voltage and deenergization of the undervoltage trip device, thereby verifying the operability of the manual reactor trip switch contacts. The test is repeated in the same manner for the manual reactor trip switch on the supervisory panel. Although the shunt trip will operate from a second deck of switch contacts on each manual reactor trip switch when the manual switch is depressed, the lighted red test lamp provides verification that power to the undervoltage trip attachment has been interrupted. In addition, all four breakers are tripped from the undervoltage trip device on a monthly basis.

Verification of shunt trip actuation and the operability of its associated manual reactor trip switch contacts and wiring is accomplished in the following manner:

> With the reactor trip breakers in the closed position, the MT 2X relays in each train are manually prevented from changing state. This action prevents deenergizing the undervoltage trip devices when the manual reactor trip switch is depressed. The reactor trip switch on the flight panel is then momentarily depressed and released, energizing the shunt trip device on each breaker. With breaker actuation from the undervoltage trip devices manually inhibited, verification of shunt trip actuation is obtained by observing a change in breaker status (to the trip position) on the red/green breaker position indicating lights located on the flight panel in the Central Control Room. The test is repeated for the manual reactor trip switch on the supervisory panel. In this manner, the shunt trip devices on each reactor trip breaker, and their manual reactor trip switch contacts and associated wiring, are verified operable independent of the undervoltage trip devices.

In addition to the testing described above, following installation of the automatic shunt trip modification, existing Indian Point Unit No. 2 test

procedure PT-M14A, which provides for monthly testing of the reactor trip system logic, will be revised to provide for monthly testing of the automatic shunt trip function from the newly installed shunt trip relays (ST&ST-1). That testing is expected to be consistent with the generic Westinghouse Owners Group (WOG) test procedure and will provide for independent testing of the shunt and undervoltage trip devices from the reactor trip logic. While the testing previously described will provide for verification of the manual reactor trip switch contacts on a refueling cycle frequency, exercising the manual reactor trip switch contacts on a monthly basis cannot be accomplished without tripping the reactor and is therefore precluded. Consistent with the WOG generic test procedure, we plan to revise the monthly testing contained in test procedure PT-M14A to provide for independent verification of the automatic shunt and undervoltage trip devices in the following manner:

> With the bypass breaker in parallel with the reactor trip breaker to be tested racked in and closed, the auto shunt trip block pushbutton will be held in the depressed position, thereby preventing an automatic trip through the shunt trip device. With the auto shunt trip block pushbutton held in the depressed position the automatic shunt trip test switch will be depressed and the breaker verified to remain in the untripped condition. This action will verify that the automatic shunt trip is blocked in order to permit independent testing of the undervoltage trip device. With the auto shunt trip block switch maintained in the depressed position, a reactor trip signal will be initiated from the reactor trip logic, thereby tripping the breaker from the undervoltage trip device only. Trip verification will be by means of the red/green breaker position indicating lights on the flight panel. Following breaker reclosure, the auto shunt trip test pushbutton will be depressed, initiating breaker trip through the shunt trip device only. Verification that the trip breaker opens will again be by means of the red/green breaker position indicating lights. In this manner independent verification of the automatic shunt and undervoltage trip functions will be achieved. The test will be repeated for the other breaker.