Consolidated Edison Company of New York, Inc.
Indian Point Station
Broadway & Bleakley Avenue
Buchanan, New York 10511-1099

December 9, 1987

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

William V. Johnston, Acting Director
Division of Reactor Safety
U.S. Nuclear Regulatory Commission
Region I
631 Park Avenue
King of Prussia, PA 19406

SUBJECT: Inspection Report No. 50-247/87-23

Pursuant to the provisions of 10 CFR 2.201, we are hereby submitting a response to the Notice of Violation contained in the subject inspection report. An enclosure to this letter identifies the violation, describes our corrective actions, and delineates when full compliance was or will be achieved.

A full inspection of the EQ electrical splices was undertaken during the current refueling outage. The results of this inspection program were discussed with the NRC on December 1, 1987 in a meeting at your Region I office.

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

Very truly yours,

Stephen Bram
Vice President
Nuclear Power

Enc.

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ENCLOSURE

Violation 50-247/87-23

10 CFR 50.49 paragraphs (f) and (g) require that each item of electrical equipment important to safety be qualified and that qualification must be completed at a time no later than November 30, 1985.

1. Contrary to the above, on August 21, 1987, the inspector identified that the qualification documents used by the licensee to support the qualification of Raychem Model No. STICKY, SCL, TSC, and WCS cable splices do not contain sufficient evidence to demonstrate their qualification. The low insulation resistance during the test was not adequately addressed.

2. Contrary to the above, on August 20, 1987, the inspection identified three Raychem splices, in the Safety Injection pump room, which were installed over cable braiding on one end of each splice. Qualification for this type of installation was not established.

Response

Numbered paragraph 1 of the violation cites the leakage current analysis for Raychem Sticky SCL, TCS and SFR cable splices ("old" Raychem splices) as contained in the qualification documentation. The applicable test report contained various groups of test specimens which were aged and irradiated to various radaition levels before being subjected to the LOCA steam environment.

The leakage current analysis used the lowest insulation resistance (IR) value obtained for the group of test specimens considered representative of Indian Point Unit 2. This group was selected as it was irradiated to a level that matched the applicable IP-2 radiation level qualification requirement. The analysis also appropriated the contribution of various components in the test set-up (namely, the splices and the cables) on an equivalent basis in order to derive the effective IR value for the splice.

During the inspection the NRC inspector stated that in his view, for the purpose of conservatism, the lowest IR value obtained for all groups of specimens should be used in the leakage current calculation, and the contribution of various components should not be appropriated on an equal basis.

At the end of the subject inspection the leakage current analysis was revised to incorporate the lowest applicable IR value obtained for all groups of specimens, irrespective of the level of irradiation. The contribution of the splice and cable IR values was also separately accounted for instead of averaged. A JCO was written and submitted to the NRC on August 27, 1987. The revised leakage current analysis was also transmitted to the NRC at the same time. In as much as the

revised leakage current calculation increased the contribution to the loop error stemming from adverse environmental factors, the Indian Point Unit 2 Emergency Operating Procedures (EOP) were revised via a Temporary Operating Instruction (TOI) to allow for additional error in the instrument setpoint. The TOI was instituted on August 28, 1987. A formal EOP setpoint document revision will be completed before the unit achieves criticality at the end of the current outage.

With respect to numbered paragraph 2 of the violation, we concur with the observation that Raychem splices were installed over cable braiding in the Safety Injection Pump room in a manner which did not comply with Indian Point Unit 2 Electrical Workmanship Standard EI-6009. The EQ documentation also did not address qualification of this particular configuration. Subsequent to this inspection we have updated the qualification documentation for cable splices to address qualification of Raychem heat shrink tubing installed over cable braiding in the Safety Injection pump room.

The splices referred to in the violation were considered to be qualified for their application, hence no safety concern existed. However, we have replaced them with qualified Raychem heat shrink tubing in accordance with Electrical Workmanship Standard EI-6009. To prevent occurrence, additional QA hold points have been instituted to insure compliance with EI-6009 when splices are made.