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April 24, 1998

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

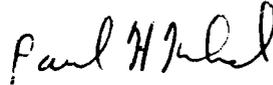
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SUBJECT: Reply to Notice of Violation, NRC Inspection Report 50-247/98-01

The attachment to this letter constitutes Con Edison's reply to the Notice of Violations (NOV) included with your March 25, 1998 letter concerning the six week inspection period ending February 9, 1998, at the Indian Point Unit No. 2 facility.

Should you have any questions regarding this matter, please contact Mr. Charles W. Jackson, Manager, Nuclear Safety and Licensing.

Very truly yours,



Attachment

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ATTACHMENT

REPLY TO NOTICE OF VIOLATION
INSPECTION REPORT NO. 50-247/98-01

CONSOLIDATED EDISON COMPANY OF NEW YORK, INC.
INDIAN POINT UNIT NO. 2
DOCKET NO. 50-247
APRIL 1998

NOTICES OF VIOLATION

The Notices of Violation in Inspection Report 50-247/98-01 are stated as follows:

- A. Technical Specification (TS) Section 6.8.1 requires that written procedures be implemented covering activities referenced in Regulatory (Safety) Guide 1.33, November 1972. Appendix A of Regulatory Guide 1.33 recommends written procedures that govern procedure adherence. Station Administrative Order (SAO)-133, "Procedure, Technical Specification and License Adherence and Use Policy," Section 5.1.1, states that procedures shall be followed. SAO-702, "Control of Ignition Sources," Section 4.3.3, states that a fire watch shall be present during all work activities (i.e., work involving an ignition source) and that fire watch responsibilities are delineated in SAO-705, "Fire Watch Tour."

Contrary to the above, on January 6, 1998, a maintenance worker performed grinding (an ignition source activity) absent the required fire watch, and the fire watch left his assigned post to retrieve a tool from the tool room.

This is a Severity Level IV violation (Supplement I).

- B. 10 CFR Part 50, Appendix B, Criterion V, states in part, that activities affecting quality shall be prescribed by drawings of a type appropriate to the circumstance and shall be accomplished in accordance with these drawings. Drawings shall include appropriate quantitative or qualitative acceptance criteria for determining that important activities have been satisfactorily accomplished.

Contrary to this requirement, an inaccurate drawing contributed to the installation of an improperly sized relay in the control circuitry for the 23 emergency diesel generator. During post-modification testing on January 29, 1998, the relay was damaged and required the diesel to be secured from testing.

This is a Severity Level IV violation (Supplement I).

RESPONSE

We acknowledge the concerns addressed in these Notices of Violation and agree that the cause for these events were as follows:

For the first violation, we concur with the assessment that the maintenance worker performed grinding and the fire watch failed to follow established procedures when hot-work, i.e., grinding, was continued after the fire watch left the area to retrieve a tool from the tool room. The fire watch left the area approximately 15 minutes prior to the discovery of the procedural non-compliance by the inspectors.

For the second violation, we concur with the assessment that an inaccurate drawing contributed to the installation of an improperly sized relay in the control circuitry for the 23 Emergency Diesel Generator (EDG). As noted below, there were additional contributing factors to this event.

On January 29, 1998, during a planned post-modification test (PT-M21) for 23 EDG, the operator recognized the smell of hot electrical insulation emanating from the control panel. Upon opening the cabinet door, he noted a small cloud of smoke and stopped the engine using the emergency stop push button. Damage was limited to a burned resistor in the relay control circuit.

The modification, installed prior to the planned post-modification test, was to replace a Potter - Brumfield relay model PR11AY with a model PRD11AY0 in accordance with Material Substitution Authorization Procedure (MSAP), MSAP-97-00309-PGI. The relay was used in the field flash control circuit and the substitution was intended to ensure relay conformance with seismic requirements.

After the failed post-modification test, the wiring was inspected and the damaged resistor replaced. A comparison of the old, and new relays revealed that the PRD11AY0 was purchased with a 120 vac coil rating while the PR11AY had a 480 vac coil rating. EDG electrical drawing reviews confirmed that the proper voltage was 480 vac. This review also discovered an error on the original ALCO manufacturer schematic drawing which indicated a 120 vac supply to the voltage regulator indicating that the relay required a 120 vac coil.

On February 1, 1998, the original relay model PR11AY was reinstalled and the post-modification test performed successfully. On March 9, 1998, a new relay was purchased with the correct voltage rating and installed in place of the original PR11AY. The subsequent post-modification test was performed successfully.

ANALYSIS

The root cause for these events was inadequate adherence to established plant procedures. It is Con Edison's policy that all workers at the Indian Point Station adhere to and comply with Station Administrative Orders (SAO) and procedures. Deviation from approved procedures is authorized where necessary, only to prevent injury to personnel, including the public, or damage to the facility. In these events, station personnel did not fully follow the appropriate procedures pertaining to their job responsibilities.

The first violation resulted when the technicians assigned the task involving "hot work" (i.e., work that generates sparks capable of being an ignition source) did not follow the requirements of SAO-705, Fire Watch/Fire Watch Tour. SAO-705 requires that the "Continuous Fire Watch" be "vigilant to any transmission of heat or flames" and additionally,

to "remain on post for at least thirty minutes after the work is completed or temporarily stopped." SAO-705 defines a "Continuous Fire Watch" as "a person who shall be at the work location or area to be watched continuously." In addition, the "Fire Watch Responsibilities for Cutting, Welding, Grinding or Open Flame Work" states that the fire watch shall be "particularly vigilant" and "shall remain on post for at least thirty minutes after the work is completed or temporarily stopped" indicating that the fire watch is expected to remain on post continuously. Contrary to the requirements of SAO-705, the technician who was grinding did not stop the spark-producing work thirty minutes prior to the fire watch leaving the area and the fire watch did not maintain continuous vigilance for thirty minutes after the completion of the "hot work activities."

The training provided prior to this event for "Maintenance and Construction" personnel addressed the areas needed to obtain a New York City "Fire Certification" and was not site specific. As a result, the "Maintenance and Construction" personnel did not receive instruction in SAO 702 or SAO-705 although they were expected to comply with the station fire watch requirements.

The continuation of the grinding work after the fire watch left the area constituted a cognitive error on the part of the fire watch and the technician performing the grinding work.

The second violation occurred because during the consolidation of information from various drawings onto a single drawing, an error in one of the original equipment manufacturer drawings was not detected and incorporated in the station drawing. In addition, during the implementation of the approval process detailed in procedure DE-SQ-12.506 the drawing error was not detected. This consolidation effort, initiated as a result of a 1996 Open Item Report (OIR), was intended to address differences noted between the wiring diagrams and the schematics for the EDG drawings. When an Engineering review concluded that information from various drawings should be consolidated, the original equipment manufacturer drawing error was carried forward to the new drawing, which resulted in other engineers and I&C technicians incorrectly concluding that the relay voltage coil was rated at 120 vac.

In addition, a May 1997 walkdown by Engineering did not acquire all the information printed on the two relay labels. This was due to the fact that the engineer performing the walkdown, at the MSAP engineer's request, did not know that the original relay had two name plates, one on the side and one on the bottom. The engineer performing the walkdown noted the information from the side nameplate but missed the bottom nameplate and as a result did not have the coil rating information. The engineer that prepared the MSAP relied on the drawing which incorrectly indicated the source of coil voltage to be 120 vac instead of 480 vac.

Finally, I&C is procedurally mandated to inspect and test components after removal only if they have malfunctioned or a diagnostic is required. In the case of this relay replacement, inspection and testing was only required for the new component. If the replaced component had been checked, the question of the correct coil voltage rating might have been raised and the resulting event prevented.

CORRECTIVE ACTION

For the first violation all work being performed by the technician was stopped and a safety talk was given to the maintenance and construction personnel regarding SAO-702 and SAO-705. In addition, the following corrective actions were initiated:

1. During the Consolidated Edison presentation made to Region I staff on March 19, 1998, we presented our performance improvement plan, including our plans to improve human performance issues in the area of procedure adherence. In our follow-up letter dated March 23, 1998 the station committed to "reinforce standards for strict procedure adherence and use." Con Edison's March 23 letter also provided information regarding our plans for improving procedures, procedural adherence, supervisory oversight and satisfaction of management expectations.
2. A two hour training course was developed and provided to "Maintenance and Construction" personnel currently onsite performing fire watch duties. The course contents covered SAO-702 and SAO-705, this training was completed on February 23, 1998.
3. NMM 0106, training covering the contents of SAO-702 and SAO-705, "Fire Guard/Fire Watch" was developed for "Maintenance" personnel. This course is scheduled to be added to the training program description for "Maintenance and Construction" field operations personnel by May 1, 1998.
4. SAO-702 and SAO-705 will be revised to provide additional clarification to the instructions provided on the "Cutting, Welding, Grinding or Open Flame Permit" for field personnel regarding the control of ignition sources (e.g., welding, grinding work). The changes to the procedure and permit are scheduled for completion by May 29, 1998.
5. Disciplinary action was taken against both the fire watch and the technician involved in the incident.

For the second violation the following corrective actions are being taken in accordance with the root cause findings:

1. DE-SQ-12.506 guidelines are being revised to ensure field check, drafting check, and supervisory check for non-modification drawing revisions. This task is scheduled for completion by April 30, 1998.
2. The revised DE-SQ-12.506 checking requirements will be enforced with all designers and engineers. This task is scheduled for completion by May 15, 1998.
3. DE-SQ-12.506 guidelines are being revised to require that design engineers specify critical characteristics that shall be used in field verifications of component changes. The changes to DE-SQ-12.506 is scheduled for completion by April 30, 1998.
4. Training of appropriate engineering personnel and enforcement of the revised DE-SQ-12.506 field verification requirements is scheduled for completion by May 15, 1998.
5. An I&C Planning Department, or similar operating group, is scheduled for establishment by June 30, 1998.

6. A field wiring check of all EDG panels is in progress and is scheduled for completion by May 10, 1998.
7. The appropriate drawings will be updated to reflect the results of the EDG wiring checks by May 17, 1998.