Indian Point 3
Nuclear Power Plant
P.O. Box 215
Buchanan, New York 10511
914 736.8001

New York Power Authority

William A. Josiger
Resident Manager

July 15, 1988
IP3-88-048B
MFP-88-095B

Docket No. 50-286
License No. DPR-64

Mr. Edward C. Wenzinger
Projects Branch No. 2
Division of Reactor Projects
Nuclear Regulatory Commission
475 Allendale Road
King of Prussia, PA 19406

Dear Mr. Wenzinger:

This letter and Attachment I provide the Authority's response to Inspection Report No. 50-286/08-10 and the associated notice of violation.

In the letter transmitting the referenced report and notice of violation, you requested the Authority to provide corrective action addressing the root cause of personnel errors. The Authority has long recognized the need to reduce the frequency of personnel errors and has expended significant efforts to address this concern. The Authority believes that it has been effective in recent years at reducing the frequency of personnel error induced events. Since 1986 the percentage of trips caused by personnel error at Indian Point 3 has steadily declined. When compared with readily available industry data (WOG Trap, INPO), this percentage appears to be lower than the norm.

The need to further limit the occurrence of personnel errors is a priority at Indian Point 3. The Authority agrees that continued management attention is required in this area.

In recent months a program to evaluate significant occurrences for their root causes has been established not only for personnel errors but for material and component failures as well.

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This program has identified several root causes for personnel errors and the following have been addressed programmatically by the Authority in the past year:

- o A strict management philosophy concerning the need for procedural adherence has been communicated to station personnel in the form of directives and station goals heightened awareness for strict adherence exists at all levels of management.

- o Human Factors procedure upgrades are in progress for all maintenance and I&C procedures and are scheduled for completion by February, 1989.

- o The need for personal accountability and attention to detail has been stressed on a day to day basis by all levels of management and is reflected not only in station goals but within personnel evaluation plans and objectives.

The Authority is confident that these efforts and the actions specified in Attachment I will be instrumental in further reducing the number of personnel errors at Indian Point 3.

Should you or your staff have any questions regarding this matter, please contact Mr. M. Peckham of my staff.

Sincerely,

W. A. Josiger
Resident Manager
Indian Point Unit 3 Nuclear Power Plant

WAJ:MFP:lh

cc: Document Control Desk (original)
U.S. Nuclear Regulatory Commission
Washington, D.C. 20555

Resident Inspector's Office
Indian Point 3
U.S. Nuclear Regulatory Commission
P.O. Box 337
Buchanan, NY 10511

Attachment I

NOTICE OF VIOLATION

Technical Specification 6.8.1 requires that written procedures shall be established and implemented covering applicable activities recommended in Appendix A of Regulatory Guide 1.33, November, 1972. Regulatory Guide 1.33, Appendix A requires procedures for electrical system operation and the installation of jumpers.

Administrative Procedure AP-13, Rev. 6, Jumper Controls, Section D.1 requires an entry into the jumper log index for each authorized use of jumpers, and Section D.2 requires that an independent technical review of all jumper log entries be performed by the shift technical advisor or a knowledgeable engineer.

Contrary to the above, on May 18, 1988, the licensee completed the transfer of all site electrical load from the normal to a backup power supply, without an established procedure for the specific activity in place. As part of the same activity, the licensee also installed a temporary jumper without an entry into the jumper log index and without performance of an independent review.

RESPONSE

At 0355 hours on May 18, 1988, with the plant in cold shutdown, preparations were underway to shift the station auxiliary power from the 138KV feeder 95331 to the 13.8KV feeder 13W93. The capability to synchronize these power sources is not part of the plant design and it is standard operating practice to place the 480 volt buses on the emergency diesel generators while conducting this evolution. Under normal conditions all three diesel generators would be started and connected to their respective buses. The transfer from the 138KV feeder to the 13.8KV feeder would then take place without disturbing the 480 volt loads. The diesel generator would then be synchronized to the 13.8KV feeder through the 480 volt side of the station service transformer and load would be transferred to the 13.8KV feeder.

With the #32 diesel generator out of service due to modification work, an alternate switching sequence was directed by the shift supervisor that would allow closure of the 3A-6A tie breaker across "live" buses. In order to close the 3A-6A tie breaker the normal interlock that prevents closure of that breaker on an energized bus had to be defeated. The purpose of the interlock is to prevent an accidental closing of the breakers between a running diesel generator and incoming power from the station service transformers. In this situation no diesel generators were running and the breaker would be closed between two station service transformers which are known to be in phase electrically. Accomplishing the above-mentioned evaluation would then allow the #31 and #33 diesel generators to be started and synchronized to their respective buses. Loads would then be transferred to the diesels and the plant could be momentarily disconnected from incoming power so that 138KV to 13.8KV transfer could take place.

The correct relay that had to be defeated was identified by the I&C technician and the shift supervisor. The I&C technician was then directed by the shift supervisor to install the jumper. When the I&C technician had identified the contacts and just prior to installing the jumper, the shift supervisor cautioned the I&C technician to verify that he had identified the correct terminals. The I&C technician responded in the affirmative.

Upon connecting the jumper, the in-service RHR pump #31 was tripped at 0356 hours. The control room operators tried to restart it, but were unsuccessful. The operators then immediately started the #32 RHR pump maintaining required RHR flows. The I&C technician removed the jumper for the circuit and the #31 RHR pump circuit was restored to service at 0358 hours.

Subsequent investigation of this event has revealed the following:

1) A mutual belief was held by both the shift supervisor and the I&C Technician that they understood the circuit involved and consequences of applying the jumper and that there was no need to implement the requirements of Administrative Procedure AP-13, "Jumper Control" since the jumper was going to be removed immediately upon breaker closure.

2) The shift supervisor developed a switching sequence procedure and conducted a prebriefing, however, this process was not formally implemented in accordance with station administrative procedures.

3) The I&C technician correctly identified the relay contact to be jumpered utilizing available drawings. When applying the jumper, however, he failed to refer to the relay configuration drawing. This resulted in misapplication of the jumper and the trip of #31 RHR pump.

The "Root Causes" for this event are as follows:

1) Personnel Error - Because the I&C technicians did not utilize the available drawings, they violated a department procedure and as a result jumpered the wrong contact on the relay, resulting in the trip of RHR pump #31.

2) Personnel Error - The Shift Supervisor did not ensure AP-13 was followed, therefore the safety evaluation on the implications of the jumper was not formally performed and documented.

3) Procedural Inadequacy - A formal temporary procedure was not generated for the power switching evolution.

Attachment I

The following actions were undertaken as a result of this event:

1. The I&C technicians that were involved in the jumpering activity were counseled by the I&C Superintendent on this event and its ramifications.

2. A training module was developed and training was conducted for all I&C technicians on the type of relay in question. The schematics for the relay and the implications of this relay's actuations have been discussed.

3. All shift supervisors and assistant shift supervisors have been instructed by the Operations Superintendent on the use of AP-13, "Jumper Control", and its implications as a result of this event.

4. All shift supervisors and assistant shift supervisors have been instructed by the Operations Superintendent on the need for generating formal temporary procedures for non-routine evolutions not covered by existing station procedures.