



Commonwealth Edison

1400 Opus Place
Downers Grove, Illinois 60515

October 22, 1993

U. S. Nuclear Regulatory Commission
Washington, D. C. 20555

Attention: Document Control Desk

Subject: Quad Cities Nuclear Power Station Units 1 and 2
Response to Notice of Violation
Inspection Report Numbers 50-254/93019; 50-265/93019
NRC Docket Numbers 50-254 and 50-265

Reference: E.G. Greenman letter to L. O. DelGeorge dated
September 28, 1993 transmitting NRC Inspection
Report 50-254/93019; 50-265/93019

Enclosed is Commonwealth Edison Company's (CECo) response to the
Notice of Violation (NOV) which was transmitted with the referenced
letter and Inspection Report. The NOV cited three Severity Level IV
violations:

Failure to suitably control the conditions of the high pressure
coolant injection (HPCI) and reactor core isolation cooling (RCIC)
system pump rooms;

Failure to implement effective corrective actions to prevent
improper movement of equipment through contaminated areas; and

Failure to provide adequate instructions to identify required
post maintenance testing for the RCIC system, and a failure to
follow existing procedures and to provide adequate instructions
for the toxic gas analyzer.

CECo's response is provided in the attachment. If there are any
questions or comments concerning this letter, please refer them
to Marcia Jackson, Regulatory Performance Administrator at (708)
653-7287.

Respectfully,

D. L. Farrar, Manager
Nuclear Regulatory Services

Attachment

cc: J. Martin, Regional Administrator, RIII
C. Patel, Project Manager, NRR
T. Taylor, Senior Resident Inspector, Quad Cities

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NOTICE OF VIOLATION
INSPECTION REPORT 50-254(265)/93019

VIOLATION: 50-254/93019-02(DRP)

10 CFR 50, Appendix B, Criteria II states, in part, that activities affecting quality shall be accomplished under suitably controlled conditions including adequate cleanliness.

Contrary to the above, on July 8, 1993, the conditions of the high pressure coolant injection (HPCI) and reactor core isolation cooling (RCIC) system pump rooms were not suitably controlled. Specifically, the HPCI skid had water accumulation in the catch basin, metallic debris (wire and metal tags) were found under the turbine casings, a RCIC turbine had conduit held up by "duct" tape, small pipe clamps were unattached, a HPCI drain valve gland nut was missing screws, and the rooms were cluttered with various materials left inside the contaminated boundary.

REASONS FOR THE VIOLATION:

CECo acknowledges and agrees with the apparent violation. A large amount of work was in progress in the HPCI and RCIC systems on each unit. Both units were in an outage at the time. The work being performed left the cleanliness of the rooms in an unacceptable condition.

CORRECTIVE STEPS TAKEN AND RESULTS ACHIEVED:

The materiel condition of the HPCI and RCIC rooms on each unit were improved immediately. The HPCI skids were cleaned, the metallic debris removed, the RCIC turbine conduit held by "duct" tape repaired, and the missing gland nut has been installed. The missing pipe clamps in the Unit 1 RCIC room have been re-attached. Small pipe clamps on instrument lines in the Unit 1 and Unit 2 HPCI rooms and in the Unit 2 RCIC rooms have not yet been replaced. The final completion of all missing clamps will be completed by the end of the short maintenance outages scheduled to begin November 8, 1993, for Unit 1 and December 5, 1993, for Unit 2.

CORRECTIVE STEPS TAKEN TO AVOID FURTHER VIOLATIONS:

Specific steps taken to avoid further violations include the establishment of a policy concerning the cleanliness and materiel condition of equipment prior to the acceptance by the Operating Department. This policy, which was put into effect by the Operations Manager and the Maintenance Superintendent, states that equipment which is being returned to service must be in a clean and decontaminated condition. This policy includes the painting of the equipment if paint damage occurred as a result of the work performed. If the equipment does not meet the cleanliness and decontamination standards, the equipment will not be returned to service. If the equipment is required by Operations and the equipment does not meet the Station's expectations for housekeeping, then the Shift Engineer shall notify an Operating Engineer.

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The Operating Engineer will place the item on the Plan of the Day (POD) under "Housekeeping Concerns" identifying the cognizant department(s) responsible to ensure these items will meet the station's housekeeping standards in a timely manner. In addition, an action plan has been developed to upgrade the general condition of the HPCI rooms. The HPCI rooms will be improved to a "model space." This action plan calls for the start of the upgrade on October 18, 1993, and the completion of the work by April 30, 1994. This plan has been setup to be the next phase of improvements to begin immediately after the work is completed in the Residual Heat Removal Service Water (RHRSW) vaults.

CECo recognizes that past attempts to achieve long term improvements in HPCI and RCIC performance have not been as effective as desired. A multi-disciplined team has been formed to review, prioritize, coordinate and oversee implementation of the recommendations from the various walkdowns, engineering studies, and root cause analysis that have been performed on the HPCI system. One of the first tasks that the team is to complete is a disposition of recommended work requests. The recommended work will be performed during the upcoming short maintenance outages planned for November and December, 1993, on each unit. This team will complete its short term assignment by December 31, 1993.

To augment the control of management oversight of HPCI system engineering work activities, System Engineering Management has performed departmental overview of HPCI system engineering activities. Additionally, System Engineering Management will access and upgrade a department-wide overview/monitoring/feedback mechanism to ensure timely management attention and support. The workload of the HPCI/RCIC System Engineer is being supplemented through the formation of the aforementioned multi-disciplined team as well as through the short-term assignment of an additional engineer trainee for day-to-day support. System Engineering Management is also reviewing the reallocation of systems/activities with the Safety Systems group. The department overview mechanism and workload review will be completed by December 31, 1993.

DATE WHEN FULL COMPLIANCE WAS ACHIEVED:

Full compliance was achieved on August 25, 1993 when the station policy concerning the cleanliness and materiel condition was implemented.

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VIOLATION: 50-254/93019-04 (DRP)

10 CFR 20, Appendix B, Criterion XVI "Corrective Action," requires that corrective action is taken to preclude repetition.

Contrary to the above, previous corrective actions failed to prevent improper movement of equipment through contaminated area boundaries.

REASONS FOR THE VIOLATION:

CECO acknowledges and agrees with the apparent violation. Inattention to detail by plant personnel and inadequate management overview were the reasons for this violation.

CORRECTIVE STEPS TAKEN AND RESULTS ACHIEVED:

A program initiated in September, requires that walk-arounds be performed weekly for a minimum of two hours to review contaminated areas for improper positioning of contaminated material as it relates to the contaminated area boundaries. These walk-arounds will be performed by an Operator, a Mechanic, and a Radiation Technician. This crew is to correct the errors on the spot. They will perform these walkarounds through December 1993.

CORRECTIVE STEPS TAKEN TO AVOID FURTHER VIOLATIONS:

The Station will produce a video to identify concerns with equipment control and material crossing contaminated boundaries. This video will be used to identify the types of problems that each department should be aware of while in the plant. Part of this video will deal with material location as it relates to contamination boundaries and the proper way material should be handled inside the contaminated area or material crossing the contamination boundary. This video will be shown to all working department personnel by December 10, 1993. The purpose of the video will be to train workers to identify specific problems and take the appropriate corrective actions.

DATE WHEN FULL COMPLIANCE WAS ACHIEVED:

Full compliance will be achieved by December 10, 1993 when the video will be shown to the working department personnel.

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VIOLATION: 50-254/93019-05(DRP)

Quad Cities Technical Specification 6.2.A.1 states the applicable procedures recommended in Appendix A of Regulatory Guide 1.33, Revision 2 dated February 1978, shall be established, implemented, and maintained. Regulatory Guide 1.33 Appendix A included procedures for plant operation and maintenance.

Quad Cities Offnormal Administrative Procedure (QOA) 912-1, H-12, Revision 1 required plant operators to verify at the local panel the cause of the common "control room standby HVAC system minor trouble" alarm and perform subsequent actions based on that determination.

Quad Cities work request (WR) Q07928, dated June 23, 1993, required in the Post Maintenance and/or Test section that a Visual Inspection (VT) be performed on the reactor core isolation cooling (RCIC) system piping.

Contrary to the above:

- a. On June 24, 1993, during electrical bus manipulations, the toxic gas analyzer was rendered inoperable for seven hours due to inadequate instructions and a failure to follow the applicable annunciator procedures.
- b. On July 20, 1993, a required visual examination by operations personnel for the reactor core isolation cooling (RCIC) rupture disc leakage was not performed as required by Work Request Q07928.

REASONS FOR THE VIOLATION:

CECo acknowledges and agrees with the apparent violation. On June 24, 1993, the toxic gas analyzer minor trouble alarm was received when bus 16 was deenergized for maintenance work and then reenergized. When the bus was restored, the alarm did not clear as expected. The Center Desk Nuclear Station Operator (NSO) discussed this with the Station Control Room Engineer (SCRE) and the Unit Two NSO before deciding that the alarm was probably the result of an Air Filtration Unit (AFU) pre-high efficiency particulate air (HEPA) filter low temperature alarm signal. This alarm had come up earlier in the shift and later cleared. No further investigation was performed. Sometime later in the shift, an Equipment Attendant (EA) was dispatched to local panel 1/2-9400-105. At the panel, the EA failed to notice the "Toxic Gas Analyzer Trouble" alarm that was illuminated before resetting the CR ventilation and selecting sample point A. The alarm tile was not flashing and there was no audible alarm at the time. The apparent cause of this event was personnel error due to a lack of procedural adherence. QOA 912-1 H-12, "912-1 Row H Annunciator Procedures," directs operators to dispatch personnel to local panel 1/2-9400-105 to see which annunciator is illuminated. This was not done. In addition, the EA that was dispatched to the local panel later

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in the shift failed to notice the trouble alarm that was illuminated before restoring the ventilation to outside air suction.

Work Request Q07928 was one of the work requests that had been worked during the Unit 1 outage. On June 27, 1993, the work was completed by the Mechanical Maintenance Department and the work request was sent to the Operations Department. Prior to startup from the outage, the work was verified to be complete and the work request was verified to be located in the Operations Department and available to be tested. The test itself could not be performed until the unit was running with the necessary pressure to run RCIC. On July 20, 1993, RCIC was tested after the maintenance had been performed on the system. However, when the work requests for all the RCIC work were put together, Work Request Q07928 was inadvertently omitted from the group. The Operability Test that was performed, does require a visual examination for leakage and the rupture disc was specifically checked. On July 27, 1993, it was discovered that Work Request Q07928 had not been signed as complete. The System Engineer then signed the work request based on the visual examination that he had performed on July 20, 1993. The System Engineer failed the test as some small leakage (several drops per minute) was observed. A Problem Identification Form (PIF) and a new work request (Q08730) were written for the failed test. In the disposition of the PIF, RCIC was still considered operable due to the minimal leakage.

CORRECTIVE STEPS TAKEN AND RESULTS ACHIEVED:

The Control Room ventilation was immediately isolated. The sample pump was started and the CR ventilation was restored to normal outside air suction. The Work Request test for the RCIC rupture disc work was immediately tested.

CORRECTIVE STEPS TAKEN TO AVOID FURTHER VIOLATIONS:

For the toxic gas analyzer event, a placard instructing operators to verify that the toxic gas analyzer is not in the alarm condition before resetting the ventilation has been placed at the ventilation reset control switch located at local panel 1/2-9400-105. The Operations Manager reinforced with all SCRE's that the reason for alarms must be known. A training tailgate session has been held for operators which stressed the importance of strict procedural adherence and maintaining a questioning attitude at all times. In addition, this event will be discussed in normal requalification training for both licensed and non-licensed operators.

To address problems by the Operations Department in the tracking of outstanding work requests for testing prior to declaring a system operable, a Shift Engineer (SE) and a Station Control Room Engineer (SCRE) were sent to La Salle County Station for the specific purpose to determine whether the La Salle method for tracking outstanding work

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requests could be used at Quad Cities. The SE and the SCRE presented their findings at an Operations Management Meeting and are now setting the process in place at Quad Cities. Specifically, the process will log each work request that is Tech Spec related in a book or computer data base that is sorted by Tech Spec paragraph or system number. When the work request is initially written, it will be screened to determine whether it affects system operability. The work request and its affect on the system will be logged in the appropriate section when it is determined that system operability is affected. When the work is to begin on that work request, an entry will be made in the log indicating that work has begun and that system operability is affected, if appropriate. As each work request is tested, it will be cleared out of the log. Prior to declaring a system operable, the log will be checked to verify all work requests in which work has been started, have been tested. In this way, all work requests will be completed prior to exiting an LCO.

DATE WHEN FULL COMPLIANCE WILL BE ACHIEVED:

Full compliance will be achieved by November 15, 1993, when the new outstanding work request tracking system will be fully implemented.