DCS

Commonwealth Edison
1400 Opus Place
Downers Grove, Illinois 60515

April 26, 1991

Mr. J. Lieberman, Director
Office of Enforcement
U.S. Nuclear Regulatory Commission
Washington, D.C. 20555

Attn: Document Control Desk

Subject: Quad Cities Nuclear Power Station Unit 1
Notice of Violation and Proposed Imposition
of Civil Penalty (50-254/91006)
Response to Concern (50-254/90025 & 50-265/90025)
NRC Docket Number 50-254 & 50-265

References: (a) A. Bert Davis letter to Cordell Reed dated March 27, 1991, transmitting Notice of Violation and Proposed Imposition of Civil Penalty

(b) H.J. Miller letter to Cordell Reed dated March 5, 1991, transmitting Inspection Report 254/91009

(c) H.J. Miller letter to Cordell Reed dated February 14, 1991, transmitting Inspection Report 254/91006

(d) H.J. Miller letter to Cordell Reed dated February 25, 1991 transmitting Inspection Report 50-254/90025 and 50-265/90025

(e) T.J. Kovach letter to A. Bert Davis dated March 22, 1991 transmitting commitment on response to Inspection Report 50-254/90025 and 50-265/90025

Dear Mr. Lieberman

This letter provides Commonwealth Edison Company's (CECo) response to the Notice of Violation and Proposed Imposition of Civil Penalty, as transmitted in reference (a). An Enforcement Conference was held on February 21, 1991 to discuss the results of the NRC's Inspection of the January 24, 1991 loss of primary system inventory which were transmitted in reference (b).

Commonwealth Edison recognizes the significance of the violations set forth in the Notice and, as described at the February 21, 1991 enforcement conference, has taken and continues to implement extensive corrective and preventive actions in response to them. These actions are summarized in the Response to the Notice of Violation (Attachment A), and reflect a dedication to fully incorporating the lessons learned from the events that led to the violations into its operational culture.

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The cover letter transmitting Reference (a) specified that CECo should indicate when the operational staff at each of our nuclear plants would be aware of current expectations on operations. Attachment B provides a discussion on communication of expectations.

Reference (d) transmitted NRC Inspection 50-254(265)/90025 which provided the results of a routine resident inspector's report. In this report, a concern was identified which related to a personnel error associated with an out-of-service activity. In the transmittal letter for the inspection report your staff indicated that a response to that concern could be included in our response to the reference (a) letter. The response to this concern is, therefore, also provided in Attachment A.

Finally, we are concerned with the basis for escalation of the fine for prior notice. In light of (a) the limited time available between the October Braidwood event (and December Enforcement Conference) and the January Quad Cities event, (b) the time required to address operational issues and implement effective solutions and (c) the fact that during a substantial portion of the period, Quad Cities was developing actions in response to the October IRM Scram event, CECo believes that only with hindsight can it be concluded that the Braidwood situation should have prompted greater short-term actions at Quad Cities. We acknowledge that the escalation of a fine is discretionary and, in order to maintain our focus and emphasis on actions to improve our performance, the proposed penalty will be paid.

Pursuant to 10 CFR 2.205, enclosed is a check for the full amount of the penalty to close this matter out.

If there are any questions or comments regarding this response, please contact Mr. P. Barnes at (708) 515-7278.

Very truly yours,

T.J. Kovach
Nuclear Licensing Manager

Enclosure: Check #01607224
$112,500.00

cc: A. Bert Davis-RIII
L.N. Olshan-NRR
T.E. Taylor-Quad Cities

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ATTACHMENT A

RESPONSE TO NOTICE OF VIOLATION

NRC INSPECTION REPORT

50-254/91006

This attachment first outlines the violation as cited by the NRC. Following is our response to the violation including the corrective actions we have taken and those underway.

Violation

1. Technical Specifications 6.2.A.1 and 6.2.A.6 require adherence to detailed written procedures for normal operations and preventive and corrective maintenance activities which could have an effect on the safety of the facility.

   a. QEMP 600-1, "Electrical Maintenance of Safety Related and Non-Safety Related Motor Operated Valves," Section D.3 requires that permission be obtained from the Operating Department before moving a valve off of an open or closed seat.

      Contrary to the above, on January 24, 1991, Electrical Maintenance personnel failed to obtain permission from the Operating Department prior to moving the shutdown cooling pump suction valve, 1-1001-43D, a motor operated valve, off the closed seat, while performing an electrical maintenance activity on the valve.

   b. QAP 300-1, "Operations Department Organization," Section C.10.q requires that the Nuclear Station Operator (NSO) shall initiate "holds" during plant evolutions that are required to ensure that the evolution does not threaten the stability of the unit, result in damage to equipment, or violate administrative controls. The NSO is also required to notify proper authorities regarding unusual conditions.

      Contrary to the above, on January 24, 1991, the Shift 3 Unit 1 NSO failed to place a hold on the electrical maintenance testing of shutdown cooling pump suction valves and ensure that a reported out-of-sequence valve operating error did not threaten the stability of the unit. The NSO also failed to notify the proper authorities, shift supervision, of the reported valve operating error or the report of water in the reactor building sump in a timely manner.

   c. QAP 300-1, "Operations Department Organization," Section C.10.p requires that the NSO shall be alert and attentive to his panels at all times. Attentive to panels means the control board indicators are monitored frequently enough to detect adverse trends before problem situations occur.

      Contrary to the above, on January 24, 1991, the Shift 3 Unit 1 NSO failed to be attentive to the control board indicators after being informed of water accumulation in the reactor building sump. Specifically, the NSO failed to check reactor vessel level indication and RHR pressure prior to cycling the shutdown cooling isolation valve in an attempt to relieve a perceived high pressure in the RHR system.

d. QAP 300-2, "Conduct of Shift Operations,: Section C.14.i, requires that a briefing session shall be coordinated by the Operating Engineer or designee for evolutions which are complex and involve close coordination.

Contrary to the above, on January 24, 1991, the Operating Engineer or designee failed to hold a briefing session for the scheduled shutdown cooling system valve stroke testing. The evolution was complex and required close coordination in that it involved the partial lift of an out-of-service tagout and realignment of a portion of the RHR system by the Operations Department prior to performance of the post-maintenance valve stroke test by the Maintenance Department.

e. QAP 300-2, "Conduct of Shift Operation,: Section C.28.c requires that the Station Control Room Engineer (SCRE) shall have the responsibility of controlling control room activities to assure safe plant operation.

Contrary to the above, on January 24, 1991, the Shift 3 SCRE failed to control control room activities to assure safe plant operation by not maintaining cognizance of the status of the Unit 1 reactor. Specifically, the SCRE was unaware of the valve stroking evolution during the January 24, 1991 event, that the Shift 3 Unit 1 Nuclear Station Operator secured shutdown cooling, and that the Nuclear Station Operator operated the shutdown cooling suction isolation valve to relieve perceived high residual heat removal system discharge pressure.

2. 10 CFR Part 50, Appendix B, Criteria V, requires that activities affecting quality shall be prescribed by documented instructions, procedures, or drawings, of a type appropriate to the circumstances and shall be accomplished in accordance with these instructions, procedures, or drawings.

Contrary to the above, as of January 24, 1991, procedure QAP 300-14, "Equipment Out of Service", Revision 26, was not of a type appropriate to the circumstances for controlling the process for the temporary lift of out-of-service tagouts on fluid systems because it does not provide appropriate guidance for the preparation and verification of system alignments to ensure appropriate isolation boundaries. Specifically, the procedure failed to ensure that all active out-of-service tagouts are reviewed to determine existing system configuration such as the position of vent and drain valves.

Response

Commonwealth Edison acknowledges the violations stated above. The violations involved the failure of personnel to adhere to various administrative and electrical maintenance procedures during post-maintenance testing of shutdown cooling pump suction valves and the subsequent response to the initial loss of inventory.

Commonwealth Edison's review of the event determined that from the standpoint of the health and safety of the public, the event had minimal safety significance. Commonwealth Edison, however, reviewed this event in conjunction with other events including the October 27, 1990 IRM scram, as well as, recent assessments of station performance and the October 4, 1990 Braidwood loss of reactor coolant inventory event. That comprehensive and thorough review revealed the need to address broader root causes. The corrective actions which were developed are applicable to the specific violations, and are included in the discussion below.

Corrective Actions Taken And Results Achieved

1. Personnel/Procedural Actions

   a. The Senior "A" Electrician and Nuclear Station Operator (NSO) were removed from their duties. Appropriate disciplinary action was taken and additional training provided prior to resuming their duties.

   b. Changes to the out-of-service procedure QAP 300-14 were approved on March 26, and April 26, 1991 to clearly specify actions of responsible individuals and to provide more specific requirements for temporary lifts. Appropriate training on the April 26 revision will be conducted.

   c. Inspection Report 50-254/90025 and 50-265/90025 cited a concern regarding a failure to properly prepare and verify adequacy of a Unit 1 out-of-service. Due to the improper out-of-service an unplanned partial Group Two isolation occurred. This involved errors by the out-of-service preparer and reviewer.

      The Quad Cities Human Performance Enhancement System Coordinator conducted an investigation of this event and determined that the events causal factors were similar to those associated with the January 24, 1991 out-of-service deficiencies. The corrective actions cited under 1.a above and under 1.a for Corrective Action to Avoid Further Violation encompass and address the event.

   d. Procedure QEMP 600-1, "Electrical Maintenance of... Motor Operated Valves", was revised on February 15, 1991 to relocate the step notifying the Control Room immediately before the movement of a valve.

      Similar procedural guidance has been provided for incorporation to the procedure rewrite project and periodic review program.

   e. Procedure QAP 300-13 "Caution Cards" was changed on February 15, 1991 to specify caution cards are to be hung at local control points. All caution card installations have been reviewed to ensure that caution cards are hung at local control points when appropriate.

2. Operating Department Actions

a. The operating shift organization was revised on an interim basis to provide additional support to the Control Room. For outage periods a SRO was added to assist the Station Control Room Engineer (SCRE) with out-of-service activities and a SRO was added for 1 ten hour day shift to overview the outage unit activities. Also, a SRO was added to the Communications Center for two shifts per day to assist in the many administrative duties such as out-of-service preparation.

For non-outage periods a SRO was added to assist the SCRE and a SRO was added to the Communications Center to supervise the many administrative duties such as out-of-service preparation.

An ongoing review by both Station and Corporate Management will be conducted of the effectiveness of these organizational changes. Appropriate changes will be made based on this evaluation.

b. Changes have been made to the operating department shift briefing/turnover process. These include:

- Specific guidance on the content and form of the shift briefing was issued via a Operating Memo.

- The shift briefing was moved out of the Control Room by requiring shift personnel to report one-half hour early for the briefing. This was done to improve upon identification and discussion of critical activities coming up during the shift and enhance the interdepartmental briefing process.

c. A Quad Cities Heightened Level of Awareness (HLA) Program was initiated. This program builds upon the Braidwood Station program to (1) identify critical tasks and incorporate them into the planning process, (2) ensure that appropriate briefings and control measures are required for critical tasks and (3) provides for operating management involvement.

d. An Operating Engineer Overview of the Control Room was implemented on February 15, 1991. A guideline with specific review criteria is used to overview activities such as communications, procedure usage, attention to panels and the OOS process. The continuation of this overview function will be evaluated by June 15, 1991.

e. A three phase program has been implemented to strengthen conduct of operations and communicate standards. Phase one includes face-to-face communication of standards from the Plant Manager down to the operating crew. Phase two consists of observational training provided by a consultant to operating department management. Phase three consists of continuing feedback on performance.

3. Management Program Actions

   a. A senior management overview of plant activities has been initiated to promptly reinforce managements' standards to all levels of personnel. An assessment of the continuation of these overview activities will be performed by June 15, 1991.

   b. Operations and maintenance personnel are being trained and coached in observation and monitoring techniques by senior industry peers.

   c. A formal Standards Document has been developed that includes twelve Station Management fundamentals and incorporates station department Codes of Ethics. This document has been mailed to each station employee and was reviewed during all-station meetings on March 5, 1991.

   d. A Self-Check Program focusing on a person's attention to detail has been implemented.

Corrective Actions to Avoid Further Violation

1. Personnel/Procedural Actions

   a. A task analysis will be performed by the Quad Cities Station Training Department to determine specific training/qualification requirements needed to perform out-of-service activities. This analysis is expected to be completed by August 31, 1991.

   b. A station procedure will be written prior to the next refuel outage to specify outage scheduling of critical tasks.

2. Management Program Actions

   a. A Station Communication Training Program action plan has been developed. Training will be provided to appropriate personnel on communications and is expected to be completed by July 17, 1991.

   b. An independent review team is being utilized to integrate all corrective actions identified and to assess their effectiveness. The review team, consisting of industry experts from a consulting firm, arrived at Quad Cities Station on March 25, 1991, and is currently assessing the corrective action program.

Date When Full Compliance Will be Achieved

The corrective actions in response to the violation will be completed by August 31, 1991.

ATTACHMENT B

COMMUNICATION OF EXPECTATIONS

IR 50-295/91006; 50-304/91006

Reference (a) requested that Commonwealth Edison (CECo) indicate when we expect that the operational staff at each of our plants will be aware of our current expectation on operations, so that in the future the lack of awareness of management expectations will not be the cause of violations. The following provides our response to your request.

CECo management expectations concerning safe plant operations are contained in various administrative and operating procedures which have been derived from corporate guidance documents such as Nuclear Operations Policies and Directives. These procedures are typically philosophical in nature and more represent Company policies rather than prescriptive instructional procedures. These procedures are authorized for use by the Station Managers after a thorough review and approval by the appropriate management personnel as set forth by the Station's Technical Specifications.

Through these procedures, the Station's operational philosophy and expectations are communicated to the plant staff. The plant staff gains awareness and knowledge of these procedures through regular and special training, periodic departmental meetings, reading packages, qualificiation cards and on-the-job use of procedures. The implementation of these procedures, however, require personal dedication and awareness of the basis for these philosophies. In essence, the failure to follow these procedures represents the individual's performance weaknesses in executing his/her duties or could represent a lack of full understanding of the policy.

We are concerned with the NRC's statement "As you are the operator of twelve licensed reactors, it is our view that you should be able to clearly and forcefully communicate your management expectations to all your facilities and initiate appropriate steps to enforce your expectations." We believe that we have communicated our expectations in an overall effective manner in light of the industry's continuing efforts to promote stringent professional standards. Currently, two of our facilities (Byron and Braidwood) have received Category 1 ratings from INPO which reflects our effectiveness in communicating expectations. Three of our facilities (Dresden, LaSalle and Byron) have received SALP 1 ratings in the Operations area. Commonwealth Edison considers these evaluations as indicative of our continuing efforts toward achieving excellence in nuclear plant performance.

We share the NRC's philosophy that management has a duty and obligation to foster the development of a "safety culture" at each facility and to provide a professional working environment throughout the facility that assures safe operation. We recognize that our managers must provide the leadership that perpetuates the safety culture. Consistent with that philosophy, when such events occur at our facilities (i.e., EA 90-203, EA 90-208 and EA 91-018) we believe it is essential that a critical evaluation of management performance be conducted. In that spirit, we are obligated to share the responsibility in the shortfalls of our employee's performance. The intent of the February 21, 1991 Enforcement Conference presentation was not to imply that we have not **adequately communicated** our expectations or **failed to enforce** them but rather to address how we could potentially have created a more effective barriers in avoiding such events due to poor personnel performance.

Commonwealth Edison continues its efforts in strengthening the safety culture which we believe has been established at all of our facilities. The Stations continue to implement various established, as well as new and innovative, programs focussed at improving communications, teamwork, critical thinking and questioning attitude skills. While the programs differ between stations, some examples include Corporate Oversight Committee presentations, the use of station newsletters, routine department meeting, the "Self Check" Program and the heightened level of awareness programs.

In conclusion, Commonwealth Edison's organization consists of dedicated personnel whose first objective is safe operation of the plant. Commonwealth Edison has adequately communicated our expectations at all of our plants and has enforced those expectations through various management techniques, e.g., personnel performance evaluations and management observations of plant activities. While we recognize that we have not yet achieved excellence at each of our nuclear plants, we are in the process of implementing effective measures to achieve excellence at each of our plants.