Commonwealth Edison
1400 Opus Place
Downers Grove, Illinois 60515

March 27, 1992

Mr. A. Bert Davis
Regional Administrator
United States Nuclear Regulatory Commission
799 Roosevelt Road-RIII
Glen Ellyn, Illinois 60137

Subject: Quad Cities Station Response to
Confirmatory Action Letter (CAL-RIII-92-006)
Regarding Quad Cities Unit 2 Scram of February 7, 1992
NRC Docket Numbers 50-254 and 50-265

Reference: (a) Confirmatory Action Letter (CAL-RIII-92-006)
from A. Bert Davis (NRC) to Cordell Reed (CECo)
dated February 7, 1992.

(b) H.J. Miller letter to Cordell Reed dated
February 28, 1992 transmitting NRC Inspection
Report 50-254/92007

Dear Mr. Davis:

Enclosed is Commonwealth Edison Company's (CECo) response to the subject Confirmatory Action Letter (CAL) and referenced Augmented Inspection Team (AIT) Report. The issues cited by the CAL are addressed in Attachment A. The concerns highlighted in the AIT Report transmittal letter are addressed in Attachment B.

If your staff has any questions or comments concerning this response, please refer them to John Schrage, Nuclear Licensing at (708) 515-7283.

Sincerely,

T.J. Kovach for
Nuclear Licensing Manage

Attachments

cc: USNRC Document Control Desk
L.N. Olshan, Project Manager, NRR
T. Taylor, Senior Resident Inspector

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ATTACHMENT A

RESPONSE TO CONFIRMATORY ACTION LETTER
CAL-RIII-92-006

As contained in the transmitted CAL, five specific actions were required to be performed. These actions and their status follows:

I. Conduct an investigation to determine the cause of:

a. The failure of HPCI stop valve H01-2317
b. The failure of the "C" relief valve
c. The apparent failure of the reactor feed pumps to automatically trip at the appropriate vessel level and related operator actions
d. The reactor scram
e. The apparent anomalies associated with the main steam line flow instruments
f. Other failures which may be subsequently identified during the AIT evaluation of the event

STATUS

On February 18, 1992, the station issued its final investigation report (GCT-92-008) for the event in question. The investigation team was chartered with determining the root cause of the scram and associated equipment failures. The root cause of the scram focused on the apparent false signal of a main steam line break as sensed by the high flow differential pressure switches. An exhaustive search and testing program was conducted over the course of the investigation which showed the switches were performing properly and have a history of accurate and reliable service. The conclusion of the investigation team was that the root cause of the scram could not be determined and a recommendation was made to instrument the high flow switches to provide further monitoring diagnostics.

The failed HPCI stop valve was determined to be caused by inappropriate work instructions for the overhaul of the valve during the refuel outage in February 1991. The failure of the "C" relief valve to open was caused by vibration induced wear which caused a fine dust to settle in the cut-out switch contacts resulting in loss of continuity when the valve was called on to open. Significant enhancements in the maintenance of the relief valve actuators have been implemented to ensure further failures do not occur. The cause of the reactor feedwater pump not to trip on high reactor water level was instrument setpoint drift. Operator response to this was determined to be appropriate. The reactor feedwater pump trip switch was recalibrated and verified to trip at the proper setpoint. The spiking of the main steam line flow indicator was determined to be a faulty power supply. All four main steam line flow indicators were recalibrated or replaced to ensure proper readings prior to start-up.

This action is considered complete. A copy of the report has been provided to the NRC Senior Resident Inspector. Questions on the report should be directed to Mr. G.C. Tietz, Technical Superintendent, Quad Cities Station, (309) 654-2241 Ext. 2214.

II. Place the "C" relief valve and the HPCI stop valve H01-2317 in quarantine until released by the NRC AIT.

STATUS

The "C" relief valve and HPCI stop valve H01-2317 were placed in quarantine and subsequently released by the AIT lead investigator.

III. Maintain documentary evidence of your investigation effort and make this evaluation available to the AIT.

STATUS

All documentation utilized during the investigation is on file at the station. All of this information was made available to the AIT during their investigation.

IV. Evaluate these most recent equipment failures and operator actions in light of past equipment failures and operator performance to determine if additional actions are necessary.

STATUS

The investigation team made an evaluation of equipment performance on operator performance. This was done in an attempt to assess if a trend of equipment failure was occurring that could be impacting the operators ability to cope with transients. None events were evaluated over the last two years. The conclusion reached was that there were no equipment performance problems identified which presented a significant impact on operating performance. This evaluation is documented in the February 18, 1992 CECo Final Investigation Report (GCT-92-009).

V. Provide to NRC Region III a documented evaluation of the above issues including corrective actions you have taken or plan to take.

STATUS

A copy of the CECo Investigation Report has been provided to the NRC Senior Resident Inspector. Questions on the report can be directed to Mr. G.C. Tietz, Technical Superintendent, Quad Cities Station, (309) 654-2241 Ext. 2214.

ATTACHMENT B

RESPONSE TO AIT INVESTIGATION
INSPECTION REPORT 254/92007

The AIT Report identified four concerns to be addressed in conjunction with the CAL response. CECo has reviewed these concerns and provides the following response:

Multiple equipment failures raised concerns about the plant maintenance program.

A. Concerns about practice of periodically operating with a large number of instruments with off normal indication (ONI) tags.

Quad Cities Response:

Quad Cities station has replaced or repaired defective components in the Main Steam Line Flow Indication instrument loops to remove ONI's prior to Unit 1 start-up and will complete repairs and/or replacements on Unit 2 prior to its start-up. By May 31, 1992, the station will evaluate the ONI system including prioritization and resolution.

B. Lack of preventive maintenance on the electromatic relief valves (ERV).

Quad Cities Response:

The station will enhance ERV maintenance procedures to include acceptance criteria for resistance across the shorting bar, a periodic inspection of the actuator parts, and lubrication of the actuator parts which exhibit wear. This is scheduled to be accomplished by October 1, 1992, prior to the Unit 1 refuel outage.

The above preventative maintenance actions have been performed on the Unit 2 ERVs.

The station has also inspected and over-hauled worn parts within the actuator prior to start-up of Unit 1.

By August 30, 1992 the station will evaluate brass parts for possible material replacements.

C. Inadequate control of maintenance on the stop valve in the high pressure coolant injection (HPCI) system which was inoperable during this event.

Quad Cities Response:

The current Work Control Process provides controls which reasonably could have precluded this failure. The station and Engineering and Construction (ENC), will evaluate the Work Control Process and it's implementation to assure that acceptance criteria is provided. This is scheduled to be accomplished by May 31, 1992. Also, the station is performing random reviews of ENC Unit 2 work packages to verify that appropriate acceptance criteria is included. Results to date have found no unacceptable ENC work packages. These reviews are based on Maintenance judgment, experience, and good mechanical practices.

Additional Station Actions

During the station investigation, the team evaluated equipment failures during the scram, in conjunction with four previous events and nine scrams which occurred in the last two years, for the effect of equipment failures on the ability of the operators to perform their required actions in response to an emergency situation. In all cases evaluated, the equipment problems did contribute minor distractions to operators; however, the equipment failures did not hamper the operators ability to respond to the event.

By May 30, 1992, the station will evaluate its pre-start-up On-Site Review (OSR) process to assure that critical equipment failures are sufficiently investigated prior to start-up from outages and restart from scrams in order to prevent repeat failures.

For equipment failures that occurred that have not been addressed by this report, the following actions have been taken:

A. RFP High Level Trip Switches:

1. By June 30, 1992, the station will evaluate the replacement of the switches with state of the art technology.

2. By September 10, 1992, the station will calibrate the Yarway RFP high level trip switches on a quarterly basis as opposed to the current schedule of every refuel outage.

ATTACHMENT B

RESPONSE TO AIT INVESTIGATION
IR 254/92007
(continued)

B. Main Steam Line High Flow instrumentation:

1. Because the actual cause of the scram could not be determined, the following measures will be taken to ascertain the root cause:

   a. The station installed instrument test equipment on the hydraulic lines and the electronics prior to start-up of Unit 1.

   b. By May 30, 1992, the station will evaluate replacing the Main Steam Line flow dp switches with analog trip instrumentation.

   c. The station wired the precursor Group 1 isolation computer points to the Sequence of Events recorder prior to start-up of Unit 1 and will wire Unit 2 prior to its start-up.