



Commonwealth Edison  
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July 22, 1992

Dr. Thomas E. Murley, Director  
Office of Nuclear Reactor Regulation  
U.S. Nuclear Regulatory Commission  
Washington D.C. 20555

ATTN: Document Control Desk

Subject: Quad Cities Station Unit 2  
Completion of Commitments Associated  
with Unit 2 Cycle 11 (Q2R11) Refuel Outage  
NRC Docket No. 50-265

- Reference:
- (a) M.H. Richter letter to the NRC dated January 29, 1990.
  - (b) D. Taylor letter to the NRC dated November 14, 1990.
  - (c) D. Taylor letter to the NRC dated June 28, 1991.
  - (d) Conference Call between CECO (J. Schrage) and NRR (L. Olshan) on May 6, 1992.
  - (e) R. Stols letter to T.E. Murley dated August 27, 1990
  - (f) J.L. Schrage letter to T.E. Murley dated January 10, 1992.
  - (g) R. Stols letter to T.E. Murley dated June 10, 1991.
  - (h) R. Stols letter to T.E. Murley dated June 28, 1991.
  - (i) J.L. Schrage letter to T.F. Murley dated November 15, 1991.
  - (j) M.H. Richter letter to the NRC dated October 30, 1989.

Dr. Murley,

On May 11, 1992, Commonwealth Edison (CECO) returned Quad Cities Station Unit 2 to service following the unit's eleventh refuel outage (Q2R11). In the course of that outage, CECO completed actions related to various NRC commitments. This letter provides a summary of the applicable commitments and their status following the refuel outage.

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In References (a) and (b), CECO provided a response to Generic Letter 89-13 "Service Water Problems Affecting Safety Related Equipment". This response included appropriate commitments and an implementation schedule for the commitments for each CECO nuclear station. Reference (c) provided the status of the Quad Cities Station commitments following the eleventh refuel outage on Unit 1 (Q2R11). In the attachment to that letter, CECO indicated that a common biocide modification would be installed prior to unit start-up following Q2R11 (GL 89-13 Item I). The installation of this modification was completed to the point of post-construction testing at the time of Unit 2 start-up. However, this testing identified electrical wiring problems in the control logic circuit. CECO discussed this information prior to unit start-up with NRR in the Reference (d) teleconference. In that teleconference, CECO indicated that an additional 90 days would be needed to adequately troubleshoot and resolve the wiring problems. Commonwealth Edison will notify the NRR Project Manager when these actions have been completed. An itemized status of all Generic Letter 89-13 commitments for Quad Cities Unit 2 is described in the Attachment.

In Reference (e), CECO submitted a proposed schedule for completion of modifications in response to Generic Letter 84-23 "Reactor Vessel Water Level Instrumentation in BWRs". This proposed schedule was revised in Reference (f) to account for a delay in the scheduled start date of Q2R11. The penetrations for Unit 2 were installed during Q2R11. As previously stated, the modification will be completed during the twelfth refuel outage (Q2R12), which is currently scheduled to begin in March 1993.

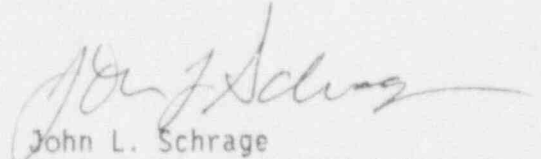
In response to Local Leak Rate Testing (LLRT) concerns, CECO submitted a proposed modification and associated Technical Specification for the High Pressure Coolant Injection (HPCI) system (References (g) and (h)). The modification was planned for installation during Q2R11. The modification added new vacuum breakers to the HPCI system. These vacuum breakers established a testable primary containment air boundary, and established a water seal between primary containment and the HPCI turbine exhaust check valve. In Reference (i), CECO indicated that installation of the HPCI steam exhaust line sparger would be delayed until Q2R12. The NRC issued Amendment 130 to DPR-30 and the associated Safety Evaluation on February 21, 1992. The NRC revised this Safety Evaluation on April 29, 1992. CECO completed the modification (with the approved exception of the HPCI steam exhaust line sparger), and implemented Amendment 130 to DPR-30 prior to unit start-up following Q2R11.

In Reference (j), CECO provided a response to Generic Letter 89-16 "Installation of a Hardened Wetwell Vent". This response stated that CECO would install a Hardened Wetwell Vent on Quad Cities Unit 2 by January 1, 1993. CECO installed the outage portion of the modification prior to unit start-up following Q2R11. The non-outage (or common) portion will be installed by August 30, 1992. Since the common portion of the system must be out-of service during installation of the Unit 1 system, the Unit 2 system will not be placed into service until completion of the Unit 1 system. This is scheduled to be installed prior to the end of the upcoming Unit 1 refuel outage (currently scheduled to begin September 1992).

July 22, 1992

If there are any questions or comments on this information, please contact John L. Schrage at 708-515-7283.

Sincerely,



John L. Schrage  
Nuclear Licensing Administrator

Attachment

cc: A. Bert Davis, Regional Administrator - RIII  
L.N. Olshan, Project Manager - NRR  
T.E. Taylor, Senior Resident Inspector - Quad Cities  
Office of Nuclear Safety - IDNS

## ATTACHMENT

### STATUS OF COMMITMENTS ASSOCIATED WITH GENERIC LETTER 89-13

#### GL 89-13 Item I:

Implement and maintain an ongoing program of surveillance and control techniques to significantly reduce the incidence of flow blockage problems as a result of biofouling for open cycle service water systems.

#### CECo Actions

##### a. Intake Structure Inspection

Intake structure inspections have been completed for Quad Cities Unit 2. The inspection of the Service Water (RHRSW) intake bay was performed by a diver in December 1991. The inspection identified varying depths of silt at different locations in the RHRSW intake bay. All silt accumulations were removed. Minor damage to the north and south screens was identified. CECO has repaired the damage. No evidence was found of structural concrete degradation of any type.

##### b. Continuous Chlorination

A biocide modification common to both Unit 1 and Unit 2 was originally scheduled to be installed prior to startup following Q2R11. The modification consists of a skid which will inject sodium hypochlorite and sodium bromide into the RHRSW pump suction pipes whenever the RHRSW or Diesel Generator Cooling Water (DGCW) pumps are in operation. The installation was completed to the point of post-construction testing at the time of Unit 2 startup. However, this testing identified electrical wiring problems in the control logic circuit. CECO discussed this information prior to Unit start-up with the NRC in a teleconference on May 6, 1992. In that teleconference, CECO indicated that an additional 90 days would be needed to adequately trouble shoot and resolve the wiring problems.

Commonwealth Edison will notify the Project Manager when these actions have been completed.

c. **Flushing and Flow Testing for Redundant and Infrequently Used Cooling Loops.**

Station surveillance procedures require testing of DGCW flow through the ECCS Room Cooler Supply header and the DG heat exchangers on a monthly basis. Existing surveillance procedures also address establishing 3500 GPM of RHRSW flow through the RHR heat exchangers on a monthly basis. During refuel outage Q2R11, CECO installed a modification to the ECCS room coolers to allow cooling coil water side differential pressure monitoring. This modification also replaced the cooling water throttling valves to allow more accurate control of cooling water flow rates. CECO confirmed the capability to flow balance the cooling water to the various heat exchangers by the Diesel Generator Cooling Water system.

The differential pressure indications for the ECCS Room Coolers and RHRSW Pump Cubicle Coolers are monitored via separate surveillance procedures. In addition, various operating surveillances also require flushing of the LGCW and RHRSW lines.

d. **Water and Substrate Sampling**

CECO performed an annual substrate sampling in August 1991. No problems were noted during the inspection, although some Asiatic clam relics were present in some samples. The sampling indicated that Corbicula (Asiatic clams) and zebra mussels do not pose a problem to station operation at this time. This sampling will be performed once per calendar year.

**GL 89-13 ITEM II:**

Implement a heat exchanger test program for the safety-related open cycle system heat exchangers. Routine maintenance on the heat exchangers may be used in lieu of testing. Heat exchanger performance will be trended and monitored for the next three refuel outages in order to determine an optimal test or inspection frequency.

**CECO Actions**

All heat exchangers that were due to be tested or inspected during the Unit 2 outage were satisfactorily tested, or inspected and cleaned as necessary. The thermal performance test of the Unit 2 RHR Heat Exchanger 'A' passed the acceptance criteria, but questions were raised during the NRC Service Water System Operational Performance Inspection regarding whether the test should be performed with one or two RHRSW pumps in operation. These questions are being addressed at this time. CECO has implemented a long-term program for inspection and cleaning of safety-related heat exchangers during future outages.

GL 89-13 ITEM III:

Identify significant degradation of the safety-related service water system piping due to high flow erosion and low flow corrosion.

CECo Actions

UT examination of high and low flow or stagnant locations were satisfactorily completed. CECO has instituted a long-term program for ui examination of cooling water lines to safety-related heat exchanger; during future outages. Corrosion coupons were installed on Unit 2 prior to startup following Q2R11.

GL 89-13 ITEM IV:

Perform a design analysis of the safety-related open-cycle and closed-cycle service water systems.

CECo Actions

This design review was previously completed (Reference (c)). Corrective actions are in progress pertaining to several minor issues identified during the design review. Further evaluation of the remaining issues is underway to determine the most appropriate course of action.