



Commonwealth Edison
1400 Opus Place
Downers Grove, Illinois 60515

April 7, 1994

Mr. William T. Russell, Director
Office of Nuclear Reactor Regulation
U.S. Nuclear Regulatory Commission
Washington D.C. 20555

Attn.: Document Control Desk

Subject: Quad Cities Station Units 1 and 2
Additional Information Pertaining to the Proposed Revision to the
Reactor Water Cleanup (RWCU) Outboard Piping Inspection and
Replacement Plan for Quad Cities Station
NRC Docket Nos. 50-254 and 50-265


References: (a) J.L. Schrage to W.T. Russell letter dated February 22, 1994
(b) Teleconference on March 7, 1994 between NRC (C. Patel)
and CECo (J. Schrage)

Mr. Russell,

In Reference (a), Commonwealth Edison Company (CECo) provided information pertaining to a proposed revision to the Reactor Water Cleanup (RWCU) Outboard Piping Inspection and Replacement Plan for Quad Cities Station. In the Reference (b) teleconference, the NRC requested additional information pertaining to the constraints which would prevent CECo from implementing replacement activities for the RWCU outboard supply side piping earlier than the schedule provided in Reference (a) (i.e. during a scheduled Quad Cities Station Unit 1 maintenance outage in Fall 1994). The Attachment to this letter transmits that additional information.

If there are any further questions, please contact John L. Schrage at 708-663-7283.

Very truly yours,


John L. Schrage
Nuclear Licensing Administrator

Attachment

cc: J. Martin, Regional Administrator-RIII
C. Miller, Senior Resident Inspector-Quad Cities
C. Patel, Project Manager-NRR
Office of Nuclear Facility Safety - IDNS

10004

9404140030 940407
PDR ADDCK 05000254
PDR

A001
1/1

ATTACHMENT

RWCU Outboard Piping Replacement Constraints

The replacement of the RWCU Outboard supply side piping cannot be performed during the Quad Cities Unit 1 Fall 1994 maintenance outage due to outage, as well as, design/procurement constraints.

Outage Constraints

The Unit 1 Fall 1994 maintenance outage is currently scheduled for approximately 8 weeks. During that outage, the fuel will not be off-loaded from the vessel, therefore, it is essential to use the RWCU System for chemistry control and as a back-up for shutdown cooling. In addition, the RWCU System will be used for level control (blowdown) due to continued operation of the CRD System, which will add inventory to the vessel.

Design/Procurement Constraints

Irrespective of the outage constraints, the decision for a Fall 1994 maintenance outage on Unit 1 was made in a timeframe (January 1994) which would not allow for the completion of design/procurement activities to support the outage. The following discussion provides further information on this matter by briefly detailing the recent inspection history, and the scope (and design approach aspects) of the RWCU pipe replacement project.

In accordance with the RWCU inspection plan, Unit 2 weld inspections were performed during the unit's Spring 1993 refueling outage (Q2R12). The weld inspection results revealed the presence of IGSCC. As a result, design activities were initiated for Unit 2 to support the replacement of the outboard supply side piping during the unit's next refueling outage (Q2R13, January 1995), which at that time was scheduled for the Fall of 1994. Design activities were initiated for Unit 2, in lieu of Unit 1, based on the fact that the lead time to the upcoming Unit 1 refueling outage (Q1R13, Spring 1994) would not accommodate finalization of the design to support fabrication and procurement activities (given the scope and design approach of the project).

The scope of the RWCU pipe replacement project includes not only the replacement of the susceptible piping, which will be replaced with piping of enhanced/upgraded material, but also a modification to the system configuration. The RWCU System will be modified from a dual train configuration (consisting of a set of regenerative and non-regenerative heat exchangers in each train) to a modified single train configuration (consisting of a single set of regenerative heat exchangers and dual/parallel set of non-regenerative heat exchangers). Therefore, in addition to the replacement of the susceptible piping, the regenerative heat exchangers and their associated manual isolation valves will also be replaced.

ATTACHMENT (cont.)

The replacement/new piping will be manufactured to strict chemical specifications, which limit the maximum carbon (0.020%) and cobalt (0.1%) content. Additionally, the piping will be bent, thereby reducing the number of fittings and field welds on the system and allowing the piping to be electropolished. The chemical composition of the piping coupled with the electropolishing will ensure maximum protection against future IGSCC initiation and significantly reduce future radiation dose buildup on the system. Since the piping is to be bent, the routing has to be determined and piping analysis has to be completed before final fabrication isometrics can be provided for the manufacturing of the piping.

Given the scope (modification of system configuration and regenerative heat exchanger replacement) and design approach for the RWCU pipe replacement effort, a lead time of approximately 13 months is required for design, fabrication, and procurement activities. Therefore, irrespective of the previously mentioned outage constraints, the decision to implement the Fall 1994 maintenance outage on Unit 1 was made in a timeframe (January 1994) which would not allow for the completion of design/procurement activities to support the outage.