U.S. NUCLEAR REGULATORY COMMISSION
REGION III

Report No. 50-265/91022(DRS)

Docket No. 50-265 License No. DPR-30

Licensee: Commonwealth Edison Company
Opus West III
1400 Opus Place
Downers Grove, IL 60515

Facility Name: Quad Cities Station, Unit 2

Inspection At: Quad Cities Site, Cordova, IL

Inspection Conducted: January 7-9, 16, March 2 and 12, 1992

Inspector: K. D. Ward 3/17/92
K. D. Ward Date

Accompanied By: B. Metrow (IDNS)
(January 7-9, 16, March 2 and 12, 1992)

Approved By: J. M. Jacobson 3-17-92
J. M. Jacobson, Chief Date
Materials & Processes Section

Inspection Summary

Inspection on January 7-9, 16, March 2 and 12, 1992 (Report No. 50-265/91022(DRS)
Areas Inspected: Routine, unannounced safety inspection of inservice inspection (ISI) activities including review of programs (73051), procedures (73052), observation of work activities (73753), and data review (73755), erosion/corrosion (E/C) program (73052, 73052, and 73755).
Results: No violations or deviations were identified. Based on the results of the inspection, the NRC inspector noted the following:

- The ISI and E/C programs were adequately planned with appropriate priorities assigned by the licensee.
- Personnel performing nondestructive examinations, appeared to be knowledgeable and conscientious in their work.
- Management involvement and commitment to a quality ISI and E/C effort was evident.

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DETAILS

1. Persons Contacted

Commonwealth Edison Company (CECo)

*R. Bax, Station Manager
*T. Kuksuk, ISI Coordinator
*R. Ruesch, E/C Coordinator
*S. Strop, Nuclear Quality Programs Inspector
*L. Hamilton, Regulatory Assurance
T. Spry, Project Director
K. Sturtecky, Site Coordinator

U.S. Nuclear Regulatory Commission (NRC)

*T. Taylor, Senior Resident Inspector
J. Shine, Resident Inspector
P. Prescott, Resident Inspector

Illinois Department of Nuclear Safety (IDNS)

*B. Metrow, IDNS Engineer

G.E. Nuclear Energy (GE)

T. Brinkman, Project Manager

Hartford Steam Boiler Inspection and Insurance Company (HSB)

G. Bosley, ANII

The NRC inspector also contacted and interviewed other licensee and contractor employees.

*Denotes those present at the exit interview on March 12, 1992.

2. Inservice Inspection Unit 2

a. Program Review (73051)

Personnel from CECO and GE performed the ISI in accordance with ASME Section XI, 1980 Edition, Winter 1980 Addenda. The sampling inspection plan for addressing intergranular stress corrosion cracking (IGSCC) was in accordance with Generic Letter (GL) 88-01. The two welds examined in accordance with GL 88-01 were found to be acceptable. Where ASME requirements were determined to be impractical, specific relief requests were submitted to the Office of Nuclear Reactor Regulation (NRR) in writing. The NRC inspector reviewed the specific relief requests including the related correspondence between the licensee and the NRC. The NRC inspector reviewed CECo Surveillance Report No. QAS 04-92-007

concerning ISI activities. These efforts were found to be acceptable, and performed by qualified personnel. Organizational staffing for the ISI program was found to be acceptable.

b. Procedure Review (73051)

All applicable ISI procedures were approved by the authorized nuclear inservice inspector (ANII) and were reviewed by the NRC inspector. The ISI procedures were found to be acceptable and in accordance with ASME Section V, 1980 Edition, Winter 1980 Addenda.

c. Data Review (73755)

The examination data was in accordance with the applicable ISI procedures and ASME Code requirements. The NRC inspector reviewed documents related to nondestructive examination (NDE) equipment, data, and evaluations.

d. Observation of Work Activities (73752)

The NRC inspector observed work activities and had discussions with personnel during the ISI activities. These observations included the following:

(1) GE personnel performing ultrasonic examinations on pipe welds No. 2304-3, No. 2342-2 and No. 1012A-10. These welds were on the RHR system. Ultrasonic examinations were also observed on pipe weld No. 2305-20. This weld was on the HPCI system.

(2) GE personnel performing magnetic particle examinations on pipe welds No. 2302-41.A and No. 230520. These welds were on the HPCI system.

(3) GE personnel performing ultrasonic examinations on the reactor head calibration block, demonstrating their capabilities to the CECo Level III UT examiner, ANII, IDNS inspector and the NRC inspector.

(4) ANII performing a surveillance on pipe welds No. 2304-3, No. 2342-2, and No. 2302-4.1A. This effort included observing ultrasonic and magnetic particle examinations and review of data.

(5) CECo personnel performing visual examinations on supports No. 3950-M-305, No. 3950-M-305.1, No. 3950-M-306, and No. 3950-M-307. These supports were on the diesel generator cooling water system.

(6) CECo personnel performing visual examinations (VT) of the reactor vessel internals using an underwater TV camera.

The examination included the vessel interior surfaces, internals, and integrally welded components.

(7) Portions of the repair of the shroud support access hole covers. Cracks were observed in the vertical crevices of both access hole cover welds. The cracks were discovered by UT and confirmed by VT. UT showed circumferential cracks averaging approximately 75% through wall with several small areas completely through wall.

The repair method was by installation of a General Electric designed toggle clamp through the access hole cover. The toggle clamp was installed by using electrical discharge machining (EDM) to make an approximately 4" by 5" hole through the access hole cover. All work was performed underwater using remote visual methods. The toggle clamp captures the access hole cover from above and below in the event the access hole cover breaks loose. CECo developed a long term inspection program for the toggle clamp hardware and existing access hole cover configuration. This program establishes a method for examination; identifies an acceptance criteria; and describes contingency plans for the access hole cover repair hardware.

The NRC inspector reviewed the qualifications and certifications of all inspection personnel performing ISI to ensure conformance with SNT-TC-1A.

No violations or deviations were identified.

3. Erosion/Corrosion Activities (73051, 73052, 73755)

Commonwealth Edison Company began their erosion/corrosion (E/C) program in 1988. A formalized procedure and administrative controls were established to ensure continued long term implementation of the E/C monitoring program for piping and components. This program was applicable to both safety related and nonsafety related systems with respect to E/C. Various references were used to establish the program, including NRC Bulletin No. 87-01, "Pipe Wall Thinning" and EPRI-NP-3944, "Erosion/Corrosion in Nuclear Power Plant Steam Piping."

An inspection sample is selected prior to every refueling outage utilizing the EPRI Chec, Checmate Computer Program. This program considers such variables as the effects created by poor geometry, high fluid velocities, moisture content, temperature conditions, historical chemistry data and piping/component material. When a piping component is found that has exhibited wall thinning due to E/C, an engineering analysis is performed. This analysis determines if the degraded component is acceptable for continued use or if repair/replacement is required. To date there have been many component repairs and replacements, such as, repair of low pressure turbine nozzles, and

replacement of various flow line fittings and drain lines. The NRC inspector reviewed the program, procedures and data.

No violations or deviations were identified.

4. Exit Interview

The NRC inspector met with licensee representatives (denoted in Paragraph 1) at the conclusion of the inspection and summarized the scope and findings of the inspection noted in this report. The NRC inspector also discussed the likely informational content of the inspection report with regard to documents or processes reviewed by the inspector during the inspection. The licensee did not identify any such documents/processes as proprietary.