

U. S. NUCLEAR REGULATORY COMMISSION

REGION III

Report No.: 50-455/85021(DRP)

Docket No.: 50-455

License No.: CPPR-131

Licensee: Commonwealth Edison Company
Post Office Box 767
Chicago, IL 60690

Facility Name: Byron Station, Unit 2

Inspection at: Byron Station, Byron, IL

Inspection Conducted: June 18 - July 15, 1985

Inspectors: J. M. Hinds, Jr.
K. A. Connaughton
R. M. Lerch

Approved By: *W.L. Forney*
W. L. Forney, Chief
Reactor Projects Section 1A

8/02/85
Date

Inspection Summary

Inspection on June 18 - July 15, 1985 (Report No. 50-455/85021(DRP))

Areas Inspected: Routine, unannounced safety inspection by two resident inspectors and a regional inspector of licensee action on previous inspection findings; IE Bulletins; SER Items; 10 CFR 50.55(e) reports; containment polar crane bolting; housekeeping; and allegations. The inspection consisted of 115 inspector-hours onsite by 3 NRC inspectors including 11 inspector-hours during off-shifts.

Results: No violations or deviations were identified and no issues were identified which indicate potential public health and safety concerns.

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DETAILS

1. Persons Contacted

Commonwealth Edison Company

T. Maiman, Manager of Projects
V. Schlosser, Byron Project Manager
R. Querio, Station Superintendent
*G. Sorensen, Project Construction Superintendent
R. Tuetken, Byron Startup Superintendent
*M. Loehman, Project Construction Assistant Superintendent
E. Martin, Quality Assurance Superintendent
J. Borgner, Quality Assurance Group
*R. Klingler, Quality Control Supervisor
J. Binder, Lead Electrical Engineer
*F. Hornbeak, Unit 2 Technical Staff Supervisor
D. Pyatt, Project Construction
J. Maholovich, Lead Structural Engineer
J. Langan, Compliance
J. Binder, Project Electrical Supervisor

Blount Brothers Incorporated

B. Bay, Quality Assurance/Quality Control Manager
D. Hoffman, Level II Quality Control Inspector

Hunter Corporation

M. Somsag, Quality Assurance Manager

Hatfield Electric Company

A. Smith, Quality Assurance/Quality Control Manager

The inspectors also contacted and interviewed other licensee and contractor personnel during the course of this inspection.

*Denotes those present at the exit interview on July 15, 1985.

2. Action on Previous Inspection Findings (92701)

- a. (Closed) Open Item (455/85006-02(DRP)): Shimming of Engineered Safety Feature (ESF) battery rack side rails. The inspector reviewed completed Nuclear Work Requests (NWRs) B17549 and B17550 which documented installation of permanent washer shims on ESF battery racks 211 and 212, respectively. The NWRs correctly specified that a 0 to 3/8 inch gap between the cells and side rails be established utilizing the washers. The inspector visually examined the battery racks and verified that temporary shimming material had been removed and the battery cell-to-side rail gaps were in accordance with the NWRs.

- b. (Closed) Open Item (455/85017-01(DRP)): Prevention of equipment problems experienced on Byron Unit 1. During a management meeting held on July 2, 1985, the licensee presented the "Byron Unit 2 Lessons Learned Program." The inspectors were provided with written program descriptions as well as sample documentation for each of the program elements. The program outlined source documents for the development of preoperational and startup test procedures as well as test procedure writing and review methods. The inspectors determined that the program, as described, provided for a comprehensive review of knowledge gained during the Unit 1 preoperational and startup test phases as well as commercial operating experience. The program provided documentation of this review and described how preoperational and startup test procedures would be revised, as necessary, to preclude repetition of problems encountered on Unit 1.

3. Inspection and Enforcement Bulletin (IEB) Followup (92703)

(Closed) IEB (454/84001-BB): Cracking in boiling water reactor Mark I Containment Vent Headers. The subject IEB was dispositioned by licensee review as not applicable since Byron Unit 2 is a PWR. No further action was required with regard to the subject IEB.

4. Byron Safety Evaluation Report (SER) Items (92719)

- a. (Closed) SER Open Item (455/83000-03): Class 1E emergency power to remote-manual isolation valves on Reactor Coolant Pump (RCP) seal injection lines.

The inspector reviewed Sargent and Lundy drawing #M-138, "Diagram of Chemical and Volume Control and Boron Thermal Regeneration," which indicated that valves 2CV8355A,B,C&D were the RCP seal injection isolation valves. The inspector also reviewed electrical drawings 6/20E-2-4030CV25 and 6/20E-2-4030CV26, the schematic diagram for Reactor Coolant Pumps 2A, 2B, 2C and 2D seal injection isolation valves 2CV8355A,B,C&D. Valves 2CV8355A&D were powered from 480VAC motor control center (MCC) 231. Valves 2CV8355B&C were powered from 480VAC Motor Control Center 232. MCCs 231 and 232 are fed from Class 1E emergency power buses.

- b. (Closed) SER Open Item (455/83000-04): The addition of containment isolation valves immediately outside containment on the redundant hydrogen recombiner supply and return lines.

The inspector reviewed Sargent & Lundy drawing M-150, "Diagram of Offgas System for Hydrogen Recombiners," which identified the containment isolation valves outside containment, as 20G082, 20G083, 20G084, and 20G085. By visual inspection, the valves were verified installed at penetrations P-13, P-69, P-13 and P-23 respectively. Sargent & Lundy drawings 6/20E-2-40300G11 and 6/20E-2-40300G12, "Schematic Diagrams for Hydrogen Recombiner Suction and Supply

Containment Isolation Valves," were also reviewed. The Class 1E electrical division, phase A isolation contacts and controls and position indications in the main control room agreed with SER descriptions.

Byron SER, Supplement 5, Section 6.2.5 described the electrical division for both units hydrogen recombiners and the suction and discharge valves 00G059, 00G060, 00G065, and 00G066. Review of Sargent & Lundy drawings M-47, "Diagram of Offgas System Hydrogen Recombiners," for Unit 1 and M-150 for Unit 2 showed electrical division between Class 1E power supply divisions E11 and E12 as described. In addition, the SER described a licensee commitment to administratively control the discharge valves open during normal operation. Byron Operating Procedures BOP OG-M3, "Hydrogen Recombiner Valve Lineup," dated 05/14/84 specified that the Unit 1 and Unit 2 discharge valves be in the open position. No problems or inconsistencies were identified.

- c. (Closed) SER Open Item (455/83000-05): Containment isolation valves added to chilled water return lines inside containment.

The inspector reviewed Sargent & Lundy drawing M-118, "Diagram of Containment Chiller Water System". The isolation valves inside containment for the chilled water return lines were motor operated, Nos. 2W0056A and 2W0056B. The inspector reviewed Sargent & Lundy drawing 6/20E-2-4030W012, "Schematic Diagram Chilled Water Containment Isolation Valves 2W0056A and 2W0056B," which showed the phase A isolation contacts, main control room controls, position indications, and electrical Class 1E divisions. The design was in agreement with the SER description. By visual inspection, these valves were verified installed.

- d. (Closed) SER Open Item (455/83000-06): Upgrade Essential Service Water (ESW) lines to and from containment fan coolers to quality group B. Debris screen added to miniflow purge system supply duct. The inspector reviewed Sargent & Lundy Drawing #M-126, "Diagram of Essential Service Water (Primary Containment Vent System)," which identified the previous quality group B to C boundary at the valves isolating the ESW coils on the four reactor containment fan coolers (RCFC). There were two coolers per RCFC, their boundary valves were:

2SX018A,B,C&D to 2SX021A,B,C&D
2SX022A,B,C&D to 2SX025A,B,C&D

The inspector reviewed Hunter Corporation main isometric drawings and packages SX-48, SX-49, SX-52 and SX-53 for cooler trains A&B. In train A, drawings and packages SX48-9, 48-33 and 48-34 for spool rework to one side of one A cooler train were reviewed. All documentation tracked from isometric weld joint numbers to weld joint documentation and showed the rewelds and

non-destructive examinations (NDE) required to upgrade the lines to quality group B. The package included weld process sheets, NDE requests and final inspection reports. The inspector examined the miniflow purge system supply duct. The licensee has installed a debris screen made of flat bar steel welded in a mesh pattern inside the duct.

No violations or deviations were identified.

5. 10 CFR 50.55(e) Reports (92700)

(Closed) 50.55(e) Report (455/82001-EE): Defective lube oil strainer basket in standby diesel generator lube oil systems. This item was previously reviewed in NRC Inspection Report No. 455/84029 and remained open pending installation of the replacement lube oil strainer basket in diesel generator 2DG010B. The inspector was informed by licensee personnel that installation was performed on June 14, 1985, and that the only remaining work related to this item was installation of a closure gasket on the strainer housing cover. The inspector reviewed Hunter Corporation Mechanical Joint Process Sheet for Job Traveler Package No. P-DG-868 which was written to require installation and inspection of the gasket and reassembly of the strainer housing.

6. Containment Polar Crane Bolting (92706)

a. Background

On June 17, 1985, the inspector was informed by NRC resident inspection personnel assigned to the licensee's Braidwood Station of problems with bolting on the Braidwood polar crane ring girder supports. Specifically, bolts were observed to be loose, installed without required washers, and in one case, missing. Quality control inspection documentation associated with the Braidwood installation indicated that bolt installation including torque had been verified in accordance with applicable design requirements. It was therefore believed that the bolts may have loosened over time as a result of polar crane operation. Based upon the foregoing, the inspector reviewed the Byron Unit 2 polar crane bolting installation to determine whether or not problems similar to those observed at Braidwood were present.

b. Inspection

The inspector reviewed Sargent and Lundy structural drawings S-922, "Containment Building Crane Girder Plan Sections and Details," Revision A0, dated 5-24-85 and S-941, "Containment Building Liner Embedment Sections and Details," Revision T, dated 4-27-84. The drawings provided details of the ring girder flange-to-support bolted connections, including washer requirements and bolt torque requirements.

On June 18, 1985, the inspector discussed the NRC findings at Braidwood with licensee personnel and inquired as to whether or not loosening of the bolts subsequent to original installation and torquing had been observed at Byron. Licensee personnel stated that they had not.

Subsequently, on June 19, 1985, the inspector visually examined several of the bolted connections in the presence of quality control personnel from Blount Brothers, Inc. The inspector determined that all bolts examined could not be loosened by hand unlike many of the bolts at Braidwood. On June 20, 1985, Blount Brothers, Inc. performed a surveillance of the bolting to assure that the jam nuts and strength nuts were at least snug tight while taking care not to disturb the torque values previously established and documented in quality control inspection reports. Of 260 total jam and strength nuts surveyed 260 nuts were found to be greater than or equal to snug-tight as defined in the AISC code.

Based upon direct inspection and the reported results of the surveillance performed by Blount Brothers, Inc., the inspector was satisfied that the deficient conditions identified at Braidwood did not exist at Byron Unit 2.

No violations or deviations were identified.

7. Housekeeping/Care and Preservation of Safety Related Components (92706)

The inspectors conducted plant tours of Unit 2 between June 18 and July 15, 1985. Areas of the Unit 2 plant observed during the tours included the containment, fuel handling and storage areas, auxiliary building areas including the Unit 2 portion of the control room, and the turbine building. Areas were inspected for work in progress, state of cleanliness, overall housekeeping, state of fire protection equipment and methods being employed, and the care and preservation of safety-related components and equipment.

No violations or deviations were identified.

8. Allegations Provided by the Licensee Regarding Drug Use at Byron (99014)

- a. Allegation 1: On June 17, 1985, the licensee notified the inspector of an allegation related to drug use. This allegation was verbally received on June 16, 1985, by a corporate manager from a concerned citizen at a social function. The citizen identified an employee at the Byron Station whom the allegor had reason to believe may be using drugs off-site in a recreational manner. The corporate manager relayed this information to the Byron Site Superintendent who subsequently notified the inspector.

Findings: In keeping with the licensee's drug awareness program, on June 17, 1985, the individual was relieved of all duties at Byron Station, his site security clearance was revoked and he was notified of a review board to be convened on June 18, 1985. On June 18, 1985, a board consisting of Byron Station managers and union representatives reviewed the allegation with the individual. As a result of the Board's evaluation and recommendations, the individual was escorted to the Chicago General Office medical facility where the individual was interviewed by a senior coordinator of the Commonwealth Edison Employee Assistance Program (EAP). The individual also submitted to an observed specimen urinalysis following the interview. The test results of the urinalysis were negative. Based on the negative test results, recommendations of the EAP coordinator, and endorsement by the company physician, the individual was restored to security status and returned to full duty on June 20, 1985.

The licensee's management and supervisory personnel and the inspectors have monitored the individual's performance and no abnormal behavior during current work day observations have been observed. This allegation is considered closed.

- b. Allegation 2: On June 13, 1985, the licensee notified the inspectors of an allegation related to alcohol and drug use at Byron Station in parking lots and areas of the plant. This allegation was received in the form of a telephone call on June 12, 1985, at 2100 to the Byron Site Security Administrator at his home. The caller identified himself as a long time contractor employee and provided sufficient detailed information to the Security Administrator to establish reasonable creditability. The caller also identified 10 individuals, including some badge numbers and three contractor shops, whom he had reason to believe were using drugs and/or alcohol in the south parking lot during the lunch period and implied certain other site areas and times. The caller further stated that he may, in the future, elect to become further involved by coming forth with additional specific information and revealing his identity pending his first hand observations of the licensee's corrective measures to resolve this issue. The licensee has had no further contact from this individual as of the closing date of this report.

Findings: Based on the information received from the allegor, the licensee contacted the 10 individuals identified and arranged for them to report to the station security gate house at 1000 on June 20, 1985. At the gate house the individuals, together with union representatives, were met by security officers and escorted to an isolation area inside the gate house. Inside the gate house four teams consisting of two CECO security managers each, began individual interviews of the identified individuals. The interview teams used a battery of questions designed to gain information from the individuals related to the Byron Drug and Alcohol Abuse Policy

awareness, personal information, including type of work and location, and to specifically address the use or sale of drugs or alcohol on and off CECo property including observations or rumors of the use or sale of drugs or alcohol at Byron.

Simultaneously with the interviews the licensee conducted meetings with Project Construction Department (PCD), contractor supervisors, and station supervisors. The purpose of these meetings was to reiterate the CECo position as related to the CECo Drug and Alcohol Abuse Policy and to disseminate information, of a general nature, concerning the allegations and the Byron Station corrective measures to resolve these issues.

In addition, while the interviews were in progress, a search of the plant was made. Three teams, each consisting of a handler and a narcotics detection trained dog, made searches of a number of work site areas inside the plant buildings and other contractor controlled work site buildings on the grounds inside the security fence. The search areas included tool, equipment and material storage boxes, field desks and lockers, and lunch areas.

The inspectors attended the dog team searches, the policy meetings and the interviews. During the dog team searches no drugs were detected in any of the areas searched.

The inspector reviewed the licensee's report on the investigation of anonymous allegations concerning actions of contractor personnel at the Byron Station issued by the CECo Nuclear Security Director on June 26, 1985. The report describes the action plan and implementation schedule developed to investigate these allegations together with the results of the interviews and narcotics detection dog team searches. Based on the responses obtained from the individuals during the interviews and the failure to find any illegal drugs, substances, or paraphernalia during the searches, the licensee was unable to substantiate these allegations. Therefore, based on the licensee's findings and observation made by the resident inspector this allegation is considered closed.

No violations or deviations were identified.

9. Exit interview (30703)

The inspectors met with licensee representatives denoted in Paragraph 1 at the conclusion of the inspection on July 1, 1985. The inspectors summarized the purpose and scope of the inspection and the findings. The inspectors also discussed the likely informational content of the inspection report with regard to documents or processes reviewed by the inspectors during the inspection. The licensee did not identify any such documents/processes as proprietary.