

U.S. NUCLEAR REGULATORY COMMISSION  
OFFICE OF INSPECTION AND ENFORCEMENT

REGION III

Report No. 50-454/79-12; 50-455/79-12

Docket No. 50-454; 50-455

License No. CPPR-130; CPPR-131

Licensee: Commonwealth Edison Company  
P. O. Box 767  
Chicago, IL 60690

Facility Name: Byron Station, Units 1 and 2

Inspection At: Byron Site, Byron, Illinois

Inspection Conducted: July 23-26, 1979

Inspector: E. W. K. Lee *E. W. K. Lee*

8/15/79

Approved By: *D. H. Danielson*  
D. H. Danielson, Chief  
Engineering Support Section 2

8/16/79

Inspection Summary

Inspection on July 23-26, 1979 (Reports No. 50-454/79-12; 50-455/79-12)

Areas Inspected: Reactor Coolant Pressure Boundary and Safety Related Piping work activity and welding quality records. The inspector involved a total of 26 inspector-hours onsite by one NRC inspector.

Results: Of the six areas inspected, no items of noncompliance or deviations were identified in five areas, two items of noncompliance were identified in one area (deficiency - failure to follow procedure, Paragraph 9b; infraction - failure to control documents, Paragraph 12).

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## DETAILS

### Persons Contacted

#### Principal Licensee Employees

- \*J. T. McIntire, QA Supervisor
- J. Porter, QA Engineer
- \*G. Sorensen, Project Superintendent
- \*M. Stanish, QA Engineer
- \*R. Tuetkin, Leak Mechanical Engineer

#### Hunter Corporation

- M. Somsag, QA Supervisor
- A. Simon, QA Administration Supervisor

The inspector also contacted and interviewed other licensee and contractor personnel, including area superintendents and craftsmen.

\*Denotes those present at the exit interview.

#### Licensee Action on Previous Inspection Findings

(Closed) Unresolved Item (454/78-09-02; 455/78-09-02) - Mapping of prepared cavity in the base metal: The inspector reviewed Hunter Corporation inter-company correspondences No. HC-QA-05 and No. HC-QA-07 which contained additional information relative to mapping of prepared cavity in the base metal when grinding is required. It was determined that the information is acceptable and adequate.

(Closed) Unresolved Item (454/79-02-02; 455/79-02-02) - Root opening dimension: The inspector reviewed Hunter Corporation inter-company correspondence No. HC-QA-13 and established that the maximum and minimum root opening is specified.

(Closed) Noncompliance Item (454/78-09-03; 455/78-09-03) - Valve surveillance: The inspector reviewed the revised Hunter Corporation Site Implementing Procedure No. 3.801 (being reviewed by the licensee) and determined that it is acceptable.

(Closed) Deviation (454/78-09-04 and 455/78-09-04) - Welding Procedure Qualification Records: The inspector reviewed the revised welding procedures and qualification records and determined them to be acceptable.

(Open) Noncompliance Item (454/79-02-01; 455/79-02-01) - Backing ring gap opening and control of weld leg material: The inspector reviewed Hunter Corporation inter-company correspondence No. HC-QA-31 and determined that

the backing ring gap opening is specified. The corrective action for handling the return of welding material is being implemented and will be reviewed during a subsequent inspection.

Functional or Program Areas Inspected

1. Reactor Coolant Pressure Boundary and Safety Related Piping - Observation of Work and Work Activities, (Units 1 and 2)

The inspector toured the outdoor piping storage area. It was determined that: (1) spools are identified; (2) several spools are not resting on dunnage; (3) several spools are without end caps and (4) weeds up to approximately 2 ft high are growing around Area 6, Section "AA." The inspector established that this condition was noted by Hunter Corporation during their surveillance on July 20, 1979 and corrective actions are being implemented. The inspector stated this matter is considered unresolved pending a review during a subsequent inspection. (454/79-12-01 and 455/79-12-01)

No items of noncompliance or deviations were identified.

2. Reactor Coolant Pressure Boundary Piping - Observation of Work and Work Activities, (Unit 1)

- a. The inspector observed rigging and protection of Reactor Coolant System pipe spools No. RCI-6 and No. RCI-2. It was determined that work activities were performed in accordance with the applicable procedure and good construction practices were adhered to.
- b. The inspector observed the installed Reactor Coolant System Primary Loops 2 and 4. It was determined that the pipe runs were installed in accordance with the drawings.

No items of noncompliance or deviations were identified.

3. Reactor Coolant Pressure Boundary and Safety Related Piping - Welding Material Control, (Units 1 and 2)

a. Review of Documents

The inspector reviewed the following documents:

- (1) Hunter Corporation (Hunter) Site Implementing Procedure (SIP) No. 3.102, Rev. 1, "Material and Services Procurement"
- (2) Hunter SIP No. 3.602, Rev. 2, "Material Receiving and Inspection"

- (3) Hunter SIP No. 5.101, Rev. 5, "Weld Filler Material Control at Bulk Storage and Issue Stations"
- (4) Hunter SIP No. 5.501, Rev. 6, "Detailed Weld Filler Material Control"
- (5) Purchase Order, Receiving Inspection Report and Material Certification for E7018 Electrodes with heat No. 422E0691 and Lots No. 02-2-L805P and No. 02-2-L812R; 70S-2 welding rod with heat No. 065150; 70S-2 consumable inserts with heats No. 3789B131 and No. 4079B131; E308L-16 electrode with heat No. 04901 and lot No. 1D917M05; and ER308L welding rod with heat No. 743575.

It was determined that the above documents met the PSAR, 10 CFR 50, Appendix B and the applicable code requirements, except the E308L-16 electrode with heat No. 04901 and lot No. 1D917M05. The supplier failed to prepare test specimen using AC current. The licensee's contractor has initiated a nonconforming report for this matter and planned to prepare a test specimen on site using AC current.

b. Control of Materials

The inspector toured Hunter's welding material issuing station located in the Unit 1 Containment Building and the Auxiliary Building. It was determined that (1) the welding materials are properly identified and segregated; (2) the temperature of the rod ovens is maintained; (3) records are properly kept and (4) issuance and return of welding materials are controlled in accordance with approved procedures.

No items of noncompliance or deviations were identified.

4. Reactor Coolant Pressure Boundary Piping - NDE Work Activities (Unit 1)

The inspector observed liquid penetrant examination of In-core Instrument System welds No. FW-67, No. FW-163, No. FW-205 and No. FW-277. It was determined that: (1) surface condition was acceptable, (2) procedure requirements were met and (3) personnel are properly qualified.

No items of noncompliance or deviations were identified.

5. Reactor Coolant Pressure Boundary Piping - Visual Examination of Welds (Unit 1)

a. Visual Examination

The inspector visually examined the following completed welds:

- (1) Reactor Coolant System Loop 4, welds No. FW-45, No. FW-46, No. FW-47, No. FW-44, No. FW-42, No. FW-38 and No. FW-39.
- (2) Reactor Coolant System Loop 2, welds No. FW-18, No. FW-19, No. FW-20; No. FW-21, No. FW-22, No. FW-23, No. FW-14 and No. FW-15.

It was determined that (1) weld surface finish and appearance were acceptable and there was no evidence of wall thinning due to grinding; and (2) arc strikes and weld spatter were not evident.

b. Review of Records

The inspector reviewed weld data sheets for the following welds:

- (1) Reactor Coolant System Loop 4 welds No. FW-37, No. FW-38, No. FW-39, No. FW-40, No. FW-41 and No. FW-46.
- (2) Reactor Coolant System Loop 2 welds No. FW-24, No. FW-22, No. FW-19, No. FW-18, No. FW-15 and No. FW-13.

It was determined that (1) the records indicated inspections were completed and (2) records are clear and legible.

No items of noncompliance or deviations were identified.

6. Reactor Coolant Pressure Boundary and Safety Related Piping - Welder Qualification (Unit 1)

The inspector reviewed the following documents:

- a. Hunter SIP No. 5.301, Rev. 5, "Welder Qualification."
- b. Randomly selected the qualification record of eighteen (18) welders who performed welding on welds stated in paragraphs 5b, 8 and 9 of this report.

The inspector determined that the above documents met the requirements of ASME B&PV Code Section IX.

No items of noncompliance or deviations were identified.

7. Reactor Coolant Pressure Boundary - Special Welding Applications (Unit 1)

The inspector observed removal of defects of Reactor Coolant System weld No. FW-43 by grinding. It was determined procedure requirements were met.

No items of noncompliance or deviations were identified.

8. Safety Related Piping - Observation of Welding Activities (Unit 1)

The inspector observed the following welding activities:

- a. Feedwater System welds No. 216 and 217 on Isometric Drawing No. FW-13.
- b. Component Cooling Water System weld No. 29 on Isometric Drawing No. CC-8.
- c. Essential Service Water System weld No. 1521 on Isometric Drawing No. SX-15-11.
- d. Fire Protection System welds No. 1574 through No. 1577 on Isometric Drawing No. FP-93-2.

It was determined that (1) work was conducted in accordance with traveler; (2) proper welding materials were used; (3) welding procedure requirements were met; (4) work area was free of weld rod stubs; and (5) physical appearance was acceptable.

No items of noncompliance or deviations were identified.

9. Safety Related Piping - Visual Examination of Welds (Unit 1)

a. Visual Examination

The inspector visually examined the following completed welds:

- (1) Component Cooling Water System welds No. 79 and 81 on Isometric Drawing No. CC-4 and weld No. 144 on Isometric Drawing No. CC-2.
- (2) Essential Service Water System weld No. 105 on Isometric Drawing No. SX-10.
- (3) Safety Injection System weld No. 85 on Isometric Drawing No. SI-14.
- (4) Fuel Pool Cooling System welds No. 103 through 105 on Isometric Drawing No. FC-9.
- (5) Chemical and Volume Control System welds No. 299A, No. 300 and No. 301 on Isometric Drawing No. CV-6.

It was determined that (1) weld surface finish and appearance were acceptable and there was no evidence of wall thinning due to grinding; and (2) arc strikes and weld spatter were not evident.

b. Review of Records

The inspector reviewed weld data sheets for the following welds:

- (1) Fuel Pool Cooling System welds No. FW-103, No. FW-104 and No. FW-105 on Isometric Drawing No. FC-9.
- (2) Safety Injection System weld No. FW-85 on Isometric Drawing No. SI-14.
- (3) Essential Service Water System weld No. FW-105 on Isometric Drawing No. SX-10.
- (4) Chemical Volume Control System welds No. FW-299A, No. FW-300 and No. FW-301 on Isometric Drawing No. CV-6.
- (5) Component Cooling Water System weld No. FW-144 on Isometric Drawing No. CC-2 and welds No. FW-79 and No. FW-81 on Isometric Drawing No. CC-4.

It was determined that (1) records are clear and legible and (2) the records indicated specified inspections were completed except the weld data sheet for Weld No. FW-299A on Isometric Drawing No. CV-6. It was established that a QC hold point on the weld data sheet was bypassed.

This condition is an item of noncompliance identified in Appendix A (454/79-12-02). Except as noted, no items of noncompliance or deviations were identified.

10. Safety Related Piping - Weld Heat Treatment (Unit 1)

While observing welding activities for items stated in Paragraph 8 of this report, the inspector determined that preheat met the welding procedure requirements.

No items of noncompliance or deviations were identified.

11. Safety Related Piping - Observation of Work and Work Activities (Unit 1)

The inspector observed fitup and alignment of the following welds:

- a. Safety Injection System weld No. 113 on Isometric Drawing No. SI-6.
- b. Component Cooling Water System weld No. 419 on Isometric Drawing No. CC-23.

It was determined that work activities were performed in accordance with the applicable procedures and good construction practices were adhered to.

No items of noncompliance or deviations were identified.

12. Review of Documents Relative to Licensee Action on Previous Inspection Findings

While reviewing documents relative to licensee action on previous inspection findings, the inspector established that four (4) Hunter inter-company correspondences No. HC-QA-05, No. HC-QA-07, No. HC-QA-13 and No. HC-QA-31 issued as supplements to Site Implementing Procedures (SIP) and/or Welding Procedure Specifications (WPS) were not distributed to all SIP and WPS manual holders. Furthermore, three (3) of the correspondences No. HC-QA-05, No. HC-QA-07 and No. HC-QA-13 were not inserted in the copy of the SIP or WPS manual located in the Containment and Auxiliary Building document station as required by the correspondences.

This condition is an item of noncompliance identified in Appendix A (454/79-12-03 and 455/79-12-02) .

Unresolved Items

Unresolved items are matters about which more information is required in order to ascertain whether they are acceptable items, items of noncompliance, or deviations. Unresolved items disclosed during the inspection are discussed in paragraph 1.

Exit Interview

The inspector met with licensee representatives (denoted under Persons Contacted) at the conclusion of the inspection on July 26, 1979. The inspector summarized the purpose and findings of the inspection. The licensee acknowledged the findings reported herein.