

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

REGION III

Reports No. 50-454/81-07; 50-455/81-06

Docket Nos. 50-354; 50-455

Licenses No. CPPR-130; CPPR-131

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

Facility Name: Byron Station, Units 1 and 2

Inspection At: Byron, IL

Inspection Conducted: June 9-11, 1981

Inspector: J. H. Neisler

*J. H. Neisler*

7-6-81

Approved By: D. W. Hayes, Chief  
Reactor Projects Section 1's

*D. W. Hayes*

7-6-81

Inspection Summary

Inspection on June 9-11, 1981 (Reports No. 50-454/81-07; 50-455/81-06)

Areas Inspected: Follow up licensee's actions relative to items reported pursuant to 10 CFR 50.55(e), Inspection and Enforcement Bulletins, and items identified during previous inspections. The inspection involved a total of 18 inspector-hours onsite by one NRC inspector including 0 hours onsite during offshifts.

Results: No items of noncompliance or deviations were identified during this inspection.

## DETAILS

### 1. Persons Contacted

#### Principal Licensee Employees

- \*G. Sorensen, Site Construction Superintendent
- R. Ward, Station Assistant Superintendent, Administration
- \*M. Stanish, Site QA Superintendent
- R. Farr, QA Supervisor
- \*H. Kaczmarek, QA Engineer
- R. Perry, QA Engineer
- G. Smith, Lead Electrical Engineer
- L. Combs, QA Engineer
- J. Klink, QA Engineer
- \*R. Tuetkin, Site Construction Assistant Superintendent

#### Contractor and other Personnel

L. Hill, Hunter Corporation, Auxiliary Building Area Superintendent

\*Denotes those persons attending exit interview.

### 2. Licensee Action on Previously Reported Items

(Closed) Item reported pursuant to 10 CFR 50.55(e): Containment post tensioning anchor head failure. Cause of failure was identified as insufficient tempering temperature on three lots of anchor heads. Those anchor heads identified as belonging to the lots with insufficient tempering temperature have been replaced in Unit 1 with anchor heads verified as having correct tempering. Licensee records identify 91 anchor heads as having been replaced. See also close out of Unresolved Item 50-454/80-02-01 in Inspection Report 50-454/80-17. This item is closed.

(Closed) Item reported pursuant to 10 CFR 50.55(e): Possible failure of Raytheon RC 747D integrated circuits in Westinghouse 7300 Series Process Control System (PCS). PCS panels were returned to the vendor and the Raytheon RC 747D integrated circuits were replaced with Motorola devices which employ ceramic housings and are not subject to the same failure mechanism as the Raytheon circuits. This item is considered closed.

(Closed) Noncompliance (50-454/80-24-01; 50-455/80-22-01): Bent anchor bolts installed to fasten emergency service water diesel driven pump to foundation. The anchor bolts have been removed and replaced. The replacement bolts were inspected by contractor QC and and licensee's QA staff prior to replacement of grout. Procedures have been revised to make QC inspection of anchor bolts prior to grouting mandatory instead of optional. This item is closed.

(Closed) Noncompliance (50-454/79-18-02; 50-455/79-18-02). Concrete expansion anchors nonconforming conditions not properly documented. FDR 1140 identified 85 locations of use of concrete expansion anchors prior to the issuance of standard BY/BR-CEA (Byron-Braidwood Concrete Expansion Anchor). The engineering review of FCR 1140 indicates that no unsatisfactory condition exist with the structure. This item is closed.

(Closed) Noncompliance (50-454/79-18-03; 50-455/79-18-03): Failure to inspect concrete expansion anchors (CEA). Site procedures have been revised to require all CEA's be inspected by an independent inspection agency (Pittsburg Testing Laboratory). Procedure QC-CEA-1, Revision 7 dated May 19, 1980 established inspection methods and acceptance criteria. This item is considered closed.

(Closed) Unresolved item (50-454/80-25-01; 50-455/80-23-01): Precision on QC checklists for QC verification that conduits have prepared for cable pulling. Form HP-105, Revision 1 "Cable Installation Inspection Checklist" in Hatfield Procedure 10, Revision 8 dated January 30, 1981 "Class 1 Cable Installation" provides verification for conduit inspections. This item is resolved.

(Closed) Noncompliance (50-454/80-25-02; 50-455/80-23-02): Lack of procedure for cold weather cable preconditioning. Hatfield Procedure 10, Revision 8 dated January 30, 1981 "Class 1 Cable Installation" contains cable reel preparation instructions establishing criteria for preconditioning cable, identification of reels and recording temperatures and storage times. Also see Inspection Report 50-454/81-02. This item is closed.

(Closed) Noncompliance (50-454/80-25-03; 50-455/80-23-03): Lack of acceptance/rejection criteria for damaged cable. Appendix G to Hatfield Procedure 10, Revision 8 dated January 30, 1981 "Class 1 Cable Installation" established acceptance/rejection criteria for cable damage. See Inspection Report 50-454/81-02. This item is closed.

(Closed) Noncompliance (50-454/80-25-04; 50-455/80-23-04): Overfill of cable trays. The inspector observed that cable has been straightened and trained at overfill areas noted during the previous inspection and that cables are not now above siderails of trays. Paragraph 5.1.2.1 of Hatfield Procedure 10, Revision 8 dated January 30, 1981 provides instructions to cable installers regarding tray overfill. This item is closed.

(Closed) Noncompliance (50-454/80-25-06): Failure to seal cable ends. The cable end found unsealed has been sealed with tape. Latest revision of Hatfield Procedure 10 "Class 1 Cable Installation" Paragraph 5.1.42 requires installers to seal cable ends. Hatfield Procedure 30 "Housekeeping and Protection of Class 1 Cable Exposed to Construction Activities" requires check of unterminated cable ends for seals and replacement of any missing seals in accordance with S&L Std. EA-121. This item is considered closed.

(Closed) Noncompliance (50-454/80-25-07): Failure to inspect cable trays for conditions that could damage cables. Cable trays identified as having conditions that could damage cables have had sharp edges removed and half-rounds installed. Objects have been removed from the trays. Hatfield Procedure 30, Revision 1 requires inspection for tray conditions that could damage cables and the removal of debris, tools, etc. from the trays. Hatfield Procedure 10, Revision 8 requires pull crew to inspect trays prior to pulling cables. This item is closed.

(Closed) Noncompliance (50-454/80-25-08): Debris in cable trays. Trays in areas identified in the report have been cleaned. Trays observed by the inspector in the cable spreading rooms and the auxiliary and diesel buildings appeared to be sufficiently clean for cable installation. Hatfield Procedures 10 and 30 contain instructions for inspection for cleanliness of trays in their latest revisions. This item is closed.

(Closed) Noncompliance (50-454/80-25-11): Failure to observe minimum bend radius on cable coils. The inspector observed 30 cables that had been pulled and coiled in cable spreading rooms, control room and auxiliary building and noted no situation in which the minimum bend radius did not meet the requirements of Hatfield Procedure 10, Appendices A and D. This item is considered closed.

(Closed) Noncompliance (50-454/80-25-10): Conduit bend not supported in accordance with specification. The inspector observed that the conduit support has been installed. Licensee states that similar conduits have been inspected and deficiencies corrected. This item is considered closed.

(Closed) Noncompliance (50-454/80-25-14): Cable entrance frames installed on safety related Seismic Category I equipment designed without engineering approval, built without an approved QA program and installed without QA approval. The cable entrance frames have been removed and discarded per NCR-578. Engineering review has determined that cable entrance frames are not required for the quantity of cables entering the panel. This item is closed.

## 2. Program or Functional Areas Inspected

### Inspection and Enforcement Bulletins

IEB 79-04 "Incorrect Weights for Swing Check Valves Manufactured by Velan Engineering Corporation." Subject valves are used in the Component Cooling and Boron Thermal Regeneration Systems at Byron. Evaluations by Velan through recalculation and/or actual weighing of the valves has confirmed that the valve weights shown on the drawings and used in the piping analysis for these systems are correct. This item is closed.

IEB 79-09 "Failures of GE Type AK-2 Circuit Breakers in Safety Related Systems." The GE Type AK-2 circuit breakers

are not equipped with integral undervoltage trip devices at Byron. The only trip associated with these breakers is an external overcurrent trip. This item is considered closed.

- IEB 79-28 "Possible Malfunction of NAMCO Model EA 180 Limit Switches of Elevated Temperature." Licensee has initiated replacement of the limit switch top cover gaskets on switches identified in the bulletin as wiring is connected to each switch. Hatfield Procedure 27, Revision 2 dated January 23, 1981 "Replacement of Gaskets on NAMCO EA 180 Limit Switches" provides instructions and controls for replacement of top cover gaskets. This item is closed.
- IEB 80-08 "Examination of Containment Liner Penetration Welds." The inspector reviewed weld records and NDE requirements for containment liner penetrations. Weld travelers and data packages reviewed show that butt welds were examined by radiography. The inspector observed work in progress on installation of penetrations for Chemical and Volume Control and Component Cooling Systems. Installation packages for both systems required radiographic examination of butt welds. This item is closed.
- IEB 80-09 "Hydramotor Actuator Deficiencies". The inspector examined records certifying that deficient springs had been replaced in actuators prior to shipment to the site for the two Mason-Neilan valves having ITT Grinnel Hydramotor Actuators. Dampers having this type actuator have been tested and evaluated against engineering data requirements for adequacy. This item is closed.
- IEB 80-16 "Potential Misapplication of Rosemount Models 1151 and 1152 Pressure Transmitters with "A" or "D" output Codes." The inspector examined documentation of licensee's review of application of Rosemount transmitters. The documentation indicates that the transmitters referenced in the bulletin are not used in safety related applications. This item is closed.
- IEB 80-19 "Failures of Mercury-Wetted Matrix Relays in Reactor Protective Systems." The inspector examined documentation confirming that C.P. Clare Model HG2X-1011 Mercury wetted matrix are not used in the Byron reactor protective systems. This item is closed.
- IEB 80-21 "Valve Yokes Supplied by Malcom Foundry Company, Inc." The inspector reviewed documentation verifying that valve yokes supplied by Malcom Foundry are not used on any of the safety related valves at Byron. This item is closed.

- IEB 80-23 "Failures of Solenoid Valves Manufactured by Valcor Engineering Company." Licensee's review of design and procurement documentation has identified four valves in safety related applications that are equipped with Valcor solenoids identified in the bulletin. The inspector examined documents confirming that these four valves have been returned to the vendor for replacement of the defective solenoids. This item is closed.
- IEB 79-03A "Longitudinal Weld Defects in ASME SA-312 Type 304 Stainless Steel Pipe." The inspector examined documentation confirming that no SA 312 seam welded pipe had been shipped to Byron nor that there was any SA 312 seam welded pipe at the fabricator's plant consigned to site. This item is closed.

3. 10 CFR 21 Item

Farr Company reported problems had been identified in their test stand for qualifying their NPP-2 carbon filters. The licensee returned the 200 NPP-2 carbon filters at Byron to Farr Company's Crystal Lake, Illinois facility for retesting. The filters were retested on a redesigned test stand and returned to the site. The inspector reviewed test documentation and certificates of conformance attesting to the qualification of the 200 Farr Company NPP-2 carbon filters at Byron. This item is considered closed.

4. Plant Status

During discussions with site management the inspector was given the following information concerning Unit 1 construction status.

Piping

- a. Diameter greater than two inches is approximately 98% installed with 92% of the welding complete.
- b. Diameter two inches or less is 52% complete.
- c. Instrument piping is 54% complete.
- d. Hanger installation for piping greater than two inch diameter is 56% complete.
- e. Hanger installation for piping two inches or less is 5% complete.
- f. Installation of snubbers is planned to begin in November 1981.
- g. The primary system cold hydrostatic test is currently scheduled for late July or Early August 1981.



5. Purge Dams

I&E Information Notice No. 81-07 identified problems associated with polyvinyl alcohol material used for purge dams. The material identified in the Information Notice is not used at Byron for purge dams.

Purge dam material used at Byron is identified as Dissolvo WLD-60 purge dam paper and dissolvo WAT-N weld adhesive tape. The licensee has conducted tests on the purge dam paper and tape to determine solubility of the material after it has been exposed to temperature during welding. Test results show that the Dissolvo WLD-60 paper and Dissolvo WAT-N tape tend to lose their solubility after being exposed to temperatures in excess of 345° F. Licensee has taken action to limit exposure of dam material to excessive temperatures and to assure that insoluble dam material is removed during system flushes.

6. Exit Interview

The inspector met with licensee representatives (denoted in Paragraph 1 under Persons Contacted) at the conclusion of the inspection on June 11, 1981. The inspector summarized the purpose and findings of the inspection. The licensee acknowledged the findings as reported herein.