

U. S. NUCLEAR REGULATORY COMMISSION

REGION III

Report No. 50-455/86004(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: January 16 through March 17, 1986

Inspectors: J. M. Hinds, Jr.
P. G. Brochman
R. M. Lerch
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Approved By: *W. L. Forney*
W. L. Forney, Chief
Reactor Projects Section 1A

4/02/86
Date

Inspection Summary

Inspection on January 16 through March 17, 1986 (Report No. 50-455/86004(DRP))

Areas Inspected: Routine, unannounced safety inspection by the resident inspectors and a regional inspector of fuel receipt and storage; preoperational test witnessing; housekeeping; licensee actions related to potential drug use and other activities. The inspection consisted of 206 inspector-hours onsite by 4 NRC inspectors including 59 inspector-hours during off-shifts.

Results: Of the 4 areas inspected, no violations or deviations were identified in 3 areas; 2 violations were identified in the remaining area: (failure to follow cleanliness standards - Paragraph 3.a; failure to follow administrative procedures - Paragraph 3.b). These violations were of minor safety significance and had minimal impact on the public health and safety.

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DETAILS

1. Persons Contacted

Commonwealth Edison Company

R. Querio, Station Manager
R. Pleniewicz, Production Superintendent
R. Ward, Services Superintendent
L. Sues, Assistant Superintendent, Operating
G. Schwartz, Assistant Superintendent, Maintenance
D. Brindle, Operating Engineer, Unit 2
E. Falb, Unit 2 Testing Supervisor
*R. Klinger, Project Construction Supervisor
*R. Moravec, Project Mechanical Supervisor
*G. Grabins, Unit 2 Testing
*J. Langan, Compliance Staff
*E. Martin, Quality Assurance Supervisor
*G. Sorenson, Project Construction Manager

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

* Denotes those present during the exit interview on March 17, 1986.

2. Fuel Receipt and Storage (60501)

During the inspection period, the licensee received shipments Nos. 1 and 2 on March 11 and 13, 1986, respectively, from Westinghouse Nuclear Fuel Services in Columbia, South Carolina. Upon arrival at the site, the shipment was monitored for radiation and contamination, inspected for damage and stored in the new fuel storage vault.

In preparation for the receipt of Unit 2, new fuel, the inspectors reviewed the Special Nuclear Material License, Number SNM-1916, issued to Byron Nuclear Generating Station, Unit 2, Amendment No. 3, pursuant to 10 CFR 70 to verify that the license had specified and defined the specific storage requirements, SNM custodian, physical storage facility, security plan, criticality monitoring and SNM amount and composition.

Prior to and during the receipt and inspection of shipments 1 and 2, the inspectors performed inspection tours of the fuel storage area and adjacent fuel handling service areas to evaluate implementation of license storage requirements, and integrity of security controls in effect including: fence or wall continuity, access controls, security force awareness, security force procedure and security plan implementation, provisions for environmental control including dust and debris control, chloride contamination, and physical damage protection from construction activities or weather conditions.

The inspectors reviewed the documentation and records for new fuel receipt inspections for shipments Nos. 1 and 2. The review verified that licensee's receiving inspection documentation included fuel manufacturer shipping documents; documents required by NRC and DOT regulations and vendor quality assurance documents transmitted to the licensee.

The inspectors reviewed the completed Fuel Handling Procedures/Checklists for Fuel Receiving Record Container Reports, BFP FH-T, to verify that the licensee visually inspected shipping containers for external damage, security seal integrity, shock indicator integrity, and loose material or parts for the containers in shipments Nos. 1 and 2. The inspectors witnessed the entire off-loading and storage operations of the shipment No. 1 containers. The inspectors also witnessed the container opening, radiological monitoring, up-ending, assembly removal, inspection process and storage procedures for assembly Nos. S40J, S64J, S09J, in shipment No. 1 and S43J, R20J, and R12J in shipment No. 2.

In addition, the inspectors discussed the CECO provisions for reporting the accidental criticality, loss, theft or attempted theft of SNM pursuant to 10 CFR 70.52 with the Nuclear Materials Custodian (NMC). The NMC demonstrated a proficient knowledge of the administrative controls as described in Byron Administrative Procedures (BAPs) including reference to applicable BAPS invoking CECO Nuclear Procedures. Personnel assignments and home telephone numbers are verified annually.

No violations or deviations were identified.

3. Preoperational Test Witnessing (70317, 70433, 70443)

The inspectors witnessed portions of the below listed preoperational test procedures to verify that testing was conducted in accordance with approved procedures; that all test equipment was properly installed; that test data was collected and recorded properly; and that test deficiencies were documented and test changes were processed in an approved manner.

- AF 2.03.60, "Auxiliary Feedwater"
- CS 2.17.60, "Containment Spray"
- CV 2.18.60, "CVCS VCT and Charging Pumps"
- EF 2.26.60, "Engineered Safety Features (ESF)"
- EF 2.26.61, "ECCS Full Flow"
- EF 2.26.62, "ESF Logic and Time Response"
- DG 2.22.62, "Diesel Generator Sequencing"
- PC 2.58.60, "Containment Local Leak Rate Tests"
- PS 2.61.60, "Reactor Coolant Process Sampling"
- RP 2.68.63, "Reactor Protection"
- SI 2.73.60, "Safety Injection Valve Operation"
- SI 2.73.62, "Safety Injection Accumulators"

No violations or deviations were observed except as noted below:

During the witnessing of one of the tests the following discrepancies were identified:

- a. On February 23, 1986, during the performance of EF 2.26.61, six individuals (three of whom were supervisors) were observed to be in the Level II cleanliness zone at the Containment ECCS Recirculation Sumps and were not wearing the required protective clothing (clean gloves and head coverings). A Cleanliness Zone II was established at the containment recirculation sumps to support the performance of

preoperational test EF 2.26.61. EF 2.26.61 verifies that the performance of the Emergency Core Cooling System (ECCS) pumps and the Containment Spray (CS) pumps at full flow is adequate by establishing a flow path from the reactor vessel/refueling cavity to the containment recirculation sumps to the ECCS and CS pumps and then back to the reactor vessel/refueling cavity. To allow for the verification of the vortex performance characteristics of the Containment ECCS Recirculation Sumps the protective debris screens were removed. Removal of the debris screens required that a Cleanliness Zone II be established around the open Containment ECCS Recirculation Sumps so that entry of foreign matter into the ECCS and CS pumps and piping could be prevented and still allow for the verification of the sump vortex performance characteristics.

ANSI N45.2.3-1973, Section 2.1, "Housekeeping During the Construction Phase of Nuclear Power Plants" requires that cleanliness requirements for housekeeping activities shall be established on the basis of five different zones (levels) of cleanliness. ANSI N45.2.3-1973 is endorsed by Regulatory Guide 1.39, Revision 2. Regulatory Guide 1.39, Revision 2, is committed to in the Byron FSAR, Appendix A. Cleanliness Zone II is an intermediate cleanliness area where foreign matter may have detrimental effects and requires the use of clean gloves, shoe covers, head covering, material accountability, personnel accountability, and no use of tobacco or eating. The entry to the cleanliness zone was posted with the requirements for access and there was a control point established to maintain accountability of material and personnel.

The failure of the six individuals to wear the required protective clothing while they were in the Level II Cleanliness Zone at the Containment ECCS Recirculation Sumps is a violation of ANSI N45.2.3-1973, Section 2.1 (455/86004-01(DRP)).

- b. On February 13, 1986, during a walkdown of the test equipment installed to support EF 2.26.61 the inspector observed Temporary Mechanical Alteration Tag No. 15 attached to Containment Spray Flange 2CS28AA-10. This flange is located in the A riser of CS piping and allows the establishment of a flow path from the CS system to the refueling cavity without having flow through the CS spray nozzles in the containment dome. A review of records indicated that Temporary Mechanical Alteration Tag No. 15 was installed to identify Temporary Alteration (TA) 85-0-259. TA 85-0-259 was installed between the Unit 0 Service Air (SA) and Unit 2 CS systems to support preoperational test CS 2.17.60 on January 3, 1986. On January 17, 1986, the Test Engineer who had requested the installation of TA 85-0-259 directed Project Construction Department (PCD) personnel to remove the TA; however, he did not obtain the required approval from the Shift Engineer (SE). The PCD personnel who removed the TA did not recognize that they should have in their possession the original of BAP 330-2T1, "Temporary Alteration Log Sheet," nor did they inform the SE following removal of the TA. On February 18, 1986, the required signatures were obtained for the log sheet and the paperwork was closed out.

10 CFR 50, Appendix B, Criterion V, as implemented by the licensee's Quality Assurance Manual, Quality Requirement 5.0 requires that activities affecting quality shall be prescribed by documented instructions of a type appropriate to the circumstances and that these activities shall be accomplished in accordance with the specified instructions. Byron Administrative Procedure BAP 330-2, "Temporary Alterations," implements these requirements and prescribes the administrative controls for the use of temporary alterations to all plant systems. Paragraph C.1.a(1) defines a temporary mechanical alteration as a temporary connection such as a hose, tubing or piping which joins two systems together. Paragraph C.3 prescribes the actions to remove an installed Temporary Alteration. These include: 1) Shift Engineer's approval to remove the Temporary Alteration; 2) the removing individual obtains the original of BAP 330-2T1, removes the Temporary Alteration and its tags, signs the log sheet and hand carries the log sheet and the tags to the control room supervisor; 3) an independent verification is then made that the Temporary Alteration has been properly removed and the log sheet is signed to indicate this.

The failure of personnel to follow the requirements of Paragraph C.3 of BAP 330-2 during the removal of Temporary Mechanical Alteration 85-0-259 is a violation of 10 CFR 50, Appendix B, Criterion V (455/86004-02(DRP)).

A previous similar event occurred on September 5, 1985, when PCD personnel removed a TA from the Control Room Ventilation system and failed to notify the SE, this event is documented in Inspection Report 454/85043(DRP).

The licensee's corrective actions included counseling the individual involved, reiterating the administrative requirements for the control of TAs to PCD management, and reviewing the administrative requirements for the control of TAs with the unit 2 test engineers.

4. Houskeeping/Care and Preservation of Safety-Related Components (71302)

The inspectors conducted plant tours of Unit 2 between January 16 and March 17, 1986. 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. The inspectors were accompanied by licensee personnel on portions of the tours for the purpose of identifying areas where additional housekeeping efforts should be concentrated to improve the overall cleanliness of Unit 2. Inspector concerns were related to the licensee.

Observations of work in progress included: witnessing of QC and ANI inspections for the installation of a mechanical snubber at hanger 2FW06008; witnessing of QC inspection for the installation of fire barrier seals, witnessing a Blount concrete inspector performing a

penetration grouting verification using appropriate check-lists; witnessing a HECO QC inspector installing a nuclear instrumentation detector, S/N 831302 on MRR No. 10876; and witnessing fit-up and welding of a safety-related pipe hanger inside the biological shields in Unit 2 containment.

No violations or deviations were identified.

5. Followup of Licensee Actions Related to Potential Drug Use (99014)

On March 10, 1986, the licensee notified the Senior Resident Inspector that a production supervisor had discovered a vial containing an unidentified white powder during his work area inspections at approximately 0730 this date. The production supervisor called the Ogle County Sheriff's Department and turned over the substance at about 1000. Station security personnel were notified at approximately 1400 and in turn notified the NRC.

In response to this finding the licensee conducted an unannounced drug detector dog team search at 1300 on March 7, 1986. Simultaneous searches of facilities assigned to two construction contractors were conducted by two dog teams. The residents accompanied each of the teams as observers along with Project Construction Department personnel and contractor supervisors. Following detailed and thorough searches of all the contractor facilities, the dogs were taken into Unit 2 containment entering at the 426' and 401' levels at different entrance points and worked up and down in the separate areas.

During the searches of both the contractor facilities and the Unit 2 containment, no alerts were indicated by the dogs, i.e., no illegal drugs, substances or paraphernalia were discovered. The report from the Ogle County Sheriff's Office indicated that the white powder in the vial was not a controlled substance. Therefore, based on the licensee's findings and observations made by the Resident Inspectors, the inspectors have no further concerns in this matter.

No violations or deviations were identified.

6. Exit Interview (30703)

The inspectors met with licensee representatives denoted in Paragraph 1 at the conclusion of the inspection on March 17, 1986. 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.