

U. S. NUCLEAR REGULATORY COMMISSION

REGION III

Report No.: 50-454/85043(DRP)

Docket No.: 50-454

License No.: NPF-37

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

Facility Name: Byron Station, Unit 1

Inspection at: Byron Station, Byron, IL

Inspection Conducted: October 2 - 31, 1985

Inspectors: J. M. Hinds, Jr.  
P. G. Brochman  
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J. A. Malloy

Approved By: *R. M. Lerch for*  
W. L. Forney, Chief  
Reactor Projects Section 1A

*11/22/85*  
Date

Inspection Summary

Inspection on October 2 - 31, 1985 (Report No. 50-454/85043(DRP))

Areas Inspected: Routine, unannounced safety inspection by the resident inspectors and 2 regional inspectors of licensee action on previous inspection findings; 10 CFR Part 21 reports; operations summary; LERs; surveillance; maintenance; operational safety and ESF walkdown; IENs; event followup; licensee actions concerning suspected drug use; licensee personnel changes; Commissioner's tour; management meetings and other activities. The inspection consisted of 111 inspector-hours onsite by 4 NRC inspectors including 16 inspector-hours during off-shifts.

Results: Of the 11 areas inspected, no violations or deviations were identified in 10 areas; one apparent violation was identified in the remaining area (failure to follow Technical Specification Action Requirements - Paragraph 5.c) This apparent violation concerns the failure to place the unit in the required Mode when both trains of an ESF system [Control Room Ventilation (VC)] were inoperable. This apparent violation is considered to be of safety significance when viewed collectively with other examples of inadequate management controls addressed in NRC Inspection Report No. 50-454/85042.

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## DETAILS

### 1. Persons Contacted

#### Commonwealth Edison

- #T. Maiman, Manager of Projects
- \*#K. Graesser, Division Vice President, Nuclear Stations
- #V. Schlosser, Project Manager
- \*#R. Querio, Station Manager
- \* R. Ward, Services Superintendent
- #R. Tuetken, Startup Superintendent
- #R. Pleniewicz, Production Superintendent
- \*#L. Sues, Assistant Superintendent, Operations
- \*#G. Schwartz, Assistant Superintendent, Maintenance
- \*#T. Joyce, Assistant Superintendent, Technical Services
- \* T. Tulon, Operating Engineer, Unit 1
- #D. Brindle, Operating Engineer, Unit 2
- #D. St. Clair, Operating Engineer, Rad Waste
- #K. Ainger, Nuclear Licensing Administrator
- #F. Palmer, Manager, Nuclear Safety
- \* D. Berg, Nuclear Safety Staff
- R. Burkamper, Quality Assurance Supervisor, Operations
- \* S. Nosko, Quality Assurance Engineer
- \*#A. Chernick, Compliance Supervisor
- \* M. Snow, Assistant Compliance Supervisor
- #F. Hornbeak, Technical Staff Supervisor
- \* R. Flahive, Assistant Technical Staff Supervisor
- #J. VanLaere, Rad-Chem Supervisor
- #D. Robinson, Onsite Nuclear Safety
- \*#J. Langan, Compliance Staff
- #E. Little, Compliance Staff
- J. Cook, Licensing Staff

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

#Denotes those present during the management meeting on October 10, 1985.

\*Denotes those present during the exit interview on October 31, 1985.

### 2. Action on Previous Inspection Findings (92702)

(Closed) Violation (454/85021-01(DRP)): Failure to perform Technical Specification Surveillances when required. The inspector reviewed the licensee's response and verified that an information management system had been implemented in the Radiation-Chemistry office to maintain the status of Radiation Monitors which are out-of-service and that the compensatory samples required by Technical Specifications were identified. The inspector reviewed the "Operating Clarification" that was issued to identify when valves can be declared operable following maintenance. The inspector has no further questions regarding these corrective actions. Corrective actions were completed by June 17, 1985.

3. 10 CFR Part 21 Report Followup (92716)

(Closed) 10 CFR Part 21 Report (454/84008-PP): Problems with radiographs of branch connection welds which were covered by reinforcing pads in piping manufactured by Southwest Fabricating & Welding Company. The inspector reviewed the licensee's evaluation of the suspect radiographs, which stated that there were no indications of "surface irregularities which could mask weld defects". Based on the licensee's evaluation of this problem the inspector has no further concerns and this item is considered closed.

4. Summary of Operations

The unit operated at power levels up to 92% until 0352 on October 9, 1985, when the reactor tripped on Reactor Coolant Loop 1D Low Flow (see Paragraph 9.b). The unit was taken critical at 1618 and was tied to grid at 2130. The unit continued to operate at power levels up to 92% until 2000 on October 25, 1985, when it was shutdown for a 51 day planned outage.

5. Licensee Event Report (LER) Followup (90712 & 92700)

a. (Closed) LERs (454/85084-LL; 454/85088-LL): An in-office review was conducted for the following LERs to determine that the reporting requirements were fulfilled, immediate corrective action was accomplished and corrective action to prevent recurrence had been accomplished in accordance with Technical Specifications.

<u>LER No.</u>	<u>Title</u>
454/85084	Delayed Fire Watch Due To Key Stuck In Vital Area Door Lock
454/85088	Auto Start Of OB VC M/U Fan

No violations or deviations were identified.

b. (Closed) LERs (454/85086-LL; 454/85087-LL): Through direct observation, discussions with licensee personnel, and review of records the following LERs were reviewed to determine that the reporting requirements were fulfilled, immediate corrective action was accomplished and corrective action to prevent recurrence had been accomplished in accordance with Technical Specifications.

<u>LER No.</u>	<u>Title</u>
454/85086	Environmentally Unqualified Terminal Strips In MSIVs
454/85087	Fire Watches Not Promptly Initiated On Surveillance Failure

No violations or deviations were identified.

- c. (Closed) LER (454/85089-LL): This LER described an event on September 5 - 13, 1985, while in Mode 1, involving the failure to place the unit in the applicable Mode when Trains OA and/or OB of Control Room Ventilation (VC) were inoperable.

On September 5, 1985 licensee personnel from the Project Construction Department (PCD) installed a blank-off plate in the VC Train OA Make-up (M/U) unit ductwork. This plate was installed as part of a Permanent Facility Modification #M6-0-84-242 and was intended to replace Temporary Alteration #MA84-0-354. The PCD personnel misinterpreted the drawings for the VC ductwork and installed the new blank-off plate in the wrong location. The blank-off plate installed in the correct location by the Temporary Alteration was then removed. As a result, Train OA was inoperable though this condition was not recognized by licensee operating personnel. Technical Specification 3.7.6 states, in part: "Two independent Control Room Ventilation Systems shall be OPERABLE. While in Modes 1 - 4, with one Control Room Ventilation System inoperable, restore the inoperable system to OPERABLE status in 7 days or be in at least HOT STANDBY within the next 6 hours..." The failure of the PCD personnel to install the blank-off plate correctly resulted in Train OA being inoperable for greater than 7 days and with this condition unknown action was not taken to place the unit in HOT STANDBY within the next 6 hours. The failure to place the unit in HOT STANDBY within 6 hours is an apparent violation of Technical Specification 3.7.6 and an example of the failure of management controls necessary to assure compliance with the Technical Specifications (454/85043-01a(DRP)). Additionally, PCD personnel failed to follow required procedures by not notifying the Shift Engineer when the Temporary Alteration was removed.

At 1820 on September 12, Train OB was shutdown for maintenance and Train OA started. The maintenance on Train OB required that the power for damper OVC16Y be secured. Licensee personnel failed to recognize that this also removed power to damper OVC172Y which then failed shut, making Train OB inoperable. At this point both Trains OA and OB were inoperable, though this condition was not recognized by licensee operating personnel. Technical Specification 3.0.3 states, in part: "When a Limiting Condition for Operation is not met, except as provided in the associated ACTION requirements, within 1 hour action shall be initiated to place the unit in a MODE in which the specification does not apply by placing it, as applicable, in:

- a. At least HOT STANDBY within the next 6 hours,
- b. At least HOT SHUTDOWN within the following 6 hours...."

At 0700 on September 13, licensee personnel were unable to maintain the required positive 1/8 inch H<sub>2</sub>O differential pressure for the control room and operators began inspecting Train OA to identify the cause of the problem. At 1000, the incorrectly installed blank-off plate was located and Train OA was declared inoperable. Operators then switched VC to Train OB. With Train OB also unable to maintain the required differential pressure, licensee personnel discovered

that damper OVC172Y was de-energized and Train OB was declared inoperable. By 1052 damper OVC172Y was re-energized and Train OB was now operable. By 1320 the blank-off plate had been relocated to its correct location and Train OA was now operable.

With Train OA inoperable due to PCD's installation of the blank-off plate in the wrong location and Train OB inoperable due to the failure of licensed operators to recognize that damper OVC172Y would fail shut when the power supply to damper OVC16Y was secured, Technical Specification 3.0.3 should have been entered and: 1) action should have been initiated in 1 hour to place the unit on HOT STANDBY; 2) the unit should have been placed in HOT STANDBY in the next 6 hours; and 3) the unit should have been placed in HOT SHUTDOWN in the following 6 hours. Consequently, Trains OA and OB were both inoperable for 16.1 hours. The failure to accomplish these actions within the required times is an apparent violation of Technical Specification 3.0.3 and an example of the failure of management controls necessary to assure compliance with the Technical Specifications (454/85043-01b(DRP)).

The licensee's review of records indicated that the VC system was never called upon to actuate during the time it was inoperable. As corrective action in response to previously identified problems, the licensee developed a list of components (pumps, valves, dampers, etc.) and their respective electrical isolation points (breakers, switches, fuses, etc.) and a corresponding list of all components powered from a common electrical isolation point. These lists were available to operators before this event occurred. Following discussions with licensee personnel the inspector expressed a concern that these lists did not appear to contain all the necessary information for all Technical Specification related components. This concern will be followed as an Open Item (454/85043-02(DRP)).

This apparent violation is being considered as an additional example of the failure of management controls necessary to assure compliance with the Technical Specifications which is described in Inspection Report 454/85042-04(DRP); this additional example will be discussed at the Enforcement Conference on November 27, 1985, together with the 3 examples previously described in Inspection Report 454/85042(DRP).

6. Operational Safety Verification and Engineered Safety Features System (ESF) Walkdown (71707 & 71710)

The inspectors observed control room operation, reviewed applicable logs and conducted discussions with control room operators during the month of October. During these discussions and observations, the inspectors ascertained that the operators were alert, cognizant of plant conditions, attentive to changes in those conditions, and took prompt action when appropriate. The inspectors verified the operability of selected emergency systems, reviewed tagout records and verified proper return to service of affected components. Tours of the auxiliary, turbine and rad-waste buildings were conducted to observe plant equipment conditions, including potential fire hazards, fluid leaks and excessive vibration and

to verify that maintenance requests had been initiated for equipment in need of maintenance.

The inspectors verified by direct observation and interviews that the physical security plan was being implemented in accordance with the station security plan.

The inspector observed plant housekeeping/cleanliness conditions and verified implementation of radiation protection controls. During the month of October, the inspectors walked down the accessible portions of the Safety Injection and Chemical and Volume Control systems to verify operability. The inspector also witnessed portions of the radioactive waste system controls associated with radwaste shipments and barreling

These reviews and observations were conducted to verify that facility operations were in accordance with the requirements established under technical specifications, 10 CFR and administrative procedures.

No violations or deviations were identified.

7. Monthly Maintenance Observation (62703)

Station maintenance activities of safety related systems and components listed below were observed/reviewed to ascertain that they were conducted in accordance with approved procedures, regulatory guides and industry codes or standards and in conformance with Technical Specifications.

The following items were considered during this review: the limiting conditions for operation were met while components or systems were removed from service; approvals were obtained prior to initiating the work; activities were accomplished using approved procedures and were inspected as applicable; functional testing and/or calibrations were performed prior to returning components or systems to service; quality control records were maintained; activities were accomplished by qualified personnel; parts and materials used were properly certified; radiological controls were implemented; and, fire prevention controls were implemented. Work requests were reviewed to determine status of outstanding jobs and to assure that priority is assigned to safety related equipment maintenance which may affect system performance.

The following maintenance activities were observed/reviewed:

1B Diesel Generator 18-month inspection.

No violations or deviations were identified.

8. Monthly Surveillance Observation (61726)

The inspector observed Technical Specifications required surveillance testing on a Pressurizer Pressure Controller Circuit and a Steam Generator Steam Flow/Feedwater Flow Mismatched Circuit and verified that testing was performed in accordance with adequate procedures, that test instrumentation was calibrated, that limiting conditions for operation were met, that removal and restoration of the affected components were

accomplished, that test results conformed with Technical Specifications and procedure requirements and were reviewed by personnel other than the individual directing the test, and that any deficiencies identified during the testing were properly reviewed and resolved by appropriate management personnel.

No violations or deviations were identified.

9. Onsite Followup of Events at Operating Reactors (93702)

a. General

The inspector performed onsite followup activities for events which occurred during October 1985. This followup included reviews of operating logs, procedures, Deviation Reports, Licensee Event Reports (where available) and interviews with licensee personnel. For each event, the inspector developed a chronology, reviewed the functioning of safety systems required by plant conditions, reviewed licensee actions to verify consistency with procedures, license conditions and the nature of the event. Additionally the inspector verified that licensee investigation had identified root causes of equipment malfunctions and/or personnel error and had taken appropriate corrective actions prior to plant restart. Details of the events and licensee corrective actions developed through inspector followup are provided in Paragraphs b and c below.

b. Reactor Trip on Low Reactor Coolant Flow on October 9, 1985

While in Mode 1, with reactor power at 92%, the reactor tripped on Low Flow (less than 90%) in Reactor Coolant (RC) loop 1D. At 1221 on October 8, 1985, RC loop 1D flow channel 1FI-444 was declared inoperable and placed in the tripped condition. Instrument mechanics had installed a new transmitter and were venting the transmitter high pressure side vent per Byron Instrument Surveillance BIS 3.1.1-201, "Surveillance Calibration of a Reactor Coolant Flow Loop", Step F.19.1. The flow in each RC loop is sensed by 3 separate transmitters. Each transmitter has a separate low pressure tap; however, all 3 transmitters share a common high pressure tap. The venting of transmitter 1FI-444 induced a pressure oscillation in the common high pressure tap. This caused RC loop 1D flow transmitter 1FI-446 to trip and made up the 2 out of 3 coincidence logic for RC flow less than 90% for RC loop 1D. With reactor power greater than permissive P-8 (30%) the low flow in 1 out of 4 RC loops resulted in a reactor trip.

The licensee's investigation has not yet been completed. Licensee will perform testing during the October 25 outage to determine if it is possible to vent a transmitter without tripping a second transmitter. The licensee has initiated an Action Item Record, AIR 6-85-361, to track this investigation.

As temporary corrective action the licensee has decided not to perform this surveillance at power, pending completion of the investigation. The licensee's permanent corrective action and

evaluation of this event will be reviewed in a subsequent report when the LER is issued.

c. Unusual Event on October 23, 1985

While in Mode 1, with reactor power at 92%, an Unusual Event was declared when unidentified Reactor Coolant System (RCS) leakage exceeded 1 gpm. At 0600 unidentified RCS leakage was determined to be 1.74 gpm. Operators were dispatched to measure the leakage of the 1D Reactor Coolant Pump (RCP) Seal Injection Flow Transmitter, which was believed to be leaking. At 0712 the licensee declared an Unusual Event. By 0815 the 1D RCP Seal Injection Flow Transmitter and the 1B RCP Seal Injection Filter vent and drain valves had been isolated and a subsequent surveillance verified that unidentified RCS leakage was less than 1 gpm. The Unusual Event was terminated at 0950. This event will be reviewed in a subsequent report when the LER is issued.

No violations or deviations were identified.

10. IE Information Notice (IEN) Followup (92717)

The inspector reviewed the Byron Station program for the receipt, review, and corrective actions regarding IENs. Copies of all IENs are sent to licensee corporate offices and to the Byron Station. The Nuclear Licensing Administrator (NLA) office in the corporate headquarters is responsible for assigning responsibilities for IEN review. The station handling of IENs is governed by Byron Administrative Procedure BAP 1260-1, "Operating Experience Feedback". The station copy was on file for all IENs except 85-01 (85-01 applies to licensee's with irradiators that are not self-shielding). In accordance with BAP 1260-1, IENs are normally routed through to the Assistant Superintendent level. The inspector reviewed the station files of IENs for numbers 85-01 through 85-45. The routing pages indicated appropriate review for information and distribution of the IENs. Each IEN file was examined for the assignment from NLA and the site response where appropriate. Of 45 IEN files, 29 were appropriate for site review and other organizations were assigned to review the remaining IENs. During the inspection, no site response could be found for IEN 85-27. The licensee indicated that the site was assigned review responsibility, however, the IEN could not be found. The inspector considers this an isolated occurrence. The site response was filed in the other 28 IENs. Overall the file responses appeared adequate. In addition, a recent draft report of a licensee audit of two selected IEN corrective actions was reviewed. In both cases, corrective actions were implemented. The inspector concluded that, overall, the site review of IENs is adequate, and that appropriate corrective actions are being implemented.

No violations or deviations were identified.

11. Licensee Actions Concerning Suspected Drug Use (99014)

- a. Concern: On September 18, 1985, the licensee notified the Senior Resident Inspector of an concern received related to suspected drug



use. This concern was received in the form of a phone call from a knowledgeable citizen to the Industrial Relations Supervisor at the CECo Corporate Offices in Chicago. The caller identified an employee at Byron Station whom the citizen had reason to believe may be using drugs. The employee named in this concern was a non-management, non-licensed administrative employee whose duties and assignments do not involve safety related work. The caller agreed to supply additional information as required to support CECo's investigation of the concern.

Findings: In keeping with the licensee's drug awareness program on September 19, 1985, the individual was relieved of all duties at the Byron Station, the individual's photo identification security badge and access key-card were revoked and the individual was immediately removed from the payroll pending the outcome of an investigation, counseling and chemical testing for drugs. The individual was interviewed by senior Employee Assistance Program (EAP) and medical personnel. The individual initially refused to participate in the EAP. Following a second interview and discussion with EAP personnel, the individual elected to join the EAP and participate in the Rockford Memorial Hospital (RMH) Addiction Treatment Education Program (ATEP).

A month later, an Employer Conference attended by Byron Station managers, supervisors, union representative, the individual's attorney and the individual, was held at RMH to review the individual's progress towards recovery and it was determined that the individual should be returned to fit-for-duty status. The individual was also advised of a six month probationary status requiring participation in the RMH ATEP as an out-patient, counseling on a periodic basis with the Rock River Division EAP personnel and random spot check urinalysis testing for drugs.

Based on the individual's acceptance of the terms of the probationary status, on October 30, 1985, the individual was readmitted to the site, rebadged and returned to full duty.

Failure on the part of the individual to complete the RMH ATEP participation counseling program or pass the urinalysis tests would result in termination without further cause. This concern is considered closed.

b. Allegation Followup

In response to alleged drug and alcohol use in the parking lots and areas of the power plant received by the licensee on June 13, 1985, the licensee developed and implemented an action plan to investigate and disposition these allegations. The details of the NRC inspectors' investigation of the alleged drug and alcohol use are documented in I&E Inspections Reports 454/85025(DRP) and 455/85021(DRP).

A feature of the licensee's action plan included unannounced periodic random searches of the licensee's power plant property using narcotics detection trained dog teams. On October 3, 1985, a search of this nature was conducted by Byron Security personnel and three drug detector dog teams. The dog teams were accompanied by representatives from Byron Station, CECO Security, Wackenhut Security, Union Stewards and the Ogle County Sheriff's Department.

The three dog teams conducted searches including contractor offices and storage; CECO receiving warehouse and offices; radwaste and service building; and employee parking lots. In all the areas searched, the dog teams did not discover any illegal drugs, substances, or paraphernalia. Therefore this allegation remains closed.

No violations or deviations were identified.

#### 12. Personnel Changes

On September 30, 1985 the licensee shifted the station organization to that of Commonwealth Edison's standard operating nuclear station and the following personnel were assigned to the positions indicated:

- R. Querio, Station Manager
- R. Pleniewicz, Production Superintendent
- R. Ward, Services Superintendent
- L. Sues, Assistant Superintendent, Operations
- G. Schwartz, Assistant Superintendent, Maintenance
- T. Joyce, Assistant Superintendent, Technical Services
- T. Tulon, Operating Engineer, Unit 1
- D. Brindle, Operating Engineer, Unit 2
- R. Blythe, Operating Engineer, Unit 0
- D. St. Clair, Operating Engineer, Rad Waste
- F. Hornbeak, Technical Staff Supervisor

#### 13. Commissioner's Tour on October 16, 1985

NRC Commissioner Lando W. Zech and David Humenanski accompanied by Region III Administrator James G. Keppler, W. L. Forney, Chief, Reactor Projects Section 1A and the Resident Inspector staff toured Byron Unit 1 and met with licensee station and corporate management. The overall facility status and licensee performance in the areas of integrated plant operations, radiological controls and regulatory compliance were discussed during the meeting.

#### 14. Management Meeting (30702)

On October 10, 1985, Mr. W. L. Forney, Chief, Reactor Projects Section 1A, and the NRC resident inspector staff met with licensee management and supervisory personnel denoted in Paragraph 1 of this report. These meetings were held to assess overall facility status, plant operations and to discuss agenda items which had developed since issuance of the operating license.

15. Open Items

Open items are matters which have been discussed with the licensee, which will be reviewed further by the inspector, and which involve some action on the part of the NRC or licensee or both. An open item disclosed during the inspection is discussed in Paragraph 5.c.

16. Exit interview (30703)

The inspectors met with licensee representatives denoted in Paragraph 1 at the conclusion of the inspection on October 31, 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.