U. S. NUCLEAR REGULATORY COMMISSION

REGION III

Report No. 50-454/84-40(DRS)

Docket No. 50-454 Construction Permit No. CPPR-130

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: Byron Station on June 11-15, July 5-6, July 9-12, and August 16-17, 1984.
Chicago, IL on July 16-17, 1984.

Inspector: H. Walker H. Walker 8-31-84
Date

Approved By: F. Hawkins, Chief
Quality Assurance
Programs Section
8/31/84
Date

Inspection Summary

Inspection on June 11-15, July 5-6, July 9-12, July 16-17, and August 16-17, 1984 (Report No. 50-454/84-40(DRS))
Areas Inspected: Routine, announced inspection by a regional inspector of QA/QC program administration; operations and construction audit programs; and corrective action program. The inspection involved a total of 92 inspector-hours onsite and 15 inspector-hours at corporate headquarters.
Results: Of the three areas inspected, one item of noncompliance was identified (deficiencies in the audit program being performed by the Byron Station QA organization) Paragraph 2.b.(2)(e)).

DETAILS

1. Persons Contacted

Commonwealth Edison Company (CECo)

**J. S. Bitel, Director of Quality Assurance (Operations)
R. D. Branson, Master Electrician
*W. B. Burkamper, Quality Assurance Supervisor (Operations)
S. N. Campbell, Office Supervisor
*A. J. Chernick, Quality Control Supervisor
T. E. Didier, Master Instrument Mechanic
H. R. Erickson, Jr., Master Mechanic
R. A. Flahive, Assistant Technical Staff Supervisor
*R. G. Gruber, Quality Assurance Engineer
K. J. Hansing, Quality Assurance Superintendent
Z. E. Harl, Quality Assurance Staff Assistant
B. Jacobs, Technical Staff
*L. M. Johnson, Quality Assurance Engineer
**G. F. Marcus, Director of Quality Assurance (Engineering & Construction)
*C. A. Mumford, Quality Control Inspector
*R. J. Poche, Technical Staff
*R. E. Querio, Byron Station Superintendent
R. G. Rhoades, Maintenance Staff
A. Saller, Training Coordinator
*D. E. St. Clair, Technical Staff Supervisor
H. P. Studtmann, General Supervisor - Quality Assurance
L. A. Sues, Assistant Superintendent-Maintenance
T. J. Tulon, Operating Engineer
*R. C. Ward, Assistant Superintendent Administration and Supplies
*J. L. Woodridge, Quality Assurance Supervisor (Construction)

USNRC

*P. Brochman, Resident Inspector
K. Connaughton, Resident Inspector
*J. M. Hinds, Jr., Senior Resident Inspector

Other personnel were contacted as a matter of routine during the inspection.

*Indicates those attending the exit meeting on July 12, 1984 at the Byron Station.

**Indicates those attending the exit meeting at the Commonwealth Edison Corporate Offices on July 16-17, 1984.

2. Program Areas Inspected

This inspection was primarily conducted to determine the degree of implementation of the operations QA program to support the issuance of an operating license. Other inspections in this area have been conducted or are planned in order for the NRC to make this assessment. The results of this inspection are documented in the following sections of this report.

a. QA/QC Administration

The administration of the Byron QA/QC program was reviewed to verify compliance with regulatory requirements and operational QA program commitments. The inspection was performed by reviewing applicable procedures and records and conducting personnel interviews.

(1) Documents Reviewed

(a) Q. P. 2-1, "Procedure for Revision of the Quality Assurance Manual"

(b) Q. P. 2-52, "Quality Assurance Program for Operations - Training"

(c) Q. P. 2-53, "Quality Assurance Program for Operations - Classification of Structures, Systems and Components"

(d) Quality Assurance Memorandum No. 7, "Quality Assurance Engineer/Inspector Qualification Program to Meet the Requirements of ANSI N45.2.6"

(e) BAP 1000-0, "Quality Control Index"

(f) BAP 1000-2, Revision 3, "Quality Assurance Hold Tag"

(g) BAP 1000-3, Revision 4, "Quality Assurance Reject Tag"

(h) BAP 1000-4, Revision 2, "Discrepancy Record for Stores Material"

(i) BAP 1000-8, Revision 0, "Quality Control Review of ISI and NDE Personnel Certifications"

(j) BAP 1210-1, Revision 1, "On-site Review Functions"

(k) BAP 1210-2, Revision 0, "Selection of Personnel to Participate in the On-site Review and Investigative Function"

(l) BAP 1210-4, Revision 0, "Signature Alternates for Procedural Content and Technical Review"

(m) BAG 1300-1, Revision 0, "Station Procedure Manuals"

(n) BAP 1310-4, Revision 1, "Preparation of Temporary Procedures and Temporary Changes to the Permanent Procedures"

(2) Results of Inspection

(a) During the review of procedures used by the quality assurance organization, the inspector noted that quality assurance department memoranda were being used as procedures to describe methods for performing quality related activities. The following observations were made with regard to these documents:

1. No documented procedure existed for preparation, review, approval and control of quality assurance department memoranda.

2. Individual quality assurance department memoranda contained only the signature of the Corporate QA Manager and there was no evidence of the required review by a knowledgeable person other than the originator.

These issues were discussed with CECo QA personnel. On July 9, 1984, the inspector reviewed revised copies of all seventeen quality assurance department memoranda. The memoranda contained the required signatures and a new procedure which described the required procedural controls had been developed. The memoranda have been issued for use and the inspector has no further concerns regarding this matter.

(b) During the review of Quality Assurance Department Memorandum No. 7, dated April 1984, the inspector noted that in some cases the procedure allowed training to be substituted for the experience levels specified by ANSI N45.2.6-1978. This procedure was revised and reissued and is now acceptable. The inspector has no further questions regarding this matter.

CECo QA personnel performed a review of certification records of personnel who were qualified to Memorandum No. 7. The review was performed to determine if QA personnel had been certified to the minimum experience requirements specified by ANSI N45.2.6. Two separate surveillance reports, generated as a result of this review, were reviewed by the NRC inspector. One of the surveillance reports addressed the certification of Byron QA personnel and the other dealt with the certification of QA personnel at other CECo nuclear facilities. A review of the surveillances by the NRC inspector did not indicate a problem with QA personnel assigned to Byron: however,

the certifications of some personnel assigned to other projects appeared to be questionable. A subsequent review of selected certification records at the Corporate QA Office failed to resolve the issue because some of the resumes did not contain sufficient detail. This matter is unresolved pending further review (454/84-40-01).

(c) During the review of procedure BAP 1210-2, the inspector noted that the Quality Control Supervisor had designated all QC Level II inspectors as unrestricted alternates to the on-site review committee. The inspector questioned whether all these designated alternates were qualified in all areas in which the QC Supervisor would be involved. CECo personnel at Byron indicated they would perform a review of the qualifications of these individuals and would modify the alternate's responsibilities as appropriate. A new assignment of alternate responsibilities was issued on July 12, 1984. The inspector was provided a copy of the revised issue. Pending review of the alternates' qualifications for the revised assignments, this item is considered unresolved (454/84-40-02).

(d) During a review of QA personnel certification records the inspector noted that one of the QA engineers had not been recertified in one NDE discipline. The QA Supervisor was not aware that the engineer's certification was not current and had not established a method to ensure that only qualified personnel were assigned to work in respective NDE disciplines. There was no indication that the QA engineer had performed work in the uncertified discipline. This matter is unresolved pending review of a controlled method to ensure assignment of qualified personnel to specific work assignments (454/84-40-03).

b. Audit Program

The Byron QA audit program was reviewed to verify compliance with regulatory requirements and QA program commitments. Inspection of the audit program included a review of corporate QA audits of suppliers and the Byron project, operations QA audits of pre-operational testing, and a cursory review of construction QA audits. Audits of construction and operations (including pre-operational testing) were conducted by separate quality organizations who report through separate channels to the corporate QA manager. This inspection primarily covered internal audits by operational quality assurance; however, audits by construction quality assurance were briefly reviewed to determine if the problems noted during the operations QA review, as described below, also existed in the construction QA area. Corporate QA audits were also reviewed. The inspection was performed by reviewing applicable procedures and records and conducting personnel interviews.

(1) Documents Reviewed

(a) Procedures

1. Q. P. 18-1, "Quality Program Audits"

2. Q. P. 18-51, "Audits for Operations - Quality Assurance Program Audits"

3. Q. P. 18-52, "Audit and Surveillance of Maintenance, Spare Parts and In-service Inspection Activities"

4. Quality Assurance Department Memorandum No. 3, "Quality Assurance Audit and Surveillance of Nuclear Station Technical Specification by Station and Off-site Personnel"

5. Quality Assurance Department Memorandum No. 5, "Off-site Audit Plans - Engineering/Construction

6. Quality Assurance Department Memorandum No. 13, "Quality Assurance Audit and Deficiency Numbering"

7. Quality Assurance Department Memorandum No. 16, "Training"

(b) Audit Schedules for 1983 and 1984

(c) Eight Construction Audit Files

(d) Thirteen Operations Audit Files

(e) Auditor Qualification Records

(2) Results of Inspection

The inspector reviewed audit schedules and records for project QA audits of construction, project QA audits of pre-operational testing, corporate QA audits of the Byron project, and audits of Byron suppliers. Selected auditor certification records were also reviewed.

The supplier audits reviewed were acceptable. Corporate audits of the Byron project were generally acceptable. The construction QA audits, which were reviewed, appeared to be thorough and well controlled even though two programmatic deficiencies were identified. Although two of the problems noted in the operations QA audits also existed in the construction QA audit area, the impact appeared to be minor due to the use of more experienced personnel and more involvement by management and lead auditors. Project QA audits of operations activities (including pre-opera-

tional testing) were being satisfactorily conducted, except for those discrepancies noted in the following sections of this report. Specific observations made during the review were as follows:

(a) The inspector reviewed the three corporate audits of the Byron project conducted during the past two years. The audits appeared to be comprehensive in scope and depth; however, the inspector noted that the Byron project QA organization was not included within the scope of the audit conducted on August 8-12, 1983. This item is unresolved pending further review of periodic corporate audits to verify that they include, within their scope, review of the Byron QA organization (454/84-40-04)

(b) During the review of auditor certification records for operations QA auditors, the inspector noted that certain personnel had limited nuclear quality assurance experience. Most were recent college graduates with short term quality experience at the Byron Station. This is an open item which will be reviewed at a later date (454/84-40-05).

(c) During the review and discussion of project QA audit schedules for operations QA for 1983 and 1984, the inspector noted that there was no system to assure that required technical specifications items are audited periodically as required by the technical specifications. The inspector was informed that this system would be prepared in the near future when personnel experienced in operations were available.

Currently, audits of technical specifications requirements only verify that the applicable requirements have been included in procedures. This was because the Byron technical specifications have neither been approved by the NRC nor implemented by the licensee. This item is open pending review of the audit scheduling system and the conduct of audits that verify technical specifications compliance subsequent to plant operation (454/84-40-06).

(d) In reviewing construction QA audit No. 6-84-05, which was conducted on Westinghouse pipe support calculations, the CECo auditor determined that two errors were found in each of the two calculations reviewed during the audit. These calculations had been checked and used in pipe support design. An observation was issued as a result of the problem. This observation was closed with the following statement: "Due to the fact that none of these errors were significant no further action is required. This item is considered closed." This observation was closed without requiring action by Westinghouse to review additional calculations for errors or to address reasons that persons checking calculations did not detect the errors.

No additional calculations were reviewed by the auditors. The licensee's action taken does not appear to be adequate. This item is unresolved pending NRC review of the calculation errors (454/84-40-07).

(e) During the review of project QA audits, the following observations were made:

1. Audit procedures QP 18-51 and 18-52 (operations QA audits) and QP 18-1 (construction and supplier audits) were found to generally address the requisite requirements of ANSI N45.2.12 and N45.2.23, with the exception noted below.

   a. Paragraph 4.4.6 of ANSI N45.2.12 requires that recommendations for correcting program deficiencies be included in the audit report.

   b. Paragraph 4.2.2 of ANSI N45.2.12 describes the mandatory audit responsibilities for lead auditors.

   c. Paragraph 5.2 of ANSI N45.2.12 and Regulatory Guide 1.144 specify audit record requirements.

   d. Paragraph 2.3.4 of ANSI N45.2.23 specifies audit participation time requirements as a basis for lead auditor qualification.

   e. Paragraph 2.3.2 of ANSI N45.2.23 requires an evaluation of both written and oral communication skills for lead auditor qualification.

   The inspector's review was not performed to the depth which would ensure that all line items in ANSI N45.2.12 and N45.2.23 were procedurally addressed. Accordingly, the corrective action with regard to this item should include an indepth review of the procedures to ensure inclusion of the appropriate requirements.

2. Audit plans required by Paragraph 4.2.1 of ANSI N45.2.12 were not being prepared for operations QA internal audits of the Byron Station. This problem was not noted in construction audits.

3. Lead auditors were assigned as lead auditor for several audits simultaneously. As a result, some of the duties specified in Paragraph 4.2.2 of ANSI N45.2.12 for a lead auditor were not being performed. For example, lead auditors did not actively

participate in the performance of many of the audits and there is no objective evidence that other activities required for lead auditors (e.g., coordination of the audit) were being performed. In most cases, audits appeared to be performed with little participation, guidance or supervision by the lead auditor. The impact of this problem appeared to be minimal in the construction QA area.

4. During the review of records for operations QA audit 84-17 the inspector noted that checklist items indicated as discrepant were not adequately addressed. Two items indicated as discrepant were not covered by findings or observations and records provided no explanations. The checklist for this audit indicated seven discrepant items. Two findings and one observation were issued which addressed only five of the seven discrepant items. This was not in accordance with Paragraph 4.5.1 of ANSI N45.2.12. Similar deficiencies were not noted in the other 12 operations audit reports which were part of this review. Additionally, similar problems were not evident in the construction QA audits.

5. Audit reports did not identify auditors participating in the audit as required by Paragraph 3.2 of Attachment C of Procedure QP 18-51 and Paragraph 4.4.2 of ANSI N45.2.12. Similar problems were not evident in the construction QA audits.

6. During the review of audit finding No. 1 from operations QA Audit 84-15, the inspector noted that the finding was closed without the benefit of appropriate corrective action. Although more than 20 percent of the records reviewed were deficient, the finding was closed without requiring a review of the balance of the respective records. This was not in accordance with Paragraph 4.5.1 of ANSI N45.2.12. Of the 13 operations audits reviewed, this was the only instance where failure to take appropriate corrective action was identified.

These deficiencies (Items 1. through 6.) in the audit program being performed by the Byron stations QA organization are considered to be an item of noncompliance with 10 CFR 50, Appendix B, Criterion XVIII (454/84-40-08).

(f) Concerns noted during the review of project QA audits were as follows:

1. The three audit procedures (QP 18-1, 18-51 and 18-52) were not complete and were difficult to follow. The documents were not consistent in

content. For example, the operations QA audit procedures (QP 18-51 and QP-52) did not describe or define the documents or methods used to report audit findings and audit observations. These issues are defined in QP 18-1. This is an open item pending further procedural review (454/94-40-09).

2. In most cases, project operations QA internal audits verified programmatic requirements but did not verify implementation of those requirements during pre-operational testing activities. In other cases where verification of implementation seemed to be required the verification was not performed. For example, checklist item number 8 of audit 84-04 asks the question, "Is distilled water used to refill station batteries?" The auditor verified the requirement was included in the appropriate procedure; however, there was no actual verification that distilled water was used to refill station batteries. This is an open item pending review on a subsequent inspection (454/84-40-10).

3. Checklists contained general questions with no details as to sample size or methods of verification. These are left to the discretion of the auditor during the audit. In some cases, this appears to result in inadequate verification of checklist items. This is an open item to be reviewed in a subsequent inspection (454/84-40-11).

4. In some cases, audit records (i.e., reports or checklists) did not indicate if the audits were performed by reviewing records, verification of hardware or witnessing of work performed. The inspector noted this in the records for Audit 83-33. This is an open item pending further review of current audits (454/84-40-12).

(g) The auditor certification files at the Byron station were reviewed to determine if the certifications were adequate. There were two items that could not be fully evaluated.

1. A copy of the lead auditor qualification examination required by Paragraph 4.2 of ANSI N45.2.23 was not included in the auditor certification files at the site. Copies of the examinations were on file in the training files of the individuals which are maintained at the corporate QA office.

2. Evidence that auditor training courses completed (as indicated in the certification records) included the specific training required by Paragraphs 2.2.1 and 2.2.2 of ANSI N45.2.23 was not included in the certification file at the site.

This is an open item pending further review of the Byron Station auditor certification records (45484-40-13).

c. Corrective Action Program

The inspector reviewed the corrective action program and its implementation to verify conformance with regulatory requirements and quality program commitments. The review included the quality trending program, action taken as the result of audit findings, and the use of the Action Item Record.

(1) Documents Reviewed

(a) Procedures

1. Q. P. 16-51, "Corrective Action for Operations - Corrective Action System"

2. Quality Assurance Department Memorandum No. 6, "Trending of Audit Deficiencies"

(b) Audit Status Log

(c) Selected Action Item Records

(2) Results of Inspection

During the review, the inspector noted that Byron Operations did not have a procedure for trending of discrepancies by cause or discrepancy type. The inspector was informed that Byron personnel were aware of the need for this procedure and it will be developed in the near future. This matter is unresolved pending further review (454/84-40-14).

3. 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 Paragraphs 2.a.(2)(b), 2.a.(2)(c), 2.a.(2)(d), 2.b.(2)(a), 2.b.(2)(d), and 2.c.(2).

4. 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. Open items disclosed during the inspection are discussed in Paragraphs 2.b.(2)(b), 2.b.(2)(c), 2.b.(2)(f) 1., 2.b.(2)(f) 2., 2.b.(2)(f) 3., 2.b.(2)(f) 4., and 2.b.(2)(g).

5. Exit Interview

The inspector met with licensee representatives (denoted in Paragraph 1) at the Byron plant on July 12, 1984, and summarized the purpose, scope and findings of the inspection. On July 17, 1984, the inspector summarized the inspection results for licensee Quality Assurance representatives at the Corporate Quality Assurance Offices in Chicago.