

U. S. NUCLEAR REGULATORY COMMISSION

REGION III

Report No. 50-454/84-44(DRS)

Docket No. 50-454

License 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: June 11-15, 22 and 25-28, 1984

Inspector: *Roger D. Walker for*  
W. Kropp

7-26-84  
Date

Approved By: *Roger D. Walker for*  
F. Hawkins, Chief  
Quality Assurance Programs Section

7-26-84  
Date

Inspection Summary

Inspection on June 11-15, 22 and 25-28, 1984(Report No. 50-454/84-44)

Areas Inspected: Routine, announced inspection by a regional inspector of licensee activities in the areas of receipt inspection; storage of components; procurement; quality assurance records and qualification of personnel. The inspection involved a total of 62 inspector-hours onsite by one inspector.

Results: Of the five areas inspected, no items of noncompliance or deviation were identified in three areas; two items of noncompliance were identified in the remaining two areas (failure to implement corrective action on a nonconformance identified during receipt inspection - Paragraph 2.a.(ii), failure to store components in accordance with suppliers instructions - Paragraph 2.a.(ii).

## DETAILS

### 1. Persons Contacted

#### Commonwealth Edison Company (CECo)

\*R. E. Querio, Station Superintendent  
\*W. Jacobs, Technical Staff  
\*L. A. Sues, Assistant Superintendent Maintenance  
\*D. St. Clair, Technical Staff Supervisor  
\*A. J. Chernick, QC Supervisor  
\*W. Burkamper, QA Supervisor  
\*K. J. Hansing, QA Superintendent  
\*R. G. Gruber, QA Engineer  
\*D. A. Sible, QA Engineer  
\*L. A. McGuire, Central File Supervisor  
\*K. R. Mavity, QC Inspector  
\*C. A. Mumfordy, QC Inspector  
\*T. E. Didier, Master Instrument Mechanic  
\*G. Abrell, QC Coordinator  
\*R. J. Poche', Technical Staff  
\*G. A. Barth, Stores Supervisor  
R. Branson, Master Electrician  
R. C. Ward, Assistant Superintendent Administration and Support Services  
R. A. Flahive, Assistant Technical Staff Supervisor  
R. G. Rhoads, Maintenance Staff  
H. R. Erickson, Master Mechanic  
S. N. Campbell, Officer Supervisor  
T. J. Tulon, Operating Supervisor  
P. Nodzinski, QA Engineer

#### Other Personnel

\*P. Brochman, RIII NRC Resident Inspector  
\*N. C. Choules, RIII Reactor Inspector

\*Denotes those attending the exit interview.

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

### 2. Functional or Program Areas Inspected

#### a. Receipt Inspection and Storage of Items

The inspector reviewed the receipt inspection and storage program to verify compliance with 10 CFR 50, Appendix B; CECo's QA Topical Report CE-1-A, Revision 30; and ANSI N45.2.2-1972 ("Packaging, Shipping, Receiving, Storage and Handling of Items for Nuclear Power Plants"). The areas reviewed included receipt inspection checklists, control of nonconforming items, attributes utilized for accepting an item during receipt, storage of items, classification of storage levels, and preventative maintenance of items while in storage.

(i) Documents Reviewed

BAP 800-1, Revision 4, "Receipt Inspection"  
BAP 800-3, Revision 3, "Levels of Storage"  
BAP 800-7, Revision 2, "Maintaining Quality Levels of Stored Items"  
BAP 800-8, Revision 2, "Handling Storage and Issuance of Filler  
Materials"  
BAP 800-9, Revision 0, "Stores Department Weekly Combustible  
Inspection"  
QP 10-54, Revision 8, "Inspection for Operations - Receiving  
Inspection"

(ii) Results of Inspection

The inspector reviewed the implementing procedures for the receipt inspection and storage program to verify compliance with ANSI N45.2.2-1972. The following specific requirements were not addressed in the implementing procedures:

- (1) ANSI N45.2.2-1972, Section 6.3, states the storage methods and procedures shall address the following:
  - (a) ready access to stored items for inspection
  - (b) arrangement of items to prevent distortion
  - (c) storage of hazardous material in well ventilated areas which are not in close proximity to important nuclear plant items.
  - (d) all items and their containers shall be plainly marked so that they are easily identified without excessive handling, or unnecessary opening of crates and boxes
  - (e) waterproof covering shall be tied down to prevent moisture from entering laps to protect the coverings from wind damage.
- (2) ANSI N45.2.2-1972, Section 6.2, states periodic inspections shall be performed to assure that storage areas are being properly maintained.
- (3) ANSI N45.2.2-1972, Section 6.4.1, states inspections and examinations shall be performed and documented on a periodic basis to assure that the integrity of the items and their containers are being properly maintained.

Even though these requirements are not addressed in the implementing procedures, a tour of the storage area by the inspector noted no problems in these areas. Pending implementation of an implementing procedure which addresses the specific ANSI N45.2.2 requirements noted above, this is considered an unresolved item (454/84-44-01).

The inspector reviewed Quality Receipt Inspection (QRI) forms and Receipt Inspection Notices (RIN) for the following equipment:

<u>Equipment</u>	<u>Purchase Order</u>	<u>Store Code Item Number</u>
500 H.P. Motor	267685	505E43
Valve	264020	504FY2
Power Supply	728537	503A92
	(Release BY 7-1)	
Power Supply	728537	503A92
	(Release BY 4-5)	
Pump Shaft and Impeller	273016	505C17 and 505C16
3 Phase Amplifier	269018	505G80
Pump Internals	269250	
Valves	263163	500B65

The QRIs identified the characteristics to inspect during receipt to determine the acceptability of a procured component. The QRIs were prepared by Quality Control (QC) personnel and reviewed by Quality Assurance (QA). The QRIs reviewed did not identify the specific hardware characteristics specified in Attachment A to Quality Procedure (QP) 10-54, Revision 4, "Inspection for Operations - Receiving Inspection" (i.e. cleanness, protective covers and seals, dimensional, workmanship, etc.). It appears these hardware characteristics were addressed with the inspection characteristic on the QRIs titled, "Physical Condition." During the inspection, the licensee initiated a revision to procedure BAP 1000-9, "Quality Receipt Inspection" and developed a new form, BAP 1000-T13, "Receipt Inspection Checklist." The revision and new form will address the inspection characteristics of Attachment A to QP 10-54.

The licensee also initiated a re-inspection of 50 randomly selected items utilizing the inspection characteristics identified in Attachment A of QP 10-54. These items were previously accepted by QC with QRIs that identified the inspection characteristic, "physical condition." The licensee will utilize the results of the re-inspection to ascertain if the previous receipt inspections were effective even though the QRIs did not identify the specific hardware characteristics to be inspected. This matter is unresolved pending a review of the re-inspection results during a subsequent inspection (454/84-44-02).

The inspector reviewed the control of nonconforming items identified during receipt inspection to verify proper identification, segregation, disposition and close out. Items identified as nonconforming were properly identified and segregated. The inspector reviewed Discrepancy Records (DR) 215-83, 227-83, 192-83, 75-84 and 194-83 to confirm adequate disposition and close out. A problem was noted in the implementation of the disposition for DR 192-83. This DR was initiated to identify that a supplier would not certify a three phase amplifier to IEEE-323-1974. The three phase amplifier was a spare component for the station's Class IE battery chargers. The CECO Project Engineering group dispositioned DR 192-83 on December 16, 1983. The disposition required that (1) the vendor to provide a document certifying that the amplifier is of identical design and is of the same or equivalent materials to those provided in the qualified

unit and (2) the station verify that surveillance and testing procedures for battery chargers meet the intent of Regulatory Guide 1.89, Revision 1, Section 7d.

Subsequent to the dispositioning of DR 192-83, a change order was issued to require the supplier to furnish a Certificate of Conformance to the original design and Sargent & Lundy specification F/L 2820. The Certificate of Conformance received from the supplier did not certify the three phase amplifier to either the original design or the S & L specification. A review to verify implementation of the disposition also revealed that neither of the required actions had been accomplished. DR 192-83 had been closed and the amplifier identified as acceptable and placed in storage. This failure to implement corrective action is considered an item of noncompliance with 10 CFR 50, Appendix B, Criterion XVI (454/84-44-03).

The inspector reviewed the storage methods for the following equipment:

<u>Equipment</u>	<u>Purchase Order</u>	<u>Store Code Item Number</u>
Power Supply	728537 (Released BY 7-1)	503A92
Signal Amplifier	728537 (Released BY 5-8)	503A70
Power Supply	728537 (Released BY 4-1)	503A00
500 H.P. Motor	267685	505E43
Valve	264020	504F42
Power Supply	728537 (Released BY 4-5)	503A34
Power Supply	728537 (Released BY 3-6)	428A95
Circuit Board	728537 (Released BY 3-2)	428B09
Circuit Board	728537 (Released BY 3-4)	303A16
Relay Drive Board	274121	49G842
Pre-position circuit	266279	505F85
Three Phase Amplifier	269018	505G80
F/L Detector Assembly	728537 (Released BY 3-3)	580E00

The inspector verified that the items were classified to the correct storage level (A, B, C or D), were stored in accordance with supplier recommendations, and that any required preventative maintenance was being performed. A tour of the storage areas revealed that two items were not stored in accordance with the suppliers instructions. Specifically, a loop power supply (purchase order 728537, release 3-6), supplied by Westinghouse in 1981, was stored in a

Level B storage area (40°F-140°F). Westinghouse recommended that the power supply be stored in a controlled environment of 40°F-100°F and 10% to 80% humidity (Level A).

Westinghouse also recommended that the power supply be stored in an energized state with simulated loads if it was to be stored longer than 24 months. The power supply was received in 1981 and had not been energized.

Additionally, a three phase amplifier (purchase order 269018) for the Class IE battery chargers was stored in a Level B storage area. The supplier recommended that the amplifier be stored in an environment of 32°F-120°F and less than 95% humidity (Level A).

Failure to properly store and maintain the loop power supply and the three phase amplifier to prevent damage or deterioration is considered to be an item of noncompliance with 10 CFR 50, Appendix B, Criterion XIII (454/84-44-04).

Also during the tour of the storage areas, the acceptability of the storage method for a F/L detector assembly (purchase order 728537, release 3-3) could not be determined. The storage instruction for the assembly could not be located. The Westinghouse Quality Release stated that a handling and storage instruction had been sent with the shipment. Pending review of the misplaced instruction, this matter is considered unresolved (454/84-44-05).

b. Procurement

The inspector reviewed the procurement process for spare or replacement parts to verify compliance with 10 CFR 50, Appendix B; CECO's QA Topical Report, CE-1-A, Revision 30; and ANSI N45.2.13-1976 ("Quality Assurance Requirements for Control of Procurement of Items and Services for Nuclear Power Plants"). The areas reviewed included the content of purchase orders to verify appropriate quality and technical requirements, the review of procurement documents by QA, and the Approved Bidders List (ABL).

(i) Documents Reviewed

BAP 400-6, Revision 0, "Procurement of Spare Parts for Byron and Braidwood Stations"

QP 4-51, Revision 9, "Procurement Document Control for Operations-Processing Purchase Documents"

BAP 800-4, Revision 2, "Control of Requests for Purchase"

BAP 899-1, Revision 2, "Request for Purchase - All Station Personnel"

(ii) Results of Inspection

The inspector verified that the following purchase orders for spare parts, were reviewed by appropriate CECO departments.

<u>Purchase Order</u>	<u>Equipment</u>
263163	Miscellaneous Valves
269250	Auxiliary Feed Pump Intervals
273016	Component Cooling Pump Shaft and Impeller
269018	Three Phase Amplifier for Batter Charger
744219	Internal parts for Emergency Diesel Generator (pistons, liner for cylinder, etc.)

The purchase orders were also reviewed to verify that adequate quality and technical requirements were stipulated. One of the purchase orders reviewed did not contain quality assurance program requirements. Purchase order 744219 issued to the original equipment manufacturer (OEM), Cooper Energy Services, for spare internal parts of the emergency diesel (i.e. pistons, cylinder, liner etc.) required only a certificate of conformance. The purchase order stipulated that several of the items were safety-related and that 10 CFR 21 was applicable.

Discussions with the licensee revealed that audits of Cooper Energy Services in 1976, 1977, 1978, and 1983 resulted in not approving them for placement on the ABL. The Cooper Energy Services QA program has not been approved by the licensee and therefore QA program requirements could not be specified in purchase order 744219. The licensee did state that a technical evaluation of Cooper Energy Services was conducted and they were determined to be technically qualified. Pending a review of the audits of Cooper Energy Service at the licensee's Corporate Office, the procuring of safety-related spare parts for the emergency diesel generator from a supplier not on the ABL is considered an unresolved item (454/84-44-06).

A review of the certificate of conformance for the emergency diesel generator spare parts revealed the supplier certified the parts to Sargent & Lundy (S&L) specification F/L 2742, Addendum 3 (February 19, 1975). The latest revision of the S&L specification F/L 2742 in effect at the time of purchase was Amendment 4, dated June 4, 1983. There was no objective evidence, at the time of this inspection, that an evaluation was performed to determine the applicability of Amendments 1, 2, 3 and 4 to S&L specification F/L 2752. This matter is considered an unresolved item (454/84-44-07).

During the review of the licensee's program for procuring spare parts, it was noted that Attachment A to QP 4-51, Revision 11 ("Procurement Document Control for Operations - Processing Purchase Documents"), conflicted with CECO's QA Topical Report, CE-1-A, Revision 30. Attachment A stated that spare parts and material for replacement of "like for like" can be obtained from the OEM without an evaluation of the vendors' quality assurance program. The CECO QA Topical Report does not address this method of procurement. This matter is considered unresolved pending resolution of the conflict between CECO's QA Topical Report and QP 4-51 (454/84-44-08).

c. Quality Assurance Records

The inspector reviewed the QA records program to verify compliance with 10 CFR 50, Appendix B; CECO QA Topical Report, CE-1-A, Revision 30; and ANSI N45.2.9-1974 ("Requirements for Collection, Storage, and Maintenance of Quality Assurance Records for Nuclear Power Plant"). The method of identifying QA records, identification of retention periods for QA records, and the storage of QA records were reviewed.

(i) Documents Reviewed

BAP 1340-2, Revision 3, "Quality Records Turnover"  
BAP 1340-4, Revision 2, "Document Retention"  
BAP 1340-8, Revision 4, "Storage of Documents that are Controlled"  
BAP 1340-12, Revision 1, "Transfer and Receipt of Records to Control File"  
"Document Retention Schedule", Revision 2

(ii) Results of Inspection

A review of the Document Retention Schedule, which is also the QA record index, revealed that the following documents were not identified on the schedule:

- (1) QC inspector certification
- (2) Position Deviation List (BAP 300-T28)
- (3) Equipment in Test Record Sheet (BAP 300-T6)
- (4) Equipment Out of Service Review (BAP 300-T22)

Because these documents have the potential of being classified as QA Records in accordance with the guidelines in ANSI N45.2.9-1974, the inspector expressed concern that not all QA records are being identified on the Document Retention Schedule. As a result, the licensee has transmitted the schedule to department heads (June 26, 1984 memo) for their review to determine what documents need to be added as QA records. This matter is considered unresolved pending the review of the Document Retention Schedule by the licensee's station department heads (454/84-44-09).

The permanent storage facility for QA records was inspected and found to be in compliance with ANSI N45.2.9-1974. However, QA Records are temporarily stored in the department where the QA records are originated or other areas (i.e. central file) as noted in the Document Retention Schedule. The retention time for the QA records in temporary storage is identified in the Document Retention Schedule. The retention time in temporary storage varies from "life" to "6 months". The temporary storage of the QA records by individual departments does not meet the requirements of a temporary storage facility as defined in Section 5.6 of ANSI N45.2.9-1974. ANSI N45.2.9 allows



duplicate QA records to be stored in separate locations in lieu of a storage facility described in Section 5.6 of ANSI N45.2.9. It could not be determined, at the time of this inspection, if QA records temporarily stored by individual department were duplicated and stored in a separate location. The storage of QA records is considered an unresolved item (454/84-44-10).

d. Qualification of Personnel

The inspector reviewed the qualification of two QC inspectors, two lead auditors, the site QA Supervisor and the position description of General QA Supervisor - Maintenance. The qualifications and the position description were reviewed to verify compliance with 10 CFR 50, Appendix B; ANSI N45.2.6-1978 ("Qualifications of Inspection, Examination and Testing Personnel for Nuclear Power Plants"); and the CECo QA Topical Report, CE-1-A, Revision 30.

(i) Documents Reviewed

BAP 1000-1, Revision 2 "Training and Qualification Requirements for General Inspections in the Quality Control Department"  
BAP 1000-A1, Revision 0, "QC Inspector Related Technical Training"  
BAP 1000-A2, Revision 0, "Quality Control Inspector OJT Requirements"

(ii) Results of Inspection

The qualifications of the lead auditors and the Site QA Supervisor were found to be in compliance with the applicable positions descriptions. Conversely, the certification of the QC inspectors and the position description of the General QA Supervisor - Maintenance were not in compliance with established requirements.

Specifically, CECo inspectors are certified in one activity which is titled "QC Inspector". The certification of an individual as a QC inspector attests to the individuals capabilities of performing all QC activities (i.e., weld inspection, mechanical maintenance inspections, electrical inspections, etc.) covered by SNT-TC-1A. A review of QC inspector certification files revealed that the individuals had work experience in the area of instrumentation but not in other areas such as mechanical maintenance, welding, etc.. This lack of related work experience in areas other than instrumentation, does not support their certification as "QC Inspector." A random review of maintenance work requests determined that individuals certified as "QC inspectors" did not appear to inspect activities in areas where they did not have related work experience. The broad certification of individuals as QC Inspectors without related work experience is considered an unresolved item (454/84-44-11).

The CECo QA Topical Report requires that the General QA Supervisor - Maintenance have a degree in a science or related technical discipline. However, the position description stated that equivalent experience in lieu of a degree was acceptable. This conflict between the CECo QA Topical report and the CECo position description is considered an unresolved item (454/84-44-12).

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. Ten unresolved items disclosed during the inspection are discussed in Paragraph 2.a.(ii), 2.b.(ii), 2.c.(ii) and 2.d.(ii).

4. Exit Interview

The inspectors met with licensee representatives (denoted in Paragraph 1) on June 28, 1984 and summarized the purpose, scope and findings of the inspection.