

APPENDIX A

The Rockbestos Company
Docket No. 99900277/82-02

NOTICE OF NONCONFORMANCE

Based on the results of an NRC inspection conducted on May 3, 4, 24-28, 1982, it appears that certain of your activities were not conducted in accordance with NRC requirements as indicated below:

Criterion V of Appendix B to 10 CFR Part 50 states: "Activities affecting quality shall be prescribed by documented instructions, procedures, or drawings, of a type appropriate to the circumstances and shall be accomplished in accordance with these instructions, procedures, or drawings. Instructions, procedures, or drawings shall include appropriate quantitative or qualitative acceptance criteria for determining that important activities have been satisfactorily accomplished."

Nonconformances with these requirements are as follows:

- A. Paragraph 4.2 of Section 4, dated April 15, 1981, of the Quality Manual, states in part, "It shall be the responsibility of the Specifications Engineering Department to translate [requirements of] customer procurement documents . . . into Manufacturing Specifications (MIT's)."

Contrary to the above, customer procurement document requirements had not been translated into MIT's relative to tests specified in Commonwealth Edison Company Purchase Order No. 258936, dated November 16, 1981.

- B. Paragraph III and its subparagraphs 1 through 4 of Quality Procedure No. Q-9, Revision 6, dated December 8, 1981, requires that "All documents prescribing activities affecting quality shall contain" identification of the individuals preparing, reviewing and/or approving and issuing the documents and related changes or revisions.

Contrary to the above:

1. The Extrusion Process Chart - KXL760G-16, dated January 15, 1982, in use at Extruder Machine No. 800, did not contain identification of the individuals who had prepared, reviewed and/or approved, and issued the document. This document reflected criteria for controlling the process.

2. Engineering Process Instructions - iMEV (805), dated January 25, 1982, in use at Irradiation Machine No. 805, did not contain identification of the individuals who had made, reviewed, and/or approved the additional handwritten information reflected therein. This document exhibited criteria for controlling the process.

C. Paragraph 6.1 of Section 6, dated February 1, 1981, of the Quality Manual states, "Activities affecting quality are prescribed by documented procedures, manuals, or instructions, and are accomplished in accordance with these documents." The Extrusion Process Chart provides criteria for controlling extrusion of materials onto conductors.

Contrary to the above, extrusion of insulation onto conductors, Reel Nos. 43487, 8, 9, and 43490, was not being accomplished in accordance with Extrusion Process Chart - KXL760G-16, dated January 15, 1982. The actual temperatures being recorded, were outside the requirements specified in the Extrusion Process Chart. Examples are as follows:

<u>LOCATION</u>	<u>REQUIRED</u>	<u>ACTUAL</u>	<u>LOCATION</u>	<u>REQUIRED</u>	<u>ACTUAL</u>
Z1	340±10°F	326	Z5	340±10°F	380
Z2	380±10°F	347	D1	350±10°F	371
Z3	340±10°F	358	D2	380±10°F	399

D. Paragraph III and its subparagraph 7 of Quality Procedure No. Q-9, Revision 6, dated December 8, 1981, states in part, "All documents prescribing activities affecting quality shall contain . . . Listing of other forms, procedures, instructions, or data sheets used in performing the activity." Manufacturing Product Specifications are identified in the Quality Program as such documents.

Contrary to the above, Manufacturing Product Specifications for extruding and irradiating did not specify the documents (Extrusion Process Chart and Engineering Process Instructions, respectively) being used to perform the activity.

- E. Paragraph 4 of the document titled "Procedure for Calibration of Irradiation Units" dated June 10, 1981, states in part, "Records of calibration shall be maintained"

Quality Procedure No. Q-3, "Procedure for Spark Testing," Revision 1, paragraph 4 states in part, "Calibration shall be performed annually. Records shall be identified"

Contrary to the above, the following conditions were identified:

1. Records of calibration have not been maintained for the 1 MEV and .5 MEV irradiation units. The available records showed the earliest calibration of the instruments as follows:

	<u>1 MEV Unit</u>	<u>.5 MEV Unit</u>
Beam Current Meter	5/23/81	6/5/81
High Voltage Meter	6/15/81	7/20/81
Feet per Minute Meter	11/3/81	10/2/80

The 1 MEV and .5 MEV units have been operational since December 1976 and June 1980, respectively.

2. The calibration records for the spark tester KV meter on the 1 MEV unit showed that it was last calibrated on August 16, 1980, with a due date of August 1981. Calibration records made available to the inspector did not indicate that the spark tester KV meter had been calibrated on an annual basis.
- F. QA Manual Section 12, paragraph 12.2 states in part, "Samples of final or in-process wire or cable are tested by the Laboratory as required by the TDB Test Data Sheet . . . Test and sampling procedures are in accordance with applicable IPCEA Standards"

I(P)CEA Standard S-19-81, Part 6, paragraph 6.9.3 dealing with the Gravimetric Method of Accelerated Water Absorption Test, states in part, "The specimen shall be dried . . . in a vacuum of 5 millimeters or less of mercury . . . (then) the test specimen shall be immersed in . . . water at $70^{\circ}\text{C} \pm 1^{\circ}\text{C}$ for 168 hours. The level of the water shall be maintained flush with the under surface of the cover during the soaking period. . . ."

Contrary to the above, the Gravimetric Method of Accelerated Water Absorption Tests, required by certain TDB's, were not performed in accordance with I(P)CEA Standard S-19-81, in that:

1. The TDB's did not address the use of a vacuum oven, and they required a temperature of 75° C.
 2. Observation of in-process Gravimetric Method Tests showed that the vacuum oven was not being used; the controller to the oven being used was set at 75°C while the temperature recording chart was reading 80°C; and the water levels were down by as much as 3 inches from the undersurface of the covers.
- G. QA Manual Section 12, paragraph 12.2 states in part, "Samples of final or in-process wire or cable are tested by the Laboratory as required by the TDB Test Data Sheet Test and sampling procedures are in accordance with applicable IPCEA Standards unless otherwise directed by procurement documents."

The Stone & Webster Engineering Corporation purchase order specification number 2BVS-816A and addendum, dated January 22, 1982, for Beaver Valley Power Station, Unit 2, imposes physical and aging tests in accordance with the following IPCEA Standards: S-19-81, S-68-516, and S-66-524.

These standards address retests as follows: "If any test specimen fails to meet the requirements of any test, either before or after aging, that test shall be repeated on two additional specimens taken from the same sample. When the tear resistance of the first set of six specimens fails to meet the requirements, two additional sets of test specimens shall be tested."

Contrary to the above, review of TDB 324N, SO 14602-01 for hypalon jacket revealed the following:

1. The tear test failed to meet the required 30 lbs./in. minimum (28) and slab data value of 49 was entered on the TDB in lieu of the required retests. Further, there are no documented means to assure that the first set of six specimens was actually tested.

2. The elongation of the air oven-aged specimen, expressed as a percentage of the original, failed to meet the required 65% minimum. A slab data value of 90% was entered in lieu of performing the required retests.
3. A duplicate TDB was generated which showed the slab data, but it was not identified as being slab data.

The hypalon jacket, identified as 2C708, was shipped to the Beaver Valley site on approximately March 26, 1982.

- H. Paragraph 12.3 in Section 12 of the QA Manual states in part, "Test Data Sheets are prepared as required for each item of each customer order. Data Sheets provide test instructions and requirements, and test results are recorded" Subparagraph 12.3.2 states in part, "Test results are evaluated by the Quality Analyst or his designee to assure that test requirements have been satisfied"

Contrary to the above:

1. The Test Data Sheet for Shop Order No. 43327-18 (Shoreham Unit 1, 1/c no. 18AWG coaxial cable) did not contain instructions which would provide for performance of insulation resistance, oxygen index, and copper mirror corrosion tests in accordance with order requirements.
2. Rockbestos' evaluation of test results for the above shop order did not assure that test requirements had been satisfied, as evidenced by:
 - a. The failure to identify that an incorrect test voltage had been used for performance of insulation resistance testing; i.e., the test voltages used were reported on the work sheet and Test Data Sheet as 100VDC and 10VDC, respectively, whereas, the applicable specification MIL-C-17E required 200 VDC minimum to be employed.
 - b. The failure to identify that the number of oxygen index tests required by the applicable specification, ASTM D2863, had not been performed and reported; i.e., a single test value was documented, whereas, the ASTM specification required that the test be performed at least three times, with the individual values and average oxygen index included in the report.

c. The failure to identify that a Copper Mirror Corrosion Test had been performed for a test duration of 18 hours, and not the 16 hour test period stipulated by the applicable Stone and Webster specification, SH1-129, Revision 2.

i. Internal Memorandum dated September 5, 1978, states in part, ". . . All laboratory reports and data are to be in ink. Supporting test data must also be in ink. If a correction has to be made to the data, draw a single line through the wrong data. Write in the new data in ink and initial in your own handwriting (no printing)"

Internal Memorandum dated September 29, 1981, from the Quality Assurance Manager to the Plant Quality Control Managers (New Haven and East Granby) states in part, "The attached [September 5, 1978 memorandum] was instituted in 1978 to provide better control of TDB data. Some of these items have since fallen by the wayside. I am requesting that these procedures be re-instituted both at New Haven and East Granby"

Contrary to the above, there are numerous examples of alterations to test results on the TDB's by use of "white-out," rather than the required single line drawn through the data with the initials of the person performing the change.

J. QA Manual Section 16, paragraph 16.1 states in part, "A multi-part tag designated as the Off-Standard Report (OSR) shall be used for control of . . . cable not in conformance" Paragraph 16.2.2 states in part, "Disposition of off-standard cable is the responsibility of the Quality Control Manager . . . [who] may delegate simple procedural OSR's to Quality Aides In entering disposition on the OSR, [the] date, operation, and supplementary information also shall be recorded."

Contrary to the above, applicable supplementary information such as speed (feet per minute) and milliamps was not recorded when the disposition "rebeam" was entered on OSR No. 48154 dated May 20, 1982. This OSR was generated as a result of physical test failure after irradiation had been performed on 34,500 feet of conductor from reel number 41445. The "rebeam" operation was in-process when this condition was identified by the NRC inspector.

- K. Paragraph 5., of Quality Procedure Q-13, Revision 3, dated April 15, 1981, "Subject: Corrective Action Report Procedure," states in part, "The report will then be forwarded to the individual(s) responsible for taking corrective action, who will indicate concurrence or plans for alternate action. Response will be required within 30 days of the report date"

Contrary to the above, the individual(s) responsible for corrective action on Corrective Action Reports QC44EG, QC45EG, and QC46EG did not respond within the required 30-day period.

- L. Paragraph D.1 of Quality Procedure Q-5, Revision 9, dated November 24, 1981, "Subject: In-Process Inspection/Off-Standard Report Procedure," states in part, "The Supervisor of In-Process Inspection (or designee) reviews the OSR. If disposition can be decided he writes the disposition on the yellow, green, and hard copies on the reel"

Contrary to the above, the yellow and white copies of the OSR 56420 had been dispositioned, and the green and manila copies, which were attached to the cable did not indicate any disposition.

- M. Paragraph E.1, of Quality Procedure Q-5 Revision 10, dated May 20, 1982, "Subject: In-Process Inspection/Off-Standard Report Procedure" states, "When work required by the disposition instructions has been completed and the 'quantities' section has been filled in on the green and manila copies, the green copy is removed from the reel and inserted in the disposition section of the OSR board, directly in front of the yellow copy."

Contrary to the above, OSR's 48159, 56721, and 56337 had the "quantities" section filled in on the green copy, but the green copy had not been inserted in the OSR board with its yellow copy.

- N. A note following paragraph E.4 of Quality Procedure Q-5, Revision 10, dated May 20, 1982, "Subject: In-Process Inspection/Off-Standard Report Procedure," states in part, "All OSR's must reflect actual disposition of cable. If original disposition instructions are modified, this must be reflected on QC record of the OSR, properly initialled or signed by an authorized person. Completed OSR's become a permanent record, traceable to the order, and providing a history of the actual nonconformance disposition. . . ."

Contrary to the above: (1) OSR's 48156, 48159, 56299, 56337, and 56721 have multiple dispositions (some initialled, some not initialled) which leaves the actual disposition of the nonconforming cable questionable; and (2) also on OSR 48159 the amount of cable rejected (2558 feet) does not agree with the actual "quantities" dispositioned (1,500 feet).