

JUN 14 1985

MEMORANDUM FOR: Charles E. Norelius, Director, Division of Reactor Projects  
FROM: William S. Little, Director, Braidwood Project  
SUBJECT: MATERIALS VERIFICATION (MTV) PROGRAM BRAIDWOOD

Even though we have not had any meetings with CECo on the MTV program Mike Wallace has kept me up-to-date on progress including meetings that they have had with the State of Illinois.

The National Board essentially completed the review of the MTV problem late in May, 1985. CECo met with the State of Illinois on May 30, 1985. Attendees at the meeting in addition to CECo were: Phillips Getschow Company (PGC) Management; Illinois Department of Nuclear Safety; Illinois Boiler Board; National Board of Boiler and Pressure Vessel Inspectors; and Authorized Nuclear Inspectors. CECo's presentation included a history of the MTV problem and related circumstances, CECo's response to the problems, the results of the MTV program and the proposed solution to the anomalies identified. Each anomaly has been addressed in an NCR and the resolution of the NCRs involve three steps:

1. Normal PGCo processing of NCR's with ANI overview;
2. CECo and S&L evaluation and disposition of nonconforming conditions; and
3. Use of a multiparty agreement for items that cannot be disposed of using (1) and (2).

CECo plans to have completed (1) and (2) and identify those items to be handled by a multiparty agreement by June 14, 1985 and will present their results to the State of Illinois on June 17, 1985 in a meeting at the Braidwood site. They will then meet with us in a public meeting to present their conclusion and proposed resolution on June 25, 1985.

William S. Little, Director  
Braidwood Project

cc: James G. Keppler  
E. Greenman  
J. Harrison  
D. Danielson  
L. McGregor  
R. Schulz  
W. Kropp  
M. Farber  
P. Pelke

RIII  
Little/gg  
06/14/85

8508200011 850719  
PDR FOIA  
GARDE85-452 PDR

The FSAR, Section 3, commits to the ASME Boiler and Pressure Vessel Code, 1974, Summer 75 Addenda.

The ASME Boiler and Pressure Vessel Code, Section III, Subsection NA-4500, Examinations, Tests, and Inspection, states in part: "In-process and final examinations and tests shall be established to assure conformance with documented instructions, procedures and drawings."..."Check lists shall be prepared, including the document numbers and revision to which the examination or test is to be performed, with space provided for recording results of examinations, tests, and inspections. The check list shall include space for a signature, initials or stamp, and date of the Manufacturer's or Installer's representative and for the Inspector's signature, initials or stamp, and date for those activities which he witnesses."

The ASME Boiler and Pressure Vessel Code, Section III, Subsection NA-4440, Control of Purchased Materials, Items, and Services, states in part that measures shall be designed to prevent the use of incorrect or defective items and items which have not received the required examinations, tests or inspections.

10 CFR 50, Appendix B, Criteria XVIII, Identification and Control of Materials, Parts, and Components states in part that identification and control measures shall be designed to prevent the use of incorrect or defective material, parts, and components.

10 CFR 50, Appendix B, Criteria X, Inspection states in part, "A program for inspection of activities affecting quality shall be established and executed

by, or for the organization performing the activity to verify conformance with the documented instructions, procedures, and drawings for accomplishing the activity."

10 CFR 50, Appendix B, Criterion (VII, Quality Assurance Records, states in part, "Sufficient records shall be maintained to furnish evidence of activities affecting quality. The records shall include at least the following: Operating logs and the results of reviews, inspections, tests, audits, monitoring of work performance, and materials analysis."

The CECQ QA manual states in part in Section Q.R. 10.0, Inspection, "Written procedures of checklist will be used to specify and verify final inspections and tests..." "Inspection and test records will provide objective evidence that inspections and tests were performed in compliance with instructions and procedures to verify design and code requirements."

The CECQ QA manual defines Quality Assurance records in Q.P. 17.1, Quality Assurance Records, as documentary evidence that design, use of correct materials, work by qualified personnel, or accomplishment of a required operation or test conforms to the requirements.

The drawings for ASME B&PV Code and other safety related piping required the installation of specified materials that met the applicable ANSI and ASME Boiler and Pressure Vessel Codes, and the Sargent and Lundy design specification. In addition, safety related material installed must be from an approved, qualified supplier, as stipulated in the CECQ Quality Assurance Manual, Section Q. R. No. 4, Procurement Document Control.

Contrary to the above, an adequate material control and documented inspection program was not established by the licensee to assure correct material installation. Inspection records did not exist assuring correct material installation and numerous items do not contain identification markings.

As a result, items had been installed with either the quality of the item being indeterminate; or items had been installed that were in noncompliance with the ASME Boiler and Pressure Vessel Code, Gargent and Lundy design specification, drawing requirements, or CECQ QA manual.

Installed material violations included:

- a. Minimum wall violations.
- b. Components that cannot be identified and therefore were not traceable to certificates of compliance or certified material test reports and approved vendors.
- c. Incorrect schedules of pipe installed.
- d. Material where it could not be determined if the required NDE was performed.
- e. Removals of ASME nameplates, which identified the spools, without adequate controls.

Minimum wall violations is contrary to the ASME Code.

Material that is not traceable to the required examinations or tests is contrary to the CECQ QA manual and ASME Code.

Incorrect schedules is contrary to drawing and design specification requirements.

Indeterminate NDE is contrary to design specifications and the ASME Code.

Removal of ASME nameplates without adequate controls is contrary to ASME Code.



BRAIDWOOD

NRC

CONSTRUCTION


INSPECTION


EXPERIENCE

B R A I D W O O D

SITE WORK BEGAN AUGUST 1975

➤ 6000 MAN-DAYS INSPECTION THRU 1983

CONSTRUCTION INSPECTION  70% UNIT 1  
50% UNIT 2

PREOPERATIONAL TEST PROGRAM INSPECTION  10%

STARTUP TEST PROGRAM INSPECTION  0%

CONSTRUCTION SRI ASSIGNED JANUARY 1982

OPERATIONS SRI ASSIGNED DECEMBER 1983

S A L P 1

COVERED PERIOD - JULY 1979 THRU JUNE 1980

BRAIDWOOD RATED AS AVERAGE

NONCOMPLIANCE RECORD WAS DEEMED TO BE AVERAGE

TO BETTER THAN AVERAGE



S A L P 2

COVERED PERIOD - JULY 1980 THRU DECEMBER 1981

BRAIDWOOD WAS RATED CATEGORY 2 IN ALL AREAS EXCEPT  
FOR TWO, WHICH WERE NOT RATED

CONCLUSION

OVERALL REGULATORY PERFORMANCE WAS SATISFACTORY, HOWEVER,  
NEEDS ATTENTION ON ASSESSING SIGNIFICANCE OF NONCONFORMANCES

S A L P 3

COVERED PERIOD - JANUARY 1982 THRU DECEMBER 1982

RATINGS FOR BRAIDWOOD:

TWO AREAS NOT RATED

ONE AREA RATED CATEGORY 1

FOUR AREAS RATED CATEGORY 2

TWO AREAS RATED CATEGORY 3

CONCLUSION

LEVEL OF OVERSEEING QUALITY ACTIVITIES WERE GENERALLY  
ACCEPTABLE. WEAKNESSES IN THE AREAS OF SAFETY RELATED  
COMPONENTS AND QUALITY ASSURANCE WERE NOTED.

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1982 CONSTRUCTION ASSESSMENT TEAM FINDING

SIX INSPECTORS      467 MAN-HOURS

AREAS REVIEWED:

QA PROGRAM INTERFACE & OVERVIEW  
CORRECTIVE ACTION SYSTEM  
DESIGN CHANGE CONTROL  
MATERIAL TRACEABILITY  
ELECTRICAL CABLE INSTALLATION  
ELECTRICAL CABLE PROCUREMENT  
RECORDS OF CABLE INSTALLATION  
IN PROCESS INSPECTIONS  
QC INSPECTOR QUALIFICATION

RESULTS:

TWO ITEMS OF NONCOMPLIANCE  
NEITHER WAS DEEMED HIGHLY SIGNIFICANT

CONCLUSION

WITHIN THE AREAS INSPECTED, QA PROGRAM FOR THE BRAIDWOOD  
STATION APPEARED GOOD

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1982 - 1983 INSPECTION OF MECHANICAL ERECTION EQUIPMENT

TWO INSPECTORS - 328 HOURS

AREAS INSPECTED:

INSPECTION AND REVIEW OF LICENSEE'S ACTIVITIES RELATIVE  
TO THE INSTALLATION AND INSPECTION OF NUCLEAR STEAM  
SUPPLY SYSTEM AND OTHER MECHANICAL SAFETY RELATED  
EQUIPMENT

RESULTS:

- . COMMONWEALTH EDISON DID NOT ADEQUATELY DOCUMENT AND  
IMPLEMENT AN ACCEPTABLE PROGRAM IN ACCORDANCE WITH  
APPENDIX B FOR MECHANICAL SAFETY RELATED COMPONENTS  
- 7 EXAMPLES
- . COMMONWEALTH EDISON DID NOT REPORT PROBLEMS WITH THE  
MECHANICAL SAFETY RELATED COMPONENTS TO THE NRC  
ACCORDING TO 10 CFR 50.55(e)  
ORDER IMPOSING \$100,000 FINE ISSUED JUNE 1983

STATUS:

- . RETROINSPECTIONS OF WORK HAVE BEEN COMPLETED
- . SOME CORRECTIVE ACTIONS STILL IN PROGRESS

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CURRENT INSPECTION ISSUES

INSPECTION BEGAN IN 1983  
FINAL REPORT NOT YET ISSUED  
FOUR INSPECTORS ~~≈~~ 300 MAN-HOURS

AREAS EXAMINED:

HEATING VENTILATION AND AIR CONDITION (HVAC)  
SMALL BORE PIPING (SBP)  
LARGE BORE PIPING (LBP)  
ELECTRICAL

RESULTS:

SOME PROGRAMMATIC QA WEAKNESSES WERE FOUND  
FOR EXAMPLE: FIELD ROUTING SBP WITHOUT ADEQUATE  
IN PROCESS QUALITY CONTROL AND ENGINEERING  
ONE SIGNIFICANT MATTER STILL UNDER REVIEW  
ADEQUACY OF DOCUMENTS RELATING TO HEAT  
NUMBERS TRACEABLE TO SPECIFIC SB AND LB PIPING

STATUS:

LICENSEE HAS MADE COMMITMENTS TO DO REINSPECTION IN AFFECTED  
AREAS: HVAC WELD AND CONFIGURATION; HVAC DUCTS; SBP INSTALLATION  
AND CONFIGURATION; DOCUMENTATION RELATIVE TO HEAT NO  
TRACEABILITY (SBP & LBP) AND ELECTRICAL WORK PACKAGES



COMMONWEALTH EDISON COMPANY HAS RETAINED  
CONSULTANTS TO DO SPECIAL REVIEW

CONSULTANTS REPORT DIRECTLY TO THE PRESIDENT  
OF COMMONWEALTH EDISON COMPANY

REGION III VIEWS THIS STEP AND OTHER ACTIONS  
AS BEING POSITIVE INDICATORS



UNITED STATES  
NUCLEAR REGULATORY COMMISSION  
REGION III  
799 ROOSEVELT ROAD  
GLEN ELLYN, ILLINOIS 60127

Date \_\_\_\_\_

REF: Facility BRAIDWOOD  
Inspection Report No(s). 50-456/83-09;  
50-457/83-09  
OR License No(s). \_\_\_\_\_  
\_\_\_\_\_

Thank you for your letter dated 8-31-84,  
informing us of the steps you have taken to correct the non-  
compliance which we brought to your attention in our letter  
dated 5-7-84. We will examine these matters during  
a future inspection.

Sincerely,

\_\_\_\_\_  
(Signature)

Concurrence:

Schubert/Vandell/Hampton/Walker/Sperand