



Consumers
Power
Company

Stephen H. Howell
Senior Vice President

General Offices: 1945 West Parnall Road, Jackson, Michigan 49201 • (517) 788-0453

January 17, 1979
Howe-17-79

Mr J G Keppler, Regional Director
Office of Inspection and Enforcement
Region III
US Nuclear Regulatory Commission
799 Roosevelt Road
Glen Ellyn, IL 60137

MIDLAND NUCLEAR PLANT -
UNIT NO 1, DOCKET NO 50-329
UNIT NO 2, DOCKET NO 50-330
COMPONENT QUALIFICATION TEST DOCUMENTATION RE-REVIEW

Reference: Letter, S H Howell to J G Keppler; Midland Nuclear Plant;
Unit No 1, Docket No 50-329; Unit No 2, Docket No 50-330;
Component Qualification Test Documentation Re-Review;
Serial Howe-252-78, dated November 28, 1978

The referenced letter was an interim 50.55(e) report as is this letter. The attachments provide a description of the deficiency, the status of corrective action, and the administrative procedure which describes the re-review program.

Another report, either interim or final, will be sent on or before March 9, 1979.

Stephen H. Howell

- Attachments:
- A. Quality Assurance Program, Management Corrective Action Report, MCAR-1, Report 25.
 - B. MCAR-25, Interim Report #1, Seismic and Environmental Component Qualification, dated January 5, 1979
 - C. Letter, P A Martinez to G S Keeley, BLC-6934, Component Qualification Review, dated December 22, 1978

CC: Director, Office of Inspection & Enforcement
Att: Mr John G Davis, Acting Director, USNRC (15)

Director, Office of Management
Information and Program Control, USNRC (1)

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MCAR
Report No. 25

Page 2

Description (continued)

The project has identified all Q-components requiring seismic and environmental qualification testing with approximately 267 qualification test documents requiring re-review. Inadequacies identified during the course of this re-review program will be identified and documented in attachments to this report, and follow-up action taken and documented. A report on the first component identified with questionable qualifications is attached.

Attachment:

1 7220-J-204 Model E 10 Transmitter Summary



QUALITY ASSURANCE PROGRAM
MANAGEMENT CORRECTIVE ACTION REPORT

MCAR-1

REPORT NO. 25

JOB NO. 7220

Q NO. Various

DATE November 15, 1978

I DESCRIPTION (Including references):

The Midland Project initiated a components qualification re-review program in August 1978 of the seismic and environmental qualification test requirements, procedures and reports which have been processed by Bechtel. The purpose of this re-review program is to provide additional assurance on a comprehensive basis that adequate documentation has been submitted by the vendors regarding their qualification test programs, to re-evaluate such information systematically to determine if applicable requirements have been satisfied, and to take appropriate corrective action where necessary.

(continued on page 2)

RECOMMENDED ACTION (Optional)

- 1) Complete the re-review program.
- 2) Resolve component qualifications which are questionable regarding requirements, test methods and/or evaluation of test results. Any inadequacies found during this re-review are and will be discussed and resolved with the respective vendor.
- 3) Continue to report questionable qualifications.
- 4) Investigate and identify the cause of questionable qualifications and take appropriate corrective action to preclude recurrence.

REFERRED TO

ENGINEERING

CONSTRUCTION

QA MANAGEMENT

PROCUREMENT

ISSUED BY L. A. Dreishach 11/20/78
Project QA Engineer Date

L. A. Dreishach POAE
Project Manager

Potentially Reportable

II REPORTABLE DEFICIENCY

NO

YES

NOTIFIED CLIENT 11/10/78
Date

L. A. Dreishach 11/24/78
Project Manager Date

III CAUSE

CORRECTIVE ACTION TAKEN



POOR ORIGINAL QUALITY ASSURANCE

AUTHORIZED BY _____ Date _____

DISTRIBUTION

- Div. QA Manager
- Mgr. of QA-TPO
- Div. Procurement Mgr.
- Project Manager
- Construction Manager
- Engineering Manager
- Project Engineer
- Proj. Subst./Proj. Const. Mgr. or
- Proj. Procurement Mgr.
- Chief Const. QC Engineer or QE Supervisor or
- Procurement Supplier Quality Mgr. and
- Div. Supplier Quality Mgr.
- QA Supervisor
- Client

FORMAL REPORT TO CLIENT _____ Date _____
(If Section II Applies)

CORRECTIVE ACTION IMPLEMENTED

VERIFIED BY _____ Date _____
Project QA Engineer

* Describe in words provided and attach reference document

SUMMARY OF
FOXBORO MODEL E10 SERIES TRANSMITTER QUALIFICATION CONCERNS

ATTACHMENT 1

PURCHASE ORDER 7220-J-204

<u>Standard</u>	<u>Requirement</u>	<u>Foxboro Test Document</u>	<u>Concerns</u>
IEEE 323-1971 Sec. 5.2.3.5	Testing shall simulate DBA environmental conditions.	Test Report No. T3-1068, page 4	During irradiation test of 8 units there were 4 unexplained failures where the output of the transmitter either went to 0 or went to 0 and returned to 50% value after a period of time. In all cases the rad level at time of failure was below the Midland requirement.
	Midland spray chemistry requirements consists of a solution of sodium hydroxide, sodium thiosulfate and boric acid for a 30 day period.	Test Report No. T3-1013 Section 6.0	8 units were run through LOCA (MCA) environmental testing. Actual testing period of 24 hours, with a spray solution lacking sodium thiosulfate. Test chamber pressure was 60 psig, whereas Midland LOCA pressure was 70 psig.
IEEE 344-1971 Sec. 1.0	Seismic qualification shall verify that performance requirements are met.	Test Report No. T3-1091 Section 3.0	A crack in the force motor assembly of one unit was found after the 10g test. Cause of the crack and the effect of the crack on transmitter function under a LOCA environment were not explained.
IEEE 344-1971 Sec. 3.2.2.4	Testing at natural frequencies.	Test Report No. T3-1091 (Action Test Report 10486 page 4)	Natural frequencies in the 1-33 Hz range were identified during resonant survey. No unique testing at natural frequencies was performed.
Tech Spec 7220-J-204 Sec. 6.0	Performance shall be demonstrated under conditions simulating installed life.	None	Documentation was not available to show that one unit can withstand composite test conditions for installed life.

* The supplier has been advised to place these Q-listed items on HOLD.

Bechtel Associates Professional Corporation

SUBJECT: MCAR 25 (issued 11/20/78)

 Seismic and Environmental Component Qualification

INTERIM REPORT 1

DATE: January 5, 1979

PROJECT: Consumers Power Company Midland Plant Units 1 & 2 Bechtel
 Job 7220

Description of Potential Discrepancies

In response to MCAR 25, investigation by project engineering into the adequacy of data submitted by suppliers to fulfill the applicable requirements confirmed that there are questions concerning the acceptability of suppliers' environmental and seismic equipment qualification test documentation. The investigation has been expanded to include all safety-related items which require seismic and/or environmental testing or analysis.

Safety Implications

MCAR 25 was considered potentially reportable because a safety problem could exist if the equipment does not meet the specified seismic and environmental qualification requirements.

Corrective Actions Taken and Inprocess

1. Engineering personnel responsible for reviewing supplier-submitted seismic and environmental qualification documents have attended special training sessions to ensure that adequate reviews to the applicable requirements are performed in a timely manner. An administrative procedure entitled Components Qualification Review has been developed and implemented to reflect the controls and actions being taken by the project.
2. Seismic and environmental qualification procedures and results submitted and accepted prior to November 16, 1978, have been additionally reviewed by project engineering to ensure that the equipment

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JAN 16 1979

QUALITY ASSURANCE

Bechtel Associates Professional Corporation

MCAR 25
Interim Report 2
January 5, 1979
Page 2

meets the applicable qualification requirements. Because of problems experienced in obtaining complete packages, these previously accepted documents were additionally reviewed to a greater depth than the original submittal. At this point in time, 58 orders have been found to be indeterminate because they contain questionable areas. The following actions have been taken.

The qualification test status report (QTSR) was developed by project engineering to create a status list on all purchase orders requiring seismic or environmental qualification. The report is issued approximately monthly to reflect the current documentation status. Qualification test review (QTR) forms are completed by engineering when questions arise with regard to previously accepted qualification documents. Currently, engineering's initial review of previously accepted documents is 98% complete. At present, coordination meetings are being held to resolve any questionable areas noted from the initial review as documented on the QTR form. When further action is required, engineering is taking action as delineated in the procedure.

3. Attachment 1 to the MCAR identified qualification problems associated with the Foxboro Model E10 series transmitter (P.O. 7220-J-204). The Q-listed transmitters (Model E10) have been placed on hold, pending a decision to convert the Q-listed transmitters to non-Q services.

Engineering is presently obtaining information on an alternative supply of Q-listed transmitters from another supplier. The final decision of a source of Q-listed transmitters will be made after the evaluation is completed.

Project engineering is coordinating questionable areas with the respective suppliers for resolution or positive identification of any deficiencies. Deficiencies will be reported in subsequent reports. Attached is a QTR form which is a typical example of the type of questions and actions completed (see attachment A). Concurrently, the following controls have been initiated:

Bechtel Associates Professional Corporation

MCAR 25
Interim Report 2
January 5, 1979
Page 3

- a. If the supplier has started shipment of Q-listed material, the site has been notified so that appropriate action can be initiated to identify and control the item(s).
- b. If the supplier has not started shipment of Q-listed material, procurement has been requested to hold release for shipment until either resolution is obtained or a supplier deviation disposition request (SDDR) is initiated by the supplier.

Submitted by: C. DART

Approved by: [Signature]

Concurrence by: Karl Wiedner

CD/js
12/29/12

POOR ORIGINAL

MR/SPEC M-XYZ

Rev 3

DATE REVIEW STARTED 10-19-78

Vendor Documents Reviewed
Vendor Print Number

M-XYZ-1-1

Title or Description

SEISMIC AND ENVIRONMENTAL
REPORT

TYPICAL SAMPLE

SPECIFICATION REQUIREMENTS (Include Rev and/or Date)

IPECA 5-19-81

IEEE 323-74

IEEE 344-75

REVIEW BY J. J. R. Date 10/20/78

RESOLUTION BY A. B. C Date 10/28/78

1. TEST REPORT DOES NOT ADDRESS APPLICABLE IPECA STD. 5-19-81

1. OBTAINING DATA SUPPORTING IPECA STD. FROM VENDOR *

2. TEST DOCUMENTATION DOES NOT SHOW CRITICAL DAMPING FACTOR

2. OBTAINING DOCUMENTATION FROM VENDOR *

* SEE TWX DATED 11/6/78

THIS PORTION IS FILLED OUT UPON COMPLETION

DOCUMENTS HAVE BEEN REVIEWED AND ACCEPTED

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Comments Received J. J. R. 11/20/78
EXHIBIT 1

Bechtel Power Corporation

777 East Eisenhower Parkway
Ann Arbor, Michigan

Mail Address: P.O. Box 1000, Ann Arbor, Michigan 48106



December 22, 1978

BLC-6934

Mr. G. S. Keeley
Project Manager
CONSUMERS POWER COMPANY
1945 West Parnall Road
Jackson, Michigan 49201

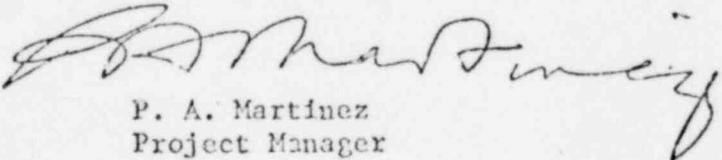
Midland Units 1 and 2
Consumers Power Company
Bechtel Job 7220
COMPONENTS QUALIFICATION REVIEW
Files 1506/2801

Dear Mr. Keeley:

The attached Components Qualification Review, dated December 22, 1978, Revision A, process description is a summarization of the various procedures used by the Project to review components qualification testing documentation. Further definition beyond those procedures has been added for some actions particularly with regard to timing.

Until the next Midland Project Procedures Manual revision is issued to include this, this document will be followed by the Project in the Components Qualification Testing Program. Please advise if you have any questions on the attachment.

Very truly yours,


P. A. Martinez
Project Manager

PAM/pp

cc: Mr. R. C. Bauman
Mr. W. R. Bird
Mr. J. L. Corley
Mr. B. W. Marguglio
Mr. D. B. Miller

Attachment

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DEC 20 1978

QUALITY ASSURANCE

PURPOSE

The purpose of this document is to describe the process for the review of qualification requirements and data for:

- 1) Consistency of the procurement package with the FSAR (Reference EDPI 4.1.).
- 2) Consistency with qualification test requirements in procurement documents.
- 3) Consistency with procurement requirements in submitted test procedures.
- 4) Compliance to procurement package requirements for test data submittal.
- 5) The issuance of a Qualification Test Status Report to document the status of the above review.

Initial reviews of procurement package qualification test procedures, and data are performed in accordance with MED/EDP 4.58.

DEFINITIONS2.1. Qualification Test Status Report (QTSR) - Exhibit 1

A status report used to provide pertinent information concerning the traceability of the qualification test data such as MR/Specification numbers, original P.O. date, item and manufacturer, applicable standards, specification reference, test procedure, test results, and review/re-review status.

2.1.1 QTSR (Status Input)

<u>Input</u>	<u>Definition</u>
a) Start ship: Date (actual or forecast)	a) Start of shipment of Q-listed material that requires qualification.
b) Turnover: Date (actual or forecast)	b) Scheduled date for turnover of Q-listed material from Bechtel to Consumer Power Co.
c) Re-review status:	
Incomplete	QE rereview not yet completed.
In-process	QE re-review completed and comments awaiting resolution. Site or supplier notified (Date).
Complete	QE re-review completed and comments if any, are satisfactorily resolved.
Re-review not required by QE	Qualification data to be reviewed by cognizant discipline upon initial receipt.

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2.2 Qualification Test Review (QTR) Form - Exhibit 2

A document review form containing pertinent information such as MR/Specification, date reviewed, document reviewed, specification requirements, comments and resolution from the re-review of qualification test data for input in to the status column of the QTSR.

3.0 GENERAL

3.1 Review of New Items (Not Released for Shipment)

Qualification procedures and data are reviewed and evaluated by the cognizant discipline in accordance with EDP 4.58. The cognizant discipline advises the Licensing Engineer of the acceptability of the data and the Licensing Engineer makes the appropriate entry into the QTSR at the next monthly issue. These items will not be reviewed by Quality Engineering. Copies of the QTR's which have completed engineering review and indicate further action are to be forwarded to CPCo QA. Distribution of the QTSR will be as follows:

CPCo

R. Bauman
W. Bird
J. Corley
P. Jacobsen
B. Marguglio
J. Pastor
M. Schaeffer
D. Sommers

Bechtel

E. Rumbaugh
J. Milandin
L. Dreisbach
W. Moring
R. Castleberry
M. O'Mara
K. Wiedner
L. Sokol
J. Newgen
W. Barclay
Group Supervisors
Chief Engineers

3.2 Review of Old Items

Re-review of all previously submitted and accepted qualification data as delineated in Revision 1 of the QTSR dated 10/27/78 is the primary responsibility of Quality Engineering with input as necessary from the cognizant discipline. The basis of re-review by Quality Engineering is as stated in the purpose and to the latest procurement package revision.

Quality Engineering establishes review priority based on difficulty of tracking the items (i.e. bulk items), date of turnover, and supplier delivery dates of Q-List items to minimize any schedule delay. The QTSR is issued monthly to reflect changes to information contained therein. Quality Engineering documents comments generated during re-review on Exhibit 2 and coordinates the comments with cognizant engineering discipline for resolution. The cognizant discipline engineer documents the resolution of the comments on Exhibit 2 and returns the QTR and any attachments to Quality Engineering. The resolution shall describe or refer to documents which provide adequate rationale for resolution or action taken. These aspects should, as appropriate, address:

- 1) What is to be done
- 2) To what criteria
- 3) Justification of the new criteria

When all actions are completed the Quality Engineer submits a copy of the completed QTR form and attachments to Licensing for incorporation into the QTSR.

3.3 Corrective Actions

When the Quality Engineering review of the documents discloses conditions which are questionable regarding requirements, test methods and/or evaluation of test results the following action will be taken by the cognizant engineering discipline:

- 1) If shipment has been made, the field will be notified of the QTR comments by the Project Engineer. The notifications will be sent to the field (Construction Superintendent, PFQCE and PQAE) so that appropriate NCR action can be initiated.

The cognizant group supervisor or designee will be responsible for keeping the QTSR updated on actions taken.

- 2) If shipment has not been made, the supplier and PSQR will be notified that shipment is to be held until questions are resolved. The cognizant discipline shall obtain resolution from the supplier prior to shipment or an SDDR will be initiated by the supplier requesting a date extension for data submittal so release for shipment can be granted.

In such cases, a copy of the approved SDDR (EDP 4.63) will be sent to the field in addition to the normal distribution. NCR action may be taken as described in Paragraph 1) above. When the Quality Engineering review is complete, the QTR and attachments will be forwarded to the Licensing Group for QTSR input.

- 3) NCRs will be transmitted to the Project Engineer for disposition as required by SF/PSP G.3.2. NCRs issued will be closed by site QC based on receipt of notification by Project Engineering that the Qualification Test Requirements have been satisfied as noted on the completed QTR form.

3.4. NCR conditional Release

When material has been shipped to the jobsite and found to be nonconforming because of unacceptable qualification test data, an NCR must be initiated. A conditional release may be implemented if the item is critical to the installation schedule. NCR and conditional release will be issued in accordance with SF/PSP G-3.2.

MR/
Specification
(Original
P.O. Date)

Item and Manufacturer	FSAR Applicable Standards	Specification Reference	Test Procedure	Test Results	Status
C-018/C-18, Rev 5 (1/25/75) Field erected tanks (Craver Tank)	Seismic - ASME Code, Section III, Sub-section NC Environmental none	Paragraphs 2.2.3, 2.3 (Design Requirements); Article 4.0 (ASME Code, Section III, Subsection NC)			StartShip:052677A Turnover: 101078F
C-042/C-42, Rev.1 (6/8/78) New and spent fuel racks (Wachter)	Seismic - ASME Code, Section III Environmental none	Subparagraphs 3.1.2, 5.3.12, Appendix B (design requirements) Article 6.2, Appendix (criticality and thermal-hydraulic criteria)			StartShip:043079F Turnover: 092279F
C-044/C-44, Rev 2 (9/6/77) Fuel pool gates (W.J. Wooley)	Seismic IEE Std 344-75 Environmental none	Article 5.4 (G-7, Rev 5 and IEEE Std 344-75) Article 5.2 (rad doses)	C-44-24, 7/27/78, Level 1 C-44-25, 7/27/78, Level 1	C-44-24, 7/27/78, Level 1 C-44-25, 7/27/78, Level 1	StartShip:010179F Turnover: 092279F Rerev:Complete
C-050B/C-50, Rev 13 (6/5/69) Reactor building locks and hatches (W.J. Wooley)	Seismic - ASME Code, Section III	Article 7.4 (ASME Code, Section III, and design requirements)	C-50B-12-4, 2/26/74, Level 2 C-50B-13-6, 6/14/74, Level 2 C-50B-17-10, 5/31/78, Level 4 C-50B-18-6, 5/31/78, Level 4 C-50B-138-4, 6/14/74, Level 2	C-50B-12-4, 2/26/74, Level 2 C-50B-13-6, 6/14/74, Level 2 C-50B-17-10, 5/31/78, Level 4 C-50B-18-6, 5/31/78, Level 4 C-50B-138-4, 6/14/74, Level 2	StartShip:021078A Turnover: 120179F Rerev:Inprocess (NCR 1003-Cond. Rel.)

SAMPLE
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These represent sample entries only!

MR/SPEC _____

Rev _____

DATE REVIEW STARTED _____

Vendor Documents Reviewed

Vendor Print Number

Title or Description

SPECIFICATION REQUIREMENTS (Include Rev and/or Date)

REVIEW BY _____ Date _____

RESOLUTION BY _____ Date _____

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Comments Resolved _____
Exhibit 2 _____