

ATTACHMENT 2

QUALITY VERIFICATION ORGANIZATION

1.0 PURPOSE

INTRODUCTION 0.2

To define the charter and the responsibilities for the Midland Project Quality Assurance Department (MPQAD) Quality Verification Organization.

2.0 SCOPE

This procedure establishes the organizational relationships and responsibilities for the MPQAD Quality Verification Organization and supplements MPQAD Procedure A-1M.

3.0 REFERENCES

- 3.1 Quality Verification Program
- 3.2 Construction Completion Program
  - a. Letter J.W. Cook, CP Co. to J.G. Keppler, NRC, "Construction Completion Program," January 10, 1983, serial number 20428.
  - b. Letter J.W. Cook, CP Co. to R.C. DeYoung, NRC, "Midland Project Response to NRC Notice of Violation EA 83-3," March 10, 1983, serial number 21775.
  - c. Letter J.W. Cook, CP Co. to J.G. Keppler, NRC, "Construction Completion Program Third Party Overview," April 6, 1983, serial number 22268.
  - d. Letter R.A. Wells, CP Co. to J.H. Harrison, NRC, "Clarification of CP Co Positions," April 21, 1983, serial number 22124.
  - e. Letter J.W. Cook, CP Co. to J.G. Keppler, NRC, "Construction Completion Program," April 22, 1983, serial number 22027.

3.3 MPQAD Procedures: A-1M, B-1M, B-3M-1, E-3M, F-1M, F-2M/QCNM PSP, G-3-2, N-1, N-2, N-5, N-6, N-7, N-12, N-16, N-19, N-20.

3.4 CP Co Topical Report CPC-1A (QAPM Volume I, Policy 1)

4.0 DEFINITIONS

None

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5.0 PROCEDURE

5.1 Organization

The Executive Manager-MPOAD has overall responsibility and authority for the development and implementation of all quality-related aspects of the Quality Verification Program and ensuring the Program is coordinated with other project departments as required to assure proper support for the Program commensurate with the overall project goals.

5.2 Responsibilities

5.2.1 The Supervisor - Verification Programs Management Group is the primary MPOAD representative for the Quality Verification Program and is responsible, through the Assistant Superintendent - Plant Assurance Programs Subdivision and the General Superintendent - Plant Assurance Department to the Executive Manager for the following functions:

- a. Identifying inspection records to be verified.
- b. Revising and controlling the Quality Verification Document in accordance with MPOAD Procedure N-1.
- c. Verifying the inaccessibility of items and determining basis for acceptance in accordance with MPOAD Procedure N-12.
- d. Monitoring reinspection activities performed by Quality Control in accordance with MPOAD Procedure N-12.
- e. Maintaining the status of verification activities and certifying that verification has been completed for a given area in accordance with MPOAD Procedure N-16.
- f. Reviewing identified nonconformances categorizing or trending the nature of the type of defects identified.
- g. Maintaining cognizance of and tracking any commitments made to the Nuclear Regulatory Commission which may impact Verification.

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- h. Reviewing and participating in the disposition of Nonconformance Reports (NCR) identified as a result of verification in accordance with MPQAD Procedure F-2M/PSP QCNM G-3.2.
- i. Reviewing and processing Quality Verification Program Exceptions in accordance with MPQAD procedure N-2.
- j. Providing an interface with the Quality Team Representatives on the results and status of verification with regards to the given team's area or system.
- k. Interfacing with the NRC and the Construction Implementation Overview contractor on regulatory and compliance matters affecting the Quality Verification Program.
- l. Determining IRs for which reinspection is necessary.

5.2.2 The Supervisor, QA Technical Services, is responsible, through the Assistant Superintendent - Plant Assurance Programs Subdivision and the General Superintendent - Plant Assurance Department to the Executive Manager for the following functions:

- a. Identifying MPQAD procedural needs to support the implementation of the Quality Verification Program and providing technical support to the Quality Verification Supervisor and the Supervisor, Program Development, for the preparation of such procedures.
- b. Maintaining the Quality Action Item list (QUAIL) in support of the Quality Verification Program.

5.2.3 The Supervisor, the Quality Program Development, is responsible, through the General Supervisor-Management Services and the Section Head, Administration & Training, to the Executive Manager for the preparation, revision and issuance of MPQAD Procedures to support implementation of the Quality Verification Program.

5.2.4 The Assistant Superintendent - QC is responsible, through the QC Superintendent (BOP), to the Executive Manager for the following functions:

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- a. Coordinating with Construction Services and CP Co Site Management in performing Quality Verification.
  - b. Performing verification inspection
  - c. Assigning QC inspectors to perform verification inspections who are certified in accordance with MPQAD Procedure B-3M-1, and who did not perform the original inspection being verified.
- 5.2.5 First level QC Supervisors are responsible for supervising and evaluating inspectors in their performance of hardware inspection, documentation review and records preparation.
- 5.2.6 The Section Head, Site Audit, is responsible, through the Manager-MPQAD, to the Executive Manager for the scheduling and performance of quality audits of the overall Quality Verification Program.

6.0 RECORDS

None

7.0 ATTACHMENTS

None

The following special provisions have been established to supersede Field Inspection Manual Procedure G-8, for the Midland project for all future certification and training of construction quality control personnel.

1.0 SCOPE

This project special provisions notice describes the construction quality control program for qualifications, indoctrination, certification, and training of construction quality control engineers (CQCE).

2.0 PURPOSE

The purpose of this project special provisions notice is to provide a uniform program covering the qualification, indoctrination, certification, and training of personnel performing construction quality control activities to ensure that suitable proficiency is achieved and maintained.

3.0 GENERAL REQUIREMENTS

- 3.1 These program requirements shall be used for indoctrinating, certifying, and training CQCEs to perform the following quality verification inspection activities during the construction phase of nuclear power plant projects:
- a. Preparation, review, and approval of project quality control instructions (PQCIs) and procedures
  - b. Implementation of PQCIs and procedures
  - c. Evaluation of inspection and test results
  - d. Reporting of inspection and test results
- 3.2 Construction quality control engineers involved in the performance, evaluation, and supervision of nondestructive examinations shall be certified in accordance with the Bechtel Thermal Power Organization's Nondestructive Examination Standards for Personnel Qualifications. These standards meet the requirements of ASNT-TC-1A and supplements.
- 3.3 The project field quality control engineer (PFQCE) is responsible for the qualification, indoctrination, certification, and training of CQCEs assigned to the Midland jobsite at qualification Levels I and II as defined herein. The PFQCE is also responsible for recertification of Level I and II CQCEs assigned to the Midland jobsite as required herein, and for maintaining the certification records required by this section. The chief CQCE may provide assistance to the PFQCE in

qualification, indoctrination, certification, and training of Level I and II jobsite CQCEs.

3.4 The chief CQCE is responsible for the qualification, indoctrination, certification, and training of CQCEs assigned to projects at qualification Level III as defined herein. The chief CQCE is also responsible for qualification, indoctrination, certification, and training of all CQCEs assigned to the Ann Arbor Power Division office. In addition, the chief CQCE is responsible for recertification of the construction quality control personnel identified above, and for maintaining the certification records required by this section for all office personnel. Certification records for jobsite personnel shall be maintained by the responsible PFQCE with a copy forwarded to the Ann Arbor Power Division office.

3.5 All field certification records required by this section shall be controlled and filed in accordance with the applicable requirements of AAPD/PSP G-7.1, Documentation and Records Control.

#### 4.0 LEVELS OF CERTIFICATION

4.1 There are three levels of certification (I, II, and III) for CQCEs who perform quality verification inspection activities. Clerical personnel who process documentation are not required to be qualified to these levels.

#### 4.2 TYPICAL DUTIES AND RESPONSIBILITIES OF CERTIFICATION

##### 4.2.1 Level I Duties and Responsibilities

- a. Performance of designated inspections and tests as specified in applicable PQCIs, procedures, specifications, codes and standards
- b. Verification of calibration and use of the necessary measuring and test equipment required for performance of the designated inspections and tests referred to in Section 4.2.1.a
- c. Preparation of inspection records
- d. Providing on-the-job training for uncertified CQCEs

##### 4.2.2 Level II Duties and Responsibilities

- a. Ensuring that assignments to Level I personnel are limited to those activities for which their certification and training records provide evidence of qualification

- b. Performance of designated inspection, test, and documentation activities as well as supervising or monitoring these activities when they are performed by Level I personnel
- c. Preparation of quality control instructions and procedures
- d. Signoff by a Level II CQCE evidencing review and acceptance of the completed inspection record and associated test reports (if applicable), signifying completeness and acceptability of the data recorded by Level I or other Level II CQCEs.
- e. Review of calibration test records for measuring and test equipment
- f. Conducting proficiency evaluations of Level I personnel in accordance with the requirements of Article 6.0

4.2.3 Level III Duties and Responsibilities

- a. Planning and administration of the program for preparation and implementation of PQCIs and procedures
- b. Approval of PQCIs and procedures prepared by Level II personnel
- c. Planning and administration of the program for qualifications, indoctrination, training, and certification of Level I and II personnel
- d. Conducting proficiency evaluation of Level I and II personnel in accordance with the requirements of Article 6.0
- e. Approving the certification of Level I and II personnel
- f. Performing Level I and II duties as may be required.

- 4.3 The PFQCE shall be responsible for reviewing and signing the field administered certifications of Level I and II personnel assigned to his project at the time the proficiency evaluation is completed (Figure 8.1-5).
- 4.4 The chief CQCE shall be responsible for the evaluation and certification of Level III personnel.
- 4.5 Materials and quality services (M&QS) department assistance shall be requested to certify CQCEs who perform nondestructive examinations.

of project engineering requirements from MPQAD QA, or the PQAE for ASME, Section III, Division I activities.

ASME, 3.4.7 The standards of acceptance for inspection, examination, testing, checking, and review are not based upon the opinions, prior experience, or best engineering judgment of the MPQCE. They are based on the criteria established in the design documents and field engineering documents. These design documents and field engineering documents, plus the applicable referenced codes and standards, are used as the criteria for acceptance of material and work operations by MPQCEs.

ASME 3.4.8 Suppliers, subcontractors, and construction department personnel, including field engineers and MPQCEs, do not have the authority to change or waive any of the quality requirements established by project engineering without the prior documented approval of project engineering.

ASME 3.4.9 The identification and control of material is maintained through the use of an inspection record, which documents the results of the inspection activities described in the project quality control instruction (PQCI). Material that is not in conformance with the program criteria shall be identified, controlled, and dispositioned in accordance with the nonconforming material control system (see AAPD/PSP G-3.2).

3.5 PROGRAM ORGANIZATION AND RESPONSIBILITIES

ASME, 3.5.1 Construction is the responsibility of the division construction department. The manager of division construction provides technical and administrative direction to the field construction manager and chief construction quality control engineer (CQCE).

BOP, S 3.5.2 Chief Construction Quality Control Engineer  
The chief CQCE and his staff of CQCEs are responsible for providing program guidance and personnel support for the inspection of construction work performed by MPQC



personnel. The chief CQCE coordinates with the MPQAD executive manager and the division QA manager in the development of construction-related quality policies.

ASME 3.5.3 Chief Construction QC Engineer

The chief CQCE supervises the construction QC program and is responsible for the technical and administrative direction of the project field QCE through the division QA manager. The chief CQCE coordinates with the division QA manager in the development of construction-related quality policies and manuals for ASME Boiler and Pressure Vessel Code, Section III, Division I, work. The functions of the chief CQCE are as follows:

- a. Prepare, maintain and approve the Midland QCNM and ensure its conformance with the project QA program
- b. ~~Approve any special project field quality control procedures and instructions~~
- c. Coordinates the training and certification of QCEs with materials and quality services (M&QS)
- d. Provide overall direction for the inspection planning system and its coordination with MPQAD
- e. Provide technical and administrative direction to the project field quality control engineers (PFQCEs). Hire and assign Bechtel QCEs to the project
- f. Provide periodic reports to the manager, division construction and the division quality assurance manager, evaluating the status and adequacy of the quality program applicable to construction activities and advising of any problems requiring program revision or special attention including recommendation for corrective actions
- g. Identify quality problems; initiate, recommend, or provide solutions; and verify implementation of solutions

- ASME, 3.5.4 A quality control supervisor (QCS), if  
BOP, S assigned to the project, will report directly  
to the Bechtel chief CQCE and will be a member  
of the project team. The QCS will coordinate  
QC activities with the Midland project team,  
provide administrative support, program  
guidance, and administer personnel actions of  
Bechtel personnel. If a QCS is not assigned,  
then this function will be handled by the  
Bechtel chief CQCE.
- ASME, 3.5.5 The MPQC superintendent is responsible for  
BOP coordinating the interface of QC activities  
with the activities of the other jobsite  
construction forces and the FCM (see  
Figure 1.1-1a and 1.1-1b). △
- S 3.5.6 The MPQAD soils QA superintendent is  
responsible for coordinating the interface of  
QC activities with the activities of other  
jobsite construction forces and the FSM (see  
Figure 1.1-1c).
- ASME, 3.5.7 The PFQCEs are responsible for providing  
BOP technical and administrative direction for  
MPQCEs assigned to MPQC. △
- S 3.5.8 The PFQCE is responsible for providing  
technical and administrative direction for  
MPQCEs assigned to the MPQAD soils QA  
organization. △
- ASME, 3.5.9 The MPQC superintendent and the MPQAD soils  
BOP, S QA superintendent are responsible for managing  
the MPQC organization in the performance of  
the following activities:
- a. Ensuring that inspections are performed to  
current inspection plans prepared by MPQAD
  - b. Coordinating all technical inquiries or  
interpretations with MPQAD QA for  
resolution
  - c. Ensuring that inspections are performed  
with tools that are approved and calibrated
  - d. Ensuring that inspections are performed by  
MPQCEs who are certified according to  
MPQAD program requirements △

- e. Issuance of nonconformance reports to identify deficiencies and forwarding them to MPQAD for appropriate action
  - f. Ensuring accuracy of MPQC documentation △
  - g. Ensuring that inspections are performed to applicable drawings, specifications, and inspection plans
  - h. Maintaining control and obtaining the status of all discrepancies in the MPQC area of responsibility △
  - i. Communicating the status of MPQC inspections △
  - j. Maintaining inter- and intradepartmental communication
  - k. Ensuring inspections are performed in a timely manner
- ASME 3.5.10 The PFQCE is responsible for supervising the MPQC program at the Midland jobsite to ensure that the ASME Boiler and Pressure Vessel Code quality verification inspection activities under the scope of the Bechtel Quality Assurance Manual (BQAM), are properly performed. △
- ASME, BOP 3.5.11 The PFQCEs supervise a staff of field MPQCEs. The exact size and organization of this staff will vary depending on the scope of the project construction activities at any given time. However, the PFQCE shall be supported by a sufficient staff of field MPQCEs to carry out the onsite MPQC program responsibilities described in Section 3.5.13. △
- S 3.5.12 The PFQCE reports to the MPQAD QA soils superintendent for technical and administrative direction for field soils work. The PFQCEs supervise a staff of field MPQCEs. The exact size and organization of this staff will vary depending upon the scope of the project construction activities at any given time. However, the PFQCE shall be △

supported by a sufficient staff of field MPQCEs to carry out the onsite MPQC program responsibilities described in Section 3.5.13. △

ASME, 3.5.13  
BOP, S

The PFQCE is responsible for inspection of construction work, which includes as a minimum:

- a. Performance of jobsite quality verification inspection
- b. Preparation of jobsite MPQC documentation and maintenance of MPQC records △
- c. Surveillance of contractor/subcontractor quality programs and review of contractor/subcontractor quality verification documentation
- d. Administration of the nonconforming material control systems
- e. Reviewing supplier quality verification documentation packages for completeness and traceability to the items
- f. Monitoring of construction activities, including subcontractor activities, and utilizing stop work authority if warranted
- g. Identification of quality problems; initiating, recommending or providing solutions; and verifying implementation of solutions
- h. Performing quality verification inspection of completed work and turning over quality verification records to MPQAD QA
- i. Monitoring maintenance activities and storage areas

ASME, 3.5.14  
BOP

The PFQCE has authority to place work activities on hold. This authority, communicated through the FCM, shall require an immediate hold of work operations and other construction activities determined to be improperly controlled or otherwise in nonconformance with the quality requirements of the applicable design specifications,

drawings, and other program criteria. Similarly, the PFQCE has the authority to place a work activity on hold if a designated QC inspection, examination, or test operation is bypassed to the point where the work is no longer capable of being properly inspected.

S 3.5.15 The PFQCE has authority to place work activities on hold. This authority, communicated through the FSM, shall require an immediate hold of work operations and other construction activities determined to be improperly controlled or otherwise in nonconformance with the quality requirements of the applicable design specifications, drawings, and other program criteria. Similarly, the PFQCE has the authority to place a work activity on hold if a designated QC inspection, examination, or test operation is bypassed to the point where the work is no longer capable of being properly inspected.

ASME, 3.5.16 The PFQCEs have the same authority as stated in  
BOP, S Sections 3.5.16 and 3.5.17 above to place a hold on activities performed by subcontractors.

ASME, 4.0 QUALITY CONTROL NOTICES MANUAL  
BOP, S

The QCNM serves as a means for the MPQAD executive manager to provide administrative instructions and technical direction to MPQCEs. It also serves as a means for the Bechtel division QA manager to provide control of ASME Boiler and Pressure Vessel Code, Section III, Division I-related activities. Three types of QC notices are issued by the chief CQCE with the approval of the MPQAD executive manager and the Bechtel division QA manager to supplement or supersede the standard procedures contained in the field inspection manual. These notices are issued as either general administrative notices, general technical notices, or project special provision notices.

ASME, 4.1 General administrative notices convey general  
BOP, S administrative procedural information

ATTACHMENT 5

- References:
- (A) IOM, DBMiller, CPCo, to JWCook, CPCo, "Midland Energy Center - CCP Coordination" Letter 4, Attachment 12, May 3, 1983, Serial Number OSM-0641
  - (B) IOM, GBSlade, CPCo, to JWCook, CPCo, "Midland Energy Center - CCP Review Team Report on QVP", May 4, 1983, Serial Number GBS-88-83.
  - (C) IOM, GBSlade, CPCo, to RAWells, CPCo, "Review Team Summary QVP", May 17, 1983.
  - (D) "QVP Summary Comments", May 17, 1983.
  - (E) IOM, DFRonk, CPCo, to GBSlade, CPCo, "Quality Verification Program Review Team Findings", May 18, 1983.
  - (F) IOM, GBSlade, CPCo, to JWCook, CPCo, "Midland Energy Center - Management Review of QVP", June 2, 1983, Serial Number GBS106-83.
  - (G) "Comments on 'N' Procedures: QVP", June 1, 1983.

<u>Item</u>	<u>Reference</u>	<u>Summary</u>	<u>Implementing Mechanism</u>
4	A-3	Set up trending program	Procedure N-12
7	A-18	Revise Procedure to initiate 100% reinspection	N-Procedures
8	E-1a	Make N-12 clearer	Procedure N-12
9	E-2d	Disposition of forms that deal with inaccessible items	Procedure N-12
11	C-3, F-SB	Extent of monitoring	Procedure N-19
12	C-3, F-SB	QC Supervisor's Field checks of inspector's work	Procedure N-12
16	F-SD, G-1	Assigning IPIN responsibilities to QV Supervisor	Procedure N-3
17	F-SE, G-2	Revise procedure to assure assigned QCE is certified and did not perform original inspection	Procedure N-12
18	F-SF, G-4	Distribute results of monitoring to those individuals who receive QVP summaries, or include monitoring results in the QVP summaries	*
19	F-SG, G-5	QVS to determine IR groups and set priorities	Procedure N-12
20	F-SH, G-6	Revise procedure to require QVS to determine PQCI/IR verification based on SMO-Const. direction	Procedure N-12

\*It was determined that results of routine monitors did not warrant the wide distribution required for formal QVP Summaries. Results of monitors will be distributed to responsible QVP management as originally intended. Note: this item was presented as a suggestion ("In our opinion..." reference G).

<u>Item</u>	<u>Reference</u>	<u>Summary</u>	<u>Implementing Mechanism</u>
21	F-SI, G-7	Requiring all verification in an area to be complete before Phase II can continue	Procedure N-12
22	F-SI, G-8	Delete attachment 7.2 and renumber attachments	Procedure N-12
23	F-SK, G-9	Delete 5.2d and 5.9, add "for evaluation" at end of 5.4f	Procedure N-12