

J.O. No. 14509  
Midland Plant Units 1 & 2  
Consumer Power Company  
Third Party Construction  
Implementation Overview

PROJECT QUALITY ASSURANCE PLAN

Approvals:

*John Baumann*  
Program Manager

Dates:

October 25, 1983

*Chris Dutton*  
Chief Engineer  
Engineering Assurance

October 20, 1983

*Richard B. Kelly*  
Manager  
Quality Assurance

OCTOBER 20, 1983

SCOPE

This procedure describes the quality assurance plan for activities performed by Stone & Webster Michigan (S&W) for the Consumers Power Company's (CPCo) Midland Plant- Units One and Two. The work involved in this third party overview is described in applicable CPCo specifications and procedures and shall be accomplished in the following manner:

- a. Development of an overview program and preparation of a Project Quality Plan.
- b. Review of the design and construction documents to gain familiarity with the work.
- c. Assessment of the adequacy of technical and related administrative construction and quality procedures.
- d. Assessment of the degree of compliance with technical and administrative construction and quality procedures.
- e. Assessments are made by conducting audits, monitoring (surveillance) inspections, and redundant (sample) inspections.
- f. Daily reviews as necessary with the Owner to obtain any clarifying information and project documents that are needed to carry out this program. The Owner and S&W will establish a specific communication plan at the start of the work.
- g. Submittal of brief weekly progress reports and a final report to the NRC with a copy to CPCo.
- h. S&W will not be responsible for implementing corrective action, however, their professional opinion may be requested.

## PROGRAM REQUIREMENTS AND ACTIVITIES

### I. ORGANIZATION

The overall Stone & Webster Engineering Corporation (SWEC) organization is depicted in SWSQAP 1-74A (Section I). A Program Manager will function as the site leader for the third party overview. Project organization is described in the Project Program Plan.

### II. QUALITY ASSURANCE PROGRAM

The overall SWEC quality assurance program is designed to provide assurance that all SWEC activities are accomplished in a controlled manner. The SWEC corporate QA program complies with 10CFR50, Appendix B, and NRC Regulatory Guides, and is described in an NRC approved topical report, SWSQAP 1-74A, "Standard Nuclear Quality Assurance Program."

This quality assurance plan shall be maintained up-to-date to reflect any changes in the scope of S&W work.

This quality assurance plan identifies the procedures which implement the overall QA program as it applies to the S&W scope. Insofar as possible, applicable standard SWEC procedures will be used to govern the work. When standard procedures do not fit project circumstances, project procedures will be issued to govern the work. Variances from standard SWEC procedures will be approved according to Quality Standard (QS) 5.1 and Engineering Assurance Procedure (EAP) 5.7.

Personnel performing activities in accordance with this plan requiring qualification and certification will be qualified and certified in accordance with Quality Standard 2.12 and Quality Assurance Directive 2.5.

### III. DESIGN CONTROL

(Not within the S&W scope)

### IV. PROCUREMENT DOCUMENT CONTROL

Consulting Services, as required, are procured in accordance with Engineering Assurance Procedures 4.1 and 4.15, which are supplemented by Project Procedure (PP) (LATER).

### V. INSTRUCTIONS, PROCEDURES, AND DRAWINGS

S&W procedures, including variances, are prepared and controlled in accordance with Section II of this QA plan.

(Instructions, drawings and specifications are not within the S&W scope).

### VI. DOCUMENT CONTROL

Plans, procedures, instructions, and documents prepared and implemented by S&W will be controlled per PP (later).

VII. CONTROL OF PURCHASED MATERIAL, PARTS, EQUIPMENT, AND SERVICES

(Control of Purchased Material, Parts and Equipment - not within the S&W scope).

Control of Services is in accordance with Engineering Assurance Procedure 7.1.

VIII. IDENTIFICATION AND CONTROL OF MATERIAL, PARTS, AND COMPONENTS

(Not within the S&W scope)

IX. CONTROL OF SPECIAL PROCESS

(Not within the S&W scope)

X. INSPECTION

Monitoring inspections are conducted on a surveillance basis to assess on-going CCP activities. Redundant sample inspections are conducted after acceptance of an area, commodity, or product by CPCo as a final assessment measure.

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XI. TEST CONTROL

(Not within the S&W scope)

XII. CONTROL OF MEASURING AND TEST EQUIPMENT

(Not within the S&W scope)

XIII. HANDLING, STORAGE, AND SHIPPING

(Not within the S&W scope)

XIV. INSPECTION, TEST, AND OPERATING STATUS

(Not within the S&W scope)

XV. NONCONFORMING MATERIAL, PARTS, OR COMPONENTS

Nonconformances observed by S&W during monitoring and sample inspections are reported in writing to the NRC with copy to CPCo. These reports will be used in establishing the extent of inspection and adjustments to the extent of inspection by trend analysis.

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XVI. CORRECTIVE ACTION

The criteria for the identification of conditions that require review to determine reportability under 10CFR50.55(e) and/or 10CFR21 are defined in QS/EAP-16.2 and QS/EAP-16.3, respectively. Identified conditions are processed for review/evaluation in accordance with Project Procedure "Nonconformance Identification and Reporting."

XVII. QUALITY ASSURANCE RECORDS

S&W General Policy and Procedure for records collection, retention, and turn-over to Consumers Power Company are described in QS-17.1, EAP-17.2 and QAD-17.1 and as detailed in the scope under items f. and g. QAD-17.1 and EAP-17.2 are supplemented by PP (LATER).

XVIII. AUDITS

Audits of the S&W CIO program are performed in accordance with QS-18.1 and QAD's 18.1 and 18.2.



THIRD PARTY CONSTRUCTION IMPLEMENTATION OVERVIEW  
Approval:

Richard Kelly Date 10/26/83  
Manager Quality Assurance

Subramaniam Date 10/28/83  
Program Manager

1.0 PURPOSE AND SCOPE

To establish a program whereby Stone & Webster Michigan (S&W) performs independent evaluations and verifications of the Consumers Power Company (CPCo) Construction Completion Program, (CCP) reports progress, observations, and non-conformances to the program; specifically, to verify:

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1.1 Management performance is adequate in the following areas:

- A. Establishment of the Management Review Committee
- B. Duties and responsibilities of the Review Committee are clearly defined
- C. Procedures governing the actions of the Review Committee are in place
- D. Management reviews are complete, effective, and conducted in accordance with the requirements of the CCP Program

1.2 CCP procedures, instructions, inspection plans, records, and prerequisites for inspections/reinspections have been satisfactorily approved prior to implementation.

1.3 Specific CPCo commitments to the NRC are identified to facilitate tracking; dates for compliance (as appropriate) are adequately identified; appropriate action parties are clearly identified; committed actions have been satisfactorily resolved.

1.4 Procedures, prerequisites, and reinspection attributes in References 2.1, 2.2 and 2.3 have been approved by the Management Review Committee.

- 1.5 Personnel assigned to implement the CCP Program have been properly trained, qualified and certified in accordance with the requirements of ANSI-N45.2.6; SNT-TC-1A and MPQAD Procedure B-3M-1, Qualification and Certification of Inspection and Test Personnel. Construction and craft personnel shall be trained to meet the requirements of the Construction Training Procedure FPG-2.000.
- 1.6 The effectiveness of the Quality Verification Program based on witnessing inspections/reinspections of selected component installation, fabrication and review of applicable test/inspection reports and records.
- 1.7 Measures have been developed to ensure that NRC hold points are clearly identified and controls are in evidence to prevent continuance of work pending clearance of the hold points.

## 2.0 REFERENCES

- 2.1 Quality Verification Program Document, April 16, 1983
- 2.2 Construction Completion Program
  - a. Letters J.W. Cook to the NRC: January 10, 1983  
April 6, 1983  
April 22, 1983  
August 26, 1983

- 2.3 Nonconformance Identification and Reporting Procedure

## 3.0 ATTACHMENTS

- 3.1 Evaluation Attribute Checklist
- 3.2 Verification Attribute Checklist
- 3.3 Nonconformance Identification Report

## 4.0 DEFINITIONS

- 4.1 Construction Completion Program (CCP)

A program to provide guidance in planning and management of design and quality activities necessary for completion of construction of the plant and verification of completed work.

- 4.2 Quality Verification Program (QVP)

An element of the CCP used to confirm the quality status of safety related procurement and construction activities completed and inspected by the Engineer-Constructor personnel prior to December 2, 1982.

- 4.3 Evaluation

Assessment of quality related activities based upon review of procedures, plans, instructions, inspection reports, test results and additional commitments.

NOTE

Documentation resulting from resolution of CPCo commitments to the NRC and NRC Hold Points shall be 100% reviewed to verify that proper corrective action has been accomplished.

4.4 Verification


Confirming, substantiating or assuring that CCP and QVP requirements have been implemented and are adequate. Verification actions may include documentation, hardware and management systems.

NOTE

Verification of the CCP and QVP Programs will be accomplished by monitoring and sample inspections in sufficient detail to ensure adequate CPCo implementation.

5.0 GENERAL REQUIREMENTS


- 5.1 All personnel assigned quality assurance program evaluation responsibilities shall be certified auditors in accordance with ANSI-N45.2.23 and applicable SWEC procedures.
- 5.2 All personnel assigned construction verification responsibilities shall be certified inspectors in accordance with ANSI-N45.2.6 and applicable SWEC procedures and possess the appropriate combination of education, experience and training.
- 5.3 The Third Party Construction Implementation Overview (CIO) program will be structured to determine, by evaluation of predetermined procedures and instructions, the quality practices utilized in the construction of the Midland Plant Units 1, 2, and the effectiveness of those practices.
- 5.4 A site team will be established to monitor the effectiveness of the Construction Completion Program. The team will consist of a Program Manager and two functional groups. One group will assess the completeness of compliance with procedures and inspection plans being used to complete the work. The other group will review certain aspects of construction activities which relate to the performance of the Quality Control Inspection Program. These two groups will use special procedures, attribute checklists, and random sampling techniques to evaluate the following:
  - A. Adequacy and implementation of CPCo procedures regarding construction activities, personnel qualification, training programs, and organizational practices.
  - B. Compliance of Construction Completion Program teams to prescribed procedures.

- C. Compliance of Midland Project Quality Assurance (MPQAD) personnel to applicable inspection procedures.
  - D. Compliance of construction activities to applicable procedures.
- 5.5 The Program Manager shall maintain communications with the NRC and CPCo Site Manager. Monthly progress meetings shall be held with the NRC and CPCo to discuss progress and report on nonconformance and observations. 
- 5.6 Programmatic nonconformances of a serious nature shall be immediately reported to the NRC and CPCo.


## 6.0 PROCEDURES

- 6.1 The following procedures shall be prepared to control the activities of the Construction Implementation Overview (CIO) teams.
- A. Quality Control Instruction 10.01 Construction Implementation Overview Assessment


- 6.2 The site teams shall develop attribute checklists for each evaluation and verification activity. Attributes shall be selected from the CCP, PQCI's, CPCo commitments to the NRC and other applicable requirements.

- 6.3 Auditors assigned to conduct evaluations shall, utilizing attribute checklists, verify that acceptable quality practices are evident in the performance of each activity. 

The results of each evaluation shall be documented on the attribute checklist to ensure repeatability. Summaries of the results shall be tabulated weekly for presentation to the NRC and CPCo.

- 6.4 Inspectors assigned to conduct verification shall, utilizing the checklist, monitor the activities of CPCo personnel involved in CCP and QVP activities.
- 6.5 All systems verified shall be identified and documented to assure repeatability.
- 6.6 Nonconformances identified in conjunction with this procedure shall be documented on a Nonconformance Identification Report (NIR) and processed in accordance with Reference 2.3 of this procedure. 

## 7.0 REPORTS

- 7.1 The following reports will be submitted to NRC and CPCo and S&W by the Program Manager.
- A. Weekly Progress Reports
  - B. Monthly Meeting Reports
  - C. Final Reports on Construction Completion
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- 7.2 Weekly Progress Reports - Weekly Progress Reports will be submitted to the USNRC and CPCo.
- 7.3 Monthly Meeting Report - The Monthly Meeting Report shall consist of the minutes of monthly meetings conducted by the USNRC with the public in attendance. Copies of the minutes of the meetings shall be transmitted to the USNRC and CPCo.
- 7.4 Final Report - A final report will be submitted 30 days after completion of the program. The report will summarize the S&W assessment. The final report will be submitted by the Program Manager to the NRC, CPCo and S&W.

