

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

PROJECT QUALITY ASSURANCE PLAN

Approvals:

Dates:

*Sw Burman*  
Program Manager

*5 August 1983*

*C. Watten for*  
Chief Engineer  
Engineering Assurance

*3 August 1983*

*Richard B. Kelly*  
Manager  
Quality Assurance

*3 August 1983*

SCOPE

This procedure describes the quality assurance plan for activities performed by Stone & Webster Engineering Corporation (SWEC) 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. Evaluation of the adequacy of technical and related administrative construction and quality procedures.
- d. Evaluation of the degree of compliance with technical and administrative construction and quality procedures.
- e. 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 SWEC will establish a specific communication plan at the start of the work.
- f. Submittal of brief weekly progress reports and a final report to the NRC with a copy to CPCo.
- g. SWEC will not be responsible for implementing corrective action, however, their professional opinion may be requested.

PROGRAM REQUIREMENTS AND ACTIVITIES

I. ORGANIZATION

The overall 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 SWEC work.

This quality assurance plan identifies the procedures which implement the overall QA program as it applies to the SWEC 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 SWEC 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

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

(Instructions, drawings and specifications are not within the SWEC scope).

VI. DOCUMENT CONTROL

(Not within the SWEC scope)

- VII. CONTROL OF PURCHASED MATERIAL, PARTS, EQUIPMENT, AND SERVICES  
(Control of Purchased Material, Parts and Equipment - not within the SWEC 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 SWEC scope)
- IX. CONTROL OF SPECIAL PROCESS  
(Not within the SWEC scope)
- X. INSPECTION  
Quality Assurance monitoring of the construction and quality activities is performed by surveillance of on-going work.
- XI. TEST CONTROL  
(Not within the SWEC scope)
- XII. CONTROL OF MEASURING AND TEST EQUIPMENT  
(Not within the SWEC scope)
- XIII. HANDLING, STORAGE, AND SHIPPING  
(Not within the SWEC scope)
- XIV. INSPECTION, TEST, AND OPERATING STATUS  
(Not within the SWEC scope)
- XV. NONCONFORMING MATERIAL, PARTS, OR COMPONENTS  
Nonconformances discovered by SWEC during the monitoring process are reported in writing to the NRC with copy to CPCo.
- 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  
SWEC General Policy and Procedure for records collection, retention, and turnover to Consumers Power Company are described in QS-17.1 and EAP-17.2 and as detailed in the scope under items f. and g. EAP 17.2 is supplemented by PP (LATER).

XVIII. AUDITS

(Not within SWEC scope)

# STONE AND WEBSTER MICHIGAN INC

## MIDLAND ENERGY CENTER PROJECT

### VERIFICATION ATTRIBUTE CHECKLIST

ATTRIBUTE CHECKLIST N°	TITLE	REV	DATE
P-2.20V	PIPE SUPPORTS	0	7/21/83
PQCI N°/REFERENCE	TITLE	REV	DATE
P-2.20	PIPE (COMPONENT) SUPPORTS FABRICATION	7	2/21/83

This Attribute Checklist shall be completed in accordance with the following procedures.

Stone & Webster Quality Assurance Plan Third Party CIO procedure.

QCI 10.01 Construction Implementation Overview Assessment  
 QCI 15.01 Nonconformance Identification Report

*S.W. Baranow*  
 S.W. Baranow  
 Program Manager

Attribute Checklist prepared by

SIGN *W.D. Miller* DATE 7/27/93

Checklist Approved by

SIGN *J. Thompson* DATE 7/27/93  
*S.W. Baranow* 7/26/93

Checklist Completed by

SIGN \_\_\_\_\_ DATE \_\_\_\_\_

Completed Checklist Approved

SIGN \_\_\_\_\_ DATE \_\_\_\_\_

**FOR INFORMATION ONLY**

ATTRIBUTE CHECKLIST

ITEM NO.	ATTRIBUTES	RESP. ORG.	OBSERVATIONS		COMMENTS
			NO. CKD.	NO. UNSAT.	
1	Review the inspection criteria and add additional attributes as necessary. PAGE 3 (V)				
2	Verify that documents required to perform inspection are available, approved and controlled. PAGE 3 PARAGRAPH 2 (VI)				
3	Has the CQCE determined the adequacy of "reference criteria." PAGE 3 PARAGRAPH 4 (VI)				

**FOR INFORMATION ONLY**

ATTRIBUTE CHECKLIST

ITEM NO.	ATTRIBUTES	RESP. ORG.	OBSERVATIONS		COMMENTS
			NO. CKD.	NO. UNSAT.	
4	Verify that nonconforming items are identified on an NCR. PAGE 5 PARAGRAPH 6 (XV)				
5	Verify that measuring devices used for inspection and test have current calibration PAGE 4 PARAGRAPH 5 (XII)				
6	If sampling plans are used verify the following: <ul style="list-style-type: none"> <li>• Is the plan approved</li> <li>• Are there instructions for implementing the plan</li> <li>• Is accept reject criteria clearly established.</li> </ul> GENERAL				

**FOR INFORMATION ONLY**

ATTRIBUTE CHECKLIST

ITEM NO.	ATTRIBUTES	RESP. ORG.	OBSERVATIONS		COMMENTS
			NO. CKD.	NO. UNSAT.	
7	Indicate any Hold Points required By ANI, NRC, CPCo, BPC, or CIO.  GENERAL (XIV)				
8	Is the Inspection Record complete. Verify completeness, legibility and sign-off.  GENERAL (XIV)				
9	Verify that Inspection Personnel, Craftsmen and Supervisors are trained, qualified and certified as necessary to perform their assigned tasks.  GENERAL (II)				

**FOR INFORMATION ONLY**



ATTRIBUTE CHECKLIST

ITEM NO.	ATTRIBUTES	RESP. ORG.	OBSERVATIONS		COMMENTS
			NO. CKD.	NO. UNSAT.	
10	<p>Verify that material and components are not damaged and are protected from adjacent construction activities e.g. welding, cutting, burning, painting or concrete placement.</p> <p>GENERAL (XIII)</p>				
11	<p>Verify that any inspection activity exceptions are noted on the IR and processed in accordance with PSP G-3.2.</p> <p>PAGE 15 PARAGRAPH 5.2 (XIV)</p>				
12	<p>Verify that the CQCE has coordinated with interfacing disciplines and that interfacing IR's are documented on the IR pertaining to the PQCI.</p> <p>PAGE 6 PARAGRAPH 1 (XIV)</p>				

**FOR INFORMATION ONLY**

ATTRIBUTE CHECKLIST

ITEM NO.	ATTRIBUTE	RESP. ORG.	OBSERVATIONS		COMMENTS
			NO. CKD.	NO. UNSAT.	
13	Verify for In-Process Inspection the following: <ul style="list-style-type: none"> <li>• If preheat is required above 70° the thermometer number is to be recorded with calibration due date .</li> </ul> PAGE 8 PARAGRAPH 2.1 (X)				
14	Verify on full penetration welds the following: <ul style="list-style-type: none"> <li>• Fit-up</li> <li>• Tack welds removed or properly incorporated into the welds</li> <li>• Correct inert gas and purging is correctly applied</li> <li>• Back gouging of double groove welded joints is performed as per procedures</li> </ul> PAGE 8 PARAGRAPH 2.2 A thru D (X)				

**FOR INFORMATION ONLY**

ATTRIBUTE CHECKLIST

ITEM NO.	ATTRIBUTES	RESP. ORG.	OBSERVATIONS		COMMENTS
			NO. CKD.	NO. UNSAT.	
15	Verify hot bending is in accordance with specifications and if thermometer used, record number and calibration due date. PAGE 9 PARAGRAPH 2.3 (X)				
16	Verify following on Final Inspection: <ul style="list-style-type: none"> <li>• Material identified as "Q" material</li> <li>• Material spec &amp; grade in compliance with bill of material</li> <li>• Substitution of material identified on bill of material and approved by engineering</li> <li>• Identification and traceability on all material. (see notes 1 thru 5 Page 10,11)</li> </ul> PAGE 10,11 PARAGRAPH 3.1 A,B,C Note 1 thru 5 (X)				

**FOR INFORMATION ONLY**

ATTRIBUTE CHECKLIST

ITEM NO.	ATTRIBUTES	RESP. ORG.	OBSERVATIONS		COMMENTS
			NO. CKD.	NO. UNSAT.	
17	Verify configuration and dimensions of supports are in accordance with drawings and specifications. PAGE 11 PARAGRAPH 3.2 (X)				
18	Verify threaded fasteners for correct type, size and quantity. PAGE 12 PARAGRAPH 3.3 (X)				

**FOR INFORMATION ONLY**

ATTRIBUTE CHECKLIST

ITEM NO.	ATTRIBUTES	RESP. ORG.	OBSERVATIONS		COMMENTS
			NO. CKD.	NO. UNSAT.	
19	Verify completed welds for the following: <ul style="list-style-type: none"> <li>• Weld size and length</li> <li>• No additional welds</li> <li>• Weld location</li> <li>• Surface appearance</li> <li>• Surface preparation for NDE</li> <li>• Welders symbol on work</li> </ul> PAGE 12 PARAGRAPH 3.4 (X)				
20	Verify welders are qualified to procedures that are being used and welders symbols are recorded on the IR. PAGE 12 PARAGRAPH 3.5 NOTE: FOR NDE SEE CHECKLIST # MP-MIS-006				
21	Verify weld repairs completed and inspected in accordance with activity 3.4. PAGE 13 PARAGRAPH 3.7 (X)				

FOR INFORMATION ONLY

ATTRIBUTE CHECKLIST

ITEM NO.	ATTRIBUTES	RESP. ORG.	OBSERVATIONS		COMMENTS
			NO. CKD.	NO. UNSAT.	
22	Verify completed support is marked with pipe line size, unit number, pipe class, line number and hanger number. PAGE 13 PARAGRAPH 3.8 (X)				
23	For additional welding attributes see Checklist N° MP-MIS-007 and MP-MIS-011.				

**FOR INFORMATION ONLY**



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UNITED STATES  
NUCLEAR REGULATORY COMMISSION  
REGION III  
799 ROOSEVELT ROAD  
GLEN ELLYN, ILLINOIS 60137

MAR 28 1983

Docket No. 50-329  
Docket No. 50-330

Consumers Power Company  
ATTN: Mr. James W. Cook  
Vice President  
Midland Project  
1945 West Parnall Road  
Jackson, MI 49201

Gentlemen:

By letter dated January 10, 1983, Consumers Power Company described its proposed Construction Completion Program (CCP) for the Midland nuclear facility. This submittal was followed by a public meeting in Midland on February 8, 1983 for the NRC to obtain a better understanding of your proposed program and to obtain public input on the CCP. As a result of our review of the CCP to date, we find we need the following additional information.

- A. Please provide a more detailed description of the scope of the CCP and how it is going to function. Your discussions should address the following subjects or concerns:
1. Because of problems identified by the NRC during the special inspection of the diesel generator building and because similar problems were found in other areas of the plant during subsequent inspections by CCo, we believe that 100% reinspection of accessible safety related structures, systems, and components is warranted. Should you intend doing less than 100% reinspection, please provide the details of your proposed program and the technical rationale for accepting a sampling approach.
  2. A description of the reinspection program for accessible systems and components important to safety.
  3. A description of the measures you intend to institute to assure that QC reinspection will be sufficiently independent of team controls.

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4. A description of the training that will be provided to all personnel including craftpersons. Concerning QC inspector recertification training, describe the actions you have recently taken to address the adequacy of the review of PQCI's prior to training being initiated on the PQCI's. In addition, describe the steps you have taken to ensure that all questions raised during PQCI training sessions will be resolved prior to certification to affected PQCI's.
  5. As a result of the diesel generator building inspection, hold points were established by the NRC for the purpose of determining that you adequately performed all of the actions to which you have committed before allowing the work to proceed beyond the hold point. In view of the total CCP effort, the NRC does not wish to remain in the approval chain; therefore, you are requested to develop measures that will ensure that key hold points are honored and that critical parameters of your program are in place before proceeding to the next step.
  6. A description of the controls you will use to ensure all problems have been identified during reinspection of a system or area prior to start of repair work or new work on that system or in that area.
  7. A description of the controls you will use to ensure that no new work will be performed that would cause a known nonconformance to be inaccessible.
  8. A description of your proposed program for in-process QC surveillance (inspection) of rework and new work.
  9. A description of the CPCo management review process for changes to CCP and how CPCo intends to keep the NRC informed of such changes.
- B. Please provide a more detailed description of the third party installation implementation overview mentioned in your January 10, 1983 letter. Your description should address the following subjects or concerns:



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1. The installation implementation overview appears to focus solely on future construction and rework. We believe the overview should also encompass all aspects of the CCP, including the reinspection work. Please expand the installation implementation overview to include other aspects of the CCP and provide us with additional details of the overview.
  2. Weekly reports, similar to those issued by Stone and Webster to inform the NRC of the results of the soils overview, are needed. Please provide your commitment to have the third party CCP over-viewer prepare weekly reports similar to the soils overview weekly reports.
  3. The CCP overview should continue until CPCo and the NRC have confidence in the adequacy of the CPCo quality assurance program.
- C. Please propose a candidate organization that Consumers Power Company considers acceptable for the installation implementation overview together with your rationale for selecting that organization. The NRC will also need the following:
1. Sworn statements from the candidate corporation and all personnel who will be involved in the third party installation implementation overview, addressing the independence factors described in Chairman Palladino's letter of February 1, 1982 to Congressmen Ottinger and Dingell.
  2. The resumes of the key personnel to be involved in the third party overview.
  3. A description of the experience of the candidate corporation that qualifies the corporation to perform an independent third party overview.

The NRC will determine the acceptability of the candidate corporation and will notify CPCo. Our present view is that the installation implementation overviewer would not be acceptable to also perform the independent design and construction verification program.

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In order to ensure adequate communications between the NRC, CPCo, the independent third party proposed or selected to conduct the independent design/construction verification program, and the public, the protocol in Enclosure 1 should be adhered to. This protocol does not apply to the third party overview of the remedial soils work or the third party overview of the CCP.

Should you have any questions regarding this letter please contact Mr. R. F. Warnick of my staff.

Sincerely,

Original signed by  
A. Bert Davis

James G. Keppler  
Regional Administrator

Enclosure: As stated

cc w/encl:

- DMB/Document Control Desk (RIDS)
- Resident Inspector, RIII
- The Honorable Charles Bechhoefer, ASLB
- The Honorable Jerry Harbour, ASLB
- The Honorable Frederick P. Cowan, ASLB
- The Honorable Ralph S. Decker, ASLB
- William Paton, ELD
- Michael Miller
- Ronald Callen, Michigan  
Public Service Commission
- Myron M. Cherry
- Barbara Stamiris
- Mary Sinclair
- Wendell Marshall
- Colonel Steve J. Gadler (P.E.)

RIII  
RNF  
Gardner/jp  
3/25/83

RIII  
Shefer

RIII  
RFW  
Warnick

RIII  
LHX  
Lewis  
3/25

RIII  
Davis  
3/25

RIII  
for Keppler  
3/28

Discussed with  
IE & NRR. Mat  
Comment. from  
Stony & Hood  
included.  
rel  
IE/NRR.

Docket No. 50-329  
Docket No. 50-330

PROTOCOL GOVERNING COMMUNICATIONS BETWEEN CONSUMERS  
POWER COMPANY AND THE ORGANIZATION CONDUCTING THE INDEPENDENT DESIGN/  
CONSTRUCTION VERIFICATION PROGRAM

1. Recommendations, findings, evaluations and all exchanges of correspondence, including drafts, between the independent reviewer and CPCo will be submitted to the Regional Administrator at the same time as they are submitted to CPCo. For purposes of this protocol, the independent reviewer includes the independent reviewer and any of its subcontractors and Consumers Power Company (CPCo) means CPCo, Babcock and Wilcox, Bechtel, Management Analysis Corporation, S&W, and all of their subcontractors.
2. The independent reviewer has a clear need for prompt access to whatever information is required to fulfill its role. To this end, the independent reviewer may request documentary material, meet with and interview individuals, conduct telephone conversations, or visit the site to obtain information without prior notification to the NRC. All communications and transmittals of information shall, however, be documented and such documentation shall be maintained in a location accessible for NRC examination.
3. If the independent reviewer wishes to discuss with CPCo substantive matters related to information obtained, to provide an interim report to CPCo, or to discuss its findings or conclusions with CPCo in advance of completing its report, or if CPCo desires such communication, such discussions shall be accomplished in meetings open to public observation. In this regard, CPCo shall provide a minimum of five days advance notice to the Regional Administrator of any such meeting. The Regional Administrator shall make reasonable efforts to notify representatives of interested members of the public of the meeting, but the inability of any person to attend shall not be cause of delay or postponement of the meeting. Transcripts or written minutes of all such meetings should be prepared by the organization requesting the meeting and provided to the NRC in a timely manner. Any portion of such meetings which deals with proprietary information may be closed to the public.
4. All meetings between the Staff and CPCo and/or the independent reviewer will be open to public observation, except where the Staff determines that it is appropriate to conduct a meeting(s) in private with CPCo and/or the independent reviewer.
5. All documents submitted to, or transmitted by, the NRC subject to this Protocol, unless exempt from mandatory public disclosure, will be placed in the NRC Public Document Rooms in Midland, Michigan and Washington, D. C., and will be available there for public examination and copying.