STONE & WEBSTER ENGINEERING CORPORATION

245 SUMMER STREET, BOSTON, MASSACHUSETTS

ADDRESS ALL CORRESPONDENCE TO P.O. BOX 2325, BOSTON, MASS. 02107

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United States Nuclear Regulatory Commission
Midland Site Resident Inspection Office
Route 7
Midland, MI 48640

March 3, 1983

J.O. No. 14358
Ref. MPF 23

Attention Mr. R. Cook

RE: DOCKET NO. 50-329/330
MIDLAND PLANT - UNITS 1 and 2
INDEPENDENT ASSESSMENT OF AUXILIARY BUILDING UNDERPINNING
REPORT NO. 23

A copy of the Independent Assessment of the Auxiliary Building Underpinning Weekly Report No. 23 for the period February 20, 1983 through February 27, 1983, is enclosed with this letter. Included as attachments are (1) the minutes of the daily meetings held during the week between members of the Assessment Team and Site Engineering, Construction and Quality Assurance personnel and (2) the Trip Report of the Senior Level Management and Technical group from Stone and Webster Engineering Corporation and Parsons, Brinckerhoff, Quade and Douglas.

If you have any questions with respect to this report, please contact me at (617) 589-2067.

Very truly yours,

A. Stanley Lucks
Project Manager

Enclosures

ASL/ka

J.O. NO. 14358
Midland Plant
Units 1 and 2
Independent Assessment
Auxiliary Building Underpinning

Weekly Report No. 23

February 20, 1983 through February 27, 1983

Personnel on Site

Stone & Webster Engineering Corporation (SWEC)

B. Holsinger	2/21 - 2/26
W. Kilker	2/21 - 2/23
P. Barry	2/24 - 2/26
A. Scott	2/21 - 2/25

Parsons, Brinckerhoff, Quade and Douglas (PBQD)

V. Madill	2/21 - 2/25

Meetings Attended

Date	Represented	Purpose
2/21 through 2/25	Stone/Webster Bechtel Consumers Power Parsons (2/22 - 2/25)	Daily Meetings

Activities

Construction - Pier W12: No activity.

Piers W9/11: Construction of the 6 x 6ft. access pit from El. 609 to El.600 was completed. The excavated material consisted of up to a 1 ft. thickness of unreinforced concrete underlain by sand and clay fill. The excavation was braced with wood lagging as the work progressed. Backpacking with sand was done as required and excelsior was placed between lagging boards. No groundwater was encountered. The lagging technique and materials were simular to those employed in constructing the access pits to piers E/W12 (Refer to Assessment Team Weekly Report Nos. 13 and 14).

Pier E12: The Subcontractor installed lower leveling plate on the pier. Dry-pack grout was then placed in the spaces between the lower leveling plate and the pier, and the upper leveling plate and the turbine building mat.

Piers E9/11: The construction of the access pit progressed from El. 609 to El. 603. The excavated material consisted of up to 2 ft. of unreinforced concrete underlain by sand fill. The work was done in a manner simular to that described above for piers W9/11 access pit. No groundwater was encountered.

J.O. NO. 14358
Midland Plant
Units 1 and 2
Indpendent Assessment
Auxiliary Building Underpinning - 2

Quality Control, Documentation and Records

1. Observed load transfer training session at the Subcontractor's shop.

2. Observed storage conditions at the Poseyville storage yard.

3. Witnessed the mixing and installation of dry-pack grout for the upper leveling plate at pier E12.

Observations

Construction - The dry-pack grouting and excavation/lagging installations were performed in accordance with the project documents. The dry-pack grout was kept protected and moist well beyond the nominal cure time requirements.

Quality Control, Documentation and Records - The storage conditions at the Subcontractor's storage yard meet project requirements and are in-conformance with good industry practice. The grout materials were properly handled and mixed prior to installation.

Non-Conformance Identification Reports

Status of previous issues: (NIR numbers on longer listed have been closed-out.)

NIR NO.	Description	Date (Opened)	Date (Closed)
5	Concrete Mix Qualification	2/10/83	

W E Kilber
Project Engineer

Project Manager

TRIP REPORT
MIDLAND PLANT - UNITS 1 AND 2 -
INDEPENDENT ASSESSMENT
AUXILIARY BUILDING UNDERPINNING
CONSUMERS POWER COMPANY

Trip to the Midland Site
Consumers Power Company
By Senior Level Management Review Team
February 2, 1983

On February 2, 1983 the members of the Senior Level Management Review Team for the independent assessment of the Auxiliary Building Underpinning visited the site. The Management Review Team consisted of:

J. P. Allen III
N. B. Cleveland
J. R. Hall, Jr.
E. A. Long
G. M. Schierberg
L. Silano (Parsons Brinckerhoff, Michigan, Inc.)

Activities

In preparation for our visit to the soils remedial area we were given a short course on "Confined Space Training" by Consumers Power Company (CPCo) staff.

The Management Team was given a presentation on the underpinning work by J. Fisher of Bechtel Power Corporation. We were then escorted on a tour of the site with emphasis on all the soils remedial work and a full account of the instrumentation program and crack monitoring being done by Wiss, Jenny, Elstener & Associates.

At exactly 11:00 A.M. members of the team were at access shafts to piers E-12 and W-12 where we had the opportunity to inspect the two piers. Pier W-12 excation was completed. Only the bell remained to be excavated on Pier E-12.

After lunch, some of the members of the team visited the pier and bell mock-up at the Poseville Yard and CPCo used a small scale model to further describe the Auxiliary Building Underpinning. Each stage of the underpinning for the Feedwater Isolation Valve Pit, the Electrical Penetration Area and the Control Tower power portions of the Auxiliary Building were adequately explained by the CPCo engineers and the Stone & Webster - Parsons Brinckerhoff Assessment Team. There was sufficient time for many questions and these were answered satisfactorily for the Management Team.

The Independent Assessment Team described their scope of work and their day-to-day operations. The reporting mechanism was discussed and the four Nonconformance Identification Reports issued to-date were described.

Conclusions

In general, the overall underpinning operation is well organized. Progress, although slow initially, has been gaining momentum and is anticipated to accelerate. The instrumentation program is very satisfactory. Plotting

of results is up-to-date and frequency of reading more than adequate. The Independent Assessment Team activities are being effectively carried out.

E. A. Long
Chairman, Management Review Team

INDEPENDENT ASSESSMENT TEAM MEETING WITH BECHTEL

Date: February 2', 1983

Attendees:	Bechtel	Stone/Webster	MPQAD	CPCo
	J. Fisher	W. Kilker	R. Sevo	G. Murray
	E. Cvikl	A. Scott		
	J. Gaydos			

1. E. Cvikl stated that NIR #5 resolution is being discussed with the Team. In the meantime, as soon as Project Engineering makes available the mix design trial mixes will be prepared.

2. J. Fisher said a mock-up session on load transfer will be held today at the Mergentime's Mechanical Shop. Later a load transfer mock-up with the jack stand in-place will be held at pier W12 prior to actual load transfer.

3. W. Kilker stated the Team witnessed several increments of the Unit No. 2 FIVP proofload jacking on February 19-including the initial loading, full load and load release. The activity was well-planned and sucessfully accomplished.

4. A. Scott requested clarification on the requirements for washers and plates for steel lagging bolting. E. Cvikl is coordinating response with Project Engineering.

5. A. Scott requested clarification on requirements for concrete sampling during placement in terms of back of truck or end of the pump line. E. Cvikl will resolve.

6. J. Fisher stated that dry-packing of the bearing plates on pier E12 should be done today.

INDEPENDENT ASSESSMENT TEAM MEETING WHT BECHTEL

Date: February 22, 1983

Attendees:	Bechtel	Stone/Webster	MPQAD	CPCo
	J. Fisher	W. Kilker	R. Oliver	R. Weiland
	E. Cvikl	A. Scott	W. Lytle	
	J. Gaydos	B. Holsinger		
		Parsons		
		V. Madill		

1. E. Cvikl advised that trial mixes for concrete will begin February 28, 1983. B. Holsinger described the Assessment Team response to the proposed resolution to NIR #5. Specifically, the proposal was to perform 3 point trial mixes for the regular concrete mix and 1 point for the plasticized concrete mix. The Team agreed this was an adequate proposal but cautioned that in the future making "upward" mix adjustments could be difficult.

2. J. Fisher informed the group that jack-stand fabrication was delayed pending the resolution of a non-conformance on the milled surface quality.

3. W. Kilker requested access to the FSO training records and matrix. J. Fisher stated R. Bradford and R. Groshong were responsible for that area. W. Kilker will follow-up.

4. B. Holsinger inquired about the inspection of instrumentation installations. R. Oliver will furnish required documents and information.

5. V. Madill questioned the adequacy of the load transfer acceptance criteria of gauge monitoring "at least once per 8 hours." J. Fisher will respond.

6. V. Madill asked if a "slight drop" in the pressure reading might not be a better way to recognize effectiveness of wedge tightening rather than listening for a "ringing" sound from hammering.

7. E. Cvikl stated that AISC 8th Edition requires the use of washers or plates on all slotted holes. In this regard will pursue with Project Engineering the need for washers/plates on non-spreader sets of lagging.

8. E. Cvikl clarified the requirements for sampling concrete by reference to FSAR Revision 29, Question 421.7.

INDEPENDENT ASSESSMENT TEAM MEETING WITH BECHTEL

Date: February 23, 1983

Attendees:	Bechtel	Stone/Webster	MPQAD	CPCo
	J. Fisher	W. Kilker	J. Moran	------
	E. Cvikl	A. Scott		
	J. Gaydos	B. Holsinger		
		Parsons		
		V. Madill		

1. W. Kilker asked for a description of "seal" required between circulating and service water pumphouse. J. Fisher said a diver would place a form and beutonite pellets to form the seal.

2. J. Fisher said FSO & MPQAD resolved the need for re-milling jack stand plates. Extra work will be done today.

3. E. Cvikl reported that although recording of data during the load transfer hold is only every 8 hours (maximum), Engineering personnel will be continously present throughout the period. (Response to V. Madill question of February 22, 1983).

4. E. Cvikl stated that acoording to Project Engineering washers or plates will be required on all slotted/bolted holes.

5. E. Cvikl said Project Engineering will take under advisement the use of correlation sampling for concrete testing.

INDEPENDENT ASSESSMENT TEAM MEETING WITH BECHTEL

Date: February 24, 1983

Attendees:	Bechtel	Stone/Webster	MPQAD	CPCo
	D. Lavelle	A. Scott	R. Oliver	-----
	E. Cvikl	B. Holsinger		
	J. Gaydos			
		Parsons		
		V. Madill		

1. D. Lavelle informed those present that fabrication of the jack stands had commenced and completion was scheduled for February 28, 1983. A mock-up of the load transfer with the jack stands in place is scheduled to be held at pier W12 on March 1, 1983.

2. A Scott questioned the amount of time that is taken to write a NCR. Example was given to the group of NCR No. FSO-052 written on February 22, 1983.

3. B. Holsinger questioned paragraph 8.1 of the Mergentime Procedure MCP 19.000, Revision 9 as to the reason of referencing ASME in the procedure.

4. B. Holsinger questioned paragraph 9.3.5 of the Mergentime Procedure MCP 19.000, Revision 9 as to the method of identification of primary tensile stress so that welders and inspectors would know when this condition was applicable for weld undercut.

5. D. Lavelle informed the group of the sequence of work forthcoming is based on the ability of MPQAD to cover the work. The work schedule was based on the need of fabrication of drift sets and lagging which require inspection to the 1980 AWS code.

INDEPENDENT ASSESSMENT TEAM MEETING WITH BECHTEL

Date: February 25, 1983

Attendees:	Bechtel	Stone/Webster	MPQAD	CPCo
	J. Fisher	A. Scott	R. Sevo	------
	E. Cvikl	B. Holsinger		
	J. Gaydos	P. Barry		
		Parsons		
		V. Madill		

1. Reference L. Roune's question on Procedure MCP 16.000, Rebar Splicing Procedure, E. Cvikl stated that procedure will not be tied to the ASME code for inspection since the QAR-F253 states that the splicing of rebar is not ASME.

2. The "dress rehearsal" for the load transfer jacking of pier W12 will be held March 1, 1983. A meeting with heads of Engineering and MPQAD will be held on Monday February 28, 1983, to determine the number of men actually necessary to perform the work due to the area available.

3. A. Scott questioned when the form tie-rod holes would be grouted for piers E/W12. J. Fisher stated that this was under advisement at present.

4. P. Barry & A. Scott requested a breakdown of the new organization chart in accordance to the old organization chart attached to Administrative Guideline, FSO-1.000 Revision 1. In fact FSO-1.000 should be revised to incorporate the new chart.