

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

Weekly Report No. 30

April 10, 1983 through April 16, 1983

Personnel on Site

Stone & Webster Michigan, Inc.

W. Kilker	4/14 - 4/16
B. Holsinger	4/11 - 4/16
A. Scott	4/11 - 4/14
P. Majeski	4/11 - 4/13
P. Barry	4/11 - 4/16

Parsons, Brinckerhoff Michigan, Inc.

V. Madill	4/12 - 4/15
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Meetings Attended

<u>Date</u>	<u>Represented</u>	<u>Purpose</u>
4/11 through 4/15	Stone & Webster Bechtel Consumers Power Parsons (4/12 - 4/15)	Daily Meetings
4/15	Stone & Webster Bechtel Consumers Power Mergentime	Weekly Project Soils Meeting

Activities

Construction -

Pier W12: Routine rejack of the pier was not required during this week. Total pier settlement to date is on the order of 0.25 inches.

Pier W9: The wedge lock-off was accomplished on April 13. Total pier deflection to date is approximately 0.4 inches. Routine rejack was done on April 14.

Pier W11: Reinforcing steel, telltale rods, and the lower level Carlson meters were installed and concrete was placed to El. 597 on April 14. The remaining reinforcing steel and upper level Carlson meters were then installed and the pier concreting was completed on April 16.

Pier W8 Drift: The 9 ft. long section of N-S drift adjacent to pier W9 and 10 ft. of the E-W segment of the drift to the south of pier W9 were completed. The excavated material consisted of a 1-2 ft. thickness on unreinforced concrete underlain by clay backfill.

Pier E12: Routine rejack of the pier was not required during this week. Total pier settlement to date is approximately 0.25 inches.

Pier E9: Initial lock-off of the load to the wedges was done on April 11. Routine rejack of the pier was performed on April 12.

Pier E11: Reinforcing steel and telltale instrumentation were installed and the pier shaft concreting was completed on April 13. The upper leveling plate was installed and dry-pack grouted and the upper bearing plate was installed. Moist curing of the pier surface continued throughout the week.

Pier E8 Drift: The drift excavation proceeded to approximately the same point as the pier W8 drift. The excavated material consisted of a 2 ft. thickness of unreinforced concrete underlain by clay backfill.

Quality Control, Documentation and Records:

1. Reviewed selected MPQAD NCR's for procedural compliance.
2. Witnessed concrete testing for pier E11 shaft concrete placement.
3. Witnessed placement, vibrating and testing of pier W11 concrete (initial placement to El. 597).
4. Reviewed data used as a basis for development of the dry-pack grout testing procedure.

Observations

Construction - The routine rejack of piers E/W9 was carried out satisfactorily. The field personnel put considerable effort into driving the wedges to insure full load transfer to the pier prior to jack load release. The Assessment Team expressed a concern over irregularities in the shape of some of the driving wedges that have been used to-date. The wedge shape should be such that full bearing is achieved along the wedge once it is driven. The Contractor has taken steps to insure that the bearing surfaces of the wedges will be flat by specifying a tighter tolerance.

Piers E/W11 were completed in accordance with the procedures and good industry practice.

Quality Control, Documentation and Records - With two exceptions MPQAD had properly initiated, issued, tracked, and closed the Non-conformance Reports (NCRs) that were reviewed by the Assessment Team. In one case, the Assessment Team noted the need for additional documentation on the inspection report form associated with the issuance of an NCR on the vibration of concrete. In another case, an NCR on concrete placement at one of the piers was not dispositioned prior to release for load transfer (Refer to Assessment Team NIR #9). However, the QC inspector was fully aware of the resolution of the technical concern prior to the load transfer.


The concrete testing and concrete placement procedure observed at piers E/W11 were in compliance with the project documents. The Team review of the data used in developing the dry-pack grout testing procedure indicated an adequate basis for developing the procedure.

As referenced in the Assessment Team Weekly Report No. 28, the Team continued the assessment of the shop welding of underpinning materials. In addition to discussions with the Contractor's welding engineers and a review of the welding procedures, the assessment included inspections and evaluations at the Subcontractor's fabrication shop. The evaluation of selected welded materials indicated the welds were of high quality. A number of the observed welds had been rejected by the QC inspection process. However, it is the Assessment Team's opinion that the rejections were generated by a very vigorous interpretation of the welding code and procedures and do not reflect significant weld defects. Entire lots of fabricated materials consisting of several individual pieces are presently being "held" if a single piece is rejected. In order to expedite the release process, the Contractor may want to consider redefining the lot size of work to be inspected. The prequalified welding procedures are taken directly from the AWS code. Code information is therefore fully included. However, considering the nature of the welding (mostly fillet welds) the qualification could be presented in a less complex manner. As stated in the previous Assessment Team welding evaluation, active participation of the Project Engineering group is crucial to the efficient functioning of the welding fabrication. Weld designs should be reviewed in light of field fabrication and inspection experiences.

#### Non-Conformance Identification Reports

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

<u>NIR NO.</u>	<u>Description</u>	<u>Date</u>	
		(Opened)	(Closed)
5	Concrete Mix Qualification	2/10/83	
6	Lagging Spacers	3/21/83	
7	Backpacking Material in Wet areas-Pier W11	4/5/83	
8	Load Transfer Methodology-Pier E12	4/5/83	
9	Release of Pier W9 for Load Transfer	4/13/84	

  
Project Engineer

  
Project Manager

DAILY INDEPENDENT ASSESSMENT TEAM MEETING

Date: April 11, 1983

Attendees:	<u>Bechtel</u>	<u>Stone/Webster</u>	<u>MPQAD</u>	<u>CPCo</u>
	J. Fisher	A. Scott	R. Sevo	R. Wieland
	E. Cvikl	P. Majeski		
	J. Gaydos			

1. J. Fisher indicated that an FCR has been written to permit excavation of the drift to E/W8.
2. J. Fisher indicated that the initial concrete pour at pier W11 will be completed to just below the upper level of Carlson meters (about 7 ft. from top).
3. A. Scott expressed a concern that the joint tape on the anti-friction liner is loose. J. Fisher replied that the condition will be corrected before concrete placement.
4. A discussion was held concerning soil unravelling at pier E11. The minor seepage was apparently sufficient to cause unravelling of the soil in the bell area prior to and during concrete placement. P. Majeski expressed a concern that unravelling occurring during concrete placement could go undetected and that stabilizing the bell area before hand is important. J. Fisher stated that keeping water from the bell area is important and that efforts to contain and remove the water before reaching the bell have been done and will be repeated or expanded in future bells to try to avoid the condition in pier E11.

DAILY INDEPENDENT ASSESSMENT TEAM MEETING

Date: April 12, 1983

Attendees:	<u>Bechtel</u>	<u>Stone/Websier</u>	<u>MPQAD</u>	<u>CPCo</u>
	E. Cvikl	P. Majeski	J. Shah	D. Puhalla
	J. Gaydos	A. Scott		
		P. Barry		

1. A. Scott indicated that the slump of the concrete for the placement of the bell of E11 on April 9 was erratic. He suggested that the procedures used by the supplier be reviewed (particularly with respect to the water content of the aggregate) to determine the cause of this problem.

DAILY INDEPENDENT ASSESSMENT TEAM MEETING

Date: April 13, 1983

Attendees:	<u>Bechtel</u>	<u>Stone/Webster</u>	<u>MPQAD</u>	<u>CPCo</u>
	E. Cvikl	P. Majeski	G. Carpenter	R. Wheeler
	J. Kelleher	A. Scott		R. Wieland
		P. Barry		
		<u>Parsons</u>		
		V. Madill		

1. R. Wheeler stated that he and J. Meisenheimer had the opportunity to discuss the Construction Aid Procedure, "Administrative Guideline" FIU. 1.100 and plan to meet with D. Lavelle concerning whether this guideline is required or not on April 14. In R. Wheeler's opinion construction aids should be so noted on the drawings.
2. R. Wheeler stated that when CPCo documents the technical items presented to the NRC via telephone conversation the NRC may permit excavation on E/W8 piers to the elevation of the top of bell or ring support.
3. In reference to A. Scott's concern on the inconsistent characteristic of concrete slump, Jim Kelleher reported that, as an initial step, the moisture test performed on the aggregates would be performed in the morning of the batching of concrete to insure that the latest condition is reflected in the mix proportion.
4. P. Barry reported that the Assessment Team had issued NIR #9. An NCR written on the pier W9 concrete placement has not been dispositioned. Conditional release to complete the pier had been given but not to perform the load transfer. In addition, P. Barry reported having difficulty in locating in FSO & MPQAD the initial conditional release for the concrete placement.
5. P. Majeski questioned if there were plans to chart or detail the settlement of piers particularly with respect to the effect of loading a pier on in-place adjacent piers. The concern is that the load on the in-place piers be maintained during the jacking of an adjacent pier(s). E. Cvikl will respond.

DAILY INDEPENDENT ASSESSMENT TEAM MEETING

Date: April 14, 1983

Attendees:	<u>Bechtel</u>	<u>Stone/Webster</u>	<u>MPQAD</u>	<u>CPCo</u>
	E. Cvikl	W. Kilker	-----	C. Murray
	J. Fisher			
		<u>Parsons</u>		
		V. Madill		

1. J. Fisher reported that MPQAD has issued a conditional release to perform rejack of pier W9.
2. V. Madill stated that the load transfer wedges on piers E/W9 have different details (lengths and thicknesses) than what he interprets from the drawings. J. Fisher will respond.
3. V. Madill questioned irregularities along the surface of some of the load transfer wedges. J. Fisher stated that a new supply of wedges are on order.
4. P. Barry asked about the status of the NCR on the drift set installation at pier E12. J. Fisher will respond.



DAILY INDEPENDENT ASSESSMENT TEAM MEETING

Date: April 15, 1983

Attendees:	<u>Bechtel</u>	<u>Stone/Webster</u>	<u>MPQAD</u>	<u>CPCo</u>
	E. Cvikl	W. Kilker	R. Sevo	J. Mooney
	J. Fisher	P. Barry		J. Schaub
	J. Gaydos	B. Holsinger		
		<u>Parsons</u>		
		V. Madill		

1. J. Fisher reported that approval has been obtained from the NCR to perform the auxiliary building beam fixes. Work will begin immediately.
2. P. Barry stated that on April 14 he witnessed the rejack of pier W9. The field personnel put forth considerable effort in driving the wedges resulting in a load reduction in the jacks of nearly 20 percent prior to release of the jack pressure.
3. J. Fisher said the forecast date for W11 load transfer is April 21.
4. There was a general discussion of the interactive effect between a pier being loaded and the potential rejack of adjacent piers. J. Fisher requested the Assessment Team submit any specific questions on this subject to allow FSO to prepare proper response.
5. B. Holsinger questioned if the concrete vibrators are frequency tested in air or in concrete. J. Fisher and E. Cvikl will respond.



APR 27 1983