

STONE & WEBSTER ENGINEERING CORPORATION

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

February 23, 1983

J.O. No. 14358
Ref. MPF 22

Attention Mr. R. Cook

RE: DOCKET NO. 50-329/330
MIDLAND PLANT - UNITS 1 and 2
INDEPENDENT ASSESSMENT OF AUXILIARY BUILDING UNDERPINNING
REPORT NO. 22

A copy of the Independent Assessment of the Auxiliary Building Underpinning Weekly Report No. 22 for the period February 13, 1983 through February 19, 1983, is enclosed with this letter. Included as attachments are the minutes of the daily meetings held during the week between members of the Assessment Team and Site Engineering, Construction and Quality Assurance personnel.

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

Very truly yours,

A. Stanley Lucks
A. Stanley Lucks
Project Manager

Enclosures

ASL/ka

PRINCIPAL STAFF			
✓ RA	✓ ZNF		
D/RA	SCS	✓ 9110	+3 ✓
A/RA	PAO		
DPRP	SLO		
DRMA	RC		
DRMSP			
DEP			
ML			
OL		FILE	7/12

FEB 25 1983

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

Weekly Report No. 22

February 13, 1983 through February 19, 1983

Personnel on Site

Stone & Webster Engineering Corporation (SWEC)

B. Holsinger	2/17 - 2/19
W. Kilker	2/17 - 2/19
L. Rouen	2/14 - 2/16
P. Barry	2/14 - 2/16
A. Scott	2/14 - 2/19

Parsons, Brinckerhoff, Quade and Douglas (PBQD)

J. Ratner	2/14 - 2/17
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Meetings Attended

<u>Date</u>	<u>Represented</u>	<u>Purpose</u>
2/14 through 2/18	Stone & Webster Bechtel Consumers Power Parsons (2/15 - 1/17)	Daily Meetings

Activities

Construction - At the W12 pier location, the upper and lower leveling plates were bolted to the turbine building mat and the top of the pier, respectively. The nominal 2 inch spaces between the leveling plates and the structural concrete surfaces were then filled with dry-pack grout.

The telltale instrumentation was installed in pier E12, the formwork between E1 600 and 605 was completed and the concrete was placed in a continuous pour from the bottom of the bell, E1 565, to top of the pier, E1 605. The upper leveling plate was installed. The proofload jacking of Unit 2 FIVP was performed.

Quality Control, Documentation and Records

1. Reviewed the Quality Control Instruction on proof-jacking the FIVPs.
2. Reviewed the QC Inspection Report completed for the Unit 2 FIVP proof-jacking.
3. Observed the Unit 2 FIVP proofload jacking and the in-progress QC inspection of the jacking.
4. Reviewed performance history of concrete mix utilized for piers W12 and E12.

Quality Control, Documentation and Records - (continued)

5. Witnessed QC inspection of dry-pack placement for upper plate at pier W12.
6. Observed the placement of the concrete at pier E12.
7. Witnessed the QC inspection and testing of concrete during the pier E12 concrete placement.

Observations

Construction - The placement of the dry-pack grout between the leveling plates and the structural concrete at pier W12 was properly done. However, the initial handling of the grout material was found wanting in that the bags of grout were opened and spread-out well before required for placement. As the activity proceeded the Contractor modified the handling so that the grout bags remained sealed until just prior to mixing and placement.

Observations of the bell area of pier E12 prior to concrete placement revealed minor unraveling of the exposed soil. This occurrence was due to air exposure for a period of at least 11 days. Although no significant problems occurred on this bell, the Assessment Team feels that based on normal good industry practice, for future piers the time between bell excavation and concreting should be appreciably reduced.

The concrete-mix and placement procedure for pier E12 were in accordance with the project documents. The Contractor selected the same concrete mix design used for pier W12 since the mix design using plasticizer had not yet been approved.

The proofload jacking of Unit No. 2 FIVP was well planned and executed. The entire organization responded efficiently in resolving a jack recalibration non-conformance.

Quality Control, Documentation and Records - The Quality Control procedures and reports reviewed by the Assessment Team were properly prepared and executed. The QC inspectors performing the inspections had a good understanding of the activity being inspected as well as their own role. With respect to the FIVP proofload jacking in particular, the Quality Assurance organization produced a good quality inspection plan from the field procedure outlined on a project drawing. In addition, the QA organization recognized ahead of time the need for training the construction personnel on the jacking procedure and established training as a prerequisite for the jacking.

With respect to a minor problem noted in Weekly Report No. 20, the Team verified that a change has been made. The PQCI and corresponding Inspection Report now provide a means for documenting the results of concrete consolidation.

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Non-Conformance Identification Reports

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

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

Wayne E. Miller
Project Engineer

A. S. Smith *as per*
Project Manager

INDEPENDENT ASSESSMENT TEAM MEETING WITH BECHTEL

Date: February 14, 1983

Attendees:	<u>Bechtel</u>	<u>Stora/Webster</u>	<u>MPQAD</u>	<u>CPCo</u>
	J. Fisher	L. Rouen	R. Sevo	—
	E. Cvikl	P. Barry		
	J. Gaydos			

1. J. Fisher said trial mixes of all new concrete mixes will be run. Notification will be given to all interested parties when begun.
2. Concrete placement for E12 is scheduled for Wednesday. Unit 2 FIVP jacking is scheduled for Tuesday.
3. R. Sevo asked about load transfer mock-up. J. Fisher will check on this.

INDEPENDENT ASSESSMENT TEAM MEETING WITH BECHTEL

Date: February 15, 1983

Attendees:

Bechtel

J. Fisher

E. Cvikl

J. Gaydos

Stone/Webster

L. Rouen

MPQAD

R. Sevo

CPCo

G. Murray

Parsons

J. Ratner

1. In response to an earlier Team question, J. Fisher said bentonite was not used to prevent slaking because Mergentime felt it would not adhere to the clay surface.
2. J. Fisher advised that if a pier was poured using both a mix with plasticizer and without, cylinders would be made for each mix.
3. J. Ratner expressed concern about the bell in pier E12 being exposed to air for such a long period of time. J. Fisher said that he and M. Lewis had discussed this before and will if necessary take measures to protect the face of the excavation.
4. E. Cvikl stated that a new crack in the FIVP had been mapped. This crack would be inspected by CTL Company. Bechtel Ann Arbor will evaluate.

INDEPENDENT ASSESSMENT TEAM MEETING WITH BECHTEL

Date: February 16, 1983

Attendees:

Bechtel

E. Cvikl
J. Fisher

Stone/Webster

A. Scott
P. Barry
L. Rouen

MPQAD

R. Sevo

CPCo

G. Murray

Parsons

J. Ratner

1. J. Fisher will advise when trial mixes will be run for the concrete mix C-5c with & without plasticizer.
2. The schedule for FIVP jacking has been delayed, due to the fact that the jack calibration records must be checked for those jacks used to install anchor bolts.
3. L. Rouen asked for clarification on which steps in MCP 16.000 on splicing of Fox-Howlett couplers must be performed by the qualified splicer whose identification mark goes on the bar.
4. J. Fisher advised that there would be a "dressrehearsal" for the load transfer prior to actual pier loading. Will advise the time.
5. L. Rouen stated the FIVP proof jacking and pier W12 concrete placement were performed adequately in the views of the Assessment Team members present.

INDEPENDENT ASSESSMENT TEAM MEETING WITH BECHTEL

Date: February 17, 1983

Attendees:

Bechtel

D. Lavelle
E. Cvikl
J. Gaydos

Stone/Webster

A. Scott

MPQAD

J. Shah

CPCo

G. Murray

Parsons

J. Ratner

1. D. Lavelle reviewed the list of requirements needed prior to jacking the FIVP Unit 2 east side. At present the start of jacking will be 7:00 AM on February 18, provided all requirements are met this date.
2. A "dress rehearsal" for pier W12 load transfer will be held in Mergentime's Mechanical Shop at 10:00 AM and 5:30 PM on February 18, and at pier W12 on Monday February 21, with the actual load transfer to be performed on February 22.
3. D. Lavelle presented a new organization chart to show how Bechtel plans to organize their forces to expedite the disposition and closing of NCR's and to effect better planning and scheduling of materials for the construction forces.
4. Mr. Cvikl stated that CTL had been on the job to investigate the new crack that appeared in the west FIVP and that he was awaiting a written report.
5. J. Ratner asked if there were plans to reduce the time for leaving the bell open. J. Fisher stated that scheduled time for the bell to be open was to be 12 to 13 days and thought this was good and not detrimental.
6. A. Scott requested information concerning the resolution of the question originally raised on January 27, concerning "hold tag" on Reshore Channel and which was dropped on February 10 from the meeting notes. "Hold tag" is still in-place. J. Fisher indicated he would raise this concern in the weekly management meeting.

INDEPENDENT ASSESSMENT TEAM MEETING WITH BECHTEL

Date: February 18, 1983

Attendees:	<u>Bechtel</u>	<u>Stone/Webster</u>	<u>MPQAD</u>	<u>CPCo</u>
	E. Cvikl	A. Scott	-----	G. Murray
	J. Gaydos	W. Kilker		
	J. Fisher			

1. J. Fisher advised that jack stand fabrication will begin today at the Poseyville fab. shop.
2. J. Fisher said FIVP, Unit 2 proof-jacking will be either on February 18 or February 19. Will advise.