

# STONE & WEBSTER ENGINEERING CORPORATION



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

December 28, 1982

J.O. NO. 14358  
Ref. MFP 14

Attention Mr. R. Cook

RE: DOCKET NO. 50-329/330  
Midland Plant - UNITS 1 AND 2  
INDEPENDENT ASSESSMENT OF AUXILIARY BUILDING UNDERPINNING  
REPORT NO. 14

A copy of the Independent Assessment of the Auxiliary Building Underpinning Weekly Report No. 14 for the period December 19 through December 25, 1982, is enclosed with this letter. Included, as an attachment, 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 during the week.

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. 14

December 19 through December 25, 1982

Personnel on Site

Stone & Webster Engineering Corporation (SWEC)

B. Holsinger	12/20 - 12/23
W. Kilker	12/21 - 12/22
A. Scott	12/20 - 12/21

Parsons, Brinckerhoff, Quade and Douglas (PBQD)

J. Ratner	12/21 - 12/22
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Meetings Attended

<u>Date</u>	<u>Represented</u>	<u>Purpose</u>
12/20 through 12/23	Stone & Webster Bechtel Consumers Power Parsons (12-21/12-22)	Daily Meeting
12/21	Stone & Webster Consumers Power (MPQAD) NRC Parsons	Discussion of assessment Team activities and MPQAD role in implementation of underpinning design
12/21	Stone & Webster Bechtel Consumers Power NRC	Discussion of requirements for vibration of concrete in pier bells, update on settlement monitoring data, and NRC restriction on non - auxiliary building underpinning activities.

Activities

Construction - The advancement of the pier W12 drift excavation was restricted to removing approximately 1 foot of concrete at the toe of the face to about 4 ft. at the top of the drift.

The concrete was removed by initially advancing 2 inch diameter drill holes space at 1 ft. - 1½ ft. centers to a depth of 1 ft. - 2 ft. and subsequently a hydraulic rock splitter was utilized to dislodge the concrete.

Minor quantities of perched groundwater entered the excavation in the north-east corner of the pier W12 access drift along a narrow band of soil between the access pit lagging and the lean concrete encountered under the turbine building. The seepage was not sufficient to cause instability or loss of ground in the soil mass. The water was controlled by directing it to a sump hole in the access pit and then removed by pumping.

Construction was initiated on the pier E12 access pit. The 6 ft. x 8 ft. pit was excavated from E1 609½ to E1 601. Lagging, similar to that used in the pier W12 access pit, was installed on three sides of the pit as the excavation progressed. A formed vertical face of concrete was encountered on the south side of the pit immediately under the turbine building foundation mass. Once the pit reached E1 601 lagging boards were also installed on the south face. Backpacking and excelsior placement procedures were similar to those employed to complete the pier W12 access pit.

Minor perched groundwater seepage, estimated at less than 0.1 gpm, entered the pit between the lower levels of the east side lagging. A sump hole was dug in the pit to collect the seepage and the water was then pumped out.

#### Quality Control, Documentation and Records -

1. Observed the methodology of proficiency testing of the Quality Control Inspectors by the QA engineers on the access pit and drift excavation/lagging and anchor bolt installations.
2. Reviewed Quality Control Instructions on excavation/lagging, field fabrication of miscellaneous items for lagging, miscellaneous steel and steel sets.

#### Observations

Construction - The removal of the mass lean concrete in the W12 pier access rift proceeded according to project requirements. Perched groundwater seepage was properly controlled. Careful observations were maintained by the contractors of the stability of a narrow band of soil between the access pit and lean concrete mass.

#### Quality Control, Documentation and Records -

The Assessment Team considered the QA methodology of proficiency training of inspectors to date to be quite adequate. An addition, the quality inspector procedures reviewed by the team will, (when implemented) assure adequate control of the activity.

J. O. NO. 14358  
Midland Plant  
Units 1 and 2  
Independent Assessment  
Auxiliary Building Underpinning 3

Non-Conformance Identification Reports

Status of previous issues: (NIR numbers no longer listed have been closed-out during previous weeks.)

<u>NIR NO.</u>	<u>Description</u>	(Open)	<u>Date</u>	(Closed)
3	Coupler Testing Temperature		12/14/82	

W. E. Kilmer  
Project Engineer

A. S. Lusk  
Project Manager

INDEPENDENT ASSESSMENT TEAM MEETING WITH BECHTEL

Date: December 20, 1982

Attendees:	<u>Bechtel</u>	<u>Stone/Webster</u>	<u>MPQAD</u>	<u>CPCo</u>
	J. Fisher	A. Scott	L. Kettren	R. Weiland
	E. Cvikl	B. Holsinger		

1. J. Fisher mentioned visit of the NRC with Assessment Team on December 21, 1982.
2. B. Holsinger discussed concerns with stainless steel to carbon steel welding qualification procedure.
3. J. Fisher mentioned that Bechtel would have a daily 4:30 PM meeting between Bechtel and Mergentine to clear up problems of the day & prepared for next day work.



INDEPENDENT ASSESSMENT TEAM MEETING WITH BECHTEL

Date: December 21, 1982

Attendees:	<u>Bechtel</u>	<u>Stone/Webster</u>	<u>MPQAD</u>	<u>CPCo</u>
	R. Bradford	W. Kilker	-----	-----
		A. Scott		
		B. Holsinger		

1. A. Scott requested that R. Bradford expedite the team request for Mergentime prints.
2. A. Scott requested results of recent tests on the "mud-mat" mix.

INDEPENDENT ASSESSMENT TEAM MEETING WITH BECHTEL

Date: December 22, 1982

Attendees:	<u>Bechtel</u>	<u>Stone/Webster</u>	<u>MPQAD</u>	<u>CPCo</u>
	R. Bradford	W. Kilker	-----	-----
	E. Cvikl	B. Holsinger		
		<u>Parsons</u>		
		J. Ratner		

1. J. Ratner asked two questions on which E. Cvikl referred him to M. Lewis for clarification.
  - A. Does 2 ft. of groundwater level below excavation restriction apply in the present access pit advancement.
  - B. Can the top of the drift advance more than 9" beyond the 1st drift set even though the work is in the concrete.
2. B. Holsinger advised that an NIR will be issued on a procedure vs AWS code conflict on stainless to carbon steel welding.

INDEPENDENT ASSESSMENT TEAM MEETING WITH BECHTEL

Date: December 23, 1982

Attendees:	<u>Bechtel</u>	<u>Stone/Webster</u>	<u>MPQAD</u>	<u>CPCo</u>
	R. Bradford	B. Holsinger	S. Jagdish	G. Murray
	E. Cvikl			

1. G. Murray advised that the NRC will continue to require a one-week lag-time between piers W12 and E12 once the concrete removal is complete. CPCo will issue a memorandum.
2. E. Cvikl noted that if Bechtel's action is required on any of the Assessment Team issued NIR's, MPQAD or SMO should see to it they receive a copy at the earliest possible date.
3. B. Holsinger observed that in his opinion the Soils Remedial/MPQAD group is now functioning better organizationally than upon his arrival on-site in September 1982.
4. M. Lewis has answered the two questions of J. Ratner (see notes of December 22, 1982.)
  - A. Groundwater encountered in pit is perched and does not need to be maintained 2 ft. below working level.
  - B. The top of the drift can be advanced to the location of the next drift set but the bottom can only go 9 inches beyond the first drift set location.



STONE AND WEBSTER ENGINEERING CORPORATION

NONCONFORMANCE IDENTIFICATION REPORT

DATE OF NONCONFORMANCE: December 28, 1982 NIR Number 4

IDENTIFICATION/LOCATION OF ITEMS: Mergentime procedure on welding (MCP 19.000, Rev 6) - qualification restrictions on stainless steel to carbon steel welding. (Refer to Attachment E - MCP 19.)

DESCRIPTION OF NONCONFORMANCE: The project procedure permits electrode weld wire sizes that exceed the size used in the qualification process - in this case 1/8 inch and 5/32 inch diameter. The AWS D1-1 (1972-74) standard restricts the use of electrode sizes only to those sizes qualified by demonstration (Refers to pgs 25 and 26-29 of MCP 19). In addition, the procedure allowables on amperage and voltage exceed the qualification level by more than the 15% variance stipulated in AWS D1.1 (Refer to pgs 25 and 26-29 of MCP 19).

INITIATOR:

*Barry L. Holsinger  
by J.T. Rosen*

DATE:

*12-21-82*

PROJECT MANAGEMENT CONCURRENCE:

*A. S. Lunkin, WSK*

CORRECTIVE ACTION BY:

(IDENTIFY ORGANIZATION TAKING CORRECTIVE ACTION)

INITIATOR CONCURRENCE:

PROJECT MANAGEMENT CONCURRENCE:

DATE: