



STONE & WEBSTER MICHIGAN, INC.

P.O. Box 2325, BOSTON, MASSACHUSETTS 02107

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

September 6, 1983

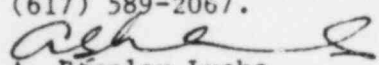
J.O.No. 14358
Ref. MPF 50

Attention Mr. R. Cook

DOCKET NO. 50-339/330
MIDLAND PLANT UNITS 1 & 2
INDEPENDENT ASSESSMENT OF UNDERPINNING
REPORT NO. 50

A copy of the Independent Assessment of Underpinning Weekly Report No. 50 for the period of August 28, 1983 through September 3, 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.


A. Stanley Lucks
Project Manager

Enclosures

ASL:ck

BX214358-10

SEP 14 1983

J.O.No. 14358
Midland Plant
Units 1 & 2
Independent Assessment of Underpinning

Weekly Report No. 50

August 28, 1983 through September 3, 1983

Personnel on Site

Stone & Webster Michigan, Inc.

A. Lucks	8/30 - 9/1
P. Majeski	8/29 - 9/3
L. Rouen	8/29 - 9/2
P. Barry	8/29 - 9/1
B. Holsinger	8/30 - 9/2
J. Springer	8/29 - 9/2
W. Craig	8/30 - 9/2

Parsons, Brinckerhoff Michigan, Inc.

P. Parish	8/30 - 9/2
-----------	------------

Meetings Attended

<u>Date</u>	<u>Represented</u>	<u>Purpose</u>
8/29 - 8/30, 9/1 - 9/2	Stone & Webster Bechtel Consumers Power Parsons	Daily Meetings
8/31	Stone & Webster Bechtel Consumers Power	Engineering & Construction Coordination Meeting

Underpinning and Remedial Soils Activities

E8 Grillage: The grillage beams have been installed. The installation of bracing has begun.

Pier KC10: The pier concrete was placed using a concrete mix with superplasticizer. The upper leveling plate has been installed and dry packed.

East Access Shaft: Additional lagging has been installed and excavation continued to lower the shaft to the next working level, el 597.

W8 Grillage: The grillage beams have been installed. Installation of bracing has begun.

Pier KC3: The pier excavation was completed and the concrete placed.

West Access Shaft: Additional lagging has been installed, and excavation continued to lower the shaft to the next working level, el 597.

Assessment Team Observations--Construction

The first use of concrete with superplasticizer was successful in Pier KC10. However, it was noted that the effect of the superplasticizer has a relatively short life, with the concrete slump decreasing at a rate of 1 inch in approximately 5 minutes. The Contractor has temporarily stopped using this mix until the experience gained from this first use has been evaluated and any required procedural changes implemented. The Assessment Team considers this action to be the proper approach.

The sand blasting of the existing concrete foundations at the BWST's to obtain proper bond with the new concrete foundations is judged by the Assessment Team to be in accordance with the specifications.

The lagging installed in the E/W access shafts meets the requirements of the specifications and was installed in a manner consistent with good practice.

Assessment Team Observations--QA/QC

1. Reviewed the receipt inspection packages for the grillage beams and associate items. These packages are in compliance with the project requirements for certified mill test reports and provide an excellent mechanism for traceability.
2. The assessment team members initiated a review of MPQAD training and certifications. This review is still ongoing and the results will be reported in a future weekly report.

Assessment Team Observations--Training Program

Members of the Assessment Team observed all or portions of the following training classes held during the week:

Cadwelding Inspections, General Welding, Performance Demonstration for Inspection of Erection of Structural Steel, Instructor Training, Excavation in "Q" Soils Area, Nonconformance Reports, Remedial Soils Project Quality Plan MPQP 1 & 2, Survey Control for FSO Activities, FSO Coordination Form Procedure, Soils Work Permit System, Excavation Permit System and Emergency Corrective Measures.

The content of the various classes was judged to be satisfactory. The training classes addressed all aspects of the specific tasks (i.e., related documents and procedures, acceptance criteria, reports, unusual circumstances, responsibilities). The instructors were well prepared and demonstrate good understanding of the subjects.

The Instructor Training classes are excellent. Instructor trainees are taught by a professional instructor in the techniques of course preparation and presentation. Videotaping of individual performances allows the trainees

to practice and evaluate the use of the training techniques. This class greatly enhances the overall training efforts.

The training program is administered in part using CPCo's Training Department Instructions. Necessary instructions have been implemented (i.e., control of instructions, lesson plans, and examinations). An important item in the training procedures is the use of the Unresolved Question Form, which is used to answer questions that the instructor cannot answer in class. This provides a controlled method to handle questions which could possibly identify inadequacies or ambiguities in a technical procedure.

The Assessment Team concludes that considerable effort has been expended in the area of training, and this effort has resulted in an overall training program which is above average and well suited for its intended purpose.

Work Activity Packages

The Assessment Team reviewed the WAP-55 for Piers CT3 and CT10. All team questions and comments were satisfactorily resolved, and the review is complete. The Team's questions and comments on WAP-50 and 51 which were previously reviewed have been answered; thus, the review on these packages is complete. The Team's review of WAP-54 remains open, awaiting completion of two action items by FSO.

Nonconformance Identification Reports

<u>NIR No.</u>	<u>Description</u>	<u>Date</u> (Opened) (Closed)
14	Nut Procurement	8/11/83

Open Items

The following is a listing of all open items from the Daily Meeting Notes with Bechtel and the Weekly Meeting with MPQAD. Carry-over items from past weeks which have been closed out this week are also listed.

<u>Item No.</u> <u>Reference</u>	<u>Description</u>	<u>Closure</u>
W.R. 25, pg. 5	Commitment to Assess Training and Personnel Records.	W.R. 50
45-8Q	Discussion on Mechanism of Identifying Quality Concerns.	Open
48-4Q	Structural Backfill PQCI Adequacy	Open
49-6	Clarification of Structural Backfill Specification Requirement	50-21 & 50-29

<u>Item No.</u>	<u>Description</u>	<u>Closure Reference</u>
49-8	Impact on Welding Nonconformance on E/W8 Grillage Installation	Open
49-31	E8 Grillage Bearing Assembly	50-10
50-2	Curing Compound on BWST	Open
50-15	Concrete Spacers	Open
50-16	Soldier Pile Information	Open
50-17	Background Engineering Information	Open
50-18	Concrete Information Package	Open
50-24	Need for Additional Welding Qualifications	Open

WE Kilker
Project Engineer

Albino
Project Manager

Notes of MPQAD Meeting
Independent Assessment of Underpinning
Midland Plant Units 1 & 2

Held at Midland Site Location
Midland, Michigan
Week of August 28 - September 3, 1983

No Weekly MPQAD meeting was held this week.

Notes of Daily Meeting
Independent Assessment of Underpinning
Midland Plant Units 1 & 2
Consumers Power Company

Held at Midland Site Location
Midland, Michigan
August 29, 1983

Present For:

<u>Consumers Power</u>	<u>Bechtel</u>	<u>MPQAD</u>	<u>Stone & Webster</u>
G. Murray	J. Fisher	J. Moran	J. Springer
R. Wieland	J. Gaydos		P. Barry
	E. Cvikl		
			<u>Parsons</u>
			None

Purpose

This meeting is held each day to discuss items regarding the Independent Soils Assessment at the Midland Plant, Units 1 & 2.

Discussion

Item 50-1 - Construction Status.

The reinforcing steel for pier KC10 is being installed. Concrete placement is scheduled for Tuesday.

Groundwater seepage into the East access shaft has resumed. The seepage is occurring at the face of the turbine building and is by passing the area that was soil stabilized last week.

Probing in the UAT will begin when the construction procedure and the PQCI are revised to the latest criteria. Probing will be scheduled concurrently with the pipe stiffener installation in the UAT.

The trestle scheme to install soldier piles in the train A pipe excavation has been abandoned. Backfilling in this area will be completed prior to installing soldier piles. (CLOSED ITEM)

Item 50-2 - Curing Compound on BWST.

P. Barry asked if the curing compound used to cure the grout for the shear connectors would be removed prior to concrete placement. J. Fisher is to investigate. (OPEN ITEM)

Item 50-3 - Balance of Plant PQCI's.

J. Fisher stated that all Balance of Plant PQCI's except the PQCI required for Train A pipe welding had been released for use for soils work. (CLOSED ITEM)

Item 50-4 - BWST Reinforcing Steel.

J. Fisher stated that the reinforcing steel for the BWST has not been receipt inspected by QC receiving. The shipment was placed on hold by an NCR by QA concerning documentation. Receipt inspection will be done when this NCR is resolved. (CLOSED ITEM)

Notes of Daily Meeting
Independent Assessment of Underpinning
Midland Plant Units & 2
Consumers Power Company

Held at Midland Site Location
Midland, Michigan
August 29, 1983

Item 50-5 - New NCR Form.

J. Moran stated that the new NCR form that replaces both forms used by QA and QC respectively became effective today. (CLOSED ITEM)

Notes of Daily Meeting
Independent Assessment of Underpinning
Midland Plant Units 1 & 2
Consumers Power Company

Held at Midland Site Location
Midland, Michigan
August 30, 1983

Present For:

Consumers Power

G. Murray
J. Schaub

Bechtel

J. Fisher
J. Gaydos
E. Cviki

MPQAD

R. Sevo

Stone & Webster

J. Springer
P. Barry
W. Craig

Parsons

W. Parish

Purpose

This meeting is held each day to discuss items regarding the Independent Soils Assessment at the Midland Plant, Units 1 & 2.

Discussion

Item 50-6 - Spherical Bearing Plate.

J. Fisher stated that the manufacturer's representative's has been on site to inspect the scratch on the spherical bearing plate. The representative stated that the scratch has no effect on the integrity of the bearing assembly. The FSO recommended disposition for the NCR will be to accept as is. (CLOSED ITEM)

Item 50-7 - New NCR Forms and Conditional Releases."

J. Schaub stated even though conditional releases were discussed during the training for the new NCR form that policy concerning the use of conditional releases has not changed. The use of conditional releases will only be allowed in rare instances. (CLOSED ITEM)

Item 50-8 - Probing the UAT.

J. Fisher stated that the drawing for soil probing in the vicinity of the UAT has been revised to allow the RGE more discretion in directing the probing operation. (CLOSED ITEM)

Item 50-9 - Grillage Beam Stiffener Interference.

J. Fisher stated that a grillage beam for pier E8 was removed because of an interference between a beam stiffener and a lateral brace created by the location tolerance given for the grillage beam. The interference was noticed on the East grillage beams and FSO will investigate the West grillage beams. (CLOSED ITEM)

Item 50-10 - E8 Grillage Beam Bearing Plate.

J. Gaydos stated that the E8 grillage beam with the spherical bearing assembly requiring repair was repaired at the Poseyville fab shop because of better working condition's at the fab shop and available time to perform the work.

Notes of Daily Meeti.
Independent Assessment of Underpinning
Midland Plant Units 1 & 2
Consumers Power Company

Held at Midland Site Location
Midland , Michigan
August 30, 1983

The two parts of the assembly are a matched set by paperwork only and that the beam rework could have been resolved by adjusting paperwork. (CLOSES: OUT ITEM 49-31)

Item 50-11 - CPGCo. comments on Weekly Report:

J. Schaub questioned when the open item concerning assessing training would be closed. He also asked if the Assessment Team would review the recent Notes of Daily Meeting's to determine if some of the closed items should be open. P. Barry stated that the Assessment Team was reviewing training this week and should close out this item. However, training assessment is an ongoing responsibility of the team. The Team will review recent meeting notes to determine if any closed items should be opened. (OPEN ITEM)

Notes of Daily Meeting
Independent Assessment of Underpinning
Midland Plant Units 1 & 2
Consumers Power Company

Held at Midland Site Location
Midland, Michigan
August 31, 1983

No meeting was held on this day.

Notes of Daily Meeting
Independent Assessment of Underpinning
Midland Plant Units 1 & 2
Consumers Power Company

Held at Midland Site Location
Midland, Michigan
September 1, 1983

Present for:

Consumers Power

G. Murray

Bechtel

J. Fisher
E. Cvikl

MPQAD

D. Koenig
J. McMaster

Stone & Webster

J. Springer
P. Barry
W. Craig
P. Majeski

Parsons

P. Parish

PURPOSE

This meeting is held each day to discuss items regarding the Independent Soils Assessment at the Midland Plant, Units 1 & 2.

DISCUSSION

Item 50-12--E/W10 Active Jacking

The long term active jacking of Piers E/W10 to obtain engineering data was completed on August 30. (CLOSED ITEM)

Item 50-13--KC10 Progress Report

Concrete was placed in KC10 on August 31. This was the first use of the new concrete mix using a plasticizer. Two NCR's were written against this concrete placement. One NCR was written because a US Testing thermometer was out of calibration. The second resulted from adding superplasticizer to the concrete mix with 3/4 inch slump rather than 1 inch minimum. This decision was made because the concrete pour was at a critical stage and the time required waiting for a new truckload may have resulted in a cold joint in the concrete. J. Springer suggested that smaller loads could be used in the trucks, particularly the first truck which is delayed to obtain samples for testing. (CLOSED ITEM)

Item 50-14--Auxiliary Building Emergency Plan

J. Fisher advised that the Auxiliary Building Emergency Plan is being developed with Mergentime, utilizing the E/W8 grillage beams which should be in place by tomorrow. (CLOSED ITEM)

Notes of Daily Meeting
Independent Assessment of Underpinning
Midland Plant Units 1 & 2
Consumers Power Company

Held at Midland Site Location
Midland, Michigan
September 1, 1983

Item 50-15--Concrete Spacers

J. Springer indicated that several concrete bar chairs which provide the proper concrete cover were knocked out of position by personnel during concrete placement in KC10. This could lead to improper concrete cover required for the reinforcing steel. This is not a critical item in the KC10 pier since the reinforcing that was provided at this elevation was not required. (OPEN ITEM).

Item 50-16--Soldier Pile Information

P. Parish requested the field location and plumbness information for the soldier piles at the SWPS. (OPEN ITEM)

Item 50-17--Background Engineering Information

P. Parish requested copies of Figures 2, 9, 11, and 12 of CPCo letter to NRC of June 7, 1982. CPCo to furnish this information which was missing from a package of information supplied to the Assessment Team. (OPEN ITEM)

Item 50-18--Concrete Information Package

P. Parish requested a copy of the concrete mix design information for the mix with the superplasticizer used in KC10. (OPEN ITEM)

Item 50-19--WAP 50 and 51

P. Barry indicated that the Assessment Team's review of WAP's 50 and 51 is complete. (CLOSED ITEM)

Item 50-20--CPCo Comments on Weekly Report

P. Majeski indicated that several items in recent meeting notes require additional discussion to assure complete documentation of these items. The following five items were discussed. (CLOSES OUT ITEM 50-11)

Item 50-21--Clarification of Structural Backfill Specification Requirement

P. Majeski indicated that the response in Item 49-6 did not seem appropriate since the specification is unclear. FSO to reevaluate. (OPEN ITEM)

Item 50-22--Leveling Plate Pressure Grout Nipple

P. Majeski indicated that the response to Item 48-25 expressing A. Scott's concern about nipples positioned on the inside of the plate did not fully address his

Notes of Daily Meeting
Independent Assessment of Underpinning
Midland Plant Units 1 & 2
Consumers Power Company

Held at Midland Site Location
Midland, Michigan
September 1, 1983

concern. J. Fisher indicated that at least one of the plates tested had a nipple inside and showed satisfactory results. (CLOSED ITEM)

Item 50-23--Review of Instrumentation Data Utilization During Load Transfer

P. Majeski asked if the evaluation of existing procedures for utilization of instrumentation data, in light of the experience to date, had been completed. E Cvikel replied that J. Darby had completed this evaluation. (CLOSED ITEM)

Item 50-24--Need for Additional Welding Qualifications. P. Majeski asked if FSO had completed its evaluation of the need for additional welding qualifications. J. Fisher indicated that it had not. (OPEN ITEM)

Item 50-25--Sandblasting of BWST

P. Majeski asked for the basis of the conclusion that chipping or additional sandblasting of the concrete would not be required at the BWST. E. Cvikel responded that an evaluation of the imperfections showed that 95 percent of the questionable surfaces met the requirements. He further indicated that the surface preparation is important because the design relies on the concrete to concrete bond for shear transfer. (CLOSED ITEM)

Notes of Daily Meeting
Independent Assessment of Underpinning
Midland Plant Units 1 & 2
Consumers Power Company

Held at Midland Site Location
Midland, Michigan
September 2, 1983

Present for:

<u>Consumers Power</u>	<u>Bechtel</u>	<u>MPQAD</u>	<u>Stone & Webster</u>
G. Murray	J. Fisher E. Cvikl J. Gaydos*	R. Sevo	J. Springer W. Craig P. Majeski
			<u>Parsons</u>
			None

* Part Time

PURPOSE

This meeting is held each day to discuss items regarding the Independent Soils Assessment at the Midland Plant, Units 1 & 2.

DISCUSSION

Item 50-26--UAT Work Progress

Work has resumed on the platforms in the UAT's. (CLOSED ITEM)

Item 50-27--Pier KC3 Work Progress

Concrete will be placed in Pier KC3 tomorrow without the use of superplasticizer. This course of action was chosen because of problems which occurred during placement of concrete for KC10. After the problems are resolved, use of the superplasticized mix will be resumed. (CLOSED ITEM)

Item 50-28--Assessment Team Evaluation of Documentation Processing

W. Craig indicated that his evaluation is nearly complete and that he would be issuing a trip report listing his findings. (CLOSED ITEM)

Item 50-29--Clarification of Structural Backfill Specification Requirement.

E. Cvikl indicated that the specification will be revised and the rewording has been reviewed and was accepted by the Assessment Team. (CLOSES ITEM 50-21)