



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

November 15, 1983

J. O. No. 14358
Ref. MPF 60

Attention: Mr. R. Cook

DOCKET NO. 50 - 339/330
MIDLAND PLANT UNITS 1 & 2
INDEPENDENT ASSESSMENT OF UNDERPINNING
REPORT NO. 60

A copy of the Independent Assessment of Underpinning Weekly Report No. 60 for the period of November 6, 1983 through November 12, 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.

AJ Majerka for

A. Stanley Lucks
Project Manager

Enclosures
ASL/pd

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

Weekly Report No. 60

November 6, 1983 through November 12, 1983

Personnel on Site

Stone & Webster Michigan, Inc.

W. Kilker	11/6
B. Holsinger	11/7 - 11/12
P. Majeski	11/9 - 11/12
J. Springer	11/6 - 11/8
A. Lucks	11/9 - 11/10
S. Rossier	11/9 - 11/10
L. Rouen	11/8 - 11/11

Parsons Brinckerhoff Michigan, Inc.

L. Silano	11/9 - 11/10
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Meetings Attended

<u>Date</u>	<u>Represented</u>	<u>Purpose</u>
11/7-11/9, 11/11	Stone & Webster Bechtel Consumers Power	Daily Assessment Team Meeting
11/9	MPQAD Stone & Webster	Assessment Meeting Meeting with MPQAD
11/10	NRC Consumers Power Stone & Webster Parsons	Monthly Meeting with NRC

Underpinning and Remedial Soils Activities - Construction

The Stop Work Order issued on October 21, 1983, continued in effect throughout the week. The only activities were routine maintenance and re-jacking of the E/W8 grillages.

Assessment Team Observations -

The Assessment Team reviewed several Wiss Janney Elstner (WJE) procedures and the Bechtel instrumentation monitoring specification concerning crack mapping. It was noted during this review that the WJE procedures were not being revised to reflect revisions to the Bechtel specifications . This was brought to the attention of the Contractor.

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 Units 1 & 2
 Independent Assessment of Underpinning

The Assessment Team is evaluating the response to NIR # 14, Nut Procurement. In addition, the Team has initiated a review to determine the effectiveness of the MPQAD resolution of the Change Document Stop Work Order.

The Assessment Team has received a copy of the MPQAD procedure " Request for Information / Action ". This procedure was written in response to the Team's observation that there was a need for an improved mechanism for identifying quality concerns. This procedure adequately addresses the team's concerns.

A response was also received regarding the welding inspection of non-structural welds. The inspection procedure is used only on non-structural welds on temporary installations. The Team agrees with this approach. The Assessment Team recommends that steps be taken to insure that this inspection procedure is not used for permanent installations.

Work Activity Packages

Work Activity Package 57 was reviewed and questions and comments were submitted to FSO for response. WAP's 59 and 71 remains open, awaiting final approval of an FCR and response to one action item respectively.

Nonconformance Identification Reports

<u>NIR No.</u>	<u>Description</u>	<u>Date</u>
		(Opened) (Closed)
14	Nut Procurement	8/11/83
16	Crack Monitoring Procedure	11/4/83

Open Items

Items discussed during meetings are categorized as follows:

OPEN ITEM - An item for which an action is required. The item will remain open until the required action has been taken. Tracking is required.

CLOSED ITEM - An item, usually brought forward by the Assessment Team, that is discussed and adequately responded to. No tracking is required.

INFORMATION ITEM - An item, brought forward to provide general background information regarding the work, such as work status or an upcoming design change. No tracking is required.

OPINION ITEM - An opinion or suggestion, given by the Assessment Team, expressing an alternate construction or quality assurance technique. The opinion or suggestion is given as a possible alternate that may facilitate an operation. No response or implementation is required as a result of an Opinion Item.

CLOSED ITEM -XX-XX - This notation identifies an action that closes a previously identified open item. Tracking of the open item stops.

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 Midland Plant
 Units 1 & 2
 Independent Assessment of Underpinning

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 this week, are also listed.

<u>Item No.</u>	<u>Description</u>	<u>Closure</u>
45-8Q	Discussion on Mechanism of Identifying Quality Concerns	60-3Q
56-12	Lean Flyash Placement	Open
57-17	Wall Ties	Open
57-6Q	MPQAD Supervisory Personnel	Open
57-7Q	Welding Inspection	60-4Q
58-3	Tubular Steel Lagging	Open
58-13	Slurry for Removal of 36 In. Dia Casing	Open
WR 58, pg. 2	Lack of Drawing Reference	Open
59-5	Additional SWPS Cracks	Open
59-18	WJE Procedure	Open
59-19	Crack Mapping Data	60-5
59-20	Processing Mapping Data	Open
WR 30, pg. 3	Project Engineering Evaluation of Welding	Open
Daily Meeting Notes of July 6, 1983, Item 5	E/W8 Bulkhead Lagging Wedging	Open
WR 51, pg. 2	FCR Final Approval Process	Open
WR 54, pg. 3	Weld Tech Sheets	Open
55-32	Rotation of Concrete Truck Mixers	Open

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Midland Plant
Units 1 & 2
Independent Assessment of Underpinning

<u>Item No.</u>	<u>Description</u>	<u>Closure</u>
60-4	WJE Procedure	Open
60-14	FSO Tracking List	Open
WR59, pg. 1	Crack Mapping Data Sheets	Open
WR60, pg. 2	Inspection of Non-Structural Welds	Open

L.T. Rowan for W.E. KILKER
Project Engineer

P.J. Majumdar for ASLUCKS
Project Manager

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

Held at Midland Site
Midland, Michigan
November 7, 1983

Present For:

<u>Consumers Power</u>	<u>Bechtel</u>	<u>MPQAD</u>	<u>Stone & Webster</u>
G. Murray	J. Fisher E. Cviki J. Gaydos	R. Sevo	J. Springer <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

Status Item

Item 60-1 - Rejacking of Pier E8.

J. Fisher reported that rejacking and lock off for pier E8 was completed on 11/5/83. However, due to building movement on 11/5/83 in excess of 10 mils, rejacking of E/W8 grillage will start on 11/7/83. (INFORMATION ITEM)
New Items

Item 60-2 - NIR Number 16.

J. Springer indicated that NIR number 16 was issued against WJE auxiliary building crack monitoring . (refer to Item 59-18) (INFORMATION ITEM)

Item 60-3 - Impact of Stop Work Order on Crack Mapping Activities.

J. Springer asked why the crack mapping activities were affected by the Stop Work Order. E. Cviki will respond. (OPEN ITEM)

Item 60-4 - WJE Procedure.

J. Springer indicated that a review of the WJE crack mapping procedure revealed that these procedures were not being revised concurrently with the Bechtel instrumentation monitoring specification. J. Springer asked what system Bechtel uses to insure that WJE procedures are revised concurrently with Bechtel Specifications and if this was a problem with other WJE procedures.

G. Murray requested Bechtel to do a complete review of all WJE procedures and initiate corrective action. (OPEN ITEM)

Response Item

Item 60-5 - Crack Mapping Data for SWPS and Auxiliary Building.

In response to an earlier inquiry E. Cviki provided the appropriate crack mapping data. (CLOSES ITEM 59-19)

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

Held at Midland Site
Midland, Michigan
November 8, 1983

Present For:

<u>Consumers Power</u>	<u>Bechtel</u>	<u>MPQAD</u>	<u>Stone & Webster</u>
J. Murray	J. Fisher E. Cvikl J. Gaydos	R. Sevo	J. Springer B. Holsinger
			<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

Status Item

Item 60-6 - Rejacking of E/W8 Grillages.

J. Fisher reported that the reworking of the E/W8 grillage is currently in progress and that a decision was made not to maintain the load at lift off but to reduce it to 125% of the specified load. He also added that this may result in small downward movement of the structure. (INFORMATION ITEM)

Response Item

Item 60-7 - WJE Procedure Review.

E. Cvikl reported that three (3) WJE procedures will require some changes as a result of the FSO review and that these procedures were all related to the crack mapping. (INFORMATION ITEM , ITEM 60-4 Remains Open)

Item 60-8 - MPQAD Response to NIR 16.

R. Sevo reported that MPQAD will be issuing a followup QAR in response to NIR # 16 and to the Assessment Team concerns regarding other WJE procedures. (INFORMATION ITEM , ITEM 60-4 Remains Open)

Item 60-9 - Impact of Stop Work Order on Crack Mapping Activities.

J. Fisher responded that the intention was to continue crack mapping during the Stop Work Order and that WJE was notified accordingly. (CLOSES ITEM 60-3)

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

Held at Midland Site
Midland, Michigan
November 9, 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	P. Majeski L. Rouen
			<u>Parsons</u>
			None

PURPOSE

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

Status Item

Item 60-10 - Stop Work Order Status.

J. Fisher reported that currently the Stop Work Order is expected to be lifted in late November. (INFORMATION ITEM)

New Items

Item 60-11 - Potential Open Items.

J. Fisher provided copies of FSO's list of potential open items from weeks 30 thru 57 as identified by the Assessment Team. FSO's understanding of action status on open items and closure references for closed items are included on the list. (INFORMATION ITEM)

Item 60-12 - October Public Meeting.

J. Fisher provided information concerning the discussions held with the NRC Public Meeting. (INFORMATION ITEM)

Item 60-13 - US Testing.

J. Gaydos provided the latest status report on US Testing's response to the observations made during the Bechtel review of their operations. (INFORMATION ITEM)

Response Items

There were no response items discussed.

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

Held at Midland Site Location
Midland, Michigan
November 10, 1983

No meeting was held on this date.

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

Held at Midland Site
Midland, MI. 48640
November 11, 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	P. Majeski L. Rouen <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

Status Items

There were no significant status items discussed.

New Items

Item 60-14 - FSO Tracking List.

J. Fisher reported that the tracking list used by FSO currently contains all the items identified by the Assessment Team as open. All closed items which have been carried for the past few weeks for information purposes have been eliminated. P. Majeski indicated that he will verify that the list contains all of the Assessment Team's open items. (OPEN ITEM)

Response Items

There were no response items discussed.

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

Held at Midland Site
Midland, Michigan
November 9 , 1983

Present For:

Stone & Webster

B. Holsinger
L. Rcuen

MPQAD

R. Oliver
D. Horn
D. Kincaid

PURPOSE

This meeting is held to obtain and discuss information relative to Q.A. activities for soils underpinning work at the Midland Plant Units 1 & 2.

DISCUSSION

Status Items

Item 60-1Q - Status of NIR # 16, Crack Monitoring Procedure.

MPQAD has received and reviewed NIR 16. A QAR is being prepared to address the quality concerns. The Assessment Team will receive a copy of the QAR when it is issued. (INFORMATION ITEM)

Item 60-2Q - Status of NIR # 14, Nut Procurement.

The completed response was received by the Assessment Team on November 8, 1983. The response is currently being evaluated. (INFORMATION ITEM)

New Items

There were no new items discussed.

Response Items

Item 60-3Q - Mechanism For Identifying Quality Concerns.

The approved MPQAD procedure was provided to the Assessment Team. (CLOSES ITEM 45-8Q)

Item 60-4Q - Welding Inspection.

In response to Item 57-7Q, MPQAD indicated there is a NRC commitment to perform pre-heat inspections for welds.

For non-structural welds, on temporary material, Q.C. inspects the pre-heat, then per the PQCI attributes verifies that the field engineer has accepted the weld by placing his initials , and date of acceptance next to the weld.

MPQAD stated that , to date, there has not been any non-structural welding performed on permanent installations. Structural welding is not approved by the above described procedure. (CLOSES ITEM 57-7Q)



STONE & WEBSTER MICHIGAN, INC.

P.O. Box 2325. BOSTON. MASSACHUSETTS 02107

PRINCIPAL STAFF	
VP	<i>See</i>
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United States Nuclear Regulatory Commission
 Midland Site Resident Office
 Route 7.
 Midland. MI. 48640

November 9, 1983

J. O. No. 14358
 Ref. MPF 59

Attention: Mr. R. Cook

DOCKET NO. 50339/330
 MIDLAND PLANT UNITS 1 & 2
 INDEPENDENT ASSESSMENT OF UNDERPINNING
 REPORT NO. 59

A copy of the Independent Assessment of Underpinning Weekly Report No.59 for the period of October 30, 1983 through November 5, 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
 A. Stanley Lucks
 Project Manager

Enclosures
 ASL/pd

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

Weekly Report No. 59

October 30, 1983 through November 5, 1983

Personnel on Site

Stone & Webster Michigan, Inc.

W. Kilker	11/2 - 11/5
B. Holsinger	10/30 - 11/1
P. Majeski	10/30 - 11/1
J. Springer	11/1 - 11/5
E. Doherty	10/31 - 11/1

Meetings Attended

<u>Date</u>	<u>Represented</u>	<u>Purpose</u>
10/31-11/4	Stone & Webster Bechtel Consumers Power	Daily Assessment Team Meeting
11/2	MPQAD Stone & Webster	Assessment Team Meeting with MPQAD
10/31-11/1	MPQAD Stone & Webster	Review Change Document Stop Work Order
11/4	Bechtel Stone & Webster	Resolution of Potential Action Items from Weekly Reports 30-57

Underpinning and Remedial Soils Activities - Construction Observations

The Stop Work Order issued on October 21, 1983, continued in effect throughout the week. The only activities were routine maintenance and the reworking of Piers E/W11 and the E8 Pier and grillages.

Assessment Team Observations

The Assessment Team initiated a review of the crack mapping monitoring procedures and the crack mapping data for the Auxiliary Building. Several concerns have been raised including occasional incomplete data sheets, unclear data sheet entries, and performing activities not explicitly released from a "Hold" status. The latter item resulted in the Assessment Team issuing NIR No. 16. Overall, the Team feels the crack monitoring operation needs more attention given to fully comply with the details of the project procedures.

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

CPCo has initiated, through FSO, a tracking system for Assessment Team open discussion items. The Team is familiar with the system and feels it will adequately track the items.

E.P. Doherty of the Stone & Webster Engineering Assurance group performed an evaluation of the recent MPQAD issued Stop Work Order. Discussions were held with the CPCo auditor who identified the change document issue problems and with MPQAD supervisory personnel. Mr. Doherty also reviewed the design change documents forms and procedures and the draft corrective action plan. Based on the results of the evaluation, the Assessment Team believes that the audit finding of a potential disconnect between the approved design and construction was sufficient to cause MPQAD to issue the SWO. In addition, the course of action being taken by CPCo to resolve these conditions and prevent recurrence is considered to be thorough and appropriate. However, CPCo recognizes that new problems may be identified as implementation of the plan progresses and that changes may be required to respond to any new concerns encountered.

Work Activity Packages

The comments and questions on WAP 68 and 70, which were previously submitted, were satisfactorily resolved. Therefore, these packages are considered complete. Comments and questions regarding WAP 71 were submitted to FSO. WAP 59 remains open awaiting final approval of a FCR. WAP 66 and 72 were primarily electrical installations and were not reviewed by the Assessment Team.

Nonconformance Identification Reports

<u>NIR No.</u>	<u>Description</u>	<u>Date</u>	
		(Opened)	(Closed)
14	Nut Procurement	8/11/83	
16	Crack Monitoring Procedure	11/4/83	

Open Items

As part of the Assessment Team actions resulting from the discussion of open item tracking at the November public meeting, the Assessment Team has reviewed Weekly Reports 30-57 for potential action items that were documented as closed including those closed on verbal commitments. From this review the Team concluded that 5 items could be considered as requiring further action to document closure. The items were identified in a meeting with FSO and have been added to the Open Item list of this weekly report.

In addition, the Assessment Team identified several concerns that appeared in the text of the reports such as, timely resolution of NCRs, work progress, and implementation of internal report findings. The Team consider these to be opinion items and as such do not require specific responses. The Assessment Team will observe future performance in these areas.

Items discussed during meetings are categorized as follows:

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

OPEN ITEM - An item for which an action is required. The item will remain open until the required action has been taken. Tracking is required.

CLOSED ITEM - An item, usually brought forward by the Assessment Team, that is discussed and adequately responded to. No tracking is required.

INFORMATION ITEM - An item, brought forward to provide general background information regarding the work, such as work status or an upcoming design change. No tracking is required.

OPINION ITEM - An opinion or suggestion, given by the Assessment Team, expressing an alternate construction or quality assurance technique. The opinion or suggestion is given as a possible alternate that may facilitate an operation. No response or implementation is required as a result of an Opinion Item.

CLOSED ITEM - XX-XX - This notation identifies an action that closes a previously identified open item. Tracking of the open item stops.

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 this week are also listed.

<u>Item No.</u>	<u>Description</u>	<u>Closure</u>
45-8Q	Discussion on Mechanism of Identifying Quality Concerns	Open
48-4Q	Structural Backfill PQCI Adequacy	59-22
52-4Q	MPQAD Independent Welding Inspection Review	59-6Q
55-2	Plasticized Concrete Mix Tests	59-13
56-12	Lean Flyash Placement	Open
57-17	Wall Ties	Open
57-6Q	MPQAD Supervisory Personnel	Open
57-7Q	Welding Inspection	Open
58-3	Tubular Steel Lagging	Open
58-4	FSO Evaluation of FCR's/ FCN's Status	59-1

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

<u>Item No.</u>	<u>Description</u>	<u>Closure</u>
58-11	Winterization of SWPS Dewatering System	59-10
58-12	Number of FCR's on Drawings	59-2
58-13	Slurry for Removal of 36 In. Dia Casing	Open
WR 58,pg.2	Lack of Drawing Reference	Open
59-5	Additional SWPS Cracks	Open
59-18	WJE Procedure	Open
59-19	Crack Mapping Data	Open
59-20	Processing Mapping Data	Open
WR 30,pg.3	Project Engineering Evaluation of Welding	Open
Daily Meeting Notes of July 6, 1983, Item 5	E/W8 Bulkhead Lagging Wedging	Open
WR 51,pg. 2	FCR Final Approval Process	Open
WR 54,pg.3	Weld Tech Sheets	Open
55-32	Rotation of Concrete Truck Mixers	Open

W. E. Kilker
 Project Engineer

Al. L.
 Project Manager

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

Held at Midland Site Location
Midland, Michigan
October 31, 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	P. Majeski <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

Status Items

No significant status items were discussed.

New Items

No new items were discussed.

Response Items

Item 59-1 - FSO Evaluation of FCR's/FCN's Status.

P. Majeski indicated that this item has been carried as open within the Assessment Team's tracking system. Since the SWO concerning the FCR's/FCN's is an ongoing evaluation, there is no need to carry this as an open item. It will be carried within the normal statusing provided by FSO. (CLOSSES ITEM 58-4)

Item 59-2 - Number of FCR's on Drawings.

J. Fisher indicated that current procedures do not limit the number of Interim Approved FCR's which resulted in the large number of attached pages to the drawing reviewed by P. Parish. The number of attachments will be revised as part of the resolution of the Stop Work Order now in effect. Since the Assessment Team will be tracking the resolution of the SWO, this item is considered closed. (CLOSSES ITEM 58-12)

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

Held at Midland Site Location
Midland, MI. 48640
November 1, 1983

Present For:

<u>Consumers Power</u>	<u>Bechtel</u>	<u>MPQAD</u>	<u>Stone & Webster</u>
G. Murray	J. Fisher E. Cvikl J. Caydos	J. McMaster	P. Majeski J. Springer
			<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

Status Items

No status items.

New Items

Item 59-3 - Work Activity Packages.

P. Majeski indicated that the Assessment Team has completed its review of WAP 64. All comments and questions have been resolved and the package is complete. (INFORMATION ITEM)

Item 59-4 - Review of Weekly Report No. 57.

In the meeting, Weekly Report No. 57 was reviewed to identify any items which might require response. No new response items were identified. (INFORMATION ITEM)

Item 59-5 - Additional Cracks in SWPS.

E. Cvikl reported that two new 10 mil cracks were found in the roof and in a beam of the SWPS. A QAR was written because Wiss Janney Elstner (WJE) did not notify FSO within 4 hours as required per procedure. The cracks were first discovered on October 12 and were reported on an illegible data sheet on October 14. FSO returned the data sheet to WJE on October 23 and received a legible copy on October 29. Bechtel spotted the alert level on October 30 and wrote the QAR. The Assessment Team requested that FSO supply the disposition of the QAR when it is completed. (OPEN ITEM)

Item 59-6 - Stop Work Order Status.

J. Fisher indicated that the earliest estimated date of the lifting of the Stop Work Order is November 16, 1983. (INFORMATION ITEM)

Response Items

No response items.

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

Held at Midland Site Location
Midland, MI. 48640
November 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	None	J. Springer <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

Status Item

Item 59-7 - Stop Work Order Status.

J. Fisher indicated that the Stop Work Order on procurement could be lifted as early as the end of this week and that the Stop Work Order allowing the crafts to return to work could be lifted by November 14, 1983. (INFORMATION ITEM, See Item 59-6)

Item 59-8 - Potential Open Items.

J. Fisher advised that Bechtel would respond in writing by Nov. 4 regarding the concerns identified in the NRC public meeting and potential open items identified in Weekly Reports No. 30 thru 57. (INFORMATION ITEM)

Item 59-9 - Cathodic Protection in Non-Q Filled Areas.

J. Springer asked why work was not proceeding with the cathodic protection in non-Q fill areas. J. Gaydos responded that the fill material, even though it is to be used in a non-Q area is Q material, and therefore, due to the Stop Work Order cannot be released. J. Fisher indicated that Moretrench American Corp. had been demobilized for at least 2-3 weeks pending resolution of the Stop Work Order. (CLOSED ITEM)

Response Item

Item 59-10 - Winterization of SWPS Dewatering System.

J. Fisher indicated that necessary steps were taken to insure proper winterization of the SWPS dewatering system. J. Fisher indicated that the existing header system did not require winterization since the constant movement of the water would prevent freezing. However, the standby pumps have been housed in heated enclosures. (CLOSES ITEM 58-11)

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

Held at Midland Site Location
Midland, MI. 48640
November 3, 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. Kilker
			<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

Status Items

Item 59-11 - Work Status.

J. Fisher reported that piers E/W 11 were rejacked on Nov. 2 in order to insert new wedges. Pier E8 will be rejacked (X-location) today to satisfy a deflection criteria requirement. (INFORMATION ITEM)

New Item

Item 59-12 - MPQAD Action Items.

R. Sevo submitted to J. Fisher the list of open action items from the Weekly Assessment Team meetings with MPQAD. These items will be incorporated into the Bechtel tracking system. Refer to Item 58-15 for background information. (INFORMATION ITEM)

Response Items

Item 59-13 - Plasticized Concrete Tests.

In response to an earlier inquiry, J. Gaydos submitted to the Assessment Team the strength test results of the plasticized concrete mix design. (CLOSES ITEM 55-2)

Item 59-14 - Dewatering System Winterization.

J. Fisher submitted to the Assessment Team a letter from the SWPS dewatering subcontractor describing the winterization plans. This supplements the verbal response as reported in Item 59-10. (INFORMATION ITEM)

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

Held at Midland Site Location
Midland, Michigan
November 4, 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. Sévo	J. Springer W. Kilker
			<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

Status Items

Item 59-15 - Review of Potential Action Items from Weekly Reports 30-57.

W. Kilker stated that the Assessment Team has discussed with FSO any items from the Daily Meeting Notes or Weekly Reports (Weeks 30-57) that could be interpreted as requiring further action. All of these discussed items were either closed or added to the Assessment Team's Weekly Report Open Item list. (INFORMATION ITEM)

Item 59-16 - Stop Work Order Status.

J. Fisher reported the revision to the SWO was issued that will allow processing of interim approved FCRs and the completion of the SWPS/CWPS water-tight seal. (INFORMATION ITEM)

Item 59-17 - NCRs on Pier W8.

E. Cvikl reported 2 NCRs have been written against the QC concrete curing sign-off for the Carlson meters at piers W8. (INFORMATION ITEM)

New Items

Item 59-18 - WJE Auxiliary Building Crack Monitoring Procedure.

J. Springer questioned why the part of the WJE requirements on crack monitoring after the E/W8 grillages were loaded is designated " Hold " in the procedure. E. Cvikl will respond. (OPEN ITEM)

Item 59-19 - Crack-Mapping Data.

J. Springer requested a copy of the most recent crack monitoring data on the SWPS and Auxiliary Building. E. Cvikl will provide. (OPEN ITEM)

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

Held at the Midland Site Location
Midland, Michigan
November 4, 1983

Item 59-20 - Processing of SWPS Crack Information.

W. Kilker asked why the recent exchange of SWPS crack monitoring data between WJE and Bechtel required more than two weeks: E. Cvikl replied that this time frame is not satisfactory and that measures will be taken in dispositioning the QAR written on this activity (refer to Item 59-5).
(OPEN ITEM)

Item 59-21 - FSO Personnel Lay-offs due to Stop Work Order

J. Springer asked what the extent of FSO lay-offs has been due to the recent SWO. J. Fisher replied that to date only craft personnel and foremen have been laid-off. J. Fisher said FSO also realizes retraining or additional training may be required if the previously trained personnel do not return or the stoppage is lengthy. (INFORMATION ITEM)

Response Item

Item 59-22 - Structural Backfill PQCI

W. Kilker reported that MPQAD has furnished a copy of the revised PQCI to the Assessment Team. (CLOSES ITEM 48-4Q)

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

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

Present For:

Stone & Webster

B. Holsinger
P. Majeski
J. Springer

MPQAD

J. Meisenheimer
D. Horn
M. DeWitt
B. Sevo

PURPOSE

This meeting is held to obtain and discuss information relative to Q.A. activities for soils underpinning work at the Midland Plant Units 1 & 2.

DISCUSSION

Status Item

Item 59-1Q - Status of NIR # 14.

The status is essentially unchanged . The verification of the scrapping of material must be made and a form changed. MPQAD will evaluate the impact of the Stop Work Order's restriction on accomplishing these actions.
(INFORMATION ITEM)

Item 59-2Q - Status on Mechanism For Identifying Quality Concerns.

The procedure is due for sign-off today. (INFORMATION ITEM)

Item 59-3Q - Status on Comments of Backfill PQCI.

The Assessment Team received the response to the earlier comments. All concerns have been adequately addressed. Item 48-8Q will be closed when the PQCI is issued. (INFORMATION ITEM . Item 48-8Q Remains Open)

Item 59-4Q - Use of Supervisory Personnel.

MPQAD has not prepared a response to the Assessment Team question on the availability of Level III staff to provide guidance and resolve the issues. (INFORMATION ITEM , Item 57-6Q Remains Open)

Item 59-5Q - Pre-heat Welding Inspection.

Additional information is needed in order for MPQAD to provide a response.
(INFORMATION ITEM , Items 57-7Q Remains Open)

New Items

There were no new items discussed.

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

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

Response Items

Item 59-6Q - MPQAD Welding Inspection Review.

The Assessment Team received the welding consultant's report on
10/31/83. (CLOSES ITEM 52-4Q)



STONE & WEBSTER MICHIGAN, INC.

P.O. Box 2325, BOSTON, MASSACHUSETTS 02107

PRINCIPAL STAFF	
RA	EPRP
D/RA	DE
A/RA	DRMSP
PC	DRMA
PAO	SCS
SGA	ML
ENF	File

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

November 1, 1983

J. O. No. 14358
 Ref. MPF 58

Attention: Mr. R. Cook

DOCKET NO. 50-339/330
 MIDLAND PLANT UNITS 1 & 2
 INDEPENDENT ASSESSMENT OF UNDERPINNING
 REPORT NO. 58

A copy of the Independent Assessment of Underpinning Weekly Report No. 58 for the period of October 23, 1983 through October 29, 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. In addition, the notes of the first Monthly Meeting of Stone & Webster and Consumers Power with the Nuclear Regulatory Commission are attached.

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

AS Stanley Lucks for

A. Stanley Lucks
 Project Manager

Enclosures
 ASL/pd

NOV 7 1983

83-2060183 19pp.

MINUTES OF THE MEETING ON OCTOBER 13, 1983

STATUS OF INDEPENDENT ASSESSMENT OF UNDERPINNING AND REMEDIAL SOILS WORK

Purpose

To discuss Third Party Overview activities of Stone & Webster (S&W) and problems encountered regarding underpinning and remedial soils work.

Summary

Mr. A. S. Lucks, Project Manager for the Independent Assessment of Underpinning and Remedial Soils Work, presented a summary of the assessment program for the past year. Highlights follow:

- Assessment Team has been on site for over twelve months.
- The scope of work for the Assessment Team includes overseeing the construction of the underpinning and all remedial soils activities, the Quality Assurance activities associated with the underpinning and remedial soils activities, and reviewing the Work Activity Packages for completeness.
- The Assessment Team includes staff with expertise in Geotechnical Engineering, structural engineering, Quality Assurance, construction, and underpinning.
- The underpinning activities are proceeding on a 24 hour day, 7 days per week schedule and the Assessment Team operates as two units to provide 7 day coverage. One unit is headed up by W. E. Kilker, the second unit is headed up by P. J. Majeski.
- The Assessment Team submits weekly reports, Nonconformance Identification Reports (NCRs) and periodic summary reports directly to the NRC with copies to Consumers Power Company (CPCo).

- To-date 16 underpinning piers have been installed for the Auxiliary Building underpinning and the first set of grillages have been installed.
- Work at the Service Water Pump Structure (SWPS) has included installation of the soldier piles and dewatering systems in preparation for underpinning.
- Preparations are in progress for the extension of the Borated Water Storage Tank foundations.
- The Assessment Team has had the opportunity to see most of the operations necessary for the underpinning work.
- A total of 55 weekly reports, 15 NCRs and a 90-Day Summary report have been issued.

Based on activities during the past twelve months, the Assessment Team has the following observations:

- The underpinning that has been installed is of a very high quality.
- The Quality Assurance staff are performing as an effective quality organization.
- All of the organizations involved in the underpinning have demonstrated a positive attitude and concern towards quality.
- The instrumentation system installed to monitor building movements adds to the confidence in the success of the underpinning work.
- Both CPCo and Bechtel have been responsive to the requests and needs of the Assessment Team.
- Currently 14 of the 15 NIRs have been closed out. Seven of the NIRs were related to Specifications or Construction Procedures, six were related to QA Procedures, and two were hardware related.

- From time-to-time the Assessment Team has stated that the completions of underpinning piers, from excavation to load transfer, should be accomplished in a more timely manner. This item is still of concern to the Assessment Team, although some improvement has taken place and Quality has not been impacted.

Mr. W. E. Kilker presented a description of the major underpinning activities during the previous month. Highlights follow:

- The installation of the Pier 8 grillage beams on the east and west ends of the Auxiliary Building was the major underpinning activity during the month. They were installed in accordance with project procedures, and the Assessment Team was particularly impressed with the teamwork demonstrated during the load transfer to the beams.
- Progress was made in obtaining access for underpinning activities through the Utility Access Tunnels. The soil stabilization by grouting is being effectively accomplished. Grout takes are high.
- Outstanding NCRs on the reinforcing steel for the BWST foundations have been resolved and installation of the reinforcing steel has begun.
- At the SWPS the installation of the soldier piles is almost complete and initial tests of the dewatering systems suggest that it may be more effective than anticipated.
- Miscellaneous activities have included installation of cathodic protection systems, removal of two 36 inch casings, piezometer installation and soil investigation work.
- During the installation of a piezometer there was an incident of drilling into a beam that extends from the Auxiliary Building. A stop work order was issued on drilling and the occurrence was investigated. In the future, structural drawings will be reviewed, in addition to utility

drawings, before a drilling permit is issued.

- One NCR was issued during this period. It concerned certification of QC supervisors. This NCR has been closed.
- Five Work Activity Packages were reviewed and Assessment Team questions were satisfactorily resolved.

Questions and Answers

- Mr. J. J. Harrison (NRC) asked if Stone & Webster tracked commitments made by CPCo in closing open items from the daily meetings, for example, Item 52-14. A check by the NRC had shown that some six weeks after the commitment had been made the drawing had not been changed. Mr. W. E. Kilker (S&W) replied that Stone & Webster does not track an item after closing, but the item would be brought to CPCo attention if the drawing were to be used for construction without the change being made. R. A. Wells (CPCo) stated that if it is flagged on a formal quality document it would be tracked. J. A. Mooney (CPCo) stated that he will check on the CPCo tracking process.
Mr. R. Landsman (NRC) commented that a drawing with a detail noted as Non-Q had been identified and this also had not been corrected.
- Mr. J. J. Harrison (NRC) remarked that daily meeting notes indicated that an item on a drawing was only a suggested method and not a requirement and asked why it was shown on the drawing, if it is only a suggestion. Mr. W. E. Kilker (S&W) stated that the procedure associated with this item points out that it is a suggested method. Mr. J. A. Mooney (CPCo) stated that he will check on this item.
- Mr. J. J. Harrison (NRC) commented that in weekly report No. 49, the Assessment Team suggested a solution to possibly avoid problems with welding. This suggestion had also been made in weekly report No. 30.

He asked why had CPCo not acted sooner. J. A. Mooney (CPCo) stated that they had reviewed the situation and had thought that the existing procedure was adequate but that this was subsequently not the case and the suggested change had been implemented. Mr. W. E. Kilker (S&W) confirmed that the change was being made.

- Mr. R. B. Landsman (NRC) asked if the lagging spacing problems had been solved. He noted that it had appeared again in recent weekly reports. Mr. W. E. Kilker (S&W) stated that at the Auxiliary Building, the Contractor had opened up the lagging spacing as requested by the Assessment Team. The latest occurrence was at the SWPS and the problem has now been addressed.

- Mr. R. B. Landsman (NRC) asked what is being done to resolve the venting ~~problems~~ associated with the grouting of bearing plates.

Mr. W. E. Kilker (S&W) stated that the Assessment Team was tracking this problem. It occurs when the foundation surface is very irregular, and the Assessment Team is aware that the Contractor is expending considerable effort to solve the problem. The inspection of the cured grout is being performed very carefully.

- Mrs. Sinclair, member of public, asked Mr. J. J. Harrison (NRC), if he was satisfied with the answer to the question on tracking commitments used in closing items from daily meetings. Mr. Harrison stated that CPCo had committed to tracking those items; however, the subject would have to be discussed further at the next monthly meeting.

Action Items

- CPCo will review the implementation of commitments made to close out daily meeting items.
- Stone & Webster Will refine the tracking system for open items.

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

Weekly Report No. 58

October 23, 1983 through October 29, 1983

Personnel on Site

Stone & Webster Michigan, Inc.

W. Kilker	10/23 - 10/25
B. Holsinger	10/26 - 10/29
P. Majeski	10/25 - 10/29
J. Springer	10/23 - 10/27

Parsons Brinckerhoff Michigan, Inc.

P. Parish	10/25 - 10/28
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Meetings Attended

<u>Date</u>	<u>Represented</u>	<u>Purpose</u>
10/24-10/28	Stone & Webster Bechtel Consumers Power Parsons (10/26 & 10/27)	Daily Assessment Team Meeting
10/26	MPQAD Stone & Webster Parsons	Assessment Team Meeting with MPQAD
10/28	MPQAD Stone & Webster	Soils MPQAD FCR Stop Work Order Summary
10/28	MPQAD Bechtel Consumers Power Stone & Webster	FCR Stop Work Order Steering Committee Meeting

Underpinning and Remedial Soils Activities - Construction

Because of the site Stop Work Order issued on October 21 by MPQAD, regarding the misapplication of FCR's/FCN's, no work, other than maintenance activities, has been accomplished in the past week.

Assessment Team Observations - Construction

Because of cessation of work at the site, the Assessment Team's activities have been limited to reviewing construction documents in preparation for upcoming work.

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

Assessment Team Observation - QA/QC

The effort to resolve the problem of misapplication of FCR's/FCN's to affected documents is continuing. It is too early to determine the impact of this problem on completed construction. The effort to date has been directed towards identifying those FCR's/FCN's that are a problem; determining the issues which must be addressed; and , developing a procedure to resolve the issues before lifting the Stop Work Order. The Assessment Team observed that this effort is being undertaken with diligence.

During an Assessment Team review of the BWST drawings it was observed that one FCR was not posted on the correct drawing. The correct drawing had been referenced on the second page of the FCR. However, this drawing number was not inserted in the appropriate block on the first page of the FCR. An additional fifty-three drawings were reviewed without finding a similar condition. MPQAD was notified of this one condition. This condition is related to the Stop Work Order and the resulting investigation regarding the misapplication of FCR's/FCN's to drawings. Therefore, an NIR was not issued.

Work Activity Packages

The comments and questions on WAP 64, which were previously submitted, were satisfactorily resolved. Therefore, this package is considered complete. Comments and questions regarding WAP 68 and 70 were submitted to FSO. WAP 59 remains open awaiting FSO response to an action item.

Nonconformance Identification Reports

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

Open Items

Items discussed during meetings are categorized as follows:

OPEN ITEM - An item for which an action is required. The item will remain open until the required action has been taken. Tracking is required.

CLOSED ITEM - An item, usually brought forward by the Assessment Team, that is discussed and adequately responded to. No tracking is required.

INFORMATION ITEM - An item, brought forward to provide general background information regarding the work, such as work status or an upcoming design change. No tracking is required.

OPINION ITEM - An opinion or suggestion, given by the Assessment Team, expressing an alternate construction or quality assurance technique. The opinion or suggestion is given as a possible alternate that may facilitate an operation. No response or implementation is required as a result of an Opinion Item.

CLOSES ITEM XX-XX - This notation identifies an action that closes a previously identified open item. Tracking of the open item stops.

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

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 this week are also listed.

<u>Item No.</u>	<u>Description</u>	<u>Closure</u>
45-8Q	Discussion on Mechanism of Identifying Quality Concerns	Open
48-8Q	Structural Backfill PQCI Adequacy	Open
52-4Q	MPQAD Independent Welding Inspection Review	Open
55-2	Plasticized Concrete Mix Tests	Open
56-12	Lean Flyash Placement	Open
57-17	Wall Ties	Open
57-18	Tubular Steel Sheeting	58-3
57-6Q	MPQAD Supervisory Personnel	Open
57-7Q	Welding Inspection	Open
58-3	Tubular Steel Lagging	Open
58-4	FSC Evaluation of FCR's/FCN's Status	Open
58-11	Winterization of SWPS Dewatering System	Open

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

<u>Item No.</u>	<u>Description</u>	<u>Closure</u>
58-12	Number of FCR's on Drawings	Open
58-13	Slurry for Removal of 36 Inch Diameter Casing	Open

George L. Higgins
Project Engineer
FOR W.E. KILMER

D.J. Mazer for AS Lucks
Project Manager

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

Held at Midland Site Location
Midland, MI.
October 24, 1983

Present For:

<u>Consumers Power</u>	<u>Bechtel</u>	<u>MPQAD</u>	<u>Stone & Webster</u>
G. Murray	E. Cviki J. Gaydos J. Kelleher	R. Sevo	W. Kilker J. Springer
			<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 58-1 - Stop Work Order.

E. Cviki reported that as of late on October 21, an MPQAD Soils issued SWO had resulted in a halt to virtually all of the soils remedial work. A C-Co audit revealed the referencing of Bechtel drawings and specifications had rendered the FCR/FCN process indeterminate.

E. Cviki provided a copy of the SWO and the exceptions FSO had taken to maintain, for example, such items as instrumentation, monitoring, training, testing, surveying and dewatering.

W. Kilker replied that the Assessment Team was aware of the SWO. However, the Team is also interested in the methodology of resolution of the SWO. J. Kelleher replied that FSO had identified and retrieved from Document Control the FCR/FCNs applicable to the soils remedial work. As of this morning (10/24/83) the FSO evaluation was nearing completion. Up to this point the evaluation had revealed some misapplication of the document control of the forms but no cases of inadequate document control. Once the evaluation is completed, the review will be forwarded to MPQAD for verification. (OPEN ITEM)

Item 58-2 - Usual Reminder (VR) Form.

W. Kilker requested information of a yellow tagging system (VR) that has recently appeared in the auxiliary building underpinning work areas. J. Gaydos replied that the tags are generated by Mergentime to convey information to the crafts on such items as limits of work, state of the work at the end of a work shift or requirements to proceed to the next work stage. W. Kilker said the concept appeared good as long as the number of tags in a given area was kept to a reasonable number. Too many tags could lead to either confusion or disregarding the tags. (CLOSED AND OPINION ITEM)

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

Held at Midland Site Location
Midland, MI.
October 24 , 1983

Item 58-3 - Tubular Steel Lagging.

In response to Item 57-18. E. Cvikl stated that the Subcontractor will be given an option to fill the void space on permanently installed tubular sheeting with either ethafoam or grout. The options will be reflected on Bechtel drawing C-2025 and C-2025 - 13. (OPEN ITEM. CLOSES ITEM 57-18)

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

Held at Midland Site Location
Midland, Michigan
October 25, 1983

Present For:

<u>Consumers Power</u>	<u>Bechtel</u>	<u>MPQAD</u>	<u>Stone & Webster</u>
G. Murray	E. Cvikl J. Gaydos J. Fisher N. Swanberg J. Kelleher	R. Sevo	W. Kilker J. Springer <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 58-4 - FSO Evaluation of FCRs/FCNs Status.

J. Kelleher updated the FSO evaluation effort. All FSO Civil FCRs have been reviewed. (A total of approximately 500). Questions arose on nearly 30 percent of these but only 6 percent required any form of corrective action- mainly increasing FCR distributions to additional drawings.

FSO must continue to interact with the Balance of Plant on a number of specifications that are common to both areas. FCRs drawn on these documents will require evaluation to determine the extent of impact on FSO installations.

The evaluation of FCNs will commence today. The methodology will be the same as that used for the FCR evaluation. (Refer to Item 58-1) (OPEN ITEM. CLOSSES ITEM 58-1)

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

Held at Midland Site Location
Midland, Michigan
October 26, 1983

Present For:

<u>Consumers Power</u>	<u>Bechtel</u>	<u>MPQAD</u>	<u>Stone & Webster</u>
G. Murray	J. Fisher	R. Sevo	J. Springer
J. Schaub	E. Cvikl		P. Majeski
	J. Gaydos		
			<u>Parsons</u>
			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 58-5 - FSO Evaluation of FCR's/FCN's Status.

J. Fisher indicated that before work may restart, two procedures concerning document control must be revised to prevent reoccurrence. In addition, the balance of plant lags behind FSO in evaluating the FCR's/FCN's. Before any work may restart, the impact of balance of plant FCR's/FCN's on the soils work must be evaluated. R. Sevo indicated that MPQAD is doing a 100 percent independent evaluation of the FCR's/FCN's. After this evaluation, they will be working with FSO in resolving any problems. MPQAD will also verify and close out any required actions. (INFORMATION ITEM)

Item 58-6 - Evaluation of Change and Nonconformance Documents.

J. Fisher acknowledged receipt of the report entitled "Evaluation of Change and Nonconformance Documents" prepared by W. Craig of Stone & Webster. (INFORMATION ITEM)

Item 58-7 - Field Engineering Review of US Testing.

J. Gaydos provided the Assessment Team with the final draft of the field engineer's review findings against US Testing. (INFORMATION ITEM)

Item 58-8 - Tracking of Assessment Team Concerns.

J. Schaub suggested that any concerns contained in the text portion of the Assessment Team's weekly report should be subsequently discussed in the meeting with Bechtel to provide for tracking and response on the part of Bechtel. P. Majeski to review and revise. (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
October 27, 1983

Present For:

<u>Consumers Power</u>	<u>Bechtel</u>	<u>MPQAD</u>	<u>Stone & Webster</u>
C. Murray	J. Fisher E. Cvikl J. Gaydos	R. Sevo	P. Majeski J. Springer
			<u>Parsons</u> 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 58-9 - Oil Residue at Stand-by Jacks.

In response to an opinion given by J. Ratner (Item 57-22), J. Fisher indicated that the oil leaks have been evaluated by Mergentime and no jack repair or replacement is considered necessary, at present. He further indicated that jacks, when not under load will occasionally leak. The leaking oil will be periodically cleaned up and extra care will be taken in monitoring the performance of these items in the future. (INFORMATION ITEM)

Item 58-10 - Concrete Backfill Behind SWPS Lagging.

P. Parish asked how the possible loss of ground will be monitored if concrete backfill is placed behind the lagging at the ground surface? J. Fisher responded that the loss of ground will be monitored from within the excavation by checking behind the lagging. If loss of ground begins to be a problem, soil stabilization grouting will be accomplished from the ground surface. (CLOSED ITEM)

Item 58-11 - Winterization of SWPS Dewatering System (OPEN ITEM)

P. Parish asked what provisions are anticipated for winterization of the SWPS dewatering system? (OPEN ITEM)

Item 58-12 - Number of FCR's on Drawings.

P. Parish indicated that he had considerable difficulty in using Drawing No. C-1425-2 which had 16 FCR's totaling 55 pages attached. This type of situation can lead to errors. J. Fisher to look into and respond. (OPEN ITEM)

Item 58-13 - Slurry for Removal of 36 Inch Diameter Casing.

J. Fisher asked for an elaboration on the Assessment Team's concern about the control and mixing of the slurry which was included in Weekly Report No. 56. P. Majeski indicated that the bentonite was slowly poured in the drum through a spray of water. This procedure probably would result in "balls" of bentonite in a thin slurry rather than a uniform slurry. There was no mixing or checking of the slurry to assure adequate breaking down of the bentonite. (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
October 27, 1983

Item 58-14 - Time Lag Between Completion of Reaming and Concreting.

J. Fisher asked for an elaboration on the Assessment Team's concerns about the time lag between reaming and concrete placement at the 36 inch diameter casing. P. Majeski indicated that during this time period, collapse of the wall could have occurred. J. Fisher responded that this was considered and that the drill rig checked the hole for collapse by dropping the tool into the hole immediately before placement of concrete. (CLOSED ITEM)

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

Held at Midland Site Location
Midland, MI. 48640
October 28, 1983

Present For:

<u>Consumers Power</u>	<u>Bechtel</u>	<u>MPQAD</u>	<u>Stone & Webster</u>
None	J. Fisher E. Cviki	R. Sevo	P. Majeski
			<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 58-15 - Tracking of Assessment Team Concerns.

P. Majeski suggested that to assure that all Assessment Team concerns are entered into the Bechtel's action item list, the contents of each Weekly Report will be discussed in the next Daily Meeting. Similarly, action items from other Assessment Team Reports and the Notes of Meetings with MPQAD will also be identified for tracking. (CLOSES ITEM 58-8)

Item 58-16 - Slurry for Removal of 36 Inch Diameter Casing.

J. Fisher asked if the Assessment Team had any concern about the adequacy of the completed work involved with the 36 inch diameter casing. P. Majeski responded that the Team is satisfied with the completed work but believes that the procedure requires change if similar operations are performed in the future. (CLOSED ITEM , item 58-13 remains open)

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

Held at Midland Site Location
Midland, Michigan
October 26, 1983

Present For:

Store & Webster

P. Majeski
J. Springer

Parsons

P. Parish

MPQAD

R. Field
M. DeWitt
J. Meisenheimer
R. Oliver

Purpose

This meeting is held to obtain and discuss information relative to Q.A. activities for soils underpinning work at the Midland Plant Units 1 & 2.

Discussion

Item 58-1Q - Status of NIR # 14.

The response to NIR # 14 is nearly complete. The remaining action item is a QC inspection to verify that the material was scrapped. This will be accomplished as soon as the SWO has been lifted. (INFORMATION ITEM)

Item 58-2Q - Status of Mechanism For Identifying Quality Concerns.

The final draft is in the approval cycle. (INFORMATION ITEM)

Item 58-3Q - Status of MPQAD Welding Inspection Review.

The final report will be issued this week. (INFORMATION ITEM)

Item 58-4Q - Status of Comments on PQCI for Backfill.

A copy of the final draft, which is in the approval cycle, was given to the Assessment Team. who will review to determine if all the Team's concerns were adequately addressed. (INFORMATION ITEM. ITEM 48-8Q remains open)

Item 58-5Q - MPQAD Involvement in FCR/FCN Review.

MPQAD will be making a 100% review of the FCR/FCN's to identify which will require action before lifting of the SWO. They will also participate with FSO in determining the appropriate action required for each identified FCR/FCN. As a result of this review NCR's may be required if any work is left indeterminant. Procedural changes are required to prevent reoccurrence of the present situation. Construction work will be allowed on discrete items of work when the total problem has been defined and sufficient actions have been taken on any related identified FCR/FCN's. (INFORMATION ITEM)



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

October 25, 1983

J. O. No. 14358
Ref. MPF 57

Attention : Mr. R. Cook

DOCKET NO. 50-339/330
MIDLAND PLANT UNITS 1 & 2
INDEPENDENT ASSESSMENT OF UNDERPINNING
REPORT NO. 57

A copy of the Independent Assessment of Underpinning Weekly Report No.57 for the period of October 16, 1983 through October 22, 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.

W E Kiley for
ASL

A. Stanley Lucks
Project Manager

Enclosures
ASL/pd

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

Weekly Report No. 57
October 16, 1983 through October 22, 1983

Personnel on Site

Stone & Webster Michigan, Inc.

W. Kilker	10/19 - 10/22
B. Holsinger	10/16 - 10/18
P. Majeski	10/16 - 10/18
J. Springer	10/20 - 10/22

Parsons Brinckerhoff Michigan, Inc.

J. Ratner	10/17 - 10/21
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Meetings Attended

<u>Date</u>	<u>Represented</u>	<u>Purpose</u>
10/17, 10/19- 10/21	Stone & Webster Bechtel Consumers Power Parsons	Daily Assessment Team Meeting
10/18	MPQAD Stone & Webster	Assessment Meeting Meeting with MPQAD
10/17	Bechtel Consumers Power Stone & Webster	Weekly Inter-organizational Meeting

Underpinning and Remedial Soils Activities - Construction

Kc10-Kc9 Drift: Work resumed on the advancement of the drift to a point approximately 4 ft. beyond the area of pier Kc9. The drift set and reshore members in this drift extension remain to be installed.

Pier E13: The upper level struts between piers E12 and E14 were installed allowing the excavation for pier E13 to begin. The pier area was excavated and lagged to a depth of 2 ft. to E1 589.

CT12 (East UAT): The drift steel was installed in the access drift area.

Pier Kc3: The load transfer to pier Kc3 was accomplished. The deflection acceptance criteria was met and the routine re-jacking performed.

Kc2-Kc3: No additional activity.

Kc2-Kc4 Drift: The drift was excavated and supported to a distance of approximately 10 ft. beyond pier Kc3. The excavation was mainly in unreinforced concrete.

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Pier W13: The upper level struts between piers W12 and W14 were installed allowing the excavation for pier W13 to begin. The pier area was excavated and lagged to a depth of 4 ft. to E1 587. Groundwater seepage forced the Subcontractor to grout behind the north and south side lagging. Subsequently, the flow of water was substantially reduced.

CT1 (West UAT) : Additional soils stabilization work was performed. Installation of the access drift support is in-process.

SWPS: Installation of lagging for the access area continued near the northeast corner and along a portion of the north side of the structure. The Phase I pile installation was completed except for grouting a portion of one soldier pile.

BWST: The installation of reinforcing steel and concrete formwork continued. A segment of the ring beam modification on the Unit 2 tank was completed with the placement of the concrete.

Yard Area: The lean flyash grout fill was placed in the excavated area surrounding the former location of the 36 inch diameter casing in Q soils.

Assessment Team Observation - Construction

The Assessment Team observed numerous construction installation activities throughout the week. At the Auxiliary Building the Team observed the installation of wale seats at the east and west access shafts, drift excavations along the Kc turbine building line, a drift set installation at pier C12 UAT access, abandoned drill hole grouting at the pier C1 UAT access, upper level strut installation at W12/14, and grouting behind the lagging at the pier W13 excavation. At the SWPS, the lagging installation was monitored while at the BWST the Team members observed the installation of reinforcing steel and the concrete curing technique. The construction personnel followed the requirements of the design documents except for occasional non-conforming conditions, identified by either the Field Engineers or MPQAD personnel, that were documented and forwarded to Engineering for disposition.

With respect to the pier W13 excavation, the Team feels the field personnel took proper corrective action to reduce the groundwater seepage, by grouting and therefore the potential for substantial loss of ground behind the lagging. Early indications are that the seepage was markedly reduced.

The Assessment Team is aware that the Contractor is re-evaluating the need for the extensive welding of lagging to soldier beams at the SWPS access excavation. The Team commends this type of "second look" particularly on installation details for temporary support elements.

The Assessment Team was represented at the Weekly Inter-organizational meeting held between 2nd level supervisory personnel for Project Engineering, FSO, MPQAD, and SMO. This meeting appears to be quite effective as a means for problems to be aired across organizational lines. Several of these problems were discussed with either resolution obtained or action items developed.

The Auxiliary Building Underpinning Contractor has recently initiated a Visual Reminder (VR) tag system for use in various construction areas. The information on the tag has generally been to alert the craft personnel as to the limits of work or the prerequisites required to advance work. The Team feels this

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communication technique can be effective but should not become too commonplace so as to be overlooked or replace the verbal communication required between the Field Engineers/Supervisors and the craft personnel.

Assessment Team Observation- QA/QC

The Assessment Team witnessed the QC inspections of welds on the strut seat at pier W12 and the grouting of abandoned drill holes at the access drift to pier C1. The inspections were performed with the proper techniques and tools, and in accordance with the requirements of the respective PQCI.

The Assessment Team reviewed the closure of the NIRs issued to date for method of closure. Verification of the corrective action, if required, was judged to be complete. No additional action will be required to verify proper and adequate responses to these NIRs.

On October 21, MPQAD issued a site wide Stop Work Order on Q-related work including remedial soils activities. A CPCo audit revealed a potential for misapplications or inadequate distribution of the project Field Change Request (FCR)/Field Change Notice(FCN) forms to affected drawings and/or specifications. As a result, FSO must review all changes issued to date and determine the extent of misapplications or inadequate distribution. For any changes that fall into either of the above two problem categories, FSO will evaluate the impact, if any, on installed items. Once FSO completes the review and evaluation, the information will be forwarded to MPQAD for verification. Bechtel will also retrain the appropriate Project Engineering, Field Engineering, and Document Control personnel in the use of the forms to void reoccurrence of the problem. The Assessment Team feels the proposed action for resolution is appropriate.

Work Activity Packages

The comments and questions on WAPs 25, 60 and 61, were resolved satisfactorily. FSO action items remain open on WAP 59. WAP 64 was reviewed and comments/questions were submitted to FSO for resolution.

Control Document Evaluation

The Assessment Team report on the evaluation of change and nonconformance documents, referenced in Weekly Report No. 51, was issued on October 21 under separate cover to the NRC and CPCo.

Nonconformance Identification Reports

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

Open Items

On the attached Notes of Daily Meetings, the discussion items will be annotated by one of the following:

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 Units 1 & 2
 Independent Assessment of Underpinning

OPEN ITEM - An item for which an action is required. The item will remain open until the required action has been taken. Tracking is required.

CLOSED ITEM - An item, usually brought forward by the Assessment Team, which is discussed and adequately responded to. No tracking is required.

INFORMATION ITEM - An item, brought forward to provide general or background information regarding the work, such as work status or an upcoming design change. No tracking is required.

OPINION ITEM - An opinion or suggestion, given by the Assessment Team, expressing an alternate construction or quality assurance technique. The opinion or suggestion is given as a possible alternate that may facilitate an operation. No response or implementation is required as a result of an Opinion Team.

CLOSES ITEM XX-XX - This notification is the mechanism by which a previously open item is closed.

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 this week are also listed.

<u>Item No.</u>	<u>Description</u>	<u>Closure</u>
45-8Q	Discussion on Mechanism of Identifying Quality Concerns	Open
48-8Q	Structural Backfill PQCI Adequacy	Open
W.R.51.pg. 4	Control Document Evaluation	W.R.# 57
52-4Q	MPQAD Independent Welding Inspection Review	Open
55-2	Plasticized Concrete Mix Tests	Open
56-8	Potential Interference of OBS 4	57-8
56-10	BWST Reinforcing Steel Placement Inspection	57-7
56-12	Lean Flyash Placement	Open
57-17	Wall Ties	Open

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<u>Item No.</u>	<u>Description</u>	<u>Closure</u>
57-18	Tubular Steel Sheeting	Open
57-6Q	MPQAD Supervisory Personnel	Open
57-7Q	Welding Inspection	Open

W E Keller
Project Engineer

A S Lumbly WSK
Project Manager

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

Held at Midland Site Location
Midland, Michigan
October 17, 1983

Present For:

<u>Consumers Power</u>	<u>Bechtel</u>	<u>MPQAD</u>	<u>Stone & Webster</u>
R. Weiland	J. Fisher E. Cvikl J. Gaydos	R. Sevo	B. Holsinger P. Majeski
			<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 57 - 1 - UAT Soil Stabilization Grouting.

J. Fisher reported that one FCR has been approved and another is in the approval stage to allow sequencing changes and to minimize the possibility of damaging utilities during the drilling process. These changes allow more flexibility in excavating in the UAT areas and allow for a method to obtain additional information regarding obstructions encountered during the drilling operations. (INFORMATION ITEM)

Item 57 - 2 - Load Transfer at Kc3.

Load transfer commenced on 10 - 16. (INFORMATION ITEM)

Item 57 - 3 - Drift Kc3 - Kc4

The drift excavation between between Kc3 and Kc4 has started. (INFORMATION ITEM)

Item 57 - 4 - Level C Walks.

Level C Wale installation has started in both access shafts. (INFORMATION ITEM)

Item 57 - 5 - E/W 14 Struts.

The struts between Piers E/W14 and E/W12 will be connected to the lagging on E/W12 by means of a plate welded to the lagging instead of the connection using Hilti bolts as originally designed. This change is made to avoid interference with reinforcing steel. (INFORMATION ITEM)

Item 57 - 6 - SWPS Soldier Beam Installation.

E. Cvikl reported that the soft subgrade condition which resulted in the increased depth of soldier pile 16 is not expected to be a problem for the

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

Held at Midland Site Location
Midland, Michigan
October 17, 1983

Phase II piles. (INFORMATION ITEM)

Item 57 - 7 - BWST Reinforcing Steel Placement Inspection.

J. Gaydos indicated that 4 to 5 written inspection requests (phased inspections rather than in process inspections) are planned to inspect rebar installation for the BWST. (CLOSES ITEM 56 - 10)

Item 57 - 8 - Potential Interference at OBS - 4.

J. Fisher indicated that all work in the general area of OBS - 4 is on hold until the results of the penetrometer tests are evaluated. (CLOSES ITEM 56 - 8)

Item 57 - 9 - Dewatering at SWPS.

P. Majeski asked if any conclusions had been reached regarding the effectiveness of the dewatering test at the SWPS. J. Fisher answered that as a result of the test findings, the additional wells in phase II will not be required. (CLOSED ITEM)

Item 57 - 10 - Lessons Learned from Auxiliary Building Underpinning.

P. Majeski asked if there were any formal or quasi-formal means where the lessons learned from the Auxiliary Building underpinning would be transmitted or applied to the SWPS Underpinning. This question applies from the management level through craftspeople. J. Fisher responded that no formal program exists. However, considerable feedback is expected because of a number of individuals have the same roles on both underpinning projects. He also stated that various project meetings, Field Engineer cross training, and briefing and debriefing meetings as well as informal interpersonal relationships will aid in providing the necessary communications. (CLOSED ITEM)

Item 57 - 11 - Welding of Lagging at SWPS.

P. Majeski asked for the rationale for requiring welding between the lagging and the soldier piles at the SWPS. E. Cvikl to respond. (OPEN ITEM)

Item 57 - 12 - Procedure for Tracking and Closing Items.

The revised procedure for tracking and closing items at the Daily Meetings was discussed. The Assessment Team has revised its method of providing the status, tracking and closing items. In order to be consistent and provide for easier cross reference, Bechtel will be revising their notes also. (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
October 18, 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	P. Majeski <u>Parsons</u> J. Ratner

Purpose

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

Discussion

Item 57 - 13 - Additional Penetrometer Testing.

J. Fisher indicated that additional penetrometer testing in the area of OBS - 4 is planned to start next week. (INFORMATION ITEM)

Item 57-14 - Welding of Lagging at SWPS.

E. Cvikl indicated that where the flange of the soldier pile is skew to the lagging a shear force exists requiring a weld. Otherwise, the welds are required to hold the lagging in place. An FCR is in process to minimize the extent of the welding. (CLOSES ITEM 57-11)

Item 57-15 - WAP Reviews.

P. Majeski indicated that the Assessment Team has completed its review of WAP 62,63,65 and 67. All outstanding questions and comments have been resolved with FSO. (INFORMATION ITEM)

Item 57-16 - Concrete Drill.

J. Ratner asked if there are any procedural changes or training requirements necessary to use the special concrete drill which has been ordered for use in removing mass amounts of fill concrete. (OPEN ITEM)

Item 57-17 - Wall Ties.

J. Ratner asked if Nelson studs could be substituted for the 28 gauge wall ties indicated in Drawing No. 2025 - 12. Rev. 1, Note 6. (OPEN ITEM)

Item 57 -18 - Tubular Steel Sheeting.

J. Ratner asked if the space within the tubular sheet sheeting must be filled. (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
October 19, 1983

No meeting was held on this date.

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

Held at Midland Site Location
Midland, Michigan
October 20, 1983

Present For:

Consumers Power

G. Murray

Bechtel

J. Fisher
E. Cvikl

MPQAD

R. Sevo

Stone & Webster

W. Kilker
J. Springer

Parsons

J. Ratner

Purpose

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

Discussion

Item 57-19 - Status of Kc Drifts.

J. Fisher responded to a question by W. Kilker concerning the lengthy period of time (8 days) that the drift excavation has been on-hold. The delay was caused by the need to re-design the drift set member (s) in the vicinity of piers Kc4/9 after approval was given by the NRC to excavate 4 ft. beyond the Kc4/9 locations. However, J. Fisher said the delay is not expected to cause any final drift completion slippage since the CT1/12 pier completions are the " critical path " items. (CLOSED ITEM)

Item 57-20 - Construction Delays at UAT Access to Piers CT1/12.

J. Fisher stated that a series of events have caused a delay of several days on the work at the UAT access areas. The problems included encountering concrete obstructions and unidentified formed concrete, the need to modify the drift sets to conform to the area geometry and Hilti-anchor installation delays. All problems have been resolved and work on the access pits to CT1/12 is expected to start within the next few days. (INFORMATION ITEM)

Item 57-21 - Concrete Drill.

In response to Item 57-16, J. Fisher verified that a procedural change is not required. The type of equipment to remove material is not addressed in the procedures. (CLOSES ITEM 57-16)

Item 57-22 - Oil Residue at Stand-by Jacks.

J. Ratner mentioned that one of the jacks at both piers Kc3 and E9 appear to have leaked oil. Mergentime is reportedly aware of the situation and will take any required steps to replace or repair the jacks. J. Ratner offered a suggestion that if possible any repair work should be done on-site under the direction of the manufacturer. (OPINION ITEM)

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

Held at Midland Site Location
Midland, MI.
October 21, 1983

Present For:

<u>Consumers Power</u>	<u>Bechtel</u>	<u>MPQAD</u>	<u>Stone & Webster</u>
G. Murray	J. Fisher E. Cvikl	R. Sevo	W. Kilker J. Springer
			<u>Parsons</u>
			J. Ratner

Purpose

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

Discussion

Item 57-23 - Status of Piers E/W13.

J. Fisher reported the upper struts between the E/W12 and 14 piers were installed and excavation of piers E/W13 has commenced. (INFORMATION ITEM)

Item 57-24 - Soldier Pile Installation Status.

J. Fisher reported the last Phase I soldier pile will be installed today. (INFORMATION ITEM)

Item 57-25 - Use of Lean Flyash as Backfill.

J. Fisher reported that lean flyash will be used to backfill the Q soils excavated area around the recently removed 36 inch diameter casing. G. Murray said it had been (and will be) necessary to verify the use of this material with the NRC on a case-by-case basis. J. Ratner observed that lean flyash was also being used by the Subcontractor to fill in the space behind the lagging on the SWPS. G. Murray stated that the use of lean flyash for this purpose was not considered the same as for filling a yard area and that case-by-case approval was not required. (CLOSED ITEM)

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

Held at Midland Site Location
Midland, Michigan
October 18, 1983

Present For:

Stone & Webster

B. Holsinger
P. Majeski

MPQAD

J. Meisenheimer
D. Horn
M. DeWitt
B. Sevo
J. Foley

Purpose

This meeting is held to obtain and discuss information relative to Q.A. activities for soils underpinning work at the Midland Plant Units 1 & 2.

Discussion

Item 57-1Q - Status of NIR # 14.

MPQAD is in the final stage of implementing corrective action. After verification by Q.A., the response will be sent. (INFORMATION ITEM)

Item 57-2Q - Status of Mechanism For Identifying Quality Concerns.

The final copy is being routed for approval. (INFORMATION ITEM)

Item 57-3Q - Status of MPQAD Welding Inspection Review.

The welding consultant is finalizing the report which should be available next week. (INFORMATION ITEM)

Item 57-4Q - Status of Comments on PQCI Backfill.

J. Meisenheimer , J. Foley, P. Majeski and B. Holsinger discussed the specifics of the assessment teams comments on the PQCI. The PQCI was reviewed to each comment and where necessary corresponding specification requirement. A better understanding of the assessment concerns were reached and resolution should be accomplished by next week. (INFORMATION ITEM)

Item 57-5Q - Certification of Supervisors.

The Assessment Team stated that although certification of the second tier of Q.C. supervision is not mandatory, the Team recommends that for consistency the supervisor that is not certified should be certified. (OPINION ITEM)

Item 57-6Q - Use of Supervisory Personnel.

The Assessment Team requested clarification on the availability and use of Level III certified staff for the purpose of providing guidance and resolving conflicts between Level II inspectors and noncertified Q.C. supervisory staff. (OPEN ITEM)

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

Held at Midland Site Location
Midland, Michigan
October 18, 1983

Item 57-7Q - Welding Inspection.

The Assessment asked that if pre-heat is required to be checked by MPQAD then why is it not as equally important to inspect the heat affected zone on Q base metal rather than current practice of verifying the inspection of the field engineer? MPQAD will take the action to resolve this issue.
(OPEN ITEM)



STONE & WEBSTER MICHIGAN, INC.

P.O. Box 2325, BOSTON, MASSACHUSETTS 02107

United States Nuclear Regulatory Commission
Midland Site Resident Office
Route 7, 1983
Midland, MI. 48640 .

October 19, 1983

J. O. No. 14358
Ref. MPF 56

Attention: Mr. R. Cook

DOCKET NO. 50-339/330
MIDLAND PLANT UNITS 1 & 2
INDEPENDENT ASSESSMENT OF UNDERPINNING
REPORT NO. 56

A copy of the Independent Assessment of Underpinning Weekly Report No. 56 for the period of October 9, 1983 through October 15, 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
WELK

A. Stanley Lucks
Project Manager

Enclosures
ASL/pd

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

Weekly Report No. 56

October 9, 1983 through October 15, 1983

Personnel on Site

Stone & Webster Michigan, Inc.

W. Kilker	10/9 -10/12
B. Holsinger	10/10 -10/15
P. Majeski	10/11 -10/15
J. Springer	10/9 -10/12
S. Lucks	10/12 -10/13
D. O'Nan	10/12 -10/13
P. Barry	10/11 -10/12

Parsons, Brinckerhoff Michigan, Inc.

F. Balsamo	10/10 -10/13
J. Ratner	10/13

Meetings Attended

<u>Date</u>	<u>Represented</u>	<u>Purpose</u>
10/10 -10/12	Stone & Webster Bechtel Consumers Power Parsons	Daily Assessment Team Meeting
10/11	MPQAD Stone & Webster	Assessment Team Meeting with MPQAD
10/13	NRC Consumers Power Stone & Webster Parsons	Monthly Meeting with NRC

Underpinning and Remedial Soils Activities - Construction

Kc10 -Kc9 Drift: The final drift support sets were installed. Work has ceased in this area, awaiting processing of a change request to revise construction sequencing to facilitate further work.

Pier E14: Minor work was accomplished in this area to install struts between E14 and E12.

Pier Kc 3: The upper leveling plate, bearing plate, jackstands and jacks were installed.

Kc2 -Kc3 Drift: The drift invert steel placement was completed.

Pier W14: Minor work was accomplished in this area to install struts between W14 and W 12.

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East UAT: The excavation and bracing and lagging installation continued. Several probings were made in preparation for grouting but the probe holes encountered concrete before reaching the required depth and were terminated.

West UAT: The excavation and bracing and lagging installation continued. Grouting operations continued in preparation for further excavation.

SWPS: The installation of soldier piles continued. The excavation for the access pit adjacent to the northeast corner of the structure continued. The installation of the lagging for the pit was started.

BWST: The installation of the reinforcing steel for both tanks continued.

Yard Area: The removal of the two 36 inch diameter pipe casings was completed and the hole backfilled with concrete. The excavation of the near surface disturbed material surrounding the casing in the Q soil area was started.

Assessment Team Observation - Construction

The Assessment Team observed that the lagging and backpacking in the Kc10 - Kc9 drift and the reinforcing steel for the BWST were installed in accordance with good practice. The grout and lean flyash mix for soldier beam 16 was placed in accordance with project procedures.

The removal of the 36 inch diameter casing in the Q soils area was carefully controlled. It was noted by the Assessment Team that final cleanup of the hole after reaming was carefully checked. However, two aspects of the casing removal and backfilling could be improved. There did not appear to be any identifiable control of the consistency of the slurry nor was there a check that the process used to mix the slurry was effective. Secondly, the time lag between the completion of reaming operation and backfilling with concrete was too long.

Subsequent to the concrete backfilling and initial set at the location of the 36 inch diameter casing in the Q soils area, the near surface disturbed soils was greater than anticipated. The Assessment Team observed that the FSO and engineering personnel as well as the crafts people exhibited the correct attitude and attention in determining the extent of the disturbed zone, and delaying the backfilling until a complete evaluation could be made.

Assessment Team Observation - QA/QC

NIR Number 15 concerning the certification of MPQAD supervisors was closed on October 12. MPQAD has reorganized their staff to provide one level of certified supervision above the inspector level. Job descriptions have been developed such that technical direction to inspectors will not be provided by supervisors who are not certified. This response by MPQAD resolves the problem with implementation of procedure B-3M-1.

Work Activity Packages

The Assessment Team reviewed WAP's numbered 60, 61, 62, 63, 65 and 67 and submitted questions and comments to FSO. The questions and comments on WAP 62, 63, 65 and 67 were satisfactorily resolved, thus the review of these packages is complete. FSO action items remain open on WAP 60 and 61 and on WAP 25 and 59 which were previously submitted.

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 Midland Plant
 Units 1 & 2
 Independent Assessment of Underpinning

Nonconformance Identification Reports

<u>NIR No.</u>	<u>Description</u>	<u>Date</u>	
		(Opened)	(Closed)
14	Nut Procurement	8/11/83	
15	MPQAD Supervisor Certification	9/19/83	10/12/83

Open Items

The Assessment Team has revised their method to track items discussed during the Daily Meeting with Bechtel. The revised method allows for a more formal means to confirm implementation of items requiring changes to documents. In addition, the postscript notation of the status of each item has been revised to be more definitive of the intent of the item. The following notations will be used:

OPEN ITEM - An item for which an action is required. The item will remain open until the required action has been taken. Tracking is required.

CLOSED ITEM - An item, usually brought forward by the Assessment Team, which is discussed and adequately responded to. No tracking is required.

INFORMATION ITEM - An item, brought forward to provide general or background information regarding the work, such as work status or an upcoming design change. No tracking is required.

OPINION ITEM - An opinion or suggestion, given by the Assessment Team, expressing an alternate construction or quality assurance technique. The opinion or suggestion is given as a possible alternate that may facilitate an operation. No response or implementation is required as a result of an Opinion Item.

CLOSES ITEM XX-XX - This notification is the mechanism by which a previously open item is closed.

The Assessment Team will review the closure of previously identified open items for inclusion in this revised tracking system.

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>Description</u>	<u>Closure</u>
45-8Q	Discussion on Mechanism of Identifying Quality Concerns	Open
46-8Q	Structural Backfill PQCI Adequacy	Open
W.R. 51.pg. 4	Control Document Evaluation	Open

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Midland Plant
Units 1 & 2
Independent Assessment of Underpinning

<u>Item No.</u>	<u>Description</u>	<u>Closure</u>
52-40	MPQAD Independent Welding Inspection Review	Open
55-2	Plasticized Concrete Mix Tests	Open
55-31	SWPS Soldier Piles	56-4
56-8	Potential Interference at OBS 4	Open
56-10	BWST Reinforcing Steel Placement Inspection	Open
56-12	Lean Flyash Placement Procedure	Open

WE Keller
Project Engineer

A.S. Jackson
Project Manager

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

Held at Midland Site Location
Midland, Michigan
October 10, 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	None	J. Springer W. Kilker
			<u>Parsons</u>
			None

Item 56-1 - Work Status.

- A.) On the UAT excavations at CT1/12 work has been temporarily halted pending a FCR and drift set modification requirement. In the interim, additional soil stabilization by grouting is being performed in the west UAT.
- B) Additional void areas were encountered in the turbine building mat during the drilling of Hilti-bolt holes. J. Fisher reported an NCR was issued and dispositioned to repair. The repair has been completed and the grout cure period is underway but load transfer is still a week away.
- C.) Work on piers E/W 13 will proceed once the required concrete strengths in E/W14 are attained and once a FCR on strut connection details is issued.
- D.) The Kc10- Kc9 drift excavation is near completion.
- E.) On the SWPS, the excavation to install the first waler level has begun. An FCR has been issued to allow installation of the remaining Phase I soldier beams.
- F.) The drill rig will establish the bentonite feed hole adjacent to the 36 inch diameter casing in Q-soil that will be removed. (INFORMATION ITEM)

Item 56-2 - BWST Corrective Work.

J. Springer asked if control joints are planned for supplemental concrete ring beam installation. E. Cvikl replied that control joints are part of the design. (CLOSED ITEM)

Item 56-3 - Lean Flyash Placement Procedure.

J. Gaydos supplied a copy of the proposed change to the procedure on flyash placement. J. Springer questioned why the existing Bechtel specification of lean flyash grout placement was not referenced. (OPEN ITEM)

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

Held at Midland Site Location
Midland, MI.
October 11, 1983

Present For:

Consumers Power

R. Wieland

Bechtel

J. Fisher
J. Gaydos
J. Darby

MPQAD

R. Sevo

Stone & Webster

W. Kilker
J. Springer

Parsons

F. Balsamo

Purpose

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

Discussion

Item 56-4 - SWPS Soldier Beam Installation.

J. Fisher reported that Engineering has approved the PCR (6873) to advance the remaining Phase I soldier beam holes an additional depth to insure adequate bearing capacity. Installation Work has resumed. (CLOSES ITEM 55-31)

Item 56-5 - Removal of Yard Area 36 Inch Diameter Casings.

J. Fisher reported that work on the removal of these casings and concrete replacement is expected to be completed today. (INFORMATION ITEM)

Item 56-6 - BWST Reinforcing Steel Placement Inspection.

J. Springer questioned if all reinforcing steel must be in-place before a QC inspection is requested. FSO and MPQAD will respond. (OPEN ITEM)

Item 56-7 - Lean Flyash Placement Procedure.

In response to Item 56-3, J. Gaydos said the Bechtel specification on lean flyash pertains to a different mix design than the one being used by SWP on the SWPS work. In addition, the activities necessary to insure proper placement are covered in existing procedures or specifications. J. Springer will confer with J. Gaydos and the RGE to verify. (OPEN ITEM - CLOSES ITEM 56-3)

Item 56-8 - Potential Interference at OBS 4.

J. Springer questioned if the proposed cathodic protection will create an interference near any required "fix" in the vicinity of OBS 4-adjacent to the NE corner of the Diesel Generator Building. J. Fisher & J. Darby will investigate. (OPEN ITEM)

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

Held at Midland Site Location
Midland, Michigan
October 12, 1983

Present For:

<u>Consumers Power</u>	<u>Bechtel</u>	<u>MPQAD</u>	<u>Stone & Webster</u>
R. Weiland	J. Fisher	R. Sevo	W. Kilker
G. Murray	J. Gaydos		J. Springer
	E. Cvikl		B. Holsinger
			P. Majeski
			<u>Parsons</u>
			F. Balsamo

Purpose

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

Discussion

Item 56-9 - Kc10-Kc9 Drift Status.

J. Fisher stated work on this drift and pier Kc9 is delayed pending processing of a FCR to re-shore the drift near proposed pier Kc9. Resumption of work is not expected for one week. (INFORMATION ITEM)

Item 56-10 - BWST Reinforcing Steel Placement Inspection.

In response to Item 56-6, R. Sevo stated that QC has a mechanism for documenting the status of progressive inspections. That is, the entire BWST installation of reinforcing steel does not have to be installed prior to requesting a QC inspection. J. Fisher said FSO will verify the approach that the direct-hire group will use to request inspections. (OPEN ITEM - CLOSES OUT ITEM 56-6)

Item 56-11 - Status of US Testing.

J. Fisher said the Bechtel Field Engineers report on US Testing is being forwarded to the Subcontractor Administrator. A meeting will be held with US Testing to describe the action that Bechtel anticipates the Contractor to take in order to satisfy the concerns described in the report. (INFORMATION ITEM)

Item 56-12 - Lean Flyash Placement Procedure.

J. Springer stated a discussion was held with J. Gaydos and J. Givens (RGE) concerning lean flyash placement. J. Springer is satisfied that the placement activity is adequately described in the project documents. (OPEN ITEM WITH RESPECT TO REVISION TO PROCEDURE. CLOSES OUT ITEM 56-7)

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

Held at Midland Site Location
Midland, Michigan
October 13, 1983

No meeting was held on this date.

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

Held at Midland Site Location
Midland, Michigan
October 14, 1983

No meeting was held on this date.

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

Held at Midland Site Location
Midland, Michigan
October 11, 1983

Present For

Stone & Webster

W. Kilker
B. Holsinger

MPQAD

J. Meisenheimer
M. DeWitt
D. Horn
R. Oliver

Purpose

This meeting is held each week to obtain information from MPQAD regarding the Soils Underpinning work at the Midland Plants Units 1 & 2.

Discussion

Item 56-1Q - Status of NIR # 14.

J. Meisenheimer reported all responses to the NCR have been received. MPQAD is expected to verify any corrective action shortly. Root causes of the problem were associated with the Supplier Quality Representative (SQR), PQCI deficiency, and confusion on specification requirements. (INFORMATION ITEM, NIR # 14 REMAINS OPEN)

Item 56-2Q - Status of MPQAD Welding Consultant Study.

W. Kilker asked the status of the consultant's report (Refer to Item 52-4Q).
J. Meisenheimer said a draft copy had been prepared but the final report was not available yet. J. Meisenheimer noted that over the past few weeks the number of NCRs and problems associated with welding have been greatly reduced. (INFORMATION ITEM - 52-4Q REMAINS OPEN)

Item 56-3Q - Use of Green Tags with QC Hold Tags.

W. Kilker asked the status of the use of the green FSO descriptive tags in conjunction with QC Hold Tags. J. Meisenheimer explained that the green tags will not be used in the future to describe the extent of the work affected by a given NCR. Rather, this description will be included on the QC Hold Tag after formal communication between MPQAD and Engineering. (CLOSED ITEM.)



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

October 12, 1983

J.O. No. 14358
Ref. MPF 55

Attention: Mr. R. Cook

DOCKET NO. 50-339/330
MIDLAND PLANT UNITS 1 & 2
INDEPENDENT ASSESSMENT OF UNDERPINNING
REPORT NO. 55

A copy of the Independent Assessment of Underpinning Weekly Report No. 55 for the period of October 2, 1983 through October 8, 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.

Pete J. Musicki
for
A. Stanley Lucks
Project Manager

Enclosures
ASL/pd

~~8312060167~~ 13pp

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

Weekly Report No. 55

October 2, 1983 through October 8, 1983

Personnel on Site

Stone & Webster Michigan, Inc.

W. Kilker	10/4 - 10/8
B. Holsinger	10/2 - 10/4
P. Majeski	10/2 - 10/4
J. Springer	10/7 - 10/8
A. Scott	10/2 - 10/8
S. Lucks	10/5
J. Allen	10/5
N. Cleveland	10/5
G. Schierberg	10/5

Parsons, Brinckerhoff Michigan, Inc.

J. Ratner	10/3 - 10/7
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Meetings Attended

<u>Date</u>	<u>Represented</u>	<u>Purpose</u>
10/3 - 10/7	Stone & Webster Bechtel Consumers Power Parsons	Daily Assessment * Team Meeting
10/3	Bechtel Consumers Power Stone & Webster	Weekly Inter-organizational Discussion
10/5	Bechtel MPQAD Consumers Power Stone & Webster	Engineering and Construction Meeting
10/3	Bechtel Mergentime Consumers Power Stone & Webster	Discussion of Pit Method of Constructing Final Support Wall for Auxiliary Building
10/7	Bechtel Consumers Power Stone & Webster (Held in Bechtel Office Ann Arbor, MI.)	Bi-weekly Project Soils Meeting

* Meeting held at the request of the Assessment Team. Other meetings in the tabulation were attended by one or more Team members for the purpose of assessment or acquiring information.

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

Underpinning and Remedial Soils Activities - Construction

E8 Grillage: Load transfer activities are complete. This item will not be included in future reports unless additional non-routine activities occur at this installation location.

Pier Kc10: The routine re-jacking of the pier is complete. A discussion of this pier will not be included in future reports unless circumstances require non-routine activities at this location.

Pier Kc10-Kc11 : The embed installation was completed and the drift invert concrete placed.

Kc10-Kc9 Drift: The drift excavation was completed. The excavated material consisted of approximately 1 ft. of unreinforced concrete underlain by a mixture of sand and clay fill. The installation of the final drift support sets remains to be completed.

Pier E14: The concrete placement was completed and the curing period is underway. A minor surface repair of honeycombed concrete was required at the upper construction joint elevation.

W8 Grillage: Load transfer activities are complete. This item will not be included in future reports unless additional non-routine activities occur at this installation location.

Pier Kc3: Repair of the turbine mat patch progressed. However, grout strength verification and disposition of a non-conformance on small voids in the patch grout is required before the upper leveling plate work can be initiated.

Kc2-Kc3 Drift: The drift was completed with the majority of the excavation in unreinforced concrete. Drift invert reinforcing steel is being installed.

UATs: The excavations through the west and east UATs were initiated. The respective corners of the control tower foundation were revealed. Excavation in the west UAT area was generally in grouted sand while in the east UAT the excavated material was mainly unreinforced concrete. Additional grouting is underway and will be completed prior to excavation of the access pits to piers CT1 or CT12.

SWPS: The dewatering system was activated. Early indications are that it effectively lowers the groundwater level. Installation of the soldier piles is nearly complete. However, work has been temporarily halted pending a determination by Project Engineering of the significance of encountering a boulder near the proposed bearing elevation and being able to displace the boulder with the truck drilling action. Engineering is evaluating the need to extend the bearing elevation somewhat deeper to the natural soil. Excavation of the underpinning access pit adjacent to the northeast corner of the foundation wall was started. The excavation extended to approximate E1 629.

BWST: Nearly half of the reinforcing steel for the Unit 2 tank is in-place while the reinforcing steel installation for the Unit 1 tank has just begun.

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

Yard Area: Excavation and lagging of the access pits around the two 36 inch diameter pipe casings were completed. Continuation of the casing removal requires the mobilization of a drilling rig to inject drilling fluid into the area as the casing is pulled.

Assessment Team Observation - Construction

The Assessment Team observations of the concrete placement at pier E/W14 and the Kc10-11 drift invert, the excavation and lagging of the Kc9-10 drift, the excavation of the CT1/12 access drifts showed that the work is being accomplished in accordance with the project documents. There was some delay in final sign-off of the concrete pour card just prior to initiating placement for pier E14 and Kc10-11 drift invert. The Assessment Team recommends this activity be completed prior to making the decision to order concrete. Inspection of the soil grouting exposed in the west UAT excavation indicates that the penetration and coverage was excellent. Except for additional soil stabilization, work progress on the UAT work has been delayed by the need to modify the drift supports.

Assessment Team Observation - QA/QC

1. During a review of the QC Inspection Reports on the E/W8 grillage beam installation, the Assessment Team noted that Field Engineer's Daily Reports that contained interpretative comments on the Engineer's drawings were attached to the IRs. These interpretations were countersigned by the responsible Resident Engineer on the report form. In addition, these Field Engineer's Daily Report forms are controlled; that is, they are assigned a specific number. Subsequently, the QC inspector took these comments, as confirmation of a drawing interpretation (not a drawing change) and attached the applicable report form to the QC Inspection Report. The Assessment Team believes this is an acceptable method of documenting Engineering interpretation of the drawings.
2. The Assessment Team reviewed a draft report on an evaluation of US Testing issued by the Contractor's Civil Field Engineering group. Since an audit of US Testing by CPCo earlier this year, there has been an on-going effort by both CPCo and Bechtel to foster positive changes in the US Testing organization, procedures, training and document control. This recent report is still quite critical of the overall performance of US Testing and offers specific recommendations to improve both the quality and performance aspects of the organization. The Assessment Team commends the on-going effort by the Owner and Contractor to develop changes at US Testing. Nevertheless, in light of the on-going underpinning/soils remedial work and the upcoming balance of plant construction work, the Team feels it is important that the recommendations be acted upon as soon as is practical.

Work Activity Packages

The Assessment Team reviewed Work Activity Packages on the Installation of Cathodic Protection in Q-Soils (WAP59) and the Repair of the deep Q-Duct Bank (WAP 25).

Questions were submitted to the FSO Constructibility Group for resolution or clarification.

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

Nonconformance Identification Reports

<u>NIR No.</u>	<u>Description</u>	<u>Date</u>	
		(Opened)	(Closed)
14	Nut Procurement	8/11/83	
15	MPQAD Supervisor Certification	9/19/83	

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>Description</u>	<u>Closure</u>
45-8Q	Discussion on Mechanism of Identifying Quality Concerns	Open
48-8Q	Structural Backfill PQCI Adequacy	Open
W.R. 51, pg.4	Control Document Evaluation	Open
52-4Q	MPQAD Independent Welding Inspection Review	Open
54-24	Inadvertent Drilling of Auxiliary Building Strongback	55-21
54-27	BWST Status	55-14
55-2	Plasticized Concrete Mix Tests	Open
55-31	SWPS Soldier Piles	Open

W E Keller
 Project Engineer

Peter J. Majumdar
 for AS Luck's
 Project Manager

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

Held at Midland Site Location
Midland, Michigan
October 3, 1983

Present For:

<u>Consumers Power</u>	<u>Bechtel</u>	<u>MPQAD</u>	<u>Stone & Webster</u>
G. Murray	J. Fisher J. Gaydos J. Davie J. Darby	R. Sevo *	A. Scott 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 55-1 - UAT Work Status.

The steel walls of the UAT's have been opened and the drifts to CT 1/12 have begun. (CLOSED ITEM)

Item 55-2 - Status of Concrete Mix With Superplasticizer.

A. Scott inquired as to status of evaluation of concrete mix with superplasticizer. J. Gaydos indicated that he is in the process of gathering additional data concerning the quantity of superplasticizer versus workability and strength as well as gathering other data. He will provide additional information at a future meeting. (OPEN ITEM)

Item 55-3 - Turbine Building Mat Repair.

J. Fisher indicated that small voids were found around the edges of the turbine building mat repair at Kc3. He indicated that they anticipated repairing the voids when the leveling plate is installed. (OPEN ITEM)

Item 55-4 - Excavation Permit Procedure Revision.

J. Fisher advised that the revised Excavation Permit Procedure was signed out on 10/1. (CLOSED ITEM)

Item 55-5 - BWST Status.

R. Sevo indicated that the QC inspectors for the upcoming BWST work have completed their training and are ready to perform the necessary inspections. Training was completed during the morning of 9/30. The delay came about because MPQAD was not aware of a need to train inspectors to a procedure for bending rebar. (CLOSED ITEM)

Item 55-6 - Additional Exploration Pits at SWPS.

J. Fisher indicated that engineering has requested approximately 15 additional exploratory pits near the SWPS. (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
October 4, 1983

Present For:

<u>Consumers Power</u>	<u>Bechtel</u>	<u>MPQAD</u>	<u>Stone & Webster</u>
G. Murray	J. Fisher	R. Sevo	A. Scott
J. Schaub	J. Gaydos		P. Majeski
	E. Cvikl		
			<u>Parsons</u>
			J. Ratner

Purpose

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

Discussion

Item 55-7 - SWPS Status.

J. Fisher advised that dewatering system was activated today to determine the efficiency of the system. (CLOSED ITEM)

Item 55-8 - Piers CT 1 and CT 12.

J. Schaub advised that the NRC approval to begin work on these piers allows work to proceed only through excavation. Approval has not been received to place rebar. However, approval is expected prior to completion of pier excavation. (CLOSED ITEM)

Item 55-9 - Status of Concrete Mix With Superplasticizer.

J. Gaydos stated that additional information will be furnished after the 28 day strength tests are available. (CLOSED ITEM , ITEM 55-2 REMAINS OPEN)

Item 55-10 - Grouting of UAT's.

The effectiveness of the regrouting at the UAT's was discussed. Inspection of exposed face shows that the grouting did not change the color of the soil except in the area of the grout hole. However, the effectiveness of the grouting was evident by physically handling the grouted soil. It is apparent that the soil that has been excavated immediately adjacent to the UAT was adequately penetrated by the grout. (CLOSED ITEM)

Item 55-11 - Turbine Building Mat Repair Status.

J. Fisher advised that the voids found on the edges of the repair patch will be chipped out and repaired during placement of grout for the upper leveling plate. (CLOSED ITEM, ITEM 55-3 REMAINS OPEN)

Item 55-12 - Cathodic Protection Installation.

The installation of cathodic protection in non Q areas is to begin 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
October 4, 1983

Item 55-13 - SWPS Access Shaft.

The excavation of the SWPS Access Shaft is to begin late this week.
(CLOSED ITEM)

Item 55-14 - Training of QC Inspectors.

P. Majeski asked what actions were being taken by MPQAD and FSO to prevent delay of work because the training of QC inspectors is incomplete. J. Fisher indicated that several actions have recently been taken to improve communications in this area. QC/QA will attend the weekly subcontractors meetings and the weekly scheduling meeting. In addition, R. Oliver of MPQAD is providing a list which indicates the procedures for which there are no certified inspectors and a list of all PQCI's in preparation. Finally, other correspondence will be supplied to FSO which indicates that changes to PQCI's are necessary. These lists and the correspondence will be reviewed by FSO and used as required to keep MPQAD informed of upcoming work so that training can be done in a timely manner. (This item and Item 55-5 CLOSES ITEM 54-27)

Item 55-15 - Certification of Coupler Installer.

The Assessment Team questioned the sequence of events that led to the installation of Fox-Howlett couplers on piers E/W 14 by a non-certified craftsman. J. Fisher said the individual had performed the necessary qualification tests and had been approved by Bechtel for certification. However, the papers had not been properly forwarded to Mergentime or MPQAD for recording the test results. Therefore, QC wrote an NCR on the non-certified installer. J. Fisher said Bechtel will naturally determine what can be done to avoid this reoccurrence. (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
October 5, 1983

Present For:

<u>Consumers Power</u>	<u>Bechtel</u>	<u>MPQAD</u>	<u>Stone & Webster</u>
G. Murray	J. Fisher	None	A. Scott
J. Schaub	J. Gaydos		N. Cleveland
R. Wheeler	E. Cvikl		J. Allen
R. Wieland	D. Lavelle		J. Schierberg
	M. Blendy		S. Lucks
			W. Kilker
			<u>Parsons</u>
			J. Ratner

Purpose

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

Discussion

Item 55-16 - Underpinning and Soils Remedial Work Status.

W. Kilker introduced 3 members of the Assessment Team Senior Management Review group. This group is on-site to be updated on activities that have occurred since their last visit in February, 1983. J. Fisher presented an update on the underpinning and soil remedial work status. J. Darby presented a summary of the building instrumentation data including a discussion on upward building movement. (CLOSED ITEM)

Item 55-17 - Significance of NRC Control of Work Release.

N. Cleveland questioned if the NRC control of work releases has had significant impacts on the work progress. CPCo and Bechtel replied that to date the NRC has released enough work to generally keep the construction forces busy. (CLOSED ITEM)

Item 55-18 - Cathodic Protection Installation.

J. Fisher said the installation of additional cathodic protection holes has begun. W. Kilker indicated that the assessment team has reviewed the Work Activity Package on the installation within the Q soils area. (CLOSED ITEM)

Item 55-19 - FCR on KC Drift Invert.

A. Scott questioned the status of the outstanding FCR (written 9-29-83) on reinforcing steel in the drift. The FCR resolution is forthcoming however Mergentime has indicated that the grillage beam 2 mock-up may be lowered into the hole to evaluate the drift configuration for accessibility. The invert concrete placement will be held-up pending the "beam fit" results. (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
October 5, 1983

Item 55-20 - Standish Fabrication Shop Work Status.

J. Ratner asked if the work was stopped at the shop. D. Lavelle replied that over the weekend the work had been halted to resolve some problems with the welding specification. However, work had resumed on 10-3-83.
(CLOSED ITEM)

Item 55-21 - Drilling Stop Work Order Status.

J. Fisher reported that the Stop Work Order on the drilling has been lifted by MPQAD. Work resumes today on the various drilling operations.
(CLOSES OUT ITEM 54-24)

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

Held at Midland Site Location
Midland, Michigan
October 6, 1983

Present For:

<u>Consumers Power</u>	<u>Bechtel</u>	<u>MPQAD</u>	<u>Stone & Webster</u>
G. Murray	J. Fisher	G. Carpenter	A. Scott
J. Schaub	E. Cvikl		W. Kilker
	J. Gaydos		
			<u>Parsons</u>
			J. Ratner

Purpose

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

Discussion

Item 55-22 - West Access Shaft Level C Water Beam Seats.

A. Scott questioned why the recently installed beam seats were removed.
J. Fisher replied that FSO had originally proposed to disposition an NCR on an "as-is" basis but subsequently changed to a "rework" disposition.
J. Fisher will provide an explanation. (OPEN ITEM)

Item 55-23 - SWPS Baseline Instrumentation Data.

J. Schaub requested that Bechtel use the date of dewatering system activation (10-4-83) as the building monitoring baseline date. Any building movement associated with dewatering would then be included in the settlement data.
(CLOSED ITEM)

Item 55-24 - SWPS Exploratory Pits.

J. Fisher reported the request to install additional exploratory pits near the SWPS has been withdrawn (refer to Item 55-6). It appears unlikely that the utility installations will require any additional support. (CLOSED ITEM)

Item 55-25 - Phase II SWPS Work.

J. Ratner asked if the Phase II (re-bedding) work is tied into the Phase I work and if a contract has been placed to do that work. J. Fisher said there is no interface between the 2 phases of the work and that efforts to place a contract are underway. (CLOSED ITEM)

Item 55-26 - Re-structuring of Resident Engineering Group.

E. Cvikl reported that J. Darby, existing lead resident structural engineer, will confine his duties to building monitoring and procedures. An additional engineer from Bechtel will be assigned shortly to handle FCR and NCR issues.
(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
October 6, 1983

Item 55-27 - Status of US Testing.

In response to a question by J. Ratner, G. Murray said Field Engineering has recently completed an "audit-type report" on U.S. Testing. The report is available for the Assessment Team. (CLOSED ITEM)

Item 55-28 - SWPS Abandoned Well Exploratory Pit Status.

In response to a question by A. Scott, J. Fisher stated that SWP has prepared a drawing showing the proposed exploratory pit to evaluate the soil conditions in the vicinity of well 502 adjacent to the SWPS foundation wall. Upon approval of the drawing and fabrication of the pit lagging materials, the work will proceed. (CLOSED ITEM)

Item 55-29 - Turbine Building Mat Repair at Pier KC 3

J. Fisher stated the grout repair has been completed and the forms removed. Visual observations and soundings indicate that the void areas previously detected have been successfully repaired. Installation of the upper leveling plate may now proceed. (CLOSES OUT ITEM 55-3)

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

Held at Midland Site Location
Midland, Michigan
October 7, 1983

Present For:

<u>Consumers Power</u>	<u>Bechtel</u>	<u>MPQAD</u>	<u>Stone & Webster</u>
G. Murray	J. Fisher	G. Carpenter	A. Scott
R. Wieland	E. Cvikl		J. Springer
	J. Gaydos		
	M. Blendy		
			<u>Parsons</u>
			J. Ratner

Purpose

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

Discussion

Item 55-30 - West Access Shaft Level C Water Beam Seats.

J. Fisher stated that the NCR was changed to a rework condition because of tolerances that were existing on the water installation. Until the Level C water plates are installed for the connection on the Turbine Building and for the connection at the Buttress Access Shaft, the actual level required for the Beam Seats is indeterminate at this time and could possibly not be within the required tolerances. (CLOSSES ITEM 55-22)

Item 55-31 - Service Water Pump Structure Soldier Piles.

J. Fisher stated that installation of soldier piles was stopped due to problems encountered when installing Soldier Pile No. 16 . When drilling, a boulder was encountered and was pushed down leading to a question concerning the subgrade. Project Engineering is investigating. (OPEN ITEM)

Item 55-32 - Concrete Trucks.

R. Wieland questioned why the concrete trucks did not have the mixer drum turning when not discharging concrete. It was observed on the concrete placement of October 6, 1983 that one truck did not have the drum turning for approximately ten minutes. Mr. Wieland stated that Bechtel should direct the concrete supplier to maintain the drums turning to the extent possible. J. Gaydos will see that concrete truck drivers are instructed and taught that at all times their drums be revolving at idle speed when not discharging concrete. (CLOSED ITEM)

Item 55-33 - Removal of Concrete.

J. Ratner questioned whether or not the Contractor has investigated the procurement of equipment for the breaking and removal of concrete encountered during excavation. J. Fisher stated that the procurement of equipment is on the agenda of the management meeting today at Ann Arbor with the client. (CLOSED ITEM)



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

October 5, 1983

J. O. No. 14358
Ref. MPF 54

Attention: Mr. R. Cook

DOCKET NO. 50-339/330
MIDLAND PLANT UNITS 1 & 2
INDEPENDENT ASSESSMENT OF UNDERPINNING
REPORT NO. 54

A copy of the Independent Assessment of Underpinning Weekly Report No. 54 for the period of September 25, 1983 through October 1, 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/pd

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

Weekly Report No. 54

September 25, 1983 through October 1, 1983

Personnel on Site

Stone & Webster Michigan, Inc.

W. Kilker	9/25 - 9/27
B. Holsinger	9/26 - 9/30
P. Majeski	9/27 - 10/1
J. Springer	9/25 - 9/27
A. Scott	9/26 - 10/1
A. Lucks	9/27

Parson, Brinckerhoff Michigan, Inc.

P. Parish	9/27 - 9/30
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Meetings Attended

<u>Date</u>	<u>Represented</u>	<u>Purpose</u>
9/26 - 9/20	Stone & Webster Bechtel Consumers Power Parsons (9-27 to 9-30)	Daily Assessment Team Meeting
9/26	Bechtel Stone & Webster	Review of Weld Technique Sheets
9/28	Bechtel MPQAD Consumers Power Stone & Webster	Engineering and Construction Meeting
9/30	Bechtel MPQAD Mergentime Consumers Power Stone & Webster	Road Map Meeting Drifts and Excavation CT 1/12
9/30	Bechtel MPQAD Consumers Power Stone & Webster	Project Soils Meeting

Underpinning and Remedial Soils Activities - Construction

E 8 Grillage: The routine rejackng was completed and the load locked off.

Pier Kc 10: The initial load transfer was complete and the routine rejackng sequence was started.

Kc 11 - Kc 10 Drift: The reinforcing steel installation was complete and the embed installation is nearing completion.

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Units 1 & 2
Independent Assessment of Underpinning

Pier E14: Concrete was placed in the lower portion of the shaft.

Kc10 - Kc9 Drift : The drift has been advanced approximately 10 feet.

W 8 Grillage: The routine re-jacking was completed and the load locked off.

Pier Kc 3 : The removal of the previously placed defective grout patch on the turbine building slab was completed and the void was regouted.

Kc2 - Kc 3 Drift: The drift is nearing completion with only a few cubic yards of fill concrete left for removal.

Pier W 14 : Concrete was placed to a level above the embedments near the top of the pier.

UAT: Pressure grouting of the soils adjacent to the east and west UAT's was completed. Cutting of the opening in the steel wall of the UAT's, to allow access for drifting to CT 1/12, was started.

SWPS: The installation of the exterior wells and soldier piles is nearly complete. Work was temporarily halted because of a stop work order on all drilling and pile installation in Q areas. The stop work order is discussed below in more detail.

BWST: All outstanding NCR's have been closed. However, construction work is constrained until QC inspectors have completed training.

Yard Area: The investigation of the soils in the area of observation well OES 4 is continuing, but has been temporarily halted because of the stop work order on drilling.

Assessment Team Observation - Construction

Consumers Power and the Contractor have recognized a need to facilitate and improve communications between the various organizations which participate in the underpinning and remedial soils work. To this end, a human relations oriented seminar centered around " Team Building " and a supervisory level weekly meeting have recently been initiated. The participants in the seminar ranged from management through supervisory level.

The purpose of the " Team Building " seminar is to develop common understandings of the goals of the various organizations involved in the underpinning and remedial soils work.

The weekly meeting for the supervisory level personnel is an outgrowth of the " Team Building " seminar. It provides a forum for the discussion of inter-organizational problem areas and for development of solutions of managerial problems.

Although, on their own, these meetings will not necessarily have a direct impact on the construction nor the quality of the work, the Assessment Team believes that improved communications will reduce the impacts of unforeseen problems which have hampered work progress.

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 Midland Plant
 Units 1 & 2
 Independent Assessment of Underpinning

As a result of inadvertently drilling into a portion of the Auxiliary Building foundation wall during the installation of a piezometer, a Stop Work Order on all drilling and pile installation in Q areas was issued. This problem came about because the excavation permit procedure did not properly emphasize a review of structural drawings. The portion of the Auxiliary Building penetrated was an exterior beam which is an uncommon structural feature. The Contractor has taken corrective action by reviewing and revising the permit procedures with respect to the requirements for review of structural details. Previous problems with drilling were associated with locating underground utilities. In addition, a review of the active excavation permits will be made to assure that an adequate review of structural drawings has been made.

The Contractor has informed the Assessment Team that welding technique sheets will be prepared for all welds performed for the underpinning and remedial soils work. This approach will simplify the information required by the welders, supervisory personnel, and MPQAD. This approach should reduce the possibility of error in implementing the work.

The Assessment Team observed the Contractor place plasticized concrete for a temporary slab. Various amounts of plasticizer were introduced to determine the dosage that will eliminate the rapid loss of slump experienced during a previous placement. In the Team's opinion, test program successfully addressed the concern over plasticizer dosage.

In addition, Team members observed the installation of various soldier beams at the SWPS and concrete placement at pier W 14. These activities were performed in accordance with the dictates of the project documents.

Assessment Team Observations - QA/QC

The Inspection Reports (IR's) for the E8 grillage beam installation (a total of 10 I.R.'s) were reviewed to determine if activities affecting quality are being sufficiently documented. The review was conducted by comparing I.R. sign-offs to the corresponding PQCI attribute and the technical requirements. The IR's were reviewed for completeness with respect to inspection documentation, type of inspection, action taken because of any deficiencies, and the identification of inspector (s). All items were found to be satisfactory.

Nonconformance Identification Reports

<u>NIR No.</u>	<u>Description</u>	<u>Date</u>
		(Opened) (Closed)
14	Nut Procurement	8/11/83
15	MPQAD Supervisor Certification	9/19/83

A response to NIR 15 on the certification requirements for supervisors of QC inspectors was received by the Assessment Team. The response was unsatisfactory and discussed with the QA Section Head. Pending resolution of the NIR, MPQAD has taken appropriate interim action by redirecting technical questions to certified personnel.

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

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>Description</u>	<u>Closure</u>
45-8Q	Discussion on Mechanism of Identifying Quality Concerns	Open
48-8Q	Structural Backfill PQCI Adequacy	Open
W.R.51, pg.4	Control Document Evaluation	Open
52-4Q	MPQAD Independent Welding Inspection Review	Open
52-22	Reschedule Work on BWST	54-15
53-26	SWPS Lagging Installation Tolerance	54-22
53-27	Fly Ash Grout Placement	54-16
54-24	Inadvertent Drilling of Auxiliary Building Strongback	Open
54-27	BWST Status	Open

WE Kilber
 Project Engineer

ASL
 Project Manager

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

Held at Midland Site Location
Midland, Michigan
September 26, 1983

Present For:

<u>Consumers Power</u>	<u>Bechtel</u>	<u>MPQAD</u>	<u>Stone & Webster</u>
G. Murray	J. Fisher E. Cvikl	J. Moran	W. Kilker J. Springer
			<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 54-1 : Load Transfer at E8 Grillages.

J. Fisher said that FSO has requested interpretation by Project Engineering of the design intent of certain of the optional load steps. Present status is rejack of the grillage at the "lift-off" load which was 130 percent of the specified load. Upward movement of the EPA is at 90 mils. (CLOSED ITEM)

Item 54-2 : Pier Kc-10 Load Transfer Status.

J. Fisher reported that the status of the load transfer now depends upon the direction given by Project Engineering on the requirements to complete the E8 grillage load transfer. (CLOSED ITEM)

Item 54-3 : UAT Grouting Status.

J. Fisher reported that the East UAT grouting is complete and the West should be done today. The direct-hire group will now return to complete the platform work. (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 27, 1983

Present For:

<u>Consumers Power</u>	<u>Bechtel</u>	<u>MPQAD</u>	<u>Stone & Webster</u>
A. Blocker	J. Fisher J. Gaydos	R. Sevo	W. Kilker J. Springer A. Scott
			<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 54-4 - SWPS Phase I Excavation Status.

J. Fisher reported the excavation is virtually ready to proceed pending approval of the Work Activity Package by the NRC. (CLOSED ITEM)

Item 54-5 - Pier E/W 14 Status.

J. Gaydos said the concrete pour for W14 is scheduled for 9/28 and E14 is scheduled for 9/29. (CLOSED ITEM)

Item 54-6 - Removal of Yard Area 36" Diameter Casings.

J. Fisher said the drill rig to support this removal activity will be on-site 10/3. (CLOSED ITEM)

Item 54-7 - BWST NCR Status.

All outstanding items should be resolved today. Training will proceed and work re-scheduled to start later this week. (CLOSED ITEM)

Item 54-8 - Reinforcing Detail at Kc Drift Invert.

J. Springer questioned the installation of an embedded channel in a portion of the slab that is unreinforced. E. Cvikel will respond. (OPEN ITEM)

Item 54-9 - Grout Installation at Pier Kc3 Turbine Mat Location.

A. Scott asked how the Contractor intends to change the grout repair procedure over the turbine mat slab area at pier Kc3. J. Fisher said the grout supplier was on-site and has recommended certain changes be initiated such as improving the adhesion, avoiding early form stripping and firming-up the form support. The Subcontractor will likely install anchors to improve the bonding. A. Scott said the modification appeared proper but noted that consideration still should be given to insuring that air is allowed to escape during grouting. J. Fisher supplied a copy of the supplier's recommendation. (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 28, 1983

Present For:

<u>Consumers Power</u>	<u>Bechtel</u>	<u>MPQAD</u>	<u>Stone & Webster</u>
G. Murray	J. Fisher J. Gaydos E. Cvikl	A. Johnson	A. Scott P. Majeski
			<u>Parsons</u>
			P. Parish

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 54-10 - E8 Grillage Load Transfer Status.

Rate of pier settlement met criteria, pier locked off. (CLOSED ITEM)

Item 54-11 - Pier E/W14 Status.

Concrete is scheduled to be placed in Pier W14 today and in Pier E14 tomorrow. It is planned to place concrete in two separate pours in each pier. (CLOSED ITEM)

Item 54-12 - Pier Kc-10 Load Transfer Status.

Load transfer to pier Kc-10 is scheduled for today. (CLOSED ITEM)

Item 54-13 - 36 Inch Diameter Casing Extraction.

There was a discussion about the loss of ground adjacent to the pit (supported by lagging) at one of the locations of the 36 inch diameter casing. It was concluded that this loss of ground is not a concern since the area will be excavated and backfilled and compacted in the future. (CLOSE ITEM)

Item 54-14 - Seal Between SWPS & CWIS.

J. Fisher indicated that engineering has determined that the seal is ok, allowing dewatering to proceed when necessary. However, the protection for the seal is to be replaced. (CLOSED ITEM)

Item 54-15 - Reschedule Work on BWST.

The Assessment Team was provided with a revised schedule to complete work at BWST. (CLOSES ITEM 52-22)

Item 54-16 - Fly Ash Grout Placement.

John Gaydos advised that instructions for placement of lean flyash, which reference SCP 9.000, Concrete Placement Procedure, will be deleted from SCP 3.000, Excavation and Support of Excavation. Some revisions to SCP 3.000 will also be required to include all the necessary lean flyash placement instructions within this one procedure. (CLOSES ITEM 53-27)

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

Held at Midland Site Location
Midland, Michigan
September 28, 1983

Item 54-17 - NCR on Embed at E-14.

In response to a question by P. Majeski, J. Fisher indicated that a portion of the embed required dismantling and refabrication in the field in order to permit installation. QC wrote an NCR because a fabrication request was not written. FSO's interpretation of the procedures is that fabrication requests are only required for shop fabrication. Engineering has been asked to clarify this situation to prevent future reoccurrences. All refabrication work was inspected and accepted. (CLOSED ITEM)

Item 54-18 - Inadvertant Drilling of Auxiliary Building Strongback.

J. Fisher advised that during the installation of Piezometer BB1, the strongback on the Auxiliary Building was inadvertently penetrated with the drill. (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 29, 1983

Present For:

<u>Consumers Power</u>	<u>Bechtel</u>	<u>MPQAD</u>	<u>Stone & Webster</u>
G. Murray	J. Fisher D. Lavelle* E. Cvikl	R. Sevo	A. Scott P. Majeski <u>Parsons</u> P. Parish

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 54-19-Drift Between Piers Kc-10 to Kc-9.

The drift between piers Kc-10 and Kc-9 has been started. (CLOSED ITEM)

Item 54-20 - Pier Kc-10 Load Transfer.

Pier Kc-10 was loaded yesterday. The proof load test was met and the load is being held constant on active jacks to meet the rate criteria. (CLOSED ITEM)

Item 54-21 - BWST Status.

All NCR's written on work associated with the BWST were closed out yesterday and training of personnel is complete. Work has started today. (CLOSED ITEM)

Item 54-22 - SWPS Lagging Installation Tolerance.

In response to a V. Madill question, E. Cvikl indicated that the bell support drawing will be revised significantly. It is anticipated that grouting will be performed prior to setting lagging and it is likely that allowable tolerances will be increased. (CLOSES ITEM 53-26)

Item 54-23 - Reinforcing Detail at Kc Drift Invert.

In response to J. Springer's question, E. Cvikl indicated that the channel section has angles attached to provide horizontal restraint to the support frame. Since the angles are not welded to the frame, the load goes into the diagonal member and not the invert slab which could have otherwise cracked. (CLOSES ITEM 54-8)

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

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

Item 54-24 - Inadvertent Drilling of Auxiliary Building Strongback.

Because of the inadvertent drilling into the Auxiliary Building strongback during installation of piezometer BB1, an investigation was undertaken by FSO/MPQAD to determine the cause. It was discovered that the list of applicable structural drawings, used during review of the excavation permits, was insufficient. A stop work order was issued until a thorough investigation could be made and remedial actions undertaken. The excavation permit procedure is to be evaluated and revised and appropriate retraining accomplished. All active excavation permits will be reviewed to determine if any oversights exist. This work, and the required approvals, are expected to be completed by October 10. (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
September 30, 1983

Present For:

<u>Consumers Power</u>	<u>Bechtel</u>	<u>MPQAD</u>	<u>Stone & Webster</u>
G. Murray	J. Fisher E. Cviki J. Gaydos	R. Sevo	A. Scott P. Majeski
			<u>Parsons</u>
			P. Parish *

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 54-25 - UAT Status.

All grouting and platform work completed on East and West UAT's. (CLOSED ITEM)

Item 54-26 - Pier E/W 14 Status.

The first concrete pour at Pier E 14 was made on 9/19. However, because of a temperature problem with the concrete, the pour was not completed to the planned construction joint. It is likely that the pier will be completed in two additional pours. The first to the originally planned elevation of the construction joint. The second to completion.

The first concrete pour for W 14 will be made today. (CLOSED ITEM)

Item 54-27 - BWST Status.

Work is restrained at the BWST because MPQAD inspectors have not been certified to perform some inspections . R. Sevo is to determine the reason why MPQAD does not yet have certified inspectors for this work, considering that ample time was apparently available during the delays in this area in the past months. (OPEN ITEM)

Item 54-28 - Pier KC-3 Load Transfer.

P. Parish asked if any special measures are being taken because the top portion of Pier KC - 3 is within the fill concrete. E. Cviki responded that the pier is isolated from the fill concrete. P. Parish acknowledged this, but commented that he believed that the load transfer to this pier will likely cause less building movement than previous piers. (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 30, 1983

Item 54-29 - Extensometer EX 2 Malfunction.

E. Cvikl indicated that Extensometer EX 2 malfunctioned on 9/29. Checks on nearby instrumentation indicated that no significant structural movements were occurring. The fact that extensometer EX 2 was providing unrealistic data is indicative of the malfunction. (CLOSED ITEM)



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 27, 1983

J. O. No. 14358
Ref. MPF 53

Attention: Mr. R. Cook

DOCKET NO. 50-339/330
MIDLAND PLANT UNITS 1 & 2
INDEPENDENT ASSESSMENT OF UNDERPINNING
REPORT NO. 53

A copy of the Independent Assessment of Underpinning Weekly Report No. 53 for the period of September 18, 1983 through September 24, 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/pd

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

Weekly Report No. 53

September 18, 1983 through September 24, 1983

Personnel on Site

Stone & Webster Michigan, Inc.

W. Kilker	9/20 - 9/24
B. Holsinger	9/18 - 9/20
P. Majeski	9/18 - 9/20
J. Springer	9/18 - 9/24

Parsons, Brinckerhoff Michigan, Inc.

V. Madill	9/19 - 9/22
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Meetings Attended

<u>Date</u>	<u>Represented</u>	<u>Purpose</u>
9/19 - 9/23	Stone & Webster Bechtel Consumers Power Parsons	Daily Assessment Team Meeting
9/19	Bechtel Consumers Power Stone & Webster	Soils Remedial Team Building
9/19 and 9/21	Consumers Power Bechtel Mergentime Stone & Webster	Quality Inspection Point Review
9/20	Stone & Webster MPQAD	Weekly Assessment Team Meeting with MPQAD
9/20	Bechtel Stone & Webster	Review of Weld Technique Sheets
9/22	NRC Stone & Webster Bechtel Consumers Power Mergentime	Discussion of Allowable Upward Movements During Load Transfer
9/23	Bechtel Consumers Power Stone & Webster	Weekly Soils Review

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

Underpinning and Remedial Soils Activities - Construction

E8 Grillage: The load transfer was initiated on 9/20. The 24 hour deflection acceptance criteria was satisfied on 9/24 but pier movement shortly thereafter required that re-jacking be initiated.

Pier Kc10: No additional work was performed. Load transfer is delayed pending completion of the E8 load transfer and 3 day re-jacking.

Pier Kc9-Kc10 Drift Invert: The invert reinforcing steel was installed in this drift area.

Pier E14: The pier was excavated and lagged full depth to El 565. No groundwater entered the excavation.

W8 Grillage: The load transfer commenced on 9/18. On 9/23 instrumentation readings indicated the 24-hour deflection acceptance criteria was satisfied allowing the 3-day re-jacking period to commence.

Pier Kc3: The grout patch of the turbine building slab over the pier area was repaired after soundings indicated the presence of a void zone. Subsequently the grout repair developed cracks so further repair work is required.

Pier Kc2 - Kc3 drift: The drift was advanced through concrete fill to within a few feet of completion.

Pier W14: The pier was excavated and lagged full depth to El 565. Minor groundwater seepage entered the excavation through the upper fill soils.

UAT: Pressure grouting of the soils adjacent to the west and east UATs continued and is nearing completion. Backfill concrete was encountered in several of the grout hole probes.

SWPS: Exterior well and soldier beam installation continued. The train A service waterline was backfilled allowing access to install several additional soldier beams and dewatering wells.

BWST: Resolution of all outstanding NCRs has not been completed. No additional foundation work was performed.

Yard Area: Project Engineering initiated an investigation to evaluate the condition of the soils in the vicinity of the partially completed observation well, OBS 4, near the NE corner of the Diesel Generator Building.

Assessment Team Observation - Construction

The load transfer of the E/W8 grillage installations was accomplished in accordance with the requirements of the project documents. Throughout the effort, teamwork was apparent between the various supervisors, organizations and craft personnel. The role of each responsible individual was well defined and well known. In particular, FSO has continued to take prudent and effective action when upward structural movements met or exceeded the established notification levels. When required, additional data was obtained to supply to Engineering. EPA upward movement on both the East and West sides has exceeded the initial 30 mil notification limit. Project Engineering has determined that the upward movements observed (60mils - 90mils) are not detrimental to the EPA structures.

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

The FIVP also moved upward during the EPA grillage loading. The Contractor carefully checked the support system and made any required adjustments to maintain the correct load in the system.

The excavation and support of piers E/W14 progressed according to the design documents. Soils conditions were excellent in both pier locations with only minor groundwater seepage at one of the piers. Lagging spacing was sufficient to insure good backpacking.

The UAT grouting operation is achieving apparent success. The grout take has been quite high at a number of the holes. The Subcontractor personnel, the Field Engineers and Resident Geotechnical Engineers were knowledgeable of the procedures and their respective responsibilities. After completion of a portion of the effort, the Contractor and grouting specialists met to review the program and make any adjustments to improve coverage.

Assessment Team Observations - QA/QC

1. The certification of 4 Q.C. supervisors were reviewed for compliance to project procedures. Three of the supervisors met the procedural certification requirements but one supervisor's certification was judged by the Assessment Team to be inadequate resulting in NIR # 15.
2. A surveillance was made of QA/QC for compliance to the key attributes in the PQCI for load transfer of the W8 grillage. In the Team's opinion, all attributes were properly inspected during the course of the load transfer operation.
3. Observations were made on the Engineering use of the cone penetrometer to evaluate the soil conditions surrounding OBS 4 near the NE corner of the Diesel Generator Building. In the Team's opinion, the Contractor followed the established site permitting procedures, QA properly verified the equipment calibration records, and the intent of the specification was being met.
4. Several of the operations were observed that are involved in soil stabilizing by grouting the zones around the UAT. The Assessment Team observations indicated the inspection attributes were being properly inspected. In a particular case, the QC inspector displayed a "team attitude" in expediting the opening of an Inspection Report so that regrouting of certain holes could proceed without delay.
5. Observations were made by the Assessment Team of the effort underway to review the Quality inspection points used by the MPQAD personnel. The effort will include an evaluation of the specification and procedure requirements for a particular activity as well as an evaluation of the corresponding PQCI. The Assessment Team feels the effort, as planned, is an excellent method of evaluating the adequacy of presently defined Quality Inspection Points and identifying needed changes.

Nonconformance Identification Reports

<u>NIR No.</u>	<u>Description</u>	<u>Date</u>	
		(Opened)	(Closed)
14	Nut Procurement	8/11/83	
15	MPQAD Supervisor Certification	9/19/83	

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

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>Description</u>	<u>Closure</u>
45-8Q	Discussion on Mechanism of Identifying Quality Concerns	Open
48-8Q	Structural Backfill PQCI Adequacy	Open
51-13	Request for Clarification of the Drainage Detail for SWPS Lagging	52-14
W.R. 51, pg. 4	Control Document Evaluation	Open
52-4Q	MPQAD Independent Welding Inspection Review	Open
52-22	Reschedule Work on BWST	Open
52-26	Signoff for Lead Design Organization on NCR's.	53-7
53-26	SWPS Lagging Installation Tolerance	Open
53-27	Fly Ash Grout Placement	Open

WE Kilker
 Project Engineer

Alfred
 Project Manager

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

Held at Midland Site Location
Midland, Michigan
September 19, 1983

Present For:

<u>Consumers Power</u>	<u>Bechtel</u>	<u>MPQAD</u>	<u>Stone & Webster</u>
G. Murray	J. Fisher	R. Sevo	P. Majeski
R. Wieland	J. Gaydos		B. Holsinger
	E. Cvikl		J. Springer
	M. Blendy		
	D. Lavelle		<u>Parsons</u>
	J. Nation		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 53-1 - UAT Status Update.

Grouting is scheduled for completion on east side during mid-week and on the west side by the end of the week. (CLOSED ITEM)

Item 53-2 - W8 Grillage Load Transfer Status.

The W8 grillage load transfer is currently at 120% of specified load and 40 mils upward movement of the EPA (the maximum allowable movement, based upon a Modified AUM determined by engineering), This load is on hold and the next step is being determined by the FSO organization. (CLOSED ITEM)

Item 53-3 - E8 Grillage Load Transfer Status.

The E8 jacks beneath the turbine building only are scheduled for re-activation this evening. The grillage loading is planned for 9-20. (CLOSED ITEM)

Item 53-4 - Drilling of Piezometer BB1.

The drilling of piezometer BB1 will begin today. (CLOSED ITEM)

Item 53-5 - Hydrotest at Train A Service Waterline

The hydro test of Train A was completed on 9-18. (CLOSED ITEM)

Item 53-6 - Incorrect Washer NCR, W8 Grillage.

In response to a question raised by P. Majeski over the weekend, D. Lavelle indicated that the incorrect washer installation at W8 grillage was probably a result of an oversight on the part of the field personnel, resulting from their concentration on a difficult bolt torquing problem. (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 19, 1983

Item 53-7 - Signoff for Lead Design Organization on NCR's.

P. Majeski acknowledged receipt of memoranda delegating signature authority.
(CLOSES ITEM 52-26)

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

Held at Midland Site Location
Midland, Michigan
September 20, 1983

Present For:

<u>Consumers Power</u>	<u>Bechtel</u>	<u>MPQAD</u>	<u>Stone & Webster</u>
R. Wieland	J. Fisher J. Gaydos	R. Sevo	P. Majeski
			<u>Parsons</u> V. Madill

Purpose

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

Discussion

Item 53-8 - W8 Grillage Load Transfer Status.

J. Fisher reported the load has been increased to 125 percent of specified load. The upward movement of the EPA is currently at 44 mils. (CLOSED ITEM)

Item 53-9 - E8 Grillage Load Transfer Status.

J. Fisher said the jacks beneath the turbine building were activated last night. Lift-off occurred at 107 percent of specified load, which was within the acceptable range. (CLOSED ITEM)

Item 53-10 - Status of E/W14 Pier Excavation.

Excavation of pier E/W14 is underway. (CLOSED ITEM)

Item 53-11 - SWPS Status Update.

The installation of dewatering wells and soldier piles is scheduled for completion tomorrow. Backfill with lean flyash around Train A pipelines will commence today. (CLOSED ITEM)

Item 53-12 - Status of Drill Damaged Concrete Pipe near SWPS.

V. Madill questioned the status of the plans to repair the 48 inch diameter concrete pipe damaged this summer during a well installation. J. Fisher said the repair plan is under review by Bechtel and includes a sheeted pit to expose the damaged section. (CLOSED ITEM)

Item 53-13 - Status of Circulating/Service Water Structure Damaged Seal.

V. Madill requested a status of the damaged seal between the front of the service water and circulating water structure. J. Fisher said a diver had filmed the joint and repair plans are underway. (CLOSED ITEM)

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

Held at Midland Site Location
Midland, Michigan
September 20, 1983

Item 53-14 - Lagging Tolerance Within Bell Area of SWPS Piers.

V. Madill asked if the tolerance limits on the bell area lagging will be difficult to maintain especially when jack spreading of the sets is required. J. Fisher will respond. (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
September 21, 1983

Present For:

<u>Consumers Power</u>	<u>Bechtel</u>	<u>MPQAD</u>	<u>Stone & Webster</u>
R. Wieland	J. Fisher J. Gaydos E. Cvikl P. Vanderveer	R. Sevo	J. Springer W. Kilker <u>Parsons</u> V. Madill

Purpose

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

Discussion

Item 53-15 - Status of E8 Grillage Load Transfer.

J. Fisher reported that load transfer to the EPA jacks was initiated on 9-20. The allowable upward movement level was attained and load is presently being held at 110% of specified load. (CLOSED ITEM)

Item 53-16 - Status of NCRs on BWST.

P. Vanderveer reported that 5 NCRs remain open but only one, on cut reinforcing bars, is affecting the work. Resolution on the open NCRs is expected shortly. (CLOSED ITEM)

Item 53-17 - Filling of 36 Inch Diameter Cans.

J. Fisher stated plans are being developed to fill the 2-36 inch diameter holes approximately 40 feet deep that were utilized during the freezeway installation. (CLOSED ITEM)

Item 53-18 - Engineering Evaluation of Soil Adjacent to Observation Well Near the Corner of Diesel Generator Building.

E. Cvikl said that Engineering will be utilizing the cone penetrometer device to evaluate the soil conditions around the observation well hole where there had been a soil collapse during installation in 1982. A separate specification has been prepared to define this work. (CLOSED ITEM)

Item 53-19 - Quality Action Point Review.

W. Kilker inquired as to the status of the earlier proposal to review the number of action points required in the underpinning work. E. Cvikl said a committee of personnel from MPQAD, Engineering, FSO, SMO and Mergentime has met and selected the anchor installation procedure as an evaluation test case. Within a few weeks the results on this procedure will be finished and a decision will be made on the usefulness of this endeavor. (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 22, 1983

Present For:

<u>Consumers Power</u>	<u>Bechtel</u>	<u>MPQAD</u>	<u>Stone & Webster</u>
G. Murray	J. Fisher	J. Moran	W. Kilker
	J. Gaydos		J. Springer
	E. Cvikl		
	P. VanderVeer*		<u>Parsons</u>
	D. Lavalle		V. Madill

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 53-20 - Grillage Load Transfer Status.

J. Fisher reported that on the W8 grillage the load is at 125 percent of specified load and the 24 hour deflection criteria is expected to be satisfied shortly. The E8 grillage load is now up to 125 percent of specified load with an EPA upward deflection of 65 mils due to the load transfer. E. Cvikl stated Project Engineering is fully aware of the load/deflection status and is providing input. (CLOSED ITEM)

Item 53-21 - Status of Near term Work.

J. Fisher reported that upon completion of E/W14 piers the Mergentime crew will complete the filling of the 2-36 inch diameter holes put in during the freeze wall installation. Then the crew will return to install piers E/W13. (CLOSED ITEM)

Item 53-22 - AUM Criteria.

W. Kilker asked what the significance of attaining the 125 percent of specified load is, particularly in light of having to revise upward the AUM (allowable upward movement) periodically as the load was increased. E. Cvikl and D. Lavelle replied that Engineering considers attaining 125 percent of the specified load important to substantiate design basis parameters. Also, upward movements to date (on the order of 60 mils maximum) are not considered detrimental to the structure and the stress/strain indicator on the structure have not shown any significant stress change as a result of the loadings. (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 23, 1983

Present For:

<u>Consumers Power</u>	<u>Bechtel</u>	<u>MPQAD</u>	<u>Stone & Webster</u>
G. Murray	J. Fisher E. Cvikl P. Vanderveer J. Gaydos	R. Sevo	W. Kilker J. Springer <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 53-23: BWST NCR Status.

P. Vanderveer reported that NCR resolution is complete except for field fabrication of reinforcing dowels. Sign-off and training to this procedure is required. (CLOSED ITEM)

Item 53-24: E/W8 Grillage Load Transfer Status.

J. Fisher & E. Cvikl stated that the pier deflection criteria for 24 hours should be satisfied shortly to allow wedging-off the load. Upward movement of the EPAs has been approximately 60 mils and 70 mils for the W8 and E8 units, respectively. G. Murray said 70 mils is approximately the value that the NRC understands to be the upward limit. (CLOSED ITEM)

Item 53-25: Revision to Soil Backfill Specification.

E. Cvikl said the SCN containing clarifications to Assessment Team comments has been signed-off. (Reference Items 49-6, 50-4 and 50-29.) (CLOSED ITEM)

Item 53-26: SWPS Pier Bell Lagging Installation Tolerance.

In response at an earlier Team question (Item 53-14), J. Fisher said the $\pm \frac{1}{2}$ inch tolerance limit for the non-spread lagging sets is considered by the Contractor to be attainable. However, discussions are continuing on the feasibility of attaining a $\pm \frac{1}{2}$ inch limit on the spreader sets. (CLOSES OUT ITEM 53-14) (OPEN ITEM)

Item 53-27: Lean FlyAsh Grout Placement for SWPS Soldier Piles.

J. Springer said the SWP procedures do not appear to reference flyash grout placement. J. Gaydos will investigate. (OPEN ITEM)

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

Held at Midland Site Location
Midland, Michigan
September 20, 1983

Present For:

Stone & Webster

B. Holsinger
P. Majeski

MPQAD

J. Meisenheimer
D. Horn
R. Oliver
M. DeWitt

Purpose

This meeting is held to obtain and discuss information relative to Q.A. activities for soils underpinning work at the Midland Plant Units 1 & 2.

Item 53-1Q - Status of NIR # 14.

J. Meisenheimer reported that corrective action was taken but that the NIR disposition is being held pending determination of any root cause.
(CLOSED ITEM)

Item 53-2Q - Status of NIR # 15.

MPQAD is evaluating the nonconformance. (CLOSED ITEM)

Item 53-3Q - Status of Mechanism of Identifying Quality Concerns.

A draft procedure has been prepared for a "steering committee" review. MPQAD will update progress. (CLOSED ITEM. ITEM 45-8Q REMAINS OPEN)

Item 53-4Q - Status of PQCI For Structural Backfill.

The Assessment Team indicated that the draft of the reissued PQCI did not fully address the original comments. Additional comments were given to MPQAD for response. (CLOSED ITEM. ITEM 48-4Q REMAINS OPEN)



STONE & WEBSTER MICHIGAN, INC.

P.O. Box 2325, BOSTON, MASSACHUSETTS 02107

PRINCIPAL STAFF	
RA	ENF
D/RA	SCS
A/RA	FAO
DRPP	SLO
DRMA	RC
DRMS	
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OL	FILE

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

September 14, 1983
 J. O. No. 14358
 Ref. MPF 51

Attention Mr. R. Cook

DOCKET NO. 50-339/330
 MIDLAND PLANT UNITS 1 & 2
 INDEPENDENT ASSESSMENT OF UNDERPINNING
 REPORT NO. 51

A copy of the Independent Assessment of Underpinning Weekly Report No. 51 for the period of September 3, 1983 through September 10, 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

A. S. Lucks by WER

Enclosures
 ASL:pd

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

Weekly Report No. 51

September 4, 1983 through September 10, 1983

Personnel on Site

Stone & Webster Michigan, Inc.

A. Scott	9/7 - 9/10
A. Lucks	9/8 - 9/9
W. Kilker	9/9 - 9/10

Parsons, Brinckerhoff Michigan, Inc.

V. Madill	9/6 - 9/10
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Meetings Attended

<u>Date</u>	<u>Represented</u>	<u>Purpose</u>
9/7 - 9/8	Stone & Webster Bechtel Consumers Power Parsons	Daily Meetings
9/8	Stone & Webster Bechtel Consumers Power	Weekly Project Soils Meeting
9/7	Stone & Webster Consumers Power (Held at S&W in Boston, Ma.)	Assessment Status Update

Underpinning and Remedial Soils Activities

E/W Grillages : The installation of beam bracing continued and the strain gages on the containment mat columns were installed.

Pier KC10: The lower leveling plate was installed and grouted.

Piers KC10-11 Drift: The drift excavation was advanced approximately 6 ft. in clay fill from KC11 toward KC10.

Piers E/W10: The load transfer from active jacks to wedges was done on August 30, when it was determined that adequate engineering data had been obtained.

East/West Access Shafts: Access pits were excavated and supported north of piers E/W12 to allow drifting to piers E/W14.

Piers E/W14 Drift: The drift excavations were initiated. Considerable concrete fill was encountered in the W14 drift.

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

Pier KC3: The patching of the turbine building mat with grout above the pier was accomplished.

Piers KC2-3 Drift: The drift was advanced approximately 4 ft. from the vicinity of pier KC2 toward KC3. The extent of fill concrete encountered increased in the direction of KC3.

UAT: Re-inspection of the welds is underway on the pipe stiffener platform of the UATs. Mobilization of the equipment required to grout the zone immediately surrounding the pipe was underway.

SWPS: Installation of the header system on the interior wells of the SWPS/CWPS is nearing completion. Exterior well and soldier beam installation continued.

BWST: Activities restricted to bolt grouting by the need to resolve numerous outstanding NCRs on reinforcing steel and shear connectors.

Assessment Team Observations - Construction

Activities on the auxiliary building underpinning were limited to the welding of grillage beam bracing, minor repair grouting, advancement of KC pier drifts, access pit excavations to piers E/W 13-14, and UAT stiffener/platform welding. The Team's assessment of the excavation, support, welding and grouting activities is that the work is being accomplished in accordance with the design intent and good industry practice.

During the course of excavating the access pit and drift to piers E/W 13-14, previously buried portions of piers E/W12 were exposed. Observations made during this excavation and inspection of the exposed pier lagging confirmed that the backpacking of these areas was thorough.

The work progress on the BWST foundations has been curtailed by the lack of resolution on both shear connector and reinforcing steel NCRs. Some of these NCRs have been outstanding for more than 2 months. The Assessment Team feels these items should be resolved so that the exterior concreting work and backfilling can be accomplished within the established schedule and prior to the onset of winter weather.

As a part of the Assessment Team evaluation of the processing of project control documents such as Field Change Requests and Non-conformance Reports, we observed that the Project Engineering approval was frequently delayed well beyond the time the actual "item" was put into service. The Assessment Team feels FCR documents should receive final approval more promptly than has been the case to date.

Assessment Team Observations - QA/QC

1. The Assessment Team witnessed the QC inspection of the grout installation at one of the SWPS soldier beam locations. The QC inspector properly verified and documented the PQCI attributes.
2. A review was made on the qualifications of the MPQAD supervisory personnel who approve PQCI's. In some instances, it was noted that these supervisory personnel, while qualified, are not certified to the appropriate level of capability described in, Regulatory Guide 1.58, Position C.5. The Assessment Team determined that CPCo has taken exceptions to position C.5 in their Policy No.2

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

of the " Quality Assurance Program Manual for Nuclear Plants, Volume 1, Policies" as accepted by the NRC. Therefore, approval of inspection is in compliance with the Quality Assurance Program and procedures.

Work Activities Packages

The two action items on WAP-54 (Piers KC 4 & 9) have been resolved to the Team's satisfaction.

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>Description</u>	<u>Closure</u>
Reference 45-8Q	Discussion on Mechanism of Identifying Quality Concerns.	Open
48-4Q	Structural Backfill PQCI Adequacy	Open
49-8	Impact on Welding - Nonconformance on E/W8 Grillage Installation	Open
50-2	Curing Compound on BWST	51-2
50-15	Concrete Spacers	Open
50-16	Soldier Pile Information	51-15
50-17	Background Engineering Information	51-15
50-18	Concrete Information Package	51-15
50-24	Need for Additional Welding Qualifications (See Item 49-8)	Open
W.R. 50.pg.2	Review of MPQAD Certification	Open

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

<u>Item No.</u>	<u>Description</u>	<u>Closure</u>
51-12	Method of SWPS Bell Support	Open
51-13	Request for Clarification of the Drainage Detail for SWPS Lagging	Open
W.R. 51,pg.4*	Control Document Evaluation	Open

*The Assessment Team has recently completed an evaluation of the implementation of the Soils Organization's control documents such as FCRs and NCRs. The conclusions of this assessment will appear in a future weekly report.

W. E. Keller
 Project Engineer

A. S. Daniels WER
 Project Manager

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

Held at Midland Site Location
Midland, Michigan
September 5, 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 6, 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 7, 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 E. Smith M. Blendy	R. Sevo	A. B. Scott <u>Parsons</u> V. Madill

Purpose

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

Discussion

Item 51-1 - Piezometer B1 and B2 in Auxiliary Building.

J. Fisher stated that work can now restart for coring piezometer B2 as a FCR has been approved to cut rebar. Until a power outage is made which is now scheduled on 9/10/83, no work on coring for piezometer B1 can be started as a conduit is in the way. (CLOSED ITEM)

Item 51-2 - Removal of Curing Compound at the BWST.

E. Cvikl stated that the curing compound used on grouting will be removed by sand blasting. (CLOSES OUT ITEM 50-2)

Item 51-3 - Requested Information.

The request for as-built field location and plumbness of soldier piles installed to date and concrete pour data from Pier KC10 made by P. Parish will be forthcoming today. (OPEN ITEM)

Item 51-4 - Closing of NCR's.

A. Scott requested that the NCR's be reviewed and a more timely closing of them be made. The NCR's on concrete slump and on chipping of structural concrete were two examples given for review. (CLOSED ITEM)

Item 51-5 - Clarification of Structural Backfill Specification Requirements.

E. Cvikl reported that the section 8.3.3 of the Specification C-211 has been revised. (CLOSED ITEM)

Item 51-6 - Spacers for Steel Lagging for Spencer White and Prentis.

V. Madill questioned what provision was being made to attach spacers where spacing required may be less than 2" and where ethafoam is substituted. (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
September 7, 1983

Item 51-7 - Status of Soldier Beam Fabrication for Service Water Pump
Structure.

V. Madill asked when the Soldier Beams will be available. J. Fisher stated that due to multi-pass welding changes on five Soldier Beams at the Standish Yard the commitment date for supplying the beams has not been met. (OPEN ITEM)

Item 51-8 - Status of Materials Storage Procedure.

V. Madill asked about the status of SCP 20,000, Section 7.2.2 regarding the storage and handling of materials. (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
September 8, 1983

Present For:

<u>Consumers Power</u>	<u>Bechtel</u>	<u>MPQAD</u>	<u>Stone & Webster</u>
G. Murray	J. Fisher E. Cvikl J. Kelleher	G. Carpenter	A. Scott S. Lucks
			<u>Parsons</u>
			V. Madill

Purpose

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

Discussion

Item 51-9 - Status of Welding in UAT.

J. Fisher stated that the weld rework in the West UAT was completed and that the weld rework in the East UAT would be ready for inspection on 9/9/83. (CLOSED ITEM)

Item 51-10 - Status of Materials Storage Procedure.

J. Fisher reported that SCP 20.000 had been revised for clarity of Section 7.2.2 and provided an advance copy of Section 7.2.2. (CLOSES OUT ITEM 51-8)

Item 51-11 - Spacers for Steel Lagging for Spencer White and Prentis.

J. Fisher reported that the spacers, 2" tubular steel or less than 2" Ethafoam, would be strapped to the lagging. (CLOSES OUT ITEM 51-6)

Item 51-12 - Support of Steel Lagging in SWPS Bell Area.

V. Madill questioned the method that will be utilized to support the steel lagging in the Bell area of piers. (OPEN ITEM)

Item 51-13 - Typical Drainage Detail For SWPS Pier Lagging.

V. Madill questioned why the notes on the drawing containing a typical lagging drainage detail designate the installation as "non-Q". In addition, V. Madill commented that the detail installation could be quite difficult to accomplish in the field. E Cvikl to investigate and respond. (OPEN ITEM)

Item 51-14 - Status of Soldier Beam Fabrication for SWPS.

J. Fisher stated that the welding problem had been resolved at the Standish Yard and that soldier beams had been released for shipment. (CLOSES OUT ITEM 51-7)

Item 51-15 - Receipt of Requested Information

A. Scott stated that the Assessment Team had received the NRC letter figures, concrete mix design information, and as-built soldier pile information requested by P. Parish on 9-1-83. (CLOSES OUT ITEMS 50-16, 50-17, 50-18 and 51-3)

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

Held at Midland Nuclear Plant
Midland, Michigan
September 9, 1983

No meeting was held on this date.



STONE & WEBSTER MICHIGAN, INC.

P.O. Box 2325, BOSTON, MASSACHUSETTS 02107

J. Law
Scuig 13
Red

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

September 8, 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.

ASL
A. Stanley Lucks
Project Manager

Enclosures

ASL:ck

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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
E. 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
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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 associated 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

W E Kilber
Project Engineer

Alb
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:

<u>Consumers Power</u>	<u>Bechtel</u>	<u>MPQAD</u>	<u>Stone & Webster</u>
G. Murray	J. Fisher	R. Sevo	J. Springer
J. Schaub	J. Gaydos		P. Barry
	E. Cvikl		W. Craig
			<u>Parsons</u>
			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 - CCo. 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 any 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 Cviki 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. Cviki 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>MPOAD</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)



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

August 31, 1983

J. O. No. 14358
Ref. MPF 49

Attention Mr. R. Cook

RE: DOCKET NO. 50-339/330
MIDLAND PLANT UNITS 1 & 2
INDEPENDENT ASSESSMENT OF UNDERPINNING
REPORT NO. 49

A copy of the Independent Assessment of Underpinning Weekly Report No. 49 for the period of August 21, 1983 through August 27, 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
Project Manager

Enclosures

ASL/pd

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SEP 6 1983

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

Weekly Report No. 49

August 21, 1983 through August 27, 1983

Personnel on Site

Stone & Webster Michigan, Inc.

A. Scott	8/22 - 8/27
P. Barry	8/24 - 8/27
W. Kilker	8/22 - 8/27
B. Holsinger	8/22 - 8/24
J. Springer	8/23 - 8/27
W. Craig	8/24 - 8/26

Parsons, Brinckerhoff Michigan, Inc.

F. Balsamo	8/22 - 8/26
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Meetings Attended

<u>Date</u>	<u>Represented</u>	<u>Purpose</u>
8/22 - 8/26	Stone & Webster Bechtel Consumers Power Parsons	Daily Meetings
8/25	Stone & Webster Bechtel Consumers Power	Weekly Construction Schedule Meeting
8/27	Stone & Webster Consumers Power Bechtel	NCR Training Session

Underpinning and Remedial Soils Activities

E8 Grillage: The installation activity at the containment end was halted due to a NCR on a weld qualification. The grillage beams were moved temporarily into location to evaluate the fit-up.

Pier KC10: The bell excavation was completed and the mudmat placed. The bell soils were subject to minor unraveling and therefore were sheeted for stability.

W8 Grillage: The W8 grillage installation activities were similar to those at E8.

Pier KC3: The pier excavation was advanced to a depth of 10 ft. of which approximately 8 ft. was in unreinforced concrete and the remainder in the fill soils.

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

E/W Access Shaft: Soil stabilization (chemical grouting) was performed at the East and West access shafts to control groundwater seepage. The mass excavation to E1 597 was initiated at both locations.

SWPS: Installation of the interior wells in the service water bays was completed. Exterior well and soldier pile installation continued. An abandoned exterior well adjacent to the structure was grouted.

BWST: Shear connector installation continued to near completion. The reinforcing steel for the foundation modification arrived at the site and is being held awaiting disposition of a documentation related NCR.

Assessment Team Observations - Construction

The use of a multiple pass fillet weld that was not a prequalified weld nor one that had been qualified on site, resulted in a NCR that impeded the progress of the grillage installations at E/W8. The use of weld technique sheets similar to that shown in AWS D1.1-80 for each type of weld (as suggested by the Assessment Team in Weekly Report No. 30) would eliminate this type of non-conformance.

At pier KC3 the Contractor closed up the lagging spacing and placed etha-foam between the lagging and the fill concrete to assure that the pier concrete does not bond to the surrounding mass of fill concrete. In the bell area of pier KC10 the Contractor prudently elected to support the soil after minor unraveling occurred.

Assessment Team Observations - MPQAD

1. The QC inspection of the torquing of leveling plate anchor bolts for the W8 grillage was performed in accordance with the requirements of the PQCI.
2. The Assessment Team reviewed a random sample of 100 NCRs for conformance to the Contractor's procedure for NCRs and whether the Engineering disposition appeared adequate. It is the Team's opinion that the procedure is being followed correctly and that the disposition's are adequate
3. CPCo has taken initial steps to improve communications between FSO and MPQAD. The Assessment Team believes that continued improvement in communications is essential to reduce the number of NCR's and their disposition time.

Work Activity Packages -

The Assessment Team reviewed the WAP-54 on installation of drifts/piers KC4 and submitted 9 questions. Resolution of the comments/question's of WAP's 50 and 51 remain open.

Nonconformance Identification Reports

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

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

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>Description</u>	<u>Closure Reference</u>
W.R. 25, pg. 5	Commitment to assess training and personnel records.	Open
45-8Q	Discussion on Mechanism of Identifying Quality Concerns.	Open
48-4Q	Structural Backfill PQCI Adequacy	Open
W.R. 48, pg. 3	Backfill Specification Comment	49-6
49-6	Clarification of Structural Backfill Specification Requirement	Open
49-8	Impact on Welding Nonconformance on E/W8 Grillage Installation	Open
49-31	E8 Grillage Bearing Assembly	Open

Paul Berry for W.R.K.
Project Engineer

all
Project Manager

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

Held at Midland Site Location
Midland, Michigan
August 22, 1983

Present For:

<u>Consumers Power</u>	<u>Bechtel</u>	<u>MPQAD</u>	<u>Stone & Webster</u>
G. Murray	J. Fisher J. Gaydos E. Cvikl	R. Sevo	A. Scott W. Kilker B. Holsinger
			<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 49-1 - E/W8 Grillage Beam Installation Sequencing.

There was a general discussion on the upcoming beam installation. J. Fisher stated that the intent is to bring in all of the beams and place them in temporary positions rather than final consecutive placement of each beam. Once all beams are in, the final placement will take place. (CLOSED ITEM)

Item 49-2 - NCR on Stitch Welding of Beam Base Plates.

There was a general discussion on a NCR written last week on the improper placement of stitch welds along the plate edge. J. Fisher reported that Construction and MPQAD had discussed the various parties interpretation of the AWS code pertaining to this type of welding and that the decision was that the MPQAD interpretation would govern. Therefore an Engineering disposition was required and is being pursued. There will likely, however, be a future meeting between the parties to further discuss the interpretation of the requirements. (CLOSED ITEM)

Item 49-3 - NCR Generated by Assessment Team NIR # 14.

B. Holsinger stated his concern over the one week delay in placing Hold Tags on certain grillage hardware to prevent inadvertent use. J. Fisher replied that FSO has not been the group to actually place tags on nonconforming items even if FSO writes the nonconformance. Rather, QC has always installed tags. B. Holsinger said MPQAD has already been notified of the concern over the time delay. (Refer to Assessment Team Weekly Notes Item 48-1Q) (CLOSED ITEM)

Item 49-4 - E/W8 Grillage Upper Leveling Plate Grouting.

W. Kilker and A. Scott commented that the placement of the flowable grout for the various E/W8 grillage upper leveling plates was, in their opinion, well done. Stripping of the formwork confirmed that the material had flowed uniformly leaving no significant voids. (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 22, 1983

Item 49-5 - KC 2/3 - KC10/11 Drift.

G. Murray reported that the FCR allowing the drift to be completed prior to pier KC2 or KC10 load transfer will not be approved pending NRC review.
(CLOSED ITEM)

Item 49-6 - Clarification of Structural Backfill Specification Requirement.

W. Kilker stated that a portion of the section on backfill placement was difficult to interpret. E. Cviki explained that the intent of this section was to require horizontal placement of the fill. However, Engineering felt that the wording as included did not require alteration. (OPEN ITEM)

Item 49-7 - Cumulative Effect on AUM Criteria.

In response to an Assessment Team comment, E. Cviki stated the 30 mil allowable upward movement criteria could occur during initial jacking or any re-jacking and cumulative effects would not be taken into account. That is, 30 mils could occur during each jacking operation. The turbine building mat is considered flexible enough to handle the anticipated movements. However, Engineering will review the concern for the relatively stiff EPA and Control Tower mats. (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 23, 1983

Present For:

Consumers Power

G. Murray
J. Schaub

Bechtel

J. Fisher
J. Gaydos
E. Cvikl

MPQAD

R. Sevo

Stone & Webster

A. Scott
W. Kilker
B. Holsinger
J. Springer

Parsons

F. Balsamo

Purpose

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

Discussion

Item 49-8 - Impact of Welding Nonconformance on E/W8 Grillage Installation.

J. Fisher reported that on the drop pit column cap beam a non-qualified weld had been installed. The Contractor is coordinating the issuance of a Conditional Release with CPCo to allow the work to proceed while the welding issue is resolved. G. Murray said CPCo will approve the use of the Conditional Release only in situations where no procedural changes are anticipated. J. Fisher replied that this case will not invoke procedural changes. J. Schaub recommended FSO evaluate if similar situations exist for other weld sizes. (OPEN ITEM)

Item 49-9 - Grillage Stabilizer Plate Hole Tolerances.

A. Scott questioned if the stabilizer plates were unique from the other grillage leveling plates in terms of hole tolerances. J. Fisher will respond. (OPEN ITEM)

Item 49-10 - QC Coverage of Proposed Grouting Activity.

A. Scott questioned if QC would be able to support the grouting activity proposed for the west access shaft waler pit. R. Sevo explained that the inspection of this grouting could be covered under the existing PQCI but inspection of CT pier grouting required retraining to a revised PQCI. (CLOSED ITEM)

Item 49-11 - E/W8 Grillage Lower Bearing Plates/Cap Beam Fit-up.

A. Scott noted that the bearing plates resting on the cap beams do not bear uniformly. E. Cvikl will review the requirement. (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 24, 1983

Present For:

<u>Consumers Power</u>	<u>Bechtel</u>	<u>MPQAD</u>	<u>Stone & Webster</u>
D. Puhalla	J. Fisher J. Gaydos E. Cvikl	R. Sevo	A. Scott W. Kilker J. Springer P. Barry W. Craig
			<u>Parsons</u> F. Balsamo

Purpose

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

Discussion

Item 49-12 - Stabilizer Plate Hole Tolerance.

J. Fisher reported that an FCR is being prepared to designate larger holes to be drilled thereby allowing reasonable location tolerance.
(CLOSED OUT ITEM 49-9)

Item 49-13 - Status of KC3/10 Piers.

J. Fisher said a bond breaker zone will be included between the lagging and fill concrete on pier KC3. The bell excavation on pier KC10 will commence today now that concrete admixture certifications are verified. This verification will allow the placement of concrete. (CLOSED ITEM)

Item 49-14 - Status of Conditional Release on E/W8 Grillage Welding Nonconformance.

J. Fisher reported the request for a Conditional Release was withdrawn and the work will not continue on beam installation until the non-qualified weld is properly qualified. (CLOSED ITEM)

Item 49-15 - The Y2/Z2 Zone Excavation.

J. Fisher reported the Y2/Z2 zone excavation work may commence as early as today. (CLOSED ITEM)

Item 49-16 - Assessment Team Evaluation of Documentation Processing.

W. Kilker introduced W. Craig to the group. Mr. Craig will be on site up to 10 days to perform an evaluation of the processing of FCR, DCN, SCN and NCR type control documents. (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 24, 1983

Item 49-17 - Hold Tag and Supplemental Descriptive Forms.

A. Scott noted that at times when QC Hold Tags have been removed recently after nonconformance disposition, the supplemental sheets have remained on the tagged hardware. J. Fisher said these forms should also be removed to avoid confusion. (CLOSED ITEM)

Item 49-18 - Access Pit Grouting.

W. Kilker questioned why the Contractor appeared to be readying a completed pit area for grouting in addition to the pit with the water seepage conditions. J. Fisher will investigate. (OPEN ITEM)

Item 49-19 - Venting of Shear Key Zone of Stabilizing Plates.

A. Scott questioned if there are provisions for air venting this area during grout placement. J. Fisher will respond. (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 25, 1983

Present For:

Consumers Power

G. Murray

Bechtel

J. Fisher
J. Gaydos
E. Cvikl

MPQAD

J. McMaster

Stone & Webster

A. Scott
W. Kilker
J. Springer
W. Craig
P. Barry

Parsons

F. Balsamo

Purpose

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

Discussion

Item 49-20 - BWST Concrete Imperfections.

A. Scott asked if surface imperfections on portions of the sandblasted BWST foundations would require chipping prior to additional concrete placement. E. Cvikl will respond. (OPEN ITEM)

Item 49-21 - Block-out of Grillage Upper Leveling Plates.

P. Barry questioned if the plate areas protruding onto the FIVP had been blocked-out during installation. J. Fisher replied that block-outs were intended for these areas and that on the West unit grout terminates at the FIVP/EPA joint. If not already in a similar condition, the East unit plate grout will also be removed under any FIVP overlap area. (CLOSED ITEM)

Item 49-22 - Shimming of Grillage Lower Bearing Plates.

E. Cvikl reported an FCR has been processed designating the shim requirements to provide full bearing for the plates on the cap beams. (CLOSES OUT ITEM 49-11)

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

Held at Midland Site Location
Midland, Michigan
August 26, 1983

Present For:

<u>Consumers Power</u>	<u>Bechtel</u>	<u>MPQAD</u>	<u>Stone & Webster</u>
G. Murray	J. Fisher	R. Sevo	A. Scott
J. Schaub	J. Gaydos		W. Kilker
	E. Cvikl		J. Springer
	J. Nation		P. Barry
			<u>Parsons</u>
			F. Balsamo

Purpose

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

Discussion

Item 49-23 - Bond Breaker on Pier KC3.

J. Fisher reported that within the fill concrete excavations the lagging section will be closed-up to inhibit the flow of concrete behind the lagging. After load transfer any void areas behind the lagging will be filled from the surface with sand. This procedure should effectively isolate the pier from the fill concrete. (CLOSED ITEM)

Item 49-24 - Resolution of NCR on Weld Qualification.

J. Fisher reported the weld size is now qualified and the Mergentime procedure is being revised. Subsequently the NCR can be dispositioned and the work on grillage installation proceed. (CLOSED ITEM)

Item 49-25 - Shear Key Zone Grouting.

In response to an Assessment Team question, J. Fisher said the shear key area on the stabilizer plate grillage tube will be vented to allow air escape during grouting. (CLOSES OUT ITEM 49-19)

Item 49-26 - Soil Stabilization of Access Pit.

J. Fisher said the West side was stabilized at the suggestion of Mergentime. The East side will be done today. (CLOSES OUT ITEM 49-18)

Item 49-27 - BWST Concrete Imperfections.

E. Cvikl said Resident Engineering had examined the condition of the sandblasted areas. It was determined that the sandblasting had not created a condition in the concrete pore holes that require corrective action. (CLOSES OUT Item 49-20)

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

Held at Midland Site Location
Midland, Michigan
August 26, 1983

Item 49-28 - Cumulative Effect on AUM Criteria.

E. Cvikl reported that Project Engineering has evaluated the effect of cumulative upward movement on the EPA and Control Tower slabs. The EPA can withstand up to 5 times the AUM without distress and the Control Tower is so heavy no significant upward movement is anticipated. (CLOSES OUT ITEM 49-7)

Item 49-29 - NCR Disposition Cycle Discussion.

J. Fisher stated that the Weekly Coordination meetings are effective in addressing QC NCRs but improvement is needed in the timeliness of resolving QA NCRs. (CLOSES ITEM)

Item 49-30 - Revised NCR Form.

R. Sevo said a revised NCR form is forthcoming. Training of personnel to the use of this form is underway. J. Fisher and E. Cvikl requested that FSO and Resident Engineering personnel receive training in the form usage also. (CLOSED ITEM)

Item 49-31 - E8 Grillage Beam Bearing Plate.

A. Scott questioned why it was necessary to remove the beam from the " hole " and change the assembly plate and why the two parts of the assembly are considered a matched set. (OPEN ITEM)

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

Held at Midland Site Location
Midland, Michigan
Week of August 24 - 27

No Weekly MPQAD meeting was held this week.



STONE & WEBSTER MICHIGAN, INC

P.O. Box 2325, BOSTON, MASSACHUSETTS 02107

PRINCIPAL STAFF	
RA	<i>[initials]</i>
D/R	<i>[initials]</i>
A/RA	<i>[initials]</i>
	<i>[initials]</i>
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orig +3

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

August 24, 1983

J. O. No. 14358
Ref. MPF 48

Attention Mr. R. Cook

RE: DOCKET NO. 50-339/330
MIDLAND PLANT UNITS 1 & 2
INDEPENDENT ASSESSMENT OF UNDERPINNING
REPORT NO. 48

A copy of the Independent Assessment of Underpinning Weekly Report No. 48 for the period of August 14, 1983 through August 20, 1983 is enclosed with this letter. Minor changes in the report format have been made to improve the readability. Included as attachments, are the minutes of the daily meeting 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-S. Lucks by WSK.
A. Stanley Lucks
Project Manager

Enclosures

ASL/pd

AUG 26 1983

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

Weekly Report No. 48

August 14, 1983 through August 20, 1983

Personnel on Site

Stone & Webster Michigan, Inc.

A. Scott 8/16 - 8/20
P. Barry 8/15 - 8/17
W. Kilker 8/18 - 8/20
B. Holsinger 8/16 - 8/20
P. Majeski 8/15 - 8/18

Parsons, Brinckerhoff Michigan, Inc.

J. Ratner 8/14 - 8/18

Meetings Attended

<u>Date</u>	<u>Represented</u>	<u>Purpose</u>
8/15 - 8/19	Stone & Webster Bechtel Consumers Power Parsons	Daily Meetings
8/17	Stone & Webster Bechtel Consumers Power	Weekly Engineering Construction Coord- ination Meeting
8/15 - 16	Stone & Webster Bechtel Consumers Power	FSO Personnel Quality Awareness Training Sessions
8/18	Stone & Webster Consumers Power Parsons	Weekly MPQAD Meeting

Underpinning and Remedial Soils Activities

Pier E8: The pier load remained wedged off. The status of this pier will not be included in future reports unless significant changes occur or new activities are started at this location.

E8 Grillage: The installation of the load transfer column continued at the containment drop pit. Two sets of upper leveling plates were installed and grouted.

Pier E10: The pier remained on active jacking and will continue for at least another month. Future reports will not contain the status of this pier unless significant changes occur.

J. O. No. 14358
Midland Plant
Units 1 & 2
Independent Assessment of Underpinning
W.R. 48

Pier KC10: The drift excavation was completed and the pier excavated and lagged to the level of the ring beam—a depth of approximately 20 ft. The excavated material consisted of 10 ft. of generally cohesive fill underlain by stiff gray clay. No groundwater entered the excavation.

Pier W8: The pier was wedged-off and active jacking terminated. The status of this pier will not be included in future reports unless significant changes occur or new activities are started at this pier.

W8 Grillage: The installation of the load transfer columns continued at the containment drop pit. Several of the upper leveling plates were installed and grouted.

Pier W10: The pier remained on active jacking and will continue for at least an additional month. Future reports will not contain the status of this pier unless significant changes occur.

KC3 Drift: The drift excavation was completed. The entire excavation was in unreinforced concrete.

E/W Access Shaft Level C Waler Connector Access Pits: Excavation and support of three 4 ft. deep pits was completed. These pits will allow access to install level C waler connector plates to the building foundation walls.

E/W UATs: Work continued on the installation of framework for the working platform for access to the CT pier areas.

SWPS: The installation of the exterior and interior dewatering wells continued as did the soldier pile installation. Installation of one of the replacement sections of service water piping was underway.

BWST: The limited activity on the tank foundation consisted of some further sandblasting of the existing concrete and shear connector bolt installation.

Assessment Team Observations-Construction

The drift completion to pier KC3 was slowed by the need to advance through unreinforced concrete. The Contractor reported that adjacent drifts will likely require further concrete removal and that plans are being investigated to modify the excavation on method to improve the rate of advancement.

The excavation and support of pier KC10 to the level of the ring beam was performed efficiently and in accordance with the project requirements. The Team noted that the lagging spacer thickness was, in a number of locations on the narrow side of optimum. Discussions with the Contractor indicated future spacers will be cut closer to the maximum allowable thickness.

Assessment Team observations of the routine FIVP bolt tension check, re-jacking of pier W8, and the routine ringing of the pier wedges and the E/W8 grillage upper leveling plate grouting indicated these activities were performed in accordance with the project documents.

Assessment Team members attended the Quality Awareness Training sessions held by FSO for all manual and non-manual personnel. This training was initiated after the Contractor's Field Engineers had not been thorough enough in their evaluation of an installation prior to requesting a QC inspection. The Team believes the training was a proper response to the situation and that the message to perform work correctly the first time was adequately conveyed.

In anticipation of upcoming backfill placements the Assessment Team reviewed the excavation, fill placement and fill testing specifications. A few comments and

J. O. No. 14358
 Midland Plant
 Units 1 & 2
 Independent Assessment of Underpinning
 W.R. 48

questions on clarification were discussed with Engineering. One item awaits resolution.

Assessment Team Observations-MPQAD

1. The responses to Assessment Team questions on the adequacy of the grillage installation PQCI's were reviewed. Although, the PQCI's contained nearly all of the necessary quality attributes, as a result of the Assessment Team's questions some inspection attributes were modified or added primarily for consistency with other PQCI's. One attribute was changed to be consistent with a specification requirement. The Assessment Team believes the PQCI's are now satisfactory.
2. The FSO and MPQAD actions taken as a result of the Assessment Team NIR#14 on grillage hardware materials were reviewed. The Team noted that one week elapsed after notification of the nonconformance until Hold Tags were placed on the nonconforming items to prevent their inadvertent use. While the Assessment Team understands that documentation review is time consuming, it is felt that a week's delay was too long a time period between notification and action.
3. The PQCI for structural backfill was reviewed for adequacy of inspection instructions. Comments were made in the MPQAD weekly meeting (Item 48-4Q of the Weekly Meeting Notes attached). It was noted that this PQCI, while workable, should have certain misleading wording changed in order to provide clearer definition of inspection(s).
4. A QC welding inspection for compliance to quality instructions was observed. The Assessment Team observed the inspection criteria, inspection tools, methodology, and the inspector's knowledge of the requirements. All items were noted to be in compliance with the project specifications and the welding code.
5. The Assessment Team reviewed the qualification data for the concrete mix used to date on the underpinning work. This data had recently been compiled and reviewed by the Contractor. The Team found the qualification methodology and data to be acceptable. The mix design was originally approved with a 3 point curve for the maximum allowable slump. Later when a change was made in cement type the mix was checked with a single test mix using the new cement type. The test verified the strength level and subsequent field test data has substantiated the conclusion that the mix design strength meets the requirements of the specifications.

Work Activity Packages

The Assessment Team questions on WAP44 (Emergency Personnel Lock) were resolved. The package as submitted should contain sufficient information to complete the work as intended. Resolution of the comments/questions of WAP's 50 and 51 remain open.

Nonconformance Identification Reports

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

J. O. No. 14358
 Midland Plant
 Units 1 & 2
 Independent Assessment of Underpinning
 W.R. 48

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>Description</u>	<u>Closure Reference</u>
W. R. 25,pg.5	Commitment to assess training and personnel records.	Open
W. R. 42,pg.3	Commitment to evaluate response to Grillage Installation PQCI.	Weekly Report # 48 Assessment Team Observations-Item 1
43-4Q	Receipt Package Inspection	48-3Q
43-5Q	Grillage Installation Questions	48-2Q
44-7	Receipt for Chronology of Events Surrounding Reoccurrence of Loose Washers on W8 N-S Bulkhead	48-14
44-20	Resolution of a Question on the Adequacy of the Procedure on the Tieback and Strut Installation.	48-17
44-2Q	Grillage Beam Receipt Inspection Package	48-3Q
44-3Q	Status of Questions on Grillage Beam PQCI	48-2Q
45-8Q	Discussion on Mechanism of Identifying Quality Concerns.	Open
47-22	Direct Hire Work Retraining	48-21
48-4Q	Structural Backfill PQCI Adequacy	Open
W.R. 48,pg.3	Backfill Specification Comment	Open

W.E. Kellie
 Project Engineer

A.S. Goodwin W.E.K.
 Project Manager

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

Held at Midland Site Location
Midland, Michigan
August 15, 1983

Present For:

Consumers Power

G. Murray

Bechtel

E. Cvikl
J. Gaydos
D. Himmelberger

MPQAD

R. Sevo

Stone & Webster

P. Majeski
P. Barry

Parsons

J. Ratner

Purpose

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

Discussion

Item 48-1 - Turbine Building Response to Load Transfer.

E. Cvikl indicated that a NCR was written because the load transfer for E8 caused upward movement of the turbine building, which exceeded the allowable by approximately 5 mils. This movement was unexpected because it actually occurred after the reduction in load from 125% to 110% of the design load. Subsequently, as the load was released from the jacks to the wedges, at the beginning of the routine rejack phase, the structure moved downward such that the net movement is now within tolerance. Procedural changes will be implemented to prevent future occurrences.
(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 16, 1983

Present For:

<u>Consumers Power</u>	<u>Bechtel</u>	<u>MPQAD</u>	<u>Stone & Webster</u>
G. Murray	E. Cvikl	R. Sevo	P. Majeski
R. Wheeler*	J. Gaydos		P. Barry
	D. Himmelberger		A. Scott

* Part time

Parsons

J. Ratner

Purpose

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

Discussion

Item 48-2 - Exceeding Allowable Upward Movement on East Turbine Building.

There was further discussion regarding the upward movement of the turbine building exceeding the AUM during loading of pier E8. P. Majeski indicated that such an occurrence is an indication that other shortcomings may exist in the procedures currently being utilized for review of instrumentation data. E. Cvikl to make an evaluation. (OPEN ITEM)

Item 48-3 - Grillage Beam Support Posts.

It was discovered that two grillage beam support posts were incorrectly marked by NPS resulting in the posts being installed 180 degrees out of position. NCR was prepared by MPQAD. (CLOSED ITEM)

Item 48-4 - Use of New Concrete Mix.

The new mix, utilizing a super plasticizer, will be used for the mud mat in the drift and pier KC-10. (CLOSED ITEM)

Item 48-5 - One Time Deviations.

J. Ratner asked if FCR's prepared to handle one time deviations from specifications or drawings could be applied to other cases at a later date. J. Gaydos advised that the one time deviations are usually written for a specific case because drawings which may have similar conditions have not been issued at the time that the FCR is written. (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 17, 1983

Present For:

<u>Consumers Power</u>	<u>Bechtel</u>	<u>MPQAD</u>	<u>Stone & Webster</u>
G. Murray	E. Cvikl J. Gaydos D. Himmelberger K. Pearson *	R. Sevo	A. Scott P. Majeski P. Barry B. Holsinger
			<u>Parsons</u>
			J. Ratner

* 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 48-6 - AUM Criteria.

P. Majeski requested that Project Engineering supply the basic information or rationale for setting the AUM criteria. See Item 48-2. (OPEN ITEM)

Item 48-7 - One Time Deviations.

Further information regarding one time deviations was presented, indicating that procedures exist within the engineering organization to review FCR's for possible incorporation of relevant aspects into new drawings. (CLOSED ITEM)

Item 48-8 - Bechtel Representation at Daily Meetings.

G. Murray requested that Bechtel reconfirm or revise its commitment to have either J. Fisher or D. Lavelle be present at the Daily Meetings. He indicated that recently neither person has been present at several meetings. (OPEN ITEM)

Item 48-9 - Drift Sequencing.

Bechtel indicated that an FCR to excavate the drifts between KC2 and KC3, and KC11 and KC10 prior to loading KC3 and KC10 would be prepared. There are no engineering concerns with this change in sequencing. (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 18, 1983

Present For:

<u>Consumers Power</u>	<u>Bechtel</u>	<u>MPQAD</u>	<u>Stone & Webster</u>
G. Murray	E. Cviki J. Gaydos D. Himmelberger	R. Sevo	A. Snott P. Majeski B. Holsinger
			<u>Parsons</u> J. Ratner

Purpose

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

Discussion

Item 48-10 - Bechtel Representation at Daily Meetings.

J. Fisher indicated that either he or D. Lavelle will be present at all future daily meetings with the Assessment Team. (CLOSSES ITEM 48-8)

Item 48-11 - US Testing Meeting.

P. Majeski requested background information regarding the purpose and outcome of a recent meeting between Bechtel and US Testing. Part of the outcome resulted in a significant change in the US Testing staff. J. Fisher is to respond.
(OPEN ITEM)

Item 48-12 - Work Status.

J. Fisher stated that either he, or in his absence, D. Himmelberger, should be consulted to obtain a status report on any construction matter. (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 19, 1983

Present For:

<u>Consumers Power</u>	<u>Bechtel</u>	<u>MPQAD</u>	<u>Stone & Webster</u>
G. Murray	J. Fisher	R. Sevo	A. Scott
J. Schaub	J. Gaydos		W. Kilker
	E. Cvikl		
	M. Lewis		<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 48-13 - Update on Auxiliary Building Work Status.

J. Fisher reported that piers E/W 10 will remain on active jacking for at least another month. M. Lewis said Engineering is interested in further verification of what appears to be a "break" in the time history-settlement plot. J. Fisher said progress on pier KC10 has been stopped pending the resolution of problems with the certification of admixtures at the concrete batch plant. Rather than opening the bell area the pier advancement is stopped at the ring beam level. The advancement of the pier KC3 drift in concrete is complete as of today.

On the E/W8 grillage installation work on the drop-pit columns is nearing completion. One grillage beam has been placed in the hole on the west side.

SWPS work continues with dewatering well and soldier pile installations. In addition welding of the service water line replacement sections is underway.

The UAT platform installation is being reworked to resolve non-conforming items. (CLOSED ITEM)

Item 48-14 - E/W8 Bulkhead-Loose Washer Inspections.

E. Cvikl reported that FSO has gathered the field data pertinent to the occurrence and reoccurrence of loose washers on the W8 N-S bulkhead in mid-July. Engineering will evaluate the information to assess any future impact. W. Kilker said the Assessment Team is satisfied that the issue is being addressed adequately. (CLOSES OUT ITEM 44-7)

Item 48-15 - Status of Upcoming Work.

J. Fisher said that the primary effort is to install and load transfer the grillage beams. However, work may also proceed on piers E/W13 and 14, KC2/3 and KC10/11 drifts and the access pit to level C walers in the access shafts. Mergentime will schedule to balance the work load. (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 19, 1983

Item 48-16 - SWPS Well 502 Grouting.

M. Lewis reported that nonconformances were written against this well installation. Attempts were being made today to grout the hole as a result of recent surface collapse around the hole. R. Sevo said MPQAD is evaluating the reportability of this type of soil collapse adjacent to the structure. M. Lewis said that consideration is being given to put down an adjacent sheeted pit at a later date to determine if there was any impact on the foundation support. (CLOSED ITEM)

Item 48-17 - Adequacy of Tieback and Strut Installation Procedures.

J. Gaydos stated the appropriate procedure has been revised to address the previous concerns. W. Kilker replied that the procedure revision addresses the point raised in Item 44-20. (CLOSES OUT ITEM 44-20)

Item 48-18 - Review of Instrumentation Data Utilization during Load Transfer.

In response to Item 48-2, E. Cvikl said Engineering is considering including Carlson meter readings and strain gage data in the WJE data bank. During load transfer the Carlson meters and strain gages can indicate if acceptance load ratios are being maintained at the various load points. (CLOSES OUT ITEM 48-2)

Item 48-19 - AUM Criteria.

In response to Item 48-6, E. Cvikl reported there was no specific technical basis for selecting 30 mils as the allowable upward movement of structures during load transfer. Rather it was selected as a result of conservative engineering judgment. The Assessment Team is satisfied with this response. (CLOSES OUT ITEM 48-6)

Item 48-20 - NCR on SWPS Baseline Data Gathering.

J. Fisher reported that FSO has issued an NCR on the baseline data gathering at the SWPS because the initially issued Work Permit had expired. G. Murray said the NRC had been notified. Since the activity involved only data-gathering no impact has occurred. Nevertheless, J. Schaub stated the importance of maintaining updated Work Permits for all situations. (CLOSED ITEM)

Item 48-21 - Awareness Training.

J. Fisher said all Bechtel direct hire, Mergentime and SWP manual and non-manual personnel had received this training that stressed the need for all personnel to be fully aware of the importance of the Quality related aspects of the work. A few Bechtel site Engineering people have yet to receive the training. Another class is scheduled for next week to include these personnel. Future classes will be held as required to train new personnel. (CLOSES OUT ITEM 47-22)

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

Held at Midland Site Location
Midland, Michigan
August 19 , 1983

Item 48-22 - Status of US Testing.

J. Fisher reported that Bechtel management has given U.S. Testing a short time period during which their performance must show marked improvement. Even after a CPCo audit in the spring of 1983 identified several programmatic deficiencies, nonconformances continue to surface routinely. (CLOSES OUT ITEM 48-11)

Item 48-23 - Certification of Concrete Admixtures,

J. Gaydos said the recent NCR on concrete admixture certifications has resulted in sampling the on-site ingredients and returning them to W.R. Grace Co. for analysis. Results will take at least five days during which time no concrete will be placed. (CLOSED ITEM)

Item 48-24 - Lagging Spacer Size.

W. Kilker reported that the Assessment Team had observed numerous lagging spacers in pier KC10 that had thicknesses on the order of $1\frac{1}{4}$ inches. This dimension is contrary to the procedurally agreed upon dimension of approximately $1\frac{1}{2}$ inches. J. Fisher said Mergentime has been instructed to cut the spacers to a thickness as close as practical to $1\frac{1}{2}$ inches. (CLOSED ITEM)

Item 48-25 - Leveling Plate Pressure Grout Nipple.

A. Scott expressed a concern that the installation of the nipple on the inside of the plate could affect the quality of the grout installation in the area of the nipple. E. Cvikl said the test program was done with nipples outside the plate but that requirements to remove the nipple to install the bearing plate resulted in the change to the inside arrangement. (CLOSED ITEM)

Item 48-26 - Pier Lagging Requirements in Concrete.

A. Scott asked if lagging would be used on pier KC3 if concrete is encountered in the first several feet. M. Lewis said he had discussed this with Mergentime and that lagging would be used. (CLOSED ITEM)

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

Held at Midland Site Location
Midland, Michigan
August 18, 1983

Present For:

<u>Stone & Webster</u>	<u>Parsons</u>	<u>MPQAD</u>
B. Holsinger	J. Ratner	J. Meisenheimer
P. Majeski		M. DeWitt
A. Scott		D. Horn
		D. Oliver

Purpose

This meeting is held each week to obtain and discuss information relative to Q.A. activities for soils underpinning work at the Midland Plant Units 1 & 2.

Discussion

Item 48-1Q - Status of NIR # 14.

MPQAD has reviewed the NIR and associated receipt inspection packages. To date no MPQAD NCR has been written. B. Holsinger stated that on Monday, 8/10/83, QC in turn notified FSO. On Thursday, 8/11/83, verification with QC and FSO indicated no action had been taken. As of Tuesday, 8/16/83, the Team checked on the NIR status with QC. They had determined that most of the items identified were valid but had not placed Hold Tags on the material which would prevent the inadvertent use of the items. At this time the Team voiced concern in the delay of placing Hold Tags. QA then promptly set out to locate the material and place Hold Tags. B. Holsinger re-stated his dissatisfaction for not promptly placing Hold Tags in order to prevent the use of nonconforming material. (CLOSED ITEM)

Item 48-2Q - Grillage Beam Installation Questions.

Stone & Webster has received the response to the questions regarding the grillage installation. These responses have been evaluated. (CLOSES ITEM 43-5Q & 44-3Q)

Item 48-3Q - Grillage Beam Receipt Inspection Packages.

Stone & Webster has received the requested packages. (CLOSES ITEM 43-4Q & 44-2Q)

Item 48-4Q - Adequacy of PQCI For Structural Backfill.

P. Majeski stated that the PQCI for structural backfill was in some instances misleading and attributes too general. Attribute 2.2.2F omitted a portion of the corresponding specification requirement which made the PQCI attribute more stringent than the specification. Attribute 2.2.2A could mislead the inspector to believe that sand backfill could be used in lieu of structural backfill. contrary to the project specification.

Some attributes are general statements which refer to paragraphs in the specifications. These paragraphs may have several inspectable attributes. In these instances it was felt that separate attributes should be in the PQCI.

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

August 18, 1983

A question was asked if the PQCI should contain an attribute to inspect for segregation of placed material in order to cover the specification requirement.

A question was asked how material was controlled from time of receipt to installation. (OPEN ITEM)

Item 48-5Q - Inspection Transfer Frame.

B. Holsinger stated in his opinion it would be easier and more accurate to have a survey performed for location of items such as the transfer frame in lieu of current practice of plumb-bobs and rulers. These survey notes could be verified and made a part of the quality documentation. (CLOSED ITEM)

Item 48-6Q - Status of U.S. Testing.

B. Holsinger asked if MPQAD was aware of the current status and employee additions to the U.S. Testing organization. J. Meisenheimer stated he was aware of the U.S. Testing status. (CLOSED ITEM)

Item 48-7Q - Closing Q.A. Programatic NCR.

A. Scott asked what could be done to close the Q.A. NCR in a more timely manner-particularly with respect to the NCR on the BWST Bolts.

J. Meisenheimer stated that better communication between MPQAD and Engineering was needed in order to close some NCRs faster. (CLOSED ITEM)

Item 48-8Q - Training Schedule.

B. Holsinger requested an up-to-date training schedule and to be informed of unscheduled training when practical. (CLOSED ITEM)



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 .

August 17, 1983

J. O. No. 14358
Ref. MPF 47

Attention Mr. R. Cook

RE: DOCKET NO. 50-329/330
MIDLAND PLANT - UNITS 1 & 2
INDEPENDENT ASSESSMENT OF UNDERPINNING
REPORT NO. 47

A copy of the Independent Assessment of Underpinning, Weekly Report No. 47 for the period of August 7, 1983 through August 13, 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,

AS Lucks
A. Stanley Lucks
Project Manager

Enclosures

ASL/pd

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

Weekly Report No. 47
August 7, 1983 through August 13, 1983

Personnel on Site

Stone & Webster Michigan, Inc.

P. Barry	8/11 - 8/13
W. Kilker	8/8 - 8/13
B. Holsinger	8/8 - 8/11
S. Lucks	8/11 - 1/12
P. Majeski	8/10 - 8/13

Parsons, Brinckerhoff Michigan, Inc.

J. Ratner	8/10 - 8/13
F. Balsamo	8/10 - 8/12

Meetings Attended

<u>Date</u>	<u>Represented</u>	<u>Purpose</u>
8/8 8/10 8/12	Stone & Webster Bechtel Consumers Power Parsons	Daily Meetings
8/10	Stone & Webster Bechtel Consumers Power	Weekly Engineering Construction Coord- ination Meeting
8/12	Stone & Webster Bechtel Consumers Power	Direct-hire Personnel Training Commitments

Activities

Construction:

Pier E8: Load transfer to turbine building and routine re-jacking completed.

E8 Grillage: Post and cap beam installed on edge of containment mat.

Pier E10: The Pier remained on active jacking throughout the week to obtain engineering information.

KC-10 Drift: Drift excavation and drift support system nearly complete.

Pier W8: Load transfer to turbine building completed. Three day period of routine re-jacking in progress.

W8 Grillage: Post and cap beam installed on edge of containment mat.

Pier W10: The pier remained on active jacking throughout the week to obtain engineering information.

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

KC-3: Drift excavation begun but work is slow because excavation face is 100 percent fill concrete.

SWPS: Dewatering wells and soldier pile installation continued. Work on service water pipe replacement was stopped to re-evaluate construction procedures and retrain Contractor direct hire and supervisory personnel.

BWST: Installation of shear connector bolts continued. Backfilling was initiated. Work curtailed late in the week to permit re-evaluation of construction procedures and retrain Contractor direct hire and supervisory personnel.

Quality Control

1. Visually checked welding for comparison with welding inspection reports for E/W8 transfer frames.
2. Attended training session for PQCI 1,018 (6), installation of structural steel.
3. Reviewed material receiving report.

Observations

Construction: A number of NCR's written on welding performed in the UAT's resulted in FSO's voluntary suspension of Contractor direct hire work. The purpose of this suspension was to allow time to evaluate and revise construction and supervisory methods, and for retraining of direct hire and supervisory personnel. The NCR's apparently were as much a result of communication gaps between FSO personnel and between FSO and MPQAD as they were deficiencies in the work. The FSO response to this situation was proper and the contemplated changes are correct in the opinion of the Assessment Team.

During load transfer of E/W8 to the turbine building, a small upward movement of a few mils on the EPA was noted. Movement of this magnitude which is not excessive, can be expected. In fact, this movement reduced the differential settlement across the Auxiliary Building.

Quality Control

1. The welding inspection reports for the E/W8 transfer frames were found to be complete and accurate.
2. The training session for revisions to PQCI 1.018 (6), installation of structural steel, was complete and the presentation was clear.
3. A review by the Assessment Team of QCIR No. R-100 20818 resulted in NIR No. 14 because of two instances where nuts were supplied and accepted that do not meet the specified requirements.

Work Activity Packages

Resolution of the comments/question of WAP's 44,50 and 51 remain open.

Nonconformance Identification Report

<u>NIR No.</u>	<u>Description</u>	<u>Date</u>
14	Auxiliary Building Underpinning	(Opened) (Closed) 8/11/83

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

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>Description</u>	<u>Closure Reference</u>
W.R.25,pg.5	Commitment to assess training and personnel records.	Open
W.R. 42, pg.3	Commitment to evaluate response to Grillage Installation PQCI.	Open
43-4Q	Receipt Package Inspection	Open
43-5Q	Grillage Installation Questions	Open
44-7	Request for Chronology of Events Surrounding Reoccurrence of Loose Washers on W8 N-S Bulkhead	Open
44-20	Resolution of a Question on the Adequacy of the Procedure on the Tieback and Strut Installation.	Open
44-2Q	Grillage Beam Receipt Inspection Package	Open
44-3Q	Status of Questions on Grillage Beam PQCI	Open
45-17	Existing Concrete Mix Slump Inadvertency Margin	47-19
45-7Q	Status of QA NCR on QC Certification	47-1Q
45-8Q	Discussion on Mechanism of Identifying Quality Concerns.	Open
46-14	Leveling Plate Overlap onto FIVP Mat	47-2

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

<u>Item No.</u>	<u>Description</u>	<u>Closure Reference</u>
47-22	Direct Hire Work Retraining	Open

W. E. Kilkenny
Project Engineer

P. J. Barry for A. J. Jucko
Project Manager

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

Held at Midland Site Location
Midland, Michigan
August 8, 1983

Present For:

<u>Consumers Power</u>	<u>Bechtel</u>	<u>MPQAD</u>	<u>Stone & Webster</u>
D. Puhalla	J. Fisher E. Cviki J. Gaydos	W. Lytle	W. Kilker B. Holsinger
			<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 47-1 - Status of E/W8 Load Transfer.

J. Fisher reported that rework on certain welding, completion of the instrumentation and the required FSO and QC inspections were completed over the weekend. Load transfer is expected to commence today. (CLOSED Item)

Item 47-2 - Leveling Plate FIVP Overlap.

E. Cviki stated that measurements confirmed a slight overlap of the leveling plate nearest the containment from the EPA onto the FIVP mat. A FCR will likely be written to block out this corner prior to grout placement. (CLOSES OUT ITEM 46-14)

Item 47-3 - SWPS Well Installations.

J. Fisher reported 2 shifts are working again on well installations. However, due to recent commitments on work coverage by FSO Field Engineers, outside work will be done by day shift crews and inside the structure work by night shift crews. (CLOSED ITEM)

Item 47-4 - MPQAD Welding Consultant.

W. Kilker requested a status report on the activities of the consultant. W. Lytle will respond. (OPEN ITEM)

Item 47-5 - Status of Grillage Beam Rework.

W. Kilker requested the status of the grillage beam rework. J. Fisher will respond. (OPEN ITEM)

Item 47-6 - Material Storage Procedure.

W. Kilker reported that V. Madill questioned the clarity of the Level B storage requirement section of the SWP procedure on material handling, storing, and controlling. J. Fisher agreed the present structure of the section could be misleading. FSO will respond. (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 8, 1983

Item 47-7 - E8 Lower Leveling Plate Grout Repair.

W. Kilker questioned if the minor cosmetic-type grout repair (greatest dimension was 2 inches) required the same testing verification as an initial installation. For example, on this repair of a few cubic inches \pm 20 test specimens were taken. J. Gaydos replied that a less commonly used grout type (Set 45) was used and this usage probably resulted in the higher number of test specimens. In any case, procedural test requirements would not be any less for a repair than for an initial installation (CLOSED ITEM)

Item 47-8 - E/W8 Grillage Leveling Plates.

In response to a question by W. Kilker on the plate modification required to pressure grout the grillage leveling plates, J. Fisher stated an FCR is being processed and in addition a procedural change is required to designate fabrication changes. (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 9, 1983

No meeting was held on this date.

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

Held at Midland Site Location
Midland, Michigan
August 10, 1983

Present For:

<u>Consumers Power</u>	<u>Bechtel</u>	<u>MPQAD</u>	<u>Stone & Webster</u>
G. Murray	J. Fisher E. Cviki J. Gaydos	None	W. Kilker P. Majeski
			<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 47-9 - Status of Grillage Installation.

All NPS fabricated materials have been released to the Subcontractor for installation. J. Fisher explained that FCRs have been prepared to address tolerances on the beam, frame, bracing and column installation. Discussions are on-going to understand the intent of the tolerances to avoid misinterpretations once the pieces are in-place. (CLOSSES OUT ITEM 47-5)

Item 47-10 - Superplasticized Concrete.

J. Gaydos reported that the grout used to "slick" the pumplines in conjunction with the new mix design must be qualified. Completion of the testing is expected this week. (CLOSED ITEM)

Item 47-11 - Installation Accessories.

J. Fisher explained that installation accessories used by construction will not be shown on design drawings but rather will be designated on vendor drawings or field sketches. (CLOSED ITEM)

Item 47-12 - EPA Settlement Trends.

E. Cviki reported the EPA portions of the auxiliary building moved upward a few mills during the recent load transfer of the E/W8 piers. In addition, the recent trend has been toward a significant reduction in the differential settlement rate across the auxiliary building. (CLOSED ITEM)

Item 47-13 - Inspection of UAT Work Platform Installation.

J. Fisher explained that the inspection of the welding at the UAT revealed a number of deficiencies. Discussions are underway within FSO to determine the cause of this situation and what action is required to prevent reoccurrence. (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 10, 1983

Item 47-14 - Clarification of Storage Requirements.

J. Fisher said the appropriate section of the SWP procedure will be clarified to more clearly reflect the material storage requirements.
(CLOSES OUT ITEM 47-6)

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

Held at Midland Site Location
Midland, Michigan
August 11, 1983

Present For:

<u>Consumers Power</u>	<u>Bechtel</u>	<u>MPQAD</u>	<u>Stone & Webster</u>
G. Murray	E. Cvikl J. Gaydos	J. Moran	P. Majeski P. Barry
			<u>Parsons</u>
			J. Ratner

Purpose

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

Discussion

Item 47-15 - Slope Layback.

J. Ratner asked if slope laybacks will be used in the future. G. Murray indicated that no additional laybacks are anticipated. Existing layback areas, which will be excavated in the future, have been left open. Laybacks which will not be excavated have been grouted. (CLOSED ITEM)

Item 47-16 - Service Water Pipes.

J. Ratner inquired about the schedule for completion for the service water pipes. J. Gaydos indicated that he did not have that information but would obtain it. (OPEN ITEM)

Item 47-17 - Carlson Meter Calibrations.

P. Barry stated that J. Darby requested a clarification to V. Verma's statement in Item 2 of the Notes of Daily Meeting from June 16, 1983. It was agreed that the statement should read " V. Verma stated that the meter tests conducted at WJE on the meters to be used in pier E/W8 will provide data to determine the acceptance criteria for the remaining Carlson meter calibrations." (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 12, 1983

Present For:

<u>Consumers Power</u>	<u>Bechtel</u>	<u>MPQAD</u>	<u>Stone & Webster</u>
G. Murray	E. Cvikl J. Gaydos	G. Carpenter	W. Kilker P. Majeski P. Barry
			<u>Parsons</u>
			J. Ratner F. Balsamo

Purpose

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

Discussion

Item 47-18 - Status of Piers E/W8 Load Transfer.

J. Fisher reported that the load transfer has been completed on pier E8 but is still underway at pier W8. (CLOSED ITEM)

Item 47-19 - SCN on Existing Concrete Mix Design.

E. Cvikl stated the 1973 design date revealed the mix design slump was 5 inches. P. Barry replied this resolved the Team concern over the slump inadvertency margin. (CLOSES OUT ITEM 45-17)

Item 47-20 - KC3 Drift Concrete.

P. Barry questioned if a determination had been made of the status of the concrete in the upper portion of the drift cut. A well defined joint was not encountered at the usual elevation and a membrane was located some 3 ft. lower than normal. E. Cvikl stated Resident Engineering had evaluated the situation and determined structural concrete extended only to El. 610. (CLOSED ITEM)

Item 47-21 - Inspection of UAT Work Platform Installation.

J. Gaydos advised that FSO initially inspected the items in the UAT and marked it up for rework. FSO Civil Engineers reported that work was complete, but the FSO Welding Engineer had not gone back to reinspect the items. QC was called for the final inspection, resulting in the NCR. (CLOSES OUT ITEM 47-13)

Item 47-22 - Direct-hire Work Training.

J. Fisher reported that FSO is undertaking a program to further the training of all personnel assigned to this work in light of the recent UAT welding inspection problems. Until this action is completed no further direct hire work will be performed. J. Fisher will update. (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 12, 1983

Item 47-23 - NIR # 14 Issue.

P. Barry reported that NIR # 14 was issued today on the type of bolt nuts supplied with the NPS grillage beams and accessories. W. Kilker said the last statement on the NIR on "reportability" has been determined by the Assessment Team to be an unnecessary recommendation. That is, in the Team's opinion, the item is not reportable.
(CLOSED ITEM)

Item 47-24 - Service Water Pipe Repair Status.

In response to a previous question by J. Ratner, J. Fisher will supply the pipe repair schedule to the Assessment Team. (CLOSES OUT ITEM 47-16)

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

Held at Midland Site Location
Midland, Michigan
July 21, 1983

shear connector bolts for the BWS^T being fabricated without a procedure.
(CLOSED ITEM)

Item 7Q: U. S. Testing.

MPQAD stated that two NCRs will be issued against U.S. Testing. One NCR will deal with performing tasks without certification such as sampling of material stockpiles. The second NCR treats not providing timely notification so that certain tests could be witnessed by Quality Control. (CLOSED ITEM)

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

Held at Midland Site Location
Midland, Michigan
August 9, 1983

Present For:

Stone & Webster

B. Holsinger

MPQAD

J. Meisenheimer

D. Horn

M. DeWitt

Purpose

This meeting is held each week to obtain information from MPQAD regarding the soils underpinning work at the Midland Plant Units 1 & 2.

Discussion

Item 47 - 1Q - Status of QA NCR's on QC certification.

J. Meisenheimer stated the NCR's were written as a result of programmatic paper work not being completely filled out. The inspectors had received all required training/examination and were considered certifiable by the QA Level III Engineer. To prevent reoccurrence, a daily certification matrix is available so that all leads can ascertain whether inspectors are certified prior to performing inspections. Additionally, an inspector cannot withdraw an open I.R. from the Q.A. Document Control unless his name appears on the certification list for that inspection report. (CLOSSES ITEM 45-7Q)

Item 47 - 2Q - Status of Q.C. Welding Inspections.

J. Meisenheimer responded to a question contained in Stone & Webster's Notes of Daily Meeting dated 8-8-83 (Item 47-4). A welding consultant has been retained by MPQAD to provide an assessment of welding inspections and quality instructions to the code requirements. The assessment was requested, in part, to address the need for more consistency in the inspections. In the past, reinspections have revealed occasional deficiencies after initial acceptance. Meisenheimer maintained, in any case, that the QC/QA personnel will not be restricted from rejecting an item anytime and issuing nonconformances on previously accepted items. (CLOSSES OUT ITEM 47-4)

Item 47 - 3Q - Information on NCR's.

B. Holsinger stated that NCR's are quoting sections of the parent document and explained that earlier remarks by Stone & Webster were aimed towards making a clear reference to the section(s) of the parent document that contain the requirement. (CLOSED ITEM)



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

August 10, 1983

J. O. No. 14358
Ref. MPF 46

Attention Mr. R. Cook

RE: DOCKET NO. 50-329/330
MIDLAND PLANTS - UNITS 1 & 2
INDEPENDENT ASSESSMENT OF UNDERPINNING
REPORT NO. 46

A copy of the Independent Assessment of Underpinning, Weekly Report No. 46 for the period of July 31, 1983 through August 6, 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/pd

AUG 15 1983

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

Weekly Report No. 46

July 31, 1983 through August 6, 1983

Personnel on Site

Stone & Webster Michigan, Inc.

P. Barry 8/1 - 8/6
W. Kilker 8/4 - 8/6
B. Holsinger 8/3 - 8/6
A. Scott 8/1 - 8/6

Parsons, Brinckerhoff Michigan, Inc.

V. Madill 8/2 - 8/5

<u>Date</u>	<u>Represented</u>	<u>Purpose</u>
8/1 - 8/5	Stone & Webster Bechtel Consumers Power Parsons	Daily Meetings
8/4	Stone & Webster Bechtel Consumers Power	Weekly Schedule Forecast Meeting

Activities

Construction:

Pier E8: The transfer frame installation was completed. Jackstands and jacks were being installed and instrumentation installation was near completion.

E8 Grillage: The containment mat drop pit excavation was completed and preparatory work on the upper leveling plates continued.

Pier E10: The pier remained on active jacking throughout the week.

Pier KC11: The pier was rejaacked in order to verify the tightness of the wedges.

Pier W8: The transfer frame installation was completed except for strut modifications that required a shop rework. The instrumentation installation was near completion.

W8 Grillage: Similiar activity to E8 Grillage.

Pier W10: Similiar to E10 pier activity.

KC2: Similiar to KC11 pier activity.

SWPS: The Stop Work Order was lifted and well and soldier pile installation resumed. Several observations wells were completed and 2 soldier piles were installed. Sheeted pit work continued and work on the service water line resumed after temporary support of a duct bank was completed.

BWST: Sandblasting was completed and installation of shear connector bolts continued. The concrete mudmat was placed and the area surrounding the mudmat was prepared for backfilling. The Stop Work Order on the installation of anchor bolts was lifted.

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

Activities

Quality Control

Observed MPQAD training of QC inspectors to the current revision of area welding Project Quality Control Instruction (PQCI)

Reviewed the adequacy of the revision of the proposed PQCI for area welding inspection.

Observed a grout placement inspection and corresponding specimen preparation process. Reviewed the associated inspection report for accuracy and timeliness of completion.

Observations

Construction: The load transfer at piers E/W8 moved to near completion at a very slow pace. Working within the constraints of very tight tolerances and detailed inspection criteria, the targeted completion of load transfer at piers E/W8 has already taken more than three months since pier construction commenced. The Assessment Team believes that the Engineering, Quality Control and Construction organizations must initiate an evaluation of performance to-date in an effort to identify actions that could reduce the completion time without compromising quality. It is the opinion of the Assessment Team that such a goal is attainable.

Observations

Quality Control

The QC inspector training provided by MPQAD for the current revisions of the area welding PQCI was thorough, specific to each attribute and sub-attribute, and included instructions on application of the referenced criteria.

The revision to the area welding PQCI clearly defines each inspection attribute. The attributes include all inspections required by the project specifications and welding codes.

The grout placement inspection, specimen preparation, and corresponding inspection report were in accordance with project requirements and good industry practice.

Work Activity Packages - The Assessment Team received Work Activity Packages (WAP's) 38,44,45,47,50,51, and 53 for review. WAPs 38,45 and 47 were primarily electrical installations and were not subjected to review. All Team comments on WAP 53 were satisfactorily addressed. Questions were submitted to the FSO Constructability Review group for resolution on WAPs 44,50 and 51.

Nonconformance Identification Report

<u>NIR No.</u>	<u>Description</u>	<u>Date</u>	
13	PQCI Attribute for Plate Bearing Verification.	(Opened) 7/14/83	(Closed) 8/4/83

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

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>Description</u>	<u>Closure Reference</u>
W. R. 25, pg 5	Commitment to assess training and personnel records.	Open
W. R. 42, pg. 3	Commitment to evaluate response to Grillage Installation PQCI.	Open
43-4Q	Receipt Package Inspection	Open
43-5Q	Grillage Installation Questions	Open
44-7	Request for Chronology of Events Surrounding Reoccurrence of Loose Washers on W8 N-S Bulkhead	Open
44-20	Resolution of a Question on the Adequacy of the Procedure on the Tieback and Strut Installations.	Open
44-2Q	Grillage Beam Receipt Inspection Package	Open
44-3Q	Status of Questions on Grillage Beam PQCI	Open
45-8	Test Cylinder for New Mix Designs with 60 Day Breaks	46-1
45-17	Existing Concrete Mix Slump Inadvertency Margin	Open
45-19	SWPS Retaining Wall Questions	46-15
45-1Q	Status of NIR # 13	46-13
45-7Q	Status of QA NCR on QC Certification	Open
45-8Q	Discussion on Mechanism of Identifying Quality Concerns.	Open

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

<u>Item No.</u>	<u>Description</u>	<u>Closure Reference</u>
46-14	Leveling Plate Overlap onto FIVP Mat	Open

W E Keller
Project Engineer

W Keller for R S Luckie
Project Manager

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

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

Present For:

<u>Consumers Power</u>	<u>Bechtel</u>	<u>MPQAD</u>	<u>Stone & Webster</u>
A. Blocker	J. Fisher E. Cviki J. Gaydos J. Darby	R. Sevo	A. Scott
			<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 46-1 - Test Cylinder for New Mix Designs with 60-day Breaks.

In response to the outstanding open item, J. Gaydos stated that cylinders will be molded for 7-day, 28-day and 60-day concrete tests for concrete mixes E-5C and E-5C-H. These mixes have the requirements of a 60-day concrete breaks. (CLOSES OUT ITEM 45-8)

Item 46-2- E/W8 Grillage Leveling Plates.

A. Scott requested status of leveling plate installation required for E/W8 Grillage Beams. A DCN requires pressure grouting which necessitates a connection being installed in each plate. Upon issuance of an FCR to install couplings in the leveling plates work will proceed. (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 2, 1983

Present For:

<u>Consumers Power</u>	<u>Bechtel</u>	<u>MPQAD</u>	<u>Stone & Webster</u>
R. Wieland	J. Fisher E. Cvikl J. Kelleher	R. Sevo	A. Scott P. Barry
			<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 46-3 - General Status of Field Activities.

J. Fisher reported that piers E/W 10 continue on active jacking, the deadmen continue to be cured and monitored for strength prior to excavation in the drop pits, the E/W8 jackstands have been released for installation, and a drill permit is being prepared to allow chipping concrete to install grillage beam upper leveling plates. (CLOSED ITEM)

Item 46-4 - SWPS Stop Work Order.

J. Fisher stated that the Stop Work Order on the SWPS was released yesterday afternoon. Today three drill rigs will resume work on installation of wells and soldier piles. (CLOSED ITEM)

Item 47-5 - E/W8 Grillage Beam Inspection.

J. Fisher stated that the NCR's on the Grillage Beam welding were adjusted to allow for any additional nonconformance observed during beam clean-up to be added to the original NCR. A. Scott stated that MPQAD was bringing in an in-house welding engineer to review the NCR's on the Grillage Beam. (CLOSED ITEM)

Item 46-6 - Field Activities.

A. Scott stated that there appeared to be six items of work on the E/W8 Grillage Beam installation that could be accomplished instead of the idle time that exists now in both drifts. A list of these items was provided and J. Fisher said he would investigate. (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 3, 1983

Present For:

<u>Consumers Power</u>	<u>Bechtel</u>	<u>MPQAD</u>	<u>Stone & Webster</u>
None	J. Fisher E. Cvikl L. Weight	G. Carpenter	A. Scott P. Barry
			<u>Parsons</u> V. Madill

Purpose

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

Discussion

Item 46 - 7 - General Status of Field Activities.

L. Weight reported that work on the BWST for the next few days would consist of stripping forms from the mudmat placement, backfilling along side the mudmat, and grouting shear connectors.

The electrical conduit installed for the Auxiliary Building underpinning instrumentation has to be moved because of future interferences and load transfer cannot be accomplished on pier E/W8 until this is completed.

J. Fisher reported that load transfer for E/W8 is scheduled for later this week. Concerning A. Scott's observation in Item 46-6, J. Fisher stated these items were not worked on because of the survey verification, a required Mergentime shop drawing, and an FCR describing grouting details were not completed until yesterday. Work is starting on these items and on the center drop pit today.

J. Fisher reported that work in the SWPS resumed yesterday and that one soldier pile was completed today. (CLOSES OUT ITEM 46-6)

Item 46 - 8 - Drawing Revisions to Incorporate FCR's etc.

P. Barry stated that the drawing showing the drop pit was difficult to follow because of the number and complexity of drawing change documents attached even though this number was still within the limits of their program. E. Cvikl reported that project engineering will start to update drawings when five change documents, not including one-time deviations, are issued against the drawing. More change documents can be issued while the drawing is being revised. (CLOSED ITEM)

Item 46 - 9 - Lagging for SWPS Piers.

V. Madill requested the status of the lagging drawings for the SWPS piers. The lagging for the soldier beam sheeted pits has been supported during installation prior to backpacking by metal straps hung from the lagging above. This is similar to the erection details for the Auxiliary Building pits but no erection details were provided on the design drawings. Will the details for the SWPS pier lagging be shown on the drawing? (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 4, 1983

Present For:

<u>Consumers Power</u>	<u>Bechtel</u>	<u>MPQAD</u>	<u>Stone & Webster</u>
R. Wieland	J. Fisher E. Cvikl J. Gaydos	G. Carpenter	A. Scott P. Barry W. Kilker
			<u>Parsons</u> V. Madill

Purpose

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

Discussion

Item 46-10- BWST Foundation Crack Mapping.

E. Cvikl stated that Resident Engineering has reviewed the crack mapping now that sandblasting is complete. The Engineering decision is that no additional crack grouting is required. (CLOSED ITEM)

Item 46-11- Weekly Scheduling Meeting.

J. Fisher reminded the group that every Thursday there is a meeting where Bechtel field supervisors, etc. are familiarized with the Subcontractor's and Bechtel direct hire projected 3 week work schedule. (CLOSED ITEM)

Item 46-12- E/W8 Grillage Beam Leveling Plate Grouting.

J. Fisher reported the plates require a nipple fitting modification since these plates will be pressure grouted rather than dry-packed. (CLOSED ITEM)

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

Held at Midland Site Location
Midland, Michigan
August 5, 1983

Present For:

Consumers Power

R. Wieland

Bechtel

J. Fisher
E. Cviki
J. Gaydos

MPDAD

G. Carpenter

Stone & Webster

W. Kilker
P. Barry
A. Scott

Parsons

Purpose

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

Discussion

Item 46-13 - NIR # 13 Status.

W. Kilker reported that NIR # 13 was closed-out yesterday. (CLOSES OUT ITEM 45-1Q.)

Item 46-14 - E/W8 Grillage Leveling Plate Building Overlap.

A. Scott and P. Barry stated that it appears one of the leveling plates for the grillage transfer beams will overlap from the EPA area onto the FIVP. Will this be a problem? E. Cviki will verify the measurement and report on any required resolution. (OPEN ITEM)

Item 46-15 - Answers to Assessment Team Questions on SWPS Retaining Bracing Drawings.

E. Cviki provided the Team with written answers to questions submitted by P. Parish on July 26. W. Kilker stated the replies would be reviewed and any clarifications or additional comments forwarded if required. (CLOSES OUT ITEMS 45-19)

Item 46-16 - SWPS Pier Lagging.

In response to a question of V. Madill (ref. Item 46-9), J. Fisher stated that the details for erection support need not be shown on the design drawings. Each set of lagging is designed to function as a unit and it is the Subcontractor's prerogative to strap or bolt sets together to facilitate the installation. (CLOSES OUT ITEMS 46-9).

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

Held at Midland Site Location
Midland, Michigan
Week of August 1 - 5

No Weekly MPQAD meeting was held this week.



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

August 4, 1983

J. O. No. 14358
Ref. MPF 45

Attention Mr. R. Cook

RE: DOCKET NO. 50. - 329/330
MIDLAND PLANTS - UNITS 1 & 2
INDEPENDENT ASSESSMENT OF UNDERPINNING
REPORT NO. 45

A copy of the Independent Assessment of Underpinning, Weekly Report No. 45 for the period of July 24, 1983 through July 30, 1983 is enclosed with this letter. Included as attachments, are the minutes of the daily meeting 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. S. Lucks by Webster

A. Stanley Lucks
Project Manager

Enclosures

ASL/pd

~~8310170622~~ 17pp

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

Weekly Report No. 45

July 24, 1983 through July 30, 1983

Personnel on Site

Stone & Webster Michigan, Inc.

P. Barry	7/25 - 7/26
W. Kilker	7/25 - 7/28
B. Holsinger	7/25 - 7/27
A. Scott	7/25 - 7/30
A. Lucks	7/26 - 7/27
S. Rossier	7/26 - 7/27
P. Majeski	7/27 - 7/30

Parsons, Brinckerhoff Michigan, Inc.

P. Parish	7/25 - 7/29
T. Kuesel	7/26 - 7/27

Meetings Attended

<u>Date</u>	<u>Represented</u>	<u>Purpose</u>
7/25 - 7/29	Stone & Webster Bechtel Consumers Power Parsons	Daily Meetings
7/26	Stone & Webster Consumers Power	Weekly MPQAD Meeting
7/26	Stone & Webster Bechtel Consumers Power Parsons Mergentime	Meeting to discuss Contingency Plan for Support of EPA

Activities

Construction:

Pier E8: The installation of the lower leveling plate was completed and the installation of the transfer frame assembly was started. Excavation for the tell-tale instrumentation was completed and the installation of the instrumentation was started.

East Side Zone Excavation: The installation of the reinforcing steel for the deadman and tieback system was completed and the placement of concrete including the mudmat was made.

Pier E10: The pier remained on active jacking throughout the week.

Pier W8: The installation of the lower leveling plate was completed and the installation of the transfer frame assembly was started.

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

West Side Zone Excavation: The excavation and the reinforcing steel for the deadman and tieback system was completed and the placement of concrete including the mudmat was made.

Pier W10: The pier remained on active jacking throughout the week.

SWPS: No work was performed at this structure during this week because of the Stop Work Order and nonconformance restrictions in effect.

BWST: A concrete mudmat was placed around the existing foundation at the west tank. Removal of laitance from the existing concrete surface by sandblasting continued. The grouting of the shear connection bolts continued.

UAT: The preparatory work inside of the UATs prior to cutting through the pipe continued.

Quality Control Documentation and Records

Reviewed the effectiveness of Quality Action Requests (QAR) as a mechanism for addressing quality concerns.

Witnessed that Quality Inspections being performed for concrete placement.

Observations

Construction: The placement of concrete for the deadman and tieback was accomplished in a very organized and efficient manner. Due to the constraints placed on construction by the sequencing requirements, a very limited amount of work could be performed on the Auxiliary Building underpinning until such time as the deadman concrete attains required strength. Although pre-assembly of the load transfer frame assemblies was made in the field prior to installation at Piers E/W8, problems were encountered during installation due to tolerances. Resolution of these problems await an Engineering review and decision.

Additional Work Activity Packages were approved the latter part of the week and will permit work in other areas to commence upon completion of load transfer at Pier E/W8.

Due to the grouting problems experienced while grouting the lower levelling plates for Piers E/W8, procedural changes have been implemented to resolve the problems with voids.

On July 26, and 27, 1983, Mr. R. T. Kuesel, Chairman of the Board of Parsons Brinckerhoff, and Mr. S. C. Rossier, Assistant Engineering Manager of Stone & Webster Engineering Corporation visited the jobsite. After touring the site, Mr. Kuesel and Mr. Rossier indicated that all work areas were well organized and the underpinning work viewed was of a very high quality, well above the industry norm. They further noted that the welding for the grillage beams and load transfer frames that were examined in the storage area was of excellent quality and, again, above that normally seen in underpinning operations.

Quality Control, Documentation and Records:

1.) In reviewing the effectiveness of the QAR system the Assessment Team determined that MPQAD had, on occasion, used an extreme interpretation of the term "indeterminate" to justify the issuance of NCRs. In these cases the NCRs were written primarily to obtain an expeditious response to requests for additional information from Project Engineering. When FSO has elected to rework the nonconforming items, Project Engineering response is not required, thus the original purpose of issuing the NCR is thwarted. The Assessment Team believes that request for additional information would more appropriately be handled through use of the QAR system. However, there are several shortcomings of the QAR system as it is presently used:

a. QARs are only being written by QA. Quality Control has a first-hand knowledge of concerns and should be able to originate a QAR.

b. QARs may not fully alert Project Engineering to possible impact on given work activity. The QAR system is too cumbersome for use in obtaining information when time is of the essence.

c. QARs are not routed to FSO, consequently, FSO may not be aware of the concern.

The Assessment Team believes that MPQAD should carefully consider modifying the existing QAR system or developing a new system for use in requesting information on Engineering requirements instead of relying on NCRs for this purpose. However, care must be exercised to insure that the system is not applied to truly nonconforming items.

It should also provide a mechanism to stop affected work until resolution is obtained. This latter requirement allows for the situation where a nonconformance is suspected but unproven, thus requiring additional Engineering input and/or testing and inspection.

2.) Observed US Testing Laboratory personnel perform sampling and testing of concrete during concrete placement for deadman and tiebacks on west side. Testing and sampling was done in accordance to project procedures.

Work Activity Packages - An overview was performed on Work Activity Packages WAP 48,49 and 52. All questions and comments were satisfactorily answered. These work activity packages were found to include sufficient information to complete the work described.

Nonconformance Identification Report

<u>NIR No.</u>	<u>Description</u>	<u>Date</u>
13	PQCI Attribute for Plate Bearing Verification	(Opened) (Closed) 7/14/83

Open Item Requiring Resolution

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>Description</u>	<u>Closure Reference</u>
W.R.25, pg5	Commitment to assess training and personnel records.	Open

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

4

<u>Item No.</u>	<u>Description</u>	<u>Closure Reference</u>
W.R.26, pg.3	Commitment to assess proposed concrete mix designs.	45-7
W.R.29, DMN 4-4#5	Commitment on filling lagging louvers with packpacking material.	45-10
W.R.36, DMN 5-26#1	QA concerns of Programatic change effect on Procedure Revisions.	45-7
W.R.40, pg.3	Concerns on proposed concrete mix designs.	45-12
W.R.42, pg.3	Commitment to evaluate response to Grillage Installation PQCI	Open
43-24	Close-out of Assessment Team Open Items of Weekly Report 1-42	45-18
43-29	Discussion of Modification of No. of Inspection Sign-offs	45-13
43-4Q	Receipt Package Request	Open
43-5Q	Grillage Installation Questions	Open
44-7	Request for Chronology of Events Surrounding Reoccurence of loose Washers on W8 N-S Bulkhead	Open
44-20	Resolution of a Question on Need for Grillage Installation Procedural Change	Open
44-27	Commitment to Review Proposed Concrete Mix Designs	45-7
44-31	Resolution of Open Items from Weekly Report Nos. 1-42	45-18
44-2Q	Grillage Beam Receipt Inspection Package	Open
44-3Q	Status of Questions on Grillage Beam PQCI	Open
45-8	Test Cylinder for New Mix Designs with 60 Day Breaks	Open

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

<u>Item No.</u>	<u>Description</u>	<u>Closure Reference</u>
45-17	Existing Concrete Mix Slump Inadver- tency Margin	Open
45-19	SWPS Retaining Wall Questions	Open
45-1Q	Status of NIR #13	Open
45-7Q	Status of QA NCR on QC Certification	Open
45-8Q	Discussion on Mechanism of Ident- ifying Quality Concerns	Open

W E Keller
Project Engineer

A S [unclear] [unclear]
Project Manager

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

Held at Midland Site Location
Midland, Michigan
July 25, 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 J. Kelleher M. Lewis	R. Sevo	P. Barry W. Kilker B. Holsinger <u>Parsons</u> 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 45-1 - Status of Piers E/W8 Lower Leveling Plate Grouting.

J. Fisher reported that portions of the lower leveling plates had been regouted after void areas had been detected. Efforts are underway to avoid these installation problems in the future by increasing the size of the batching equipment and considering the introduction of bleed holes in the plates to allow air to escape during the placement. The Assessment Team agrees that procedural modifications are required to improve the installation quality. (CLOSED ITEM)

Item 45-2 - Rebar Threading NCR on E/W8 Grillage Tiebacks.

J. Fisher reported that the nonconformance on the reinforcing bar threading procedure requirements has not been resolved. Resolution is required in order to fully complete the deadman and drop-pit tieback installations. (CLOSED ITEM)

Item 45-3 - Status of Pier E/W8 Load Transfer.

J. Fisher reported that the pier load transfer would be likely toward the end of the week depending upon the leveling plate grout cure and resolution of fabrication nonconformances on jackstands. (CLOSED ITEM)

Item 45-4 - Status of Service Waterline Excavation.

J. Fisher reported the FSK for support of the electrical duct is in QA review. Resumption of the work is curtailed by release of this field sketch. (CLOSED ITEM)

Item 45-5 - QC Hold Tag Descriptions.

W. Kilker observed that over the past 1 - 2 weeks the descriptive portion of the Hold Tag has generally been a generic statement on preventing inaccessibility of the item to occur. The exact nature of the respective nonconformance has been found on attached forms. W. Kilker questioned if that was the intent of the recent change to the MPQAD tagging instructions. It was suggested the item being discussed in the weekly MPQAD/Assessment Team meeting. (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
 July 25, 1983

Item 45-6 - Unit 1 EPA Settlement.

J. Fisher and E. Cvikl reported that the settlement rate of the EPA (west-side) has reduced markedly over the past few days. The likelihood now is quite small of reaching the alert level before grillage installation is completed. Nevertheless, Mergentime has been notified to prepare the equipment to install temporary supports, if required. (CLOSED ITEM)

Item 45-7 - Approval of Superplasticized Concrete Mix.

G. Murray said the information on the proposed mix designs has been forwarded to the NRC and discussions are underway. P. Barry stated the Assessment Team has reviewed the SCN for the 3 proposed mixes and is satisfied that the qualification methodology was done properly. (CLOSES OUT ITEMS 44-27, WR # 26 pg.3 and WR# 40 pg. 3.)

Item 45-8 - Test Cylinder for New Mix Designs with 60-day Breaks.

P. Barry asked if the existing project documents address the test cylinder break requirements. J. Fisher will respond. (OPEN ITEM)

Item 45-9 - EPA - Grillage Support.

P. Parish questioned the group where there is background information on the consideration that went into design of this area support. G. Murray and M. Lewis stated that NRC Hearing Testimony is likely the best source of information. (CLOSED ITEM)

Item 45-10 - Lagging Lower Backpacking.

J. Fisher, in response to an outstanding open item, stated that it is the intent of the Contractor to minimize the amount of backpacking material left between lagging sets once the backpacking operation is completed in a given area. (CLOSES OUT ITEM 5 of Daily Meeting Notes of April 4 , Weekly Report # 29 and Item 44-31)

Item 45-11 - QA Programmatic Procedural Changes.

In response to an outstanding open item, R. Sevo verified that the necessary programmatic retraining and PQCI re-write was accomplished prior to the field use of the applicable documents (CLOSES OUT ITEM 1 of the Daily Meeting Notes of May 26, Weekly Report # 36)

Item 45-12 - Load Transfer Acceptance Criteria.

E. Cvikl and M. Lewis, in response to an outstanding open item, stated that settlement data used to determine the acceptance criteria for wedging-off the pier load will be based on settlement that occurs after rebound during the 125 percent to 110 percent jack load decrease. The Assessment Team agreed that this approach was acceptable. (CLOSES OUT ITEM 5 of the Daily Meeting Notes of June 30, Weekly Report # 41.)

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

Held at Midland Site Location
Midland, Michigan
July 25, 1983

Item 45-13 - Review of Number of Inspection Sign-offs Required for Pier Completion.

It was agreed by all representatives present that the discussion item on the proposal to review the number of inspection sign-offs required to complete a given pier should be considered closed for the purposes of this meeting. If FSO, SMO or MPQAD wishes to pursue this review it will be done by separate meetings.
(CLOSES OUT ITEM 43-29)

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

Held at Midland Site Location
Midland, Michigan
July 26, 1983

Present For:

<u>Consumers Power</u>	<u>Bechtel</u>	<u>MPQAD</u>	<u>Stone & Webster</u>
G. Murray	J. Fisher	R. Sevo	P. Barry
J. Schaub	E. Cvikl		W. Kilker
			A. Scott
			<u>Parsons</u>
			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 44-14 - Status of NCR on Rebar Threading.

J. Fisher reported that this NCR has not been resolved and the deadman tieback installation for the E/W8 grillages is impacted. In any case, J. Schaub advised FSO that MPQAD be notified ahead of time of any work to be done by Bechtel direct hire so that the proper inspections can be planned and executed. (CLOSED ITEM)

Item 45-15 - QC Hold Tag Description.

W. Kilker reported that a discussion was held with MPQAD on the wording on hold tags and supplementary information forms. MPQAD stated they intend to identify the nonconformance on the Hold Tag but restrict the extent of the impacted area information to the supplementary form description. (CLOSES OUT ITEM 45-5)

Item 45-16 - EPA Temporary Support.

J. Schaub & J. Fisher reported there is a meeting today to discuss the various temporary support options for the EPA if required. (CLOSED ITEM)

Item 45-17 - Existing Concrete Mix Slump Inadvertency Margin.

P. Barry commented that the design basis for the existing concrete mix design should be verified to insure code compliance. E. Cvikl is investigating. (OPEN ITEM)

Item 45-18 - Resolution of Open Items from Assessment Team Report.

W. Kilker reported that the open items discussed in the daily meeting of July 25 have been closed and will be described as such in Weekly Report # 45. (CLOSES OUT ITEM 44-31 and 43-24)

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

Held at Midland Site Location
Midland, Michigan
July 26, 1983

Item 45-19 - SWPS Retaining Wall Questions.

P. Parish submitted a series of questions on the SWPS retaining bracing system drawings. FSO will respond. (OPEN ITEM)

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

Held at Midland Site Location
Midland, Michigan
July 27, 1983

Present For:

<u>Consumers Power</u>	<u>Bechtel</u>	<u>MPQAD</u>	<u>Stone & Webster</u>
R. Wheeler	J. Fisher E. Cvikl D. Lavelle	R. Sevo	P. Barry W. Kilker A. Scott A. Lucks S. Rossier
			<u>Parsons</u>
			P. Parish T. Kuesel

Purpose

Discussion

Item 45-20 - Rebar Threading NCR.

J. Fisher reported the NCRs on the tieback threaded rebars have been resolved and concrete placement is scheduled for today. (CLOSED ITEM)

Item 45-21 - NPS Grillage Material Status.

D. Lavell explained that a number of NCRs remain to be resolved on the four major NPS material shipments received at the site. All QC inspections are, however, complete and the type of nonconforming conditions now being addressed should not reoccur. Once the jackstands and transfer frame are released to Mergentime approximately 5 days will be required to initiate load transfer. (CLOSED ITEM)

Item 45-22 - Grout Cure Temperature.

E. Cvikl reported the manufacturer of the grout used on the project has issued a letter describing the recommended curing temperatures. Engineering will indicate any required changes to the project documents. (CLOSED ITEM)

Item 45-23 - NRC Approval of Superplasticized Concrete Mixes.

R. Wheeler stated the NRC had approved the use of the proposed superplasticized concrete for the underpinning work. (CLOSED ITEM)

Item 45-24 - EPA Temporary Support.

J. Schaub reported that the use of jackpiles or other form of temporary support of the EPA has for now been discounted. Rather the Contractor will concentrate on installing the grillage beams as originally planned. (CLOSED ITEM)

Item 45-25 - Work Release Requests.

R. Wheeler stated that SMO will be requesting work release on piers CT1 & CT12, drift to KC3 and KC10, and two control tower piezometers. W. Kilker stated the Assessment Team had reviewed these packages and concurs with their adequacy. (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
July 28, 1983

Present For:

<u>Consumers Power</u>	<u>Bechtel</u>	<u>MPQAD</u>	<u>Stone & Webster</u>
J. Schaub	J. Fisher E. Cvikl J. Gaydos	R. Sevo	W. Kilker A. Scott P. Majeski
			<u>Parsons</u>
			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 45-26 - E/W Load-Settlement Plots.

J. Schaub requested a copy of the load time history vs. settlement plots for the E/W10 piers. E. Cvikl will provide copies of this at the meeting on 7-29.
(OPEN ITEM)

Item 45-27 - E/W8 Tieback/Deadman Status.

J. Fisher reported that concrete at both tieback/deadman has been placed. However, the concrete strength must be 4 ksi before the drop-pits can be completed. In the meantime, the work will be limited to leveling plate installation. (CLOSED ITEM)

Item 45-28 - Disposition of NCR's.

J. Schaub reported that a recent NCR on rebar threading took 14 hours to resolve because all of the proper signators were not on-site at night. The importance of supporting the 24 hour/day construction activity was stressed. All groups must assign adequate personnel to all shifts. (CLOSED ITEM)

Item 45-29 - QC Receipt Inspection of NPS Materials.

J. Fisher reported all QC and MPQAD-Soils receipt inspection reports are closed. All shipped materials can now be forwarded to Mergentime for installation and/or the necessary rework. (CLOSED ITEM)

Item 45-30 - SWPS Status.

J. Fisher stated that FSO has prepared all of the procedural changes required to re-start the SWPS work. However, SMO must review and approve the documents.
(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
July 28, 1983

Item 45-31 - Grillage Beam Re-work Impact on Installation.

A. Scott questioned if enveloping all of the re-work requirements into one NCR would impact the need for any of the beams for temporary support of the EPA if required. J. Schaub and R. Sevo said that a beam could be released for such a situation if the need arose. (CLOSED ITEM)

Item 45-32 - Concrete Workability.

P. Parish commented on the good workability of the concrete placed on 7-28 for the west side tieback/deadman. J. Gaydos reported the slump for that material was 4" - 5". (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
July 29, 1983

Present For:

<u>Consumers Power</u>	<u>Bechtel</u>	<u>MFQAD</u>	<u>Stone & Webster</u>
A. Blocher	J. Fisher E. Cvikl M. Blendy	G. Carpenter	A. Scott P. Majeski
			<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 45-33 - E/W Load-Settlement Plots.

E. Cvikl provided plots from long term loading of E/W10. (CLOSSES ITEM 45-26)

Item 45-34 - Service Water Pipe Replacement.

All FSK's are approved and thru Document Control. (CLOSED ITEM)

Item 45-35 - SWPS Retaining Wall Questions.

P. Parishes' memo (Item 45-19) forwarded to project for action. Completion date expected, 8-5-83. (CLOSED ITEM - Original Item 45-19 remains open for response.)

Item 45-36 - Review of Number of Inspection Sign-offs Required for Pier Completion.

A meeting is planned for 8/3/83 to begin discussion on two procedures as a trial to see if any significant reductions are possible. (CLOSED ITEM)

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

Held at Midland Site Location
Midland, Michigan
July 26, 1983

Present For:

Stone & Webster

A. Scott
W. Kilker
B. Holsinger

MPQAD

J. Meisenheimer
D. Horn
M. DeWitt

Purpose

This meeting is held each week to obtain information from MPQAD regarding the Soils Underpinning work at the Midland Plant Units 1 & 2.

Discussion

Item 45-1Q - Status of NIR # 13.

D. Horn stated the PQCI is in the process of being revised. Once the revision is complete the NIR can be closed. (OPEN ITEM)

Item 45-2Q - Status of Receipt Inspection of N.P.S. Materials.

MPQAD understands that the inspections are complete. However, the inspection reports and any nonconformance reports have not yet been completed. (CLOSED ITEM)

Item 45-3Q - Construction Related QA NCR's.

J. Meisenheimer stated that there was an area of concern with work performed by Bechtel direct hire personnel. (BOP) for Underpinning. The concern arose as the result of the lack of procedural requirements for Quality inspection. However, there may be some misinterpretations of the Q.A. requirements. This area of concern was discussed with SMO and FSO. The CPCo, Q.A. manager will be on site to provide a class on the intent of the MPQP-2 requirements for procedures for Bechtel work activities. J. Meisenheimer has instructed his staff to do a more thorough review of the Work Packages and has so informed FSO. In addition, he has requested that QA be present at the FSO daily meeting which is conducted with the Field Supervisors to go over the daily activities. J. Meisenheimer indicated that this is not a widespread concern in that the electrical, instrumentation and FIVP work activities have been performed to the project requirements. (CLOSED ITEM)

Item 45-4Q - Status of The Two Stop Work Orders.

J. Meisenheimer stated that for the BWST, the BOP, PQCI should be out today. At that time the impact on the need for retraining and recertification will be evaluated. For the SWPS a checklist on commitments has been developed and evaluated for compliance. The PQCI's have been developed, retraining and where required, re-examination is in-progress. (CLOSED ITEM)

Item 45-5Q - Status of U. S. Testing.

M. DeWitt stated that two NCR's and one QAR have been issued. One NCR dealt with U. S. Testing timely notification for Q. C. witness points. The second NCR dealt with U.S. Testing not having personnel certified to sample the stockpile and splitting of these samples. It was pointed out that the Q.C. over-inspection has shown the U.S. Testing personnel do adhere to the procedures. (CLOSED ITEM)

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

Held at Midland Site Location
Midland, Michigan
July 26, 1983

The QAR was written to clarify the intent of U. S. Testing QA program with respect to tensile testing of rebar. The procedure implies that a certified Level I is to assist a Level II in performing the test. This appears to be more stringent than the ANSI definition of capabilities for Level I vs. Level II. (CLOSED ITEM)

Item 45-6Q - Extent of Descriptions Included on Hold Tags.

W. Kilker asked whether sufficient descriptive data was being included on Hold Tags. J. Meisenheimer stated that Hold Tags are a " flag " to identify a nonconforming item to all Field personnel. The mechanism for controlling the nonconforming item is the Nonconformance Report and the Conditional Release Report. Too much information on the Hold Tags could be misleading. This explanation was acceptable to S & W. (CLOSED ITEM)

Item 45-7Q - Status of QA NCR On QC Certification.

B. Holsinger asked for the status of the recent NCR's on QC inspector's certification. J. Meisenheimer stated that MPQAD is cognizant of the need for corrective action to assure that in every case the QC inspector is properly certified to the PQCI being utilized. J. Meisenheimer will provide a status next week. (OPEN ITEM)

Item 45-8Q - Discussion on Mechanism of Identifying Quality Concerns.

B. Holsinger stated that in the process of the recent grouting and regrouting of the E/WB lower leveling plates (see Assessment Team Daily Meeting Notes Items 44-5, 44-25 and 45-1) the QC inspector had identified a potential concern that there were no specific acceptance criteria. As a result, an NCR was written to require an engineering action to resolve the concern. However, it must be realized that there can be very subtle differences between items being nonconforming due to an indeterminate condition and those that are indeterminate quality/engineering requirements. B. Holsinger questioned the use of the NCR's in this case since technically there was no nonconforming item.

B. Holsinger, raised the question of the need for a Quality mechanism other than an NCR to bring such concerns to the attention of Engineering. J. Meisenheimer stated that a QAR was, in fact, such a mechanism. A discussion followed on the lengthy procedural requirements needed to " cycle " a QAR and whether this would render a QAR useless for this type of situation. J. Meisenheimer will take action and provide an update next week. (OPEN ITEM)



STONE & WEBSTER MICHIGAN, INC.

P.O. Box 2325, BOSTON, MASSACHUSETTS 02107

Mr. J. Harrison
U.S. Nuclear Regulatory Commission
799 Roosevelt Road
Glen Ellyn, IL 60137

August 9, 1983

MPS-23

Handwritten notes and stamps on the right side of the page, including a date stamp 'AUG 12 1983' and a signature.

DOCKET NO. 50-329-330
MIDLAND PLANT - UNITS 1 AND 2
INDEPENDENT ASSESSMENT OF UNDERPINNING
AFFIDAVITS AND RESUMES FOR ADDITIONAL TEAM MEMBERS

With the extended duration and scope of the independent assessment of the underpinning work at the Midland Plant, Stone & Webster will have to supplement the staff presently assigned to the Assessment Team. In this regard, affidavits and resumes for additional team members that are scheduled for assignment to the team are enclosed with this letter:

- Joseph E. Springer - Structural Engineer
- William C. Craig - Senior Structural Engineer
- Michael J. Abrahams - Manager - Structural Department
Parsons, Brinckerhoff, Quade & Douglas

Stone & Webster has determined that these individuals meet the independence requirements for this work.

Mr. J. E. Springer will be replacing Mr. P. F. Barry who is presently assigned as the Structural Engineer on the Assessment Team. Mr. W. C. Craig will be available on an as-needed basis for special assessment tasks of short duration. Mr. J. Abrahams's area of experience is welding. He has previously assisted the Assessment Team in reviewing welding procedures as support from the Parsons Brinckerhoff Quade & Douglas headquarters office and may provide additional support in the future.

If you have any questions, please contact me at (617) 589-2067.

ASL
A. S. Lucks
Project Manager

Enclosures

ASL:JAM

BX2422.50.00-15

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UNITED STATES OF AMERICA
NUCLEAR REGULATORY COMMISSION
ATOMIC SAFETY AND LICENSING BOARD

In the Matter of
CONSUMERS POWER COMPANY
(Midland Plant, Units 1 and 2)

Docket No. 50-329 OM
50-330 OM
Docket No. 50-329 OL
50-330 OL

February 14, 1983

AFFIDAVIT OF

Joseph E. Springer

My name is Joseph E. Springer I am employed by Stone & Webster Engineering Corporation as Structural Engineer.

I am currently assigned to the team which is conducting an independent assessment of soils work at the Midland Nuclear Plant site. Prior to being given this assignment, I have never worked on any job or task associated with the Midland Project, or any job or task for or on behalf of Consumers Power Company, Bechtel, or the Mergentime Company relating to soils of underpinning. I have never been employed by Consumers Power Company, Bechtel, or Mergentime Company. I do not own any shares of Consumers Power Company, Bechtel, or Mergentime stock. Mutual funds or other funds in which I may have a beneficial interest, but over which I have no control, may own shares of Consumers Power Company, Bechtel, or Mergentime stock, of which I am unaware. A list of such funds in which I have an interest are attached. I have no relatives which are or have been employed by Consumers Power Company, Bechtel, or Mergentime Company.

Sworn and Subscribed Before Me This 27th day of July 1983

Christine M. Rowlett

Notary Public

ARAPAHOE COUNTY; ENGLEWOOD, COLORADO

My Commission Expires 8-6-86

UNITED STATES OF AMERICA
NUCLEAR REGULATORY COMMISSION

ATOMIC SAFETY AND LICENSING BOARD

In the Matter of
CONSUMERS POWER COMPANY
(Midland Plant, Units 1 and 2)

Docket No. 50-329 OM
50-330 OM
Docket No. 50-329 OL
50-330 OL

February 14, 1983

AFFIDAVIT OF

W.C. Craig

My name is W.C. Craig. I am employed by Stone & Webster Engineering Corporation as Senior Structural Engineer.

I am currently assigned to the team which is conducting an independent assessment of soils work at the Midland Nuclear Plant site. Prior to being given this assignment, I have never worked on any job or task associated with the Midland Project, or any job or task for or on behalf of Consumers Power Company, Bechtel, or the Mergentime Company relating to soils of underpinning. I have never been employed by Consumers Power Company, Bechtel, or Mergentime Company. I do not own any shares of Consumers Power Company, Bechtel, or Mergentime stock. Mutual funds or other funds in which I may have a beneficial interest, but over which I have no control, may own shares of Consumers Power Company, Bechtel, or Mergentime stock, of which I am unaware. A list of such funds in which I have an interest are attached. I have no relatives which are or have been employed by Consumers Power Company, Bechtel, or Mergentime Company.

Sworn and Subscribed Before Me This 5th day of August 1983

Catherine A. Labucco

Notary Public

Suffolk County, Massachusetts

My Commission Expires November 8, 1985

UNITED STATES OF AMERICA
NUCLEAR REGULATORY COMMISSION
ATOMIC SAFETY AND LICENSING BOARD

In the Matter of
CONSUMERS POWER COMPANY
(Midland Plant, Units 1 and 2)

Docket No 50-329 OM
50-330 OM
Docket No 50-329 OL
50-330 OL

February 11, 1983

AFFIDAVIT OF MICHAEL J. ABRAHAM

My name is Michael J. Abraham I am employed by Parsons Brinckerhoff Quade & Pengel, Inc.
as Manager, Structural Department.

I am currently assigned to the team which is conducting an independent assessment of soils work at the Midland Nuclear Plant site. Prior to being given this assignment, I have never worked on any job or task associated with the Midland Project, or any job or task for or on behalf of Consumers Power Company, Bechtel, or the Mergentime Company relating to soils or underpinning. I have never been employed by Consumers Power Company, ~~Bechtel~~, ^{Parsons} or Mergentime Company. I do not own any shares of Consumers Power Company, Bechtel, or Mergentime stock. Mutual funds or other funds in which I may have a beneficial interest, but over which I have no control, may own shares of Consumers Power Company, Bechtel, or Mergentime stock, of which I am unaware. A list of such funds in which I have an interest are attached. I have no relatives which are or have been employed by Consumers Power Company, Bechtel, or Mergentime Company. I worked for Bechtel in 1964-1965, San Francisco, California.

Sworn and Subscribed Before Me This 4 Day of APR 198³

Michael J. McKinney
Notary Public
Jackson County, Michigan NEW YORK, NEW YORK

My Commission Expires March 30, 1985

MICHAEL J. MCKINNEY
NOTARY PUBLIC, State of New York
No. 41-2628860
Qualified in Queens County
Certificate Filed in New York County
Commenced Office March 30, 1983

3361B
April 1983

SPRINGER, JOSEPH E.

STRUCTURAL ENGINEER
STRUCTURAL DIVISION

EDUCATION

University of Colorado, B.S. in Civil Engineering - 1973

University of Colorado, M.S. in Civil Engineering - 1982

LICENSES AND REGISTRATIONS

Professional Engineer - Colorado, Nebraska, Oregon

EXPERIENCE SUMMARY

Mr. Springer is a Structural Engineer in the Structural Division at the Denver Operations Center. He is currently coordinating the preparation and checking of pipe support calculations for the Nine Mile Point II Nuclear Project. Recently, he was the Lead Structural Engineer (on-site) on a nuclear power plant for Public Service Company of Colorado. His current assignment involves the design of pipe support for plant piping. Previous assignments have included the design of a greenhouse for Northern States Power Company; the design of a technical support center for Portland General Electric Company; the design of a radwaste container storage facility, design of duct and pipe supports, design of fireproofing systems and design of shielding for radiological protection for Omaha Public Power District; stability analysis using post-tensioned anchors on the Osage Hydroelectric Project, Bagnell Dam for Union Electric Company; design of an ash pond, pipe supports, and foundations for the coal conveyor system on Wyodak Generating Station; and structural design of Rock Island Hydroelectric Project for PUD No. 1, Wenatchee, Washington.

Previously, he was employed by Stearns-Roger Incorporated, Denver, Colorado as a Structural Engineer in the Power Division, and was involved with initial studies and structural analysis of the 450 MW coal-fired Yampa Generation Station.

Prior to Stearns-Roger, Mr. Springer was employed by Howard, Needles, Tammen and Bergendoff, as a Civil Engineer. In this position he was involved with interstate highway design.

DETAILED EXPERIENCE RECORD
SPRINGER, JOSEPH E. - 86414

STONE & WEBSTER ENGINEERING CORPORATION, DENVER, COLORADO
(May 1975 to Present)

Appointments:

Structural Engineer - Mar. 1981
Engineer - Oct. 1979
Sr. Designer - July 1977
Designer - May 1975

Nine Mile Point II, Nuclear Generating Plant (Jan. 1983 to Present)

As STRUCTURAL ENGINEER, Mr. Springer is responsible for coordinating the preparation and checking of pipe support calculations.

Public Service Company of Colorado, Ft. St. Vrain Nuclear Generating Station
(Nov. 1981 - Jan. 1983)

As LEAD STRUCTURAL ENGINEER, responsible for preparing seismic and thermal design for large bore pipe supports for plant piping and responsible for insuring the constructability of these pipe supports.

Northern States Power Company, Prairie Island Nuclear Generating Station
(Apr. 1981 - Nov. 1981)

As STRUCTURAL ENGINEER, responsible for preparing seismic structural design and drawings for screenhouse structure.

Portland General Electric Company (Sept. 1980 - Nov. 1981)

As LEAD STRUCTURAL ENGINEER, responsible for preparing specifications, seismic structural design, foundation design, and drawings for a Technical Support Center. Also responsible for coordinating the efforts of the other disciplines such as electrical, mechanical and architectural.

Omaha Public Power District, Omaha, Nebraska, Ft. Calhoun Nuclear
Generating Station (Nov. 1978 - Mar. 1981)

As STRUCTURAL ENGINEER, prepared specifications, seismic structural design and drawings for the following systems: Post Accident Sampling System; Auxiliary Building Crane Modifications; Radioactive Waste Solidification System; Diesel Generator Enclosure; Switchgear Room Fire Protection; Redundant Cable Tray Separation Fireproofing; Radwaste Container Storage Building; HVAC for the steam generator blowdown area; HVAC for the switchgear room; pipe support analysis for auxiliary building system piping; and radiological plant shielding. Specific design also included using finite elements and dynamic model analysis.

Union Electric Company, St. Louis, Missouri, Osage Hydroelectric Project -
Bagnell Dam (Mar. 1978 - Nov. 1978)

As SENIOR DESIGNER, responsible for preparing the design and drawings for post-tensioning of Bagnell Dam.

Pacific Power & Light Company, Wyodak Generating Station, 330 MW - Coal
(Dec. 1976 - Mar. 1978)

As SENIOR DESIGNER, performed design and checking of drawings for ash pond, and coal conveyor foundation modification. Performed design for pipe support for Unit No. 1 Wyodak Generating Station.

PUD No. 1, Chelan County, Washington, Rock Island Hydroelectric Project,
456 MW (May 1975 - Dec. 1976)

As DESIGNER, performed design and checking of drawings for Rock Island Hydroelectric Project.

STEARNS-ROGER, INC., DENVER, COLORADO (Apr. 1974 - May 1975)

STRUCTURAL ENGINEER IN THE POWER DIVISION

Colorado Ute Electric Association, Yampa Generating Station, Unit No. 2,
450 MW - Coal

Performed structural layout and design of steel framing and concrete foundation of main plant and miscellaneous structures.

HOWARD, NEEDLES, TAMMEN & BERGENDOFF (Jan. 1974 - Apr. 1974)

As CIVIL ENGINEER, performed design and checking of drawings for interstate highway design.

September 1982

CRAIG, WILLIAM C.

SENIOR STRUCTURAL ENGINEER
STRUCTURAL DIVISION

EDUCATION

University of Delaware - Bachelor of Civil Engineering 1957
Boston University - MBA Core Courses 1974-1978
Accounting, Financial Management, Statistics, Operations Management,
Organizational Behavior, Macro-Economics, Marketing
Stone & Webster Continuing Education Program
Nuclear Reactor Engineering 1968
Leadership Skills 1973
Creating a Team Approach 1976
Engineering Assurance Procedures 1973-1976
Storage and Flow of Solids 1982

LICENSES AND REGISTRATIONS

Registered Professional Engineer - Pennsylvania, New Jersey, Maryland, West Virginia, and Wisconsin

EXPERIENCE SUMMARY

Mr. Craig has 26 years of experience with Stone & Webster Engineering Corporation (SWEC) in the consulting engineering industry. He is currently a Project Engineer and Senior Structural Engineer with a diverse background which includes extensive experience in the design and engineering of nuclear and fossil fueled power plants, waste water treatment systems, high voltage transmission lines, industrial projects and conceptual design for high level nuclear waste facilities.

As a Project Engineer, he has been responsible for the administration, coordination and execution of all engineering and design activities on projects and for the cost of engineering services. He is also responsible for monitoring the entire cost of equipment and materials purchased through the headquarters office.

Mr. Craig is currently the Structural Division representative to the Conceptual Engineering Group where he recently supervised the development of site plans, conceptual foundation designs and steel framing drawings for a two unit (700 MW each) lignite fueled power plant for Houston Lighting and Power Company. This current assignment also involved participation in the development of the SWEC Reference Fossil Power Plants for 300, 600 and 750 MW units.

Mr. Craig is also responsible for the Structural Division's program for the enhanced use and development of computer graphics systems. The Division's standard details for architectural, concrete and structural steel have been

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entered into the computer data base. The use of three-dimensional capabilities have been investigated and a variety of software packages are under development for steel design, interface with main frame systems, and productivity enhancement are in progress. The structural work for the above Houston Project was performed on computer graphics.

Mr. Craig, as Project Engineer, recently completed a 600 gpm waste treatment system which was designed for confined site conditions for the Mystic Station of Boston Edison Company. This project involved economic evaluations of secondary treatment systems, definition of waste sources, volumes, pH, and temperature. The project involved the development of large equalization ponds; evaluation of lining materials; monitoring wells, leachate collection system; and design of systems to meet the requirements of the station's NPDES permit and RCRA regulations on hazardous wastes from a fossil plant.

His recent experience as Project Engineer for the Wisconsin Utilities Project, a standard two unit, nuclear fuel, power plant (900 MW each), involved site selection, site development, cooling systems evaluations, nuclear steam supply evaluations, and preparation of licensing documents such as the PSAR, ER 316a and 316b Demonstrations. This assignment also involved interface with both local, state, and federal agencies.

PUBLICATIONS

"Design Parameters for EHV Steel Structures," Southeastern Electronic Exchange, Tampa, Florida, October 24, 1963.

DETAILED EXPERIENCE RECORD
CRAIG, WILLIAM C.

STONE & WEBSTER ENGINEERING CORPORATION, BOSTON, MA (Aug 1956 to Present)

Appointments:

Project Engineer - Feb 1977
Assistant Project Engineer - Nov 1973
Senior Structural Engineer - Apr 1971
Structural Engineer - Dec 1965
Engineer, Structural Division - Aug 1956

Conceptual Engineering/Computer Graphics (May 1980-Sept 1982)

Assigned as the Structural Division representative to the Conceptual Engineering Group where he supervised and participated in the following work:

- a. Site plans, conceptual foundation arrangements, and steel framing layouts for a two unit (700 MW) lignite fueled power plant for Malakoff Electric Generating Station for Houston Lighting and Power Company.
- b. Conceptual foundation arrangements and steel framing layouts for a 650 MW coal fueled power plant, Unit No. 1, Patriot Generating Station for Indianapolis Power and Light Company.
- c. Conceptual development of the Reference Fossil Power Plant for 300, 600, and 750 MW units.
- d. Conceptual development of a reference modular concept for on-site radwaste storage facility for operating nuclear power plants.

Computer Graphics Development

As DIVISION REPRESENTATIVE, responsible for the program for the enhanced use and software development of computer graphics systems. Responsible for organizing the computer data base for the Division's standard detail for architectural, concrete and structural steel. The use of three-dimensional capabilities have been investigated and a variety of software packages are under development for steel design, interface with main frame systems, and productivity enhancement are in progress. The structural work for the above Houston Project was performed on computer graphics.

Wastewater Treatment System - Mystic Station, Boston Edison Company
(May 1980-Mar 1982)

As PROJECT ENGINEER, responsible for the administration, coordination, and execution of all engineering and design activities associated with a wastewater treatment system designed to meet current discharge standards. The system is designed to handle waste flows of 800,000 gal per day. Site

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soil conditions require unique solution to the design of all system components.

Structural Division, Marketing, and Studies (Aug 1979-Apr-1980)

Assignments during this period included preparation of structural division guidelines, standards, and procedures, industrial marketing efforts on projects for IBM, duPont, and NEN, a material of construction study for Pepsi-Cola, and problem report investigations.

In February of 1979, Mr. Craig visited the nuclear facilities at Marcoule, France and Karlsruhe, Germany to study the extent of European technology in the vitrification of high level nuclear wastes and the design concepts for interim air cooled dry storage of packaged wastes.

Wisconsin Utilities Project, Wisconsin Electric Power Company
(Feb 1977-July 1979)

As PROJECT ENGINEER, responsible for the administration, coordination, and execution of all engineering and design activities associated with licensing of an 1,800 MW (two 900 MW) PWR nuclear power plant. A unique part of this project was an extensive site investigation (over 100 sites) in Wisconsin and Upper Michigan, development of a standard PSAR, three site addendums, and three different site environmental reports.

Wisconsin Utilities Project, Wisconsin Electric Power Company
(Nov 1973-Jan 1977)

As ASSISTANT PROJECT ENGINEER, responsible for a standard two-unit nuclear feed plant (1,800 MW) that can be constructed on at least three sites in Wisconsin. Coordinated the engineering efforts of the environmental, structural, construction, geotechnical, control, electrical, and all groups performing seismic analysis of equipment and structures. Also, performed duties related to estimating efforts, manpower projections, and general scheduling.

Wisconsin Utilities Project, Wisconsin Electric Power Company
(July 1972-Oct 1973)

As LEAD STRUCTURAL ENGINEER, responsible for a two-unit nuclear fuel plant (1,000 MW). Participated in site selection, mapping, design instructions, PSAR, environmental reports, NSSS evaluation schedule, and estimates. Also, participated in plant arrangement and related studies.

Precipitator Upgrading - Units 1 and 2, Virginia Electric and Power Company
(June 1971-June 1972)

As LEAD STRUCTURAL ENGINEER, responsible for structural engineering for additional precipitators for two 560 MW fossil fuel plants. Work included preparation of contract specifications for precipitators and structures, foundation design and relocation of facilities, and roadways for these structures. Also, participated in project control of work and schedule of subcontractors.

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1973 Extension - Mt. Storm Power Station, Virginia Electric and Power Company (Apr 1969-June 1972)

As LEAD STRUCTURAL ENGINEER, responsible for structural engineering for a 650 MW fossil fuel plant including coal handling and corrective work to existing unit facilities. Prepared design instruction, schedules, estimates, specifications, comparison of bids, design supervision. Also participated in basic plant layout decisions.

Work also includes alterations to a 500 kV substation and the transformer leads over the powerhouse roof.

500 and 230 kV Addition to Conastone Substation, Baltimore Gas and Electric Company (Jan 1968-Mar 1969)

As LEAD STRUCTURAL ENGINEER, responsible for structural engineering for the addition to a 500/230 kV substation using aluminum structures. Prepared new structure design, made studies to select economic foundation type, modified existing structures, and prepared bidding documents and construction specifications.

Transmission Line Estimate, Savannah Electric and Power Company

As PROJECT ENGINEER for the preliminary design and preparation of an estimate for a double circuit, 115 kV, 10 mile transmission line. Work included an investigation of site, preliminary layout, establishing basis of estimate, and presentation to Client.

Tredegar, Duhaney, and Old Harbour Substations, Jamaica Public Service Company

As LEAD STRUCTURAL ENGINEER, responsible for structural engineering for three substations; two were 69/138 kV designs and the other 138 kV design. Prepared specification for World Bank bidding, made comparison, checked designs by Seller, and supervised foundation design.

230 kV Transmission Line, Big Bend Substation, Tampa Electric Company

As LEAD STRUCTURAL ENGINEER, responsible for structural engineering for foundation design for a 230 kV substation and two double circuit 230 kV transmission lines. Prepared foundation design study and estimate, analyzed borings, investigated construction techniques, supervised design and bidding documents and construction specifications. Final design was based on using mud slurry techniques for excavation in wet sandy soils.

500 kV Transmission Line and Substations, Keystone Projects (Sept 1963-Dec 1967)

As LEAD STRUCTURAL ENGINEER, responsible for structural engineering for a 600 mile, single circuit, 500 kV steel tower line from western Pennsylvania to Philadelphia, Baltimore, New Jersey, and New York. Prepared studies for tower outline, designs, materials, selection of foundations, insulator arrangements. Supervised tower testing of four tower types. Made initial

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and final cost estimates of line and prepared the structural material and construction specifications.

Also responsible for structural engineering of six 500/230 kV substations using aluminum structures and concrete foundations.

500 kV Transmission Line, Virginia Electric and Power Company (Feb 1962-Aug 1963)

As LEAD STRUCTURAL ENGINEER, responsible for structural engineering for 350 mile, single circuit, 500 kV steel tower line from Mt. Storm Power Station in West Virginia to Loudoun substation west of Washington, D.C., south to Elmont substation west of Richmond, Virginia, then west to Dooms substation and north to Mt. Storm. Supervised studies to select tower types and outlines with steel guyed V-towers used in mountains and self-supporting in cultivated areas. Prepared project estimate, material specifications, and supervised foundation designs. Made studies for use of computer in tower spotting.

Also responsible for structural engineering of power station transformer leads and four 500 kV substations using strain bus and steel structures.

345 kV Transmission Line, The Cleveland Electric Illuminating Company (Mar 1961-Jan 1962)

As STRUCTURAL ENGINEER, responsible for structural engineering for a 55 mile, single circuit, 345 kV line from Cleveland to Canton, Ohio. Made studies, estimates, comparisons of tower layouts, selections of foundations, and all specifications.

White River Substation, Puget Sound Power & Light Company

As STRUCTURAL ENGINEER, responsible for structural engineering for a 230/115 kV substation, including structures, control house, oil pump house, and microwave tower.

Thelma Switching Station, Virginia Electric and Power Company

As STRUCTURAL ENGINEER, responsible for structural engineering of a 230 kV switching station for the Gaston Hydroelectric Project.

138 kV Transmission Line, Union Electric Company (Sept 1959-Feb 1961)

As STRUCTURAL ENGINEER, responsible for structural engineering of a 10 mile, 138 kV double circuit line with a 3,500 ft Mississippi River Crossing. Made cost studies to determine economic design and construction, selected tower outlines and foundation types.

Transmission Line, Savannah Electric and Power Company

As STRUCTURAL ENGINEER, responsible for structural engineering of a 10 mile, 110 kV line with portions underbuilt for one or two circuits of 44 kV. Made all economic studies, site inspection, selection of conductor tension, and foundations.

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Montaup Electric Company

As STRUCTURAL ENGINEER, responsible for tower relocation to clear new transmission line.

Tower relocation for state highway.

Reconductoring of existing transmission line.

Repairs to existing river crossing towers. 110 kV double circuit transmission line with 2,500 ft crossing the Taunton River. This line consisted of eight steel towers through residential area with wood poles for the rest of the line.

Advanced Pressurized Water Reactor Study, United States Atomic Energy Commission (May 1959-Aug 1959)

As STRUCTURAL ENGINEER, prepared estimate and design for low pressure vented vapor container, cylindrical shape, of reinforced concrete.

Newman Power Station - Unit No. 1, El Paso Electric Company, El Paso, TX

Study to determine method of test loading turbine support foundations.

Power Plant Addition, - No. 5 Boiler, National Petro-Chemicals Corporation

As an ENGINEER, responsible for structural engineering of steam boiler.

Willow Glen Power Station, Gulf States Utilities Company (Oct 1958-Apr 1959)

As a FIELD ENGINEER, responsible for work on circulating water system, switchyard, towers, roadwork, preparation of shop details, cost studies, and specifications.

Potomac Electric and Power Company (July 1958-Sept 1958)

As an ENGINEER, investigated and designed passenger tramway from power station to screenwell.

Assignments in Estimating, Cost, Purchasing, and Appraisal Departments.

Power Plant Extension, Montaup Electric Company (Mar 1958-June 1958)

As an ENGINEER, responsible for structural engineering of ash and coal handling facilities.

Chesterfield Station - Unit No. 4, Virginia Electric and Power Company (Dec 1957-Feb 1958)

As a STRUCTURAL DESIGNER, responsible for the design of structural steel for boiler suspension, turbine roof trusses, crane girders, columns, and wind bracing system.

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Tampa Plant, Jos. Schlitz Brewing Company (Mar 1957-Nov 1957)

As a STRUCTURAL DESIGNER, prepared design of pile and soil bearing foundations, walls, floor slabs, pipe tunnels, and steel frame building for brew house, cellar building, grain storage bins, warehouse, and office building.

Insulation and Hardboard Mill, Abitibi Corporation, Alpena, MI
(Aug 1956-Feb 1957)

As an ENGINEER, prepared specifications and comparison of bids for all structural materials.

Roy S. Nelson Station, Gulf States Utilities Company

Rio Grande Power Station, El Paso Electric Company

As an ENGINEER, prepared specifications, layout of steel for boiler suspension, surface drainage, checking pile foundations for as-built conditions.

HOG ISLAND LUMBER COMPANY, PHILADELPHIA, PA (Summers 1953-1956)

Draftsman for design of prefabricated homes.

WILLIAM E. LOUIS, CONTRACTOR, SWARTHMORE, PA

Carpenter

ATSUGI NAVAL AIR STATION, JAPAN, U.S. NAVY - MOBILE CONSTRUCTION BATTALION
NO. 2. (1950-1952)

Prepared plans, specifications and inspected construction for transportation building, photography laboratory, training building, and communications facilities.

HUMMER E. GREEN LUMBER COMPANY, CHESTER, PA (1948-1950)

Architectural Draftsman

WARNER-WEST CORPORATION, PHILADELPHIA, PA (1946-1948)

Apprentice Carpenter

MICHAEL J. ABRAHAMS
Manager, Structures Department
Senior Professional Associate
Structural Engineer

Education

Bowdoin College, B.A., 1960

Columbia University School of Engineering, B.S., 1963, M.S., 1964

Societies

American Concrete Institute

American Society of Civil Engineers

Structural Stability Research Council, Chairman Task Group 3, Beam Columns

Licenses

New York, Georgia, Washington

Recently appointed manager of the North Atlantic Region's Structures Department, Mr. Abrahams has participated in many bridge, tunnel, and building projects:

Recent Projects

- Project engineer directing preparation of design and specifications for a new powerhouse for the Groverville Mills hydroelectric plant, Beacon, New York. This 0.8-MW facility will also include a revised penstock and revision to the tailrace.
- Deputy project manager for Hood Canal Bridge, Washington — a 6,470-foot-long floating, prestressed concrete bridge with a 600-foot-long lift draw section to allow ship passage. Responsible for design of bridge superstructure as well as movable bridge operating machinery, electrical and mechanical designs, specifications, and technical supervision of three subconsultants.
- Project manager for recent investigation of collapse of Kemper Arena, Kansas City, Missouri. A large portion of the roof of this 17,600-seat arena collapsed during a violent storm. As project manager, directed firm's investigation of collapse including structural and hydrological analysis, wind tunnel testing, consultation with consultant, and report preparation. Also project manager for subsequent review of rebuilt arena; review resulted in letter report to client.
- Project engineer for two highway bridges in upstate New York — part of infrastructure improvements associated with the Prattsville Pumped Storage Project of the Power Authority of the State of New York.
- Design of several fixed and movable highway bridges: the Third Street (basculer) Bridge in Wilmington, Delaware; the James River (vertical lift) Bridge in Newport News, Virginia; and the Martin Luther King, Jr., Memorial Bridge, in Richmond, Virginia.
- Review of shop drawings and erection procedures for the Curtis Creek Bridge, Baltimore, Maryland.
- Inspection, preparation of reports, rating, and design of repairs for fixed and movable bridges. Projects include a 544-foot-long vertical lift railroad bridge, Buzzards Bay, Massachusetts; a 60-foot-long swing bridge, Milford, Delaware; and a 3,235-foot causeway with a 160-foot bascule span, Galveston, Texas.
- Design and consultation during construction work on a 3,000-car precast prestressed concrete parking garage project in White Plains, New York. The garage includes three buildings and a high-level bridge.
- Project engineer in charge of plans and specifications for the plaza roof of the main subway station in Atlanta, Georgia. The roof is a large precast, post-tensioned, concrete structure erected using segmental construction techniques.
- Design engineer for prestressed box beams on Congress Avenue Bridge, Austin, Texas.
- Project engineer in charge of design and detailing of tunnel portions of the Second Downtown Elizabeth River Tunnel between Norfolk and Portsmouth, Virginia.
- Supervision of design and preparation of drawings for the ventilation buildings and certain portions of the sunken tubes of the Second Hampton Roads Bridge/Tunnel crossing in Virginia.
- Design engineer, preliminary design of mushroom piers, Keehi Interchange, Oahu, Hawaii.

- Structural analysis of a waterfront station, Section F 2, of the Washington Metropolitan Area Transit Authority (WMATA) Subway System.
- Acted as consultant to a major insurance company regarding an investigation into the collapse of the Hartford, Connecticut, Coliseum roof.
- Member of a five-man team of bridge experts who toured six European countries to assess state-of-the-art of prestressed segmental concrete bridges. Project was sponsored by International Road Federation at request of Federal Highway Administration.
- Model studies conducted at the U.S. Corps of Engineers Experimental Station at Vicksburg, Mississippi, on the placing operations for the 63rd Street Tunnel in the East River, New York City.
- Review of erection procedures of the Fremont Bridge in Portland, Oregon. The erection included lifting the 6,000-ton center span 160 feet into place – the world's largest lift of this type.
- Participation in feasibility studies for various sunken-tube tunnels, high-level bridge crossings, and tracked air-cushion vehicle guideways.

Previous Experience

- Served with the U.S. Peace Corps in the Philippines as a Civil Engineer attached to a Philippine Government Agency. Directed the survey, design, and construction of self-help projects such as schools, water supply, and irrigation systems.
- Structural engineer with a major design-construction firm. Involved in the design of iron-ore processing plants and mines. Work included the design and detailing of ore storage buildings, reclaim tunnels, and a stressed skin conveyor support system.

Publications

- Coauthor, "Record Span for Record Lift – The Fremont Bridge," awarded first prize by James F. Lincoln Arc Welding Foundation, 1974.
- Coauthor, "A Report on the Design and Construction of Segmental Concrete Bridges in Western Europe—1977," U.S. Department of Transportation, Washington, D.C., 1978.

Awards

- Honor Award, New York Association of Consulting Engineers, 1982. Structural Design of Five Points Station Roof.
- Annual Award, Prestressed Concrete Institute, 1982, Five Points Station Roof.

STONE & WEBSTER MICHIGAN, INC.

MIDLAND NONCONFORMANCE IDENTIFICATION REPORT

DATE OF NONCONFORMANCE: 7-13-83 NIR Number 13

IDENTIFICATION/LOCATION OF ITEMS: Drift Sets, Spec C305, PQCI UP-C-1.016,
AAPD/PSP G-6.1

DESCRIPTION OF NONCONFORMANCE: Contrary to Project Procedures the PQCI
for Hilti Bolt installation does not contain an attribute to inspect
the specification required acceptance criteria for clearance between
base plates and concrete surfaces.

INITIATOR: <i>B. L. Halsinger</i>	DATE: 7-14-83	PROJECT MANAGEMENT CONCURRENCE: <i>WE Keller for AS Lucke</i>
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CORRECTIVE ACTION BY: MPQAD
(IDENTIFY ORGANIZATION TAKING CORRECTIVE ACTION)

MPQAD issued a PQCI revision to address the concerns of this NIR.
See attached response.

INITIATOR CONCURRENCE: <i>B. L. Halsinger 8-4-83</i>	PROJECT MANAGEMENT CONCURRENCE: <i>Abbott for A. S. Lucke</i>	DATE: 8/4/83
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AUG 09 1983

STONE & WEBSTER MICHIGAN, INC.

MIDLAND NONCONFORMANCE IDENTIFICATION REPORT

DATE OF NONCONFORMANCE: 7-13-83 NIR Number 13

IDENTIFICATION/LOCATION OF ITEMS: Drift Sets, Spec C305, PQCI UP-C-1.016.
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for Hilti Bolt installation does not contain an attribute to inspect
the specification required acceptance criteria for clearance between
base plates and concrete surfaces.

INITIATOR: <i>B. L. Holsinger</i>	DATE: 7-14-83	PROJECT MANAGEMENT CONCURRENCE: <i>W. E. Keller for A. S. Lucke</i>
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CORRECTIVE ACTION BY: MPQAD - Soils
 (IDENTIFY ORGANIZATION TAKING CORRECTIVE ACTION)

MPQAD NCR M01-9-3-244 was written to address the concern identified above.
PQCI/IR UP-C-1.016 for the Auxiliary Building underpinning and PQCI/IR UP-C-2.150
for the Service Water Pump Structure underpinning have been revised to include
an inspection activity for clearance between plates and/or washers beneath
plates.

All applicable plate and concrete surface clearances not previously inspected
and documented will be inspected to the current inspection criteria for the
Auxiliary Building underpinning activities.

E-3M, Revision 1, dated 5/6/83, establishes the mechanism for PQCI revision.
E-3M is in the Midland Project Quality Assurance Departmental Procedures.

Donald E. Horn 8/4/83

INITIATOR CONCURRENCE: <i>B. L. Holsinger 8-4-83</i>	PROJECT MANAGEMENT CONCURRENCE: <i>Scott for A. S. Lucke</i>	DATE: 8/4/83
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STONE & WEBSTER MICHIGAN, INC.

P.O. Box 2325, BOSTON, MASSACHUSETTS 02107

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

July 28, 1983

J. O. No. 14358
Ref. MPF 44

Attention Mr. R. Cook

RE: DOCKET NO. 50-329/330
MIDLAND PLANTS - UNITS 1 & 2
INDEPENDENT ASSESSMENT OF UNDERPINNING
REPORT NO. 44

A copy of the Independent Assessment of Underpinning, Weekly Report No. 44 for the period of July 17, 1983 through July 23, 1983 is enclosed with this letter. Included as attachments, are the minutes of the daily meeting 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 617-580-2067.

Very truly yours,

A. Stanley Lucks
A. Stanley Lucks
Project Manager

Enclosures

ASL/pd

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

Weekly Report No. 44

July 17, 1983 through July 23, 1983

Personnel on Site

Stone & Webster Michigan, Inc.

P. Barry 7/19 - 7/23
W. Kilker 7/21 - 7/23
B. Holsinger 7/20 - 7/23
A. Lucks 7/19 - 7/20

Parsons, Brinckerhoff Michigan, Inc.

J. Ratner 7/19 - 7/22

Meetings Attended

<u>Date</u>	<u>Represented</u>	<u>Purpose</u>
7/19 - 7/23	Stone & Webster Bechtel Consumers Power Parsons	Daily Meetings
7/20 - 7/21	Stone & Webster Bechtel Consumers Power NPS	Discussion of NPS Material Receipt Inspection Status
7/21	Stone & Webster Consumers Power (MPQAD)	Weekly MPQAD Meeting

Activities

Construction:

Pier E8: The upper and lower leveling plate installations were completed. However, some void areas were noted in the lower plate grout requiring a re-work of the installation.

East Side Zone Excavation: The zone excavation was completed and the area prepared for mud-mat placement. Installation of the reactor drop-pits and the tieback deadman trenches were in progress.

Pier E10: The pier remained on active jacking throughout the week.

Pier W8: The upper and lower leveling plates were installed and grouted. Grout re-work was required similar to that experienced on pier E8.

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Midland Plant
Units 1 & 2
Independent Assessment of Underpinning

West Side Excavation : The zone excavation was completed and a mud-mat installed over most of the area. Installation of the reactor drop-pit and the tieback and deadman trenches was in progress. Grillage beam leveling plate Hilti-bolt holes were drilled into the EPA mat.

Pier W10: The pier remained on active jacking throughout the week.

SWPS: The settlement monitoring instrumentation system was activated on July 20. Sheeted pit probing continued throughout most of the week. All other SWPS activities were curtailed by the Stop Work Order or nonconformance restrictions. An inspection of the buried concrete pipe encountered during the drilling of a well at the wrong location revealed the pipe was damaged by penetration of the drill bit.

EWST: Sandblasting of the foundation surface and concrete formwork placement continued. Shear connector installation began but formwork anchor bolt activity was curtailed by the Stop Work Order.

Quality Control Documentation and Records:

- 1.) Reviewed the adequacy of Project Procedures developed to comply with 10CFR50 Appendix B Criterion VIII.
- 2.) Reviewed the nature of discrepancies identified on material received from N.P.S.
- 3.) Reviewed recent Quality Assurance NCR's for possible trends in the areas of inspector certification and the need for PQCI's.

Observations

Construction - Completion of the mass excavation and preparation of the tieback and deadman installations were accomplished in accordance with the project requirements. A procedural nonconformance on fabricating threaded bars delayed the completion of the tiebacks.

The installation of the Hilti-bolt drill holes in the Unit 1 EPA mat was successful. The hole abandonment rate, due to encountering rebar, was minor. The increased success rate can be partially attributed to the improved rebar mapping technique.

Load transfer at Piers E/W8 was delayed by lower leveling plate grout problems and QC holds on the jackstands and transfer frames.

Quality Control, Documentation and Records:

- 1.) The list of project procedures applicable to 10CFR50 Appendix B, criterion VIII (identification and control of materials, parts, and components) compl with the code of Federal Regulation.
- 2.) The grillage beams and associated fabricated items received from NPS have various weld discrepancies identified by MPQAD. The discrepancies were minor undercuts, slag inclusions and excessive chipping to remove slag. Meetings between NPS and MPQAD plus a joint inspection of all identified discrepancies were conducted and should reduce or eliminate future QC receipt inspection problems.
- 3.) This Assessment Teams' review of MPQAD Quality Control Assurance Reports illustrates the Quality organization's ability to identify in-house problems.

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 Units 1 & 2
 Independent Assessment of Underpinning

Two possible trends were identified. The first by two NCR's on QC engineers that were not certified to a PQCI/IR and an NCR on United States Testing inspections performing tasks for which they were not certified. The second possible trend was indicated by three NCR's on direct hire personnel performing work without procedures.

Nonconformance Identification Report

<u>NIR No.</u>	<u>Description</u>	<u>Date</u>
12	NRC Reviewed for Reportability under 10 CFR50.55 (e), part 21.	(Opened) (Closed) 6/16/83 7/20/83
13	PQCI Attribute for Plate Bearing Verification	7/14/83

Open Items Requiring Resolution

The Assessment Team and CPCo independently reviewed the Assessment Team Weekly Reports Nos. 1 - 42 in order to compile a list of open discussion items described in the contents of the respective weekly reports or the attached notes of daily meetings. Approximately 110 times were identified as of July 10, 1983 (the date the revised open item tracking system was initiated) only 14 items had not been formally resolved by follow-up documentation. Since July 10, a number of these open items have been closed while others remain open. The following is a list of the 14 open discussion items from Weekly Report 1 - 42 and their present status.

<u>Item No.</u>	<u>Description</u>	<u>Closure Reference</u>
W.R.#25,pg.5*	Commitment to access training and personnel records.	Open
W.R.#26,pg3	Commitment to access proposed concrete mix designs	Open
W.R.#27,DMN 3-23,#6**	Request for a copy of QA/QC records on pier E9 bell concrete placement	P. Barry verified receipt of requested records.
W.R.#27,DMN 3-25,#1	Request for tailgate-pumpline concrete slump correlation data.	P. Barry verified receipt of requested data.
W.R.#28,DMN 3-29,#3	Question on concrete curing and strength requirements	Item 44-32
W.R.#29,DMN 4-4 #5	Commitment on filling lagging louvers with backpacking material	Open
W.R.#36,DMN 5-25,#7	Commitment to visit buttress shaft to resolve concern	P. Barry verified that the shaft visit was on 5/26/83 and concern was resolved.
W.R.#36,DMN 5-26,#1	QA concern of Programmatic change effect on Procedure Revisions	Open

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Units 1 & 2
Independent Assessment of Underpinning

<u>Item No.</u>	<u>Description</u>	<u>Closure Reference</u>
W.R.#39,DMN6-16,#2	Request for sketch showing Carlson meter test set-up	P. Barry verified receipt of requested sketch
W.R.#39,DMN 6-21#4	CPCo request for projected completion of SWPS instrumentation	J. Fisher stated the projected completion date at the time was July 10.
W.R. 40, pg. 3	Concerns on proposed concrete mix designs	Open
W.R.41,DMN 6-30,#5	Load Transfer Acceptance Criteria	Open
W.R.42,Observ.pg.3	Commitment to evaluate response to Grillage Installation PQCI	Open
W.R.42,DMN 7-5#1	Status of Carlson Meter Testing	On July 6, J. Gaydos presented the status of the Carlson Meter fabrication & testing.

* Refers to Weekly Report No. 25, page 5.

** Refers to Weekly Report No. 27, Daily Meeting Notes March - 23, Item #6.

Open items subsequent to Weekly Report No.42 are listed below;

<u>Item No.</u>	<u>Description</u>	<u>Closure Reference</u>
43-20	Discussions of E/W8 Grillage Schedule	Item 44-21
43-24	Close-out of Assessment Team Open Items of Weekly Report 1-42	Open
43-29	Discussion of Modification of No. of Inspection Sign-offs	Open
43-32	E/W Grillage Layout	Item 44-1
43-1Q	NIR # 12 Response	Item 44-1Q
43-4Q	Receipt Package Request	Open
43-5Q	Grillage Installation Questions	Open
43-7Q	MPQAD Policy on Implementing 10CFR50 Appendix B, Criteria V111	Item 44-7Q
44-7	Request for Chronology of Events Surrounding Reoccurrence of loose Washers on W8 N-S Bulkhead	Open

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Midland Plant
Units 1 & 2
Independent Assessment of Underpinning

<u>Item No.</u>	<u>Description</u>	<u>Closure Reference</u>
44-20	Resolution of a Question on Need for Grillage Installation Procedural Change	Open
44-27	Commitment to Review Proposed Concrete Mix Designs	Open
44-31	Resolution of Open Items from Weekly Report Nos. 1-42	Open

[Signature]
Project Engineer

[Signature]
Project Manager

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

Held at Midland Site Location
Midland, Michigan
July 18, 1983

No meeting was held on this day.

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

Held at Midland Site Location
Midland, Michigan
July 19, 1983

Present For:

<u>Consumers Power</u>	<u>Bechtel</u>	<u>MPQAD</u>	<u>Stone & Webster</u>
G. Murray	J. Fisher		A. Lucks
R. Weiland	E. Cvikl		P. Barry
	J. Gaydos*		
Part time *			<u>Parsons</u>
			J. Ratner

Purpose

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

Discussion

Item 44-1: E/W Grillage Layout.

J. Fisher stated that selected or partial fit-up of E/W8 grillage beam components will be done to ensure proper assembly prior to installation. (CLOSES OUT ITEM 43-32)

Item 44-2: Grout Test Program.

In response to a request from the Assessment Team, G. Murray stated that he would provide a copy of the Grout Test Program Report. (OPEN ITEM)

Item 44-3: Load Transfer E/W8.

J. Fisher stated that all grillage beam materials from NPS are on site and in process of receipt inspection. Load transfer for E/W8 should occur in approximately one week. (CLOSED ITEM)

Item 44-4: FCR on Excavation Sequencing.

J. Fisher reported that an FCR was being prepared to allow excavation of a portion of zone 2 prior to the completion of all of zone 1 excavation. This variation would permit the work on piers E/W 13 and 14 to proceed. (CLOSED ITEM)

Item 44-5: Pier E/W8 Leveling Plates.

J. Fisher stated that when the forms for the leveling plates for piers E/W8 were removed voids were noticed at the plate edges and both were rejected. After the leveling plates were removed additional voids were found. In addition, some burlap used in the curing of the pier W8 concrete surface was found in the grout. Subsequently, all of this leveling plate grout at both piers was removed and regouted. (CLOSED ITEM)

Notes of Daily Meeting
Independent Assessment of Underpinning
Midland Site Location
Consumers Power Company

Held at Midland Site Location
Midland, Michigan
July 19, 1983

Item 44-6: FSO Imposed Procedural Changes at SWPS in Response to Drilling
Stop Work Order.

J. Fisher stated that the following changes are being implemented for the
SWPS drilling work:

- 1.) Full time field engineering coverage.
- 2.) New survey guidelines.
- 3.) New field check list.
- 4.) Training in these changes.

(CLOSED ITEM)

Item 44-7: W8 N-S Bulkhead Loose Washer NCR's.

J. Fisher stated that FSO will attempt to provide an answer as to what occurred
between installation and the first re-inspection to try to determine what caused
the washer to become loose. (OPEN ITEM)

Item 44-8: Auxiliary Building Differential Settlement.

E. Cviki reported that the differential settlement N-S across the west auxiliary
building is trending toward the alert level. As a result, Engineering and FSO
are investigating the need for temporary support of the EPA portion of the west
Auxiliary Building. Temporary support would be required only until the pier
W8 grillage is installed and loaded. (OPEN ITEM)

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

Held at Midland Site Location
Midland, Michigan
July 20, 1983

Present For:

<u>Consumers Power</u>	<u>Bechtel</u>	<u>MPQAD</u>	<u>Stone & Webster</u>
R. Weiland	E. Cvikl	R. Sevo	P. Barry
D. Plehn	J. Gaydos		S. Lucks
			<u>Parsons</u>
			J. Ratner

Purpose

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

Discussion

Item 44-9: Pier E/W8 Leveling Plates.

R. Sevo stated that two NCR's were written on the E/W8 leveling plates. One was issued because of the voids in the grout and the other was written against the inspection program clean-up because of the burlap found in the grout. (CLOSED ITEM)

Item 44-10: Superplasticized Concrete.

R. Weiland questioned if MPQAD required any changes of the PQCI's because of the addition of concrete mix superplasticizer. R. Sevo will investigate. (OPEN ITEM)

Item 44-11: Carlson Meter Encasements.

E. Cvikl stated that the SCN for WJE to test and evaluate Carlson meter encasement was issued. The WJE procedure should be issued shortly. (OPEN ITEM)

Item 44-12: Grout Strength vs Time Correlations.

J. Gaydos stated that FSO has issued an FCR to change the strength requirement for the mud mat to a time requirement when grout is used. (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
July 21, 1983

Present For:

<u>Consumers Power</u>	<u>Bechtel</u>	<u>MPQAD</u>	<u>Stone & Webster</u>
R. Weiland	J. Fisher	R. Sevo	P. Barry
G. Murray	E. Cvikl		
	J. Gaydos		

Purpose

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

Discussion

Item 44-13: Drop Pit Excavation.

J. Fisher stated that an FCR has been written to adjust for finding the existing containment mat ledge 2 in lower than anticipated. This requires lowering the drop pit and dead men by 2 inches. (CLOSED ITEM)

Item 44-14: Superplasticized Concrete.

J. Gaydos stated that a review of FSO documents indicate that a Mergentime procedure requires changing to use superplasticizer concrete and the project specification requires changing to us superplasticizer concrete for areas other than the piers. (CLOSED ITEM)

Item 44-15: SWPS Train A and B Pipe Replacement.

J. Fisher stated that CPCo had rescinded the work permit for train A and B pipe replacement because a signed out field sketch for the temporary support of electrical duct bank was not available. P. Barry asked G. Murray why this type of concern was not voiced during the work package review stage. G. Murray will advise. (OPEN ITEM)

Item 16: Interruptions During Action Jacking.

R. Sevo stated that MPQAD issued a QAR concerning the interruption of active jacking for E/W10 to move the jacking apparatus. J. Fisher stated that this jacking was in addition to the normal load transfer procedures and was done as directed by the Resident Structural Engineer. (CLOSED ITEM)

Item 44-17: Carlson Meter Encasement.

E. Cvikl stated that the WJE procedure for Carlson meter encasements has been issued. (CLOSES OUT ITEM 44-11)

Item 44-18: Auxiliary Building Differential Settlement.

J. Fisher stated that a decision has been made to procure materials for jack pipe piles for possible use as temporary supports for the Auxiliary Building if needed. Final details have not been developed. (CLOSES OUT ITEM 44-8)

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

Held at Midland Site Location
Midland, Michigan
July 21, 1983

Item 44-19: SWPS Revised PQCI's.

R. Sevo stated that the PQCI's on soldier pile installation, drilling, and deep probing have been revised because of the obstruction encountered during drilling at the SWPS. Formal training including examinations are required on the PQCI's before work can proceed. (CLOSED ITEM)

Item 44-20: Pier Tie-backs and Struts.

In response to Assessment Team questions on grillage installation documents (refer to Notes of MPQAD Meeting Item 43-5Q) R. Sevo stated that a procedure may be required for this activity. J.Fisher will investigate the need for this type of construction procedure. In addition, R. Sevo stated that load indicating washers have not been approved for use by Engineering. (OPEN ITEM)

Item 44-21: Grout Test Program.

G. Murray stated that a copy of the Grout Test Program Report had been provided to the Assessment Team. (CLOSES OUT ITEM 44-2)

Item 44-22: Grillage Installation Schedule.

J. Fisher provided a brief discussion of grillage beam installation schedule. (CLOSES OUT ITEM 43-20)

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

Held at Midland Site Location
Midland, Michigan
July 22, 1983

Present For:

Consumers Power

R. Wieland
G. Murray
R. Wheeler

Bechtel

J. Fisher
E. Cvikl
J. Gaydos

MPQAD

R. Sevo

Stone & Webster

P. Barry
W. Kilker
B. Holsinger

Parsons

Purpose

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

Discussion

Item 44-23: General Status of Field Activities.

J. Fisher reported that piers E/W10 continue on active jacking and that load transfer for piers E/W8 should occur within 4 or 5 days depending upon the release status of the transfer frame and jackstands. The west excavations are generally complete and the deadman and drop pit excavations should be finished within a day or two. There will be no field work by SWP on the SWPS until July 27 to allow all revised procedures and training to be completed. BWST shear connector and sandblasting work is on-going. (CLOSED ITEM)

Item 44-24: QC Receipt Inspections.

There was a general discussion between representatives of SMO, FSO & MPQAD on the lengthy QC receipt inspection time required for NPS materials to date. Reportedly the average time has been on the order of 11 days per shipment. P. Barry stated the Assessment Team was not concerned with this time as long as it did not impact the field installation. (CLOSED ITEM)

Item 44-25: Regrouting of E/W8 Lower Leveling Plates.

As stated in Item 44-5 both plates were removed and regROUTED. Although QC provided inspection during the installation, the NCRs were reissued based on suspicion that new voids may exist in the replacement grout. FSO stressed the need to resolve this issue to avoid load transfer impact. (CLOSED ITEM)

Item 44-26: Excavation of Service Waterline Train A.

In response to Item 44-15, G. Murray & R. Wheeler explained that during the Work Package review, MPQAD requested that a FSK be developed to show the temporary support required. FSO responded with an FCN stating the field would provide the required support when required. G. Murray said that normally FSKs have not been a required part of the Work Package submitted. (CLOSES OUT ITEM 44-15)

Item 44-27: Superplastercized Concrete Mix Designs.

W. Kilker stated the Assessment Team has received a copy of the FCN for the proposed concrete mix designs and will comment on the completeness and adherence to the codes. (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
July 22, 1983

Item 44-28: PQCI Modifications for Superplasticized Concrete.

R. Sevo stated that the new concrete mix designs will not have a major impact on the PQCI. (CLOSSES OUT ITEM 44-10)

Item 44-29: EPA Temporary Support.

J. Fisher stated that Mergentime has been directed to pursue the procurement of materials for jack piles in case temporary support is required. R. Sevo pointed out the need to consider all respects of this support scheme including materials procurement, scheduling and planning. J. Fisher suggested that Engineering, SMO and FSO convene to discuss this proposal. (CLOSED ITEM)

Item 44-30: Procedural Requirements for Direct Hire Activities.

P. Barry questioned if the recent NCR written on the absence of a Bechtel procedure on bolt fabrication was indicative of a requirement for additional procedures by the direct-hire group. R. Wheeler responded that the NCR recommendation was inappropriate and would be so noted in the response. (CLOSED ITEM)

Item 44-31: Resolution of Open Items from Assessment Team Weekly Reports 1-42.

W. Kilker submitted copies of two Open Items from previous reports that require FSO, SMO or MPQAD assistance in closing out. These items are Nos. 5 and 1 from the Daily Meeting Notes of April 4 and May 26, respectively. Resolution will follow as soon as possible. (OPEN ITEM)

Item 44-32: Concrete Strength Requirements.

There was a discussion of cure periods and strength requirements for concrete. J. Fisher stated that the cure time requirements of the specification are always adhered to for a given installation. However, the unit can be put into service once the strength is obtained. (CLOSSES OUT ITEM # 3 of March 29 Daily Meeting Notes)

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

Held at Midland Site Location
Midland, Michigan
July 21, 1983

Present For

Stone & Webster

B. Holsinger

MPQAD

J. Meisenheimer

M. DeWitt

D. Horn

Purpose

This meeting is held each week to obtain information from MPQAD regarding the Soils Underpinning work at the Midland Plants Units 1 & 2.

Discussion

Item 44-1Q: Status of NIR # 12.

S & W stated that NIR # 12 has been closed based upon the revised response received 7-20-83. (CLOSES OUT ITEM 43-1Q)

Item 44-2Q: Grillage Beam Receipt Inspection Package.

Receipt inspection is continuing and no packages have been completed. The Assessment Team restated its request for two of the packages when complete. (OPEN ITEM)

Item 44-3Q: Status of Questions on Grillage Beam PQCI.

MPQAD is continuing to work on the response and will provide the status next week. (OPEN ITEM)

Item 44-4Q: Criteria VIII.

MPQAD provided a list of eleven documents that describe the policy and implementing procedures for 10CFR50 Appendix B, Criteria VIII. (CLOSES OUT ITEM 43-7Q)

Item 44-5Q: Status of Stop Work Orders For SWPS and BWST.

MPQAD has reviewed the process corrective action for the Stop Work Order regarding the drilling operations for the SWPS. As a result of this review, a QAR was written requiring a satisfactory response from FSO as a condition for lifting the Stop Work Order. It was also described by MPQAD that revisions to the SWPS drilling procedures (not related to the Stop Work Order) will require retraining and certification . This process may also cause a delay in lifting the Stop Work Order.

With respect to the Stop Work Order on the inadequate inspection of Hilti bolt installation, MPQAD is reviewing the need to revise the PQCI. Lifting of this Work Order depends on the necessary PQCI actions. The forecast completion date has not yet been determined. (CLOSED ITEM)

Item 44-6Q: Work Procedures.

MPQAD presented two QA NCR's which may impact work activities. One dealt with threading of rebar to be installed in the tieback deadmen on the Auxiliary Building E/W8 piers. These bars were fabricated by the contractor without a procedure & proper documentation of the activity. The second NCR dealt with certain 1"Ø