



STONE & WEBSTER MICHIGAN, INC.

P.O. Box 2325, BOSTON, MASSACHUSETTS 02107

PRINCIPAL STAFF			
RA*	WAC	UPRP	
D/RA		DE	
A/RA		DMSP	
RC		ORMA	
PAO		SCS	✓
EA		ML	
EMF		ELIS	WAC

Mr. J. J. Harrison
Nuclear Regulatory Commission
799 Roosevelt Road
Glen Ellyn, Illinois 60137

January 23, 1984
J.O. No. 14509

DOCKET NO. 50-329/330
MIDLAND NUCLEAR COGENERATION PLANT
MONTHLY THIRD PARTY ASSESSMENT MEETING

The protocol governing communications for the Remedial Soils and Construction Completion Programs at the Midland Plant, specifies a monthly meeting to discuss third party assessment activities and assigns preparation of the minutes of those meetings to Stone & Webster.

Enclosed are minutes of the meeting held on January 12, 1984.

A. P. Amoruso
Project Manager
CIO

A. S. Lucks
Project Manager
Underpinning and Remedial Soils

Enclosures

cc: JWCook, CPCo
DLQuamme, CPCo
RAWells, CPCo

MINUTES OF THE MEETING OF JANUARY, 1984

STATUS OF INDEPENDENT ASSESSMENT OF
UNDERPINNING AND REMEDIAL SOILS WORK

PURPOSE

This was a Public Meeting to report the status of the Stone & Webster Assessment Team activities and observations regarding underpinning and remedial soils work.

SUMMARY

A. S. Lucks opened the meeting by identifying the major parts of the Assessment Team presentation. The first part is a summary of the Assessment Team activities by P. Majeski detailed in Weekly Reports 63 through 67. The second part is an update of the resolution activities for the Stop Work Order relative to the soils and underpinning work. This is followed by a status report on the action items assigned to the Assessment Team from the December meeting.

Mr. Lucks identified the following corrections to the December meeting notes. The corrections concerned changes to the five items listed at the top of page 6. The first item should read "Define Important Quality . . ." instead of "Define Poor Quality . . ." Also the third bullet in this list (the bullet only) should be deleted.

P. Majeski began a summary of Assessment Team activities by stating that no new construction work had been performed on the underpinning during

December due to the Stop Work Order. The present status of the underpinning was reviewed. On the east and west sides, 8 piers and one grillage have been completed. Activities that support crack mapping and routine maintenance continue as exceptions to the Stop Work Order.

Assessment Team evaluations were conducted on Crack Mapping, Work Activity Packages, and Open Items including a review of the progress made in actions being taken to improve operations at U.S. Testing.

Assessment Team procedural concerns related to crack mapping that were discussed in December's public meeting have been resolved. Additional concerns that originate from Assessment Team inspections of crack mapped areas resulted in the development of a criteria that defined which cracks must be mapped. As a result of the meeting held last week between the NRC and Consumers Power Company (CPCo), areas of the Auxiliary Building not being mapped are being surveyed. Any significant cracks will be added to the mapping program. The Assessment Team will review the results of this survey when it is issued.

Four Work Activity Packages (WAPs) were reviewed. They were:

- WAP 59 Cathodic Protection in Q Filled Areas
- WAP 69 SWPS Pier 1 and 1A Excavation and Soil Load Tests
- WAP 71 SWPS Anchor Bolt Holes
- WAP 73 Train B Service Water Pipe Replacement

The reviews for WAPs 59, 69, and 73 have been completed and closed. WAP 71 has one review action item concerning bolt corrosion that remains open.

With reference to the review of the progress being made in response to the evaluations of U.S. Testing Operations, Bechtel's Subcontracts Group originally identified 15 areas of concern with U.S. Testing. Of the original concerns, 5 open items remain.

- Item 1. Item 16 of the original QA audit concerned a field document control problem. This item is expected to be closed within a week of this meeting.
- Item 2. To improve efficiency, the majority of Laboratory Technicians are to be cross trained to 20 procedures within the next 6 months.
- Item 3. Two Laboratory Chiefs are to be cross-trained to all the procedures within 3 months.
- Item 4. Work instructions for testing activities are to be prepared and incorporated into U.S. Testing procedures within the next three months.
- Item 5. A site position for a Level III technician that had been vacated by a staff transfer is expected to be filled again by a Level III technician within a few weeks.

The Assessment Team will continue to follow the upgrading of U.S. Testing. They must strive to meet the schedule for these actions.

The status of Nonconformance Identification Reports (NIRs) was reported next. NIRs 14, 16, 17, 18 and 19, discussed during the last meeting, were closed in December. NIR 20 remains open until specification changes are made concerning the calibration of admixture dispensers used for adding superplasticizer to concrete. One pier has been constructed using superplasticized concrete but in this case there was not a nonconforming condition.

There are currently nine Open Items that require action prior to closure.

The status of the resolution activities for the Stop Work Order were summarized by A. S. Lucks. The Stone & Webster Engineering Assurance Specialist returned to the site to assess the Stop Work Order resolution activities. The results of this assessment indicated that revisions to change document procedures have been completed and these revisions correct the problems that led to the Stop Work Order. Phase II resolution activities have been completed and were found to be satisfactory. Phase III resolution activities are in progress.

The status of the 3 action items assigned to Stone & Webster from the December meeting was addressed next.

Action Item 1. The NRC requested that in future Weekly Reports Stone & Webster provide Work Activity Package (WAP) titles along

with the WAP number. Stone & Webster complied beginning with Weekly Report 64. This item was closed by the NRC.

Action Item 2. Stone & Webster was requested by the NRC to give an opinion on whether there should be a settlement criteria for acceptance of rejackings in response to strain readings on the E/W 8 support columns. The topic is now part of an ongoing review of existing criteria by CPCo and the NRC. The Assessment Team will evaluate the results of the review and provide an opinion on the need for a settlement criteria when the review is completed. This item remains open.

Action Item 3. The NRC was concerned whether the Assessment Team review questions for WAP 59 had been resolved prior to submittal of the package to the NRC. The initial WAP review was completed and all questions were resolved in the first week of October, 1983. A subsequent review by another Assessment Team member identified a concern with an interference between an anode and a well. Based on the original review results CPCo submitted WAP 59 to the NRC on the 5th of October. The interference concern was resolved and then closed in the last week of November (Weekly Report 63). The NRC concern was whether CPCo had submitted the WAP for approval prior to resolving Assessment Team questions. At the time of submittal, all Assessment Team questions had been resolved. This item was closed by the NRC.

This concluded the presentation by Stone & Webster. CPCo now addressed the 5 action items assigned to them during the December meeting.

Action Item 1. The NRC requested information on the actions being taken to avoid delay in reporting alert level cracks. Six actions are being taken to avoid delays in reporting alert level cracks:

- a) A Wiss Janney Lead Engineer has been assigned to overview all activities to provide greater accountability and continuity in crack monitoring.
- b) A reviewer will now check the mapped area in the field as well as the data submittals. There will also be a final overall review by the Lead Engineer.
- c) A Wiss Janney review for legibility is now required by procedure.
- d) An alert level crack now requires verbal notification within two hours and a written report within 24 hours.
- e) The specification now requires the RSE to review the alert mapping level values and the procedure requires Wiss Janney to forward a copy of the submittal to MPQAD for faster response and better visibility.

Action Item 1 was closed by the NRC.

Action Item 2. The NRC was concerned about the timing of the NCRs written against Carlson meter concrete blocks. They were poured on June 8, 1983, shipped for calibration on June 16, 1983 and returned to the site on June 18, 1983. The associated concrete piers were poured on June 25, 1983 and the NCRs were written on September 29, 1983 and November 3, 1983 during a document review. The nonconformance was that the IR, did not document that the forms had been stripped within the specified time period. The performance of the Carlson meters was not part of the nonconformance. The placement of the Carlson meters in the piers, did not interface with the IR to accept curing of the concrete pour. The two IRs are now tied together. The NRC closed this action item.

Action Item 3. The NRC was concerned about concrete mixer drum rotation. A specification change now requires in general that the truck continuously rotate the mixer drum while waiting to discharge. If a mixer drum has been idle for 15 minutes or more the concrete shall be agitated a minimum of ten revolutions. The NRC closed Action Item 3.

Action Item 4. The NRC asked for a report on the transfer of the lessons learned in the auxiliary building underpinning to the Service Water Pump Structure. A total of 36 items were identified with 6 not applicable to the Service Water Pump Structure. 19 items have been incorporated while 11 are still being evaluated. The NRC indicated Action Item 4 is still open pending their review.

Action Item 5. This item concerned crack mapping problems identified during November. The appropriate specifications and procedures have been revised and the NCRs and QARs have been closed. The NRC closed Action Item 5.

This concluded the report on CPCo action items.

Questions and Answers

Mr. J. Harrison and Mr. R. Landsman asked several questions concerning items included in Weekly Reports 63 through 67.

1. What is the relationship between items 63-10 and 63-12? They dealt with information related to the NIR concerning the admixture dispenser calibration.
2. Does item 63-17 address the same welding report discussed a couple of months ago? Can CPCo identify what changes were made as a result of the recommendations in this report? It was not the same report. Examples of changes would include items that clarify the applicable code requirements. Also design changes that were more practical for welding were implemented. The NRC asked that a copy of the welding report be supplied to them. (Mr. Harrison indicated that this should not be considered as an action item).

3. With reference to items 64-6, 64-8 and 64-9, has interim approval for FCNs and FCRs been eliminated? Interim approval no longer exists for FCNs except to provide as-built information. Interim approval of FCRs is still allowed during a transition period after which they will no longer be allowed.
4. With reference to Item 64-14, was an evaluation done to consider the impact of the problems with U.S. Testing on past test results? A 100% audit by MPQAD evaluated the impact on past test results and any problems were addressed in an NCR.
5. With reference to Item 64-13, is the 20 day limitation on FCR final approval an interim measure? Yes, until the new process is in effect.
6. With reference to Item 64-2Q, can CPCo provide the status of the MPQAD review and verification of past IRs for soils? All activities now are preliminary and the review procedure is being developed. The review will commence after the Stop Work Order is lifted.
7. Is the 30 mil alert level indicated in Item 64-4Q a change to the criteria on crack mapping? The 30 mil alert level is for existing cracks, the 10 mil alert level is the criteria for new cracks. These have not changed.
8. With reference to Item 65-4, what is the base line for settlement data on the service water pump structure? July 28, 1983.

9. Item 65-11 states that Stone & Webster did a spot check on crack mapping and identified cracks that were not being mapped. What was the engineering resolution? Should an NIR have been issued? The Assessment Team did a random check of the crack monitoring data sheets. Two of the Auxiliary Building floor areas were found to have cracks not recorded on the data sheets. An Open Item (66-7) resulted in the 2 ft., 5 mil criteria being established for the crack survey now being conducted by CPCo. Since this criteria was not in the original crack mapping procedures, a nonconformance did not occur. No NIR was required. A survey of the building is being conducted. The NRC stated that it was their understanding that all cracks would be mapped and that they would confer with NRR and the issue will be addressed in next month's meeting.
10. What caused the 20 mil change in settlement readings referred to in Item 65-17? Exact causes are not known, but other backup measurements and surveillance since the change indicates a problem with the gauge rather than an actual 20 mil movement during one day.
11. Could CPCo explain why the upper 10 ft. of the fill on the Service Water Pump Structure is to be stabilized by grouting described in Item 67-9? The area is temporarily backfilled with sand. The grout stabilization will prevent the sand from flowing into the excavation. This grouting will become part of the Work Activity Package controlling the work. A test program to establish the grouting procedures may be conducted.

12. Item 67-16 indicates that CTL stated that certain cracks recently identified by Wiss Janney had originally been identified by CTL back in 1981 or 82. There appears to be a disconnect between the two crack mapping companies. CTL doesn't do crack mapping, they are called in to evaluate the cracks identified by Wiss Janney. The NRC stated that they believed that there are also more new cracks identified. At the next meeting CPCo was requested to give a report concerning the results of the crack mapping survey now being conducted.

Required Action

The following action is required by the Assessment Team:

1. The Assessment Team will evaluate the results of the CPCo/NRC review of existing criteria for allowable building movements and jacking. The Team will then give an opinion on whether there should be a settlement criteria for rejackings of the E/W8 grillages triggered by greater than 20% change in strain readings on the support columns.

The following item remains open for CPCo.

1. The issue of crack mapping will be addressed in the February meeting. CPCo will update the status of the crack survey and the NRC will discuss the results of the conference with NRR.

END

MINUTES OF THE MEETING ON JANUARY 12, 1984

STATUS OF CONSTRUCTION IMPLEMENTATION OVERVIEW (CIO) PROGRAM

Purpose

To discuss Third Party Overview activities of Stone & Webster (S&W) and problems encountered regarding the Construction Completion Program (CCP) during December 1983.

Summary

Mr. A. P. Amoruso, Project Manager for the CIO Program, presented a summary of Program activities for December 1983. The following topics were covered:

° Assessment Activities

Opportunities to assess the Construction Completion Program (CCP) continued to be limited during December due to the stop-work orders that were issued because of concerns about the control of FCR/FCN field change documents. Those orders prevented starting statusing and verification of work in the plant, the principal components of Phase I of the CCP. Activities that were assessed included the FCR/FCN Resolution Program, preparations for Phase I statusing and verification, training presentations, training records, and management meetings. The three phases of the FCR/FCN Resolution Program were checked, and document Control problems were identified. These problems included inconsistencies between the document distribution list and holdings at field stations, differences between registers and changes attached to base documents, and practices that were not proceduralized. Consumers Power Company is developing a corrective action plan to resolve these problems. Preparations for statusing and verification that were monitored included updating construction punchlists, material lists, and labor data and training CCP team members. These activities were conducted in

accordance with CCP supporting procedures. Seven training presentations were evaluated. These presentations followed prescribed lesson plans and conveyed key information effectively. Some 100 training records were checked to assess the adequacy of corrective actions for administrative discrepancies that had been identified previously. No discrepancies resulted. Thirty-seven management meetings were monitored. The consistency of action being taken showed effective management involvement. In the three areas outside the CCP but within the scope of the CIO; namely, the Nuclear Steam Supply System (NSSS), the Spatial System Interaction Program (SSIP), and the Heating, Ventilation, and Air Conditioning System (HVAC), assessment opportunities were also limited during December due to the stop-work orders. Activities that were assessed included the qualification records of three welders in the HVAC program and the establishment of parameters for weld procedure qualification. Results of both of these checks were satisfactory.

° CIO Items, Nonconformances, and Hold Points

Three CIO items were identified during December. The items follow:

- A checklist developed to monitor status assessment did not contain all attributes of the governing procedure.
- A controlled architectural drawing was found missing from a stick file during a sample inspection of holdings at a field station.
- Resolution sheets for one FCR out of a sample of civil documents did not clearly indicate whether one or two drawings were affected by the change.

Two of the three items noted above were also verified corrected and closed during December. The two items are the missing architectural drawing and the unclear resolution sheets for the FCR.

Three nonconformances identified by the CIO Program remained open. These nonconformances address administrative deficiencies in training records and are the same items that were listed as open at the last meeting.

The following six Hold Points established by the CIO Program remained open.

The Hold Points are the same as those listed as open at the last meeting.

- Development of a vendor equipment verification program before the start of Phase II of the CCP.
- Evaluation of the management review of the results of Phase I activities before the start of Phase II of the CCP.
- Correction of training records for construction support groups before people involved are used in the statusing part of the CCP.
- Upgrading the level of training in five elements of the Construction System Team Training Matrix before people involved are used in the statusing part of the CCP.
- Verification of Phase I and II evaluations of the FCR/FCN review before stop-work orders are lifted.

◦ Highlights of December

- FCR/FCN Resolution Program

The FCR/FCN Resolution Program consists of three phases. Phase I involves identifying FCR/FCNs that do not clearly indicate which documents are affected by the changes. Phase II involves resolving uncertainties identified in Phase I. Phase III involves making changes to FCR/FCN registers that were caused by corrective action in Phase II. The status of the CIO assessment follows:

- Architectural and civil documents have been checked satisfactorily through Phase II.
- Architectural documents at three field stations have been checked satisfactorily through Phase III. Checks are ongoing at other stations,

and one CIO nonconformance has been identified to date. That nonconformance was issued to address several document control problems that were identified during these checks.

- Instrumentation and control, electrical, and mechanical documents will be checked through Phase II and Phase III when document control problems are resolved.

- Document Control Problems

The document control system at the site is complex. Verification of holdings at a particular field station could require use of some fifteen registers. Administration of the system has been complicated further by a large number of documents distributed on the site, a large number of changes to those documents, and practices that have not been proceduralized. Consumers Power Company recognizes the difficulties in administering the system and has been shifting to a simpler, state of the art system.

The weaknesses of the document control system were accentuated by the FCR/FCN stop-work orders which froze the processing of most documents. This was the situation when both the Midland Project Quality Assurance Department (MPQAD) and CIO checked document distribution during Phase III of the FCR/FCN Resolution Program. The findings of both groups were similar and included:

- Differences between the distribution list and actual holdings at field stations.
- Inconsistencies in the system for retiring documents.
- A practice for decontrolling drawings that was not proceduralized.

Consumers Power Company is developing a corrective action plan which will be evaluated by the CIO before releasing hold points on the FCR/FCN Resolution Program.

° Miscellaneous Items

- CIO Staff

The CIO staff remained at 29 in anticipation of the start of CCP statusing and verification. As discussed at the last meeting, the number of people and mix of disciplines will be adjusted as the actual verification load dictates.

- Safety Related Work Instructions

As discussed at the last meeting, a CIO item will be opened requesting Consumers Power Company to ascertain that memorandums have not been used to promulgate work instructions for safety related systems.

Action items from Last Meeting

- ° The CIO had one action item from the last meeting. That item involved the routing of nonconformance reports. Checks revealed no instances of lost or misplaced reports. The report that generated concerns about routing was not lost but had been sent back to the originator for additional information so that a disposition could be made. After the disposition was made, the report was routed correctly.
- ° Consumers Power Company (CPCo) had one action item. That item involved training level codes used in training matrices. Mr. D. L. Quamme, CPCo, stated that the management review of training prior to Phase I of the CCP looked primarily at the procedures that were in place to develop training matrices. Since that review, procedures, job descriptions, and work assignments have been more clearly defined. The discrepancies identified by the CIO consisted primarily of inconsistencies between matrices based on current information. To resolve these problems, the matrices are being bounced against each other to ensure consistency and are being checked to ensure that people are being trained at the proper level now that job

assignments are better defined. Until this formal review is completed, people being put in the field are governed by a special training bulletin which clarifies specific areas that have been identified. After the review, all people assigned to the field will be checked against the new training requirements to ensure that their level of training is proper.

Questions and Answers

° Mr. R. N. Gardner, NRC, asked if CPCo and the CIO differed on their evaluation of the condition of the cable jacket that was in contact with nails in a board that was lying in a cable tray.

Mr. J. E. Karr, CIO, said that there was a difference of opinion, and CPCo was reevaluating the disposition of a nonconformance which was based on the assumption that the cable jacket had not been damaged.

° Mr. Gardner asked if the CIO evaluation of nonconformances for closure would also look at generic aspects.

Mr. R. G. Burns, CIO, said that the CIO would routinely go back to closed nonconformances and compare those trends with existing conditions. The whole population and not just immediate items would be included in reviews to identify generic problems.

° Mr. B. L. Burgess, NRC, asked how CPCo is informed when disciplines have been cleared by the CIO through Phase II of the FCR/FCN Resolution Program. Mr. Amoruso stated that disciplines are being released by letters which modify the Hold Point that has been established at Phase II.

° Mr. Gardner asked what type of problem would be addressed by a memorandum and result in a Design or Specification Change Notice as mentioned in a CIO Weekly Report.

Mr. Karr stated that a phone call might be made to Ann Arbor by resident engineering to ask a question about a design document or a specification. To preclude misinterpretations about what is being asked, a memorandum would be prepared to backup the phone call. Review of the question by project engineering might conclude that a change to a document is really needed. A Design or Specification Change Notice might then result.

Mr. Gardner and Mr. J. J. Harrison, NRC, stated that their concerns were that memorandums might become substitutes for required formal documentation. Mr. R. A. Wells, CPCo, stated that the memorandums will not be substitutes for other documentation but will be used as a means of communicating when items need clarification.

- ° Mr. Harrison asked for a summary of findings of the Stone and Webster corporate audit of the CIO as mentioned in a CIO Weekly Report.

Mr. Burns stated that the overall conclusion of the audit was that the CIO has met commitments specified in planning procedures. The most significant finding involved the need for team members to improve consistency in documenting sample sizes.

- ° Mr. Harrison asked for information about a special checklist that was mentioned in a CIO Weekly Report as being prepared by Bechtel for use in conducting status assessment. The checklist did not have all the attributes of the governing procedure.

Mr. Karr stated that the checklist was to be used as an aid in performing the assessment. Therefore, the list contains only key points that are desired to be emphasized and not all attributes from the procedure. Because of the potential problems with such a list, a CIO item was opened. Mr. Quamme stated that the response from Bechtel indicated that the checklist was to be used as a guide and not as a detailed working document. Mr. Gardner stated that such lists

have created problems in the past. Mr. Quamme stated that the matter would be reviewed.

° Mr. Harrison asked if the Public had any questions. The following items were discussed:

- Instrument aberrations
- FCR/FCN Resolution Program
- Crack mapping
- Objective of the monthly meeting

Action Item

° CPCo discuss at the February meeting the condition of the cable that was in contact with nails in a board lying in a cable tray.