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MONTHLY THIRD PARTY ASSESSMENT MEETING  
MIDLAND NUCLEAR COGENERATION PLANT

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 April 12, 1984.

AP. Amoruso  
Project Manager  
CIO

A. S. Lucks  
Project Manager  
Underpinning and Remedial Soils

Enclosures

cc: JWCook, CPCo  
DLQuamme, CPCo  
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MINUTES OF THE MEETING OF APRIL 1984

STATUS OF INDEPENDENT ASSESSMENT  
OF UNDERPINNING AND REMEDIAL SOILS WORK

PURPOSE

The purpose of the public meeting was to report the status of the Stone & Webster Assessment Team activities and observations regarding underpinning and remedial soils work.

SUMMARY

Mr. Lucks opened the meeting by stating that this summary covers weeks 76 through 80 which corresponds to February 26, 1984, through March 31, 1984. Mr. Lucks then summarized the recent construction progress.

Six underpinning piers have been completed and loaded since February 26. The first two control tower piers will be loaded on April 12. This will bring the overall total number of completed piers to 24, 42 percent of the 57 piers that are required. Completing the two control tower piers will allow work to commence on the remaining control tower piers and will increase the number of locations that are accessible for underpinning construction. The Assessment Team anticipates that the rate of construction will then accelerate. Mr. W. Kilker will now summarize the Assessment Team activities and observations.

Mr. Kilker began the summary with a description of the observations and activities performed by the Assessment Team. The major activities are listed below:

- Auxiliary Building Underpinning Construction Observations
- SWPS Underpinning Construction Activities
- Review of MPQAD Soils Performance
- Field Document Control Reviews
- Resident Engineering Document Control
- Work Activity Packages

Observed activities for the Auxiliary Building Underpinning Construction included concrete placements, leveling plate grouting, excavation and lagging, load transfer, transfer frame installations, and the UAT well-point installation and operation.

The Assessment Team made the following observations:

- Concrete placement efforts were well planned and coordinated. The equipment was adequate and the technical requirements were met.

- Observed grouting was performed properly.
- Pier excavation and lagging operations included a minimum of over-excavation, adequate backpacking and adequate control of water seepage.
- Load transfers that the Assessment Team overviewed were performed correctly. This included the continued jacking of the reserve capacity load into the E/W8 grillages. In this case, the responsible subcontractor discussed the activity with the Field Engineers, Quality Control Inspectors, and Resident Engineers and reviewed the operation with the crafts personnel prior to initiating the activity.
- The difficult transfer frame installations at piers CT1/12 in the confined UAT access area were planned and implemented to preclude any damage to the frame pieces.
- Horizontal well points were installed via the UATs into the soils beneath the control tower. This was another difficult activity and the subcontractor adjusted the implementation techniques to minimize the disturbance of the surrounding soils. This system is now in operation and reducing the level of perched water beneath the control tower.

The next series of activities observed by the Assessment Team were associated with the Service Water Pump Structure. These activities

involved installing and supporting the upper level wale for the access area excavations to the east and north of the structure. The work is progressing slowly but it meets all of the quality requirements. The Assessment Team noted some difficulty maintaining the backpacking material in place and suggested that the contractor modify the material or method to solve the difficulty. Steps have been taken to upgrade the affected areas and the contractor is evaluating the operation. The Assessment Team will continue to monitor lagging and backpacking operations as excavation continues but the present affected areas are near the surface and have no impact on buried piping or duct banks, so there is no immediate concern.

The Assessment Team evaluated MPQAD performance by performing an independent concrete pre-placement inspection, witnessing a Quality Control (QC) pre-placement inspection, reviewing a QC receipt inspection and reviewing several hundred Inspection Reports and 30 PIPR(QA) overviews. All observations were satisfactory. At U.S. Testing, the Assessment Team observed the testing of Cadwelder qualifying splices and several concrete cyclinders. Except for one deviation, all testing was performed in accordance with procedures and standards. The deviation resulted in NIR 25 where it was noted that during concrete cylinder strength testing the maximum load indicator needle was not being used.

Four document control work areas were assessed. Three of the work areas were reviewed on a representative sampling basis while the fourth work area was 100 percent reviewed. Although the acceptance rate of the attributes reviewed was 98 percent or greater, two NIRs 23 and 24 were issued to correct missing attachments and deficiencies in annotating the drawings.

The Assessment Team has no indication that these deficiencies have affected the quality of the work. The contractor has initiated daily activities to check the accuracy of the drawings at the work area and the Assessment Team will continue periodic surveillance of document control.

After reviewing 1983 Quality Engineering audit reports on Resident Engineering (RE) document control, the Assessment Team made the following observations:

- RE has made significant progress in upgrading document control, but must strive to complete corrective actions.
- NIR 22 issued in February remains open pending the completion of the MPQAD audit of the RE soils document control station.
- The Assessment Team does not believe the quality of work has been affected, but will periodically review the RE document control activities.

The final Assessment Team activity is summarized below with the status of the Work Activity Package (WAP) reviews:

WAP 57	Piers E/W5 and Gillage Drifts and Support Columns at Reactor Building	Complete
WAP 77	Install Phase II A/B Soldier Beams at SWPS	Complete

WAP 82      Repair and Reroute 1 1/2 in. Diameter Air Lines      Complete

Mr. Kilker summarized the status of current NIRs:

NIR 22      RE Document Control Stations      Open

NIR 23      Subcontractor Work Print Stations      Closed

NIR 24      Design Drawing Review at UAT Work Print  
Station      Open

NIR 25      Compressive Strength Testing of Concrete  
Cyclinders      Open

Mr. Kilker concluded his presentation by indentifying the ten open items from daily meetings:

64-7      QA Review Program

64-10      Trend Analysis

71-17      Computerized Civil Drawing Register

74-21      U.S. Testing Corrective Action

74-25      Expansion Anchors

77-12 FCR Processing Task Force

79-26 Upper Leveling Plate

79-28 SWPS Backpacking Material

79-31 SWPS Backpacking Placement

80-28 RE Document Control

The following brief review of the open items, which predated the weekly reports covered by this month's meeting, was presented.

- Open Item 64-7 on the QAP report will be closed as soon as the Assessment Team receives and reviews the final report. The final report is to be presented to Consumers Power Company (CPCo) during the week of April 16.
- Open Item 64-10 concerns the revised trending program M 2-1. M 2-1 has been deferred for soils while it is analyzed for suitability. The M 2 trending program continues to be implemented by MPQAD.
- Open Item 71-77 addresses the incorporation of vendor's documents into the computerized civil drawing register which is scheduled for completion by June.

- Open Item 74-21 is on U.S. Testing corrective action. Three areas are being tracked, the qualifications of lab chiefs, the submittal of QC procedures with work instructions, and the cross-training of technicians.
- Open Item 74-25 on the expansion anchors was recently closed by the contractor's use of grouting under the Hilti bolts seating surfaces and a delay in tightening the bolts until construction has moved away from the bolt, thus minimizing vibrations. Both of these measures are being implemented to preclude loosening of the Hilti bolt washers.

Mr. Kilker stated that the Assessment Team understands that the NRC and CPCo has come to an agreement on the proposed modifications to the crack monitoring program. Mr. Mooney of CPCo confirmed this and added that CPCo was in the process of implementing those modifications.

There were no other action items.

Mr. Taggart of CPCo then presented a review and update of the document control issues.

The review began by stating that corrective action was initiated and tracked by two documents.

- Management Corrective Action Request/Report DAT-1 on January 4, 1984
- CIO Open Item 43 issued January 6, 1984.

The resolution of these documents called for short-term and long-term actions.

The short-term actions include:

- 100 percent audit of the document registers.
- reverification of the work trend as trends are issued.
- reduction of the number of control stations.
- an increase in training.

The long-term actions include:

- implementing the distribution group within the document control area.
- reducing the number of training stations to five and creating satellite stations.
- increasing user knowledge and revising existing procedures. This is supplemented by use of the video terminals for access to the latest information.

Areas of concern identified by Stone & Webster or MPQAD include:

- inconsistency of procedures/process implementation in workprint recipient organizations.
- users knowledge of the system.
- workprint posting (accuracy and timeliness).
- procedure clarity.

An update of current activities to address these areas of concern follows. MPQAP has been tasked with the following corrective actions:

- Eliminate old workprints.
- Evaluate the number and types of drawings and define their purpose.
- Clarify instructions for drawing use by external jobsite groups.
- Review all document control procedures for completeness, consistency, and consolidate them to a practical degree.
- Eliminate the backlog.
- Develop a plan for incorporating Construction Assistants into document control and review management and supervision of the workprint group.

- Provide a new schedule and scope for satellite stations.

In order to accomplish these actions, MPQAD will increase in-process audits, conduct formal releases of satellite stations, and create a Document Control Assurance Group. The Document Control Assurance Group will maximize MPQAD involvement in the FDCC process and the corrective actions, provide ongoing checks and feedback on the system, and maximize checks on current document use.

The NRC asked if these activities would have an impact on the current MPQAD audit of RE document control. CPCo indicated that it would have an impact and that impact was being evaluated. This concluded the CPCo presentation.

#### QUESTIONS AND ANSWERS

The NRC asked the following questions concerning items included in Weekly Reports 76 through 80.

1. In the document control review conducted by the Assessment Team, what was the quantity of drawings reviewed? In the cases where sampling was used, each station had a population of less than 150 drawings and the samples were 13. In the case of one station the population was about 60 drawings and a 100 percent review was conducted.
2. How many people does the Assessment Team have involved with the project? The total number of full-time people onsite is 7. This is supplemented by part-time people from Stone & Webster staff from

Boston and Parsons Brinckerhoff Staff from New York. Does this represent an increase from previous figures? No, it is about the same.

3. Is the Assessment Team generally satisfied with the adequacy of the work being assessed? Yes.
4. Regarding the MPQAD audit of RE document control, when will that audit be completed? The audit will be completed the week of April 16.
5. What measures is CPCo taking to address Stone & Webster document control concerns? There is a two phased approach. CPCo is implementing some short-term procedural actions concerning the posting of the drawings. There are a number of audits ongoing and a long range plan to make the control register the controlling document. CPCo will provide video terminals with updated register information readily accessible to users.
6. Concerning Weekly Report 79, item number 79-32 on NIR 22 has the Assessment Team received a satisfactory reponse? No, the Assessment Team is awaiting a satisfactory response.

#### REQUIRED ACTION

No open action items are required for the Assessment Team or CPCo from this meeting.

MINUTES OF THE MEETING ON APRIL 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 March 1984.

Summary

Mr. A. P. Amoruso, Project Manager for the CIO Program, presented a summary of Program activities for March 1984. The following topics were covered:

° Assessment Activities

Opportunities to assess programs being monitored by the CIO increased during March. In the Construction Completion Program, the number of people engaged in status assessment and quality verification increased in the five areas that had been released for work. In addition, similar activities began in six other areas needed for turbine roll. In the Heating, Ventilation, and Air Conditioning Program (HVAC) and Nuclear Steam Supply System (NSSS), work recommenced after being stopped to revise training programs and resolve field change control problems. Summaries of principal activities during the month follow:

- Status Assessment and Quality Verification. These items were the main effort of the CIO during the month. Checks were made of the qualifications of people assigned to work, the correctness of documents being used, and compliance with procedures. No significant discrepancies were identified. Results indicate that objectives of the CCP are being met.

- Document Control System. Documents being used in the plant, as well as those at the Field Document Control Center and Work Print Stations, were checked to verify the effectiveness of short and long term corrective actions for previously identified problems. No significant discrepancies were found in documents being used in the plant. Discrepancies were found in documents at the Field Document Control Center, but those discrepancies were minor and involved less than one percent of the total documents processed. A number of discrepancies were found in documents at Work Print Stations. These discrepancies have been reported by six CIO nonconformances. Because users are required to check the accuracy of documents, these problems should not affect plant work. Checks in the field of the effectiveness of this practice have resulted in no discrepancies.
- Training Records. Records for some 55 construction people and some 650 Midland Project Quality Assurance Department (MPQAD) people were sampled inspected. No significant discrepancies were noted.
- Training Presentations. Seven training presentations for non-manual construction and MPQAD personnel were evaluated. These presentations followed lesson plans and met training objectives.
- Non-CCP Programs being Monitored by CIO.
  - \* Diesel Generators. Work resumed on the diesel generators during March. No discrepancies were noted during the disassembly of ASME piping.
  - \* HVAC Program. Zack procedures for the program were reviewed. No significant discrepancies were noted. Three inconsistencies in

document control, welder qualification, and installation procedures were noted. Corrective action is already in the review process. Evaluation of the welding program in the Control Room is ongoing. No discrepancies have been noted to date.

- NSSS Program. The Babcock and Wilcox quality assurance program for NSSS is being reviewed with particular emphasis on work falling under the jurisdiction of the ASME Boiler and Pressure Vessel Code Section III. An inconsistency appears to exist between the applicable ASME code edition and that used to install ASME component supports. Concerns in other areas such as the approved ASME suppliers list, welding undercut requirements, torque paint, and the administration of documents, are being clarified and will be discussed further at the next meeting.
- Spatial System Interaction Program (SSIP). Initial system walkdowns, which comprise the first phase of the program, have been completed. This work was performed satisfactorily in accordance with program procedures. Assessment activities for this program will resume next year when final system walkdowns begin.

° CIO Items, Nonconformances, and Hold Points

Nine CIO items were identified in March. Three of the items involved inconsistencies in Zack procedures. The remaining items follow:

- Recommendation that a receipt signature and date be added to transmittals for subcontractor documents.
- Recommendation that QC procedures for ASME diesel generator work be reviewed.
- Two people performing status assessment of pipe supports had not completed prescribed training.

- Six drawings being used as references to Status Assessment Prints were not so marked.
- Recommendation that inspection requirements for welds on electrical equipment be consolidated to minimize the potential for conflicting information.
- Edition of ASME III code specified in FSAR for NSSS installation differs from that specified in the Babcock and Wilcox QA Plan.

Five items were closed during March. The inconsistency between two specifications regarding anchor bolt spacing was closed when a specification change notice was issued to correct the difference. The request for audit reports was closed when the reports were provided. Clarification of training requirements for raceway assessment was closed when requirements for the new raceway teams were incorporated in the training matrix. The question about changing lesson plans was closed when information was received that revisions to lesson plans are made when changes affect the validity of training. The recommendation that instructors should continue to be evaluated no later than the first training class taught was closed when continuation of that practice was reaffirmed.

Ten nonconformances identified by the CIO Program were open at the end of March. Five of the nonconformances were carried over from the March meeting. Three of the five new items addressed discrepancies in drawings at Work Print Stations. The other two items involved four missing signatures on distribution change requests and two inconsistencies in the construction training matrix. Three Hold Points established by the CIO Program were open at the end of March. These Hold Points follow:

- Development of a vendor equipment verification program before the start of Phase III of the CCP.

- Evaluation of the management review of the results of Phase I activities before the start of Phase II of the CCP.
- Reinstatement of the requirement to certify the accuracy of thermocouples and extension wires for post weld heat treatment before using the thermocouples.

° Highlights of March

- Status Assessment and Quality Verification

The principal effort of the CIO Program during March was to monitor status assessment and sample verification inspections. Mr. J. E. Karr, CIO Site Program Manager, discussed the twenty modules that had been released for status assessment and quality verification. These modules are located in the Auxiliary Building, Control Tower, Diesel Generator Building, Reactor Building, Service Water Pump Structure, and Turbine Building. About 2% of the overall CCP program is completed. CIO has conducted some 2800 individual checks of status assessment and quality verification and has found only two significant discrepancies. Those discrepancies involved two people conducting status assessment of hangers who had not completed prescribed training and drawings being used as references for status assessment that were not marked as Status Assessment Prints.

- Trend Analysis Program

Mr. R. G. Burns, S & W Corporate Manager of Quality Assurance, presented a summary of the Trend Analysis Program to be used by the CIO. The program consists of planning, inspecting, and reporting stages. The planning stage uses project quality control instructions, drawings, and

specifications applicable to work packages or modules to develop checklists. The checklists are used in the inspecting stage to conduct status assessment and quality verification activities. Results of the inspecting stage will be used to evaluate the CIO Program and CCP and will be reported by means of CIO Weekly Reports and at monthly meetings. Results of the inspecting stage of the Trend Analysis Program will be fed back into the CIO Program to evaluate the adequacy of checklists and to determine if the level of effort is appropriate. If checklists are not addressing pertinent items, changes will be made. If particular areas have minimal discrepancies, sample plans will be adjusted to reduce the level of effort in those areas. Conversely, if an area needs more attention, the level of effort will be increased.

Results of the inspecting stage will also be used to evaluate CCP activities. Unsatisfactory conditions will be evaluated as to their nature and statistical basis. Conditions that do not affect program performance, and are considered minor, will be required to be corrected, and sampling may be increased to substantiate the extent and nature of those items. Conditions that may affect program performance, or are considered significant, will normally result in a CIO nonconformance report and require corrective and preventive action by Consumers Power Company (CPCo). Results will also be trended. Historical data and performance standards will be used when available to evaluate the significance of results and effectiveness of corrective action. Conditions that may fall within established performance standards, but which require correction or investigation by their nature, such as falsification of records, will be tracked separately.

A third group, the Project Advisory Group, is being added to the CIO organization to perform inspection planning, preparation of checklists, data analysis, and other quality engineering type activities. This group will report through the Deputy CIO Program Manager to the CIO Program Manager.

° Miscellaneous Items

- CIO Staff

The CIO staff remained at 33 during March which was adequate to handle the existing workload.

- CIO Senior Overview Committee

The Senior Overview Committee is composed of Mr. N. B. Cleveland, S & W Deputy Manager of Construction; Mr. C. O. Richardson, S & W Engineering Manager; and Mr. G. M. Schierberg, S & W Quality Assurance Manager. The Committee is tasked with overseeing the performance of the CIO Program. The group has been meeting monthly to review actions taken by the CIO Program and visited the site for the second time on April 2 and 3, 1984. The purpose of the site visits is to stay abreast of the actual CIO operation and see hardware problems being identified in the plant. The Committee evaluated the CIO Program as functioning satisfactorily.

Action Items from Last Meeting

- ° CPCo had three action items from the last meeting. The item concerning practices for incorporating changes to reference documents in training programs and for evaluating instructors was discussed under CIO Items, Nonconformances, and Hold Points. The other two items were to discuss how interoffice communications were reviewed during the field change resolution program and to discuss the status of proceduralizing checklist requirements. The discussion of these two items follows:

- Interoffice Communications

Mr. D. A. Taggart, CPCo, stated that FCRs and FCNs referencing memorandums were identified during Phase I of the field change resolution program. These memorandums were reconciled during Phase II. In addition to this resolution, the applicable procedure was changed to avoid the inappropriate use of memorandums in the future.

- Proceduralizing Checklist Requirements

Mr. D. L. Quamme, CPCo, stated that twenty procedures were affected by the policy on checklists. All of these procedures are now either revised or in the revision process. This effort is expected to be completed by the latter half of April.

Questions and Answers

- ° Mr. P. L. Hiland, NRC, asked what activities were being performed from Document Control Station 501 during the month.

Mr. Taggart stated that the station was only supporting non-quality activities.

- ° Mr. R. N. Gardner, NRC, asked about a statement in a CIO Weekly Report that certain people were confused about training requirements for people performing status assessment of hangers.

Mr. Quamme stated that the confusion occurred during the review process for revision 3 to the training matrix. Revision 2 contained differences in the training levels for mechanical and hanger engineers. Revision 3 standardized those training requirements. The two to three mechanical engineers involved had been trained to revision 2 but not to revision 3. Some 70 procedures are specified on the training matrix for hanger engineers. In revision 2, the training levels for 12 of these procedures differed from that specified for mechanical engineers. None of the 12 procedures affected the work performed by the people involved.

- ° Mr. Gardner asked about the concern expressed in a CIO Weekly Report on the specific mechanism to be used in combining the results of all CCP Phase I work in a comprehensive manner.

Mr. Quamme stated that the process for pulling together all Phase I work was coming along well. The procedure to be used for the management review has already been developed and reviewed with the NRC. The first package that would demonstrate this process would be the turbine roll package which would be ready in about a week.

Mr. Gardner stated that turbine roll may not be a good example for evaluating the process. NRC expects the program to be well defined when presented so that the bulk of remaining modules can be handled.

- ° Mr. Hiland asked if a hold point would be established to ensure conditions were satisfactory before field document control stations were reestablished.

Mr. Karr stated that a hold point was not planned.

- ° Mr. Hiland asked if the overview of the dispositioning of nonconformances mentioned in a CIO Weekly Report was a procedural or technical review.

Mr. Karr said the overview was procedural. The processing of nonconformances being dispositioned by field engineers was reviewed.

- ° Mr. Hiland asked for clarification about the unmarked prints that were being used for status assessment.

Mr. Karr stated that at the time the CIO item was prepared, the prints were believed being used for status assessment. Subsequent information has established that the prints were being used as references to a status assessment print. Under existing procedures, reference prints do not require a status assessment marking.

° Mr. Hiland asked for clarification on the checks that would be conducted for the five additional document control stations that are being reestablished. Mr. Karr stated that an in process evaluation of the overall document control system has been conducted to evaluate the effectiveness of short and long term corrective actions. The five additional stations are now being audited by MPQAD. When that audit is completed, CIO will check the stations.

° Mr. Gardner asked if the discrepancy noted in a CIO Weekly Report on the purchasing and receipt of ASME materials from sources not on the ASME Evaluation Supplier List was a CIO item.

Mr. Karr stated that the discrepancy was reported as a CIO nonconformance.

° Mr. R. F. Warnick, NRC, asked for comments about how the CIO was progressing. Mr. Karr stated that the CIO has been a positive impact on the project in two areas. First, the CIO is confirming progress being made with regards to how well activities are being implemented and procedures are being followed. Second, the CIO is providing constructive recommendations regarding the conduct of operations on the site. The feeling of the CIO is that CCP activities in the field are progressing satisfactorily and people are doing an excellent job.

Mr. Quamme stated that an adversary relationship could easily develop with a third party but that has not occurred. The advice that has been given by the CIO has been good overall and in most cases that advice has been implemented in the program. He stated that he looks on the CIO as an asset to the project.

Mr. Warnick stated that from an NRC perspective the CIO provides extra eyes for overiewing the project. The effort helps the NRC to have a better feel for all aspects of the work and where problems exist.

#### Action Items

None