



Resident
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UNITED STATES
NUCLEAR REGULATORY COMMISSION
REGION III
799 ROOSEVELT ROAD
GLEN ELLYN, ILLINOIS 60137

August 6, 1982

MEMORANDUM FOR: R. L. Spessard, Director, Division of Project and Resident Programs

THRU: ^{RFW} R. F. Warnick, Acting Director, Office of Special Cases

THRU: W. D. Shafer, Chief, ^{WS} Midland Projects Section

FROM: → R. J. Cook, Senior Resident Inspector, Midland Site

SUBJECT: SALP III EVALUATION PERIOD

Ref: T. N. Tambling memo dated July 12, 1982

During our discussions with you and Mr. D. C. Boyd on July 19-20, 1982, it was my understanding that you were in favor of extending the SALP III evaluation period for the Midland Site from June 30, 1982 to December 31, 1982 for the following reasons:

- 1) The SALP II report was given to the licensee on April 26, 1982 and some of the issues are still being resolved between the licensee and the NRC. The last meeting conducted on these issues was on August 5, 1982.
- 2) With the late issuance of the Cycle II SALP report and some of the more controversial aspects of the SALP report being discussed at the present, the NRC could come under criticism for not allowing enough time for the effects of the SALP II comments to be implemented into the licensee's performance. A cursory review of the inspection and enforcement records for the period July 1, 1982 through June 30, 1982, indicates that in some of those areas identified as Category 3 during SALP II would remain Category 3 during SALP III.
- 3) Lengthening the SALP III evaluation period to December 31, 1982 can be used as a performance motivator in the following form: If the licensee is informed that he now has an additional six months to show improvement - the licensee may take advantage of the time and SALP III could reflect that there were difficulties in the first portion, but as a result of the findings for SALP II, the licensee was responsive. Should the record show that there is no or little improvement even after the results of SALP II, then this is an indicator without much doubt as to the steps the NRC needs to take in dealing with this utility.

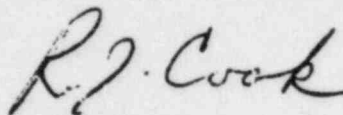
R. L. Spessard

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August 6, 1982

The above concepts were discussed with Mr. T. N. Tambling on July 19 or 20, 1982 and he (Mr. Tambling) appeared to be receptive to these ideas and to extending the SALP III period to December 31, 1982.

Sincerely,

A handwritten signature in cursive script that reads "R. J. Cook". The signature is written in dark ink and is positioned above the typed name and title.

R. J. Cook
Senior Resident Inspector
Midland Site Resident Office

cc: D. C. Boyd
T. N. Tambling

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DW HAYES

MIDLAND UNITS 1 AND 2

Major Events Ladder

- December 5, 1974 - Rebar spacing nonconformance identified for Unit 2 containment by licensee.
- March 5 & 10, 1975 - Rebar deficiencies in Auxiliary Building identified by licensee; RIII accepts justification.
- April 9, 1975 - Bechtel engineering justification for rebar spacing in Unit 2 containment accepted by RIII. (Report No. 75-03.)
- April 16, 1975 - Meeting at Consumers Power Company Corporate office; Hunnicutt, Hayes, and LeDoux relative to rebar spacing in containment and missing rebar in Auxiliary Building.
- April 28, 1975 - Unit 2 containment rebar spacing reanalysis accepted.
- August 21, 1975 - RIII notified of rebar omitted in Auxiliary Building.
- May 4, 1976 - Bechtel conclusion, that missing rebar in Auxiliary Building will not affect integrity, referred to Headquarters; Hayes to Seyfrit.
- June 7 & 8, 1976 - Meeting, Consumers Power Company, Jackson; Keppler and others vs Selby and others relative to missing rebar in Auxiliary Building and QA deficiencies per Report No. 76-04.
- June 18 & 24, 1976 - Licensee letters of response committing to 21 items of corrective action in response to Report No. 76-04.
- June 25, 1976 - Keppler to Consumers Power Company; Immediate Action Letter per Jordan to Keppler memo 8/26/76.

- July 14, 1976 - IE concurred with the Bechtel conclusion regarding missing rebar in Auxiliary Building, Seyfrit to Hunnicutt.
- July 28, 1976 - PN-III-76-52 issued on concrete work stoppage due to further rebar placement errors found as a result of Consumers' overview program instigated in late June 1976.
- August 2, 1976 - Keppler letter to Headquarters recommending Headquarters' Notice of Violation be issued.
Notice sent 8/13/76
- October 29, 1976 - Consumers Power Company responded to Headquarters' Notice of Violations.
- November 30, 1976 - Hearings take place on environmental matters.
Completed in January 1977.
- December 10, 1976 - Consumers Power Company's Midland QA Program accepted by NRR.
- *July 1977 - Staff commenced responding on Consumers Power Company's Regulatory Guide use.
- February 26, 1977 - Bulge occurrence of Unit 2 containment liner discovered - reported on February 28, 1977.
- April 14, 1977 - Meeting, Ann Arbor, to review activities of bulged liner plate repair.
- April 19, 1977 - Tendon sheath omission of Unit 1 reported.
- April 29, 1977 - Immediate Action Letter issued relative to tendon sheath placement errors.

*See backup information on Regulatory Guides.

- May 5, 1977 - Meeting, Consumers Power Company, Jackson; Keppler, Heishman, and Hayes relative to Immediate Action Letter discussion regarding tendon sheath problem.
- May 24 - 27, 1977 - Special QA inspection to determine adequacy of QA program implementation at Midland.
- June 30, 1977 - Meeting, Ann Arbor; R. F. Heishman and R. E. Shewmaker; release to proceed for tendon sheath omission and for bulge repair.
- August 1 - 5 & 8 - 9, 1977 - Site inspection to witness start of repairs for bulge liner and review records of completion of tendon sheath.
- August 12, 1977 - Final 50.55(e) report on tendon sheath.
- August 15, 1977 - Final report on liner plate repair.

ENFORCEMENT HISTORY - MIDLAND 1 AND 2

<u>Report Number</u>	<u>Number of Noncompliances</u>	<u>Report Number</u>	<u>Number of Noncompliances</u>
70-1	0	74-1	1
70-2	0	74-2	0
70-3	0	74-3	0
70-4	0	74-4	1
70-5	0	74-5	0
70-6	4	74-6	0
71-1	0	74-7	0
71-2	0	74-8	0
	<hr/> 4	74-9	0
72-1	0	74-10	0
73-1	0	74-11	1
73-2	0		<hr/> 3
73-3	0	75-1	0
73-4	0	75-2	0
73-5	0	75-3	0
73-6	0	75-6	0
73-7	0	75-7	0
73-8	5	76-1	3
73-9	0	76-2	2
73-10	4	76-3	0
73-11	0	76-4	5 = HQ's Notice of Violation
	<hr/> 9	76-5	0
Show Cause		76-6	0
Order Issued 12/3/73			<hr/> 10
		77-1	0
		77-2	1
		77-3	0
As of 8/24/76, nine stop-work orders issued by CP.		77-4	0
		77-5	0
			<hr/> 1 (Total 27)

MIDLAND 1 AND 2

CHRONOLOGICAL LISTING OF QA/QC EMBEDMENT PROBLEMS

- 9/29-30 & Site Inspection conducted. Four nonconformances regarding:
- 10/1/70: (1) placement activities violated ACI Code, (2) lab not performing tests per PSAR, (3) sampling not per ASTM, and (4) QA/QC personnel did not act on deviations when identified. This was considered during hearings.
- 1971: In mothballs pending CP.
- 1972: In mothballs pending CP.
- 12/14/72: CP issued.
(Calvert Cliffs impacted on CP issuance.)
- 9/73: Five nonconformance of Bechtel Ann Arbor activities.
- 11/73: Four separate criteria nonconformances with several examples of each, including cadweld splicing, storage of materials, identification of acceptance, and resulting records. Precipitated the Show Cause Order.
- 12/5/74: CP reported to RIII per 50.55(e) that rebar spacing out of specification 50 locations in Unit 2 containment (RIII Reports 75-01, 75-02, and 75-03).
- 3/5 & 10/75: CP reported to RIII that approximately 63 #6 rebar were either missing or misplaced in Auxiliary Building. (RIII Report 75-03.)
- 3/12/75: RIII held management meeting with CP (RIV letter to CP, dated April 16, 1975).
- 8/21/75: CP reported to RIII that 42 sets of #6 tie bars were missing in Auxiliary Building (RIII Report 75-07).

- 3/22/76: CP reported to RIII that approximately 32 #8 rebar were omitted in Auxiliary Building. A stop-work order was issued by CP (RIII Report 76-04).
- 3/26/76: RIII inspector requested CP to inform RIII when stop-work order to be lifted and to investigate the cause and the extent of the problem. Additional rebar problems identified during site inspection (RIII Report 76-04).
- 3/31/76: CP lifted the stop-work order.
- 4/19 thru 5/14/76: RIII performed in-depth QA inspection at Midland (RIII Report 76-04).
- 5/14/76: Discussed inspection findings with site personnel (RIII Report 76-04).
- 5/20/76: RIII management meeting with CP President, Vice President, and others.
- 6/7 & 8/76: RIII follow-up meeting with CP management and discussed the CP 21 correction commitments.
- 6/1-7/1/76: Overall rebar omission reviewed by R. E. Shewmaker (Report 76-05).
- 8/9 thru 9/9/76: Five-week, full-time onsite inspection conducted by RIII inspector (RIII Report 76-08).
- 2/28/77: Unit 2 bulge of containment liner discovered.
- 4/19/77: Tendon sheaths problem of Unit 1 was reported.

REBAR OMISSION PROBLEM

Inspection Report File Information

- 12/5/74 - CP identified rebar spacing noncompliance for Unit 2 containment wall. Issued QF-36 and stop-work FSW-6 December 6, 1974. Inspection conducted on December 11-13, 1974. Inspection Report No. 74-11.
- 2/5-7/75 - Inspection Report No. 75-01
More information requested for stress analysis for the rebar spacing of December 5, 1974. Tentative submittal March 15, 1975. NRC refuted existing analytical work.
- 2/26/75 - Inspection Report No. 75-02
NRC reviewed stress analysis on rebar spacing nonconformance. NRC refuted (CP agreed with NRC) analysis. Another analysis report due March 28, 1975.
- 4/8-9/75 - Inspection Report No. 75-03
NRC accepts Bechtel engineering justification. Resolves rebar spacing of December 5, 1974 for rebar in Unit 2 containment. Auxiliary Building rebar deviations - found by CP on March 5 and 10, 1975. NRC accepts the licensee computations.
- 10/23-24/75 - Inspection Report No. 75-07
August 21, 1975, NRC notified of rebar not installed in Auxiliary Building. NRC accepts CP analysis.
- 4/19-21, 5/3, 6-7, 13-14, and 20, 6/7-8/76 - Inspection Report No. 76-04
Bechtel concluded missing rebar in Auxiliary Building will not affect integrity. Referred to Headquarters.
QA inspection: Licensee letter June 18, 1976; licensee letter June 24, 1976.
Inspection Report No. 76-05 states revised and new work

procedures for concrete placement acceptable. Covered under licensee letter of June 24, 1976, under "Activities to be Completed Prior to Resumption of Q-Listed Concrete Placement."

6/24, 25, 30 and 7/1/76 - Inspection Report No. 76-05

IE:HQ did not identify any deficiency with Auxiliary Building rebar omissions.

Bechtel trend analysis not accepted by NRC - found acceptable in 76-09 dated November 1976. November 16 - 19, 1976, Bechtel trend analysis accepted by NRC.

8/9 - 9/9 and 23/76 - Inspection Report No. 76-08

Completes same licensee commitments from 76-04.

11/16-19/76 - Inspection Report No. 76-09

Inspector review of "Bechtel Trend Analysis" was found to be acceptable and considered resolved.

LETTER FILE

- 12/5/74 - CP quality assurance coordination found rebar spacing out of specification on containment wall of unit 2.
- 12/6/74 - Stop-work order issued by CP.
- 12/11-13/74 - Site inspection.
- 6/10/75 - Meeting by Mr. Yin with Mr. Slager, CP staff. Meeting held in RIII offices to review unresolved and/or open items from RIII inspection reports from 1970 to present.
- 11/18/75 - Meeting at Headquarters between RIII, IE, and CP to discuss implementation of Regulatory Guides 1.20, 1.26, 1.29, 1.46, 1.48, 1.67, and 1.72.
- 2/4/76 - Meeting scheduled for 2/4/76 between RIII, IE, and CP. Meeting to review noncompliance items and unresolved items identified during RIII inspection of 1/14-16/76.
- Infractions:
1. No assurance temperature limits were exceeded on concrete pours.
 2. No measures to identify nonconforming aggregate.
 3. Nonconforming aggregate not disposed of as required.
- 2/4/76 - Meeting at CP corporate offices between CP, Hunnicutt, and Hayes. The meeting reviewed noncompliance and unresolved items from January 13 - 16, 1976 (Inspection Report No. 76-01). Meeting discussed effectiveness of QA/QC effectiveness. Licensee responded with letter of March 5, 1976.
- 4/28/75 - Memo of Yin to file. Yin review of BAPC report claims that rebar spacing problem in Unit 2 containment is considered resolved.
- March 5, 1975 } CP notifies NRC of missing rebar in
March 10, 1975 } Auxiliary Building.

Letter April 16, 1975, Keppler-CP. Refers to meeting at CP corporate office with Hunnicutt, Hayes, and LeDoux. Meeting to discuss rebar spacing in Unit 2 containment and missing rebar in Auxiliary Building. CP committed to:

1. Complete safety evaluation and engineering review for rebar spacing discrepancy.
2. Continue review of safety implications and reportability considerations for missing rebar.
3. Complete formulation and implementation of corrective measures.

2/26/75 - Inspection at BAPC, Ann Arbor. NRC refuted analysis.

On April 28, 1975 (Yin memo) analysis accepted.

3/16-18, 24-26/76 - Inspection Report No. 76-02

Addresses continued rebar omission. Discussed with D. W.

Hayes on April 13, 1976. Report letter dated April 20, 1976.

Letter, March 5, 1976, CP-Keppler

Responds to citations of inspection of January 13-16, 1976.

Citation: Concrete temperature, aggregate control, and disposal of aggregate.

May 4, 1976, Memo Hayes to Seyfrit

Refers to Headquarters for review and evaluation of missing/misplaced rebar for periods of 2/76, 3/76, 10/74, 7/74 ----

May 20, 1976 - Scheduled meeting at Jackson CP corporate offices to discuss noncompliance of April 19 - May 20, 1976 inspection (Report No. 76-04).

- 6/8/76 - CP issued stop-work order for placement of safety-related concrete. Referenced in NRC letter (Keppler) to CP dated June 25, 1976.
- 6/18/76 - CP response letter to inspection findings of April - May 1976 (Inspection Report No. 76-04) 20 items.
- 6/24/76 - CP response letter relative to schedule for plan of action for items of June 18, 1976 CP letter.
- 6/25/76 - Letter, Keppler to CP. States resumption of concrete placement for safety-related structure will not start until certain items addressed in CP letter of June 24, 1976 are resolved. Memo, Jordan to Keppler, dated 8/26/76 refers to this as Immediate Action Letter.
- 7/14/76 - Memo, Seyfrit to Hunnicutt. Response to Hayes's memo of May 4, 1976, as a result of Yin-Shewmaker inspection of June 24 and 25, 1976. The strength considerations for missing/misplaced rebar is considered resolved.
- 7/27/76 - RIII informed by CP that:
Concrete work stopped because of errors in placing rebar. PN-III-76-52 filed on July 28, 1976, states work stopped also in June 1976 and on three earlier occasions.
Rebar placement error of July 1, 1976, was in Auxiliary Building.
- 8/2/76 - Keppler letter to Thompson recommending Headquarters' Notice of Violation. Notice sent August 13, 1976.

- 6/7 & 8/76 - (and May 20, 1976) meeting at CP corporate offices. Meeting involved Selby and other and Keppler and others.
- 10/18/76 - Hearing date set for November 16, 1976. Rescheduled later (11/18/76 to 11/30/76). Environmental.
- 8/13/76 - Notice of Violation issued to CP (Selby).
- 10/29/76 - CP response to Notice of Violation.
- 12/8/76 - Notice to resume Midland hearing on December 14, 1976.
- 12/16/76 - 50.55(e) on deformed (defective) component cooling water pump casings.
- 12/29/76 - Notice of resuming Midland hearing on January 8, 1977, in Chicago, Illinois.

REGULATORY GUIDES

Backup File - 1975

- 2/12/75 - J. G. Davis letter CP: acknowledge receipt of Consumers' report on reinforcing bar spacing (50.55(e)). Control No. H00419F3.
- 5/19/75 - Letter: S. H. Howell to A. Giambusso. First quarter '75 Financial Report. Page 3: QC/QA activities remain unchanged - curtailment of construction activities.
- 6/13/75 - NRC Schedule.
- 7/3/75 - Letter, R. C. Bauman (CP) to A. Schwencer. References meeting of June 24, 1975 between NRC and CP to discuss applicability of Regulatory Guides through Regulatory Guide 1.75 at Midland. List of Regulatory Guides having some disparity with Midland construction.
- 7/24/75 - Letter, Bauman to Giambusso. Refers to NRC-CP meeting of 7/22/75. Implementation of QA Regulatory Guides at Midland.
- 10/2/75 - Letter, Bauman to Boyd (NRC). Refers to tentative meeting on Materials Engineering Regulatory Guide 1.31. States Midland position.
- 10/14/75 - Letter, Cooke to Keppler, NRC Schedule.
- 11/14/75 - Letter, A. Schwencer to CP addressing additional loads on vessel support system. NRC investigating but indicate present design may be adequate.
- 11/7/75 - Letter, Bauman to NRR (Boyd). Midland position on Regulatory Guides 1.1, 1.4, 1.7, 1.13, 1.25, 1.42, 1.49, 1.52, 1.54, and 1.70.
- 11/14/75 - Letter, Cooke to Keppler. NRC Schedule.
- 11/19/75 - Letter, Schwencer to CP. NRC staff position on Regulatory Guide implementation at Midland. Refers CP letter of 9/11/75.

- 12/1/75 - Letter, Bauman to NRR (Boyd). Midland position and information to NRR on use of Regulatory Guides.
- 12/11/75 - Letter, Bauman to NRR (Boyd). Refers Schwencer's letter of 11/14/75. Supplies additional supporting information to vessel support system.
- 12/17/75 - Letter, Bauman to NRR (Boyd). Supplies additional information in response to Schwencer's letter of 11/19/75 on Regulatory Guide implementation and procurement status of plant components.
- 7/21/75 - Letter, Bauman to Schwencer (NRC). CP position on Regulatory Guide use. Refers to meeting of July 22, 1975.
- 8/8/75 - Letter, Howell to Giambusso. Financial status. No QC/QC changes. Indicates tentative change of personnel: Keeley as Midland Project Manager replaces Kessler; F. Southworth named Director of QA Services. Both effective August 1, 1975.
- 10/10/75 - Letter, Bauman to NRR (Boyd). Information on Midland Regulatory Guide positions. Refers to tentative Regulatory Guide meeting of 11/13/75.
- 10/15/75 - Letter, Bauman to NRR (Boyd). CP position on Regulatory Guide use at Midland.
- 11/10/75 - Letter, Howell to Giambusso. Financial report plus no change to QC/QA. Indicates construction escalation on January 1976.
- 1/13/76 - Letter, Schwencer to CP. Comments and request for information for use of Regulatory Guides at Midland. Refers letter, CP to NRR of 11/7/75.
- 1/13/76 - Letter, Schwencer to CP. Request for information on Regulatory Guide use at Midland. Refers to letter CP to NRR dated 10/10/75.

- 1/26/76 - Letter, Schwencer to CP. NRC comments and request for information on use of Regulatory Guides 1.26, 1.20, and 1.94.
- 2/3/76 - Letter, Bauman to NRR (Boyd). Supplies information requested in Schwencer's letter dated 12/23/75 pertaining to Regulatory Guide use - electrical engineering.
- 2/3/76 - Letter, Bauman to NRR (Boyd). Supplies information requested in Schwencer's letter dated 10/30/75 on use of Regulatory Guide 1.59.
- 2/3/76 - Letter, Bauman to NRR (Boyd). Responds to Schwencer's letter dated 1/13/76 and supplies additional information on use of Regulatory Guides.
- 2/5/76 - Letter, Bauman to NRR (Boyd). Responds to Schwencer's letter dated 1/26/76 requesting information on use of Regulatory Guides 1.26 and 1.29.
- 2/10/76 - Letter, Bauman to NRR (Boyd). Final response to Schwencer's letter dated 1/26/76 requesting information on use of Regulatory Guide 1.94.
- 3/23/76 - Letter, Kneil (NRC) to CP announcing meeting at RIII March 30, 1976, on Section V.B of Appendix I, 10 CFR 50. Also, letter, Kneil to CP dated 4/23/76. Also, letter, Kneil to CP dated 5/10/76. Also, letter, Howell to NRR dated 3/15/77.
- 3/2/76 - Letter, Howell to Rusche requesting relief from Quarterly Financial Reports established in Giambusso letter of September 13, 1974.
- 5/3/76 - Letter, Boyd to CP. Relieves CP of Quarterly Financial Report and conditions of Giambusso letter of September 13, 1974.

- . 6/14/76 - Letter, Kneil to CP. Staff position on use of Regulatory Guides 1.10, 1.12, 1.15, 1.18, 1.19, 1.35, 1.60, 1.61, and 1.92. (Regulatory Guides 1.27, 1.55, and 1.59 excluded.) Refers to CP letters of 7/21/75, 8/19/75, 12/1/75, and 2/3/76.
- 7/14/76 - Letter, Vassallo (NRR) to CP. Letter requires CP do a reevaluation of vessel support systems for LOCA conditions.
- 10/8/76 - Letter, Varga to CP. Staff position on use of Regulatory Guides 1.28, 1.30, 1.37, 1.38, 1.39, 1.58, 1.64, 1.74, 1.88, and 1.94 covered in CP of October 15, 1975. Also, staff position on use of Regulatory Guides 1.54 and 1.55 covered in CP letters of November 7, 1975 and August 19, 1975.
- 10/8/76 - Letter, Varga to CP. Staff position - partial response to CP letter of October 10, 1975, for use of Regulatory Guides 1.20, 1.26, 1.29, 1.46, 1.48, and 1.67.
- 10/15/76 - Letter, Varga to CP. Staff position on use of Regulatory Guides 1.6, 1.9, 1.11, 1.22, 1.32, 1.40, 1.41, 1.45, 1.47, 1.53, 1.62, 1.63, 1.73, 1.75, and 1.81. Regulatory Guide 1.12 addressed in NRC letter of June 8, 1976. Refers to CP letters of July 21, 1975 and February 3, 1976.
- 10/12/76 - Letter, Varga to CP. Staff position on use of Regulatory Guides 1.1, 1.4, 1.7, 1.13, 1.25, 1.27, 1.42, 1.49, 1.52, and 1.59. (Excludes 1.54.) Refers to CP letters of August 19, 1975, November 7, 1975, and February 3, 1976. Staff position on Regulatory Guide 1.70 covered in NRC letter of June 2, 1976.

- 12/10/76 - Letter, Varga to CP accepts Midland Design and Construction QA Program (10 CFR 50, Appendix A). Submitted to NRC by CP on 11/9/76.
- 1/5/77 - Letter, Howell to Vassallio (NRR). Vessel support analysis due 4/77. References letters of NRR-CP, 7/14/76, and CP to NRR, 9/10/76.
- 3/15/77 - Letter, Howell to NRR (Boyd). Additional information on Appendix I. Refers to backup information on 3/23/76.
- 4/29/77 - Letter, Howell to Vassallio. Vessel support analysis due 7/77. Reference 1/5/77 and 6/8/77.
- 6/27/77 - Letter Howell to NRR (Boyd). Clarification of PSAR Amendment 32 dated 4/4/77. Electrical penetration information.
- 7/19/77 - Letter, Howell to NRR (Boyd). Addresses CP position on use of Regulatory Guides 1.10, 1.12, 1.15, 1.18, 1.19, 1.35, 1.57, 1.60, 1.61, 1.90, and 1.92. Refers NRC letter of 6/8/76. GIVES SUMMARY STATUS OF REGULATORY GUIDE USE FOR STRUCTURAL ENGINEERING.
- 7/19/77 - Letter, Howell to NRR (Boyd). Addresses CP position on use of Regulatory Guides 1.6, 1.9, 1.11, 1.22, 1.32, 1.40, 1.41, 1.45, 1.47, 1.53, 1.62, 1.63, 1.73, 1.75, and 1.81. Refers NRC letter of 9/29/76. GIVES SUMMARY STATUS FOR REGULATORY GUIDE USE FOR STRUCTURAL (ELECTRICAL) ENGINEERING.
- 7/28/77 - Letter, Howell to NRR (Boyd). Proposed FSAR Section 13.2 on Plant Staff Training for Cold Operator Training.

UNIT 2 LINER PLATE BULGE

- 2/26/77 - Bulge occurrence discovered at 11:00 p.m. (Report No. 50-330/77-02).
- 2/28/77 - 50.55(e) prompt report to RIII at 2:15 p.m.
- 3/16/77 - NRC letter with report to licensee with noncompliance regarding failure to report timely.
- 4/5/77 - Response letter. Commitment made to provide procedure "Reporting Deficiencies to NRC" No. 20-2, Revision No. 3, to prevent recurrence. Currently, Revision 3 still in review and modification stage.
- 3/23/77 - NRR representative visited site with inspector for damage briefing (50-330/77-04).
- 4/14/77 - Meeting at Ann Arbor to review actions of bulged plate removal and to review activities relative to proposed repair; D. W. Hayes and R. E. Shewmaker (77-06).
- 5/4/77 - Site visit for inspection of existing conditions of liner bulge area. D. W. Hayes and R. E. Shewmaker (50-330/77-07).
- 5/16/77 - Interim report issued per 50.55(e).
- 5/24-27/77-Special QA Program Inspection.
- 6/20/77 - Interim report issued per 50.55(e).
- 6/29-30/77-Site Inspection by R. E. Shewmaker (6/29/77) - (50-330/77-10).
Meeting, Ann Arbor (6/30/77) R. E. Shewmaker and R. F. Heishman.
Release for proceeding with repairs. Notify when start of repairs.
- 8/1-5 & - Site Inspection, T. E. Vandel. Witness start of repairs with
8-9/77 first four-foot lift of liner plate installed and grouted.
Satisfactory. (Report No. 50-330/77-11.)
- 8/15/77 - Final report issued per 50.55(e) in review by R. E. Shewmaker.
Further site inspection planned later.

UNIT 1 TENDON SHEATH PROBLEM

4/19/77 - 50.55(e) prompt notification report to RIII made.

4/20/77 - PN-III-77-18 issued.

4/29/77 - Immediate Action Letter issued to CP. Six items of commitments:

1. Notify RIII prior to repairs or modifications. Complete
(see Report No. 50-329/77-07).
2. Complete investigation of cause and implement C.A.
Not complete, still in discussions with Bechtel regarding
adequate performance.
3. Expand overview program - expanded program in process.
4. Notify NRC of placement errors for all embedments starting
May 9 and for next 120 days. - 120 days completes on
September 9; during that time seven separate items have been
reported. See backup sheet A.
5. Review and revise QC inspection procedures. All Bechtel
QCI's have undergone review. Revision in progress.
6. Training of QC engineers and field engineers expanded.
Training program and retraining is underway.

5/5/77 - Meeting in Jackson with Keppler, Heishman, and Hayes.

5/19/77 - Interim report issued per 50.55(e).

5/24-27/77-Special QA Program Inspection. Five noncompliance items.

1. Bechtel: inadequate piping hanger support plate installation.
Currently still open.
2. Bechtel: field engineers mark up installation drawings for
hangers. Currently CA complete.
3. Consumers: audit report remain unissued (4). Currently CA
complete.
4. Consumers: trends analysis procedure unimplemented. Currently
CA complete.

5. Champion (Batch Plant): defective batch scale not tagged per procedure. Currently CA complete.

Additional CA for items 3 and 4. CP to reorganize and provide additional manpower. Currently new organization in effect and most all personnel additions completed in August to be reviewed further later. (See organization chart backup sheet B.)

6/27/77 - Interim report issued per 50.55(e).

6/29-30/77-Site Inspection by R. E. Shewmaker (6/29/77) - (50-329/77-07).

Meeting in Ann Arbor (6/30/77). R. E. Shewmaker and R. F. Heishman. Release for proceeding with repairs.

8/1-5 & - Site Inspection, T. E. Vandell. Report No. 50-329/77-08.

8-9/77 Complete record review of repairs to tendon sheaths. No problem areas identified. Installation was accomplished as proposed.

8/12/77 - Final report issued per 50.55(e). Review is completed and thank you letter states that we have no further questions.

BACKUP SHEET A

1. Tendon Sheathing, 5/19/77 *identified errors on*
Vertical Sheaths - notified on 5/24/77 (NCR-803) C
2. D. W. Hayes - 6/22/77, 9 #11 bars missing (QF-169)
3. I. T. Yin - 7/15/77, 2 #11 bars missing (NCR-863)
4. D. W. Hayes - 7/28/77, 2 bars missing (QF-175) C
5. T. E. Vandel - 8/15/77, 8 #8 wall dowels missing (QF-176) C
6. D. W. Hayes - 8/16/77, 4 cut bars not replaced (NCR-898)
7. C. E. Jones - 8/17/77, pipe restraint controls omitted - reactor
building (NCR-910)

C = Complete

BACKUP SHEET B

Other Items

- A. May 27, 1977 - Final report per 50.55(e) regarding the surveillance specimen holder tubes (provided by B&W)
Follow-up agreements were outlined in our letter of thanks dated June 21, 1977.
- B. May 27, 1977 - Final report per 50.55(e) regarding component cooling water pump casings.
No comment by RIII, since casings have been rejected and will not be used for Midland.
- C. May 24, 1977 - PN-III-77-30, Industrial Accident - Death of Construction Worker (no repercussions)
- D. March 22, 1977 - Meeting in RIII offices with B. W. Marguglio, CP Director of Project Quality Assurance Services regarding contemplated independent inspection of NSSS installations.
- E. November 14, 1975 - Vessel support LOCA loading adequacy - question.
Analysis is due July 1977 to NRR.

MIDLAND - CHRONOLOGY OF EVENTS SINCE JULY 1981 HEARINGS

- 07/07/81 Soil Hearing commenced
- 10/05/81 CPCo met with NRC to discuss organizational improvements
- 10/14/81 Hearing reconvened to deal with Geo-Technical issues
- 01/07/82 General QA Plan and Quality Plans for underpinning and Q-list activities proposed by CPCo
- 01/12/82 CPCo met with NRC to discuss changes to the Midland QA organization and General Quality Plan
- 02/02/82 Testified at Midland soils hearing re: recent QA reorganization
- 03/30/82 CPCo/NRC Meeting (Norelius; Adensam)
- 04/13/82 NRC Public Meeting in Midland on Underpinning Activities
- 04/26/82 Midland SALP 2 meeting
- 04/28/82 Stop Work Order issued by CPCo against Mergentime (dug into 4160 volt power supply)
- 04/30/82 ASLB Order on soils with certain conditions/restraints imposed
- 05/07/82 ASLB Order clarification, within the bounds of Drawing C-45(Q)
- 05/14/82 CPCo/NRC meeting to discuss overview of electrical inspections
- 05/20/82 ACRS Subcommittee briefed re: Midland QA for construction
- 05/25/82 NRR approval of MPQP
- 05/26/82 Construction Permit Amendment 3 issued
- 06/03/82 Full ACRS briefed re: Midland QA for construction
- 06/04/82 ACRS meeting re: Midland QA
- 06/08/82 ACRS report requested a broader assessment of design adequacy and construction quality
- 06/21/82 Spessard/Norelius recommendations provided

JJH
Rev. 2
09/02/83

06/21/82 SALP 2 meeting to discuss CPCo response in Jackson, MI,
public meeting

06/22/82 Meeting to review response to SALP report

06/28/82 GAP news conference requesting NRC halt construction

07/82 Office of Special Cases formed in Region III, includes Midland
Section

07/07/82 ASLB issued memo/Order on reopening record on QA matters

07/09/82 NRC requested IDV by CPCo

07/23/82 Cook memo issued containing Midland problems

07/26/82 RIII meeting with NRR to discuss Midland QA problems (meeting
minutes written 8/18/82, Warnick memo)

08/05/82 Public meeting to discuss SALP 2 differences with CPCo

08/09/82 Soils Stop Work Order issued by CPCo, potential violation of
Board Order

08/10/82 Enforcement Conference re: unapproved excavations (alleged
violation of Board Order)

08/10/82 CPCo stopped soils work at our request pending resolution of
authority to dig holes

08/12/82 Issued Work Authorization Procedure for soils (NRC/CPCo)

08/26/82 NRC management meeting with CPCo management re: QA

09/02/82 NRC followup meeting with CPCo management re: Quality
Improvement Plan (JGK/Selby)

09/03/82 Briefing of Jack Roe and J. Austin of Commissioner's Staff at
Midland

09/09/82 Meeting with NRR to review Midland soils issue

09/09/82 MPQAD Reorganization - Bechtel QC into CPCo QA Organization

09/10/82 Region III initial approval of MPQP 1 and 2

09/15/82 NRC meeting with CPCo attorneys re: GAP allegations

- 09/17/82 CPCo notified NRC of integrated QA/QC
- 09/17/82 CPCo proposed Stone and Webster for soils third party overview
- 09/17/82 CPCo proposed IDV and other corrective actions
- 09/20/82 S&W began overview work on soils at the Midland site
- 09/22/82 Meeting with Mooney, Schaub, and Ronk on Midland QA commitments. They will give us a list. Also talked about taking QC from Bechtel and putting it under MPQAD - Problem with N stamp.
- 09/24/82 Soils Stop Work Order issued by CPCo following NRC inspection (CAL issued). QC training, requalification soils area.
- 09/28/82 RIII initial meeting on site with S&W, proposed third party for soils activities
- 09/28/82 Entered into an inter-agency agreement with Argonne National Laboratory (ANL) for inspection assistance
- 09/29/82 Public management meeting with CPCo re: QA/QC reorganization, CAL third party review, requalification for BOP QA inspectors
- 10/82 Safety Evaluation Report Supplement 2, issued approving soils design. Approved MPQP-1, Rev. 3/MPQP-2, Rev. 0.
- 10/01/82 JGK and ABD gave approval for Midland team inspection
- 10/05/82 CPCo proposed TERA for IDV at meeting with NRR, RIII, GAP and proposed auxiliary feedwater system be included
- 10/07/82 Meeting in RIII with ELD to discuss testimony for next round of hearings
- 10/12/82 Diesel generator building inspection commenced
- 10/13/82 Detroit Free Press had series on Midland. Kent and anonymous electrician were quoted.
- 10/15/82 }
 - 10/22/82 } DGB inspection mini-exits with CPCo
 - 10/26/82 }
 - 10/28/82 }
- 10/25/82 Revised testimony issued by NRC
- 10/25/82 Meeting with NRR to discuss Midland third party, IDVP proposal
- 10/29/82 Meeting with Bechtel to discuss performance/problems

- 11/05/82 Meeting with NRR to discuss Stone and Webster (S&W) qualification for soils third party overview; NRR, RIII, CPCo, S&W, Parsons, IE, GAP
- 11/07/82 TERA began auxiliary feedwater system review for IDVP at CPCo risk
- 11/10/82 DGB inspection team exit with CPCo site personnel (10-12 concerns with multiple examples and problems)
- 11/15 - } ASLB Hearings in session
- 23/82 }
- 11/22/82 DGB inspection findings discussed with JGK by RFW
- 11/23/82 DGB inspection exit with CPCo management
- 11/30/82 CPCo notified Region III verbally of proposed Stop-Work
- 12/01/82 CPCo announces Zack problem may lead to a large lay-off
- 12/02/82 Meeting RFW and Shafer and team with CPCo and Bechtel to discuss CCP. RIII informed of intent to stop work. Also HQ and Commission's assistants.
- 12/03/82 CPCo stopped majority of safety-related work at site. Issued PN and news release. Briefed JGK, ABD, SL.
- 12/03/82 CPCo proposes to increase TERA scope to include three additional systems; Emergency Power (DG System), Safeguards Chill Water, and Containment Isolation Systems.
- 12/06 - } ASLB Hearings in session
- 10/82 }
- 12/07/82 NRC meeting to brief NRR/IE management on DGB inspection problems and QA/QC history and problems, CCP and the licensee "Get Well Program."
- 12/09/82 NRC approved CPCo to begin work on Piers 12E and 12W under turbine building
- 12/13/82 RIII meeting with ELD to discuss plans for supplemental testimony
- 12/30/82 NRC letter issued confirming Stop Work on safety-related areas with certain exceptions
- 01/10/83 CPCo submitted proposed CCP with third party overview included in the proposal
- 01/18/83 Enforcement Conference with CPCo management re: diesel generator building inspection. Boos investigation report, enforcement meeting.

- 01/21/83 Final exit on diesel generator building inspection, concluding continued misuse of IPIN's and improper use of Attachment 10 firms.
- 02/02/83 NRC/CPCo meeting to discuss CCP (collect info.).
- 02/08/83 Proposed Civil Penalty issued: \$120,000
- 02/08/83 Public Meeting re: CCP and IDCVP
- 02/08/83 Meeting with CPCo and Bechtel management to discuss desire to turn things around
- 02/09/83 TERA's Engineering Program Plan submitted; auxiliary feedwater only
- 02/14 - }
18/83 } ASLB Hearings in session
- 02/14/83 Stone and Webster supplies assessment of piers 12 East/West
- 02/15/83 CPCo submits S&W independent qualification statement for soils
- 02/24/83 CPCo expands S&W contract to include QA overview/review work packages, QC inspector requalification, all soils training, and an assessment of all underpinning work.
- 02/24/83 NRC approved Stone & Webster for soils third party overview
- 03/07/83 NRC meeting with NRR/GAP to discuss the CCP
- 03/08/83 Meeting in RIII with ELD to discuss supplemental hearing testimony
- 03/10/83 CPCo responded to Notice of Violation and proposed Civil Penalties
- 03/15/83 Meeting with CPCo to obtain INPO Self-Imposed Evaluation results
- 03/22/83 NRC selects additional systems for the IDCVP; Emergency Electric Power System, and Control Room HVAC.
- 03/28/83 RIII letter issued requesting additional details re: CCP; included in this request was a proposed third party candidate and the protocol to be utilized for the IDCVP.
- 04/04/83 Harrison replaced Shafer
- 04/06/83 CPCo proposed Stone and Webster to perform third party overview for the CCP; S&W's program is titled, Construction Implementation Overview (CIO).
- 04/13/83 Meeting in Headquarters to discuss TERA proposal on IDCVP; IE, RIII NRR, and GAP participated.

04/15/83 Stone and Webster issued a 90 day report on Assessment of Remedial Soils Underpinning Activities

04/19 - }
21/83 } Caseload Forecast Panel at Midland; Public Meeting 4/19 and 4/21/83

04/21/83 Stone and Webster CIO personnel onsite

04/22/83 CPCo response to NRC letter of 03/29/83, re: CCP Additional Information

04/27 - }
05/06/83 } ASLB Hearing in session - NRC testifies

05/03/83 NRC approval of TERA for IDCVP for Auxiliary Feedwater only

05/17/83 Meeting with CPCo to discuss CCP/CIO; response 04/22/83 to NRC 03/28/83 letter re: Additional Information

05/18/83 TERA submitted modification to the Engineering Program Plan (EPP) to include the two additional systems; Emergency Power and Control Room HVAC

06/01 - }
10/83 } ASLB Hearing - QA, NRC testified

06/06/83 Commissioner Gilinsky visited the Midland site

06/15/83 Commission briefing on Midland QA and soils

06/16/83 Congressman Udall Hearing on Midland

06/20/83 RIII authorization to begin underpinning activities under safety-related structures (pier 8 E/W grillage)

06/20/83 RIII concurred in CCP, preliminary approval allowed CPCo to begin team training

06/22/83 RIII requested to CPCo (D. Miller) - S&W scope be increased to include all safety-related soils work

05/23/83 RIII RFW memo to NRR/IE for CCP review and comments

06/24/83 RIII memo to NRR (Novak) completing RIII review of TERA's Expanded Engineering Program Plan, two additional systems

06/27/83 RIII letter to CPCo, preliminary approval of CCP; authorization to begin team training

06/27/83 RIII response to M. Sinclair letter of 04/18/83

- 06/27/83 Memo Eisenhut to Keppler/Vollmer requesting concerns (Landsman) on DGB being structurally sound
- 06/28/83 RIII input to Chilk for Dircks re: Information for Commissioner Gilinsky; recent significant QA problem since August 1980 reorganization by CPCo (issued 06/29/83)
- 06/28/83 RIII response to Lone Tree Council re: IDCVP and CIO
- 06/29/83 Zack welding activities released by NRC, after NRC inspection
- 06/27 - } ASLB Hearings in session
- 07/01/83 } ASLB Hearings in session
- 07/01/83 Response to letter for Dircks to Senator C. Levin (Mr. Miller, Lone Tree Council)
- 07/05/83 JGK/NRR/IE/ELD met with CPCo (Selby/Cook) to discuss CCP status, caseload dates, delays by NRC
- 07/07/83 Letter CPCo (Mooney) to S&W (Lucks) expanding S&W scope to all safety-related backfill within the bounds of Drawing C-45(Q)
- 07/14/83 Dow Chemical Co. withdraws from the Midland project and files a law suit against CPCo
- 07/19/83 Meeting with ELD, NRR, IE, and RIII to discuss 2.206 filed by GAP on CCP and S&W
- 07/19/83 Meeting with GAP (JGK/DGE/RFW) on CCP
- 07/19/83 R. Landsman issued memo on DGB, four concerns to Eisenhut from RFW on 07/21/83
- 07/20/83 Meeting with Bechtel to discuss procurement quality problems/improvements
- 07/21/83 Preliminary SALP III issued to licensee for review/comments
- 07/22/83 TERA's expanded scope for IDCVP approval by NRR
- 07/29 - } ASLB Hearings in session
- 08/05/83 } ASLB Hearings in session
- 07/28/83 RIII management meeting with J. Cook and J. Charnoff

08/11/83 NRC Meeting w/intervenors and GAP on CCP and S&W CIO, open to public

08/11/83 NRC Public Meeting in evening on CCP and S&W CIO

08/12/83 SALP III meeting with CPCo, open to public

08/16/83 Meeting with Bechtel (Wahl) and RIII (JGK and ABD)

08/19/83 NRC final comments on CCP issued

08/25/83 Meeting in Midland with S&W, open to public. NRC provided B. Garde (GAP) comments

08/26/83 Meeting in Ann Arbor with TERA, Bechtel, CPCo, and B&W to discuss results to date of TERA's IDCVP

08/26/83 Letter CPCo (Cook) to NRC (JGK) forwarded final revision to CCP

08/26/83 Letter CPCo (Cook) to NRC (JGK) forwarded final revision to CCP

08/30/83 Letter S&W (Wild) to NRC (JGK) forwarding material from 08/25/83 Midland meeting on CIO

For the SACF III, the licensee was
evaluated for the period of July 1, 1981
through March 31, 1983. The SACF III
period did not terminate as originally
intended ^{on July 30, 1982} because the SACF II results
were presented to the licensee on April 26, 1982
and the licensee would not have had
an opportunity to incorporate

SALP reports
Enforcement History

Continual jockeying by lic-

marking of the lines & equipment for
instrumentation

reluctance to put ^{responsibility of} construction ~~responsibility~~
on the foreman / work
level - ~~at~~ with (3/8) studs.

Electrical

932-3500

Inadequate inspections by Qualified Inspectors & others

No QA for Underpinning instruments

Consumers coming up with consolidated form
 Form came up by C&C - Bechtel does not want to work with Bechtel would make up form
 Coordination / Installation Form Happened twice.

Call Hardman in office - have Bechtel not

Noncompliance indicating of things which need follow-up. by NRC

Material storage in electrical

~~Cables~~ Supporting of cables in central partial full or waiting term
 EIB - sited by Gardner - still not good.

What are we look at - find problems. Wonder what are intensive routine. not do

Underpinning go ahead before F.VIP
was determined adequate supported
because of schedule

Arguing about the Q-ness of items

Soils stabilization

& Grouting -

handman says Q

CPC argues get NRR to

Say non-Q - However the MPQP-2

Says all Q unless KITT
approves.

Argumentative SACP (contentious)

Blinders on hooks in trenches -

Mr. Pechtel

alleged memo:

Dulling holes in Q-electrical duct - ^{to service water duct} ^{DBM} ^{stop} ^{work}
Condenser Header drain
Abandon sewer line
Soldier pile in duct, bank
72" Service water

✓ Kevin Word - hostile w/ it - agreement between
NRC / Curland negated.

✓ Slope $1\frac{1}{2} : 1$ vs $1 : 1\frac{1}{2}$ - field eng watch
then argue

✓ Watch the high press. epoxy at BREST - apathy
used to wards actual mix

Kevin Word approached as to why considered
the

Handyman having difficult time getting
✓ resumes. - passed had hard time getting info
from Ken Arber - System load analysis on
electrical panel
Handyman stop work based himself
going to drill in O-dirt.

✓ Mass confusion on fix to B+W stringers
on Mon - July 19

✓ Iso gin - bad head analysis

Use NRC as consultants
Reviews here early

202

1970\$U

Six inspection reports were issued in 1970. In July, 1970, construction activities authorized by the Midland Construction Permit Exemption commenced.

Enforcement History
Inspection\$Findings\$U

Eleven deficiencies were identified in Inspection Report No. 50-329/70-02 and 50-330/70-02 concerning the licensee's Quality Assurance Program. A management meeting was held on April 7, 1970 to discuss these deficiencies. It was subsequently determined that "appropriate remedial action was initiated by the applicant and that the Quality Assurance Program development is now consistent with the current status of the project".

Four items of nonconformance were identified in Inspection Report Nos. 50-329/70-06 and 50-330/70-06 concerning the installation of concrete. The nonconformances regarded: (1) placement activities violated ACI Code; (2) lab not performing tests per PSAR; (3) sampling not per ASTM; and (4) QA/QC personnel did not act on deviations when identified. Licensee corrective actions included: (1) Bechtel to provide a report attesting to the Auxiliary Building base slab where lack of consolidation was apparent; (2) a commitment to perform tests at frequencies specified in the PSAR; and (3) a commitment to train workers and the inspection staff. This matter was discussed during the Construction Permit Hearings.

1971-1972\$U

Three inspections were conducted during this period. No items of noncompliance were identified. Midland construction activities were suspended pending the pre-construction permit hearings.

On December 15, 1972, the Midland Construction Permit was issued.

1973\$U

Eleven inspection reports were issued in 1973 of which two pertained to special management meetings, two to vendor inspections, one to an audit of the architect engineer, and six to on site inspections.

Enforcement History
Inspection\$Findings\$U

Noncompliances involving three separate Appendix B criteria with five different examples were identified during a special audit of the architect engineer's Quality Assurance Program. The noncompliances were documented in Inspection Report Nos. 50-329/73-08 and 50-330/73-08. The items of noncompliance regarded: (1) inadequate requirements for quality record retention; (2) inadequate drawing control; (3) inadequate procedures; and (4) unapproved specifications used for vendor control. Licensee corrective actions included: (1) revision ^{of} ~~to~~ Bechtel Nuclear Quality Assurance Manual; (2) revision to Midland Internal Procedures Manual; (3) personnel instructed to audit the status of the drawing stick files weekly; (4) project administrator

assigned the responsibility for maintenance of master stick file; and (5) project engineer and staff to perform monthly surveillance of project record file. Inspection Report Nos. 50-329/74-03 and 50-330/74-03 concluded that appropriate corrective actions had been taken by the licensee relative to the identified violations.

Significant Construction Problems

Cadweld Splicing Deficiencies and Show Cause Order

A routine inspection, conducted on November 6-8, 1973, as a result of intervenor information, identified eleven examples of four noncompliance items relative to rebar cadwelding operations. The noncompliances were documented in Inspection Report Nos. 50-329/73-10 and 50-330/73-10. These items were summarized as: (1) untrained cadweld inspectors; (2) rejectable cadwelds accepted by QC inspectors; (3) records inadequate to establish cadwelds met requirements; and (4) inadequate procedures.

As a result, the licensee stopped work on cadweld operations on November 9, 1973, which in turn stopped rebar installation and concrete placement work. The licensee agreed not ^{to} resume work until the NRC reviewed and accepted their corrective action. However, Show Cause Order was issued on December 3, 1973, ^{formally} suspending cadwelding operations. On December 6-7, 1973, Region III and Headquarters personnel conducted a special inspection and determined that construction activities could be resumed in a manner consistent with quality criteria. Licensee corrective actions included:

to

(1) the revision of Bechtel Corporation Specification ~~six~~ reflect requalification requirements; (2) development of instructions requiring that work specifications be reviewed prior to Class 1 work; (3) the establishment of provisions for Consumers Power QA review of work procedures; and (4) the establishment of procedures for the audit of Class 1 work.

The Show Cause Order was modified on December 17, 1973 allowing resumption of Cadwelding operations based on inspection results. The licensee answered the Show Cause Order on December 29, 1973 committing to revise and improve the QA manuals and procedures and make QA/QC personnel changes.

On September 25, 1974, the Hearing Board found that the licensee was implementing its QA program in compliance with regulations and that construction should not be stopped.

1974\$U

Eleven inspection reports were issued in 1974 of which one pertained to a vendor inspection, one to an inspection at the licensee's corporate offices, and nine to on site inspections.

Enforcement History
Inspection\$Findings\$U

One noncompliance was identified in Inspection Report Nos. 50-329/74-01 and 50-330/74-01 concerning the use of unapproved procedures during the preparation of containment building liner plates for erection. Licensee corrective actions included: (1) intensive review of liner plate records for accuracy; (2) issuance of nonconformance report; (3) requirement imposed that unapproved copies of procedures transmitted to the site be marked "advance copy"; and (4) identification ~~provided~~ of procedure approval status. The licensee's actions in regards to this matter were reviewed and the noncompliance closed by the NRC as documented in Inspection Report Nos. 50-329/74-01 and 50-330/74-01.

One noncompliance was identified in Inspection Report Nos. 50-329/74-04 and 50-330/74-04, concerning the use of a weld method which was not part of the applicable weld procedure. Licensee corrective actions included: (1) issuance of a nonconformance report; (2) repair of subject welds; (3) reinstruction of welders; and (4) increased surveillance of containment liner plate field fabrications. The licensee's actions in regards to this matter were reviewed and the noncompliance closed by the NRC as documented in Inspection Report Nos. 50-329/⁷⁴⁻⁰⁴~~7-04~~ and 50-330/74-04.

One noncompliance was identified in Inspection Report Nos. 50-329/74-11 and 50-330/74-11 concerning the failure of QC inspections to identify non-conforming rebar spacing. This violation is discussed further in the 1976 section of this report regarding Significant Construction Problems.

1975

Seven inspection reports were issued in 1975 of which one pertained to a meeting in Region III, one to an inspection at the licensee's corporate offices, and five to on site inspection.

No noncompliances were identified in 1975, however, the licensee in March and August of 1975 identified additional rebar deviations and omissions. This matter is further discussed in the 1976 section of this report regarding Significant Construction Problems.

1976

Nine inspection reports were issued in 1976 pertaining to nine on site inspections.

Enforcement History Inspection Findings

Three items of noncompliance were identified in Inspection Report Nos. 50-329/76-01 and 50-330/76-01. These items regarded: (1) inadequate

concrete oven temperature controls; (2) no measures to control nonconforming aggregate; and (3) failure to dispose of nonconforming aggregate as required. Licensee corrective actions included: (1) implementing a requirement for the reverification of oven temperature controls every three months; (2) removal of nonconforming aggregate from the batch plate^{NT} area; (3) modification of subcontractor's QA manual; and (4) training of subcontractor's personnel to the revised QA manual. The corrective actions implemented by the licensee in regards to these noncompliances were subsequently reviewed and the items closed by the NRC as documented in Inspection Report Nos. 50-329/76-02 and 50-330/76-02.

Two items of noncompliance were identified in Inspection Report Nos. 50-329/76-02 and 50-330/76-02. These items regarded: (1) the Vice President of Engineering Inspection did not audit test reports as required; and (2) corrective actions required by audit findings had not been performed. Corrective actions taken by the licensee included revising the U.S. Testing QA manual. The licensee's corrective actions taken in regards to these matters were subsequently reviewed and the items^{NS} closed by the NRC as documented in Inspection Report Nos. 50-329/76-08 and 50-330/76-08.

Three items of noncompliance were identified in Inspection Report Nos. 50-329/76-07 and 50-330/76-08. These items^{NS} regarded: (1) inadequate classification, review, and approval of field engineering procedures and instructions; (2) inadequate documentation of concrete^{o&M} work deficiencies;

and (3) inadequate control of site storage of post tension embedments. Licensee corrective actions included: (1) revision of the Bechtel Nuclear QA manual; (2) revision of Bechtel field procedure for "Initiating and Processing Field Procedures and Instructions"; (3) initiation of Bechtel Discrepancy Report; (4) training sessions ^{for} by Bechtel QC; and (5) revision of storage inspection procedures. The licensee's corrective actions in regards to these items were subsequently reviewed and the items closed by the NRC as documented in Inspection Report Nos. 50-329/77-01 and 50-330/77-01.

Two items of noncompliance were identified in Inspection Report Nos. 50-329/76-09 and 50-330/76-08. These items regarded: (1) noncompliance report not written to identify broken reinforcing steel; and (2) hold down studs for the reactor vessel skirt were not protected. Licensee corrective actions included: (1) inspection of all rebar dowels; (2) ^{initiation of} ~~issue~~ new field procedure; and (3) ^{initiation of} ~~issue~~ new procedure for inspecting reactor vessel and steam generator anchor bolts. The licensee's corrective actions in regards to these items were subsequently reviewed and the items closed by the NRC as documented in Inspection Report Nos. 50-329/77-01 and 50-330/77-01.

Significant Construction Problems

Rebar Omission/Placement Errors and Headquarters Notice of Violation

The initial identification and report of rebar nonconformances occurred during an NRC inspection conducted in December, 1974, and ^{was} documented in

Inspection Report Nos. 50-329/74-11 and 50-330/74-11. During this inspection the licensee informed the inspector that an audit had identified rebar spacing problems in the Unit 2 containment. The failure of QC inspectors to identify the nonconforming rebar spacing was identified in the NRC inspection report as an item of noncompliance. This matter was subsequently reported by the licensee as required by 10 CFR 50.55(e).

Additional rebar deviations and omissions were identified in March and August, 1975, and in April, May and June, 1976.

Five items of noncompliance regarding reinforcement steel deficiencies were identified in Inspection Report Nos. 50-329/76-04 and 50-330/76-04. These items regarded: (1) no documented instructions for the drilling and placement of reinforcement steel dowels; (2) nonconformance reports concerning reinforcement steel deficiencies were not adequately evaluated; (3) inadequate inspections of reinforcement steel; (4) inadequate evaluations of a nonconformance report problem relative to 10 CFR 50.55(e) reportability requirements; and (5) results of reviews, interim inspections, and monitoring of reinforcement steel installations were not documented.

The licensee's response, dated June 18, 1976, listed 21 separate items (commitments) for corrective actions. A June 24, 1976 letter from the licensee provided a plan of action schedule for implementing the 21 items. The licensee suspended concrete placement work until the items addressed in the licensee's June 24 letter were resolved or implemented. This commitment was documented in a Region III Immediate Action Letter (IAL)

to the licensee, dated June 25, 1976.

Rebar installation and concrete placement activities were satisfactorily resumed in early July, 1976 following completion of the items and verification by Region III.

A subsequent inspection to followup on reinforcing steel placement problems identified two noncompliances. These noncompliances are documented in Inspection Report Nos. 50-329/76-07 and 50-330/76-07. The noncompliances regarded: (1) failure to follow procedures; and (2) inadequate Bechtel inspections of rebar installations. The inspection report documents licensee corrective actions which included: (1) removal of cognizant field engineer and lead Civil engineer from the project; (2) removal of lead Civil Quality Control engineer from the project; (3) reprimand of cognizant inspector; (4) additional training given to cognizant foremen, field engineers, superintendants and Quality Control inspectors; and (5) assignment of additional field engineers and Quality Control engineers.

As a result of the rebar omissions and placement errors, a Headquarters Notice of Violation was issued on August 13, 1976.

Additional actions taken by the licensee and the contractor included:

1. By the licensee

- A. Establishment of an overview inspection program to provide 100% reinspection of embedments by the licensee following acceptance by the contractor Quality Control personnel.

2. By the Contractor

- A. Personnel changes and retraining of personnel.
- B. Preparation of a technical evaluation for the acceptability of each identified construction deficiency.
- C. Improvement in the QA/QC program coverage of civil work.

1977

Twelve inspections pertaining to Unit 1 and fifteen inspections pertaining to Unit 2 were conducted in 1977.

Enforcement History
Inspection Findings

Five examples of noncompliance to Criterion V of 10 CFR 50, Appendix B, were identified in Inspection Report Nos. 50-329/77-05 and 50-330/77-08. The examples of noncompliance regarded: (1) inadequate clearance between concrete wall and pipe support plates; (2) assembly of pipe supports using handwritten drawing changes; (3) inadequate preparation and issue of audit

reports; (4) inadequate review of nonconformance reports and audit findings for trends; and (5) inadequate tagging of defective measuring equipment. Licensee corrective actions included: (1) clarification of design and acceptance criteria contained in pertinent specifications; (2) modification and review of Quality Control Instructions; (3) issuance of two field procedures relative to field ^{modification} ~~modifications~~ of piping hanger drawings; (4) staffing of additional QA personnel at the site; (5) closer management attention; and (6) additional training in the area of tagging. The licensee actions in regard to these items were subsequently reviewed and the items closed by the NRC as documented in Inspection Report Nos. 50-329/77-08, 50-330/77-11, 50-329/78-01, and 50-330/78-01.

Three items of noncompliance were identified in Inspection Report Nos. 50-329/77-09 and 50-330/77-12. The items regarded: (1) failure to follow audit procedures; (2) failure to qualify stud welding procedures; and (3) inadequate welding inspection criteria. Licensee corrective actions included: (1) administrative instruction issued to require the audit manager to obtain a semi-monthly audit findings status report from the project manager; (2) administrative instruction issued for the close out and followup of internal corrective action requests; (3) revision of Quality Control Instruction; (4) special inspections and audit; and (5) ^{prescribing} specific acceptance criteria ~~provided~~. The licensee's actions in regard to these items were subsequently reviewed and the items closed by the NRC as documented in Inspection Report Nos. 50-329/78-01, 50-330/78-01, 50-329/78-05, and 50-330/78-05.

Significant Construction Problems

1. Bulge in the Unit 2 Containment Liner Plate

The initial identification by the licensee of a bulge in the Unit 2 liner plate occurred on February 26, 1977. The liner plate bulge occurred between column line azimuths 250 degrees and 270 degrees and between elevations 593 and 700. Inspection Report No. 50-330/77-02 documents a special inspection concerning the liner plate bulge. This report further identifies an item of noncompliance relative to the failure of the licensee to report the bulge deficiency pursuant to the requirements of 10 CFR 50.55(e)(2). The licensee's corrective actions in regard to this item were reviewed and the item closed by the NRC as documented in Inspection Report No. 50-330/77-14.

The cause of the liner plate bulge was determined to be ^{due to} a leaking ~~two~~ 2 inch water line installed in the containment concrete as a construction convenience. It was theorized that the water line froze, started to leak, allowing water to seep behind the liner. The water line was supplied by a construction water pump that was set to cycle between 100 and 130 PSI. This pressure was considered to be sufficient to cause the liner plate bulge.

A meeting was held on April 4, 1977 at the Ann Arbor, Michigan Office of Bechtel to review the original design and construction concept of the containment liner, the procedures and actions taken during the

removal of bulge affected zones, the investigation activities and results, and to ascertain the concepts involved in the licensee's proposed repair program.

The containment liner bulge deficiency repair was started on August 1, 1977. Inspection Report No. 50-330/77-11 documents the observed fit up and welding of the first four foot lift of replacement liner plate installed. The completion of repair and the repair records were subsequently reviewed as documented in Inspection Report No. 50-330/79-25.

2. Tendon Sheath Placement Errors and Resulting Immediate Action Letter (IAL)

The licensee reported, on April 19, 1977, the discovery of an error in the Unit 1 containment building which resulted in two tendon sheathings (H32-036 and H13-036) being misplaced, and two tendon sheathings (H32-037 and H13-037) being omitted. As shown on pertinent vendor drawings, these four tendons were to be deflected downward to clear the two main steam penetrations at center line elevation 707' 0".

Concrete had been placed to a construction joint at elevation 703' 7" approximately one week before these tendon deficiencies were discovered.

Corrective actions resulted in the rerouting of tendon sheathing H32-037, originally planned for below the penetration, to a new alignment above the penetration. Tendon sheathing H13-037 was installed below the penetration. Tendon sheathings H32-035 and H13-036 did not require modification.

50.55e on shear, the ⁱⁿ ~~penetration~~

The tendon sheath placement errors and the past history of rebar placement errors indicated the need for further NRC evaluation of the licensee's QA/QC program. As a result, an IAL was issued to the licensee on April 29, 1977. Licensee commitments addressed by this IAL included: (1) NRC notification prior to repairs or modifications involving the placement of concrete in the area of the misplaced and omitted tendon sheaths; (2) identification of the cause of the tendon sheath deficiencies and implementation of required corrective action; (3) expansion of the licensee's QC overview program; (4) NRC notification of all embedment placement errors identified after QC acceptance; (5) review and ^{revision} ~~revise~~ _A of QC inspection procedures; and (6) training of construction and inspection personnel.

A special QA program inspection was conducted in May, 1977 as documented in Inspection Report 50-329/77-05 and 50-330/77-08. The inspection team was made up of personnel from Region I, Region III, and Headquarters. Although five ^{items} ~~errors~~ of noncompliance were identified, it was the consensus of ^{opinion of} _A the inspectors that the licensee's program was acceptable.

The licensee issued the final 50.55(e) report on this matter on August 12, 1977. Final on site review was conducted and documented in Inspection Report Nos. 50-329/77-08 and 50-322/79-15.

1978\$U

Twenty-two inspections and one investigation were conducted during 1978.

Enforcement History
Inspection\$SFindings\$U

Three items of noncompliance were identified in Inspection Report Nos. 50-329/78-03 and 50-330/79-03. These items^{MS} regarded: (1) inadequate inspections of welds on cable tray supports; (2) inadequate control of welding voltage and amperage as required by AWS; and (3) inadequate documentation of repairs ~~to~~ on purchased equipment. Licensee corrective actions included: (1) Quality Control Engineers and craft welders were given additional training; (2) pertinent technical specifications and weld acceptance requirements were revised; (3) revision of welding procedures;⁽⁴⁾ revisions of vendor QA manual; and ⁵(4) reinspections and engineering evaluations. The licensee actions in regard to these items were subsequently reviewed and the items closed by the NRC as documented in Inspection Report Nos. 50-329/78-15, 50-330/78-15, 50-329/79-25, 50-330/79-25, 50-329/81-12, 50-330/81-12, 50-329/79-22, and 50-330/79-22.

Two items of noncompliance were identified in Inspection Report Nos. 50-329/78-05 and 50-330/78-05. These items regarded: (1) inadequate control of welding filler material; and (2) inadeq^{ua}uate protection of spool pieces. Licensee corrective actions included: (1) additional instructions given to

welding personnel; (2) generation of nonconformance report to require Bechtel to perform a thorough inspection of the facility, correct and document discrepancies noted, and instruct craft personnel. The licensee actions in regard to these items were subsequently reviewed and the items closed by the NRC as documented in Inspection Report Nos. 50-329/78-05, 50-330/78-05, 50-329/79-22, and 50-330/79-22.

Two examples of noncompliance to ^{one 10 CFR 50 appendix B criterion} ~~Criterion VI~~ were identified in Inspection Report Nos. 50-329/78-07 and 50-330/78-07. These examples regarded: (1) inadequate control of drawings; and (2) inadequate drawing control procedures. Licensee corrective actions included: (1) Zack and Bechtel revised drawing control procedures; and (2) extensive audits of drawing controls. The licensee actions in regard to these items were subsequently reviewed and the items closed by the NRC as documented in Inspection Report Nos. 50-329/79-25 and 50-330/79-25.

One item of noncompliance was identified in Inspection Report No. 50-330/78-09 concerning inadequate backing gas flow rate during welding operations. Licensee corrective actions included: (1) revision of Bechtel welding procedure specifications; (2) revision of Bechtel Quality Control Instruction; and (3) additional training for all welding Quality Control Engineers. The licensee's actions in regard to this item were subsequently reviewed and the item closed by the NRC as documented in Inspection Report No. 50-330/78-16.

Two items of noncompliance were identified in Inspection Report Nos. 50-329/78-13 and 50-330/78-13. The items regarded: (1) inadequate inspection of

weld joints; and (2) inadequate storage of class 1E equipment. Licensee corrective actions included: (1) revision of welding specifications; (2) additional instructions to QC inspectors; (3) additional overinspections; (4) upgrade of administrative procedures; and (5) actions to bring storage environment within controlled specifications. The licensee's actions in regard to these items were subsequently reviewed and the items closed by the NRC as documented in Inspection Report Nos. 50-329/78-13 and 50-330/78-13.

Two items of noncompliance were identified in Inspection Report Nos. 50-329/78-15 and 50-330/78-15. These items regarded: (1) nonconforming welds on Main Steam Isolation Valve support structures; and (2) inadequate corrective action taken to repair nonconforming Nelson Stud weld attachments. Licensee corrective actions included: (1) responsible welding Quality Control Engineer required to attend training course; (2) defective welds reworked; and (3) engineering evaluation. The licensee's actions in regard to these items were subsequently reviewed and the items closed by the NRC as documented in Inspection Report Nos. 50-329/79-22, 50-330/79-22, 50-329/79-25 and 50-330/79-25.

One ~~item of noncompliance~~ (deviation) was identified in Inspection Report No. 50-330/78-16 concerning the failure to meet ASME code requirements for nuclear piping. Licensee corrective actions included the determination that the impact test values of the pipe material in question met the code requirements and the UT thickness measurements made by ITT Grinnell were in error and voided by measurements made by Bechtel. The licensee's actions in regard to this

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item were subsequently reviewed and the items closed by the NRC as documented in Inspection Report No. 50-330/79-24.

One item of noncompliance was identified in Inspection Report No. 50-329/78-17 and 50-330/78-17 regarding the failure to follow weld procedures pertaining to the repair welding of cracked welds on the personnel air locks. The licensee's corrective actions have included steps to revise affected drawings and to update the stress analysis report for the air locks. The corrective actions taken by the licensee will be reviewed during future NRC inspections.

One item of noncompliance was identified in Inspection Report Nos. 50-329/78-22 and 50-330/78-22 concerning the failure to perform specified maintenance and inspection activities on Auxiliary Feed Pumps. Licensee corrective actions included: (1) training for pertinent Quality Control engineers; (2) transition of personnel in QC department relative to storage and maintenance activities; and (3) inspections and evaluations of omitted maintenance. The licensee's actions in regard to this item were subsequently reviewed and the item closed by the NRC as documented in Inspection Report Nos. 50-329/78-22 and 50-330/78-22.

Significant Construction Problems

Excessive Settlements of Diesel Generator Building Foundations

The licensee informed the Region III office on September 8, 1978, per requirements of 10 CFR 50.55(e), that settlement of the Diesel

Generator foundations and structures were greater than expected.

Fill material in this area was placed between 1975 and 1977, with construction starting on the diesel generator building in mid-1977. Review of the results of the Region III investigation/inspection into the plant fill/Diesel Generator building settlement problem indicate many events occurred between late 1973 and early 1978 which should have alerted Bechtel and the licensee to the pending problem. These events included nonconformance reports, audit findings, field memos to engineering and problems with the administration building fill which caused modification and replacement of the already poured footing and replacement of the fill material with lean concrete.

Causes of the excessive settlement include: (1) inadequate placement method - unqualified compaction equipment and excessive lift thickness; (2) inadequate testing of the soil material; (3) inadequate QC inspection procedures; (4) unqualified Quality Control inspectors and field engineers; and (5) over-reliance on inadequate test results.

Lead technical responsibility and program review for this issue was transferred to NRR from IE by memo, dated November 17, 1978.

During 1978 the licensee conducted soil borings in the area of the Diesel Generator building and in other plant fill areas. In addition, a team of consultants who specialize in soils were retained by the licensee to provide an independent evaluation and provide recommendations concerning the soil conditions existing under the Diesel Generator building.

As previously stated, an investigation was initiated in December^b, 1978 by the NRC to obtain information relating to design and construction activities affecting the Diesel Generator Building foundation and the activities involved in the identification and reporting of unusual settlement of the building. The results of the investigation and additional development in regard to this matter are discussed in the Significant Construction Problem section for 1979.

1979\$U

Thirty inspection reports were issued in 1979 of which one pertained to an on site management meeting, two to investigations, one to a vendor inspection, one to a meeting in Region III and twenty-five to on site inspections.

Inspection\$Findings\$U

One item of noncompliance was identified in Inspection Report Nos. 50-329/79-10 and 50-330/79-10 concerning inadequate measures to assure that the design basis was included in drawings and specifications. Licensee corrective actions included: (1) revision to Midland FSAR; and (2) revision to pertinent specification. The licensee's actions in regard to this item were subsequently reviewed and the item closed by the NRC as documented in Inspection Report Nos. 50-329/79-19 and 50-330/79-19.

Three items of noncompliance were identified in Inspection Report Nos. 50-329/79-12 and 50-330/79-12. The items regarded: (1) inadequate corrective action in regard to drawing controls; (2) discrepancy in Zack Welding Procedure Specification; and (3) inadequate control of purchased material. Licensee corrective actions included: (1) audit

of drawing control program; (2) revision to drawing control requirements; (3) revision ^{of} ~~to~~ Zack ^{LA} ~~Wed~~ling Procedure Specification; (4) review of other Zack procedures; (5) missing data was added to documentation packages; and ⁽⁶⁾ audits of other documentation packages. The actions taken by the licensee were subsequently reviewed and the items closed by the NRC as documented in Inspection Report Nos. 50-329/81-01, 50-330/81-01, 50-329/80-15, 50-330/80-16, 50-329/79-22, and 50-330/79-22.

One item of noncompliance was identified in Inspection Report No. 50-329/
50-330/79-13 concerning the failure to inspect all joints and connections
on the Incore Instrument Tank as prescribed in the hydrostatic test procedure.
Licensee corrective actions included a supplemental test of the Incore
Instrument Tank and the initiation of a supplemental test report. The
licensee's actions in regards to this matter were subsequently reviewed
and the item closed by the NRC as documented in Inspection Report No. 50-329/80-
50-330/80-38.

One item of noncompliance was identified in Inspection Report No. 50-330/
79-14 concerning the use of a wad of paper in making a purge dam during
welding activities. Licensee corrective actions included: (1) revision
of pertinent procedures; (2) revision of pertinent Quality Control inspection
checklist; and (3) training sessions for welders and Quality Control
inspectors. The licensee's actions in regards to this matter were subsequently
reviewed and the item closed by the NRC as documented in Inspection Report
No. 50-330/80-16.

One item of noncompliance was identified in Inspection Report Nos.
50-329/79-18 and 50-330/79-18 concerning inadequate controls to protect
materials and equipment from welding activities. Licensee corrective
actions included training sessions for cognizant Field Engineers, Superinten-
dents, General Foremen and Foremen. The licensee's actions in regards to
this matter were subsequently reviewed and the item closed by the NRC as
documented in Inspection Report No. 50-329/80-15 and 50-330/80-16.

Two items of noncompliance were identified in Inspection Report Nos. 50-329/79-19 and 50-330/79-19. These items regarded: (1) failure to ensure that appropriate quality standards were specified in the specification for Structural Backfill; and (2) Quality Control inspection personnel performing containment prestressing activities were not qualified as required. Licensee corrective actions included: (1) revision of pertinent specification; (2) examination given to Level I and Level II inspector; and (4) reinspection of selected tendons. The licensee's actions in regards to these items were subsequently reviewed and the items closed by the NRC as documented in Inspection Report Nos. 50-329/80-09, 50-330/80-09, 50-329/80-04 and 50-330/80-04.

One item of noncompliance was identified in Inspection Report Nos. 50-329/79-20 and 50-330/79-20 concerning inadequate controls for welding activities pertaining to 4.16 KV switchgear. Licensee corrective actions included: (1) correction of relevant records; (2) additional training for Quality Control Engineers; and (3) additional training for the Quality Control Control Document Coordinator. The licensee's actions were subsequently reviewed and the item closed by the NRC as documented in Inspection Report Nos. 50-329/80-15 and 50-330/80-15.

One item of noncompliance was identified in Inspection Report No. 50-330/79-22 concerning inadequate weld rod controls. Licensee corrective actions included a training session for cognizant welding personnel. The actions taken by the licensee in regards to this matter were subsequently reviewed and the item closed by the NRC as documented in Inspection Report No. 50-330/80-01.

One item of noncompliance was identified in Inspection Report Nos. 50-329/79-26 and 50-330/79-16 concerning failure to follow procedures relative to the shipment of auxiliary feed water pumps to the site with nonconforming oil coolers. Licensee corrective actions included: (1) reinstruction given to cognizant engineer; and (2) Supplied Deviation Disposition Request (SDDR) generated by the vendor. The licensee's actions in regards to this matter were subsequently reviewed and the item closed by the NRC as documented in Inspection Report Nos. 50-329/79-26 and 50-330/79-26.

One item of noncompliance was identified in Inspection Report Nos. 50-329/79-27 and 50-330/79-27 concerning the violation of QC Hold Tags. Licensee corrective actions included: (1) a training session for Construction Supervisors and Field Engineers; and (2) a Field Instruction on Quality Control Hold Tags was issued. The licensee's actions in regards to this matter were subsequently reviewed and the item closed by the NRC as documented in Inspection Report Nos. 50-329/81-04 and 50-330/81-04.

Significant Construction Problems

Excessive Settlements of Diesel Generator Building Foundations

An investigation was initiated in December, 1978 to obtain information relating to design and construction activities affecting the Diesel Generator Building foundations and the activities involved in the identification and

reporting of unusual settlement of the building. The investigation findings were documented in Inspection Report Nos. 50-329/78-20 and 50-330/78-20, dated March 22, 1979. Information obtained during this investigation indicated: (1) a lack of control and supervision of plant fill activities contributed to the inadequate compaction of foundation material; (2) corrective action regarding nonconformances related to plant fill was insufficient or inadequate as evidenced by the repeated deviations from specification requirements; (3) certain design bases and construction specifications related to foundation type, material properties and compaction requirements were not followed; (4) there was a lack of clear direction and support between the contractor's engineering office and construction site as well as within the contractor's engineering office; and (5) the FSAR contained inconsistent, incorrect and unsupported statements with respect to foundation type, soil properties and settlement values. Nine items of noncompliance were identified in the subject inspection report.

Meetings were held on February 23, 1979 and March 5, 1979 at the NRC Region III office to discuss the circumstances associated with the settlement of the Diesel Generator Building at the Midland facility. The NRC staff stated that it's concerns were not limited to the narrow scope of the settlement on the Diesel Generator Building, but extended to various buildings, utilities and other structures located in and on the plant area fill. In addition, the staff expressed concern with the Consumers Power Company Quality Assurance Program. Under the authority of Section 182 of the Atomic Energy Act of 1954, as amended, and Section 50.54(f) of 10 CFR Part 50,

additional information was requested regarding the adequacy of the fill and the quality assurance program for the Midland site in order for the Commission to determine whether enforcement action such as license modification, suspension or revocation should be taken. Question 1 of the 50.54(f) letter dated March 21, 1979 requested information regarding the quality assurance program. On April 24, 1979, Consumers Power Company submitted the initial response to the 50.54(f) request, Questions 1 through 22. As a result of the NRC staff review of Question 1, the NRC concluded that the information provided was not sufficient for a complete review. Subsequently, on September 11, 1979, the NRC issued a request for additional quality assurance information (Question 23). On November 13, 1979, Consumers Power Company submitted revision 4 to the 50.54(f) responses which included response to Question 23. As a result of the Region III investigation report and CPCo responses, the NRC issued an Order modifying construction Permits No. CPPR-81 and No. CPPR-82, dated December 6, 1979.

During 1979, the licensee continued soil boring operations in order to identify and develop the quality of material in the plant area fill and beneath safety related structures. The licensee completed a program regarding the application of a surcharge of sand material in and around the Diesel Generator Building. This surcharge was an attempt to accelerate any future settlement of the Diesel Generator Building by consolidating the foundation material.

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Additional developments in this matter are discussed in the Significant\$U
Construction\$SProblem\$U section of 1980.

1980\$U

Thirty-seven inspection reports were issued in 1980 of which two pertained to meetings at the licensee's corporate office, one to a meeting in Glen Ellyn, two to investigations, and thirty-two to on site inspections.

Enforcement\$SHistory\$U

Two items of noncompliance and one deviation were identified in Inspection Report Nos. 50-329/80-01 and 50-330/80-01. These items regarded: (1) a welder welded on thickness of material which exceeded his qualified range; (2) the cleanliness inspection of Unit 2 Service Water System valve was not dated nor signed; and (3) failure to implement a design change or prepare a Field Change Request. Licensee corrective actions in regards to the items of noncompliance regarded: (1) testing and qualification of subject welder; (2) reinstruction of QC engineer; (3) review of the inspection records for additional valves; and (4) the revision of applicable turnover procedures. The licensee's actions in regards to these items were subsequently reviewed and the items closed by the NRC as documented in Inspection Report Nos. 50-329/80-20, 50-330/80-21, 50-329/82-04 and 50-330/82-04.

One item of noncompliance was identified in Inspection Report No. 50-329/80-09 concerning the failure to maintain levelness requirements during core support assembly lifts. The licensee's corrective actions in response to the item of noncompliance included the issuance of a non-conformance report and the commitment to ensure compliance with Quality Control procedures. The licensee's corrective actions in regards to this matter will be reviewed during subsequent NRC inspections.

One item of noncompliance was identified in Inspection Report Nos. 50-329/80-20 and 50-330/80-21 concerning the failure of a Bechtel purchase order for E7018 electrodes to specify the applicable codes. Licensee commitments in regards to corrective actions include an audit of the ordering and receiving records of weld filler material. The licensee's corrective actions in regards to this matter will be reviewed during subsequent NRC inspections.

One item of noncompliance was identified in Inspection Report Nos. 50-329/80-21 and 50-330/80-22 concerning the failure to perform an audit of Photon Testing, Inc. for services to qualify Zack Company welders. Licensee corrective actions included an audit of Photon Testing, Inc. The licensee's actions in regards to this matter were subsequently reviewed and the items closed by the NRC as documented in Inspection Report Nos. 50-329/81-03 and 50-330/81-03.

*Photon also messed up on qualification
of ~~merit~~ welders - an NCR being
issued.*

One item of noncompliance was identified in Inspection Report Nos. 50-329/80-28 and 50-330/80-29 concerning the bypassing of a Hold Point on a Pressure Surge System Weld. The inspection report further identifies that action had been taken to correct the identified noncompliance and to prevent recurrence.

One item of noncompliance was identified in Inspection Report No.s 50-329/80-31 and 50-330/80-32 concerning substantial delays by the licensee in making 10 CFR 50.55(e) reportability determinations. Licensee corrective actions included training sessions for key personnel in recognizing 10 CFR 21 reporting obligations. The licensee's actions in regards to this matter were subsequently reviewed and the item closed by the NRC as documented in Inspection Report Nos. 50-329/81-07 and 50-330/81-07.

Significant Construction Problems

1. Investigation of Allegations Pertaining to the Zack Company

During March and April, 1980 the NRC received numerous allegations pertaining to the Zack Company. The Zack Company is the heating, ventilation and air conditioning (HVAC) subcontractor at the Midland construction site. The allegations dealt with material traceability, violations of procedures, falsification of documents, and the training of quality control inspectors.

As the result of the allegations¹², an investigation was initiated by the NRC. During the initial phases of the investigation, the NRC determined that Consumers Power Company had issued a Management Corrective Action Request (MCAR), dated January 8, 1980, pertaining to the Zack Company. The MCAR showed that Zack had failed to initiate corrective action in a timely manner, on a large number of nonconformance reports and audit findings and had failed to address other requirements and commitments of the quality program.

Consumers Power Company had issued seven nonconformance reports during the period of May 23 to October 2, 1979 all of which recommended 100% reinspection of work as a corrective action. The investigation determined that as of March 19, 1980, corrective action had not been completed on any of the nonconformance reports.

Based on preliminary findings during the investigation, which revealed some instances of continued nonconformance in the implementation of Zack's Quality Assurance Program, an Immediate Action Letter (IAL) was sent to the licensee on March 21, 1980. The IAL stated the NRC's understanding that a Stop Work Order has been issued to the Zack Corporation for all its safety related construction activities.

Seventeen examples of noncompliance involving eight different 10 CFR 50, Appendix B, Criteria were identified during the investigation. The investigation findings are documented in Inspection Report Nos. 50-329/80-10 and 50-330/80-11. The licensee's actions in regards to the items of noncompliance were subsequently reviewed and the items closed by the NRC as documented in Inspection Report Nos. 50-329/82-15 and 50-330/82-15.

On June 30, 1980, the NRC received from the licensee a letter documenting a Program Plan for resumption of safety related work by the Zack Company. The licensee identified that corrective actions required prior to the lifting the Stop Work included: (1) the review and approval of all Field Quality Control Procedures and specific Weld Procedure Specifications; (2) the review and approval of the revised Zack QA Manual; (3) the training and respective certification of the QC personnel; and (4) the training of site production personnel.

Subsequent to followup NRC inspections to determine the effectiveness of licensee corrective actions, it was determined, by the NRC, on August 14, 1980 that HVAC safety related work could resume provided that certain constraints were invoked.

The Bechtel Power Corporation released the Zack Company from the Stop Work Order by letter dated August 14, 1980.

As a result of the aforementioned investigation findings, the NRC imposed a Civil Penalty, on January 7, 1981, on Consumers Power Company for the amount of \$38,000.

2. Reactor Pressure Vessel Anchor Stud Failures

On September 14, 1979, Consumers Power Company personnel notified the NRC of the discovery of a broken reactor vessel anchor stud on the Midland Unit 1 reactor vessel. On October 12, 1979, this condition was reported under the requirements of 10 CFR 50.55(e). Two other studs were subsequently found to be broken. As this condition reflected a significant deficiency, an NRC investigation was initiated in February, 1980, to review the materials, manufacturer, and installation of the studs.

The investigation findings, as documented in Inspection Report Nos. 50-329/80-13 and 50-330/80-14, indicate several Quality Assurance deficiencies: (1) lack of licensee involvement; (2) failure to advise the heat treater of different heats of material; (3) inadequate document review; (4) failure to respond to indications that the studs were deficient; (5) failure to review materials previously purchased when the purchase specification was revised; and (6) miscalculation of the stud stress area resulting in a slight over-specification stressing of the studs (this item was identified by the licensee).

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Three items of noncompliance were identified in the inspection report. *meet requirements of ASME Code Subsection NE*
These items regarded: (1) failure to ~~make Subsection NE of the ASME~~
~~Code the applicable~~ requirement for the reactor vessel anchor bolts;
(2) failure to establish measures to assure that purchased material
conforms to the procurement documents; and (3) measures did not assure
that heat treating and nondestructive tests were controlled in
accordance with applicable codes and specifications. Licensee
commitments in regards to corrective actions include: CPCo would
conduct a review to confirm that safety related low alloy steel
bolting and/or component support materials which have been tempered
and quenched and are 7/8" or greater in diameter have been procured
in accordance with proper codes and standards; (2) approval
of the acceptability of the Unit 2 reactor vessel anchor bolts will be
obtained from NRR; and (3) actual plant modifications to compensate
for the defective bolts will not be started on Unit 1 until approval
of the design concept is received from NRR.

The stud failure mechanism was identified as stress corrosion cracking
which propagated to the point that the studs failed by ~~cleavage~~ *cleavage*
fracture. Tests indicated that some studs utilized in Unit 2,
although of different material and heat treatment, have above
specification surface hardness readings.

The final report per 50.55(e) requirements was submitted by the licensee
on December 1, 1981.

The lead responsibility for evaluation and approval of the licensee's proposals for resolution of this matter will be undertaken by NRR.

3. Excessive Settlement of Diesel Generator Building Foundations

A special inspection was conducted in December, 1980 at the Bechtel Power Company Ann Arbor, Michigan offices to verify implementation of the specific commitments and action items reflected in Consumers Power Company response to 10 CFR 50.54(f) questions. The results of this inspection were documented in Inspection Report Nos. 50-329/80-32 and 50-330/80-33. Two items of noncompliance were identified regarding: (1) failure to provide adequate corrective actions with regard to identified audit results; and (2) inadequate design control. Licensee corrective actions included: (1) revision of procedures; (2) revision of specification; and (3) audit of FSAR sections. The licensee actions were subsequently reviewed and the items closed by the NRC as documented in Inspection Report Nos. 50-329/81-12, 50-330/81-12, 50-329/81-19 and 50-330/81-19.

Additional development in regards to this matter will be discussed in the Significant Construction Problems section for 1981.

1981\$U

Twenty-three inspection reports were issued in 1981 of which one ^{pertained} pertinent

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to a management meeting and twenty-two to on site inspections.

Enforcement\$SHistory\$U

Two items of noncompliance were identified in Inspection Report Nos. 50-329/81-04 and 50-330/81-04. These items regarded: (1) failure to account for all tools and materials used in a controlled clean room area; and (2) inadequate procedure for the installation of the Unit 2 vent valves in the core support assembly. Licensee corrective actions included: (1) the upgrading of personnel and equipment logs; (2) the addition of new logs; (3) issuance of a formal Stop Work Order for further work on the installation of vent valves; (4) the revision of installation procedures; (5) training and indoctrination of personnel performing vent valve installations; and (5) the revision of the overview inspection plan. The licensee's actions in regards to these items were reviewed and it was determined that action had been taken to correct the identified noncompliances and to prevent recurrence. This determination is documented in Inspection Report Nos. 50-329/81-04 and 50-330/81-04.

One item of noncompliance was identified in Inspection Report Nos. 50-329/81-08 and 50-330/81-08 regarding the failure to provide adequate storage conditions for Class 1E equipment. Licensee corrective actions included: (1) additional training for Bechtel maintenance engineers; (2) an audit of maintenance activities; and (3) reinspections of affected equipment. The licensee's actions in regards to this matter were subsequently reviewed and the item closed by the NRC as documented in Inspection Report Nos.

5

50-329/81-23 and 50-330/81-23.

Four items of noncompliance were identified in Inspection Report Nos. 50-329/81-11 and 50-330/81-11. These items regarded: (1) inadequate procedures for the temporary support of cables and for the routing of cables into equipment; (2) failure of QC inspections to identify inadequate cable separation; (3) inadequate control of nonconforming raceway installations; and (4) failure to translate the FSAR requirements into instrumentation specifications. Licensee corrective actions in regards to (1) and (2) above, include: (1) the revision of cable pulling procedures; (2) the repair of damaged cables; (3) training given to the termination personnel and the involved QC inspector; and the revision of the cable termination procedure. The licensee's actions in regards to these items were subsequently reviewed and the items closed by the NRC as documented in Inspection Report Nos. 50-329/81-20, 50-330/81-20, 50-329/82-03 and 50-330/82-03. Licensee commitments in regards to corrective actions pertaining to items (3) and (4), above, include: (1) the addition of required barriers on pertinent raceway drawings; (2) the revision of Project Quality Control Instruction; (3) and the revision of the instrumentation specification. The licensee's actions in regards to these items will be reviewed during subsequent NRC inspections.

Eight items of noncompliance were identified during a special indepth

team inspection to examine the implementation status and effectiveness of the Quality Assurance Program. The results of the inspection are documented in Inspection Report Nos. 50-329/81-12 and 50-330/18-12. Three of the items of noncompliance regarded: (1) failure to take adequate corrective action concerning the trend analysis procedure; (2) failure of QC inspections to identify a nonconforming cable bend radius; and (3) failure to take adequate corrective action in regards to the lack of rework procedures. Licensee corrective actions in regards to items (1) and (2) above, include: (1) the issuance of a new procedure for trending; (2) the revision of cable termination procedures; and (3) additional training given to the responsible QC inspector. The licensee's actions in regards to these items were subsequently reviewed and the items closed by the NRC as documented in Inspection Report Nos. 50-329/82-02, 50-330/82-02, 50-329/82-03 and 50-330/82-03. The licensee's commitments in regards to corrective actions pertaining to item (3) above, include: (1) the development of Administrative Guidelines and Instructions for rework; and (2) the revision of field procedures. The licensee's actions in regards to this item will be reviewed during subsequent NRC inspections. The remaining five items of noncompliance identified in this inspection report will be discussed in the Significant Construction Problem section for 1981.

One item of noncompliance was identified in Inspection Report Nos. 50-329/81-14 and 50-330/81-14 concerning inadequate design controls involving the Bechtel Resident Engineer's review of the field engineers redline drawings for small bore piping. Licensee corrective actions included: (1) a 100% review of all questionable systems; and (2) the revision of a Project Instruction. The licensee's actions in regards to this matter were subsequently reviewed and the item closed by the NRC as documented in Inspection Report Nos. 50-329/82-07 and 50-330/82-07.

As a result of the adverse findings, an Immediate Action Letter (IAL) was issued by the NRC on May 22, 1981 acknowledging the NRC's understanding that the licensee would not issue fabrication and construction drawings for the installation of the safety related small bore pipe and piping suspension systems until certain requirements had been completed and audited.

The IAL requirements were subsequently reviewed and determined to have been satisfactorily addressed as documented in Inspection Report Nos. 50-329/81-14 and 50-330/81-14.

The licensee's actions in regards to noncompliance items (1) and (2) above, are discussed further in the Significant Construction Problem section of 1982.

2. Excessive Settlement of Diesel Generator Building Foundation

In January, 1981 an inspection was conducted by the NRC to verify whether adequate corrective actions had been implemented as described in the Consumers Power Company response to questions 1 and 23 of 10 CFR 50.54(f) submittals. The findings during this inspection, which

CFR 50.54(f) submittals. The findings during this inspection, which include three items of noncompliance and one deviation, are documented in Inspection Report Nos. 50-329/81-01 and 50-330/81-01. The items of noncompliance and the deviation regarded: (1) failure to develop test procedures for soils work activities; (2) failure to have soils laboratory forms under complete document control; (3) failure to have explicit instructions for the onsite Geotechnical Engineer's review of test results; and (4) failure to have a qualified Geotechnical Engineer on site. Licensee corrective actions included: (1) revision of Quality Control Procedures and Specification; (2) development of new Quality Control Procedures; and (3) the addition of a qualified Geotechnical Engineer. The licensee's actions in regards to these items were subsequently reviewed and the items closed by the NRC as documented in Inspection Report Nos. 50-329/81-12 and 50-330/81-12.

In March, 1981, an inspection was initiated by the NRC to verify the licensee's Quality Assurance Program for the ongoing soil borings. The soil borings were performed by the licensee in response to a request from the Corps of Engineers for additional soil information for their review of the licensee's 10 CFR 50.54(f) answers. The findings of this inspection, which includes one item of noncompliance, are documented in Inspection Report Nos. 50-329/81-09 and 50-330/81-09. The noncompliance regards the lack of evaluation of Woodward-Clyde technical capabilities prior to the commencement of drilling operations. Licensee commitments in regards to corrective actions include: (1) the review, for compliance, of Midland Project major procurements and contracts; and (2) the review and revision of pertinent procedures.

The licensee's corrective actions in regards to these items will be reviewed during subsequent NRC inspections.

1982\$U

Fourteen inspection reports have been issued during 1982 of which two pertain to management meetings, one to an investigation, one to the SALP meeting, and ten to on site inspections.

Significant\$SConstruction\$SProblems\$U

1. Piping Suspension System Installation/QC Inspection Program Breakdown

The licensee conducted overinspections to determine the seriousness of the safety related support and restraint installation and QC inspection deficiencies identified in Inspection Report Nos. 50-329/81-12 and 50-330/81-12. The results of the overinspections are documented in Inspection Report Nos. 50-329/82-07 and 50-330/82-07. From a sample size of 123 safety related supports and restraints installed and inspected by Quality Control, 43.1% were identified as rejectable during the licensee's overinspections.

On August 30, 1982, the licensee was informed of the NRC's position that the licensee shall reinspect all the supports and restraints installed prior to 1981 and perform sample reinspections of the components installed after 1981.

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2. Electrical Cable Misinstallations

During the special team inspection conducted in May, 1981, the NRC identified concerns in regards to the adequacy of the qualification of electrical Quality Control inspectors. These concerns were the result of the NRC's review of numerous Nonconformance Reports (NCR) issued by MPQAD personnel during overinspections of items previously inspected and accepted by Bechtel QC inspectors. The NRC required the licensee to perform overinspections of the items previously inspected by the QC inspectors associated with the MPQAD NCRs.

The licensee, in reports submitted to the NRC in May and June, 1982, reported that of the 1084 electrical cables reinspected, 55 had been determined to be misrouted in one or more vias.

This concern was upgraded to an item of noncompliance as documented in Inspection Report Nos. 50-329/82-05 and 50-330/82-06.

On September 2, 1982, the licensee was informed by the NRC that a 100% overinspection of class 1E cables installed or partially installed before March 15, 1982 was required. In addition, the licensee was required to develop a sample overinspection program for those cables installed after March 15, 1982.

3. Excessive Settlement of Diesel Generator Building Foundation

Additional inspections were conducted in 1982 by the NRC of the licensee Remedial Soils Activities. The findings identified during these inspections are summarized below:

Three examples of noncompliance to one 10 CFR 50 Appendix B criterion were identified in Inspection Report Nos. 50-329/82-03 and 50-330/82-03. These examples regarded: (1) failure to follow procedures concerning drawing changes; (2) inadequate specification resulting in the undermining of BWST #3 valve pit; and (3) inadequate control of changes to procedures.

Four examples of noncompliance to one 10 CFR 50 Appendix B criterion and a deviation were identified in Inspection Report Nos. 50-329/82-05 and 50-330/82-05. The examples of noncompliance and the deviation regarded: (1) failure to review and approve a Mergentine field procedure prior to initiation of work; (2) inadequate control of specification changes; (3) inadequate acceptance criteria for dewatering specification; (4) inadequate instruction to prepare or implement overinspection plans; and (5) inadequately qualified remedial soils staff.

One item of noncompliance was identified in Inspection Report Nos. 50-329/82-06 and 50-330/82-06 concerning the licensee's failure to establish a QA program to provide controls over the installation of

remedial soils instrumentation.

One item of noncompliance and a deviation were identified in Inspection Report Nos. 50-329/82-11 and 50-330/82-11. The items regarded:

(1) inadequate anchor bolt installation; and (2) the use of unapproved installation/coordination forms during remedial soils instrumentation installations.

The licensee's responses to the identified items of noncompliance are presently under review. Corrective actions taken by the licensee in regards to these items will be reviewed during future inspections.

Remedial Soils activities performed by the licensee thus far in 1982 involve: (1) the drilling of a number of wells which function as part of the temporary and permanent dewatering systems; (2) the installation of the freeze wall associated with the Auxiliary Building Underpinning activity; (3) the completion of the initial work on the access shaft; and (4) the completion of the Auxiliary Building instrumentation for remedial soils activities.

indicate
→
→

1

A number of nonconformance reports were written by the licensee during drilling and excavation activities including the drilling into an electrical duct bank. On April 28, 1982, the licensee issued a Stop Work on all drilling.

On April 30, 1982, an ASLB Order was issued suspending all remedial soils activities, on 'Q' soils, for which the licensee did not have prior explicit approval.

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KRR PERFORMANCE EVALUATION

Facility: Midland Plant, Units 1 and 2

Project Manager: Darl Hoo

Appraisal Period: July 1, 1980 - June 30, 1981

1. Performance Elements

-- Quality of Responses and Submittals

Responses and submittals during this review period have principally regarded the soils settlement issue, including seismic input, and responses to Post-TMI requirements (KUREG-0737). These matters involve significant design changes, extensive additional calculations, soils exploration and laboratory analyses. During the earlier part of this review period, replies to staff's request were not substantive and tended to argue the staff's need for that information; after the management appeal decision or staff position was taken, the replies tended to become responsive. Hence, the quality of the responses tends to be acceptable once the need is firmly established. Following a long appeal to NRR management, recent responses providing soil borings and laboratory tests comply with the staff request and are of acceptable quality. Recent responses establishing new seismic design criteria for the site have been of high quality once the staff position letter (R. Tedesco, October 1, 1980) established the need. Like many other plants, the responses to post-TMI requirements at this point in time largely reflect plans and commitments with details left for a later stage. In summary, while early responses during the report period were below average in responsiveness, the more recent responses tend to be substantive and of acceptable quality. This recognizes, of course, that in several areas, design progress does not yet provide for substantive replies.

b. Efforts Required to Obtain an Acceptable Response or Submittal

(1) Timeliness

It generally takes more than the average time and effort to obtain acceptable and substantive responses from this applicant. The propensity of this applicant to utilize the hearing procedure and NRC management appeal process to resolve disagreements results in that additional time and effort be expended by the staff in notifying the applicant that the staff's request or views are addressed. Examples during this report period are discussed above regarding the staff request for soil borings and the need for seismic resolution. Such factors make it difficult to maintain a schedule for this application.

(2) Effort

Refer to item 1b (1) above.

(3) Responsiveness to staff requests

Refer to item 1a

B. Number and Nature of Deficiency Reports

Thirteen (13) Construction Deficiency Reports (CDR's) reported pursuant to 10 CFR 50.55(e), were received by the regional office during the period of July 1, 1980 and June 30, 1981. The nature of these reports covers a broad range of material and construction problems as listed below:

- *1. High Energy Line Break Analysis (HELBA), steady state thrust forces rather than transient peak thrust forces were used in the energy balance techniques for the design of HELBA pipe whip restraints.
2. Sway Strut Rod Ends Deficiency, ITT Grinnell supplied sway struts, snubbers and shock suppressors have loose or totally disengaged rod end bushings.
- *3. Component Cooling Water (CCW) Design, CCW system susceptibility to Loss of Coolant Accident (LOCA) induced failures.
4. Nuclear Steam Supply System (NSSS) analysis, anomalies identified in the NSSS seismic and Loss of Coolant (LOCA) analysis of the primary system.
5. Emergency Core Cooling Actuation System (ECCAS) vendor wiring in the ECCAS cabinets 1C45 and 2C45 was inconsistent with redundant subsystem modules in the cabinets.
6. Low alloy quenched and tempered bolting $1\frac{1}{2}$ inches and greater in support of safety related systems.
7. Underrated Terminal Strips on Limitorque Operators.
- *8. Seismic model of Auxiliary Building has incorrect assumption that control tower and main portion of Auxiliary Building are an integral unit between elevation 614 and 659.

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203
Warrick - Opening Statement

Wells - Misunderstanding in Jackson reflected in response

Reviewing response

Will be submitting additional comment

Why response to SALP -

Now Need to be sure responses are to correct issue

SALP was in gen. terms. Felt need to respond more specifically.

Will continue to work on Regulatory performance.

Looking for less misunderstanding

Areas of discussion:

1) P. 5 - 2nd sentence (SALP) D. 4 (Response)

Concern is

Wells Tech. eval. done after event (not done in ^{to your concern} ~~timely~~ ^{because} ~~timely~~ manner?)

Ross No document proving tech. capabilities

2) D. 5 (Response)

Wells - Trying to focus on primary issue

Key point - drilling up to rely on procedures.

Just getting ready

Would not have started until procedures in place

Ross - identified 15 deficiencies in procedures

Took 2 weeks to correct deficiencies

Ron - Called Landman because drills were moving

Wells - Lousy communication - We told Ross - ready to drill, but procedures not complete. Trying to be

Wells - Procedures approved on Mar 30

Ross - Insp. Rpt. # 81-09 - reviewed ^{Woodward/Clyde} Manual Std. 3/23
" Mar. 30 manual

Wells - QA manual was approved.

Gardner - Area should be ready to insp. when inspector called.

Ross - Told drilling would start following morning.
Told Walt - "it wouldn't drill if it was you".

Wells - Just trying to be ready when procedures approved.

Ross - My 15 items?

Wells - Conflicting opinions

Shaper - CPCo says 15 items identified by them

Wells - Conflicting items

Shaper - Implies NRC participating in CPCo review

Warrick - Complete reviews before calling NRC

Ross - Procedures you had were O.K., but ~~at~~ not enough procedures.

Wells - Everything would have been ready

Ross - Sketch being used instead of drawing

Wells - Our position - had not ~~released~~ given permission to drill.

Wells - E-4 (Response) Soils Category (P6)

Failure to establish Test procedure - - -

ASTM procedures imposed on contractor
Inspector felt Corps of Eng. Proc. should have
supplemented them.

Ross - NRC does not accept ASTM proc. to control
test. Implementing procedure required.

Wells - ASTM self-explanatory

Warmick - " ^{ASTM} Procedure must be subject to same approval
other procedures subject to.

2) People did not refer Ross to specific procedure
Should have been more definitive

3) Valid item of noncompliance

Cook - In SATP report (ref. 81-01) ^{This} Other info
should have come out when we were
responding on given item of noncompliance

Wells - "Ross asked Technician for procedure + was handed ASTM manual - We agree it was not right.
 (2) We concede we should respond in timely manner
 3) ~~We believe~~ ^{Do you mean} that ASTM procedure detail should have been reviewed by us?

Shaper - Review as to how it applies to work you are doing. Is it specific enough? Is it detailed enough to be used as working level procedure. Individual in field should have proper guidance from mgmt.

Ross - Explaining ASTM procedure (from report)⁸¹⁻⁰¹
 Need implementing procedures
 Quote from Corp. of Eng. Manual (from report)⁸¹⁻⁰¹

Wells - We think statement was too broad, but don't really want to discuss it further at this time.

Ross - Not isolated case - 3 examples - Rpt. # 81-01
 (1) vibrating table - (2) no procedure on when to take soil samples - (3) not only location wise, but elevation wise

Wells - E.5 (Response)
Failure to supply qualified on-site Geo-Tech Engineer.

We feel we did

Shaper - Gallagher transferred, but ---
At no time did he recommend an individual for Geo-Tech. Was handed resumes in Ann Arbor, but had no comment.

Concurred to deviation from commitment.

Warnick - Commitment to qualified or degreed eng.

Brid - Commitment was to have Geo-Tech Eng. University type.

Wells - In our opinion were doing in compliance with NRC. Frustrating to find not right.

Shaper - Instance of perceptions being different

Ross - Made commitment for Geo-Tech on site. Gentleman was not acceptable & was replaced.

Wells -

Ross - He was a technician - not an engineer.

Wells - E. 6 (Response)
Insufficient personnel for future work?
Please clarify.

Warnick -

Wells - We believe we had enough personnel

Ross - At time of insp. 81-12.

Ross - Don Horn used to work until 10 PM each night. Everyone agreed. Bird, Gallagher, everyone.

Cook - Your response says in terms of "is now" instead of "was then".

What is quality of personnel vs. quantity.
Or is someone not letting them do their job?

Wells - Did we then meet that requirement.

Warnick - You would like credit if you did

- General conv. among all

Warnick - Will go back + talk about it. Will supplement our report if need be.

Warnick - It is our position that you never did get enough people.

2

Wells - We're concerned, if you feel that.
Through SATP period - were we
adequately staffed?

Ross - During this period you were - but
we were addressing a future
period.

Wells - Should have stated future

Cook - Had noted you should gear up.
Enforcement issues on going.
Quantity vs Quality

Ross - Stick by words in SATP report ref. 81-12
Not enough people available.

Warnick - Questions from Public?

Sharon Warren Statement

Warnick - Will be very disappointed if you^(your audit) don't
find any problems which exist regarding
HVAC allegations.

Warren - Concerned over different reporting method
on HVAC. CCo & Com Ed. did not turn in
a 50.55(e)

Sharon Warren Statement

Sharon Warren

Staffperson

Lone Tree Council

We recognize that although this is a public meeting - it is primarily a meeting between the regulator (NRC) and the licensee. I appreciate the opportunity to attend and make a brief statement.

As everyone is aware, the Lone Tree Council & The Gov't Acol Accountability Project has been monitoring the Midlands situation for the last 4 mos & the NRC SAMP ratings reflect our findings with the exception of the Category I rating for HVAC. We are glad the licensee managed to obtain the Cat. I rating in one other area - fire safety.

Furthermore, we are aware that NRC will not change these SAMP ratings. However, if any changes are made, it should only be in HVAC because of all the problems that exist in that area.

I am confident that RII's next SAMP report will reflect the HVAC problems.

I wish to reiterate that the HVAC problems of the ZACK Co. are as serious at Midland as they are at La Salle.

The licensee is aware that the 10 CFR 21 report, released yesterday and prepared by the licensee, represented a review of 951 safety-related - I repeat safety-related travelers. Of those reviewed, there were problems with 270 of them. In the study of the licensee's fine of only two year ago by the NRC I find it incredible that the same procedures have been followed by Zack + the licensee as the ones which precipitated that fine.

A more comprehensive statement is being delivered to Mr. Keppler today in Wash. by the GAP.

Thank You

203 pc

Cook

Joy Wells - Spokesman

Item A - B - C - PC

H D 4 Ross
D 5 Ross

E-4 P 1-10
E-6 P 1-11 maybe Ross/Cook

J-9 P 1-18 maybe

E-5 P 1-10 Shafer

G-5 Caucas.

J-3 Jobe

Item J-9 p 1-18
our rpt p 13

Our (NRC) concerns addressed, not only quantity of the QC personnel, but the quality of QC personnel. The record demonstrates that there is not enough people of adequate quality to keep the site from regulator difficulty.

CBG has not demonstrated the qualifications of the personnel.

Cook E-6 /

CPC is stating the manpower at "today" conditions whereas the SACB addresses manpower during the SACB period. However, it might be noted that the NRC still ~~feel~~ believes that manning in the soils area is not adequate.

The number of QC personnel and what constitutes an adequate number could be extensively discussed. However, the NRC's concerns also address the quality of the individuals - the qualification and ability of these people to do quality work commensurate with the job. CPC's response did not address the quality of the QC personnel. But the record does AND the record shows that the QC personnel on site could not handle the job. also

The CPC response address - in a "today" mode what the manpower conditions were like in May, 82 as opposed to the manpower available during the SACB period particularly in early 81 - (Rpt 81-01) and then some months later (Rpt 81-12)

In the context of today it might be pointed out that the NRC is not completely satisfied with manning.

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Introduction - A/R

D-4 Evaluation done but does not
complete - A/R claims having
doc. is needed for to fully evaluate

D-5 : C/C : QA would have found
deficiency
A/R did not release Woodward for drilling

E-9 : A/R understand how statement
came about

- 5 : instructions of Engineer - C/C
put in

- 6 : Staffing is now vs then
was.

that able to stand. 3rd when 14.5
allow it to close 50-55 when
you say they are made

4/1 5/1-12 penetrations - looked at 200
the 23 & pound - not good.

My insp report

CPC - had change in site management
Insp Rpt 80-31/32 dtd 10/1-31/80

Citation - Part 21 on diesel
Insp Rpt 80-31/32 - CPC/Bechtel turbine
has had a poor system for getting Part 2-1
inf into 50-55 & evaluation system.

QA Cons / Above Average = Programs OK
Staff OK Qual/Wk
of want for adequacy of staff in trenches - want
have a high probability of failure - biggest cap
is in management corrective action
Soils look OK
QA

check R. W. March - above average

check you for average

FO-23/29
FO-30/31, 1/2/29
81-01

Overnight

Contract Management
80-31/32, 80-34/35

Myrtle vily March 13, 81
81-05

Team 5/13-22/81
81-12

October 1980 - J. Conley left

Jan 80 1980 Turnbull arrived as
Site Project PH Superintendent

June:

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CPCo page 1-1

The NRC did not state there was progress in the management of CPCo's QA program. In fact, an analysis of what was originally proposed for this section indicates the converse (Read DRAFT of General Statement). In fact, the demonstrated inability of CPCo to manage the project has culminated in the NRC forming a separate section.

Page 1-1, paragraph 1-C

#2 Streeter asked for the start up procedures at the Cycle 1 SALF.

Page 1-1, paragraph 1-C

#3 CPCo has a difficult time discerning between consultation and regulation.

Page 1-2, paragraph D

#4 This is a false statement. The NRC has continually explained what the licensee is required to do. CPCo told to get "geared up for aggressive cable pulling", CPCo was told what QA/QC requirements needed for soils (I can't find particulars when CPCo was forewarned about piping - BUT) there were indicators plus already established regulations which would cover piping. NRC found things not good with piping at team inspection and came back 1 1/2 months and found things still not good. Although we have a policy of preventive inspection - CPCo chooses to abuse this at various times - up to and including the present. (Aux Feed Ring, Soils, Electrical Mis-route) The NRC did not fall short of obligations they do not have - when the benevolence of the NRC recommends means of improving the licensee's performance - the NRC finds the licensee's hearing is fine, but the listening is not keen enough to avoid regulatory difficulty - and when it is keen enough, CPCo argues about our benevolence.

Page 1-2, paragraph D

#5 This is pure crap. They consistently want to know exactly what we are going to look at - just so those areas the NRC addresses look good - no matter what the rest of the job is like and then attempt to argue with us as to whether we are allowed to look in those areas.

We do supply the licensee information that could impact their plant in the form of the numerous daily reports, bulletins, PNs, etc. which I personally supply to them. City CPCo does not know how to use our good advice - i.e. - "Q-ness" of soils.

Even had meeting in Jackson to describe Davis Besse construction difficulty.

Page 1-2, paragraph D

#6 The Resident Inspector continually has contact with your working level personnel and supplies them information which has transpired at other sites - any of which, if harbored by the NRC inspectors at Midland could culminate in stronger enforcement than you have heretofore been subjected. I might add that this is done with considerable expenditure of time (estimate 10 hrs/wk) to scan the copious amount of literature assimilated by the Resident Office. The statement used by CPCo - "these efforts suffer by lack of NRC input at detailed working levels" is indicative to the NRC of CPCo managerial inability to notice the communications which have transpired between NRC/CPCo at the detail level - and also CPCo's management's inability to acknowledge those findings brought forth by the personnel in the trenches which indicate CPCo is headed on a disastrous path.

Page 1-2, paragraph D

#7 The NRC inspectors were already scheduled to come before the SALF meeting of April 26. To have come earlier would have resulted in a purely consultant role. As it was, their visit was very premature.

Page 1-2, paragraph E

#8 The fact that issues are mentioned in different places in the SALF report does not mean that CPCo has been put in double jeopardy - in fact, one of the prime functions of the board was to discern that double jeopardy had not occurred. NRC would expound upon CPCo to give an explicit example (Read top of SALF P4 under Criteria).

Page 1-3

The NRC has used other mechanisms - i.e. noncompliances, IAL - - - to express particular concerns. The SALF is an appraisal of the information/record as it had transpired during the period.

Page 1-3, paragraph E

#9 Containment was rated as Category II because: (Ref. Rpt. 80-25/26)

1) The number of NCRs generated indicates the CPCo is not all that good at prestressing; because "it was noted that the stressing sequence has been modified a number of times - - - which indicates that CPCo does not really know what they are doing. This changing of prestressing sequence required a FCR which is used to cover other than ordinary situations. Preservice Inspection area was rated Category II because: 1) Our inspectors have noted that excessive amounts of solvent were being used to clean the excess penetrant and "perhaps" remove die from indicator locations, and because our inspectors have noted that CPCo attempted to use UT calibration blocks which were not within the temperature requirements for the piece under examination - there are other examples of this type of sloppiness in your technique.

During the April SALP, I explained to you that the reason for a Category 2 in the Preservice Inspection area was because of a lack of rigor in your technique. The fact that you made this comment in your response to the SALP report indicates: 1) You do not listen well to the NRC - as stated earlier, you are prone only to strong enforcement action.

Because of the consternation that granting a Category I in Fire Protection has caused - the "Additional improvement" you suggested is to never offer a Category 1 unless it can be demonstrated that only the most profound activity had transpired to rate that Category 1. If the NRC were to be faulted in the assignment of Category classification - it would be in granting a Category 1 when a Category 2 would have been more consistent - as you eloquently pointed out.

Page 1-3, paragraph E

#10 After your response to the SALP report, it is agreed that the number and seriousness of enforcement actions should be a major criteria. Therefore, the inspectors are encouraged to avoid any grey area zones and invoke enforcement action no matter how slight the violation of the regulation may seem.

Page 1-3, paragraph E

#11 On page 4 of our SALP report, seven criteria for evaluation are listed. Your performance at ASLB hearing is not listed as one of the criteria.

Page 1-1, paragraph E

#12 An analysis of the SALP report will indicate that those things addressed were those things and actions which transpired during the SALP period.

Page 1-4, paragraph A.3

#13 Your response is argumentative in nature.

Page 1-4, paragraph B.1

#14 If CPCo had stopped the work prior to the NRC focusing attention in this area, the NRC would have stated the CPCo's audit programs and QA were effective. However, this is not the case and CPCo opted to stop work after the NRC identified the discrepancies and prior to the NRC issuing an order. The fact that piping did not require rework is because of luck and happenstance - not because of the rigor of the quality related programs.

Page 1-4, paragraph B.2

#15 Again, another indicator of CPCo's inability to listen to the NRC. At the April 26, 1982 SALP I said: that today the piping area would be considered a Category 2 - but without benefit of I. Yin's inspection efforts which were ongoing at the time of the SALP. However, I. Yin's inspection showed that you had "diluted" the trend program to the point that CPCo could not identify that approximately 47% of the installed hangers had some uncorrected deficiency. Had this information been fully known at the time of the SALP, CPCo would have remained in a Category III state.

Page 1-4& 1-5, paragraph C.1

#16 The implication - more clearly stated is that in spite of NRC's advice to have an adequate number of QC/QA personnel available prior to embarking on an ambitious pulling schedule, the record shows that you (CPCo) did not heed this advice. Obviously, another case of inadequate listening.

The number of QC personnel and what constitutes an adequate number could be extensively discussed. However, the NRC's concerns also addressed the quality of the individuals - the qualifications and the ability of these people to do quality work commensurate with the job. CPCo's response to the SALP did not address the quality of the QC/QA personnel, BUT the record does - AND, the record shows that the QC personnel on the site could not handle the ambitious

pulling schedule without getting into regulatory difficulties.

You made the statement in your response that "process inspection is required to verify cable pulling tensions." How can this be when you have not been able to address how to install instrument cables with low tension requirements - and indeed confirm that the limiting tensions have not been exceeded.

Page 1-5, paragraph C.2

#17 If the seven items of identified noncompliances are considered by CPCo to be "not excessive and were of relatively low consequence" then CPCo has a much greater tolerance for mediocrity than the NRC - and with this attitude, it is of little wonder that there are regulatory difficulties at Midland Site. This statement would support removal of the license until such time as a complete purge of CPCo management has transpired and an attitude re-alignment has occurred to the extent that CPCo enjoys a tolerance for mediocrity commensurate with the NRC.

Page 1-5, paragraph D.1

#18 If the comments of item 17 above were not convincing enough, then apply the same logic and comments to this item - and there are now two excellent reasons why all construction should be stopped at the Midland Site - assuming, of course, that CPCo tolerance for inadequate performance is as implied in their response.

Page 1-5, paragraph D.2

#19 If indeed the QA/QC staff is sufficient as stated, then the reason for your continued regulatory difficulties in the soils area - including an ASLB order - is that this "adequate staff" is not managed - or is not permitted to do their job. The fact that your opinion states there has never been any inadequacy in qualifications of the personnel further supports the concept of CPCo to manage the underpinning work. Since the time of the SALP through the present, there has been one mishap after another which is identified by NRC - and still these adequate QC/QA personnel do nothing while the NRC AND your production side of the house attempt to control gross inadequacies in the soils area - in spite of QC and continual arguments over the Q-ness.

... interesting in nature reflected in response
 ... concerns response
 will be substantive additional comment
 my response to "H" -
 Part to be sure includes are to correct issue
 "H" was an open issue that needs to respond
 more specifically.
 will continue to work on Regulatory reform
 waiting for some more understanding
 Just a discussion

1.5 - 2nd sentence (SALP) D.4 (Response)
 Concern is

... such as at some after event ^{because} ~~not time~~ ^{your concern}
 ... travels manner?

... No document showing such capabilities

... D.5 (Response)
 ... trying to look in common issue
 ... in terms of - nature of the job in procedure
 ... what getting made
 ... would not have started until
 ... procedures in place

... Identified & discussion in procedure
 ... how to make - correct differences

... being through major skills were missing
 ... main communication - is this time - ready to
 ... but procedure not complete. Trying to be

Business approved on Mar. 30

me - Insp 1 pt # 8-09 - reviewed ^{initials/checked} Manual ^{3/23}
" Mar 30 manual

Wells - OIT manual was approved.

Ladner - Area should be ready to insp. when inspectors called.

Foss - Told drilling would start following morning -
Told Walt - "I wouldn't drill if I was you".

Wells - Not trying to be ready when procedures approved.

Foss - Why 15 items?

Wells - Conflicting opinions

Fisher - OTC says 15 items identified by them

Wells - Conflicting items

Fisher - Implies NRC participating in OTC review.

Wells - Complete reviews before calling NRC

me - Procedures you had were O.K., but ~~at~~ not enough procedures.

Wells - Everything would have been ready

me - Sketch being used instead of drawing

Wells - Our position - had not ~~substant~~ given permission to drill.

- 1. 44 - E 41 (Proposed) Solo Category (176)
 - Failure to establish test procedure - - -
 - ASTM procedure imposed on contractor
 - Inspector felt Corps of Eng. Proc. should have supplemented them.
- Case - NRC does not accept ASTM proc to control test. Implementing procedure required.
- Issue - ASTM self-explanatory
- Remark - ^{ASTM} Procedure must be subject to same approval other procedure subject to -
 - 1) People did not refer Ross to specific procedure. Should have been more definitive
 - 2) Valid item of noncompliance
- ok - In SALP report (ref. 81-01) ~~Other info~~ should have come out when we were responding on given item of noncompliance

- 1) - Issue asked technician for procedure - was handed
ASTM manual - We agree it was not right.
2) - We consider we should respond in timely manner
3) - ~~Do you mean~~ ^{Do you mean} that ASTM procedure detail should
have been reviewed by us?

paper - Review as to how it applies to work you
are doing. Is it specific enough?
Is it detailed enough to be used as
working level procedure. Individual in
field should have proper guidance from
mgmt.

- 1) - Explaining ASTM procedure (from report) ^{81-C1}
Need implementing procedures
Quote from Corp. of Eng. Manual (from report) ^{81-C1}

2) - We think statement was too broad, but
don't really want to discuss it further
at this time.

- 3) - Not isolated case - 3 examples - Ref. # 81-C1
Vibrating table - ² no procedure on where
to take soil samples - ³ not only location wise,
but elevation wise

Wells - E 5 (Approved)
Failure to supply qualified on-site Geo-Tech
Engineer.

We feel we did

Shaper - Gallagher transferred, but ---

At no time did he recommend an individual
for Geo-Tech. Was handed resumes in
Ann Arbor, but had no comment.

Concurred to deviation from commitment.

Warrick - Commitment to qualified or degreed eng.

Leid - Commitment was to have Geo-Tech Eng.
University type.

Wells - In our opinion were doing in
compliance with NRC. Frustrating to
find not right.

Shaper - Instance of perceptions being different

Ross - Made commitment for Geo-Tech on
site. Gentleman was not acceptable
& was replaced.

Wells -

Ross - He was a technician - not an engineer.

Wells - E 6 (Beyonned)

Insufficient personnel for future work?
Please clarify.

Warrick -

Wells - We believe we had enough personnel

Pass - At time of insp. 8-12.

Pass - Don Horn used to work until 10 PM each night. Everyone agreed. Bird, Hallagen, everyone.

Cook - Your response says in terms of "is now" instead of "was then".

What is quality of personnel vs. quantity.

Or is someone not letting them do their job?

Wells - Did we then meet that requirement.

Warrick - You would like credit if you did

- General conv. among all

Warrick - Will go back & talk about it. Will supplement our report if need be.

Warrick - It is our position that you never did get enough people.

Wells - Were concerned, if you feel that
through SA & P period - were we
adequately staffed?

Cass - During this period you were - but
we were addressing a future
period.

Wells - Should have stated future

Jack - Had noted you should gear up.
Enforcement issues on going -
Quantity vs Quality

Wells - Struck by words in SA & P report. ref. 81-12
Not enough people available.

Wormick - Questions from Public?

Sharon Warren Statement

Wormick - Will be very disappointed if you^(your audit) don't
find any problems which exist regarding
HVAC allegations.

Warren - Concerned over different reporting method
on HVAC. CCPs + Com. Ed. did not turn in
a 50.55(e)

SHARON WARREN STATEMENT GIVEN AT THE CLOSE OF THE SALP MEETING WITH THE LICENSEE ON AUGUST 4, 1982 AT THE MIDLAND HOLIDAY INN, MIDLAND, MI.

We recognize that although this is a public meeting, it is primarily a meeting between the regulator (NRC) and the licensee. I appreciate the opportunity to attend and make a brief statement.

As everyone is aware, the Lone Tree Council and the Government Accountability Project has been monitoring the Midland situation for the last four months and the NRC SALP ratings reflect our findings with the exception of the Category I rating for HVAC. We are glad the licensee managed to obtain the Category I rating in one other area - Fire Safety.

Furthermore, we are aware that NRC will not change these SALP ratings. However, if any changes are made, it should only be in HVAC because of all the problems that exist in that area.

I am confident that RIII's next SALP report will reflect the HVAC problems.

I wish to reiterate that the HVAC problems of the ZACK Co. are as serious at Midland as they are at LaSalle.

The licensee is aware that the 10 CFR 21 report, released yesterday and prepared by the licensee, represented a review of 951 safety-related - I repeat safety-related travelers. Of those reviewed, there were problems with 270 of them. In the study of the licensee's fine of \$38,000 only two years ago by the NRC, I find it incredible that the same procedures have been followed by ZACK and the licensee as the ones which precipitated that fine.

A more comprehensive statement is being delivered to Mr. Keppler today in Washington by the Government Accountability Project.

Thank You

1010

1010



CUSTOM METAL FABRICATION

August 2, 1982

U.S.N.R.C. Region III Office
799 Roosevelt Road
Glen Ellyn, Illinois 60137

Attn: Mr. J. G. Keppler

Re: Telecon of July 29, 1982 to Mr. Robert Walker
at 4:20 P.M.

Subject: Potential-10CFR21 - Weld Records

Gentlemen:

This letter is to confirm the verbal telephone report given by Mr. D. E. Calkins, Manager of Engineering for the Zack Company on Thursday, July 29, 1982 at 4:20 P.M. to Mr. Robert Walker at the Region III, Glen Ellyn offices of the Nuclear Regulatory Commission.

The attached report and corrective action plan has been prepared by Mr. Martin Skates, Quality Assurance Manager, as my designee for all Zack Company quality related matters.

During the course of an existing internal Zack Company investigation, initiated by the Zack Company officers, a box of paperwork was observed being taken to the trash by a plant employee. The company maintenance man brought the documents to the attention of Zack management.

A preliminary review of the documents (see attached report for details) indicates a possible discrepancy between the welder of record and the welder who may have actually performed the welds.

This potential discrepancy is still in the process of being fully investigated, but the initial indications are that it could have occurred during the 1977 to 1981 time frame.

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8208160248

U.S.N.R.C. Region III Office

August 2, 1982

Page 2

The Zack Company has initiated and is still in the process of conducting a full scale investigation of this potential discrepancy. However, in an attempt to keep all relevant information open and available to the appropriate parties, the Zack Company is initiating this potential 100R21 before it has been determined that a deficiency does exist.

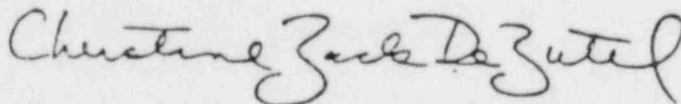
By copy of this letter and the attached report the Zack Company is also confirming the verbal notifications given to the effected utilities.

The Zack Company will cooperate with the Nuclear Regulatory Commission and the respective utilities to the fullest degree possible in the performance of this investigation and its closure.

Should you have any questions or problems concerning this matter, please do not hesitate to contact me or Mr. Martin Skates at (312) 242-3434.

Very truly yours,

THE ZACK COMPANY



CHRISTINE ZACK DE ZUTEL,
PRESIDENT

CZDZ/art

Encl.

cc: Mr. William Harrington
Baldwin Associates
Mr. L. E. Davis
Bechtel Power Company
Mr. Dan L. Shamblin
Commonwealth Edison Company

THE ZACK COMPANY

POTENTIAL 10 CFR21

REPORTABLE DEFICIENCY EVALUATION

FOR

ACCURACY OF WELDER RECORDS

PREPARED BY: David E. Calkins 8/2/82
David E. Calkins, Manager Engineering

REVIEWED BY: M. L. Skates 8/2/82
M. L. Skates, Manager Quality Assurance

APPROVED BY: Christine Zack DeZute 8-2-82
Christine Zack DeZute, President

1.0 Notification:

1.1 The Zack Company in accordance with the intent of the reportability requirements within the Code of Federal Regulations, is reporting a Potential 10CFR21 condition relating to a possible discrepancy in the documentation that reflects the welder of record and the welder who may have actually performed the welds.

1.2 This report constitutes the Zack Company's official written notification of a Potential 10CFR21 condition and confirms our verbal notification on Thursday, July 27, 1982 at 4:20 PM to Mr. Roger Walker at the Region III Glen Ellyn Offices of the Nuclear Regulatory Commission.

The information relative to this report was obtained Tuesday, July 27, 1982.

The maintenance man observed a box of paperwork being taken to the trash by a plant employee. The maintenance man checked with management to see if the documents should be kept. A review of some of the documents raised questions about welding documentation.

2.0 Identification:

The possible deficiency being investigated is that certain working copies of the shop travelers were obtained and that these copies were compared against the official quality record copies. A possible discrepancy exists between certain information contained on the working copy versus the Q.A. record copy.

The components involved are ductwork (geometrically shaped sheet metal) and hangers (structural steel support members) shipped to the following nuclear facilities:

1. LaSalle Nuclear Power Station
Marseilles, Illinois
2. Clinton Power Station
Clinton, Illinois
3. Midland Power Station
Midland, Michigan .

2.2 The work being reviewed for a potential discrepancy by the Zack Company is limited to work performed at its Cicero, Illinois and Chicago, Illinois facilities.

3.0 Potential Deficiency Discription:

3.1 The Zack Company utilizes a traveler system to fabricate the components and to record as built, as welded conditions and as inspected verifications. Certain "working" copies (photo-copies) of the official travelers utilized by the production tradesmen contain the initials of various tradesmen who apparently performed some function on that component. Relevant information (i.e. welders numbers, material identification, etc.) was then transfered to the official copy (original traveler). The initial review of the working copies of certain travelers indicates that they contain inconsistencies. The Zack Company is in the process of trying to determine if the initials of a welder on the working copy indicate that the individual actually welded on the component, or whether they represent some other function he performed.

4.0 Action Taken To Date:

The Zack Company has initiated the following actions in an effort to determine the ramifications of, the validity of the inconsistencies and the possible safety implications, if any.

- 4.1 The Zack Company has initiated an investigation into the authenticity and validity of the information, the basis for the accumulation for the information, and the reason the information was being discarded.
- 4.2 The individual discarding the box of paperwork (working copies of certain travelers) has been suspended for thirty days pending the results of the Zack investigation.
- 4.3 Pinkerton Security service was obtained to provide 24 hour surveillance of all Zack records to provide assurance that no relevant documents would leave the premises.
- 4.4 The Zack Company has also initiated the gathering of the following types of information to substantiate the quality records and provide the information necessary to determine whether a safety problem exists or not
 - Payroll records will be used to validate time frames welders worked.
 - Validation that all welders available were qualified and certified to perform work.
 - Validating the other inspections performed (i.e. shop, site, client).
 - Obtaining additional clarification relevant to the meaning of information on working copies (photocopies) from available personnel. This information could be obtained in form of telephone conversations, statements, etc.
- 4.5 A management directive has been issued to all Zack Company employees regarding the disposal of documents.

- 5.0 Corrective Action Plan:
- 5.1 To do a full scale investigation of Safety Related Travelers, Weld Wire Issue Slips, Welder Qualifications and Shipment Packages corresponding to the working copies of travelers obtained for the time frame of 1977 through 1981 on the LaSalle Power Station, Midland Power Station and the Clinton Power Station.
- 5.2 As additional temporary surveillance program to verify the identification of the record of welders will be established to substantiate that correct welder identifications are transposed to the record documents.
- 5.3 To bring in-house, additional qualified personnel to assist in the investigation.
- 5.4 To submit a final report to the N.R.C. by August 31, 1982.

LaSalle Project - 3300

Traveler Information:

1. The yellow traveler is the Quality Control Document that is maintained as a part of Zack's permanent records system for final turnover, also for the Quality Control Inspector verification.
2. The white traveler was a copy of the yellow traveler used by the shop fabrication foremen to record as-built or as-welded conditions during actual fabrication.

A review of one hundred and seventy yellow and white safety-related shop travelers has revealed the following conditions;

- A. Category-I, Seventeen (17) travelers shows the yellow travelers and the white travelers reveals the same welder information.
- B. Category-II, Thirty-eight (38) travelers shows the white traveler contains more welder identification than the yellow traveler.
- C. Category-III, Fifty-eight (58) white travelers shows different welder identification than the yellow traveler.
- D. Category-IV, Fifty-seven (57) yellow travelers shows more welder identifications than white traveler.

Midland Project - 2400

Traveler Information;

1. The yellow traveler is the Quality Control Document that is maintained as a part of Zack's permanent system for final turnover, also used for the Quality Control Inspectors verifications.
2. The white traveler was a copy of the yellow traveler used by the shop fabrication foreman to record as-built or as-welded conditions, during actual fabrication.

A review of nine hundred and fifty-one safety-related shop travelers has revealed the following conditions at this time;

- A. Six hundred and eighty-one (681) travelers shows the yellow travelers and the white travelers reveals the same welder information.
- B. One hundred and thirty (130) travelers shows the white travelers contains more welder identifications than the yellow traveler.
- C. One hundred and forty (140) travelers show unverified welder qualification at the time of issue on the travelers.

Clinton Project - 2900

Traveler Information:

1. The yellow traveler is the Quality Control Document that is maintained
a. a part of Zack's permanent system for final turnover, also used
for the Quality Control Inspectors verifications.
2. The white traveler was a copy of the yellow traveler used by the shop
fabrication foreman to record as-built or as-welded conditions, during
actual fabrication.

A review of eleven hundred and sixty-six (1166) safety-related shop travelers
has revealed the following conditions at this time:

- A. Seven Hundred and twenty (720) travelers shows the yellow travelers
and the white travelers reveals the same welder information.
- B. One Hundred and sixty-two (162) travelers show the white traveler contains
more welder identifications than the yellow traveler.
- C. Two Hundred and eighty-four (284) travelers show unverified welder
qualification at the time of issue dates on the travelers.

1 DIO
This preliminary notification constitutes EARLY notice of events of POSSIBLE safety or public interest significance. The information is as initially received without verification or evaluation, and is basically all that is known by the staff on this date.

Facility: Commonwealth Edison Company
La Salle Station - Unit 1
Docket No. 50-373
Marseilles, IL
Consumers Power Co.
Midland Site - Units 1 & 2
Docket Nos. 50-329 & 50-330
Midland, MI
Illinois Power Company
Clinton Station - Unit 1
Docket No. 50-461
Clinton, IL

Licensee Emergency Classification:
 Notification of Unusual Event
 Alert
 Site Area Emergency
 General Emergency
 Not Applicable

New Zack File

Subject: NEWS MEDIA INTEREST IN HVAC ALLEGATIONS

Region III (Chicago) received allegations and copies of documents on May 3, 1982, from a former employee of the Zack Co., the heating, ventilating, and air conditioning (HVAC) contractor at the LaSalle, Midland, and Clinton sites. The allegations focused on forged, false or incomplete quality assurance documentation for the HVAC work.

The allegor portrayed the problems as being primarily related to Midland and, because of inspection priorities, Region III delayed initiating its inquiry into the allegations. On July 16, however, Region III learned from a representative of the Government Accountability Project (GAP) that the false record allegations were equally applicable to LaSalle and Clinton. Region III concluded that these allegations did not need to be resolved prior to operations up to and including 5% power.

Region III, with the assistance of the Region IV (Dallas) Vendor Inspection Branch, has begun a special inspection of Zack Co. and the work performed by the company at LaSalle. The inspection will be expanded to include Midland and Clinton.

There has been considerable news media interest in the Chicago area and in the vicinity of the Midland plant. WMAQ-TV (Chicago) interviewed the Regional Administrator as part of a two-part news story that will be broadcast July 22-23. The interview was somewhat contentious with the reporter appearing to be critical of Region III for failing to immediately investigate the allegations and for permitting increased power operations at LaSalle (up to 5% power).

The State of Illinois and the State of Michigan will be notified.

This information is current as of 3:00 p.m. (CDT) on July 22, 1982.

CONTACT: *rdw* R. D. Walker-RIII FTS 384-2565
rcik R. C. Knop-RIII FTS 384-2547
A R. L. Spessard-RIII FTS 384-2552

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Regions I *4/18*, II *4/20*, IV *10:55 7/23*, V *4/20* Licensee (Corporate Office) *8:55/10:57/11:00*
Com Ed Consumers

8208100126

CORRECTED COPY

This preliminary notification constitutes EARLY notice of events of POSSIBLE safety or public interest significance. The information is as initially received without verification or evaluation, and is basically all that is known by the staff on this date.

Facility: Commonwealth Edison Company
La Salle Station - Unit 1 & Unit 2
Docket No. 50-373 & Docket No. 50-374
Marseilles, IL
Consumers Power Company
Midland Site - Units 1 & 2
Docket Nos. 50-329 and 50-330
Midland, MI
Illinois Power Company
Clinton Station - Unit 1
Docket No. 50-461
Clinton, IL

Licensee Emergency Classification:
____ Notification of Unusual Event
____ Alert
____ Site Area Emergency
____ General Emergency
X Not Applicable

Subject: DOCUMENTATION PROBLEMS - 10CFR PART 21 REPORT FROM ZACK COMPANY

Region III (Chicago) received a 10CFR Part 21 report via telephone call from the Zack Company at 4:15 p.m. on July 29, 1982. This report deals with discrepancies in documentation for fabrication welds made on HVAC hangers, ducts, etc., at La Salle specifically, and possibly at Clinton and Midland. It appears that the welder of record may not be the welder who actually performed the welding.

Region III, with the assistance of the Region IV (Dallas) Vendor Inspection Branch, has an ongoing special inspection of Zack Company and the work performed by the company at La Salle (Ref. PNO-III-82-68). This inspection will be expanded to include Midland and Clinton.

News media interest is expected because of continuing interest in allegations and problems associated to Zack Company at the three sites.

The State of Illinois and the State of Michigan will be notified.

This information is current as of 5:00 p.m. (CDT) on July 29, 1982.

CONTACT: R. D. Walker-RIII
FTS 384-2565

RCK
R. C. Knop-RIII
FTS 384-2547

A
R. L. Spessard-RIII
FTS 384-2552

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- 1) ¹⁰¹⁰ How many of each type discrepancy
- 2) Item three (3) can be questioned
- 3) Item 4 - only when identified
- 4) What is the present no. for Midland other plant?
- 5) When is ~~item~~ item 1 + 4 scheduled for complete.

MEMO FROM
HANK LEONARD

→ RON COOK

WOULD LIKE TO DISCUSS
THIS WITH YOU.

Hank

9/25/81



Consumers
Power
Company

Sept 4, 1981 - Bad certs from QA
Manager at Zack Chicago
CMFR's

Clinton & LaSalle went SRI-

Not all certs bad but some are
showing up - a lot has to do
with Zinc certs - May
never get certs because some of
the stuff is old.

Decided not to make 50.55(e)
because the mat^l seems good
Zack QA has MCFR on the
commonality of this ~~cert~~ lack
of adequate certs. - Don't have
close out yet.

CFC₂ has backup on telecoms
pertaining to rational not to report
as 50.55(e).

MANAGER
QUALITY ASSURANCE
David E. Calkins

SECRETARY
Barbara Ritchie

QUALITY ENGINEER
SUPERVISOR

Q.C. MANAGER
CHICAGO

Q.C. MANAGER
LASALLE
Harry Geyer

Q.C. MANAGER
CLINTON
*Tom Packy

CHICAGO
*Martin Skates-lead
Ken Schaefer
*Ray Basiaga

INSPECTORS
Charlie Richards -II
*Jim Michalik -II

INSPECTORS (Zack)
Mark Geyer - II
Sam Chennilaro -II
Kurt Dietrich - II
Tom Pierski -I
Tim Richards - I
Trent Tribble -II
Ralph Hill -I

ASS'T Q.C. MGR
*Gary Mosby
INSPECTORS (Zack)
Dan Hanke -II
Ron Nelson -II
*Larry Smith -II Trn.
Rick Becker -I
*Perry Wimbish -II

MIDLAND
*John O'Connell
*Ed Bodley

INSPECTORS (Quan Tech)
Wayne Kitchen -II
Wayne McFeeley -II
Wm. Temple - II

INSPECTORS (Comstock)
Dan Jenniges -II
W.T. Elliott -II
*Bruce Rarrick -II
*Geoff Richards -II
Jerry Retzer -II

INSPECTORS (QuanTech)
*Billie Tyree -II

Kathy Blomely -Secty
Diane Nelson -Clerk

DOCUMENTATION
GROUP
(Temporary)

- *Sharon Mareello -Clerk
- Howard McGrane (MPQAD REP.)
- Ron Perry (Quan-Tech)
- Larry Mondock " "
- Euell Hilyer " "
- *Dean Henigan (Zack)
- *TERRY HOWARD (ZACK)



CUSTOM METAL FABRICATION

August 28, 1981
7220-M-151-C/B-538

Bechtel Power Corporation
P.O. Box 2167,
Midland, Michigan 48640

Attn: Mr. L.E. Davis
Site Manager

Re: Consumers Power Company
Midland Power Station
7220-M-151

Gentlemen;

During a recent Quality Assurance review of the certifications for the Midland Project HVAC materials, a number of inconsistencies were determined. These inconsistencies were discussed with Mr. H. Leonard, Manager of Q.A. for MPQAD and verified to also exist in the copies on site. These inconsistencies have been identified and categorized into the following four areas:

1. Material certifications with incomplete information.
2. Material certifications with technical inaccuracies.
3. Material certifications with possible unauthorized and improper modifications.
4. Possible person/persons improperly modifying material certifications.

While The Zack Company has not yet completed it's investigation as to the extent and validity of the above mentioned inconsistencies, it did feel that the indications were of enough substance that The Zack Company may need to solicit Bechtel Corporations assistance and participation, if these inconsistencies are determined to be deficiencies, in the evaluation and determination of a possible 10CFR50.55(e) reportable defect.

Attached is the Corrective Action Request generated by The Zack Company Quality Assurance Department, which identifies the problem, contains a plan of action to determine the extent of the problem and the time frame for it to be completed. Upon completion of this activity and evaluation of the information gathered, a recommended corrective action will be determined.

At the present time The Zack Company does not feel any additional action by Bechtel Corporation or by Consumers Power Company is required. This position is based upon the following considerations:

1. Many of the errors and/or inconsistencies may be only clerical oversights.
2. Recent corrected certifications being received are completely acceptable.
3. Fabrication and erection operations of forming, welding galvanizing, etc. have not indicated any problems which would indicate that the material has any significantly different properties.
4. The inherent design conservatisms may be able to accept any minor discrepancies.
5. The limited number (19) of affected material certifications identified to date.

The Zack Company will keep Bechtel Power Corporation fully informed of developments as they occur and will discuss all results and evaluations prior to any final reports being issued.

We thank you for your cooperation and support in this matter and should you have any questions or problems, please do not hesitate to contact us at (312) 242-3434.

Very truly yours,

David E. Calkins

David E. Calkins,
Quality Assurance Manager

DEC/br

cc: R.C. Ash, Field Contracts Admin.
~~H. I. [redacted]~~ QA Mgr. MPQAD
C.Z. DeZutel
J.C. DeZutel
C.L. Eichstaedt, Jr.
R.B. McCarley
Files/Midland
Files/Chicago

THE ZACK CO.

CORRECTIVE ACTION REQUEST (CAR)

1. CAR NUMBER 014 2. DATE 8/28/81
3. PROJECT Midland Power Station 4. LOCATION Zack Co./Chicago Office
5. ACTION ASSIGNEE Q.A. Mgr./President 6. SCHEDULED COMPLETION DATE 11/20/81

7. DESCRIPTION: An evaluation of Midland Project Material Certifications has revealed the following discrepancies:

1. Incomplete material test reports.
2. Incorrect material test reports.
3. Improperly modified test reports.
4. Possibility of Individual(s) within The Zack Company improperly changing test reports.

8. RECOMMENDED/DIRECTED CORRECTIVE ACTION(s): In order to determine the extent & the seriousness of these deficiencies the following investigations and evaluations shall be conducted:

1. The Q.A. Mgr. will direct a team of (4) document Tech and (1) MPQAD rep. to review all material test reports for accuracy and completeness by 10/30/81.
2. For Test Reports suspected of being modified will be verified with the respective supplier. Sched. completion 10/30/81.

(continued, page 2)

A.E. Calkins 8/28/81
9. QA MANAGER/DATE

Christine Zack 8/28/81
10. PRESIDENT/DATE

11. ACTION TAKEN: _____

12. ACTION ASSIGNEE/DATE

13. VERIFICATION: _____

14. ACCEPTED/REJECTED

15. QA MANAGER/DATE

16. PRESIDENT/DATE

RECOMMENDED/DIRECTED CORRECTIVE ACTION(s) - continued

3. Individual(s) implicated or suspected of improperly modifying supplier test reports will be investigated and the evidence obtained will be forwarded to The Zack Company President for appropriate disciplinary action.
4. Upon completion of material test report review all technical discrepancies will be identified and forwarded to Bechtel Power Corporation for evaluation.
5. Upon completion of Actions 1 thru 4, Bechtel Power Corporation will be contacted and a determination if a possible 10CFR50.55(e)/10CFR21 report should be initiated.

107
Bechtel Power Corporation

Post Office Box 2167
Midland, Michigan 48640



June 29, 1983

The Zack Company
125 West Main Street
P.O. Box 31
Midland, MI 48640

Attention: R. Burroughs

Job 7220 Midland Project
Subcontract 7220-M-151
ZACK QUALITY ASSURANCE
PROGRAM
M-151-B-2081

Dear Mr. Burroughs:

The purpose of this letter is to notify the Zack Company of the action considered to be necessary to improve the Zack Quality Assurance program to a satisfactory level.

Since August 1981, the Consumers Power Company's full-scope audits of the Zack Company-Chicago activities have resulted in the implementation of the Chicago QA program being judged as marginal. Each audit report notes that changes to the QA program and its implementation are in process or required to correct current conditions. As reflected in the overall results of these audits (reference Attachment A), it becomes apparent that the changes made have not completely provided lasting resolution to the problems identified.

While it seems Zack has experienced difficulty developing and implementing lasting resolutions to the problems, it is imperative the Chicago QA program complies with the project requirements. For this reason the following "action list" has been developed and is required to be implemented:

1. Zack Company, Consumers Power Company and Bechtel Power Corporation will hold a management meeting to review and discuss the specific plans of the Zack Company to satisfactorily improve the Chicago QA program. You will be contacted in the near future to establish a date for this meeting.
2. Zack is to expedite the development and submittal of the procedures which will support the recently approved QA manual. Timetables for the submittal of these procedures are to be developed and will be discussed at the management meeting noted in 1 above.

The Zack Company
M-151-B-2081
Page 2

3. Upon approval of these new procedures, Zack is to undertake a program of indoctrination and training to advise personnel performing activities affecting quality of the new programmatic requirements.
4. Zack is to effectively implement the new QA program at the earliest possible date. This new program will be audited after sufficient time has elapsed for the program to be implemented.

Meeting these objectives in a timely manner is of the utmost importance to the successful completion and operation of the HVAC system at the Midland Energy Center. The value of management support of these goals and objectives toward meeting the project requirements cannot be understated.

Very truly yours,

G. A. Hierzer
G. A. Hierzer
Site Manager

GAH/JJS/cs

cc: J. D. Clark
J. D. Flanders
D. E. Calkins - Chicago

A synopsis of the Consumers Power Company's full-scope audits of the Zack Company-Chicago activities (1981 through 1983).

1. Audit M01-35-1 (August 1981) resulted in fifteen (15) Audit Findings and three (3) Observations. The evaluation of effectiveness was determined to be marginal.
2. Audit M01-58-0 (April 1982) resulted in nine (9) Audit Findings and eight (8) Observations. The evaluation of effectiveness was judged to be marginal and the report noted an apparent lack of attention to detail and inadequate understanding of procedures.
3. Audit M01-603-3 (May 1983) resulted in ten (10) Findings and four (4) Observations. The evaluation of effectiveness was again judged to be marginal.

¹²¹⁰
Audit of Zock Matril Certs.

ANSI 45.2.13 A 10.2 d states

--- person who is responsible ---
whose function and position are described in
the Purchaser or Supplier Quality Assurance
Program.

→ Whose QA manual has this described
function position

* Check some certs. Hopefully in 23 areas of
audit check list - different
than those already checked

PLA QA Dept Proc F-1 A 5.5.2 states

--- Section Head (designee) maintains

--- audit Finding Report log.

→ Show me entry. / Did have entry in log.

* → Look at C-607 (No)
C-625 (NO)
any C-615-624 (NO) / Aug 27 for
C-650 (No) resolving and
C-9295 (No) getting certs

Why no increase in sample size |

1010

TO: Mark DeWitt, Consumers Power Company
FROM: Conam Inspection
DATE: December 8, 1980
SUBJECT: Overinspection of Zack Company

The following consolidated report is being submitted by Conam Inspection Dept. to Consumers Power Co. to assist them in their re-evaluation of Zack Company performance as of August 14, 1980.

The following information and data was compiled from records kept by Conam inspectors (3) and control data on record at this site.

Problems that exist in the Quality Assurance Program administered by the Zack Co. are listed as follows, together with a comment if warranted from Conam personnel.

Any comments made by Conam personnel is not to be construed as criticism of the Zack Co., but only to be accepted as constructive comments, and hopefully to be used to assist Zack in overcoming some of their problems and in betterment of their organization.

- 1) Certification: Lack of certification, which there are many cases, some over three years old, has created a multitude of extra work because of the necessity of issuing an appropriate NCR to cover each case.
- 2) Travelers: Many problems in this area.
 - A. Traveler fails to have same details or configuration as drawing.
 - B. Traveler in one case shows two anchor bolts, drawing shows three anchor bolts, yet in a different location.
 - C. Weld Procedures on most travelers are old procedures and Zack needs to change them.
 - D. Travelers are not identifying type of electrode being used by welder on a particular job as required.
 - E. Traveler - Could be improved by new form - old form (as is) is obsolete. Should be reviewed.
- 3) Documentation: Delay in Document Control - one week to ten days is consumed from time QCI is made to get to Document Control after QCI signs off the inspection.
- 4) Identification of Hangers & Traceability
- 5) Not according to drawing or traveler.
- 6) Material Certifications: V4 area - Hangers signed off as accepted, yet material certs were wrong. Zack inspectors missed.

- 7) Material in Poseyville Area, especially Flex Connectors, which are exposed to all types of weather and inspection now reveals they are rejects.
- 8) Tagged material not segregated in designated hold area at Poseyville laydown area.
- 9) Program Problems: Numerous inspections required because of Zack's failure to complete a hanger instead of doing some partial work, moving to other work, and then later returning to same hanger for completion and reinspection before it is signed off and scaffolding removed. NOTE: At this time there are over 1,000 NCR tagged items.
- 10) Material: Some material has been miscut and then welded over the cut material.
Location: Over control panel in the control room. This could later cause a fatigue crack and possibly structural failure.
- 11) There have been duplication of inspection packages - One is: V19-SH1-#13 for confirmation.
- 12) Zack inspectors sign off welds that never existed. Original traveler shows configuration for a brace, but since it interferes with other components, had to be changed on a repair traveler, yet QCI inspected to original traveler and signed off repair traveler.
- 13) Anchor plate installed with two anchor bolts and welded on one end. Drawing portrays three anchor bolts, traveler shows two anchor bolts only and in a different location - R.F.I. was requested 11-3-80 yet as of 12-3-80 have received no answer.
- 14) Braces: Some braces are welded off center approximately four inches (4") on one and two inches (2") on another. R.F.I. requested 11-3-80 have received no answer as of 12-3-80.
- 15) Anchor Plate Bolts: Drawing shows welding all around on imbed, alternate detail shows anchor with no welding procedure, however, Zack welded according to C-350 Procedure. (Bechtel requesting answer to R.F.I. from Ann Arbor, MI.)
- 16) Transverse Welding on structural beams, several letters have been transmitted on this subject, the last dated November 27, 1980. However, Zack Co. is still using this type of weld on structural beams. (Bechtel has advised they will initiate a letter to clarify this situation.)
- 17) Welding hangers to a support column is not permissible, yet this is being done.
- 18) There is no documentation of the hangers, and no identification of the hangers, this is in violation of documentation specs.
These welds were made to structural steel and it is unknown even as to the identity of the welder, due to lack of records covering this operation.

- 19) Travelers with incomplete information - traveler will show weld all around component, yet "C" drawing is minus a weld symbol of any kind, so in most all these cases the welding is being done by Zack Co. according to C-850.
- 20) There are flex connectors stored in the laydown area at Poseyville that are exposed to the weather and all the changing elements, (some for over two years) and a close inspection of many of these connectors revealed splits and tears in the fabric and are now unusable in their present condition (Polaroid photos were made of some of these and given to Consumers Power Co. Q.A. for their scrutiny and action. These connectors should be stored inside - out of the weather to protect them from further deterioration.
- 21) New work is being done by Zack on five hangers in D.G. bldg., Bay 2, and V7, A line, and is being followed closely. However, their productivity is slowed because of paperwork involved. It takes a QCI two to three hours to complete the paperwork on one inspection package. Also a Zack Co. foreman usually waits four hours or longer to get an inspection done after his initial request for an inspection.

The following is a breakdown of Conam overinspections, accomplished here at the Midland site:

<u>INSPECTION PLAN</u>	<u>OPENED</u>	<u>CLOSED</u>
01-W-2A	14	13
01-W-2B	33	25
01-M-34A	28	27
01-M-35A	21	20
01-M-36A	27	19
	<hr/>	<hr/>
<u>TOTAL</u>	123	104

Still open - 19

Conam comments on overall activity of Zack Co.:

- A. Welders are qualified and experienced and the welding is improving daily.
- B. Zack QCI personnel with the exception of four Level 2 inspectors lack the experience to accomplish a proper inspection, especially in some gray areas, where an experienced welding inspector has the know how to determine a weld that is acceptable and one that is not acceptable. NOTE: There are two young women inspectors (and I am not biased). However, in observing their inspection technique(?) and their final analysis of weldments reveal to me that they are not sure of their decisions and rely on support from more qualified inspectors.

- C. Zack Co. welders are assigned to weld hangers, then in many instances are reassigned to another hanger in another area without completing the hanger first assigned and in the meantime all scaffolding is removed and later has to be returned to the original area for completion of the original hanger. (Suggest once hangers are started they be completed, inspected, repairs made if any and then signed off, and only then scaffolding to be moved. This is the way Zack does the job at LaSalle Nuclear Plant. Why not here - it is more efficient, and far less costly. This has been suggested to Ron Akers, but Zack Co. are not open to money saving suggestions.

In final analysis, Zack Co. has shown some improvement, however, the improvement would be far greater if they implemented the same system they use at the LaSalle Nuclear Plant. In that all ducts to be installed on site are placed in a staging area, where they are inspected, repaired, and signed off before being installed, therefore eliminating repairs to be made at a high level or a close proximity to a wall etc. All this reinspection is eliminated by using a staging area. Zack procedures here at Midland states that they function from a staging area - which is not true. They operate strictly on a conditional release plan, which permits reject ducts to be installed on line and later to be repaired.

I know the staging area works, because I was in charge of the Zack operation at the LaSalle Nuclear Plant.

Paul Metcalf
Paul Metcalf, Supervisor
Conam Inspection Team

- ATTACHMENTS: 1) Specification Change Notice (Violates AWS Code)
2) Memorandum to Consumers Power - (Abusive use of Conditional Release)
3) Typical Cases of Zack Travelers not Conforming to Bechtel drawing
(In this case, refer this traveler to drawing C-898, detail 7)

Zack Co. progress data as of December 1, 1980:

<u>DATE</u>	<u>NCRs OPENED</u>	<u>NCRs CLOSED</u>
8-22-80	102	3
8-29-80	91	4
9-5-80	33	26
9-12-80	71	26
9-19-80	46	4
9-26-80	24	15
10-3-80	68	30
10-10-80	25	9
10-17-80	50	4
10-24-80	8	106
10-31-80	49	8
11-7-80	37	43
11-14-80	41	47
	<hr/>	<hr/>
TOTALS	645	325

A) Site Workmanship	-	594 Open NCRs as of October 13, 1980
A) Damaged Equipment	-	63 Open NCRs as of October 13, 1980
B) Receipt Inspection	-	87 Open NCRs as of October 13, 1980
C) Documentation	-	325 Open NCRs as of October 13, 1980
F) Procedures	-	35 Open NCRs as of October 13, 1980
		<hr/>
<u>TOTAL</u>		1104

/ INCLOSURE

SPECIFICATION CHANGE NOTICE

- A. SPECIFICATION NO. 7220-M151A REV. 8 DATE 7/24/80
- B. SPECIFICATION TITLE Technical Spec for HVAC Seismic Class I Equip & Duct Installation
- C. CHANGE REQUESTED BY: CLIENT ENGINEERING FIELD VENDOR/CONTRACTOR
- D. CHANGE PREPARED BY Donnie Appel DATE 10/13/80
- E. DESCRIPTION OF CHANGE

Add section 14.8.3 c: "Each weld layer or pass sh be visually free of cracks, coarse ripples, infringing on weld throat, excessive slag and inclusions; and lack of fusion. Lack of fusion due to entrapped slag or weld rollover which does not infringe on required leg or throat dimensions is acceptable."

Revise section 14.8.4 to read: "Contractor approved workmanship s ples conforming to section 14.8.3 may be used as a visual acceptance critre for accepting weld quality."

- F. REASON FOR CHANGE
- Revise section 10.1.14 to read: "Duct dents, bulges, wrinkles, wavin and other imperfections shall not be excessive. Acceptability of imperfections will be based on codes and st ards referenced in section 2.0 and industry practice"

- G. EFFECTIVITY OF CHANGE
- Absolute statements on workmanship acceptability within existing specific cannot be met using normal fabrication/installation procedures

Retro active to all work performed under this

RECEIVED

UNCONTROLLED
NOT TO BE USED
FOR INSTRUMENTATION

OCT 22 1980

- H. INSTRUCTIONS REGARDING USED MATERIAL/EQUIPMENT INSTRUCTION
- N/A
- BECHTEL POWER CORP
JOB 7220

ATTACH THIS SON PER
INSTRUCTIONS OF EBPI 4.49.1
JOB 7220

- I. APPROVAL SIGNATURES
- | | | | |
|--|-------------------------|--|-------------------------|
| <u>LH Curtis</u>
PROJECT ENGINEER | <u>10/15/80</u>
DATE | <u>Donnie R Appel</u>
ORIGINATOR | <u>10/13/80</u>
DATE |
| <u>[Signature]</u>
GROUP SUPERVISOR | <u>10/14/80</u>
DATE | <u>[Signature]</u>
PROJECT QUALITY ENGINEER | <u>10-15-80</u>
DATE |
| <u>Suresh S. Patel</u>
CHECKER | <u>10/13/80</u>
DATE | <u>[Signature]</u>
PROJECT QUALITY INSURANCE ENGINEER | <u>10/15/80</u>
DATE |
- J. INCORPORATED IN SPEC.
- Q.R. [Signature] M-OS 10-13-80
REV GROUP SUPERVISOR DATE

2 INCLOSURE

TO: Lee Howell

FROM: Paul Metcalf, Conam Inspector

DATE: October 28, 1980

SUBJECT: Conditional Release as pertains to Zack Co. -
Submitted for your information and guidance.

- 1) The procedures regarding a conditional release as outlined in FQCP-8 para. 7.11 permits the QCM, in this case Mr. Ron Akers of Zack Co. to move any duct or hanger material or dampers or whatever from the laydown hold area into the site plant and be installed by merely writing on the back of the NCR tag, the defect or discrepancy as noted previously, and signed by the QCM and the tag then attached to the part in question, and part is installed on line, which at the present time is being done.
- 2) There are no forms known as a conditional release form as such, with a number or whatever, that could be documented to assure any effective control or guide lines for Zack QCM to use in this present situation, and due to the past performance record of the company in question and certifications of material arriving periodically from Chicago without "Certs", and in many instances some certs are two years behind. This will no doubt become an endless procedure in the future, and our only desire is to bring this condition to your attention, to inform you that, it isn't an "emergency" as such to use a duct etc. while waiting for the proper "certs" for two or three weeks to arrive on site, because material is still arriving on site, with no galv. certs available, no heat nos., no ASTM nos., no designated year nos., no angle iron certs, and all the above are in violation of para. 5.19 material certification 7220-M-151A(Q).

Paul Metcalf
Conam Inspector

CONSUMERS POWER COMPANY
 MIDLAND UNITS 1 & 2

THE ZACK CO.

JOB NO. 2401
 TICKET NO. F 3997

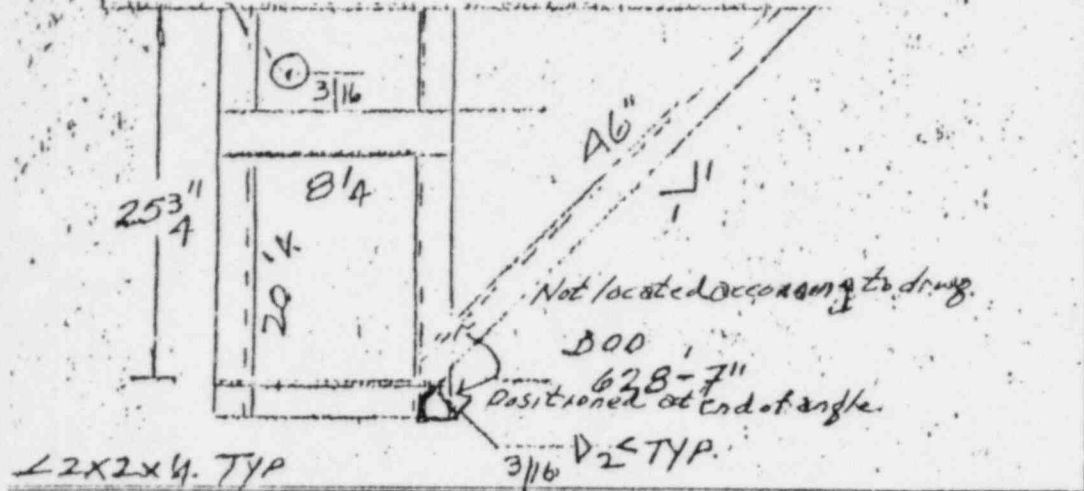
CHECKED: J. H. T 3-16-79

DRN. BY CX 3-11-79

Work Order No. 4311.217 (K808) P3997	Blgd. AUX	System OVV 50A/B
Dynamic Class 1	Level 614	Item 5.0
Pressure Class	Area 1	Face Area

CUTTING LIST		QUANTITIES	
SHEET	ANGLE		
COPY # 3 INCLOSURE			
NOT ACCORDING TO BECHTEL			
DRWG. C-898			
DETAIL 7			
ILLUSTRATION ONLY			
#31			

CUSTOMER HOLD POINTS **NONE** DIMENSIONAL TOLERANCES: **+ 1/4"**
 WELDING PROCEDURES: **MA-CCP 1A** **IPCCB**
 NOT ACCORDING TO BECHTEL
 DRWG. C-898
 DETAIL 7
 NOT POSITIONED EXIST. ST.
 ACCORDING TO DRWG. (I-BEAM)



QUALITY ASSURANCE

OP TICKET PROVIDED **BP 3-19-79**

INSPECTION CONTROL NO.

ANGLE IRON CONTROL NO. **2x4x 121**

WELDER

SPECTOR **H. G. ... 3-19-79**

SHIPPING, FINAL INSPECTION **H. G. ... 3-20-79**

QUANTITY - AS THIS TICKET **1**

ON SITE RECEIVING **GWS 3-22-79**

DESCRIPTION	QUANTITY	Ø	WEIGHT	FABRICATION		ERECTION	
				PRICE	AMOUNT	PRICE	AMOUNT
TOTALS				\$		\$	

1 INCLOSURE

SPECIFICATION CHANGE NOTICE

- A. SPECIFICATION NO. 7220-M151A REV. B DATE 7/24/80
- B. SPECIFICATION TITLE Technical Spec for HVAC Seismic Class I Equip & Duct Installation
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- D. CHANGE PREPARED BY Donnie Appel DATE 10/13/80
- E. DESCRIPTION OF CHANGE

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- F. REASON FOR CHANGE
- Revise section 10.1.14 to read: "Duct dents, bulges, wrinkles, waviness and other imperfections shall not be excessive. Acceptability of imperfections will be based on codes and standards referenced in section 2.0 and industry practice"

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Retroactive to all work performed under this

RECEIVED

UNCONTROLLED
NOT TO BE USED
FOR CONSTRUCTION

OCT 22 1980

- H. INSTRUCTIONS REGARDING USED MATERIAL/EQUIPMENT **BECHTEL POWER CORP**
JOB 7220
- N/A

PER Donnie Appel
ATTACH THIS SON PER
INSTRUCTIONS OF EBPI 4.49.1
JOB 7220

- I. APPROVAL SIGNATURES
- | | | | |
|--|-------------------------|--|-------------------------|
| <u>LHCurtis</u>
PROJECT ENGINEER | <u>10/15/80</u>
DATE | <u>Donnie R Appel</u>
ORIGINATOR | <u>10/13/80</u>
DATE |
| <u>[Signature]</u>
GROUP SUPERVISOR | <u>10/14/80</u>
DATE | <u>[Signature]</u>
PROJECT QUALITY ENGINEER | <u>10-15-80</u>
DATE |
| <u>Suresh S. Patel</u>
ORDERER | <u>10/13/80</u>
DATE | <u>[Signature]</u>
PROJECT QUALITY INSURANCE ENGINEER | <u>10/15/80</u>
DATE |
- J. INCORPORATED IN SPEC. M-O-S 10-13-80

RB

2 INCLOSURE

TO: Lee Howell

FROM: Paul Metcalf, Conam Inspector

DATE: October 28, 1980

SUBJECT: Conditional Release as pertains to Zack Co. -
Submitted for your information and guidance.

- 1) The procedures regarding a conditional release as outlined in FQCP-8 para. 7.11 permits the QCM, in this case Mr. Ron Akers of Zack Co. to move any duct or hanger material or dampers or whatever from the laydown hold area into the site plant and be installed by merely writing on the back of the NCR tag, the defect or discrepancy as noted previously, and signed by the QCM and the tag then attached to the part in question, and part is installed on line, which at the present time is being done.
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Paul Metcalf
Conam Inspector

CONSUMERS POWER COMPANY
MIDLAND UNITS 1 & 2

THE ZACK CO.

JOB NO. 2401
TICKET NO. F 3997

CHECKER: J. H. T 5-16-77

VASH. 247 (V. 808) #3997

System Class	1	Bldg	AUX	System	OVV 50A/B
Pressure Class		Level	614	Item	5.0
		Area	1	Face Area	

CUTTING LIST

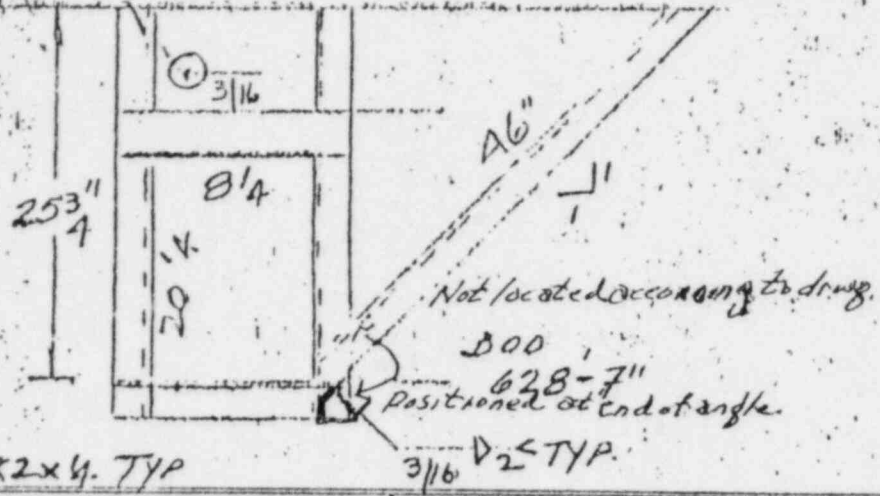
QUANTITIES	
SHEET	ANGLE

COPY #3 INCLOSURE

CUSTOMER HOLD POINTS: NONE
DIMENSIONAL TOLERANCES: + 1/8"
WELDING PROCEDURES: MIP-CCP 1A

NOT ACCORDING TO BECHTEL
DRWG. C-898
DETAIL 7

NAT POSITIONED EXIST. ST.
ACCORDING TO DRWG. (I-BEAM)



INFORMATION ONLY

#31

QUALITY ASSURANCE

IOP TICKET PROVED: BP 3-19-79

DIL CONTROL NO.

ANGLE IRON CONTROL NO. 2x2x4 121

ELDER

INSPECTOR: H. G. C. 3-19-79

SHIPPING, FINAL INSPECTION: H. G. C. 3-20-79

QUANTITY - EMB THIS TICKET: 1

ON SITE RECEIVING: AUX V3-22-79

DESCRIPTION	QUANTITY	@	WEIGHT	FABRICATION		ERECTION	
				PRICE	AMOUNT	PRICE	AMOUNT
TOTALS				\$		\$	

10/11

PM - mtg 8/6/80

Zack
Bechtel
CPCa

(1)

1) Quality of Photon Qualification to train welders on Zack Procedures -

open - Need to either send Zack welders thru a Proven Program, i.e. Bechtel - or establish credibility for Photon Program i.e. applicable sections of Appendix B.

2) CPCa to do audit of Zack certs for technical adequacy for certs on site - also look at Zack Chicago for handling of certs. and their receiving.

-3) Nonconformance - CPCa ltr 8/6/80
not impact on new work

-4) Components to be installed & documented as equipment i.e. dampers/fire doors

-5) File 10.0 8/6/80 CONAN Personnel Qualified - lacking Mechanical Area - hope 8/8/80.

6) Item 2 check voltage

Item 9 - ltr

Item 11

7) MB - FQCP - 16 - Monthly

8) Initiate ZQF-11 (NCR) FQCP-8

Stop work on nonconforming items.

(2)

~~(1)~~ 9) C/Co gives magic QC to Worker to avoid large backlog of QC in 30 day to NRC.

~~When does Zuck look at~~

Zuck

look at Rafferty finding on Photon Testing Inc (Gotta Weld School)

2.2 add accessories

change 7.3 spec to install dampers
and doors to read "equipments"

// at least one CONAM man qualified in a
start evolution.

Voltage/amps - monitor on welding

Control on schedule

Press release

Exit

- non-compliance
when done
- * 1) Establish welder Qual Credibility
Do prior to Stopwork lift
 - 2) Ltr. from Corley on fitness for impact on proposed
new work
 - * 3) OIC / Agent will audit rack material cuts
on site - Before lift of stop work
 - * 4) Revise FQCP-6 / PQCP-6 for monitoring
of voltage for MEG
prior to lift stop work
 - 5) Time in 30 day for timeliness of rack insp.
and overview

10/11

P11

4.6 welding to 3/4" and above base metal

Non safety related welding
ref Corley ltr - 8/6/80 - address non-Q

Section 6, P 15/16

Add section on timeliness of QC Inspection
determined in 30 days
Add another section on 90 day overview

Re write Opit Section, put in had 5 concerns 8/6/80
add to sect 2 & ConAm people + ltr 8/6/80
put in 8/14/80 telecon.

Add sections

Audit of Photon Testing - Qualification of Welders
1) QA criteria which apply
2) Contract written
3) Confirm D. 1.1 & D. 1.3 at Photon
4) Right & qualified

Audit of Matil Certs

- 1) Findings
- 2) Condition of lift stop work

Voltage / amps / minutes COP-6 / f QCP &

Changed WPS-1, 2

- 1) Condition of stop work

Equipment for dampers.

8. Welder Qualifications

To File: 10.0
FROM DRKeating, Midland
DATE August 6, 1980
SUBJECT MIDLAND PROJECT
CONAM PERSONNEL QUALIFICATIONS
File: 10.0 Serial: 233FQA80

DRKeating

**Consumers
Power
Company**

INTERNAL
CORRESPONDENCE

CC WRBird, JSC-216B LEDavis, Bechtel Site JWLillywhite, Bechtel Site
JWCook, P14-113A MFDeWitt, Midland DBMiller, Midland
JLCorley, Midland LADreisbach, Bechtel Site FAPimentel, Midland
TCCooke, Midland LRHowell, Midland

The Conam personnel on site to conduct Zack over-inspections will be certified in accordance with Procedure B-3M, "Qualification Certification of Inspection and Test Personnel". Conam personnel will not be utilized in the field until they are properly certified to the inspection plans covering the work that they are over-inspecting. On-going work will not proceed in an area that the Conam personnel have responsibility for until the certification process is complete for the activity being covered. As of August 6, 1980 all Conam personnel are certified to the welding over-inspection plans which will allow the Conam personnel to over-inspect all repair welding and the on-going Zack reinspection activities in the welding area. Mechanical certification is scheduled to be complete by Friday August 8, 1980.

pap

DRK

FROM JLCorley/DRKeating, Midland
 DATE August 7, 1980
 SUBJECT MIDLAND PROJECT - NRC EXIT
 MEETING OF AUGUST 6, 1980
 File 0.4.2 Serial 238FQA80

**Consumers
 Power
 Company**

INTERNAL
 CORRESPONDENCE

CC JWCook, P-14-113A GSKeeley, P-14-408B
 TCCooke, Midland PMO DBMiller, Midland
 LADreisbach, Bechtel Great Lakes QA Managers

Attendees:

<u>CPCo</u>	<u>Bechtel</u>	<u>Zack</u>	<u>NRC</u>
WRBird	WJCreel	MED'Haem	RJCook
GBJohnson	LADreisbach		RCKnop
DRKeating	DFPierce		RNSutphin
DBMiller	JERussell		

Mr Knop discussed five items, three of which must be addressed prior to lifting of the stop work. The items are as follows:

- 1) It was noted that Zack had not done a survey to the applicable 18 criteria or assessed the capabilities of the outside agency (Photon) which performed weld procedure and welder qualification for Zack. Therefore, the NRC considers the qualifications to be in question. It was indicated that this item is a potential item of noncompliance. Two acceptable resolutions were discussed.
 - a) Qualify the welders through Bechtel or other approved source.
 - b) Perform a scoping survey of Photon.

This item is a restraint on the resumption of work.

- 2) Signature is required on the JLCorley letter to LADreisbach dated August 6, 1980. The letter will require Zack to conduct necessary reinspections and assess the impact of proposed new work on unresolved discrepancies and accessibility to previously installed items. (This letter was signed during the meeting.)
- 3) An audit of Zack material certifications at the site will be conducted by CPCo to assure correctness of the certifications. The audit of the certifications at the site is a restraint on the resumption of work. Additionally, material certifications will be audited in the Chicago offices. The Chicago audit is not a restraint.
- 4) The NRC confirmed that CPCo would require a change in the plant and field procedures (PQCP-6 and FQCP-6) to clarify voltage checks. This item is a restraint on the resumption of activities.

5) The NRC confirmed that CCo would develop, within 30 days, a method of assuring the timeliness of Zack inspections.

Mr Knop indicated that we should provide RJCook with evidence of completion of the required actions. Upon satisfactory review of the actions by the NRC, verbal approval to lift the stop work would be given by Mr Cook or Mr Knop.

1. PURPOSE:
 - 1.1 THE PURPOSE OF THIS PROCEDURE IS TO DEFINE THE SYSTEM USED BY THE ZACK COMPANY TO CONTROL WELD FILLER METAL, AND TO PRESCRIBE AND DOCUMENT SURVEILLANCE INSPECTIONS OF WELDING OPERATIONS AT THE MIDLAND CONSTRUCTION SITE.

2. SCOPE:
 - 2.1 THIS PROCEDURE APPLIES TO THE HANDLING, STORAGE, ISSUANCE, USE AND RETURN OF WELD FILLER METAL.

3. DEFINITIONS:
 - 3.1 WELD FILLER METAL: THE METAL TO BE ADDED IN MAKING A WELDED, BRAZED, OR SOLDERED JOINT.
 - 3.2 TERMS USED IN THIS PROCEDURE ARE DEFINED IN ANSI N45.2.10, QUALITY ASSURANCE TERMS AND DEFINITIONS.

4. REFERENCES:
 - 4.1 BECHTEL TECHNICAL SPECIFICATION 7220-M-151A (Q)
 - 4.2 THE ZACK COMPANY QUALITY ASSURANCE MANUAL
 - 4.3 TITLE 10 CODE OF FEDERAL REGULATIONS, PART 50, APPENDIX B
 - 4.4 ANSI N45.2, QUALITY ASSURANCE PROGRAM REQUIREMENTS FOR NUCLEAR POWER PLANTS
 - 4.5 ANSI N45.2.10, QUALITY ASSURANCE TERMS AND DEFINITIONS

5. RESPONSIBILITY:
 - 5.1 PROJECT MANAGER, (PM):
RESPONSIBLE FOR THE PROPER HANDLING, STORAGE, ISSUANCE, USE AND RETURN OF WELD FILLER METAL.
 - 5.2 PROJECT SUPERINTENDENT, (PS); GENERAL FOREMAN, (GF); FOREMAN (F):
RESPONSIBLE FOR THE CONTROL OF WELD FILLER METAL PER THE REQUIREMENTS OF THIS PROCEDURE.
 - 5.3 QUALITY CONTROL MANAGER, LEVEL III, (QCM):
RESPONSIBLE FOR THE VERIFICATION THAT WELD FILLER METAL IS HANDLED, STORED, ISSUED, USED AND RETURNED IN ACCORDANCE WITH THIS PROCEDURE.
 - 5.4 LEAD QUALITY CONTROL INSPECTOR, LEVEL II/III, (LQCI):
RESPONSIBLE FOR IMMEDIATE SUPERVISION OR SURVEILLANCE INSPECTION ACTIONS PERFORMED PER THIS PROCEDURE.
 - 5.5 QUALITY CONTROL INSPECTOR, LEVEL I/II, (QCI):
RESPONSIBLE FOR PERFORMING INSPECTIONS PER THIS PROCEDURE AS ASSIGNED.

77220-M151-2208-5

- 7.11.1 WHEN LOW-HYDROGEN ELECTRODE IS RETURNED, THE F, GF, OR PS REMOVES IT FROM THE PORTABLE ROD WARMER CADDIES AND RETURNS IT TO THE HOLDING OVENS, IF IT IS WARM TO THE TOUCH, OTHERWISE HE DISCARDS IT. DISCARDED LOW-HYDROGEN ELECTRODE IS PLACED IN LOCKED DISPOSAL CONTAINERS TO PREVENT ITS USE.
- 7.12 WELD FILLER METAL, OTHER THAN WIRE SPOOLS, IS ISSUED AND RETURNED ON A DAILY BASIS.
- 7.13 HOLDING OVENS AND PORTABLE ROD WARMER CADDIES ARE MAINTAINED AT THE TEMPERATURES SPECIFIED IN AWS D1.1-79, SECTION 4, PARAGRAPH 4.5. EACH IS SERIALIZED, AND THEIR TEMPERATURE IS CHECKED BY THE QCI/D&R EVERY TWO MONTHS AND DOCUMENTED IN ACCORDANCE WITH THE PROVISIONS OF MB-FQCP-10, LATEST REVISION.
- 7.14 WELD ROD CONTROL VERIFICATION AND WELDING SURVEILLANCE INSPECTION.
- 7.14.1 ON A MONTHLY BASIS THE LQCI ASSIGNS A QCI TO PERFORM VERIFICATION ACTIVITIES ON WELD ROD CONTROL AND IN-PROCESS WELDING. THE QCI VISITS ALL WORK LOCATIONS BY BUILDING (FAB. SHOP, AUX. BLDG., REACTOR BLDG., SERVICE WATER BLDG, DG BLDG.). DURING THE PERFORMANCE OF THIS INSPECTION, THE QCI VERIFIES:
- 7.14.1.1 THE WELDER IS QUALIFIED.
- 7.14.1.2 THE PROCEDURE USED IS THAT WHICH IS NOTED ON THE TRAVELER.
- 7.14.1.3 WELDING PARAMETERS (I.E. CURRENT, VOLTAGE, AND GAS FLOW) ARE WITHIN THE LIMITS REQUIRED BY THE APPLICABLE WPS.
- 7.14.1.4 THAT FILLER METAL, I.E., SIZE AND TYPE IS AS PRESCRIBED BY THE WELD PROCEDURE AND THAT THE WELDER HAS A PROPERLY COMPLETED FILLER METAL WITHDRAWAL AUTHORIZATION IN HIS POSSESSION.
- 7.14.1.5 PREHEAT IS AS DETAILED IN WPS-3, LATEST REVISION.
- 7.14.1.6 IF LOW-HYDROGEN ROD IS USED THAT A PORTABLE ROD WARMER CADDY IS USED AND IS ENERGIZED.
- 7.14.1.7 OBSERVE THE ISSUANCE AND RETURN OF WELD FILLER METAL, AND THE CONDITION OF ISSUE ROOM FOR COMPLIANCE TO THE PROVISIONS OF 7.5 THROUGH 7.13.
- 7.14.2 THE QCI DOCUMENTS HIS SURVEILLANCE ACTION ON QC INSPECTION REPORT, SPECIAL INSPECTION, ZOF-35, (ATTACHMENT 2), AND TRANSMITS IT TO THE QCM. THE QCM FORWARDS ONE COPY OF EACH REPORT TO THE QM FOR INFORMATION AND FILES THE ORIGINAL IN THE QC VAULT. PROBLEMS NOTED DURING THE SURVEILLANCE ACTIONS ARE PROCESSED IN ACCORDANCE WITH MB-FQCP-3, LATEST REVISION.



9. DOCUMENTATION:

- 9.1 DOCUMENTATION THAT IS GENERATED BY THE USE OF THIS PROCEDURE IS RETAINED ON FILE IN THE SITE QC VAULT WITH THE EXCEPTION OF FILLER METAL WITHDRAWAL AUTHORIZATION FORMS, WHICH ARE DESTROYED.

77220-1451-2208-5

Matrix of HVAC System Assessment by Type Component

1011

Hardware Classification	Potential or Identified Problems	Mechanism for Assessment
Installed Equipment	Activity completed by and per the design requirements and documented by QC.	NCR - 100% reinspection required. Zack QC accomplished. CPCo in progress of corrective action verification.
Hangers	Configuration and dimension Structural weldments Material traceability Weld process	NCR - 100% reinspection.
Duct Welding Field Hanger to Duct Weld Duct to Duct Duct to Structural Attachment	Weld deficiencies	Further reinspection required in order to provide adequate assessment and engineering disposition.
Anchor Bolts	Improper test criteria utilized on installed drop-in type anchors.	100% scoping of problem per Bechtel site-wide program.
Turning Vanes	Weld spatter and "non-Q" material used in a "Q" application (field fabricated).	Identify field fabricated mitered elbows and assure their design compliance (requires access).
Fire Dampers	Equipment location identification	Locate all fire dampers and assure proper ID. Requires access. (Also needed per Part 21 (spring bracket) repair).
Balancing dampers	Improper serial numbers per V drawing callout.	Review proves that this is an impossible situation. Serial number reflects size only all dampers are Q.

Matrix of HVAC System Assessment by Type Component

<u>Hardware Classification</u>	<u>Potential or Identified Problems</u>	<u>Mechanism for Assessment</u>
Material Certs	Non-ASTM designated material certification, eg, flex-connections welding materials, structural shapes.	NCR - Review of purchased materials for compliance to Spec requirements. Bechtel Engineering doing for flex connectors no indication of problems in review of other areas.
Huck Bolts	Materials and installation.	Process reviewed. Material certs reviewed.

10/11

Bolts

Application of ASME NA (Design) for the bolt purchase - good point. What about other of same vintage

// ? What is the validity of the 180 ksi needed to induce stress assisted corrosion cracking - or other modes of brittle fracture
Ref: 4140 vs 4340 steel.

// What about sudden load factor and eccentricity loading during the accident condition with $F.S. = 2$. What about shape factor in thread area ~~and~~ with superimposed hardness gradient effects.

// Because of unpredictable nature of "low cycle fatigue phenomena" - and perhaps other corrosion failure mechanism - it is prudent that all assume all bolts fail.

Isn't the real question the fix?

Or are they allowed junk - no matter when

MIDLAND MEETING - MAY 1, 1980

I. Introduction *Keppler*

II. Reactor Vessel Holddown Anchor Bolts

- Chronology of Inspections - *Foster*
- IE Findings - *Foster*
- Perception of Technical Problems - *Evli*
- Discussion by Licensee - *CP*
- IE Program - *Fiorelli*

III. Zack Corporation

- Chronology of Inspections - *Novelins*
- IE Findings - *Weil*
- Licensee Presentation of Their Findings -
- QA/QC RIII Concerns - *Knop-CP*
- Enforcement - *Keppler*

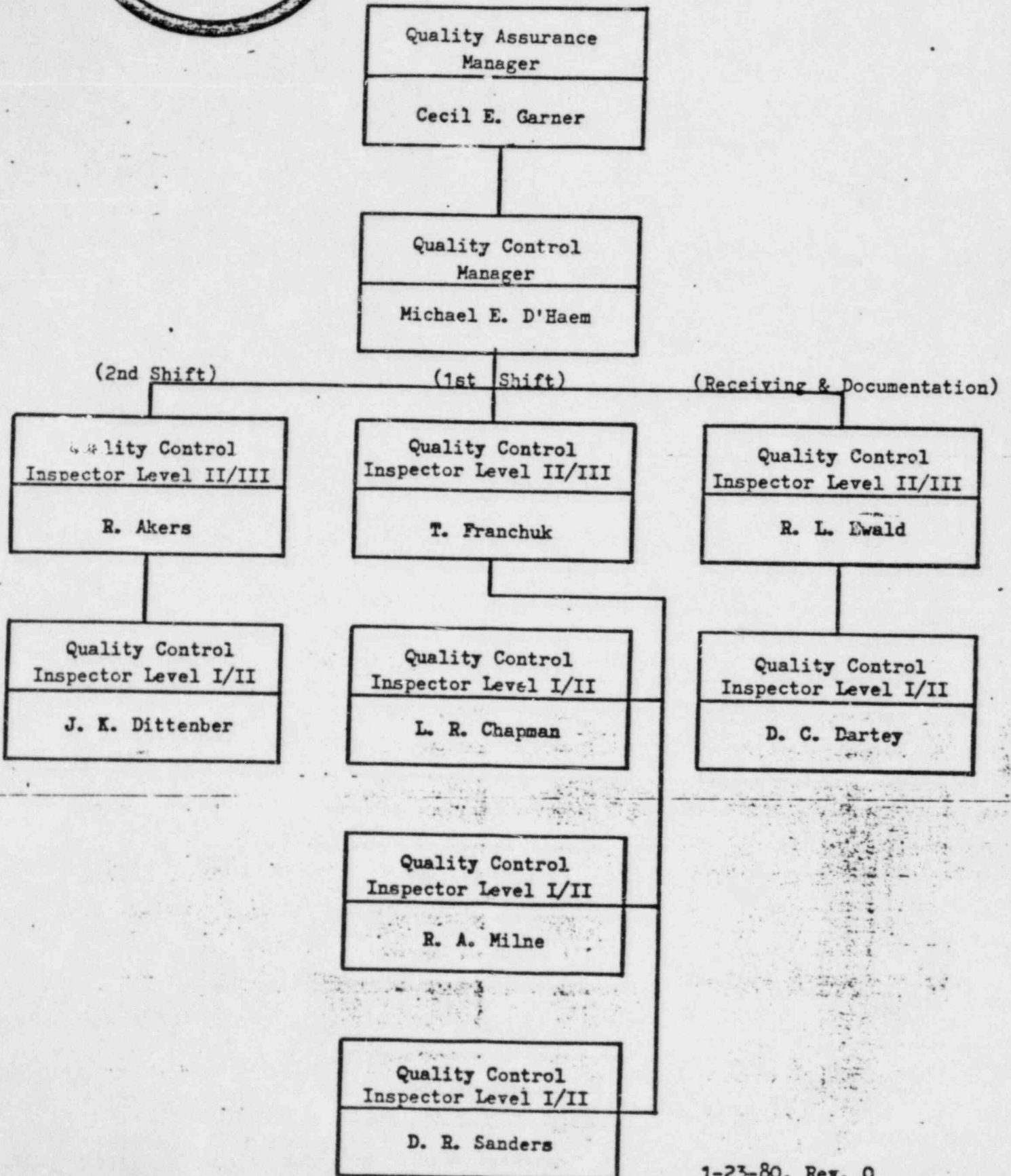
IV. CP Reorganization - *CP*

CP to discuss the new organization and their new interface policies with Bechtel.

V. Summary - *Keppler*



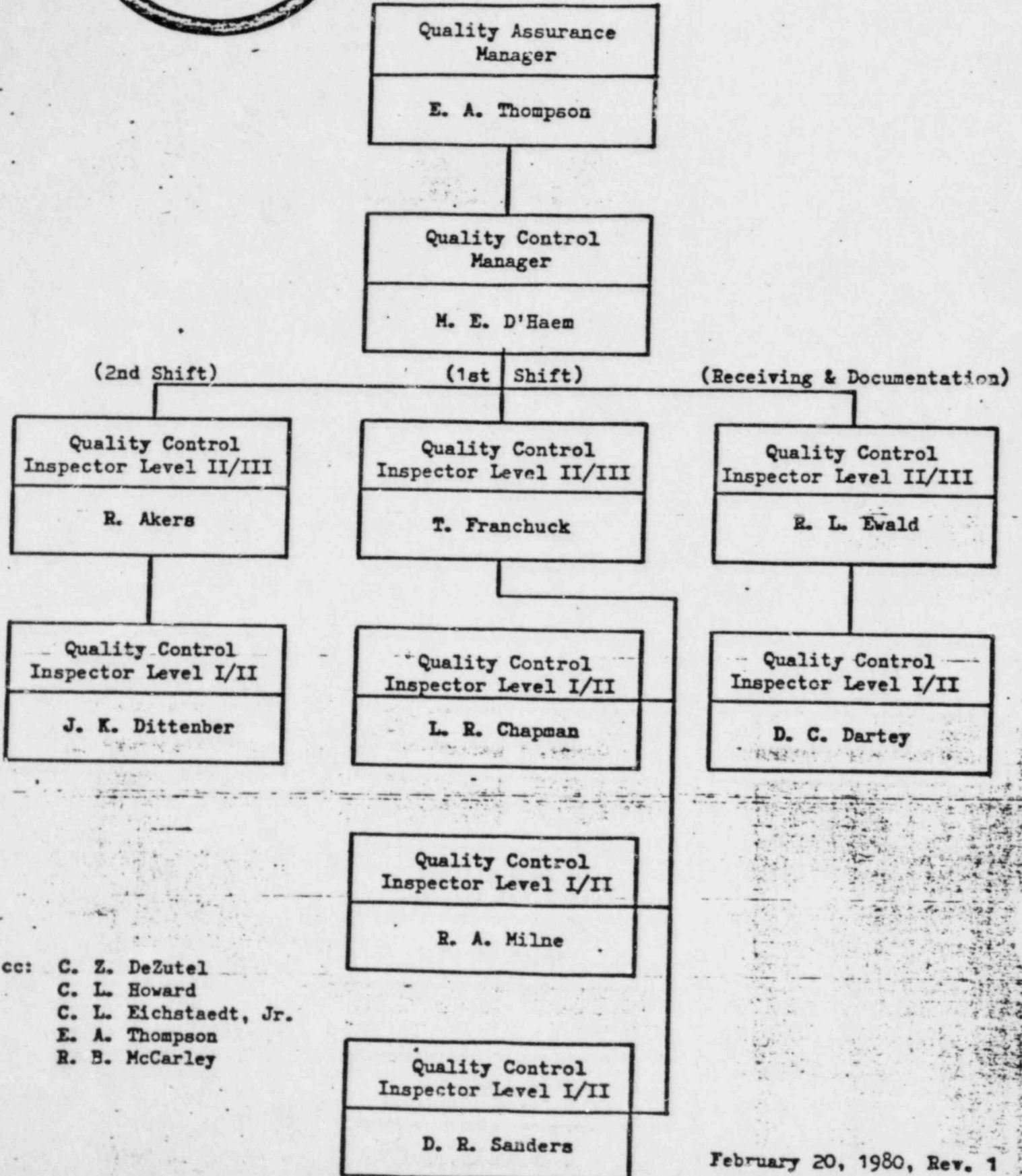
CUSTOM METAL FABRICATION



1-23-80, Rev. 0



CUSTOM METAL FABRICATION

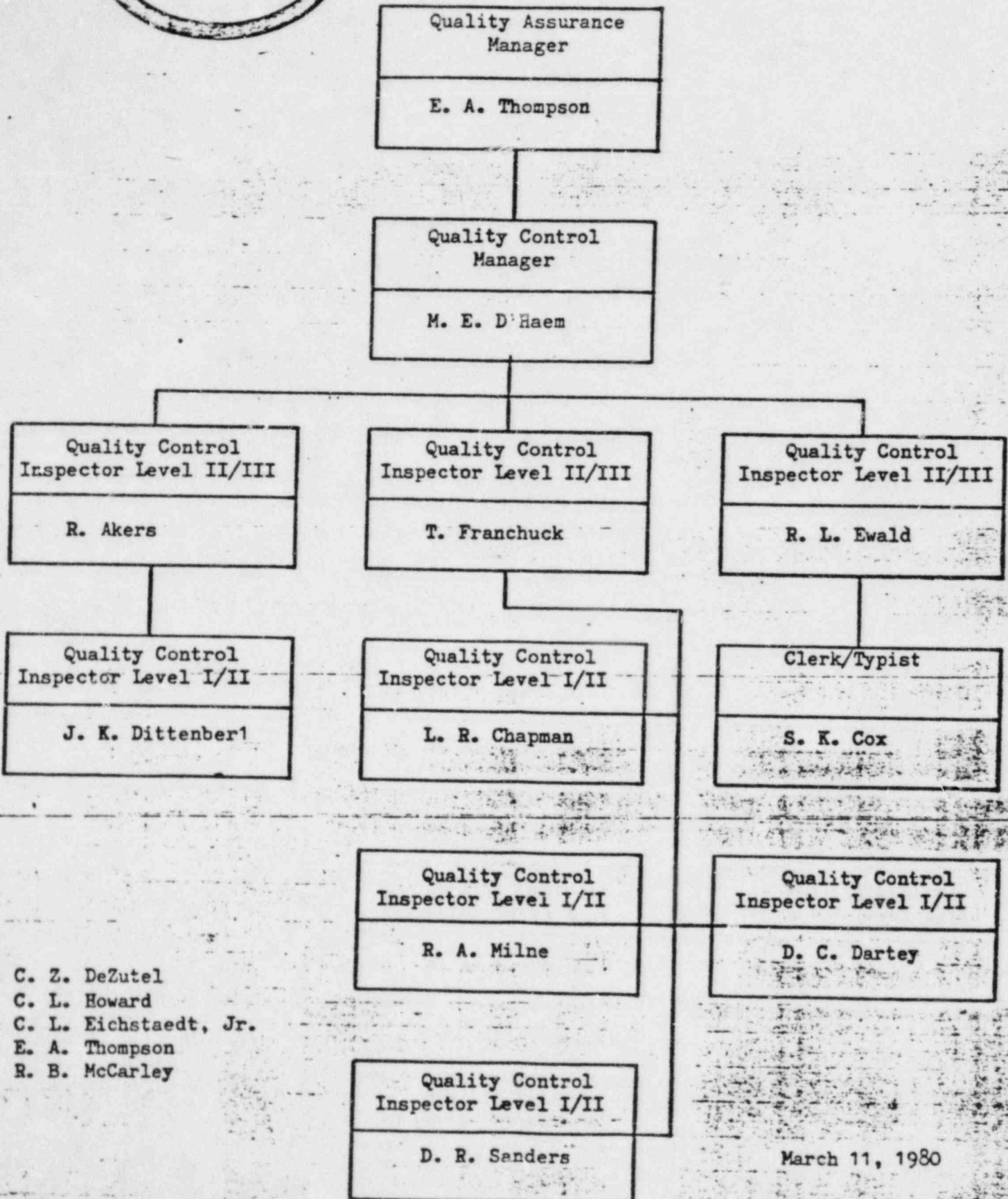


cc: C. Z. DeZutel
 C. L. Howard
 C. L. Eichstaedt, Jr.
 E. A. Thompson
 R. B. McCarley

February 20, 1980, Rev. 1



CUSTOM METAL FABRICATION



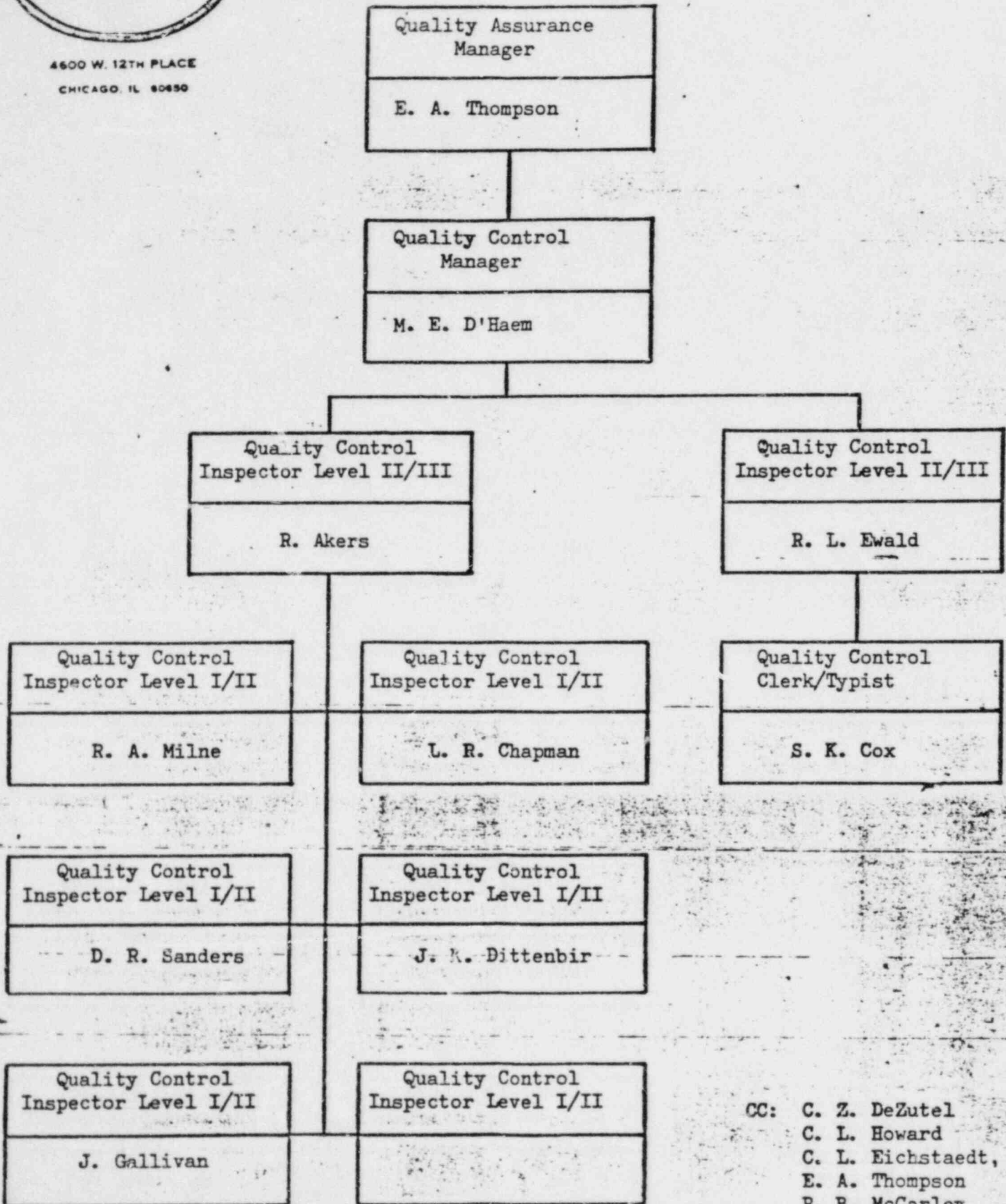
cc: C. Z. DeZutel
C. L. Howard
C. L. Eichstaedt, Jr.
E. A. Thompson
R. B. McCarley

March 11, 1980



4600 W. 12TH PLACE
CHICAGO, IL 60650

April 9, 1980



CC: C. Z. DeZutel
C. L. Howard
C. L. Eichstaedt, Jr.
E. A. Thompson
R. B. McCarley

1041
To DQuamme, Midland Energy Center

FROM *SKC. James Balazer*
JGBalazer, Midland Energy Center

DATE October 25, 1983

SUBJECT MIDLAND ENERGY CENTER - GWO 7020

USNRC EXIT MEETING

FILE: 0485.15

UFI: 99*04

SERIAL: CSC-
6961

RAC
**Consumers
Power
Company**

INTERNAL
CORRESPONDENCE

CC JWCook, P26-336B
RAWells, MPQAD
Meeting Attendees

HPLeonard, MPQAD

JLWood, MPQAD

The USNRC exit meeting was held at 10:00 AM, October 19, 1983, in the NRC Trailer. The attendance list is attached.

Mr R D Schultz opened the meeting by stating there were no problems with RFIs (Request for Information); everything was done in accordance with the requirements.

A trip will be made to Zack-Chicago due to concerns with SDDRs (Supplier Deviation Disposition Reports) and to ask questions not answerable on Site. How were they used in the past? What is used now? Replacement vehicle not in procedure.

One violation (SCRE 56) against Criteria 10 and 16 of 10CFR50 Appendix B was found.

Lack of Qualified Welders:

1. Past qualification of welders unacceptable. Does not prove qualification when they did the work.
2. Acceptance of final visual welds only; unacceptable because it's only one part of a series of controls.

Unacceptable Corrective Action.

Did not address Part 21 and 50.55e aspects.

Minutes written by MPQAD.

JGB/SKC/cn

NRC EXIT MEETING

October 19, 1983, 10:00 AM

Attendance List

Ron Cook	Senior Resident NRC Inspector
John L Wood	CP Co
Sondra Cox	CP Co
Ray Burroughs	Zack - Site Manager
Wayne Kropp	NRC Reactor Inspector
B Burgess	NRC
R D Schultz	NRC Reactor Inspector
Jim J Sullivan	BP Co - Supervisor

10/11
To DBMiller, Midland Energy Center
FROM *JGB Balazer*
JGBalazer, Midland Energy Center
DATE September 6, 1983
SUBJECT MIDLAND ENERGY CENTER GWO 7020
USNRC ENTRANCE MEETING
File: 0485.15 UFI: 99*04 Serial: CSC-6812
CC JWCook, P26-336B HPLeonard, Midland
RAWells, Midland JLWood, Midland
Meeting Attendees

**Consumers
Power
Company**

INTERNAL
CORRESPONDENCE

The NRC entrance meeting was held at 1:00PM, August 31, 1983 in D B Miller's office. The attendance list is attached.

D. H. Danielson opened the meeting by stating that the NRC review of the Midland HVAC effort is fourfold:

- Investigation -- by Wm. Key
- QA Program Review -- by R. A. Westberg and J. W. Kropp
- Material Sample Testing -- by Wm. Key
- Design Review -- by the NRR

The main topic of the meeting was the material sample testing described by Bill Key. See the NRC handout (attached) for details.

Mr. Key explained that sizes and numbers are subject to change. Welds should be included in the samples wherever possible to allow weld integrity tests, perhaps bend tests. Bill Key will personally select the samples and NRC site personnel will ship them to their required destination. CPCo was adamant in starting the sampling effort as soon as possible and Bill Key stated it would begin the afternoon of 8/31/83. All concurred that it would make good sense if Zack utilized their traveler process to cut out the samples.

J G Balazer and J J Sullivan were appointed as the primary interfaces for coordinating the sampling effort.

An implementation meeting was scheduled for 2:30PM in J G Balazer's office.

JGB/lrb

Attachments: NRC Handout
Implementation: Meeting Notes
Attendance List

Attendance List

NRC Entrance Meeting 8/31/83

1:00PM

<u>Name</u>	<u>Organization</u>
W. J. Key	NRC
W. Heiberger	MPQAD
D. B. Miller	CPCo
M. J. Schaeffer	MPQAD
T. Gillman	Zack
R. J. Cook	NRC
R. A. Westberg	NRC
W. J. Kropp	NRC
D. H. Danielson	NRC
J. J. Sullivan	Bechtel S/C
J. G. Balazer	CPCo

Implementation Meeting Notes

A brief sample selection implementation meeting was held in the Zack site manager's office at 2:30PM 8/31/83. The attendance list is attached.

J. G. Balazer recommended that MPQAD and Zack personnel assist the NRC in their selection in the following aspects:

MPQAD - to verify inspection/acceptance status and to assure document accuracy, heat numbers, etc.

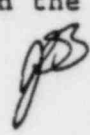
ZACK - Detailer to initiate traveler for removal destating and repair of installation.

- Superintendent to advise and recommend method of removal and to direct craft effort.

D. H. Danielson stated that the NRC is only interested in accepted welds for testing.

The meeting adjourned at 3:00PM and the selection team started work in the Control Room with Bill Key.

JGB/lrb
9/6/83



Attendance List (Implementation Meeting)

<u>Name</u>	<u>Organization</u>
J. G. Balazer	CPCo - HVAC
R. G. Kucharek	MPQAD - HVAC
Bill Heiberger	MPQAD - HVAC
Bill LaRoche	Zack
D. H. Daneilson	NRC Region III
W. J. Key	NRC Region III
R. Janke	NRC Region III
Tom Gillman	Zack
Pete Schmidt	Zack

HVAC Material Sampling Program

Midland Nuclear Power Plant Units 1 & 2

The NRC sampling program to determine that materials conform to specification requirements will include the removal of 60 samples from the installed ductwork, hangers, and from stock materials at the fabrication shop and storage area.

Samples will be removed from the following safety related subsystems:

- Control Room
- Diesel Generator Building
- Service Water Building
- Auxiliary Building/Battery Room
- Fabrication Shop/Storage Area

Sample sizes will be as follows:

- Sheet steel 5" x 5"
- Structural shapes, bars, and tubing. Where possible, the sample size will be large enough for either a round or flat tensile specimen.

Sample testing will be performed by an independent laboratory in accordance with the material specification and funded by the NRC.

Control Room Samples:

- 5 duct samples of sheet steel
- 3 structural-angle samples from hangers
- 2 bolt samples 1/4-1/2"

Diesel Generator Room

- 3 duct samples of sheet steel 20, 22, 18 gauge, *if available,*
- 4 structural
- 3 bolts - 5/16" - 5/8" - 3/4"

Service Water Building

- 2 duct samples, *sheet steel*
- 6 structural steel (square pipe, channel, angle)
- 2 bolts 1/2" - 1" (A307)

Auxiliary Building/Battery Room

- 4 duct samples
- 4 structural steel
- 2 bolts 1/2" - 7/8"

fab Shop

- 4 duct steel
- 2 structural
- 4 bolts - 3/8" - 1/2" - 5/8" - 3/4"

MAY INCLUDE SOME FROM CHASE

HVAC Material Sampling Program

Midland Nuclear Power Plant Units 1 & 2

The NRC sampling program to determine that materials conform to specification requirements will include the removal of 60 samples from the installed ductwork, hangers, and from stock materials at the fabrication shop and storage area.

Samples will be removed from the following safety related subsystems:

- Control Room
- Diesel Generator Building
- Service Water Building
- Auxiliary Building/Battery Room - *check*
- Fabrication Shop/Storage Area

Sample sizes will be as follows:

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- 2 bolts 1/2" - 1" (A307)

Auxiliary Building/Battery Room

- 4 duct samples
- 4 structural steel
- 2 bolts 1/2" - 7/8"

Fab Shop

- 4 duct steel
- 2 structural
- 4 bolts - 3/8" - 1/2" - 5/8" - 3/4"

—h

LIVERMORE

ROUTING AND TRANSMITTAL SLIP

Date

TO: (Name, office symbol, room number, building, Agency/Post)	Initials	Date
1. <i>Chuck Weir</i>		3/25
2.		
3.		
4.		
5.		

Action	File	Note and Return
Approval	For Clearance	Per Conversation
As Requested	For Correction	Prepare Reply
Circulate	For Your Information	See Me
Comment	Investigate	Signature
Coordination	Justify	

REMARKS

- Enclosed is my input to the Midland Investigation.
 - Let me know if you need anything else; rewrites, etc.
- Will be in ^{office} West 3/26 and about 3/31 - thereafter at Clinton site.

DO NOT use this form as a RECORD of approvals, concurrences, disposals, clearances, and similar actions

FROM: (Name, org. symbol, Agency/Post)	Room No.—Bldg.
<i>Hub Swanson</i>	
	Phone No.

5041-102

U.S. GPO: 1978-261-647/3310

OPTIONAL FORM 41 (Rev. 7-76)
 Prescribed by GSA
 FPMR (41 CFR) 101-11.206

1012
-2.
H. H. Livermore
Input to Milland Report
of trip 3/12-14/80.

①
69

1. Zack Corp., Observation of Work Activities

(a) Control of Weld Rod Handling Equipment

The inspector performed a surveillance of the Zack weld rod storage and issue room. Four of twelve weld rod carriers (caddies) were lacking identification control markings and were void of any calibration stickers. Records indicated two of the units were out of calibration. (due 11/79) and two units were not recorded at all.

The aforementioned examples are considered to be noncompliance with Section IX of 10 CFR 50 Appendix B. (329/80-)

place (b)
sheet of (c)

c) Marking of galvanized carbon sheet steel.

During a surveillance of the each fabrication shop, the inspector noted that all sheet steel was marked in a dual manner. Each 4'x12' sheet had duplicate identification, one coil number in yellow Nissen marker and the same coil number and a purchase order number in black felt-tip marking (Eberhard Faber Marquette). A review of Technical Specification 7220-14-151A (9) Rev 6, Sect 5.18 indicates that the black

felt Eberhard-Faber
marking is not one
of the approved marking
materials compatible
with sheet carbon steel.

This example is considered
to be in noncompliance
with Criterion XIII of
10 CFR 50 Appendix B.
(329/80 - - -)

(L-) Welding Electrode Control.

The inspector performed a
surveillance of electrode
processing at change of
shift. Weld rod ~~was~~
was returned to the
attendant in ^{heated} rod caddie
by welders of the day
shift. Approximately 12 (7018)

electrodes in one rod caddy were cold to the touch. When questioned, the attendant did not know (until coached by his supervisor) that processing of this rod was to be entirely different than the heated electrodes. ^{This rod should be thrown away.} Although not visually verified, it was clearly apparent from questioning that the attendant was not familiar with the applications of the AWS D1.1, ^{Part C, Sect 4.9} requirement that low hydrogen electrodes (7018) must be baked at elevated

temperatures when allowed to go without heat for greater than four hours.

Since he had no way of knowing how long the subject rod had been cold, his only action was to bend and throw the rod away. It was evident from questioning, that this had not been the case in the past. Each Procedure 4.3-QCP-6 "Welding Electrode Control", should be revised to include the aforementioned processing actions, as well as the AWS D1.1 requirements of baking electrodes and not

reheating.

The above example is considered to be in non-compliance with Criterion IX 10 CFR 50, Appendix B; Technical Specification 7220-M-157A(9); and AWS D1.1 Welding Code Summer 76, Part B, Section 4.9.

(329/80 - - -)

(d) Material certifications of galvanized carbon sheet steel.

The inspector performed a review of sheet steel markings and records

To insure traceability
to manufacturing source
information of heat
number, spec's, tests
and chemical content.

The inspector traced four
sheet steel coil numbers
furnished by an alleged
~~plus~~ one coil number
on six 4x12 sheets located
in the rack fabrication
shop. The inspector was
able to trace the coils
to the purchase orders to
the material certifications
and test lab reports.
All required information was
available with the exception

of one purchase order.
Since the related certification
was available the missing
purchase order was considered
inconsequential.
The inspector has no further
concerns in this area.

10/12

(1)

Zack

Reg. on TII May 5/1/80

What were CCo findings from audit of mm.
Each Chicago - 1) findings, audit report due 5/1/80

// Screw-ups were occurring while Inspectors
were investigating, i.e. use of turning
plates (non-Q) while E Lee watched - and
Other

Cold opens lack of certs on open rod
misped rod issue

// Really hadn't identified real weakness - bunch
of bad production at worker + foreman level
white vs yellow tags

// Root Cause: not good ratio of QC people to
production people - that is unincriminated
intelligent, qualified QC people.

// What are statistics and trends from Bechtel
~~Subcontract~~ Subcontract QC over inspections.
On overviews what is the "real" trend which might
demonstrate Zack competence: Is there a need for
independent QC organization, (in Am) - either hired by
K/R/C, CCo, Bechtel, --- etc.

(e) Welding Specification.

Technical Specification 7220-M-151A (Q) requires that each welding of carbon steel be performed per requirements of AWS D1.1.

For materials of $\frac{1}{8}$ " and thinner, AWS D1.3 should be used in conjunction with AWS D1.1, and so noted in the Technical Specification.

Each procedures should also be revised to include AWS D1.3 requirements.

This action is considered to be an Unresolved Item (329/80 -)

Zack

How do you know where uncontrolled 2018 used and/or material of questionable pedigree located.

// Need "stronger" control by CFC over subcontractors working for Bechtel

CBA - Zack

Drawn - Byron Jackson

Bechtel subcontractor appears to continually screw the site - CFC QA needs a stronger direct line enforcement to Bechtel Subcontractor involvement

// No organized method to insure that there is indeed "100%" over-inspection - didn't start with print to identify all @ hangers - etc. and then keep score.

MIDLAND MEETING - MAY 2, 1980

- I. Introduction - *Keppeler*

- II. Reactor Vessel Holddown Anchor Bolts
 - Chronology of Inspections - *Foster*
 - IE Findings - *Foster*
 - Perception of Technical Problems - *Evans*
 - Discussion by Licensee - *CP*
 - IE Program - *Fiorillo*

- III. Zack Corporation
 - Chronology of Inspections - *Horvath*
 - IE Findings - *Weil*
 - Licensee Presentation of Their Findings -
 - QA/QC RIII Concerns - *Keppeler - CP*
 - Enforcement - *Keppeler*

- IV. CP Reorganization - *CP*

CP to discuss the new organization and their new interface policies with Bechtel.

- V. Summary - *Keppeler*

H.C. retain all papers

What if you don't
see it? So some p.

M. Z. S'Haem
R. McCarley

0950 Fri 4/25/35

Telegrams: Knowledge that "other" telegram exists &
NRC has shown around - He could see
OCT-3, 96.4 6.5

3) Marge "approved" doesn't really mean approval
of recommendation

Other changes - Going to serialize no. on NCR's
No schedule for incorporate change

traveler: When traveler doesn't agree with what has
been done - what happens to original
traveler

- 1) Can revise old traveler
- 2) Can initiate supersede traveler
with notation referring to original traveler
- 3) Generate traveler recall list

What about re-inspect Q-work

Don't do for only change traveler

What about returned, unled traveler

What about "live copy" have exhibit
traveler,
passed document control

What does the time and date stamp
indicate? 752-1 or 753-1

Have file folders for each hangar and duct.

I Material Traceability

1" x 1" x 1/2" angle - 752-1

Did you ever tell anyone to change to 753-1
D'Hacm: you told to change it.

752-1 relates to round angle 1" x 1" x 1/2"

"Hold" closed out by describing what have been
done.

// Don't recall change 831-2 in 6500 on 3x5# channel

2	1
4	3
5	
8	6/7
9	
10	11
12	11 13/14
15	
16	17/18

15 Procedures
with 46 examples

Done Sedgewick 9/9/80 @

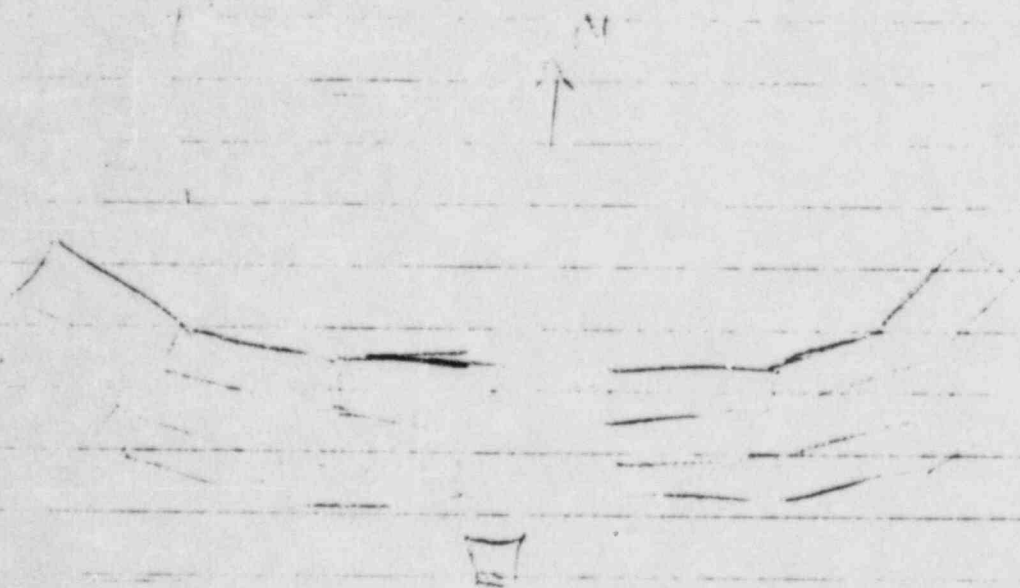
37G

Feb Shop Worker

Sprint - no NCR

Time to see 1/10/80

1/2 plane to inspect control room / battery room.



Fire dampers

635 - Welds painted before
QC inspection

Call

Weil

Receipt inspection Report.

5.3/5.4 MB QCP-6 Riv-3

Travelin F 11570

1000 lb 3/32 E 70/B

PO 14212

12/15/79

hook Riv's for 3/79-3/80

// Thru PM

2/5/79

1/30/80

NCR-297 rack

Weld rod control

// 815-672-4991 - Walker Am Phone.

/// Sadjwick Seginaw News
Sedgwick, Done 1⁰⁰

ITEM NO.	ITEM	ACTION TAKEN, OR TO BE TAKEN
1.	<p>ALLEGATION: No procedure is in existence under which repair work is performed. <i>documented 2/21</i></p> <p>NRC item of NONCOMPLIANCE: A portion of the repair procedure is deficient.</p>	<p>CP CO. to consult with NRC and obtain specifics concerning this item of noncompliance.</p> <div data-bbox="776 284 1521 592" style="border: 1px solid black; padding: 10px; text-align: center;"> <p>NO ONLY INFORMATION</p> </div>
2.	<p>Weld filler metal material certification's not on file within the ZACK CO. site QC organization.</p> <p><i>Hayes 3/18 or 19</i></p>	<p>Subject Material Certification's for weld filler metal currently on the site, are on file within the ZACK CO. site QC organization, or the material is on HOLD.</p> <p>THE ZACK CO. to initiate a letter of committment. This letter to state, "Material certifications will accompany <u>all</u> future shipment of weld filler metal to the jobsite. This condition is a prerequisite for accepting for use, such shipments, at the time they are receipt inspected."</p>
3.	<p>E7018 and E6011 weld electrode found together in an unplugged, uncalibrated, and unserialized portable weld electrode warming caddy, located in the fab shop.</p> <p><i>Hayes</i></p>	<p>Subject weld electrode was scrapped. The portable weld electrode warming caddy was serialized,(2026), and calibrated,(273.7°F), on 3-13-80.</p> <p>The fab shop foreman stated that the subject weld electrode was only used to fabricate the expanded metal lockers in which weld filler metal is stored.</p> <p>THE ZACK CO. to provide training to foreman and general foreman on the site procedure for the control of weld filler metal.</p>

ITEM	ACTION TAKEN, OR TO BE TAKEN
<p>4. Material Certification not available on site for spool of E-70S-3 weld filler metal located in the fab shop.</p>	<p>Refer to item 2 above.</p>
<p>INFORMATION ONLY</p>	
<p>5. 4 of 12 portable weld electrode caddies, reviewed in the weld filler metal issue room, were found to be overdue for calibration.</p>	<p>All portable weld electrode caddie and the weld electrode holding oven were recalibrated on 3-13-80.</p> <p>The ZACK CO. to provide training to foreman, general foreman and QC inspectors on the calibration requirements for both portable weld electrode caddies and weld electrode holding oven.</p>
<p>6. The calibration sticker on BECHTEL potentiometer #BPC520, which was being used to calibrate a portable weld electrode caddy in the weld filler metal issue room, indicated it was overdue for calibration.</p>	<p>BECHTEL calibration records indicated that the subject instrument had been calibrated on time as required. Apparently a new calibration sticker was either not applied or fell off during transit from Bechtel issuing room and the ZACK CO. facilities.</p> <p>The ZACK CO. to provide training to QC Inspectors on calibration sticker requirements to be verified prior to instrument use.</p>

ITEM	ACTION TAKEN, OR TO BE TAKEN
<p>7. E-7018 weld electrode in cardboard boxes found stored in the fab shop. Date of receipt on site and results of receipt inspection unknown. No material certification available on site.</p> <p><i>allegation</i></p> <p style="text-align: center; font-size: 2em; font-weight: bold;">INFORMATION ONLY</p>	<p>Subject weld electrode returned to Chicago 3-13-80.</p> <p>Based on questions addressed to the Project Manager, Site Superintendent and the day shift Lead QC Inspector, none of the subject E-7018 weld electrode was moved from the fab shop to the weld filler metal issue room and issued for use.</p> <p>The ZACK CO. to provide training to each site QC Inspector on action required should E-7018 weld electrode arrive on site in cardboard boxes.</p>
<p>8. 1/8" E-7018 weld electrode located in the holding oven in the weld filler metal issue room was identified by a shelf tag as having a control number of 37G. A review of weld filler metal material certifications indicated that control number 37G was assigned to 3/32" E-7018 weld electrode.</p>	<p>Subject weld electrode was scrapped.</p> <p>The actual control number, based on supply of unopened 1/8" E-7018 weld electrode located in the weld filler metal issue room is C12305.</p> <p>The ZACK CO. to provide training to foreman, general foreman, and project superintendent as to the importance of maintaining material tracability.</p>
<p>9. Black Magic Marker's in use in the fab shop on Q-Material.</p> <p>BECHTEL Technical Specification 7220-M-151A(Q) only authorizes the use of Yellow Nission Marker's.</p>	<p>THE ZACK CO. to issue SDDR requesting authorization to use black marker's such as "Carter's Marks-A-Lot," on duct and hangers. Such markings are to be for temp. use only.</p>

NO.	ITEM	ACTION TAKEN, OR TO BE TAKEN
10.	Pre-heat not employed prior to making attachment welds to $\geq 3/4$ " structural steel with E-6011 weld electrode. <i>allegation 3/21</i>	Subject problem previously identified and currently controlled by CP Co. NCR's number M-01-4-9-083,086, and 087. No additional action required. <div style="border: 1px dashed black; padding: 10px; text-align: center; margin: 10px auto; width: fit-content;"> INFORMATION ONLY </div>
11.	Receipt inspection of material other than duct and hangers. <i>hireman/lee</i> <i>luning cover</i>	CPCo. to consult with NRC for specific problem's in this area.
12.	ALLEGATION: RUSKIN fire dampers installation not inspected and documented. Ruskin fire dampers have been repaired. <i>3/21 & 3/20</i>	CPCo. has issued NCR# M-01-4-0-027, which identifies the lack of fire damper installation inspection. THE ZACK CO. will identify which fire dampers have been installed and conduct the required installation inspection and documentation. No repairs, relative to Ruskins part 21 report to the NRC, have been made.

NO:	ITEM	ACTION TAKEN, OR TO BE TAKEN
13.	<p>Welder ID had not been entered on Travelers number F9437, P1515, F10171, F10172, P1516, and F10397.</p> <p><i>7/21</i></p> <p><i>allegation</i></p> <p>INFORMATION ONLY</p>	<p>Subject items will be scrapped and/or based on acceptable visual inspection of welds by Zack QC a SDDR will be issued to use-as-is.</p> <p>Conduct training with craft supervision and QC Inspectors. Advise each of specific problem details and method to prevent reoccurrence.</p> <p>Revise QCP-7, Rev. 2 to reflect actual requirements per Bechtel Technical Specifications 7220-M-151A(Q)-151C concerning welder ID of welds performed.</p> <p>SEE NOTE 1, Page 7</p>
14.	<p>Material Control/Tracability: Steel shapes associated with hanger 9 of DWG. V19 are not marked with a material control number. Steel shapes associated with hangers 11 and 13 of DWG. V19 are not marked with a material control number or are marked 887 while the respective traveler lists applicable control numbers as 711,697,622-3.</p> <p><i>maybe allegation</i></p>	<p>The Zack Co. to verify listed material control numbers on respective travelers are for material certifications tracable by steel shape and size to steel actually used. The material certifications associated with control number 887 will be checked to determine if steel shape and size relates to that steel so marked. If so related, the associated travelers will be revised to include material control number 887.</p> <p>Conduct training with craft supervision and QC Inspectors. Advise each of specific problem details and method to prevent reoccurrence.</p> <p>SEE NOTE 1, Page 7</p>
15.	<p>Welds on items detailed in travelers P1515, F10171, F10172, F10397, and F12685 appear to have been made by the GMAW process; however the traveler states QCP-22, a SMAW process, was used.</p> <p><i>Started as allegation</i></p>	<p>Subject items will be scrapped and/or the welds visually inspected for acceptability by ZACK QC. The associated travelers will be revised to reflect actual weld process used. A SDDR will be issued to use-as-is, those pieces whose welds are found acceptable by Zack QC.</p> <p>Conduct training with craft supervision and QC Inspectors. Advise each of specific problem details and method to prevent reoccurrence.</p> <p>SEE NOTE 1, Page 7</p>

ITEM	ACTION TAKEN, OR TO BE TAKEN
<p>16. Non-Q Material was used in the on-site fabrication of Q duct fitting, i.e. Non-Q turning vanes were installed in duct V3-SH2-2D-F12685 and V3-SH2-2-F9437.</p> <p><i>Started as allegation</i></p> <p style="text-align: center; font-size: 2em; opacity: 0.5;">INFORMATION ONLY</p>	<p>All Q duct section's fabricated on site, which required turning vanes, have been identified. Each was inspected to verify type turning vane used. Those with non-Q turning vanes were tagged as non-conforming, reference Zaok-NCR# C4.</p> <p>Each non-conforming duct section to be scrapped.</p> <p>Conduct training with craft supervision, and QC Inspectors. Advise each of specific problem details and method to prevent reoccurrence.</p> <p>SEE NOTE 1, Page 7</p>
<p>17. Duct V3-SH2-2-F9437 was fabricated on site without a traveler.</p> <p><i>Started as allegation - 3/21</i></p>	<p>Subject duct, piece to be scrapped.</p> <p>Conduct training with craft supervision and QC Inspectors. Advise each of specific problem details and method to prevent reoccurrence.</p> <p>SEE NOTE 1, Page 7</p>
<p>18. Duct V26-SH2B-47.1-P1515 contains welds which have excessive undercut (i.e. sheet to companion angle flange); however duct piece was inspected and accepted by QC.</p> <p><i>allegation</i></p>	<p>Subject duct piece has been tagged as non-conforming; reference ZACK NCR# A97.</p> <p>The QC Inspector who originally inspected and accepted the subject duct piece weld has been advised of this problem. He acknowledged his error and agreed NCR tagging was appropriate.</p> <p>Conduct training with craft supervision and QC Inspectors. Advise each of specific problem details and methods to prevent reoccurrence.</p> <p>SEE NOTE 1, Page 7</p>

ITEM NO.	ITEM	ACTION TAKEN, OR TO BE TAKEN
19.	<p>The sketch of hanger 7 of dwg. V19-SH1 on traveler F938, does not agree with actual hanger installed. Traveler and "V" dwg. reference incorrect hanger detail dwg. C-898. The correct detail dwg. is M-519.</p> <p>The actual hanger installed is in accordance with Bechtel drawing M-519.</p> <p>V19-SH1-7 hanger brace is marked V1-SH3-F1916.</p> <p><i>Run over from allegation</i></p>	<p>Issue new traveler which reflects correct hanger detail drawing. ZACK QC inspect hanger per new traveler. Issue NCR if welder and/or material tracability can not be determined. Based on QC's acceptance of hanger configuration, steel, size, and acceptable visual examination of welds, issue SDDR to use-as-is.</p> <p>Conduct training with craft supervision and QC Inspectors. Advise each of specific problem details and methods to prevent reoccurrence.</p> <p>SEE NOTE 1, Page 7</p>
20.	<p>2" x 2" x 1/4" < steel used as brace in hanger V1-SH3-F1916. Traveler F1916 call's for a brace using 3" x 3" x 1/4" angle.</p> <p>Although brace used does not agree with the traveler, the general notes on drawing C-850 allow the use of smaller size steel based on brace length. The length of brace used falls within the given tolerance.</p> <p><i>Found in course</i></p>	<p>Revise traveler F1916 to reflect actual size of steel used. Issue NCR if material tracability for brace steel can not be determined. Issue SDDR to use-as-is.</p> <p>Conduct training with craft supervision and QC Inspectors. Advise each of specific problem details and methods to prevent reoccurrence.</p> <p>SEE NOTE 1, Page 7</p>
		<p>NOTES:</p> <ol style="list-style-type: none"> 1. Develop, write, have approved, and implement a comprehensive procedure for the handling of travelers on site. This action is part of the corrective action to close items 13 through 20, above.

ITEM No.	ITEM	ACTION TAKEN, OR TO BE TAKEN
21.	<p><u>Weld Procedure QCP-1 (P-5-CS):</u> Thickness of material welded out of procedure thickness limits. Materials welded not qualified for use under QCP-1 (P-5-CS)</p> <p><u>Weld Procedure QCP-1 (P-9-CS):</u> Materials welded not qualified for use under QCP-1 (P-9-CS)</p>	<p>Revise, qualify and issue for Bechtel approval QCP-1 (P-5-CS) and (P-9-CS) to extend thickness range and material applicability as necessary.</p>
22.	<p><u>Air Monitors:</u> Manufacturer did not submit weld procedures for review and approval prior to fabrication.</p>	<p>Subject air monitors on HOLD or controlled by NCR tag. Such control, to continue until Bechtel reviews and approves Air Monitors weld procedures.</p>
23.	<p><u>V26-sh 2- 46.1-F1515:</u> Item fabricated using A575 steel. No procedure on site provides for the welding of A575 steel to itself or A 526, A 527 or A 36 steels.</p>	<p>Revise, qualify and issue for Bechtel approval required site procedures to include subject welding.</p>

**INFORMATION
ONLY**

J.	ITEM	ACTION TAKEN, OR TO BE TAKEN
24.	<p>Certified Material Test Reports #C743 and C643: These certs for A 527 sheet steel. They do not specify year, chemical treatment, type coating, designation of coating as called for by ASTM A 527.</p>	<p>Obtain corrected copies of CMTR's</p>
25.	<p>Hangers V26-Sh 1B-12-F10802 and V26-Sh 1B-11-F10807: Steel used for these hangers is incorrectly marked or materials of both hangers mixed. Material control numbers not placed on traveler. Welder ID not on traveler.</p>	<p>Investigate, noted conditions. Revise travelers to reflect what material was used where. Enter welder ID on respective traveler.</p>
26.	<p>Hanger angles located in laydown area without markings.</p>	<p>Subject materials were traced to traveler F10470, properly marked, and banded together.</p> <p>Weekly surveys of the laydown area are conducted. Noted problems are reported in writing and corrected.</p>

SEE NOTE 1, Page 7

INFORMATION ONLY

2A1
PUBLIC MEETING
HOLIDAY INN
MIDLAND, MI
September 29, 1982

R. F. Warnick - Opening statement and introduction - Object of meeting
CAL, CPCo assuming QC, have CPCo elaborate on letters.

Background on CAL given - Inspection by Landsman and
Gardner and problems with qualification of inspectors.
CPCo agreed to stop work on soils.

Jim Cook - Introduction of staff

Barbey (Bechtel)
Daniels (Bechtel)
Smith (CPCo)
Mooney (CPCo)
Dietrich (CPCo)
Bird (CPCo)
Meizenheimer (CPCo)
Budzick (CPCo)

Brunner (CPCo)
Richardson (Bechtel)
Hansen (Bechtel)
Saari (CPCo)
McGinnis (CPCo)
Two members of Stone and Webster

- Interested in determining what should be answered today
and what should wait.

Comments on CAL

Meizenheimer - Review of events - certification process - oral and perfor-
mance exams. 9/21 - oral exams started - 7 exams given.
Call from Gardner - please delay until Thursday. 9/23 -
exams started again - Wanted to get NRC comments before
going too far. Gardner gave his concerns - (1) oral exam,
(2) two individuals failed and how would CPCo handle?,
(3) one individual was in QC position.

On Tuesday and Friday, of exams given - no failure in level
one - one failure in level two.

During Friday meeting - NRC stated oral exams not adequate -
written exams needed.

Exam failures - one individual works in testing lab. Not
made aware that exam was closed book. Notified 1 1/2 hrs.
before testing. Had not adequately prepared. Exam held
in lab office and had interruptions. Has been decertified.
Don Van Dorn

- Novack - What training had been required
- Meizenheimer -
- R. J. Cook - Told to prepare themselves on certain subjects - No formal training
- Warnick - 1½ hrs. advance notice?
- Meizenheimer - First notified on Monday.
- Warnick - Monday to Thursday to prepare?
- Novack - Programmatic?
- Meizenheimer -
- Warnick - What kind of questions?
- Meizenheimer - Def. of Non Con
Proc. Non Con
Which sections in book to use
Functions in lab. Knows how to do it using manuals, but not committed to memory. Been there 2½ years.
- R. J. Cook - Specialist in concrete testing?
- Meizenheimer - Yes
- Warnick - Doesn't need to know? Gave him test on something not familiar with?
- Meizenheimer - When individual performs - can use manual. Exam requires committment to memory.
- R. J. Cook - Why were you qualifying this type person?
- Margulio - Failure not based on normal work. Failure based on inability to commit to memory.
- Shafer - After 2½ years - should have some knowledge.
- Margulio - That's a question we're trying to consider.
- Gardner - IPIN -
- Meizenheimer - Pass programmatic first. Required for pier 12 support activities - that's why he was being re-qualified.
- R. J. Cook - Qualified on -----4 PQCI's
- Meizenheimer - Van Dorn not adequately prepared. All questions will be tailored to written exams. Will provide guidance to staff on nature. More questions to evaluate technical skills and knowledge. Will be held where there will be minimal external ---

- Shafer - Document Control problem.
- Meizenheimer - Not correct and had not been updated. In process of going through them all.
How ended up with 2 PQCI's with same number - no answer yet. Total re-evaluation being done.
- Shafer - Regarding four items in CAL
Remaining soils has stopped? (Answer - "Yes")
Decertified eight people? (Answer - "All people")
Develop retraining? (Answer - "Yes")
Written exams in remaining soils? (Answer - "Yes")
- Landsman -
- Meizenheimer - Level II failed test - not certified to ---
Other individual decertified - Programmatic part
- Meizenheimer - Any level of testing requires passing of programmatic.
- Novack - Recertifying because NRC said to - or what? Why the mix-up about open versus closed book exams.
- J. Cook - Those who spent enough time preparing passed exams.
- Novack - Trying to understand management set-up.
- Margulio. - Trying to be responsive about NRC concerns. To utilize CPCo process for recertification. Understood by all except one that it was to be closed book.
- Novack - How transmitted?
- Bird - Orally
- Meizenheimer - By individual from QA.
- Novack - How many people? (Answer "7")
Were all Bechtel employees who were given recertification? Knew previously of difference in type of testing? How did you make sure individuals would be ready?
- Meizenheimer - Orally - within the group - by other group members who had already had closed book exams. Level III examiners had been checking out backgrounds prior to taking exams.

- Novack - Did anyone ask for more time?
- J. Cook - Felt people were competent and were given necessary information. Further calibration needed to make sure individuals were prepared. Adjustments needed.
- Warnick - Was plan laid out before proceeding?
- Bird - Individuals assigned to prepare and review questions. Existing CCo documented procedure used. Specific responsibilities assigned. Without a physical trial - things discovered that would have required change.
- J. Cook - Did not utilize enough preparation. Should have had a pilot round.
- Warnick - Trying to figure out - Management problem or problem with qualification of inspectors.
- J. Cook - Couldn't really tell you - Process didn't really fail.
- Shafer - Nothing new to people who were being tested. Right? Except -
- Bird - More of a pressure situation.
- J. Cook - The guy just choked.
- R. J. Cook - Feel tests not rigorous enough.
- Gardner - Concern is mainly for marginal people. More emphasis on technical questions.
- Curland - Certification Process
- R. J. Cook - How do people there fall into this?
- Curland - Not looked at differently - start from scratch.
- ? - On the job training?
- Smith? - Everyone goes through same program. Someone with more experience would go through faster.
- Curland - (continues) Training of Candidates
- Shafer - Demonstration tests?
- J. Cook - Yes - in the field demonstration is best way to determine individual knowledge.
- Curland - Knowledge, skill, effort - three things that need to be demonstrated.

- J. Cook - Must know more than bare necessities.
- Curland - (continuing) Testing of Candidates
- Shafer - How document? Keep test taken?
- Curland - Retain papers - available for review.
- ? - Security of written tests necessary.
- Shafer - How will CPCo secure.
- Curland - Don't know yet. Will have to work it out.
- Gardner - Separate programmatic portions?
- Curland - Yes
- Bird - Short PQCI - only limited number of questions you could have.
- Curland - (continues) Testing of Candidates
- Warnick - How often does QC inspector have work reviewed?
- Curland - Looking at a more systematic way.
- Smith - Level II review Level I's work. When problem is found - retraining is done.
- Warnick - How often?
- Smith - Depends on volume - maybe once a month.
- Warnick - Degree of confidence
- R. J. Cook - Are records good enough to answer how much work versus how often faulty?
- Smith - No
- Warnick - Concerned with passing a guy on his performance when we don't know what his performance was.
- Smith - Performance Demonstration Certification not daily performance. Some confusion.
- Curland - (continues) Retesting
- Retraining period depends on nature of failure.
- Shafer - Will alternate exam be total exam or specific?

- J. Cook/Curland - Entire programmatic part
- Shafer - How long expect to take?
- Margulio - Five steps identified for recertification:
- Establish procedure
 - Establish pool of programmatic questions
 - Establish pool of technical questions
 - Administer test
 - Administer field portion
- Looking at over 1,000 individual tests. Can shoot for 20 week period to accomplish.
- J. Cook - Will test on most commonly used first. Will look at qualified staff people available to help. Don't want to make commitment we can't achieve.
- Margulio - About 40 PQCI's in civil, 40 in welding. Smaller numbers in other areas can be dealt with quickly.
- Pier 12 - 12 PQCI's. Prerequisites - about 3 weeks to process.
- Novack - Where does it fit into CAL?
- J. Cook - Trying to generalize process. Last item addresses item 3 in CAL.
- Shafer - What doing to alleviate concerns about QC inspections going on now? (in soils)
- Dietrich - Since middle of '80 - good QC program - audits by CPCo and Bechtel all positive. Satisfied with individual performances also.
- Novack - Let me understand. Concern is with recertification - How do we know -----
- Where would experienced person fit in.
- Curland - Testing
- J. Cook - Need orientation
- J. Cook - Second item to discuss - Intent to absorb into MPQAD the QC organization.
- (Handout)
- Margulio - Explain handout

- J. Cook - Larger goal - to improve performance.
- ? - Second and third items - until we get new procedures in place.
- ? - QCEs - QC inspectors
- ? - Item 7 - management level meeting on weekly basis.
- Gardner - What if QC discovers something wrong before formal inspection? Will write nonconformance or just be orally informed to change?
- Margulio - Orally
- Warnick - Don't build into system mechanism to subvert system.
- Margulio - Will have formal inspections as close to actual end of construction step as possible.
- J. Cook - Just so we don't lose ability to walk around and comment.
- Novack - Thought purpose of surveillance was to monitor to see if timing of inspections was appropriate.
- J. Cook - Will find some way QC will not lose ability to report problems.
- Gardner - Separation of QC and construction
- Rutgers - Continue to emphasize field engineering in this regard. Can use IPIN process in this way.
- J. Cook - Bechtel still has to be ultimate person responsible for N stamp work.
- Margulio - Charts
- Novack - What level on chart is on site all the time?
- J. Cook - Margulio will no longer have responsibilities in Jackson.
- Rutgers - Project Manager on site 120% of time.
- Margulio - Leo Davis and Don Miller on site all time.
- ? - Intent is to utilize "sound" Bechtel procedures
- John *Wray* - Concern over conflicting responsibilities
- Rutgers - People dedicated to ASME work.
- John *Wray* - Can't see where performance would improve on ASME code work.
- J. Cook - Will use best people available. CPCo or Bechtel.

- John Gilray - What weakness in prior organization leads you this direction.
- J. Cook - Tighter MPQAD controls.
- Rutgers - Trying to remove potential for undue influence. Perception there that QC inspectors are being influenced in performance of task.
- Margulio - ASME requirements not as stringent as NRC.
- J. Cook - All line functions except ASME work report to Margulio.
- John Gilray - Basic allegiance is to who signs paycheck. (Dietrich reports to two people)
- Miller - Has been in that role for some time.
- Code Rep. - Acceptable to ASME. Utility cannot control ASME.
- Warnick - Would prefer ASME to report directly to Bechtel and others to CPCo?
- John Gilray - Would like to know why it isn't working now.
- Code Rep. - Pipe support problems not peculiar to this site.
- Shafer - Of this magnitude?
- Code Rep. - No - not identical.
- J. Cook - INPO, Mgmt. Analysis Co., Tera Corp. Proposal will be submitted next week
- Warnick - Will hold off on it until then.
- Shafer - How long on site? (INPO)
- J. Cook - Three to four weeks - team of about 15.
- Novack - What plant is at same level of construction?
- Cook - None are as far along
- Warnick - Recertification program - would like to review these questions when you're ready - re Decision to go with performance of people who have been in job. Would like you to reconsider and give them performance tests. Much more important than a guy's background.

Re Qualification of inspectors in balance of plant - identify areas where work is going on and give priority of testing people. At what time can you tell us what your schedule would be?

- Warnick - Organization Chart presented - recognizing that NRC suggested that CPCo take over QC - it will only work if you have good strong people to take over. No further comments at this time, but will get back to you on it.
- J. Cook - Items discussed today have total undivided attention of Consumers and Bechtel.
- J. Cook - When can comment on organizational questions?
- Warnick - Early next week.
- Diane - Why is RIII having so many problems with plants (Zimmer, LaSalle, Midland)? Are you not enforcing? Who is responsible? Shouldn't QC already have been in place?
- Warnick - No simple answer. Not a problem that has never been addressed. Many problems addressed and solved, but other problems arise. We do enforce. Complex problem, complex solution.
- Novack - When an applicant applies for license - must have QA and QC program in place, but process must continually be addressed for weaknesses.
- Diane - Was Zimmer a breakdown in NRC control or utility control?
- Warnick - Both - that's why we're looking at some of these things.
- Diane - Larger question here? Management problem?
- Stamiris - Is another program revision what is needed? Why are CPCo directives not implemented on the lowest levels if cost is not more important than safety? Knowledge, skill, application. Shouldn't QC inspectors have a working understanding of procedures?
- J. Cook - You misunderstood. Agree should have technical understanding of what he is doing.
- Stamiris - In view of continuing QC problems - has consideration been given to a stop work across the board?
- Warnick - We considered that, but decided against it.

9/29/83

introduction, objects of meeting
Opening statement by Warnick - CAL, CPO assuming OC,
3 have CPO elaborate on letters.

Background on CAL given - chaps by Larden + others
+ problems with qual. of insp. - CPO agreed to stop work
on CAL.

Jim Cook - introduction of staff

Farley (B) Daniels (B) Smith (CP) Mooney (CP) Dietrich (CP) Lind (CP)
— Dudzick (CP), — Drummer (CP), Richardson (CP)

Hansen (B), Saari (CP), McDevine (CP), two members of Stone + Webster
interested in determining what should be answered today
+ what should wait.

Comments on CAL

Meijerhimer - Review of events - Cert. proc. - oral + performance exam

9/21 - Oral exams started - 7 exams given

Call from Gardner - please delay until

Thurs.

9/23 - Exams started again -

Wanted to get NRC comments before
going too far. Gardner gave his
concerns - ① oral exam ② two
individuals failed + how would
CPO handle ③ 1 indiv. was in
OC position

On Tues + Fri of exams given - no
failure in level 1 - 1 failure
in level 2

During Fri meeting - NRC stated oral exams not adequate - written exams needed

Exam failures - 1st ^{individual} works in testing lab. Not made aware that exam was closed book. Notified 1 1/2 hrs. before testing. Had not adequately prepared. Exam held in lab office & had interruptions ^{has been} deidentified.
Don Van Horn

Novack - What training had been required

Meizenheim -

Cook - told to prepare themselves on certain subjects - No formal training

Warnick - 1 1/2 hrs advance notice

Meiz - 1st notified on Mon

Warn. - Mon - Thurs to prepare

Novack - Programmatic?

Meiz - - -

Warn - What kind of ques.

Meiz - Def. of Non Con
Proc. Non Con

Which sections in book to use
Functions in lab. Knows how to do it using manuals, but not committed to memory.

Don Van Horn 2 1/2

Cook - Specialist in concrete testing?

Meiz - Yes

5

Warnick - doesn't need to know? these kind test

~~some~~ on something not familiar with

Meiz - When ind. performs - can use manual.

Exam requires commitment to memory.

Cook - Why were you qualifying this type person

Marg - Failure not based on normal work

Failure based on inability to commit
to memory.

Shafer - After 2 1/2 yrs should have some knowledge

Marg - That's a question were trying to consider -

Sardner - IPIW -

Meiz - Pass programmatic first

Required for Rier 12 support activities -

That's why he was being re-qualified

Cook - Qualified on 4 PDCI's

Meiz - Van Horn - not adequately prepared -

All questions will be tailored to written
exams.

Will provide guidance to staff on nature

Will be held where there will be
minimal external -

Shafer - Doc Cont. Prob.

Meiz -

Not correct + had not been updated.
In process of going through them
all.

How ended up with 2 PCI
with some number - No answer
yet. Total re-eval. being done.

Shafer - re 4 items in CAL

Rem. soils has stopped - yes

Decertified 8 people? (ans.) all people

Develop training - yes

Written exams in rem. soils? - yes

Jardem. -

Meiz - Level II failed test - not certified to
probing for swps.

Other individual decertified

Programmatic part

Meiz -

Any level of testing requires passing
of programmatic.

Meiz -

Nov. - Recertifying because NRC said to or what?
Why the mix-up about open vs. closed
book exams.

Cook - Those who spent enough time preparing
passed exams.

Novack - Trying to understand mgmt. set up.

Marg - Trying to be responsive about NRC
concerns.

To utilize CPO process for recertification
Understood by all except 1 that it
was to be closed book.

Novack - How transmitted?

Reid - Orally

Meiz - by individual from QA

Novack - How many people (ans) 7

- Were all Bechtel employees who
were given recertification?
Knew previously of difference in
type of testing - How did you
make sure individual would be
ready?

Meiz - Orally - within the group - by other
group members who had already
had closed book exams. Found the
examiners had been checking out
backgrounds prior to taking exams.

Novack - Did anyone ask for more time

Jim Cook - felt people were competent & were given necessary information. further calibration needed to make sure individuals were prepared. Adjustments needed.

Warnick - Was plan laid out before proceeding.

Beid - Individuals assigned to prepare & review questions. Existing ^{CPI} documented procedure used. Specific responsibilities assigned. Without a physical trial - things discovered that would have required change.

Jim Cook - Did not utilize enough preparation. Should have had a pilot round.

Warnick Trying to figure out - Mgmt problem or problem with qualification of inspectors.

Jim Cook - Couldn't really tell you - Process didn't really fail

Shafer - Nothing new to people who were being tested. Right? Except

Beid - More of a pressure situation.

Jim Cook - The guy just choked.

R.J. Cook - feel test not rigorous enough.

Gardner - Concern is mainly for marginal people.
More emphasis on technical question.

Curland - Certification Process

R.J. Cook - How do people then fall into this

Curland - Not looked at differently - start from scratch.

On the job training?

Smith? - Everyone goes through same program. Someone with more experience would go through faster.

Curland - (continues) Training of Candidates

Shofer - Demonstration Tests?

Jim C. - Yes - in the field demo is best way to determine individual knowledge.

Curland - Knowledge, skill, effort - three things that need to be demonstrated.

Jim C. - Must know more than bare necessities.

Curland - continuing - Testing of Quid.

Shaper - How document? - keep test taken

Curland - retain papers - available for review
- Security of written tests necessary.

Shaper - How will CPCo secure.

Curland - Don't know yet. Will have to work it out.

Gardner - Separate programmatic portions.

Curland - Yes

Quid - Short PQCI - only limited number
of questions you could have

Curland - Continues - Testing of Candidates

Warnick - How often does QC insp. have work reviewed?

Curland - Looking at a ^{more} ~~very~~ systematic way.

Smith - Level II review Level I's work.
When problem is found -
retraining done.

Warnick - How often

Smith - Depends on volume - maybe
once a month.

Warnick - Degree of confidence

R.J.C. - are records good enough to answer
how much work vs. how often
faulty?

Smith - No

Warnick - Concerned with passing a guy on
his performance when we don't
know what his performance was

Smith - Performance Demonstration Certification
not daily performance. Some
confusion.

Curland - continues - Retesting

- Retraining period depends on nature
of failure

Shafer - Will alternate exam be total exam
or specific

J. Cook / Curland - Entire programmatic part

Shafer - How long expect to take

J. Cook -

Margulio - 5 steps identified for recertification
establish procedure

establish pool of programmatic questions

establish pool of technical questions

administer test

" field portion

Looking at over 1,000 individual
tests. Can shoot for 20 week
period to accomplish.

Jim Cook - Will test on most commonly used first.
Will look at qualified staff people available to help.
Don't want to make commitment we can't achieve.

Margulis - About 40 PQCI's in civil
40 in welding.
Smaller numbers in other areas can be dealt with quickly.

Margulis - Pier 12 - 10 PQCI's suggesting prerequisites - about 3 weeks process.

Novack - Where does it fit into CAL?

Jim Cook - Trying to generalize process.
Last item, address item 3 in CAL.

Shaper - What doing to alleviate concerns about QC inspections going on now? (in soil)

Dietrich - Since middle of '80 - good QC program - audits by CFCs & Buchtel all positive. Satisfied with individual performances also.

Novack - Let me understand. Concern is with recertification - How do we know

Novack - Where would experienced person fit in
Curland - Testing
Jim Cook - Third orientation

Jim Cook - 2nd item to discuss - Intent to absorb
into MPQAD the QC organization
(Handout)

Margulis - Explain handout

Jim Cook - Larger goal - to improve performance
- 2nd + 3rd items^P - until we get new procedures in place
- QCE's - QC inspectors

- ^{Item 7} mgmt level meeting on weekly basis

Hardner - What if QC discovers something wrong
before formal inspection? Will write Nonconform
or just be orally informed to change.
Margulis - Orally.

Warnick - Don't build into system mechanism
to subvert system?

Margulis - Will have formal inspections as close to
actual end of construction step as possible.

Jim Cook - Just so we don't lose ability
to walk around + comment.

Nowack - Thought purpose of surveillance
was to monitor to see if timing
of inspection was appropriate.

Jim Cook - Will find some way QC will not
lose ability to report problems.

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Rutgers - Continue to emphasize field engineering
in this regard. Can use IPID
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- ~~The Bechtel~~

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John - - Can't see where perf. would improve
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or Bechtel

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leads you this direction

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Mgmt Analysis Co.

Thema Corp.

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~~Shaf~~ -
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Knowledge, skill, application.
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2A1
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Darrel Eisenhut

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Jim Keppler

Wayne Shafer

Bob Warnick

Ron Cook

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Mike Wilcove

Public Meeting - February 8, 1983 7:00 p.m.

Opening - Keppler briefing on morning meeting. Asked that comments and questions be restricted to five minutes.

Sister Art Platty - She was asked by the Mayor of Saginaw to be there. Community must be assured of safety. Third party independent review - will it be an inside choice? Who will guarantee the safety of the public? Will the deadline be met? What is the cost?

Eisenhut - Explained CPCo's plan to rebuild confidence. Independent third party audit will be required. Must audit past, present and future. Told her that NRC was briefed on INPO and Tera at the morning meeting. There will be an independent program by private contractor to oversee total program. Contract not yet named.

Sister - Would NRC name the third party?

Eisenhut - Haven't reached a decision on that yet.

Sister - The community wants NRC to choose the independent monitor.

Eisenhut - No one can guarantee safety. Sufficiently low possibility of accident.

Sister - Whose responsibility is it to people of our community?

Eisenhut - The utility. NRC charged with the process of overseeing that the plant is built, designed and operated safely.

Sister - Community wants guarantee for safety. The \$120,000 civil penalty fine is a "slap on the hand".

Eisenhut - Safety-related work terminated. Want two assurances - (1) previous work adequate, (2) future work adequately built.

Sister - Will the completion date be met?

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Tom Herron, Lone Tree Council - Not concerned with nuclear power, but the construction of the plant. Lost confidence in CPCo and NRC to do job of protecting safety. NRC embarrassed by Zimmer (97% complete and a mess). Management from top of CPCo holding information back from craftsmen. Given CPCo's past, what makes NRC sure the new CCP will work? The civil penalty fine is a "slap on the hand" and will have to eventually be paid by the ratepayers.

Keppler - Interested in seeing an organization not a part of the construction effort to determine quality is adequate. Looking for a third party review. The \$120,000 fine is not a big incentive, but rather a public embarrassment. The NRC is sending a signal to other licensees - "We won't tolerate."

James Cook - In no case would ratepayers be charged for the Civil Penalty.

Castillanos - Resident of Midland County. Lives 2 1/2 miles from the plant.

Building in violation now (hotel meeting room). All exits blocked, etc.

If NRC acknowledges this fact and does nothing about it, how can they be

held responsible for inspecting a nuclear power plant for deficiencies?

Dewatering problem . . . well water in the area. Impact of icing and cooling

pond. Called his insurance company to inquire about nuclear policy - no

such policy. After reviewing the CCP, he realized he needs to know what

was in the report. RELEASE REPORT.

Keppler - The report was released today. The NRC has completed work on

2 allegations. Have 8 more.

Tom Devine - Received affidavit today from a construction employee that

all employees know where and when the NRC will be inspecting. NRC inspection

reports don't mean anything. Mr. Keppler said today that he was tired of "cheap

shots". GAP has been monitoring RIII. When are the games going to stop?

Why should GAP have confidence in NRC?

Keppler - Hard to respond. He knows of no instances where the licensee

has been informed of an NRC inspector coming. Inspectors choose places and

times to inspect themselves.

Devine - Shafer's team report good.

Keppler - Go to OIA.

Devine - I did two years ago and OIA agreed with me.

Snizek - Policy is for unannounced inspections. If an NRC needs to talk to a specific person onsite, then he of course would have to let the employee know he was coming. For an announced inspection, the NRC inspector's supervisor's permission is needed. A track is kept of all announced and unannounced NRC inspections.

Shafer - Thanked Devine. Our (Midland Team) effort no different than any other at Midland.

Eisenhut - Will Devine supply affidavit?

Devine - Handed affidavit to Eisenhut.

Ron Cook - There are times the licensee is informed. The licensee should be putting his best foot forward to help the NRC. Often times the licensee is not cooperative. Unfair to slam the NRC. Often times Cook doesn't know himself when he will be in the office and when he won't.

Mar^x Hammler - Commented on the efficiency of the public hearing. Fire code not adhered to. He has now seen an example of the way NRC deals with safety. How indicative is that of how NRC inspects nuclear plants? By choosing small rooms and changing the times within one week of the meeting, NRC makes it hard for public to attend. They discourage attendance.

Keppler - Appreciate problems. We did not expect such a big crowd. We will reserve a bigger room next time. The fire code is not in the NRC's purvue. Eisenhut takes heat for meeting change.

Hammler - Schedule additional meetings.

Christopher Harts, Gilbert-Commonwealth employee - The problems with nuclear ^{power} ~~power~~ are not insurmountable. CPCo is on the right track. He worked with Bechtel on South Texas. He has never known of an NRC inspector coming. Is the NRC responsible for policies? With all these policy questions, I suggest that the next meeting you have you put a stack of them outside the door so not so much time will be wasted on policy questions.

Tracy Parsons, Midland resident - Midland is under the watchful eye of GAP and others. I want the plant to start. Intervenors take joy in seeing how close a plant can come to operating before they stop construction. These meetings should be ^{constructive} ~~constructive~~; not destructive. Please decide, don't procrastinate. Good that you allow the public to comment.

Byrce Timmons - There are only 3 intervenors in whole petition because of the difficult process to become an intervenor. When the plant was proposed the community was happy. Now their bubble has burst. Construction halted. Temple wants Dow to back out. Temple confidence in CPCo low. Can CPCo do the job? Soils work below average? Don't have same problems with other utilities. NRC "ping-pongs" on confidence of CPCo.

Barbara Stamiris - Soils settlement hearing. Hearing called for at end of 1979. Because of QA breakdown, false statement, etc. it has been delayed. Order worded so that CPCo could ask for a hearing. More problems along the way. Soils remedial work still going on. What percent complete is the plant?

J. Cook - 83%.

Stamiris - 1/2 year soils work tracked separately. NRC states QA Program not at fault, but implementation of program is at fault. Why not use the old program since the new one isn't completely finished anyway?

J. Cook - Can't explain CCP - too voluminous. CCP not QA Program.

Paton - Legal posture - because of a "loophole" ... They are given a permit. Before permit "yanked" CPCo must be given a hearing.

Andrea Wilson - Basis for approval should be . With GAP allegations how do you expect us to make a decision without seeing report? Wants another meeting after report is issued. Keppler gave us reasonable assurances before. Now a \$120,000 penalty is issued. She is not assured by Keppler's reasonable assurances.

Keppler - I did not make that statement lightly. We are still wrestling with the QA program. We can't come up with decision without a third party review. Hopes new direction will help.

John Knocchi - Third party reviewer important. Someone who can be believed. If it is done - how will it be done? Every part, certain parts?

Eisenhut - CCP proposal not approved. Discussion today - 3 pieces - Tera, CCP aspects, independent instrumentation implementation overview - effort performed by independent contractor to overview past and future soils, HVAC and NSSS. Last contractor also not picked. Told CPCo not to fix anything until NRC reviews. CCP encompasses all

Knocchi - Need third party overviewer to attain credibility.

Eisenhut - Third party must send documentation to NRC for PDR. Criteria to select third party - spouses, relatives, no one related to employees of CPCo.

Knocchi - Looking back, make distinction between letter of the law and forcing something that makes a difference.

Keppler - Review of all safety-related structures in plant. NCR evaluated. Must be addressed.

Krause - Resident of Midland for past 6 years. Anxious to have plant operating. Reagan wants licensing streamlined.

Eisenhut - Post TMI remarks re: inefficiency in licensing. Most licensing is held up for about 1 year. National labs assisted rework of licensing function. 14 or 16 plants licensed since TMI. No way a current plant can take advantage of new licensing process.

Wilma Deason - As years passed, she has become concerned with construction inadequacies at the plant. Important that people of the community are starting to recognize effect of the plant on them.

Mary Sinclair - Nuclear waste issue important. Doesn't want to stop plant as indicated earlier in evening. This is a family issue. The intervenors did not cause delay, the soils compaction issue is the cause. Shafer's inspection caused another delay. Today's meeting is a direct result of that inspection. How can the NRC propose to begin operating licensing with 150,000 back inspections? I have 18 contentions, Stamiris has 3. They should be litigated. I hope that the growing awareness in the community continues.

Paton - Sinclair should make a motion to the Licensing Board because of her 18 contentions.

Garde - GAP denies statement of "trying to stop Midland". CCP elements are good, but can they be implemented properly. Wants secret FOIA document between Keppler and CPCo. Allegations received by GAP from whistleblowers are a fact. Just as one bad apple can spoil the barrel, one bad weld can spoil a nuclear plant.

Paton - As for the "secret document" - QA stipulations and agreements between NRC and CPCo. The licensing board attorneys are resisting because if the discussion were open, no agreement will ever be reached. This shortened the hearing considerably.

? - Original estimate in cost - what will it cost by the time it is complete?

Eisenhut - Cost is not in the purview of the NRC.

Novak - In area of cost - numbers quoted at beginning of construction were what other plants were costing at that time.

Albert Savage - No faith in CPCo because of Big Rock Point and Palisades. When cathedrals were built in year 1000, they knew enough to drive piles under them. CPCo didn't. Thousands of heat exchanger tubes needing to be replaced. Stainless steel reactor will corrode.

Savage - Incorrect welding rod. What is NRC doing about that?

Eisenhut - Steam generator ^{tubes} ~~cores~~ historically have corrosion problems. Extensive programs for monitoring this problem. Also working on issuance of new requirements.

Frederick L. Brown - Lives 10 miles from plant and concerned about evacuation planning. Member of MI Environmental Review Board. Board has talked with the NRC for emergency plan for Midland. He was more confused than before he talked to NRC. Who has the ultimate responsibility for an evacuation plan? Clear, concise statement as to who will be approving is needed.

Eisenhut - FEMA responsible for evacuation plan. NRC must assure onsite plan.

Brown - Will that plan be submitted to their board for approval?

Eisenhut - Certainly. Sniezek takes certification from FEMA. Government of State is authority who responds to that issue.

Keppler - Closing - Serious consideration to another public meeting.

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If NRC acknowledges this fact and does nothing about it, how can they be held responsible for inspecting a nuclear power plant for deficiencies?

Dewatering problem . . . well water in the area. Impact of icing and cooling pond. Called his insurance company to inquire about nuclear policy - no such policy. After reviewing the CCP, he realized he needs to know what was in the report. RELEASE REPORT.

Keppler - The report was released today. The NRC has completed work on 2 allegations. Have 8 more.

Tom Devine - Received affidavit today from a construction employee that all employees know where and when the NRC will be inspecting. NRC inspection reports don't mean anything. Mr. Keppler said today that he was tired of "cheap shots". GAP has been monitoring RIII. When are the games going to stop? Why should GAP have confidence in NRC?

Keppler - Hard to respond. He knows of no instances where the licensee has been informed of an NRC inspector coming. Inspectors choose places and times to inspect themselves.

Devine - Shafer's test report good.

Keppler - Go to OIA.

Devine - I did two years ago and OIA agreed with me.

Snizek - Policy is for unannounced inspections. If an NRC needs to talk to a specific person onsite, then he of course would have to let the employee know he was coming. For an announced inspection, the NRC inspector's supervisor's permission is needed. A track is kept of all announced and unannounced NRC inspections.

Shafer - Thanked Devine. Our (Midland Team) effort no different than any other at Midland.

Eisenhut - Will Devine supply affidavit?

Devine - Handed affidavit to Eisenhut.

Ron Cook - There are times the licensee is informed. The licensee should be putting his best foot forward to help the NRC. Often times the licensee is not cooperative. Unfair to slam the NRC. Often times Cook doesn't know himself when he will be in the office and when he won't.

Mark Hammler - Commented on the efficiency of the public hearing. Fire code not adhered to. He has now seen an example of the way NRC deals with safety. How indicative is that of how NRC inspects nuclear plants? By choosing small rooms and changing the times within one week of the meeting, NRC makes it hard for public to attend. They discourage attendance.

Keppler - Appreciate problems. We did not expect such a big crowd. We will reserve a bigger room next time. The fire code is not in the NRC's purvue. Eisenhut takes heat for meeting change.

Hammler - Schedule additional meetings.

Christopher Harts, Gilbert-Commonwealth employee - The problems with nuclear ~~poer~~^{poer} are not insurmountable. CPCo is on the right track. He worked with Bechtel on South Texas. He has never known of an NRC inspector coming. Is the NRC responsible for policies? With all these policy questions, I suggest that the next meeting you have you put a stack of them outside the door so not so much time will be wasted on policy questions.

Tracy Parsons, Midland resident - Midland is under the watchful eye of GAP and others. I want the plant to start. Intervenors take joy in seeing how close a plant can come to operating before they stop construction. These meetings should be ~~construction~~^{constructive}, not destructive. Please decide, don't procrastinate. Good that you allow the public to comment.

Blair Timmons - There are only 3 intervenors in whole petition because of the difficult process to become an intervenor. When the plant was proposed the community was happy. Now their bubble has burst. Construction halted. Temple wants Dow to back out. Temple confidence in CPCo low. Can CPCo do the job? Soils work below average? Don't have same problems with other utilities. NRC "ping-pongs" on confidence of CPCo.

Quinter Bernet, M.D. Forensic Medicine - Not all nuclear problems are solvable. He was in Washington to discuss nuclear waste with the head of storage safety. Have enough in cribs to blow hole in the earth. Reprocessing plant in NY the liquid waste has solidified and can't be pumped out. Must now be removed by robots. Encasements for waste used in France are made of ceramic and glass. They are only good for ten years. Every ten years the material must be removed. There is no government plan for long range waste. Who will guard in case of an earthquake? Radioactivity found 3 miles from a plant - became sterile deserts. Community has no credibility in CPCo or NRC. Where are ethics and morality? Selling future lives. Future be damned.

? - What led to fine being levied?

Keppler - QA Program not being followed.

Eisenhut - Before we license, confidence in design construction, etc. must be assured. I am encouraged to see the licensee realizes its own problems, but must have a third party review.

? - Wants another public meeting when the choice is made.

~~XX~~

Charles Hoker - 29 years in reactor business. Vital part of national resources. Can be operated with a positive contribution to Midland in that it creates energy, jobs, etc.

Barbara Stamiris - Soils settlement hearing. Hearing called for at end of 1979. Because of QA breakdown, false statement, etc. it has been delayed. Order worded so that CPCo could ask for a hearing. More problems along the way. Soils remedial work still going on. What percent complete is the plant?

J. Cook - 83%.

Stamiris - 1/2 year soils work tracked separately. NRC states QA Program not at fault, but implementation of program is at fault. Why not use the old program since the new one isn't completely finished anyway?

J. Cook - Can't explain CCP - too voluminous. CCP not QA Program.

Paton - Legal posture - because of a "loophole" ... They are given a permit. Before permit "yanked" CPCo must be given a hearing.

Andrea Wilson - Basis for approval should be . With GAP allegations how do you expect us to make a decision without seeing report? Wants another meeting after report is issued. Keppler gave us reasonable assurances before. Now a \$120,000 penalty is issued. She is not assured by Keppler's reasonable assurances.

Keppler - I did not make that statement lightly. We are still wrestling with the QA program. We can't come up with decision without a third party review. Hopes new direction will help.

John Knocchi - Third party reviewer important. Someone who can be believed. If it is done - how will it be done? Every part, certain parts?

Eisenhut - CCP proposal not approved. Discussion today -- 3 pieces - Tera, CCP aspects, independent instrumentation implementation overview - effort performed by independent contractor to overview past and future soils, HVAC and NSSS. Last contractor also not picked. Told CPCo not to fix anything until NRC reviews. CCP encompasses all

Knocchi - Need third party overviewer to attain credibility.

Eisenhut - Third party must send documentation to NRC for PDR. Criteria to select third party - spouses, relatives, no one related to employees of CPCo.

Knocchi - Looking back, make distinction between letter of the law and forcing something that makes a difference.

Keppler - Review of all safety-related structures in plant. NCR evaluated. Must be addressed.

Krause - Resident of Midland for past 6 years. Anxious to have plant operating. Reagan wants licensing streamlined.

Eisenhut - Post TMI remarks re: inefficiency in licensing. Most licensing is held up for about 1 year. National labs assisted rework of licensing function. 14 or 16 plants licensed since TMI. No way a current plant can take advantage of new licensing process.

Wilma Deason - As years passed, she has become concerned with construction inadequacies at the plant. Important that people of the community are starting to recognize effect of the plant on them.

Mary Sinclair - Nuclear waste issue important. Doesn't want to stop plant as indicated earlier in evening. This is a family issue. The intervenors did not cause delay, the soils compaction issue is the cause. Shafer's inspection caused another delay. Today's meeting is a direct result of that inspection. How can the NRC propose to begin operating licensing with 150,000 back inspections? I have 18 contentions, Stamiris has 3. They should be litigated. I hope that the growing awareness in the community continues.

Paton - Sinclair should make a motion to the Licensing Board because of her 18 contentions.

Garde - GAP denies statement of "trying to stop Midland". CCP elements are good, but can they be implemented properly. Wants secret FOIA document between Keppler and CPCo. Allegations received by GAP from whistleblowers are a fact. Just as one bad apple can spoil the barrel, one bad weld can spoil a nuclear plant.

Paton - As for the "secret document" - QA stipulations and agreements between NRC and CPGCo. The licensing board attorneys are resisting because if the discussion were open, no agreement will ever be reached. This shortened the hearing considerably.

? - Original estimate in cost - what will it cost by the time it is complete?

Eisenhut - Cost is not in the purvue of the NRC.

Novak - In area of cost - numbers quoted at beginning of construction were what other plants were costing at that time.

Albert Savage - No faith in CPGCo because of Big Rock Point and Palisades. When cathedrals were built in year 1000, they knew enough to drive piles under them. CPGCo didn't. Thousands of heat exchanger tubes needing to be replaced. Stainless steel reactor will corrode.

Savage - Incorrect welding rod. What is NRC doing about that?

Eisenhut - Steam generator ~~cores~~^{tubes} historically have corrosion problems. Extensive programs for monitoring this problem. Also working on issuance of new requirements.

Frederick L. Brown - Lives 10 miles from plant and concerned about evacuation planning. Member of MI Environmental Review Board. Board has talked with the NRC for emergency plan for Midland. He was more confused than before he talked to NRC. Who has the ultimate responsibility for an evacuation plan? Clear, concise statement as to who will be approved.

Eisenhut - FEMA responsible for evacuation plan. NRC must assure onsite plan.

Brown - Will that plan be submitted to their board for approval?

Eisenhut - Certainly. Sniezek takes certification from FEMA. Government of State is authority who responds to that issue.

Keppler - Closing - Serious consideration to another public meeting.

NRC Participants

Darl Hood

Tom Novak

Jay Harrison

Bruce Burgess

Ron Cook

Ross Landsman

Ron Gardner

Wayne Shafer

Bert Davis

James Sniezek

Jim Keppler

Darrel Eisenhut

Bob Warnick

NRC Attendees

Jim Stone

Mike Wilcove

Bill Paton

Steve Lewis

Russ Marabito

CPCo/NRC Meeting - February 8, 1983 - 9:00 a.m.

Keppler's opening remarks and introductions.

Keppler - CPCo's implementation of program was not sound. Formalized CCP written by CPCo. Not approved by NRC. Purpose of meeting is to understand program and obtain public comment on it.

J. Cook - Soils work not covered in 1/10/83 letter. Treated separately. The program today excludes soils. Third party review will be discussed.

D. Miller - CCP Sources of Input (See attached sheet)

1. Evaluation of Systems
2. Transfer of QC to CPCo QA (MPQAD)
3. INPO Self Evaluations
4. 1981 SALP Report
5. October/November Diesel Generator Building Inspection
6. November NRC letter to ACRS
7. Need to place more emphasis on soils start

Eisenhut - What is problem you are addressing?

Miller - Novak letter to ACRS - validate past QC inspections, improve understanding of acceptance criteria.

QA/QC Implementation Improvement

1. Recertify QC inspectors
2. Integration of construction and inspection planning

Figure 1-1 - Schematic CCP

Davis/Shafer - Craft training questions

Miller - QC needs to be pushed down to craft personnel from supervisory personnel.

Eisenhut - Where is QC breakdown? Does the design say 3/8" or 1/2", etc.

Selby - Insufficient clarity, improper interpretation are the problems.

Miller - Figure 1-1

Gardner - Any rework during Phase 2?

Miller - No. No systems completion work.

Shafer - How will inspector know if room has been 100% inspected?

Miller - Rooms will be marked. Most critical systems will be done first, etc.

Eisenhut - Specs and drawings inspected to be accurate.

J. Cook - NRC never said CCo had design problems.

Davis - Physical inspection fine - what about record verification?

Miller - Yes. You're right.

Keppler - Are you into Step 5 anywhere? (See schematic.)

Miller - No.

Miller - Section 2.0 Preparation of Plant

Roy Wells - Section 3.0

Shafer - How many inspectors are certified? When PQCI procedures ^{change} ~~change~~ will inspectors be retrained?

Wells - Yes. Procedures are being simplified. Inspectors will be recertified to new procedures. A Level III will make that decision.

Landsman - Will old manuals be used at all?

Wells - They are being rewritten to incorporate Bechtel's/CPCo's

Snizek - When these procedures are complete will there be any questions in the inspectors' minds?

Wells - None.

Shafer - What measures provide that once you get past system QC it ^{won't} ~~won't~~ be "business as usual"?

Figure 3.0 - MPOAD Organization Chart

Wells - Fine tuning being done now. There have been 200 additions since September.

Eisenhut/Keppler - Where have changes been made?

Wells - W. Bird, Manager, QA. Bird has offsite responsibilities. Wells has onsite responsibilities.

Eisenhut - Why is this change going to work? We need confidence. The leader sets tempo. What makes you qualified?

Selby - QC reported through Bechtel. Now QC does not. It is integrated with QA.

J. Cook - We looked at overall picture. Wells is the best man for the job. He has direct control over QC.

Selby - PQCI's being changed. Recertifications of inspectors, etc. All of these changes have been Wells' decisions.

Eisenhut - Are you going to have enough scheduling flexibility?

Wells - Naturally,

Keppler - Clarify statistics on behind inspections.

Rutgers, Bechtel - 16,000 still open.

Eisenhut - What is a desirable number?

Rutgers - No backlog in ideal world.

Eisenhut - How far behind are you?

Selby - 3100 behind. That seems a little high.

Figure 3.1

Landsman - Elaborate on reorganization.

Shafer - What measures have been or will be established to assure new organization will work?

Wells - Close supervision, continued monitoring. He'll (the supervisor) will review performances. We are revising trending program.

Keppler - One problem - timeliness of QC inspections. Personnel performance reflects supervision.

Wells - My people are well qualified. I'm keeping them.

System Team Organization - (See sheet)

Eisenhut - Make sure employee's concerns don't get lost in shuffle.

Gardner - Where are people going to come from?

Wells - Either CPCo, Bechtel or contract help.

Burgess - Will team supervisor be Bechtel employee?

Wells - Maybe.

BREAK

Wells - QC recertification

Eisenhut - Why did you need to go to a recert?

Wells - Written closed book exams now vs. old oral exams.

Snizek - Did all inspectors pass new exam?

Wells - Not yet. 235 people have been tested. 24 have failed. Of the 24 who took the test a second time, 2 failed again.

Eisennut - No specific period of time between tests?

Wells - No, but each test is different.

Hood - What disposition has been made on the two who failed?

Wells - They've been reassigned.

Gardner - PQCI exams?

Wells - About 500 - 30 failed once. 3 failed twice.

Shafer - What about the three who failed twice?

Wells - They've been removed.

Snieszek - What is PQCI test?

Wells - Questions relate to how to perform inspections, etc.

Wells - Written test on technical inspection plan.

Shafer - Any feedback from PQCI staff?

Wells - Has not asked that question.

Harrison - Two people failed. Where are they now?

Wells - They are Bechtel employees. They are not being used in quality work.

Shafer - Performance demonstration - given by whom?

Wells -

Section 4.2 and 4.4

Don Miller - Benefits of Completion Team Approach (See sheet)

Eisenhut - Single point - who?

Miller - Quality representative.

Eisenhut - Same on last 2 bullets?

Miller - Yes.

Eisennut - QA/QC Manager responsible for inspection requirements? Why aren't governed by safety connotation of system?

Miller -

Novak - Team dedicated to one system?

Miller - Yes.

Shafer - How many teams?

Miller - About 25. No commitments. 850 total systems. Most of the systems turned over are electrical.

Snizek - I thought program would be used at turnover.

Miller - They will do QC inspection. For systems that have been turned over we will do . Miller gives team endpoint.

Burgess - System done? What do you mean?

Miller - System missing pump (for example). Flush and check, start layup. When done, start testing.

Gardner - Phase 1 - Quality Rep is doing most of the work.

Miller - Still working on team interaction.

Eisenhut - All safety-related structure systems components will be reverified?

Miller - Yes.

Landsman - What is safety-related?

Miller - We live to FSAR.

Eisenhut - FSAR may be amended.

Keppler - We're taking issue with the FSAR.

System Team Development - (See attached)

Keppler - Project time frame?

Miller - Sometime mid-March

Keppler - Management reviews by March?

Miller - Yes.

Gardner - Status activities and quality verification parallel

Now does team process identified nonconformances?

Miller - Working out details.

Shafer - Team not responsible for Appendix B?

Miller - Inspection of records done by QC

System Team Operations - (See attached)

Shafer - Can anyone write an NCR?

Miller - Yes.

Section 4.3 - Roy Wells

R. Cook - Does that include PQCI inspections?

Miller - Yes.

Inspection Plan (PQCI) Review and Revision - (See attached)

Eisenhut - First bullet - as opposed to safety-related? Explain difference between "important to safety" and "safety-related".

Wells - CPCo will look into Q-ness.

Gardner - No inspection due to backlog ever. Not a reinspection.

Wells - The team will do that.

Verification Program Concepts - (See attached)

Novak - System turned over - example.

Miller -

Snizek - Rebar, anchor bolt not accessible for direct inspection - why not UT/

Wells - They are addressing. Not committing yet.

Shafer - QC inadequate in past. 153,000 inspections closed by those personnel.

Miller - They will continue. If can't document

Warnick - Problem with sampling - 100%.

Wells - We'll reinspect. We'll go 100% unless statistically can't be proven.

Davis - What confidence level?

Wells/Norris (MAC) -

Section 4.5 - Phase 2 - System Completion - (See attached)

Eisenhut - Return to Phase 2. Let's discuss independent third party.

Concepts of IPIN Program - (See attached)

Significant Inspection Process Improvement - (See attached)

Section 6.0 - Qualification Program Review - (See attached)

Gardner - Is completion of this a "hold point" for Phase 1 or 2?

Wells - No. We haven't identified significant programmatic problems.

No predetermined hold points.

Snizek - Are you looking at simply diesel generators?

Wells -

Shafer - Quality verification effort - when?

Wells - It will be factored into

Keppler - NRC will decide what is "Q" and what's not.

LUNCH

Section 8 - System Layup (See attached)

Section 9 - Continuing Work Activities - (See attached)

Miller - In process of doing 4-point proofload jacking. No soils work being done.

Third Party Independent Review - Keeley - (See attached)

Keeley - Self-initiated evaluation will be submitted to NRC by end of February. Items from MAC being factored into corrective action implementation.

Eisenhut - Characterize findings in report.

Keeley - Gave insight into how to improve implementation to have a better program.

Novak - HVAC system findings?

Keeley - Positive. CPCo took aggressive action. 14 people were here 4 weeks. More distinct instructions for craft personnel. MAC has not done any INPO audits. MAC found consistent or above average.

Independent Installation Implementation Overview (See attached)

Keeley - Status so far. Talking to TERA and Stone and Webster, drafting specs.

Keppler - NRC never formally blessed Stone and Webster.

Eisenhut - NRC will pick system for design verification.

Keppler - CPCo feels made appropriate changes to QA, but wants a third party independent party overseeing.

Landsman - Stone and Webster does documentation review, makes sure implemented, does not do physical inspection.

Keeley - Geotechnical engineer.

J. Cook - Complete entire project, not just NRC concerns or QA concerns.
CPCo is committed to completing the plan.

Kepler - Meeting was helpful. A lot to deal with. Steps are being taken in right direction, but NRC has been let down before. NRC feels strongly about independent design review and independent construction work. Ongoing inspection in soils and safety-related work. CPCo has covered a lot of bases not submitted in letter. NRC wants public comment and NRC review. Don't lock into anything on third party.

Eisenhut - Pleased with 1/10/83 letter. CPCo slowed down their own activity. Need to restore confidence in yourself and public and NRC. Third party review will play important part. Encouraged to see pieces fitting together. Cautious optimism.

Snizek - Team concept - feedback to craft personnel. Craft need incentive. If they make a mistake let them bring it to their supervisor, inspectors don't need to find.

PUBLIC COMMENTS

Wendell Marshall

Unnamed speaker

Oswald Anders (See attached)

AGENDA

Opening Remarks

JWCook

Construction Completion Program

Introduction

DBMiller

Detailed Description

RAWells

Third Party Review

GSKeeley/TERA

Bechtel Comments

JARutgers

Closure

JWCook

CONSTRUCTION COMPLETION PROGRAM

SOURCES OF INPUT

1. EVALUATION OF SYSTEMS COMPLETION
2. TRANSFER OF QC TO CPC/QA (MPQAD)
3. INPO SELF-INITIATED EVALUATION
4. 1981 SALP REPORT AND SUBSEQUENT DISCUSSIONS
5. THE OCTOBER/NOVEMBER DIESEL-GENERATOR BUILDING INSPECTION
6. NOVEMBER NRC LETTER TO THE ACRS
7. NEED TO PLACE MORE EMPHASIS ON SOILS START

CONSTRUCTION COMPLETION PROGRAM

OBJECTIVES

IMPROVE PROJECT INFORMATION STATUS BY:

- PREPARING AN ACCURATE LIST OF TO-GO WORK AGAINST A DEFINED BASELINE.
- BRINGING INSPECTIONS UP-TO-DATE AND VERIFYING THAT PAST QUALITY ISSUES HAVE BEEN OR ARE BEING BROUGHT TO RESOLUTION.
- MAINTAINING A CURRENT STATUS OF WORK AND QUALITY INSPECTIONS AS THE PROJECT PROCEEDS.

IMPROVE IMPLEMENTATION OF THE QA PROGRAM BY:

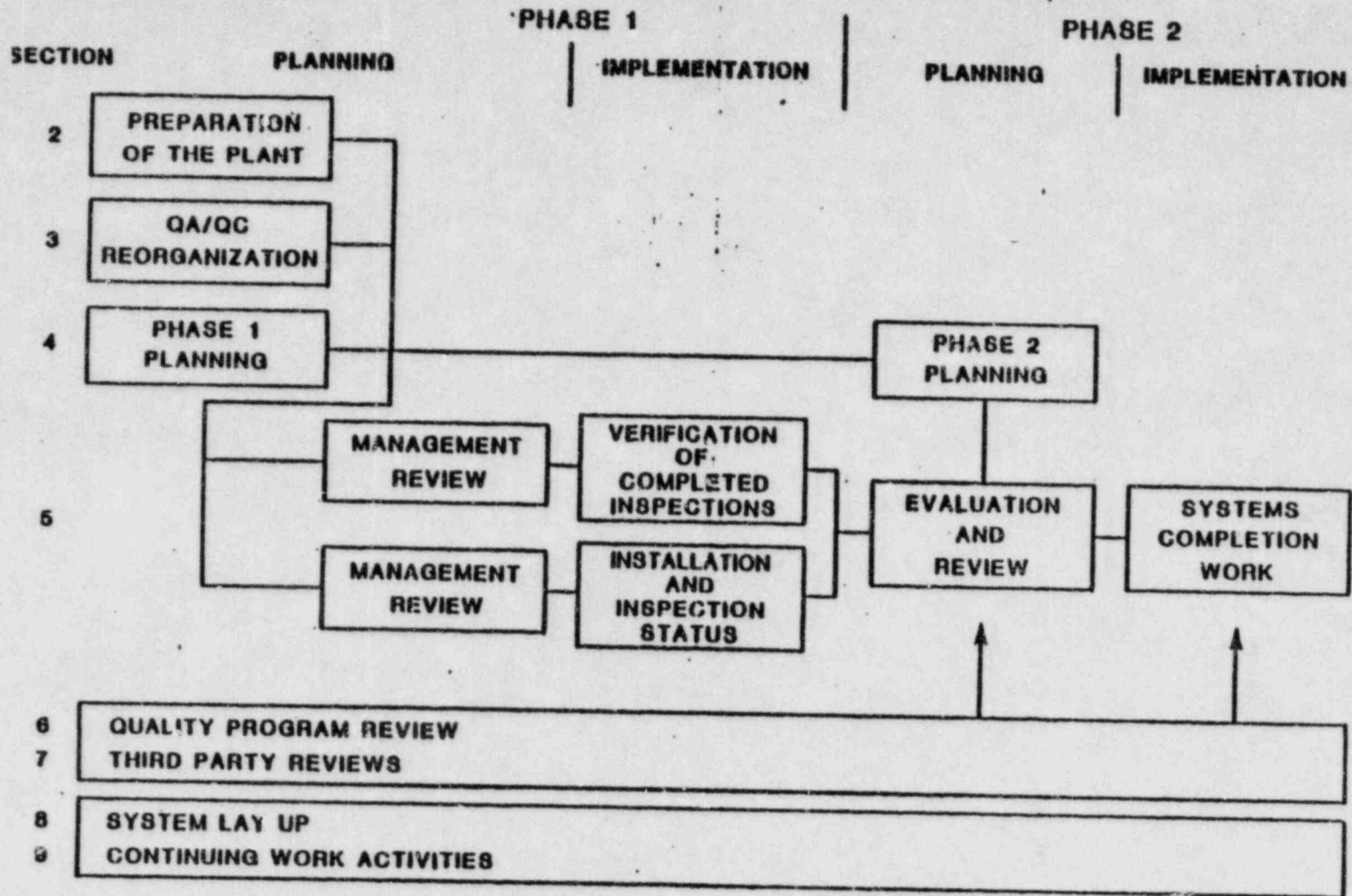
- EXPANDING AND CONSOLIDATING CONSUMERS POWER COMPANY CONTROL OF THE QUALITY FUNCTIONS.
- IMPROVING THE PRIMARY INSPECTION PROCESS.
- PROVIDING A UNIFORM UNDERSTANDING OF THE QUALITY REQUIREMENTS AMONG ALL PARTIES.

CONSTRUCTION COMPLETION PROGRAM (CONTD)

ASSURE EFFICIENT AND ORDERLY CONDUCT OF THE PROJECT BY:

- ESTABLISHING AN ORGANIZATIONAL STRUCTURE CONSISTENT WITH THE REMAINING WORK.
- PROVIDING SUFFICIENT NUMBERS OF QUALIFIED PERSONNEL TO CARRY OUT THE PROGRAM.
- MAINTAINING FLEXIBILITY TO MODIFY THE PLAN AS EXPERIENCE DICTATES.

**FIGURE 1-1
CONSTRUCTION COMPLETION PROGRAM SCHEMATIC**



SECTION 2.0
PREPARATION OF THE PLANT

OBJECTIVES: TO ALLOW IMPROVED ACCESS TO SYSTEMS FOR PROGRAM ACTIVITIES

DESCRIPTION: REDUCE THE WORKFORCE AND LIMIT Q ACTIVITIES
REMOVE THE CONSTRUCTION EQUIPMENT AND CLEAR AREAS
INSPECT, STORE AND SALVAGE EQUIPMENT

RESULTS: PLANT IS IN A CONDITION TO FACILITATE INSTALLATION AND INSPECTION
STATUS AND VERIFICATION OF COMPLETED WORK

STATUS: REDUCTION IN FORCE STARTED 12/1/82 WITH CLEANUP COMPLETED ON
1/31/83.

SECTION 3.0

QA/QC ORGANIZATIONAL CHANGES

OBJECTIVE:

- . ESTABLISH INTEGRATED QA/QC ORGANIZATION UNDER CPCO CONTROL
- . TRAIN AND RE-CERTIFY QC INSPECTION PERSONNEL

DESCRIPTION:

- . QC ORGANIZATION REPORTS DIRECTLY AND SOLELY TO CPCO MPQAD
- . QA AND QC RESPONSIBILITIES REDEFINED AS AN INTEGRATED TEAM
- . QA DEVELOPS INSPECTION PLANS - QC IMPLEMENTS PLANS - QA MONITORS
- . BECHTEL'S QC AND QA MANUALS USED AS APPROVED FOR MIDLAND
- . ASME REQUIREMENTS REMAIN IMPOSED ON CONTRACTOR AS N-STAMP HOLDER - QA MONITORS
- . QC INSPECTORS RECERTIFIED

RESULT EXPECTED:

- . FULLY INTEGRATED QUALITY ORGANIZATION UNDER CPCO CONTROL
- . UNIFORM UNDERSTANDING OF QUALITY REQUIREMENTS AMONG ALL PARTIES
- . IMPROVED PRIMARY INSPECTION PROCESS WITH RECERTIFIED PERSONNEL
- . IMPROVED AND AGGRESSIVE IMPLEMENTATION OF QA PROGRAM

STATUS:

TRANSFER QC
ORG TO CPCO

1/17/83

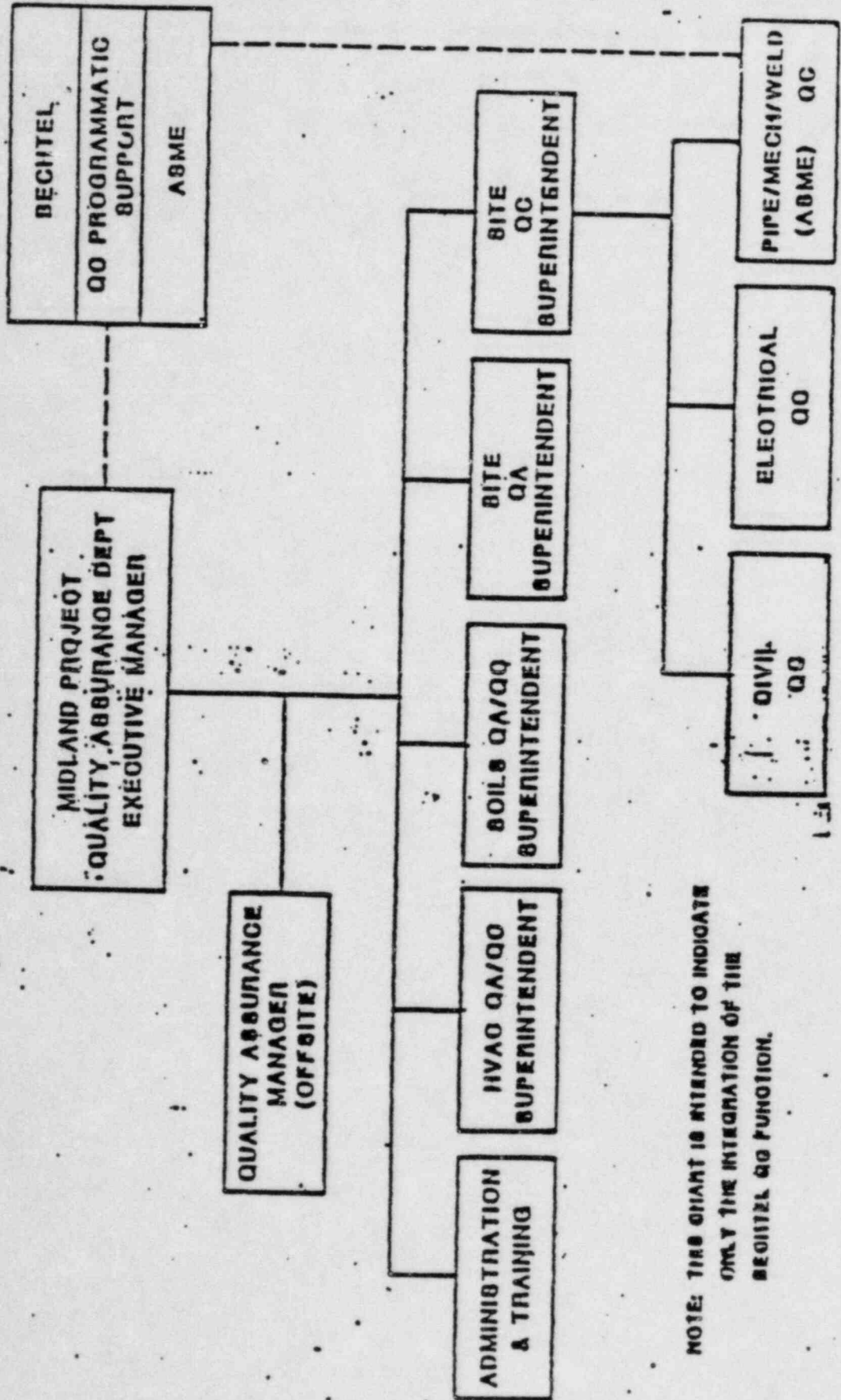
SUBMIT PROGRAMMATIC
CHANGES TO NRC

2/17/83

COMPLETE INSPECTOR
RECERTIFICATION

4/1/83

FIGURE 0-1
 MPOAD ORGANIZATION



NOTE: THIS CHART IS INTENDED TO INDICATE ONLY THE INTEGRATION OF THE BECHTEL QA FUNCTION.

QC RECERTIFICATION

PROGRAM:

- COVERS ALL QC INSPECTORS INTEGRATED WITH MPQAD
- CLASS ROOM TRAINING ON PROGRAMMATIC AND INSPECTION PLANS
- WRITTEN CLOSED BOOK EXAMINATIONS WITH 80% ACHIEVEMENT REQUIREMENT ON PROGRAMMATIC AND INSPECTION PLANS
- ON THE JOB TRAINING AND PERFORMANCE DEMONSTRATION EXAMINATIONS WITH 100% ACHIEVEMENT REQUIREMENT ON INSPECTION PLANS
- FINAL CERTIFICATION GIVEN BY MPQAD PERSONNEL QUALIFIED AS ANSI LEVEL III

TRAINING STAFF:

- UNDER MPQAD DIRECTION
- DEDICATED STAFF WITH SUPPORT BY EXPERIENCED MPQAD STAFF
- EXPERIENCED TRAINING SUPERVISION AND SELECTED INSTRUCTORS
- PRESENT COMPLEMENT
 - SUPERVISORS
 - INSTRUCTORS
 - PROGRAM SUPPORT (LESSON PLANS - EXAMS)

STATUS: (AS OF 2/4/83)

- ALL PERSONNEL RECERTIFIED TO QC PROGRAM
- NEARLY 500 INSPECTOR - PQCI TESTS
- OVER 100 PERFORMANCE DEMONSTRATIONS
- APPROXIMATELY 75 INSPECTOR - PQCI CERTIFICATIONS

SECTION 4.2 AND 4.4

PROGRAM PLANNING

TEAM ORGANIZATION

OBJECTIVE: ORGANIZE AND TRAIN TEAM AND PREPARE PROCEDURES FOR INSTALLATION AND INSPECTION STATUS ASSESSMENT AND FOR SYSTEMS COMPLETION.

DESCRIPTION:

- .DEVELOP TEAM CONCEPT
- .SELECT PILOT TEAM TO TEST PROCESSES AND PROCEDURES
- .PREPARE JOB RESPONSIBILITIES AND PROCEDURES
- .PROVIDE TEAM TRAINING FOR STATUS ASSESSMENT AND SYSTEMS COMPLETION

RESULTS .IMPROVED INSPECTION AND INSTALLATION PLANNING AND EXECUTION

EXPECTED:

- .IMPROVED DIRECTIONS TO CRAFTS
- .IMPROVED COMMUNICATION BETWEEN CONSTRUCTION, QC, ENGINEERING AND TESTING

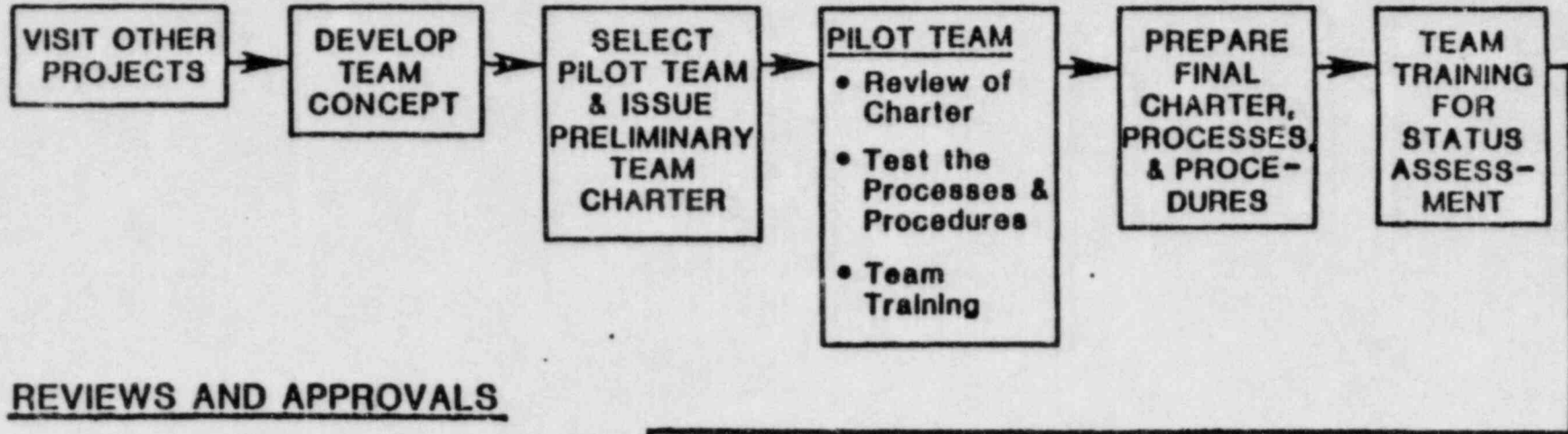
STATUS ESTABLISH TEAM CONCEPT AND DESIGNATE PILOT TEAM 1/21/83

BENEFITS OF "COMPLETION TEAM" APPROACH.

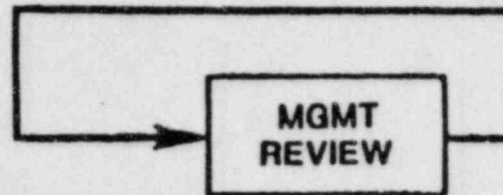
- SINGLE GROUP RESPONSIBLE FOR ALL ASPECTS OF SYSTEM COMPLETION TO FUNCTIONAL TURNOVER
- IMPROVED COMMUNICATION BY BEING PHYSICALLY LOCATED TOGETHER
- IMPROVED MAINTENANCE OF STATUS OF WORK
- SINGLE POINT CONTACT FOR QUALITY INSPECTION REQUIREMENTS
- IMPROVED INTEGRATION OF QUALITY INSPECTION PLANS WITH THE INSTALLATION PLANS
- SINGLE POINT CONTACT FOR ENGINEERING/DESIGN REQUIREMENTS
- SINGLE POINT CONTACT FOR TESTING REQUIREMENTS

SYSTEM TEAM DEVELOPMENT

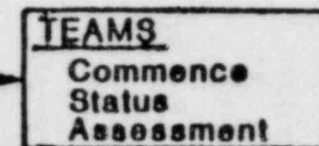
ORGANIZATIONAL PROCESS & PROCEDURE DEVELOPMENT



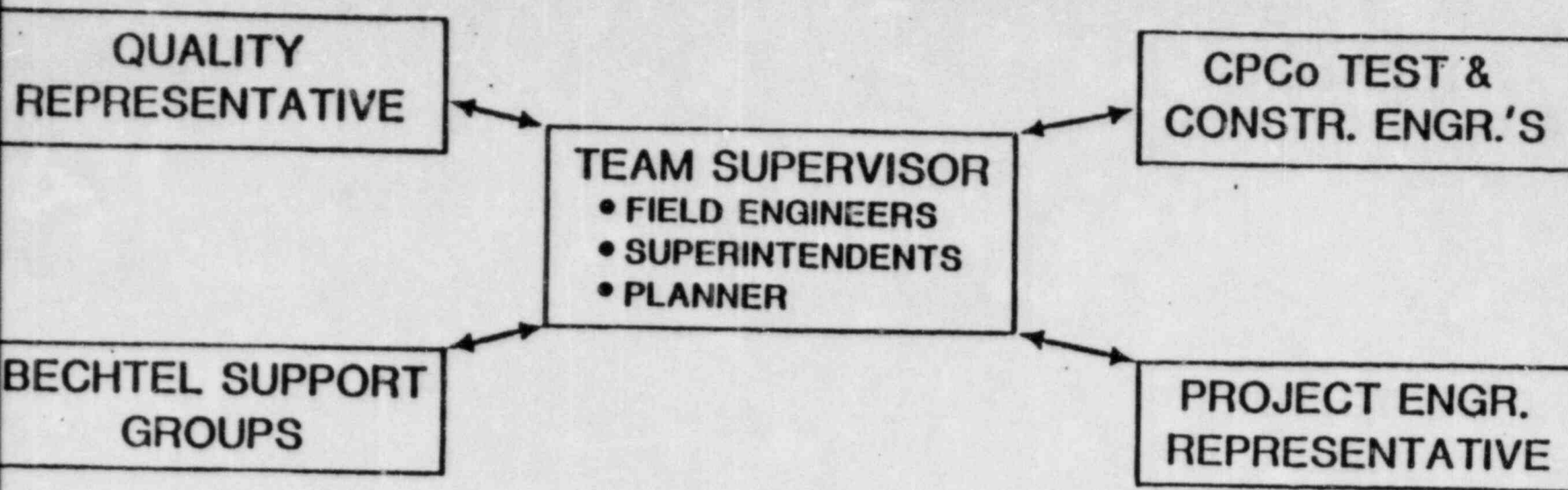
REVIEWS AND APPROVALS



COMMENCE WORK



SYSTEM TEAM OPERATIONS



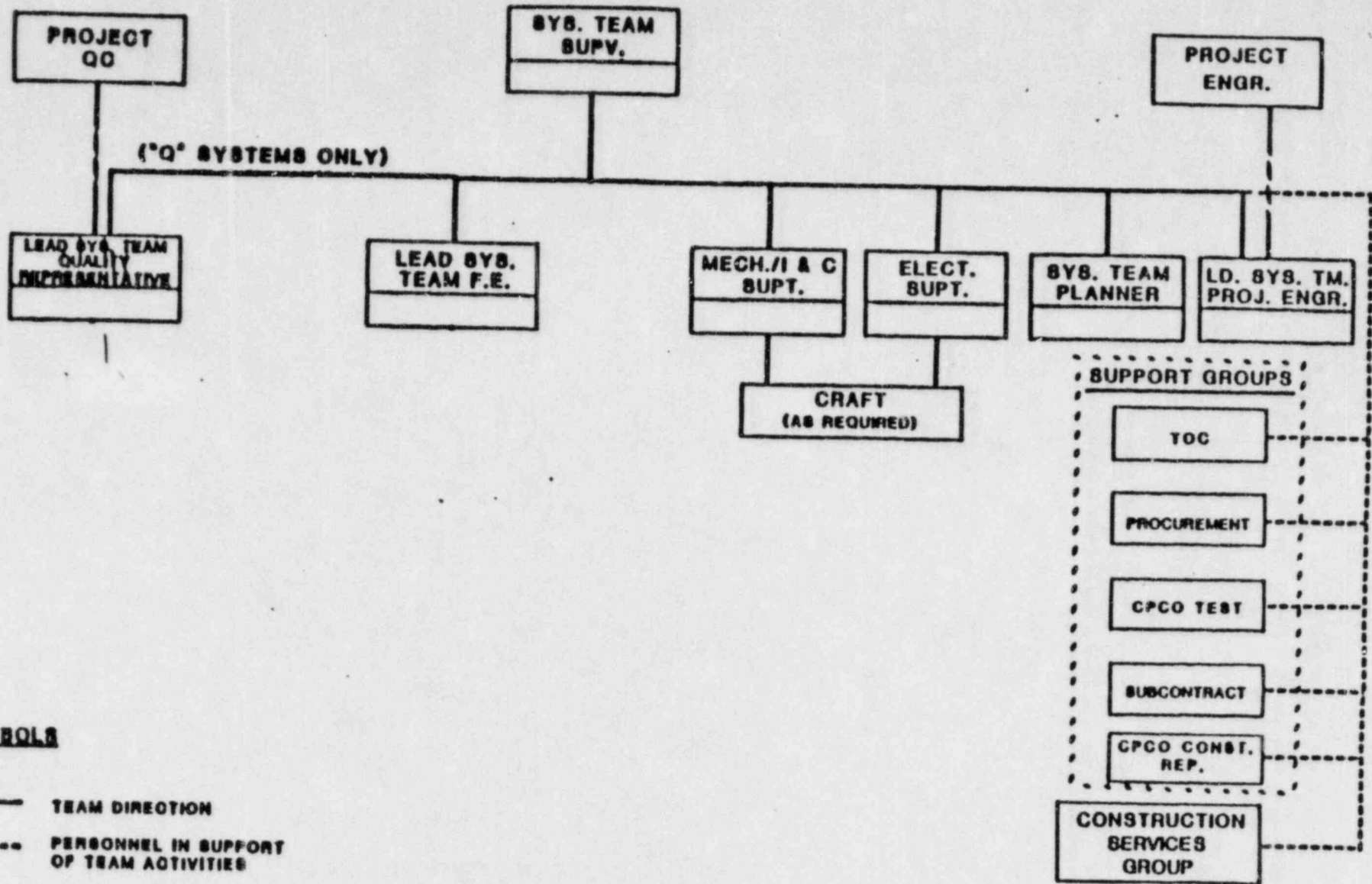
PHASE I

- REVIEW DOCUMENTS TO DESCRIBE THE SYSTEM SCOPE
- COMPARE PHYSICAL STATUS TO THE DOCUMENTS
- PERFORM QUALITY VERIFICATION ACTIVITIES AS ASSIGNED
- IDENTIFY REMAINING WORK

PHASE II

- DEVELOP DETAIL SYSTEM COMPLETION SCHEDULES
- DIRECT & ACCOMPLISH THE WORK
- MONITOR & REPORT STATUS/PROGRESS
- IDENTIFY PROBLEMS FOR RESOLUTION & MGMT. REVIEW
- COMPLETE THE SYSTEMS FOR FUNCTIONAL TURNOVER

SYSTEM TEAM ORGANIZATION



SYMBOLS

- TEAM DIRECTION
- - - - PERSONNEL IN SUPPORT OF TEAM ACTIVITIES
- - - - TECHNICAL, PROGRAMMATIC & ADMINISTRATIVE DIRECTION

SECTION 4.3
PROGRAM PLANNING - PHASE 1
QUALITY VERIFICATION

OBJECTIVES:

- DEVELOP AND IMPLEMENT A QUALITY VERIFICATION PROGRAM FOR COMPLETED INSPECTIONS

DESCRIPTION:

- REVIEW EXISTING INSPECTION PLANS (PQCI) AND REVISE AS NECESSARY
- WRITE NEW INSPECTION PLANS (PQCI) IF REQUIRED
- VALIDATE PAST COMPLETED INSPECTION

RESULT EXPECTED:

- ESTABLISH THE VALIDITY OF COMPLETED INSPECTIONS AND INSTALLATION QUALITY STATUS
- DOCUMENT AND CORRECT ANY NONCONFORMING CONDITIONS

STATUS:

PQCI REVISION TO
SUPPORT START OF
REINSPECTION

2/22/83

DEVELOP VERIFI-
CATION PROGRAM
CONCERT

2/15/83

DEVELOP DETAILED
PLANS FOR VERIFI-
CATION EFFORT

2/28/83

INSPECTION PLAN (PQCI) REVIEW AND REVISION

EXISTING PQCI'S REVIEWED AND REVISED, AS NECESSARY, BY MPQAD-GA
NEW PQCI'S WILL BE WRITTEN IF REQUIRED

PQCI'S MUST MEET RELEVANT CRITERIA INCLUDING:

- CONFIRM THAT ATTRIBUTES IMPORTANT TO SAFETY ARE INCLUDED
- ACCEPT/REJECT CRITERIA CLEARLY STATED
- INFORMATION NECESSARY FOR INSPECTION CONTAINED IN PQCI
- INSPECTION POINTS CLEARLY NOTED
- PROCEDURE FOR DOCUMENTATION UNDER REVIEW AND REVISION
- INSPECTION PLANS REVIEWED BY PROJECT ENGINEERING AS AN OVERVIEW TO INSURE ALL TECHNICAL REQUIREMENTS INCLUDED
- REVISED/NEW PQCI PILOT TESTED BEFORE IMPLEMENTATION
- QC INSPECTORS RETRAINED TO REVISED PQCI

VERIFICATION PROGRAM CONCEPTS

- ESTABLISH THE VALIDITY OF PAST/CLOSED INSPECTION REPORTS
- CONFIRM THE ACCEPTABLE CONDITION OF INSTALLED COMPONENTS, SYSTEM AND STRUCTURES
- DOCUMENT AND CORRECT NONCONFORMING CONDITIONS
- SCOPE OF PROGRAM INCLUDES ALL COMPLETED INSPECTION REPORTS
- INSPECTION REPORTS CATEGORIZED BY PQCI
- VERIFY THE QUALITY OF COMPLETED WORK USING AN ACCEPTABLE SAMPLING PLAN WHERE APPROPRIATE
- VERIFICATION PLAN BASED UPON SPECIFIC INSPECTION REPORT POPULATIONS:
 - ITEM ACCESSIBLE FOR REINSPECTION
 - DOCUMENTATION ONLY IS AVAILABLE
 - UNIQUE AREAS OF CONCERN
 - LOT SIZES NOT APPROPRIATE FOR STATISTICAL SAMPLE
- CONTINUATION OF REINSPECTIONS ALREADY COMMITTED
 - CABLE ROUTING AND IDENTIFICATION
 - HANGERS
- DETAILS OF PLAN STILL UNDER DEVELOPMENT

SECTION 4.5

QA/QC SYSTEMS COMPLETION PLANNING (PHASE 2)

OBJECTIVE:

- FORMALLY INTEGRATE INSPECTION PLANNING WITH CONSTRUCTION SEQUENCE
- VERIFY THAT PQCI'S ARE FULLY ACCEPTABLE FOR NEW INSPECTIONS

DESCRIPTION:

- ESTABLISH AN IN PROCESS INSPECTION PROGRAM
- CLEARLY DEFINE INSPECTION POINTS IN PQCI
- UTILIZE QUALITY REPRESENTATIVE ON SYSTEM COMPLETION TEAM
- MPQAD-QA CONDUCT FINAL REVIEW OF PQCI

RESULT
EXPECTED:

- TIMELY COMPLETION OF QC INSPECTIONS ON SYSTEM COMPLETION WORK
- CLEAR AND DETAILED INSPECTION REQUIREMENTS
- TIMELY DOCUMENTATION AND CORRECTION OF NONCONFORMANCES

STATUS:

DEVELOP CONCEPTUAL
PROCEDURES FOR IN-
TEGRATED INSPEC-
TION

DEVELOP PROCEDURES
FOR INTEGRATED IN-
SPECTION WITH PILOT
TEAM

FINAL REVIEW OF
PQCI

2/22/83

CONCEPTS OF IN PROCESS INSPECTION PROGRAM

- . MPQAD-GA ISSUES FINAL PQCI WITH IDENTIFIED INSPECTION POINTS
- . INSPECTION POINTS INTEGRATED INTO CONSTRUCTION SCHEDULE
- . QUALITY REPRESENTATIVE ON SYSTEM COMPLETION TEAM RESPONSIBLE FOR OVERALL QUALITY:
 - . INSURE THE TEAM PROPERLY PLANS FOR INSPECTION
 - . INSURE PROPER PQCI'S IDENTIFIED FOR TEAM
 - . INSURE AVAILABILITY OF QUALIFIED INSPECTORS
 - . INSURE NONCONFORMANCES REPORTED TO MPQAD-GA FOR TIMELY DISPOSITION AND ANALYSIS
 - . INSURE QC INSPECTIONS PERFORMED ON TIMELY BASIS
 - . INSURE THAT NEW WORK DOES NOT OBSCURE NONCONFORMANCES
- . PROCEDURES TO BE DEVELOPED BY PILOT TEAM

--

SIGNIFICANT INSPECTION PROCESS IMPROVEMENTS

IMPROVED QUALITY CONTROL INSPECTIONS AND INSPECTION REPORTS

REVIEWED AND MODIFIED TO:

- . MINIMIZE INSPECTOR INTERPRETATIONS BY IDENTIFYING SPECIFIC ACCEPT/REJECT CRITERIA IN SELF CONTAINED PQCI
- . INSURE CLARITY AND EFFECTIVENESS OF PQCI BY PILOT TESTS
- . INSURE ALL INSPECTION ATTRIBUTES AND ACCEPTANCE CRITERIA ARE INCLUDED BY MPQAD-QA PREPARATION AND PROJECT ENGINEERING OVERVIEW

ABSOLUTE AND TIMELY REPORTING OF NONCONFORMANCES

PROCEDURES REVISED TO:

- . REQUIRE ALL NONCONFORMANCES ARE IDENTIFIED AND RECORDED FOR ANALYSIS AND DISPOSITION
- . IMPROVE TRENDING AND IDENTIFICATION OF PROCESS DEFICIENCIES FOR TIMELY MANAGEMENT ACTION
- . ELIMINATE DUPLICATIVE NONCONFORMANCE REPORTING SYSTEMS

QUALITY REPRESENTATIVE ON SYSTEM COMPLETION TEAM REPRESENTS MPQAD-QA/QC

INTEGRATED CONSTRUCTION/INSPECTION PROCESS

IMPROVED INTEGRITY AND TIMELINESS OF INSPECTIONS BY:

- . USE OF DEFINED HOLD POINTS FOR INSPECTION IN CONSTRUCTION SEQUENCES
- . FORMAL DOCUMENTATION OF ALL OBSERVED NONCONFORMANCES AT ALL INSPECTION POINTS

SIGNIFICANT INSPECTION PROCESS IMPROVEMENTS

(CONT'D)

- . DEDICATED QUALITY REPRESENTATIVE FOR SYSTEMS AS MEMBER OF TEAM .
- . INTEGRATED PLANNING FOR INSPECTIONS BY TEAM

INTEGRATED QUALITY PROCEDURES DUE TO QA/QC INTEGRATION

- . ELIMINATION OF REDUNDANT OR DUPLICATIVE PROCEDURES
- . FOCUS ON SINGLE MISSION FOR QUALITY ORGANIZATIONS
- . ELIMINATION OF POTENTIAL INSPECTOR MISINTERPRETATION

SECTION 6.0

QUALITY PROGRAM REVIEW

OBJECTIVE:

REVIEW THE ADEQUACY AND COMPLETENESS OF THE QUALITY PROGRAM AND MAKE REVISIONS AS NECESSARY:

- ON AN ONGOING BASIS FOR GENERAL IMPROVEMENTS
- IN RESPONSE TO SPECIFIC CONCERNS (D/G INSPECTION)
- IN RESPONSE TO THIRD PARTY REVIEWS

DESCRIPTIONS:

- REVIEW SPECIFIC PROCEDURES FOR COMPLIANCE TO PROGRAM REVIEW
- REVIEW ACTUAL IMPLEMENTATION OF PROCEDURES
- COORDINATE REVIEWS WITH OTHER PROJECT AREAS
- PROVIDE INPUT AND RECOMMENDATION TO MANAGEMENT

RESULT EXPECTED:

- CONTINUED OVERALL IMPROVEMENT IN THE QUALITY PROGRAM CONTENT AND IMPLEMENTATION

STATUS:

ONGOING
REVIEWS

COMPLETE PRE-
SENT SPECIFIC
EFFORTS

CURRENT SPECIFIC PROGRAMMATIC REVIEWS

EFFORTS PRESENTLY UNDERWAY TO REVIEW PROGRAMMATIC REQUIREMENTS AND IMPLEMENTATION FOR:

MATERIAL TRACEABILITY:

- . REVIEW OF ALL PROJECT COMMITMENTS
- . REVIEW OF IMPLEMENTING PROCEDURES
- . REVIEW OF PRIOR AUDITS
- . REVISION OF RECEIPT INSPECTION PQCI

Q-SYSTEM RELATED REQUIREMENTS

- . VERIFICATION OF PROJECT COMMITMENTS BY ENGINEERING AND LICENSING

DESIGN DOCUMENT CONTROL

- . FLOW CHART OF EXISTING PROCEDURES
- . CHECK OF ACTUAL IMPLEMENTATION
- . COMPARISON WITH PROGRAMMATIC REQUIREMENTS

RECEIPT INSPECTION

- . REVIEW OF SOURCE INSPECTION/RECEIPT INSPECTION SYSTEMS
- . PQCI REVISED
- . RECERTIFICATION OF INSPECTORS
- . CONSIDERATION OF SELECTED OVERINSPECTION

SECTION 8.0
SYSTEM LAYUP

OBJECTIVE: PROVIDE ADEQUATE PROTECTION FOR PLANT SYSTEMS AND COMPONENTS UNTIL PLANT STARTUP

DESCRIPTION:

- . IDENTIFY AND PROTECT SYSTEMS WETTED DUE TO HYDRO TESTING OR FLUSHING
- . PROVIDE SCHEDULES FOR WALKDOWN TO ENSURE CLEANLINESS AND ADEQUATE PREVENTIVE MAINTENANCE
- . CARRY OUT WALKDOWNS TO ENSURE COMPLETENESS OF SYSTEM LAYUP ACTIVITIES

RESULTS IMMEDIATE PROTECTION OF WETTED SYSTEMS
EXPECTED: PROVIDE CONTINUED CARE FOR ALL COMPONENTS UNTIL SYSTEM TURNOVER

STATUS: COMPLETE LAYUP OF ALL WETTED SYSTEMS 1/15/83
ISSUED SCHEDULES FOR WALKDOWNS 1/15/83

SECTION 9.0
CONTINUING WORK ACTIVITIES

OBJECTIVES:

- .MEET PREVIOUS NRC REQUIREMENTS AND CONTINUE WITH ACTIVITIES WHICH DO NOT IMPEDE THE EXECUTION OF THE PROGRAM

- .PROVIDE DESIGN SUPPORT FOR ORDERLY SYSTEM COMPLETION WORK AND RESOLUTION OF IDENTIFIED ISSUES

- .ESTABLISH A MANAGEMENT CONTROL TO INITIATE ADDITIONAL SPECIFIED WORK THAT CAN PROCEED OUTSIDE OF THE SYSTEMS COMPLETION ACTIVITIES

SECTION 9.0
CONTINUING WORK ACTIVITIES

DESCRIPTION: THOSE ACTIVITIES THAT HAVE DEMONSTRATED EFFECTIVENESS IN THE QUALITY PROGRAM IMPLEMENTATION WILL CONTINUE DURING IMPLEMENTATION OF THE CONSTRUCTION COMPLETION PROGRAM.

THESE ARE:

1. NSSS INSTALLATION OF SYSTEMS AND COMPONENTS BEING CARRIED OUT BY B&W CONSTRUCTION COMPANY
2. HVAC INSTALLATION WORK BEING PERFORMED BY ZACK COMPANY. WELDING ACTIVITIES CURRENTLY ON HOLD WILL BE RESUMED AS THE IDENTIFIED PROBLEMS ARE RESOLVED
3. POST SYSTEM TURNOVER WORK, WHICH IS UNDER THE DIRECT CONTROL OF CONSUMERS POWER COMPANY, WILL BE RELEASED AS APPROPRIATE USING ESTABLISHED WORK AUTHORIZATION PROCEDURES
4. HANGER AND CABLE RE-INSPECTIONS, WHICH WILL PROCEED ACCORDING TO SEPARATELY ESTABLISHED COMMITMENTS TO NRC
5. REMEDIAL SOILS WORK WHICH IS PROCEEDING AS AUTHORIZED BY THE NRC
6. DESIGN ENGINEERING WILL CONTINUE AS WILL ENGINEERING SUPPORT OF OTHER PROJECT ACTIVITIES

SECTION 9.0
CONTINUING WORK ACTIVITIES

STATUS:

.THESE ACTIVITIES ARE PROCEEDING
WITH SCHEDULES THAT ARE
INDEPENDENT OF THIS PLAN.

THIRD PARTY REVIEWS

-INPO Self-initiated Evaluation by MAC

-Independent Design Verification of
Auxiliary Feedwater and one Other
System

-Independent Installation Implementation
Overview (Soils Work being performed
by Stone & Webster)

SELF-INITIATED EVALUATION

-INPO Received Report January 31, 1983

-Submission to NRC

-Corrective Action Implementation

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INDEPENDENT INSTALLATION IMPLEMENTATION OVERVIEW

-Status

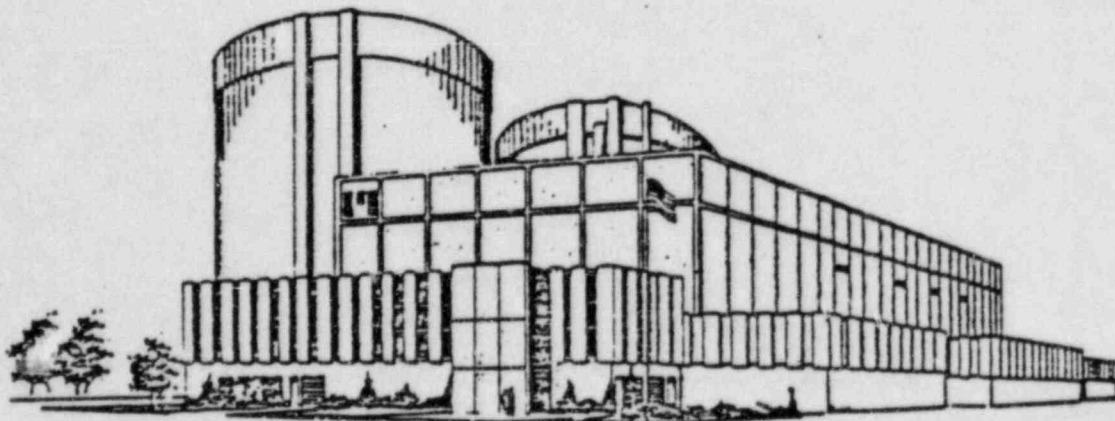
-Scope

- 1 - Familiarization With Procedures, Drawings, Specs, Organizations, Interfaces
- 2 - Evaluate adequacy of the above
- 3 - Evaluate compliance with above for construction activities and QC activities
- 4 - Submit observations and reports to Consumers Power with copies to NRC

-Schedule

- 1 - Award Contract February 15, 1983
- 2 - Activities 1 through 5 February 15 to August 15, 1983
- 3 - Final Report, Evaluation and Decision on Need to Extend Overview Schedule 9/1/83

MIDLAND INDEPENDENT DESIGN
VERIFICATION PROGRAM
FOR THE AFW SYSTEM AND ANOTHER SYSTEM
TO BE DETERMINED



FEBRUARY 8, 1983

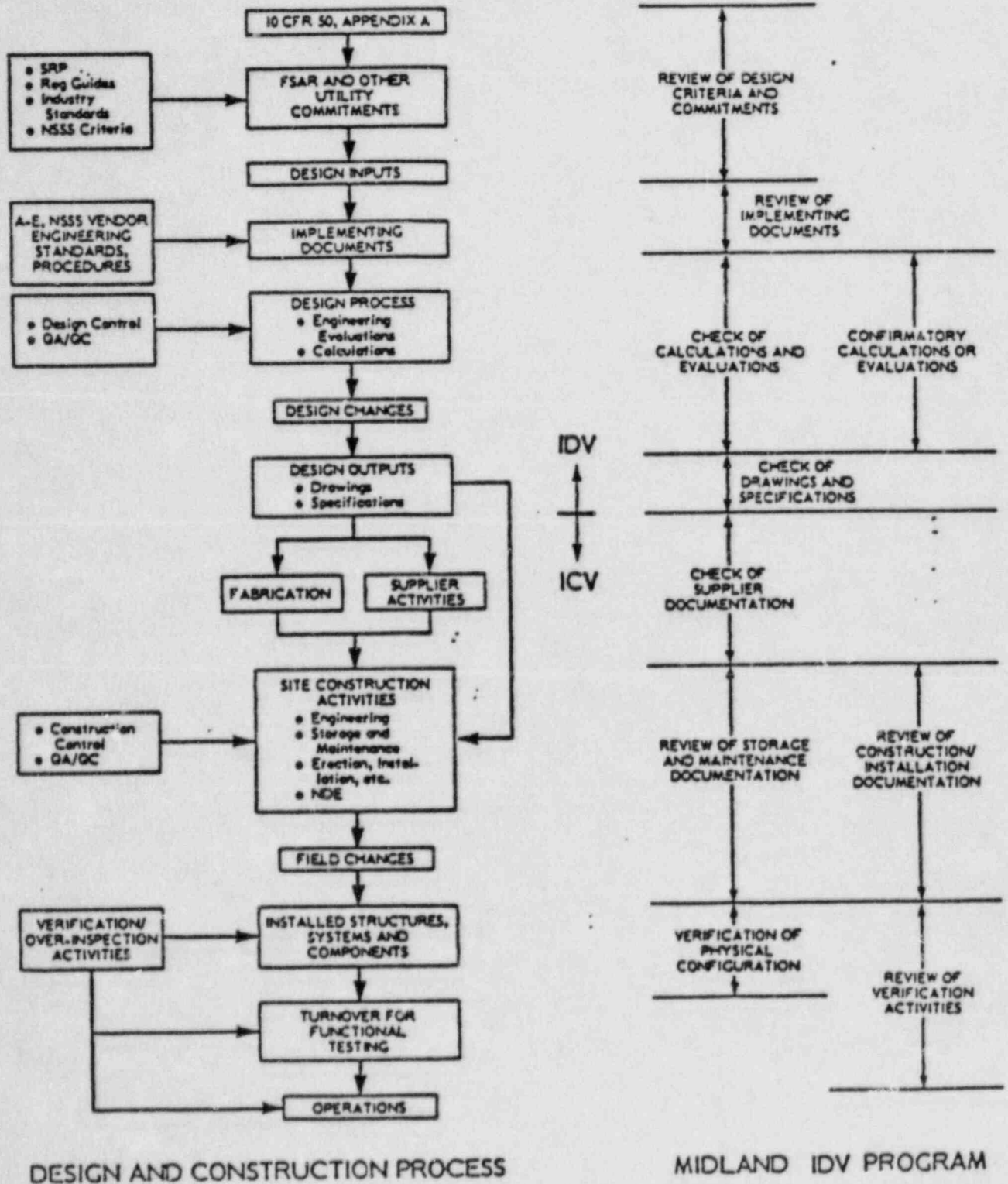
PRESENTATION OUTLINE

- PROGRAM STATUS
- INTER-RELATIONSHIP BETWEEN THE DESIGN AND CONSTRUCTION PROCESS AND THE MIDLAND IDV
- PHILOSOPHY OF REVIEW
- BASES FOR SAMPLE SELECTION
- SCOPE OF DESIGN VERIFICATION
- SCOPE OF CONSTRUCTION VERIFICATION
- REPORTING PROCESS
- SCHEDULE

PROGRAM STATUS

- PROJECT QUALITY ASSURANCE PLAN
 - DEVELOPED, APPROVED, AND UNDER IMPLEMENTATION
 - INCLUDES PROJECT CONTROL PROCEDURES, INSTRUCTIONS AND REPORTING REQUIREMENTS
- ENGINEERING PROGRAM PLAN
 - DEVELOPED, APPROVED, AND UNDER IMPLEMENTATION
 - 44 DESIGN TOPICS/5 CATEGORIES OF REVIEW
 - 15 CONSTRUCTION TOPICS/5 CATEGORIES OF REVIEW
- DESIGN VERIFICATION
 - IN PROGRESS FOR AFW SYSTEM
 - DESIGN CHAIN IDENTIFIED
 - PROJECT EXPERIENCE UNDER REVIEW TO ASSIST IN FOCUSING THE DESIGN VERIFICATION
- CONSTRUCTION VERIFICATION
 - RECENTLY INITIATED
 - INITIAL AS-BUILT CONFIGURATION VERIFICATION FOR PIPING/SUPPORTS NEARING COMPLETION

INTER-RELATIONSHIP BETWEEN THE MIDLAND DESIGN AND CONSTRUCTION PROCESS AND THE MIDLAND IDV PROGRAM



GOAL

- PROVIDE AN INDEPENDENT EVALUATION OF THE QUALITY OF THE MIDLAND PLANT DESIGN AND CONSTRUCTION

PHILOSOPHY OF REVIEW

- SELECT A REPRESENTATIVE SAMPLE OF ENGINEERED SYSTEMS, COMPONENTS, AND STRUCTURES WHICH WILL FACILITATE:
 - AN INTEGRATED ASSESSMENT OF IMPORTANT PARAMETERS AFFECTING THE FUNCTIONAL CAPABILITY OF THE TWO SYSTEMS, AND
 - THE ABILITY TO EXTRAPOLATE FINDINGS TO SIMILARLY DESIGNED FEATURES WITH A HIGH DEGREE OF CONFIDENCE
- CONSIDER POSITIVE AND NEGATIVE FINDINGS WHICH WILL ALLOW A BALANCED VIEW OF OVERALL QUALITY
- ASSESS ROOT CAUSE AND EXTENT OF IDENTIFIED FINDINGS
- REVIEW CORRECTIVE ACTION TAKEN TO ADDRESS FINDINGS

BASES FOR SAMPLE SELECTION

- SIMILAR TO SYSTEM SELECTION CRITERIA
 - IMPORTANCE TO SAFETY
 - INCLUSION OF DESIGN/CONSTRUCTION INTERFACES
 - ABILITY TO EXTRAPOLATE RESULTS
 - DIVERSE IN CONTENT
 - SENSITIVE TO PREVIOUS EXPERIENCE
 - ABILITY TO TEST AS-BUILT INSTALLATION

- STRONG RELIANCE UPON ENGINEERING JUDGMENT

- POTENTIAL USE OF STATISTICAL TECHNIQUES TO ESTABLISH SAMPLE SIZE FOR REPETITIVE PRODUCTION ACTIVITIES (E.G., CONCRETE AND STEEL PROPERTIES, WELDING RECORDS, ETC.)

- INDUSTRY DESIGN/CONSTRUCTION EXPERIENCE

- INDUSTRY OPERATING EXPERIENCE

- PROJECT DESIGN/CONSTRUCTION EXPERIENCE
 - AREAS EXPERIENCING REPEATED PROBLEMS

 - AREAS WHICH MAY NOT HAVE RECEIVED EXTENSIVE PRIOR REVIEW

- AREAS WHERE FINDINGS HAVE BEEN IDENTIFIED

INITIAL SAMPLE REVIEW MATRIX FOR THE AUXILIARY FEEDWATER SYSTEM
MIDLAND INDEPENDENT DESIGN VERIFICATION PROGRAM

DESIGN AREA	SCOPE OF REVIEW				
	REVIEW OF DESIGN CRITERIA AND COMMITMENTS	REVIEW OF IMPLEMENTING DOCUMENTS	CHECK OF CALCULATIONS AND EVALUATIONS	CONFIRMATORY CALCULATION OR EVALUATION	CHECK OF DRAWINGS AND SPECIFICATIONS
I. <u>AFW SYSTEM PERFORMANCE REQUIREMENTS</u>					
SYSTEM OPERATING LIMITS	X	X	X		
ACCIDENT ANALYSIS CONSIDERATIONS	X				
SINGLE FAILURE	X	X	X		
TECHNICAL SPECIFICATIONS	X	X			
SYSTEM ALIGNMENT/SWITCHOVER	X	X			
REMOTE OPERATION AND SHUTDOWN	X				
SYSTEM ISOLATION/INTERLOCKS	X	X			
OVERPRESSURE PROTECTION	X				
COMPONENT FUNCTIONAL REQUIREMENTS	X	X	X		X
SYSTEM HYDRAULIC DESIGN	X	X	X		
SYSTEM HEAT REMOVAL CAPABILITY	X	X	X		
COOLING REQUIREMENTS	X				
WATER SUPPLIES	X	X			
PRESERVICE TESTING/CAPABILITY FOR OPERATIONAL TESTING	X				
POWER SUPPLIES	X	X			
ELECTRICAL CHARACTERISTICS	X				
PROTECTIVE DEVICES/SETTINGS	X	X			X
INSTRUMENTATION	X	X	X		X
CONTROL SYSTEMS	X	X	X		
ACTUATION SYSTEMS	X				
NDE COMMITMENTS	X				
MATERIALS SELECTION	X	X			

INITIAL SAMPLE REVIEW MATRIX FOR THE AUXILIARY FEEDWATER SYSTEM
MIDLAND INDEPENDENT DESIGN VERIFICATION PROGRAM (CONTINUED)

DESIGN AREA	SCOPE OF REVIEW				
	REVIEW OF DESIGN CRITERIA AND COMMITMENTS	REVIEW OF IMPLEMENTING DOCUMENTS	CHECK OF CALCULATIONS AND EVALUATIONS	CONFIRMATORY CALCULATION OR EVALUATION	CHECK OF DRAWINGS AND SPECIFICATIONS
II. <u>AFW SYSTEM PROTECTION FEATURES</u>					
SEISMIC DESIGN	X				
● PRESSURE BOUNDARY	X	X	X	X	X
● PIPE/EQUIPMENT SUPPORT	X	X	X	X	X
● EQUIPMENT QUALIFICATION	X	X	X		X
HIGH ENERGY LINE BREAK ACCIDENTS	X				
● PIPE WHIP	X	X	X		X
● JET IMPINGEMENT	X				
ENVIRONMENTAL PROTECTION	X				
● ENVIRONMENTAL ENVELOPES	X	X	X	X	X
● EQUIPMENT QUALIFICATION	X	X	X		X
● HVAC DESIGN	X				
FIRE PROTECTION	X	X	X		
MISSILE PROTECTION	X				
SYSTEMS INTERACTION	X	X	X		
III. <u>STRUCTURES THAT HOUSE THE AFW SYSTEM</u>					
SEISMIC DESIGN/INPUT TO EQUIPMENT	X	X	X		X
WIND & TORNADO DESIGN/MISSILE PROTECTION	X				
FLOOD PROTECTION	X				
HELBA LOADS	X				
CIVIL/STRUCTURAL DESIGN CONSIDERATIONS	X				
● FOUNDATIONS	X	X	X		
● CONCRETE/STEEL DESIGN	X	X	X		X
● TANKS	X	X	X		

**INITIAL SAMPLE REVIEW MATRIX FOR THE AUXILIARY FEEDWATER SYSTEM
MIDLAND INDEPENDENT DESIGN VERIFICATION PROGRAM**

SYSTEM/COMPONENT	SCOPE OF REVIEW				
	REVIEW OF SUPPLIER DOCUMENTATION	REVIEW OF STORAGE AND MAINTENANCE DOCUMENTATION	REVIEW OF CONSTRUCTION/INSTALLATION DOCUMENTATION	REVIEW OF SELECTED VERIFICATION ACTIVITIES	VERIFICATION OF PHYSICAL CONFIGURATION
I. MECHANICAL					
• EQUIPMENT	X	X	X	X	X
• PIPING	X		X	X	X
• PIPE SUPPORTS	X		X	X	X
II. ELECTRICAL					
• EQUIPMENT	X	X	X	X	X
• TRAYS AND SUPPORTS	X				X
• CONDUIT AND SUPPORTS	X				X
• CABLE	X	X	X	X	X
III. INSTRUMENTATION AND CONTROL					
• INSTRUMENTS	X	X	X	X	X
• PIPING/TUBING	X				X
• CABLE	X				X
IV. HVAC					
• EQUIPMENT	X	X	X	X	X
• DUCTS AND SUPPORTS	X				X
V. STRUCTURAL					
• FOUNDATIONS	X		X		
• CONCRETE	X		X		X
• STRUCTURAL STEEL	X		X		X

SCOPE OF CONSTRUCTION VERIFICATION REVIEW

- REVIEW OF SUPPLIER DOCUMENTATION
 - SAMPLING CHECK AGAINST DESIGN SPECS AND DRAWINGS;
REVIEW OF
 - DRAWINGS
 - TEST REPORTS
 - CERTIFIED MATERIAL PROPERTY REPORTS
 - STORAGE AND INSTALLATION REQUIREMENTS
 - OPERATION AND MAINTENANCE REQUIREMENTS

- REVIEW OF STORAGE AND MAINTENANCE DOCUMENTATION
 - RECEIPT INSPECTION DOCUMENTATION

 - STORAGE, INCLUDING IN-STORAGE AND IN-PLACE MAINTENANCE
 - REQUIREMENTS INCLUDING PARAMETERS SUCH AS TEMPERATURE, HUMIDITY, CLEANLINESS, LUBRICATION, ENERGIZATION, ETC.

 - OBSERVATION OF ON-GOING ACTIVITIES

- REVIEW OF CONSTRUCTION/INSTALLATION DOCUMENTATION
 - IMPLEMENTATION OF PROPER REQUIREMENTS SUCH AS ERECTION SPECIFICATIONS, INSTALLATION REQUIREMENTS, CONSTRUCTION PROCEDURES, CODES AND STANDARDS, ETC.

 - REVIEW OF DESIGN CHANGES, FIELD MODIFICATIONS, ETC.

 - EVALUATION OF DOCUMENTATION FOR ITEMS SUCH AS CONCRETE, WELDING, BOLTING ACTIVITIES, ETC.



SCOPE OF CONSTRUCTION VERIFICATION REVIEW

(continued)

- OBSERVATION OF ON-GOING CONSTRUCTION ACTIVITIES
- REVIEW OF SELECTED VERIFICATION ACTIVITIES
 - CABLE SEPARATION, PIPE SUPPORT, AND BOLTING OVER-INSPECTION PROGRAMS, ETC.
 - OBSERVATION OF VARIOUS WALKDOWN ACTIVITIES (E.G., SYSTEMS INTERACTION - SEISMIC II/I)
 - COLD HYDROS
 - COMPONENT AND SYSTEM FUNCTIONAL TESTING PROGRAMS
 - CONSTRUCTION COMPLETION PROGRAM
- VERIFICATION OF PHYSICAL CONFIGURATION
 - INSTALLATION OF SYSTEM IN ACCORDANCE WITH PIPING AND INSTRUMENTATION DIAGRAMS
 - INSTALLATION OF COMPONENTS AND PIPING IN ACCORDANCE WITH ARRANGEMENT DRAWINGS AND ISOMETRICS (APPROXIMATE LOCATION AND ORIENTATION)
 - INSPECTION OF SELECTED FEATURES FOR COMPLIANCE WITH DESIGN DETAILS (APPROXIMATE DIMENSIONS)
 - VERIFICATION OF IDENTITY (EQUIPMENT PART NUMBERS, ETC.) IN ACCORDANCE WITH DRAWINGS, SPECIFICATIONS, OR SCHEMATICS
 - QUALITY OF WORKMANSHIP

2.11
NRC Participants

Darl Hood

Tom Novak

Jay Harrison

Bruce Burgess

Ron Cook

Ross Landsman

Ron Gardner

Wayne Shafer

Bert Davis

James Sniezek

Jim Keppler

Darrel Eisenhut

Bob Warnick

NRC Attendees

Jim Stone

Mike Wilcove

Bill Paton

Steve Lewis

Russ Marabito

CPCo/NRC Meeting - February 8, 1983 - 9:00 a.m.

Keppler's opening remarks and introductions.

Keppler - CPCo's implementation of program was not sound. Formalized CCP written by CPCo. Not approved by NRC. Purpose of meeting is to understand program and obtain public comment on it.

J. Cook - Soils work not covered in 1/10/83 letter. Treated separately. The program today excludes soils. Third party review will be discussed.

D. Miller - CCP Sources of Input (See attached sheet)

1. Evaluation of Systems
2. Transfer of QC to CPCo QA (MPQAD)
3. INPO Self Evaluations
4. 1981 SALP Report
5. October/November Diesel Generator Building Inspection
6. November NRC letter to ACRS
7. Need to place more emphasis on soils start

Eisenhut - What is problem you are addressing?

Miller - Novak letter to ACRS - validate past QC inspections, improve understanding of acceptance criteria.

QA/QC Implementation Improvement

1. Recertify QC inspectors
2. Integration of construction and inspection planning

Figure 1-1 - Schematic CCP

Davis/Shafer - Craft training questions

Miller - QC needs to be pushed down to craft personnel from supervisory personnel.

Eisenhut - Where is QC breakdown? Does the design say 3/8" or 1/2", etc.

Selby - Insufficient clarity, improper interpretation are the problems.

Miller - Figure 1-1

Gardner - Any rework during Phase 2?

Miller - No. No systems completion work.

Shafer - How will inspector know if room has been 100% inspected?

Miller - Rooms will be marked. Most critical systems will be done first, etc.

Eisenhut - Specs and drawings inspected to be accurate.

J. Cook - NRC never said CPCo had design problems.

Davis - Physical inspection fine - what about record verification?

Miller - Yes. You're right.

Keppler - Are you into Step 5 anywhere? (See schematic.)

Miller - No.

Miller - Section 2.0 Preparation of Plant

Roy Wells - Section 3.0

Shafer - How many inspectors are certified? When PQCI procedures ^{change} ~~change~~ will inspectors be retrained?

Wells - Yes. Procedures are being simplified. Inspectors will be recertified to new procedures. A Level III will make that decision.

Landsman - Will old manuals be used at all?

Wells - They are being rewritten to incorporate Bechtel's/CPCo's

Snizek - When these procedures are complete will there be any questions in the inspectors' minds?

Wells - None.

Shafer - What measures provide that once you get past system QC it ^{won't} ~~won't~~ be "business as usual"?

Figure 3.0 - MPOAD Organization Chart

Wells - Fine tuning being done now. There have been 200 additions since September.

Eisenhut/Keppler - Where have changes been made?

Wells - W. Bird, Manager, QA. Bird has offsite responsibilities. Wells has onsite responsibilities.

Eisenhut - Why is this change going to work? We need confidence. The leader sets tempo. What makes you qualified?

Selby - QC reported through Bechtel. Now QC does not. It is integrated with QA.

J. Cook - We looked at overall picture. Wells is the best man for the job. He has direct control over QC.

Selby - PQCI's being changed. Recertifications of inspectors, etc. All of these changes have been Wells' decisions.

Eisenhut - Are you going to have enough scheduling flexibility?

Wells - Naturally,

Keppler - Clarify statistics on behind inspections.

Rutgers, Bechtel - 16,000 still open.

Eisenhut - What is a desirable number?

Rutgers - No backlog in ideal world.

Eisenhut - How far behind are you?

Selby - 3100 behind. That seems a little high.

Figure 3.1

Landsman - Elaborate on reorganization.

Shafer - What measures have been or will be established to assure new organization will work?

Wells - Close supervision, continued monitoring. He'll (the supervisor) will review performances. We are revising trending program.

Keppler - One problem - timeliness of QC inspections. Personnel performance reflects supervision.

Wells - My people are well qualified. I'm keeping them.

System Team Organization - (See sheet)

Eisenhut - Make sure employee's concerns don't get lost in shuffle.

Gardner - Where are people going to come from?

Wells - Either CPCo, Bechtel or contract help.

Burgess - Will team supervisor be Bechtel employee?

Wells - Maybe.

BREAK

Wells - QC recertification

Eisenhut - Why did you need to go to a recert?

Wells - Written closed book exams now vs. old oral exams.

Snizek - Did all inspectors pass new exam?

Wells - Not yet. 235 people have been tested. 24 have failed. Of the 24 who took the test a second time, 2 failed again.

Eisennut - No specific period of time between tests?

Wells - No, but each test is different.

Hood - What disposition has been made on the two who failed?

Wells - They've been reassigned.

Gardner - PQCI exams?

Wells - About 500 - 30 failed once. 3 failed twice.

Shafer - What about the three who failed twice?

Wells - They've been removed.

Snizek - What is PQCI test?

Wells - Questions relate to how to perform inspections, etc.

Wells - Written test on technical inspection plan.

Shafer - Any feedback from PQCI staff?

Wells - Has not asked that question.

Harrison - Two people failed. Where are they now?

Wells - They are Bechtel employees. They are not being used in quality work.

Shafer - Performance demonstration - given by whom?

Wells -

Section 4.2 and 4.4

Don Miller - Benefits of Completion Team Approach (See sheet)

Eisenhut - Single point - who?

Miller - Quality representative.

Eisenhut - Same on last 2 bullets?

Miller - Yes.

Eisennut - QA/QC Manager responsible for inspection requirements? Why aren't governed by safety connotation of system?

Miller -

Novak - Team dedicated to one system?

Miller - Yes.

Shafer - How many teams?

Miller - About 25. No commitments. 850 total systems. Most of the systems turned over are electrical.

Snizek - I thought program would be used at turnover.

Miller - They will do QC inspection. For systems that have been turned over we will do . Miller gives team endpoint.

Burgess - System done? What do you mean?

Miller - System missing pump (for example). Flush and check, start layup. When done, start testing.

Gardner - Phase 1 - Quality Rep is doing most of the work.

Miller - Still working on team interaction.

Eisenhut - All safety-related structure systems components will be reverified?

Miller - Yes.

Landsman - What is safety-related?

Miller - We live to FSAR.

Eisenhut - FSAR may be amended.

Keppler - We're taking issue with the FSAR.

System Team Development - (See attached)

Keppler - Project time frame?

Miller - Sometime mid-March

Keppler - Management reviews by March?

Miller - Yes.

Gardner - Status activities and quality verification parallel

Now does team process identified nonconformances?

Miller - Working out details.

Shafer - Team not responsible for Appendix B?

Miller - Inspection of records done by QC

System Team Operations - (See attached)

Shafer - Can anyone write an NCR?

Miller - Yes.

Section 4.3 - Roy Wells

R. Cook - Does that include PQCI inspections?

Miller - Yes.

Inspection Plan (PQCI) Review and Revision - (See attached)

Eisenhut - First bullet - as opposed to safety-related? Explain difference between "important to safety" and "safety-related".

Wells - CPCo will look into Q-ness.

Gardner - No inspection due to backlog ever. Not a reinspection.

Wells - The team will do that.

Verification Program Concepts - (See attached)

Novak - System turned over - example.

Miller -

Snizek - Rebar, anchor bolt not accessible for direct inspection - why not UT/

Wells - They are addressing. Not committing yet.

Shafer - QC inadequate in past. 153,000 inspections closed by those personnel.

Miller - They will continue. If can't document

Warnick - Problem with sampling - 100%.

Wells - We'll reinspect. We'll go 100% unless statistically can't be proven.

Davis - What confidence level?

Wells/Norris (MAC) -

Section 4.5 - Phase 2 - System Completion - (See attached)

Eisenhut - Return to Phase 2. Let's discuss independent third party.

Concepts of IPIN Program - (See attached)

Significant Inspection Process Improvement - (See attached)

Section 6.0 - Qualification Program Review - (See attached)

Gardner - Is completion of this a "hold point" for Phase 1 or 2?

Wells - No. We haven't identified significant programmatic problems.

No predetermined hold points.

Snizek - Are you looking at simply diesel generators?

Wells -

Shafer - Quality verification effort - when?

Wells - It will be factored into

Keppler - NRC will decide what is "Q" and what's not.

LUNCH

Section 8 - System Layup (See attached)

Section 9 - Continuing Work Activities - (See attached)

Miller - In process of doing 4-point proofload jacking. No soils work being done.

Third Party Independent Review - Keeley - (See attached)

Keeley - Self-initiated evaluation will be submitted to NRC by end of February. Items from MAC being factored into corrective action implementation.

Eisenhut - Characterize findings in report.

Keeley - Gave insight into how to improve implementation to have a better program.

Novak - HVAC system findings?

Keeley - Positive. CPCo took aggressive action. 14 people were here 4 weeks. More distinct instructions for craft personnel. MAC has not done any INPO audits. MAC found consistent or above average.

Independent Installation Implementation Overview (See attached)

Keeley - Status so far. Talking to TERA and Stone and Webster, drafting specs.

Keppler - NRC never formally blessed Stone and Webster.

Eisenhut - NRC will pick system for design verification.

Keppler - CPCo feels made appropriate changes to QA, but wants a third party independent party overseeing.

Landsman - Stone and Webster does documentation review, makes sure implemented, does not do physical inspection.

Keeley - Geotechnical engineer.

Program Status - Tera Corporation - (See attached)

Eisenhut - Program plan has been submitted to CPCO, but not NRC.

Keeley - Their QA people must sign off.

Eisenhut - NRC may see program and changes made by CPCo. Asked to have NRC sent a copy to ensure independent effort.

Tera - Three years for auxiliary feedwater

Novak - Control aspect of AFW went to Bechtel?

Tera - Yes.

- Review of supplier documentation and review of storage and maintenance of documentation ongoing.

Gardner - Will you verify as-built configuration?

Tera - Yes Refers to a sample of supports.

Eisenhut - Is CPCo giving you free reign to go ahead and make checks?

Tera - Yes.

Eisenhut - Are they basically measurement checks? No independent NDE yet.

It looks necessary. Schedule for AFW late March/early April.

J. Cook - Complete entire project, not just NRC concerns or QA concerns.
CPCo is committed to completing the plan.

Kepler - Meeting was helpful. A lot to deal with. Steps are being taken in right direction, but NRC has been let down before. NRC feels strongly about independent design review and independent construction work. Ongoing inspection in soils and safety-related work. CPCo has covered a lot of bases not submitted in letter. NRC wants public comment and NRC review. Don't lock into anything on third party.

Eisenhut - Pleased with 1/10/83 letter. CPCo slowed down their own activity. Need to restore confidence in yourself and public and NRC. Third party review will play important part. Encouraged to see pieces fitting together. Cautious optimism.

Snizek - Team concept - feedback to craft personnel. Craft need incentive. If they make a mistake let them bring it to their supervisor, inspectors don't need to find.

PUBLIC COMMENTS

Wendell Marshall

Unnamed speaker

Oswald Anders (See attached)

A G E N D A

Opening Remarks

JWCook

Construction Completion Program

Introduction

DBMiller

Detailed Description

RAWells

Third Party Review

GSKeeley/TERA

Bechtel Comments

JARutgers

Closure

JWCook

CONSTRUCTION COMPLETION PROGRAM

SOURCES OF INPUT

1. EVALUATION OF SYSTEMS COMPLETION
2. TRANSFER OF QC TO CPCO QA (MPQAD)
3. INPO SELF-INITIATED EVALUATION
4. 1981 SALP REPORT AND SUBSEQUENT DISCUSSIONS
5. THE OCTOBER/NOVEMBER DIESEL-GENERATOR BUILDING INSPECTION
6. NOVEMBER NRC LETTER TO THE ACRS
7. NEED TO PLACE MORE EMPHASIS ON SOILS START

CONSTRUCTION COMPLETION PROGRAM

OBJECTIVES

IMPROVE PROJECT INFORMATION STATUS BY:

- PREPARING AN ACCURATE LIST OF TO-GO WORK AGAINST A DEFINED BASELINE.
- BRINGING INSPECTIONS UP-TO-DATE AND VERIFYING THAT PAST QUALITY ISSUES HAVE BEEN OR ARE BEING BROUGHT TO RESOLUTION.
- MAINTAINING A CURRENT STATUS OF WORK AND QUALITY INSPECTIONS AS THE PROJECT PROCEEDS.

IMPROVE IMPLEMENTATION OF THE QA PROGRAM BY:

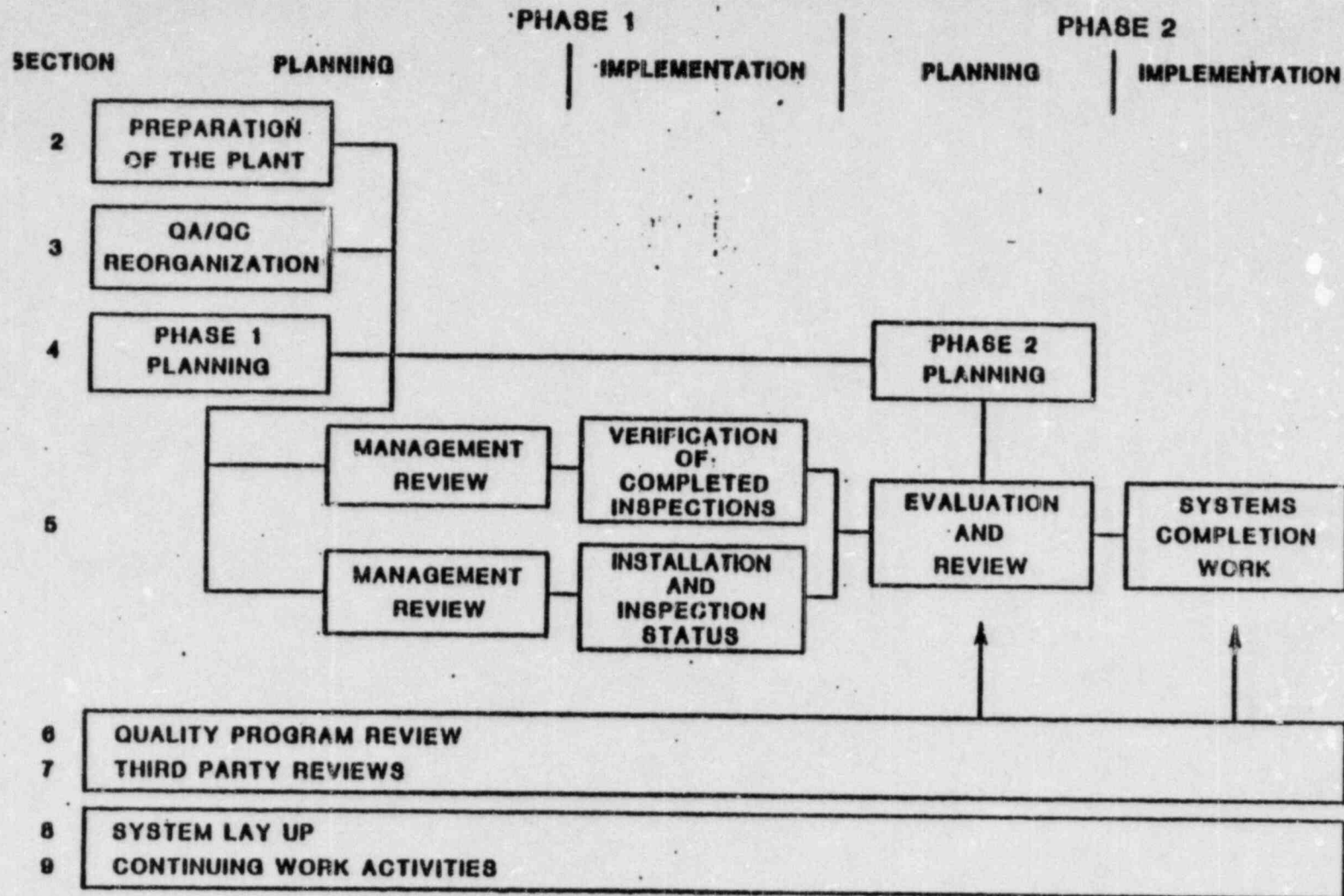
- EXPANDING AND CONSOLIDATING CONSUMERS POWER COMPANY CONTROL OF THE QUALITY FUNCTIONS.
- IMPROVING THE PRIMARY INSPECTION PROCESS.
- PROVIDING A UNIFORM UNDERSTANDING OF THE QUALITY REQUIREMENTS AMONG ALL PARTIES.

CONSTRUCTION COMPLETION PROGRAM (CONTD)

ASSURE EFFICIENT AND ORDERLY CONDUCT OF THE PROJECT BY:

- ESTABLISHING AN ORGANIZATIONAL STRUCTURE CONSISTENT WITH THE REMAINING WORK.
- PROVIDING SUFFICIENT NUMBERS OF QUALIFIED PERSONNEL TO CARRY OUT THE PROGRAM.
- MAINTAINING FLEXIBILITY TO MODIFY THE PLAN AS EXPERIENCE DICTATES.

FIGURE 1-1
CONSTRUCTION COMPLETION PROGRAM SCHEMATIC



SECTION 2.0
PREPARATION OF THE PLANT

OBJECTIVES: TO ALLOW IMPROVED ACCESS TO SYSTEMS FOR PROGRAM ACTIVITIES

DESCRIPTION: REDUCE THE WORKFORCE AND LIMIT Q ACTIVITIES
REMOVE THE CONSTRUCTION EQUIPMENT AND CLEAR AREAS
INSPECT, STORE AND SALVAGE EQUIPMENT

RESULTS: PLANT IS IN A CONDITION TO FACILITATE INSTALLATION AND INSPECTION
STATUS AND VERIFICATION OF COMPLETED WORK

STATUS: REDUCTION IN FORCE STARTED 12/1/82 WITH CLEANUP COMPLETED ON
1/31/83.

SECTION 3.0

QA/QC ORGANIZATIONAL CHANGES

OBJECTIVE:

- ESTABLISH INTEGRATED QA/QC ORGANIZATION UNDER CPCO CONTROL
- TRAIN AND RE-CERTIFY QC INSPECTION PERSONNEL

DESCRIPTION:

- QC ORGANIZATION REPORTS DIRECTLY AND SOLELY TO CPCO MPQAD
- QA AND QC RESPONSIBILITIES REDEFINED AS AN INTEGRATED TEAM
- QA DEVELOPS INSPECTION PLANS - QC IMPLEMENTS PLANS - QA MONITORS
- BECHTEL'S QC AND QA MANUALS USED AS APPROVED FOR MIDLAND
- ASME REQUIREMENTS REMAIN IMPOSED ON CONTRACTOR AS N-STAMP HOLDER - QA MONITORS
- QC INSPECTORS RECERTIFIED

RESULT EXPECTED:

- FULLY INTEGRATED QUALITY ORGANIZATION UNDER CPCO CONTROL
- UNIFORM UNDERSTANDING OF QUALITY REQUIREMENTS AMONG ALL PARTIES
- IMPROVED PRIMARY INSPECTION PROCESS WITH RECERTIFIED PERSONNEL
- IMPROVED AND AGGRESSIVE IMPLEMENTATION OF QA PROGRAM

STATUS:

TRANSFER QC
ORG TO CPCO

1/17/83

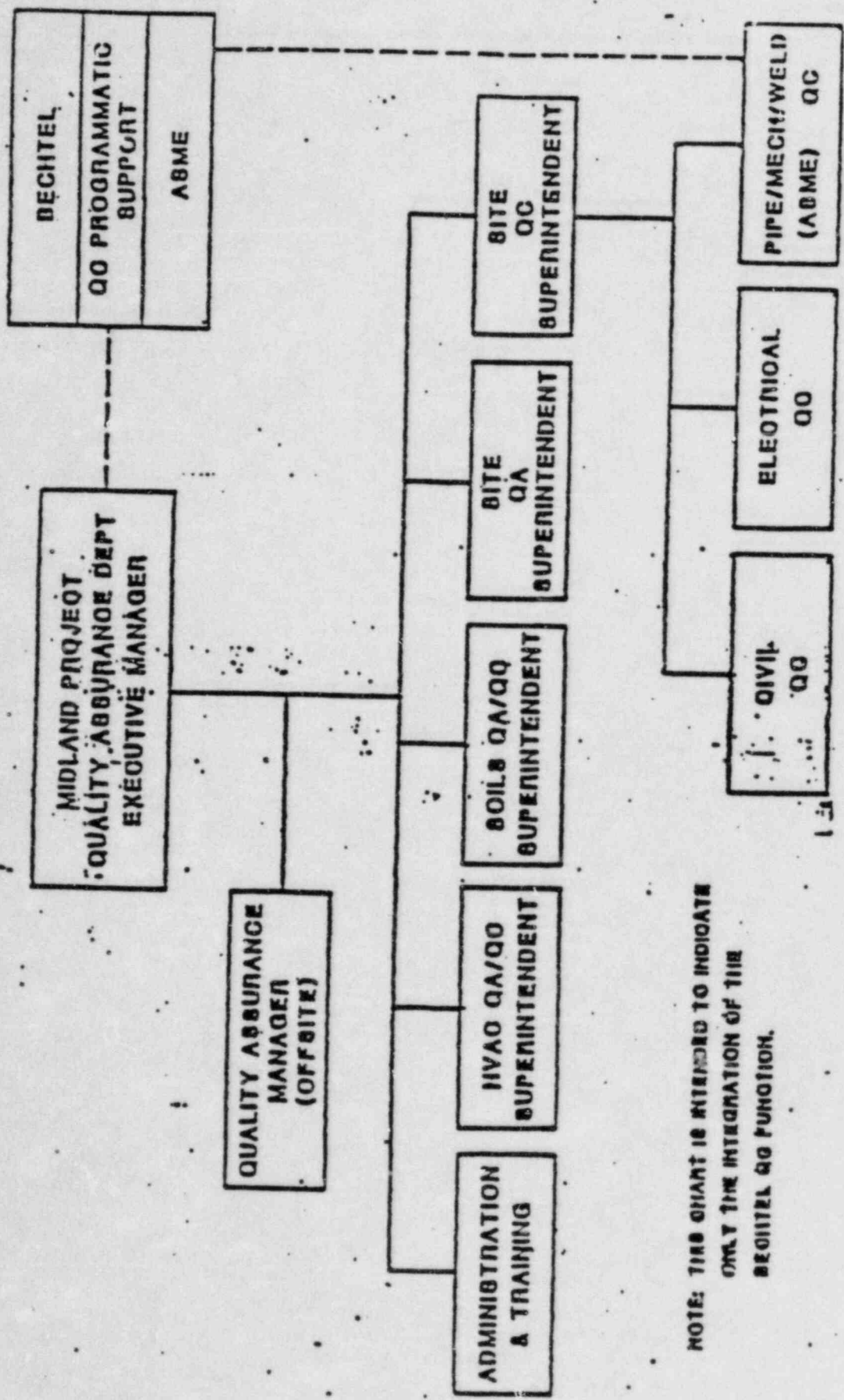
SUBMIT PROGRAMMATIC
CHANGES TO NRC

2/17/83

COMPLETE INSPECTOR
RECERTIFICATION

4/1/83

FIGURE 0-1
MPOAD ORGANIZATION



NOTE: THIS CHART IS INTENDED TO INDICATE ONLY THE INTEGRATION OF THE BECHTEL QC FUNCTION.

QC RECERTIFICATION

PROGRAM:

- . COVERS ALL QC INSPECTORS INTEGRATED WITH MPQAD
- . CLASS ROOM TRAINING ON PROGRAMMATIC AND INSPECTION PLANS
- . WRITTEN CLOSED BOOK EXAMINATIONS WITH 80% ACHIEVEMENT REQUIREMENT ON PROGRAMMATIC AND INSPECTION PLANS
- . ON THE JOB TRAINING AND PERFORMANCE DEMONSTRATION EXAMINATIONS WITH 100% ACHIEVEMENT REQUIREMENT ON INSPECTION PLANS
- . FINAL CERTIFICATION GIVEN BY MPQAD PERSONNEL QUALIFIED AS ANSI LEVEL III

TRAINING STAFF:

- . UNDER MPQAD DIRECTION
- . DEDICATED STAFF WITH SUPPORT BY EXPERIENCED MPQAD STAFF
- . EXPERIENCED TRAINING SUPERVISION AND SELECTED INSTRUCTORS
- . PRESENT COMPLEMENT
 - . SUPERVISORS
 - . INSTRUCTORS
 - . PROGRAM SUPPORT (LESSON PLANS - EXAMS)

STATUS: (AS OF 2/4/83)

- . ALL PERSONNEL RECERTIFIED TO QC PROGRAM
- . NEARLY 500 INSPECTOR - PQCI TESTS
- . OVER 100 PERFORMANCE DEMONSTRATIONS
- . APPROXIMATELY 75 INSPECTOR - PQCI CERTIFICATIONS

SECTION 4.2 AND 4.4

PROGRAM PLANNING

TEAM ORGANIZATION

OBJECTIVE: ORGANIZE AND TRAIN TEAM AND PREPARE PROCEDURES FOR INSTALLATION AND INSPECTION STATUS ASSESSMENT AND FOR SYSTEMS COMPLETION.

DESCRIPTION:

- .DEVELOP TEAM CONCEPT
- .SELECT PILOT TEAM TO TEST PROCESSES AND PROCEDURES
- .PREPARE JOB RESPONSIBILITIES AND PROCEDURES
- .PROVIDE TEAM TRAINING FOR STATUS ASSESSMENT AND SYSTEMS COMPLETION

RESULTS .IMPROVED INSPECTION AND INSTALLATION PLANNING AND EXECUTION

EXPECTED:

- .IMPROVED DIRECTIONS TO CRAFTS
- .IMPROVED COMMUNICATION BETWEEN CONSTRUCTION, QC, ENGINEERING AND TESTING

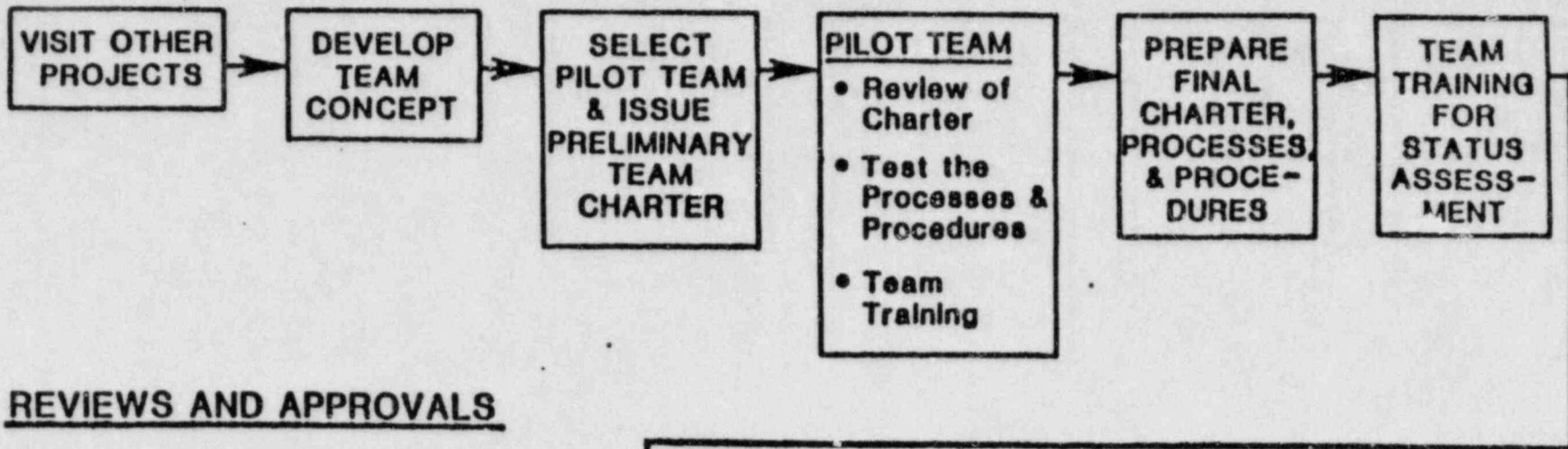
STATUS ESTABLISH TEAM CONCEPT AND DESIGNATE PILOT TEAM 1/21/83

BENEFITS OF "COMPLETION TEAM" APPROACH.

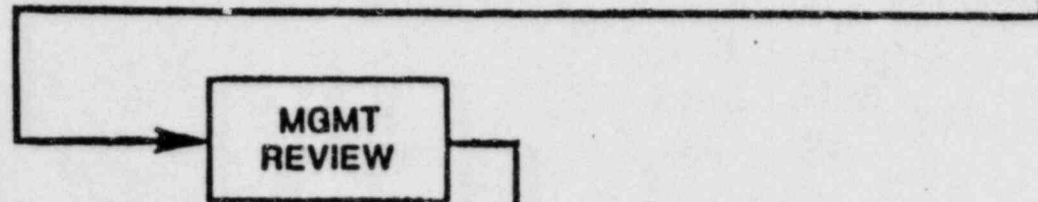
- SINGLE GROUP RESPONSIBLE FOR ALL ASPECTS OF SYSTEM COMPLETION TO FUNCTIONAL TURNOVER
- IMPROVED COMMUNICATION BY BEING PHYSICALLY LOCATED TOGETHER
- IMPROVED MAINTENANCE OF STATUS OF WORK
- SINGLE POINT CONTACT FOR QUALITY INSPECTION REQUIREMENTS
- IMPROVED INTEGRATION OF QUALITY INSPECTION PLANS WITH THE INSTALLATION PLANS
- SINGLE POINT CONTACT FOR ENGINEERING/DESIGN REQUIREMENTS
- SINGLE POINT CONTACT FOR TESTING REQUIREMENTS

SYSTEM TEAM DEVELOPMENT

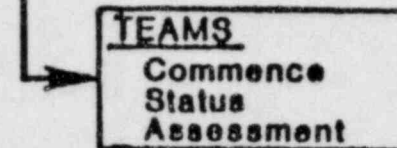
ORGANIZATIONAL PROCESS & PROCEDURE DEVELOPMENT



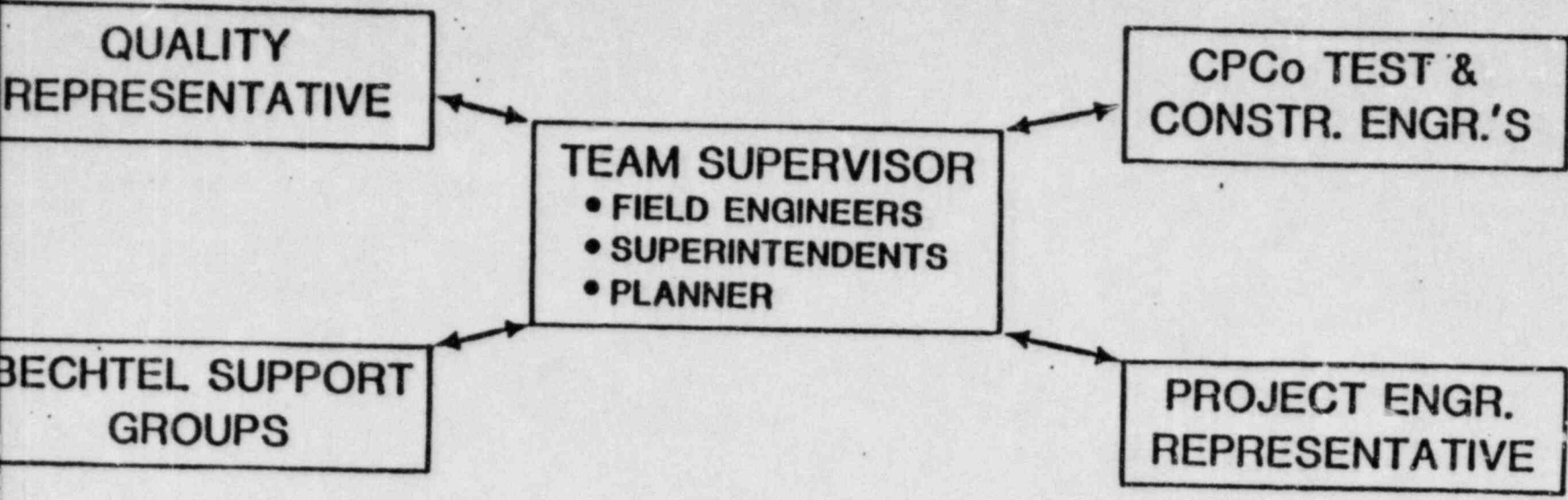
REVIEWS AND APPROVALS



COMMENCE WORK



SYSTEM TEAM OPERATIONS



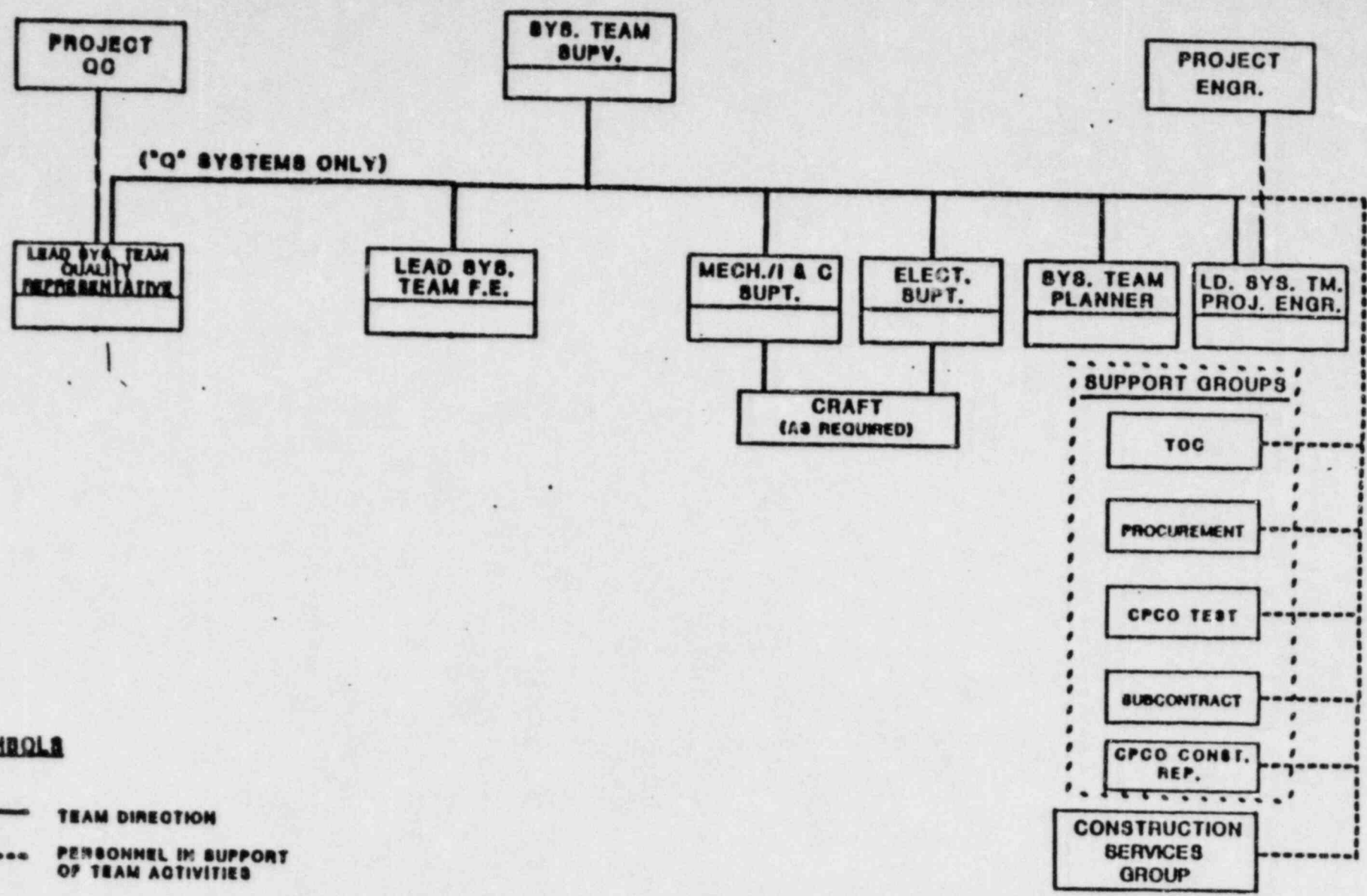
PHASE I

- REVIEW DOCUMENTS TO DESCRIBE THE SYSTEM SCOPE
- COMPARE PHYSICAL STATUS TO THE DOCUMENTS
- PERFORM QUALITY VERIFICATION ACTIVITIES AS ASSIGNED
- IDENTIFY REMAINING WORK

PHASE II

- DEVELOP DETAIL SYSTEM COMPLETION SCHEDULES
- DIRECT & ACCOMPLISH THE WORK
- MONITOR & REPORT STATUS/PROGRESS
- IDENTIFY PROBLEMS FOR RESOLUTION & MGMT. REVIEW
- COMPLETE THE SYSTEMS FOR FUNCTIONAL TURNOVER

SYSTEM TEAM ORGANIZATION



SYMBOLS

- TEAM DIRECTION
- - - -** PERSONNEL IN SUPPORT OF TEAM ACTIVITIES
- - - -** TECHNICAL, PROGRAMMATIC & ADMINISTRATIVE DIRECTION

SECTION 4.3

PROGRAM PLANNING - PHASE 1

QUALITY VERIFICATION

OBJECTIVES:

- DEVELOP AND IMPLEMENT A QUALITY VERIFICATION PROGRAM FOR COMPLETED INSPECTIONS

DESCRIPTION:

- REVIEW EXISTING INSPECTION PLANS (PQCI) AND REVISE AS NECESSARY
- WRITE NEW INSPECTION PLANS (PQCI) IF REQUIRED
- VALIDATE PAST COMPLETED INSPECTION

RESULT EXPECTED:

- ESTABLISH THE VALIDITY OF COMPLETED INSPECTIONS AND INSTALLATION QUALITY STATUS

STATUS:

- DOCUMENT AND CORRECT ANY NONCONFORMING CONDITIONS

PQCI REVISION TO
SUPPORT START OF
REINSPECTION

2/22/83

DEVELOP VERIFI-
CATION PROGRAM
CONCEPT

2/15/83

DEVELOP DETAILED
PLANS FOR VERIFI-
CATION EFFORT

2/28/83

INSPECTION PLAN (PQCI) REVIEW AND REVISION

EXISTING PQCI'S REVIEWED AND REVISED, AS NECESSARY, BY MPQAD-GA
NEW PQCI'S WILL BE WRITTEN IF REQUIRED

PQCI'S MUST MEET RELEVANT CRITERIA INCLUDING:

- CONFIRM THAT ATTRIBUTES IMPORTANT TO SAFETY ARE INCLUDED
- ACCEPT/REJECT CRITERIA CLEARLY STATED
- INFORMATION NECESSARY FOR INSPECTION CONTAINED IN PQCI
- INSPECTION POINTS CLEARLY NOTED
- PROCEDURE FOR DOCUMENTATION UNDER REVIEW AND REVISION
- INSPECTION PLANS REVIEWED BY PROJECT ENGINEERING AS AN OVERVIEW TO INSURE ALL TECHNICAL REQUIREMENTS INCLUDED
- REVISED/NEW PQCI PILOT TESTED BEFORE IMPLEMENTATION
- QC INSPECTORS RETRAINED TO REVISED PQCI

VERIFICATION PROGRAM CONCEPTS

- . ESTABLISH THE VALIDITY OF PAST/CLOSED INSPECTION REPORTS
- . CONFIRM THE ACCEPTABLE CONDITION OF INSTALLED COMPONENTS, SYSTEM AND STRUCTURES
- . DOCUMENT AND CORRECT NONCONFORMING CONDITIONS
- . SCOPE OF PROGRAM INCLUDES ALL COMPLETED INSPECTION REPORTS
- . INSPECTION REPORTS CATEGORIZED BY PQCI
- . VERIFY THE QUALITY OF COMPLETED WORK USING AN ACCEPTABLE SAMPLING PLAN WHERE APPROPRIATE
- . VERIFICATION PLAN BASED UPON SPECIFIC INSPECTION REPORT POPULATIONS:
 - . ITEM ACCESSIBLE FOR REINSPECTION
 - . DOCUMENTATION ONLY IS AVAILABLE
 - . UNIQUE AREAS OF CONCERN
 - . LOT SIZES NOT APPROPRIATE FOR STATISTICAL SAMPLE
- . CONTINUATION OF REINSPECTIONS ALREADY COMMITTED
 - . CABLE ROUTING AND IDENTIFICATION
 - . HANGERS
- . DETAILS OF PLAN STILL UNDER DEVELOPMENT

SECTION 4.5

QA/QC SYSTEMS COMPLETION PLANNING (PHASE 2)

OBJECTIVE:

- FORMALLY INTEGRATE INSPECTION PLANNING WITH CONSTRUCTION SEQUENCE
- VERIFY THAT PQCI'S ARE FULLY ACCEPTABLE FOR NEW INSPECTIONS

DESCRIPTION:

- ESTABLISH AN IN PROCESS INSPECTION PROGRAM
- CLEARLY DEFINE INSPECTION POINTS IN PQCI
- UTILIZE QUALITY REPRESENTATIVE ON SYSTEM COMPLETION TEAM
- MPQAD-QA CONDUCT FINAL REVIEW OF PQCI

RESULT EXPECTED:

- TIMELY COMPLETION OF QC INSPECTIONS ON SYSTEM COMPLETION WORK
- CLEAR AND DETAILED INSPECTION REQUIREMENTS
- TIMELY DOCUMENTATION AND CORRECTION OF NONCONFORMANCES

STATUS:

DEVELOP CONCEPTUAL PROCEDURES FOR INTEGRATED INSPECTION

DEVELOP PROCEDURES FOR INTEGRATED INSPECTION WITH PILOT TEAM

FINAL REVIEW OF PQCI

2/22/83

CONCEPTS OF IN PROCESS INSPECTION PROGRAM

- . MPQAD-QA ISSUES FINAL PQCI WITH IDENTIFIED INSPECTION POINTS
- . INSPECTION POINTS INTEGRATED INTO CONSTRUCTION SCHEDULE
- . QUALITY REPRESENTATIVE ON SYSTEM COMPLETION TEAM RESPONSIBLE FOR OVERALL QUALITY:
 - . INSURE THE TEAM PROPERLY PLANS FOR INSPECTION
 - . INSURE PROPER PQCI'S IDENTIFIED FOR TEAM
 - . INSURE AVAILABILITY OF QUALIFIED INSPECTORS
 - . INSURE NONCONFORMANCES REPORTED TO MPQAD-QA FOR TIMELY DISPOSITION AND ANALYSIS
 - . INSURE QC INSPECTIONS PERFORMED ON TIMELY BASIS
 - . INSURE THAT NEW WORK DOES NOT OBSCURE NONCONFORMANCES
- . PROCEDURES TO BE DEVELOPED BY PILOT TEAM

SIGNIFICANT INSPECTION PROCESS IMPROVEMENTS

IMPROVED QUALITY CONTROL INSPECTIONS AND INSPECTION REPORTS

REVIEWED AND MODIFIED TO:

- . MINIMIZE INSPECTOR INTERPRETATIONS BY IDENTIFYING SPECIFIC ACCEPT/REJECT CRITERIA IN SELF CONTAINED PQCI
- . INSURE CLARITY AND EFFECTIVENESS OF PQCI BY PILOT TESTS
- . INSURE ALL INSPECTION ATTRIBUTES AND ACCEPTANCE CRITERIA ARE INCLUDED BY MPQAD-QA PREPARATION AND PROJECT ENGINEERING OVERVIEW

ABSOLUTE AND TIMELY REPORTING OF NONCONFORMANCES

PROCEDURES REVISED TO:

- . REQUIRE ALL NONCONFORMANCES ARE IDENTIFIED AND RECORDED FOR ANALYSIS AND DISPOSITION
- . IMPROVE TRENDING AND IDENTIFICATION OF PROCESS DEFICIENCIES FOR TIMELY MANAGEMENT ACTION
- . ELIMINATE DUPLICATIVE NONCONFORMANCE REPORTING SYSTEMS

QUALITY REPRESENTATIVE ON SYSTEM COMPLETION TEAM REPRESENTS MPQAD-QA/QC

INTEGRATED CONSTRUCTION/INSPECTION PROCESS

IMPROVED INTEGRITY AND TIMELINESS OF INSPECTIONS BY:

- . USE OF DEFINED HOLD POINTS FOR INSPECTION IN CONSTRUCTION SEQUENCES
- . FORMAL DOCUMENTATION OF ALL OBSERVED NONCONFORMANCES AT ALL INSPECTION POINTS

SIGNIFICANT INSPECTION PROCESS IMPROVEMENTS

(CONT'D)

- . DEDICATED QUALITY REPRESENTATIVE FOR SYSTEMS AS MEMBER OF TEAM .
- . INTEGRATED PLANNING FOR INSPECTIONS BY TEAM

INTEGRATED QUALITY PROCEDURES DUE TO QA/QC INTEGRATION

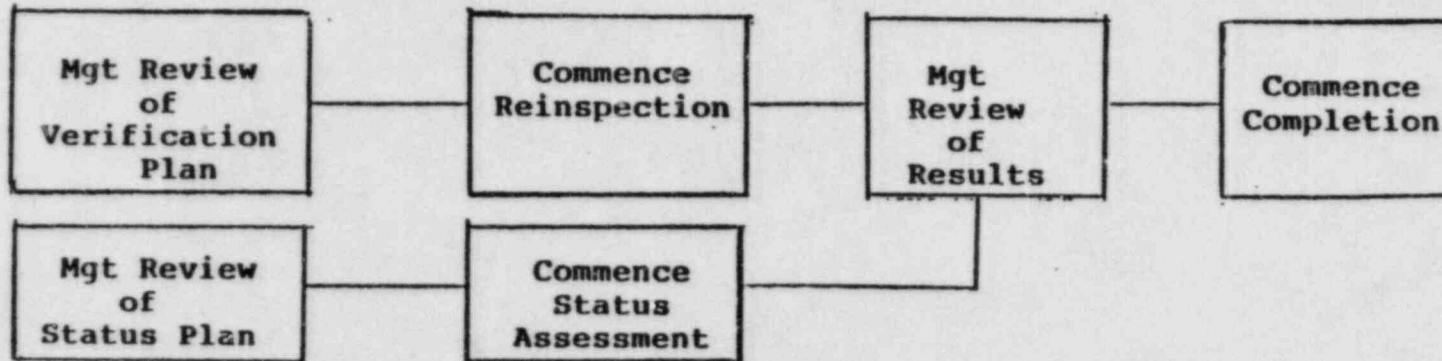
- ..ELIMINATION OF REDUNDANT OR DUPLICATIVE PROCEDURES
- . FOCUS ON SINGLE MISSION FOR QUALITY ORGANIZATIONS
- . ELIMINATION OF POTENTIAL INSPECTOR MISINTERPRETATION

SECTION 5.0
PROGRAM IMPLEMENTATION

OBJECTIVE: .PROVIDE A PROCESS FOR CONTROL, REVIEW AND APPROVAL OF EACH MAJOR TASK AS THE PROGRAM PROCEEDS.

DESCRIPTION: .ESTABLISH COMPLETION AND QUALITY STATUS
.INTEGRATE CONSTRUCTION AND QUALITY ACTIVITIES
.IMPROVE ON-GOING QUALITY PERFORMANCE

RESULT EXPECTED .COMPLETE SYSTEMS FOR TURNOVER TO C/PCO TESTING
.PROVIDE CONTINUING DEMONSTRATION OF QUALITY AS WORK PROCEEDS
.PROVIDE VERIFICATION OF QUALITY IN COMPLETED WORK



SECTION 6.0

QUALITY PROGRAM REVIEW

OBJECTIVE:

REVIEW THE ADEQUACY AND COMPLETENESS OF THE QUALITY PROGRAM AND MAKE REVISIONS AS NECESSARY:

- ON AN ONGOING BASIS FOR GENERAL IMPROVEMENTS
- IN RESPONSE TO SPECIFIC CONCERNS (D/G INSPECTION)
- IN RESPONSE TO THIRD PARTY REVIEWS

DESCRIPTIONS:

- REVIEW SPECIFIC PROCEDURES FOR COMPLIANCE TO PROGRAM REVIEW
- REVIEW ACTUAL IMPLEMENTATION OF PROCEDURES
- COORDINATE REVIEWS WITH OTHER PROJECT AREAS
- PROVIDE INPUT AND RECOMMENDATION TO MANAGEMENT

RESULT EXPECTED:

- CONTINUED OVERALL IMPROVEMENT IN THE QUALITY PROGRAM CONTENT AND IMPLEMENTATION

STATUS:

ONGOING
REVIEWS

COMPLETE PRE-
SENT SPECIFIC
EFFORTS

CURRENT SPECIFIC PROGRAMMATIC REVIEWS

EFFORTS PRESENTLY UNDERWAY TO REVIEW PROGRAMMATIC REQUIREMENTS AND IMPLEMENTATION FOR:

MATERIAL TRACEABILITY:

- . REVIEW OF ALL PROJECT COMMITMENTS
- . REVIEW OF IMPLEMENTING PROCEDURES
- . REVIEW OF PRIOR AUDITS
- . REVISION OF RECEIPT INSPECTION PQCI

Q-SYSTEM RELATED REQUIREMENTS

- . VERIFICATION OF PROJECT COMMITMENTS BY ENGINEERING AND LICENSING

DESIGN DOCUMENT CONTROL

- . FLOW CHART OF EXISTING PROCEDURES
- . CHECK OF ACTUAL IMPLEMENTATION
- . COMPARISON WITH PROGRAMMATIC REQUIREMENTS

RECEIPT INSPECTION

- . REVIEW OF SOURCE INSPECTION/RECEIPT INSPECTION SYSTEMS
- . PQCI REVISED
- . RECERTIFICATION OF INSPECTORS
- . CONSIDERATION OF SELECTED OVERINSPECTION

SECTION 8.0
SYSTEM LAYUP

OBJECTIVE: PROVIDE ADEQUATE PROTECTION FOR PLANT SYSTEMS AND COMPONENTS UNTIL PLANT STARTUP

DESCRIPTION:

- . IDENTIFY AND PROTECT SYSTEMS WETTED DUE TO HYDRO TESTING OR FLUSHING
- . PROVIDE SCHEDULES FOR WALKDOWN TO ENSURE CLEANLINESS AND ADEQUATE PREVENTIVE MAINTENANCE
- . CARRY OUT WALKDOWNS TO ENSURE COMPLETENESS OF SYSTEM LAYUP ACTIVITIES

RESULTS IMMEDIATE PROTECTION OF WETTED SYSTEMS

EXPECTED: PROVIDE CONTINUED CARE FOR ALL COMPONENTS UNTIL SYSTEM TURNOVER

STATUS: COMPLETE LAYUP OF ALL WETTED SYSTEMS 1/15/83

ISSUED SCHEDULES FOR WALKDOWNS 1/15/83

SECTION 9.0
CONTINUING WORK ACTIVITIES

OBJECTIVES:

.MEET PREVIOUS NRC REQUIREMENTS AND
CONTINUE WITH ACTIVITIES WHICH DO NOT
IMPEDE THE EXECUTION OF THE PROGRAM

.PROVIDE DESIGN SUPPORT FOR ORDERLY
SYSTEM COMPLETION WORK AND RESOLUTION OF
IDENTIFIED ISSUES

.ESTABLISH A MANAGEMENT CONTROL TO
INITIATE ADDITIONAL SPECIFIED WORK THAT CAN
PROCEED OUTSIDE OF THE SYSTEMS COMPLETION
ACTIVITIES

SECTION 9.0
CONTINUING WORK ACTIVITIES

DESCRIPTION: THOSE ACTIVITIES THAT HAVE DEMONSTRATED EFFECTIVENESS IN THE QUALITY PROGRAM IMPLEMENTATION WILL CONTINUE DURING IMPLEMENTATION OF THE CONSTRUCTION COMPLETION PROGRAM.

THESE ARE:

1. NSSS INSTALLATION OF SYSTEMS AND COMPONENTS BEING CARRIED OUT BY B&W CONSTRUCTION COMPANY
2. HVAC INSTALLATION WORK BEING PERFORMED BY ZACK COMPANY. WELDING ACTIVITIES CURRENTLY ON HOLD WILL BE RESUMED AS THE IDENTIFIED PROBLEMS ARE RESOLVED
3. POST SYSTEM TURNOVER WORK, WHICH IS UNDER THE DIRECT CONTROL OF CONSUMERS POWER COMPANY, WILL BE RELEASED AS APPROPRIATE USING ESTABLISHED WORK AUTHORIZATION PROCEDURES
4. HANGER AND CABLE RE-INSPECTIONS, WHICH WILL PROCEED ACCORDING TO SEPARATELY ESTABLISHED COMMITMENTS TO NRC
5. REMEDIAL SOILS WORK WHICH IS PROCEEDING AS AUTHORIZED BY THE NRC
6. DESIGN ENGINEERING WILL CONTINUE AS WILL ENGINEERING SUPPORT OF OTHER PROJECT ACTIVITIES

SECTION 9.0
CONTINUING WORK ACTIVITIES

STATUS:

.THESE ACTIVITIES ARE PROCEEDING
WITH SCHEDULES THAT ARE
INDEPENDENT OF THIS PLAN.

THIRD PARTY REVIEWS

-INPO Self-initiated Evaluation by MAC

-Independent Design Verification of
Auxiliary Feedwater and one Other
System

-Independent Installation Implementation
Overview (Soils Work being performed
by Stone & Webster)

SELF-INITIATED EVALUATION

-INPO Received Report January 31, 1983

-Submission to NRC

-Corrective Action Implementation

INDEPENDENT INSTALLATION IMPLEMENTATION OVERVIEW

-Status

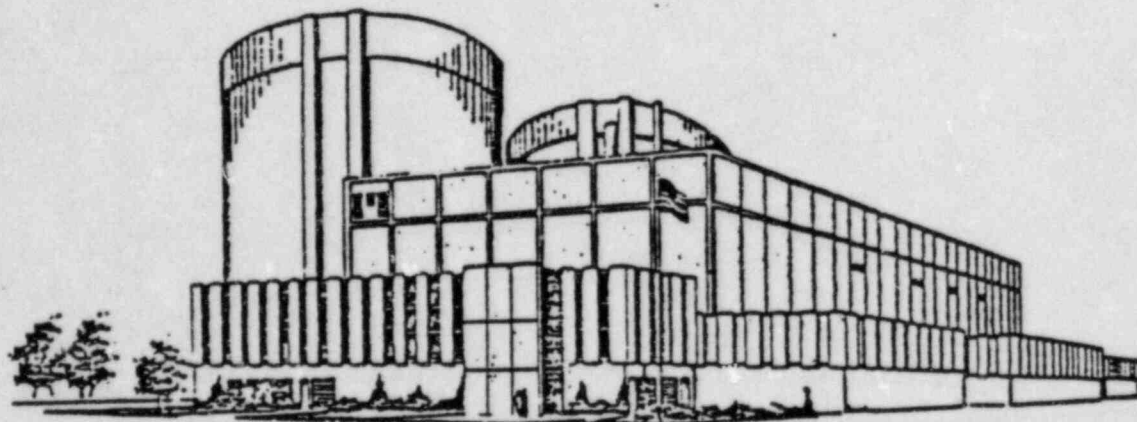
-Scope

- 1 - Familiarization With Procedures, Drawings, Specs, Organizations, Interfaces
- 2 - Evaluate adequacy of the above
- 3 - Evaluate compliance with above for construction activities and QC activities
- 4 - Submit observations and reports to Consumers Power with copies to NRC

-Schedule

- 1 - Award Contract February 15, 1983
- 2 - Activities 1 through 5 February 15 to August 15, 1983
- 3 - Final Report, Evaluation and Decision on Need to Extend Overview Schedule 9/1/83

MIDLAND INDEPENDENT DESIGN
VERIFICATION PROGRAM
FOR THE AFW SYSTEM AND ANOTHER SYSTEM
TO BE DETERMINED



FEBRUARY 8, 1983

A B

2x3



James W Cook
Vice President - Projects, Engineering
and Construction

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May 14, 1984

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Mr Robert A Purple
Deputy Director
US Nuclear Regulatory Commission
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MIDLAND ENERGY CENTER
MIDLAND DOCKET NOS 50-329, 50-330
MIDLAND PROJECT SCHEDULE
FILE 0650 SERIAL 30677

We appreciated the opportunity to discuss the Midland Project Schedule with you and the other representatives of the NRC staff on May 4, 1984. As stated during the presentation, we believe that based on the extensive planning effort undertaken over the past seven months, we now have an achievable schedule describing all known remaining activities. The schedule allows for a significant amount of rework that could result from the reinspection program, and also includes three months of schedule contingency.

The material presented at the public meeting is attached for your further study. In response to your concluding remarks at the May 4th meeting, we would be pleased to present a further briefing to the NRC staff after six months to report on our continuing experience in implementing the CCP.

James W. Cook

JWC/ARM/bc

CC DSHood, US NRC, NRR
RJCook, Midland Resident Inspector

8405240107

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3/14/84

MIDLAND PROJECT SCHEDULE

INTRODUCTION

JW COOK

MIDLAND PROJECT SCHEDULE PRESENTATION AGENDA

- INTRODUCTION J. W. COOK
- INTEGRATED PROJECT SCHEDULE A. R. MOLLENKOPF
 - Planning model & data base
 - Critical Activities & priorities
 - Schedule contingency
- MAJOR SCHEDULE COMPONENTS
 - Construction D. L. QUAMME
 - Quality Assurance R. A. WELLS
 - Testing D. L. QUAMME
 - Soils J. A. MOONEY
 - Licensing J. N. LEECH
- CONCLUSIONS J. W. COOK

MIDLAND PROJECT SCHEDULE SCHEDULE CONCLUSIONS

-
- Unit 2 Fuel Load July 86
 - Unit 2 Operation Dec. 86
 - Unit 1 Fuel Load Indeterminate
 - Unit 1 Operation Indeterminate
-

CCP ASSUMPTIONS

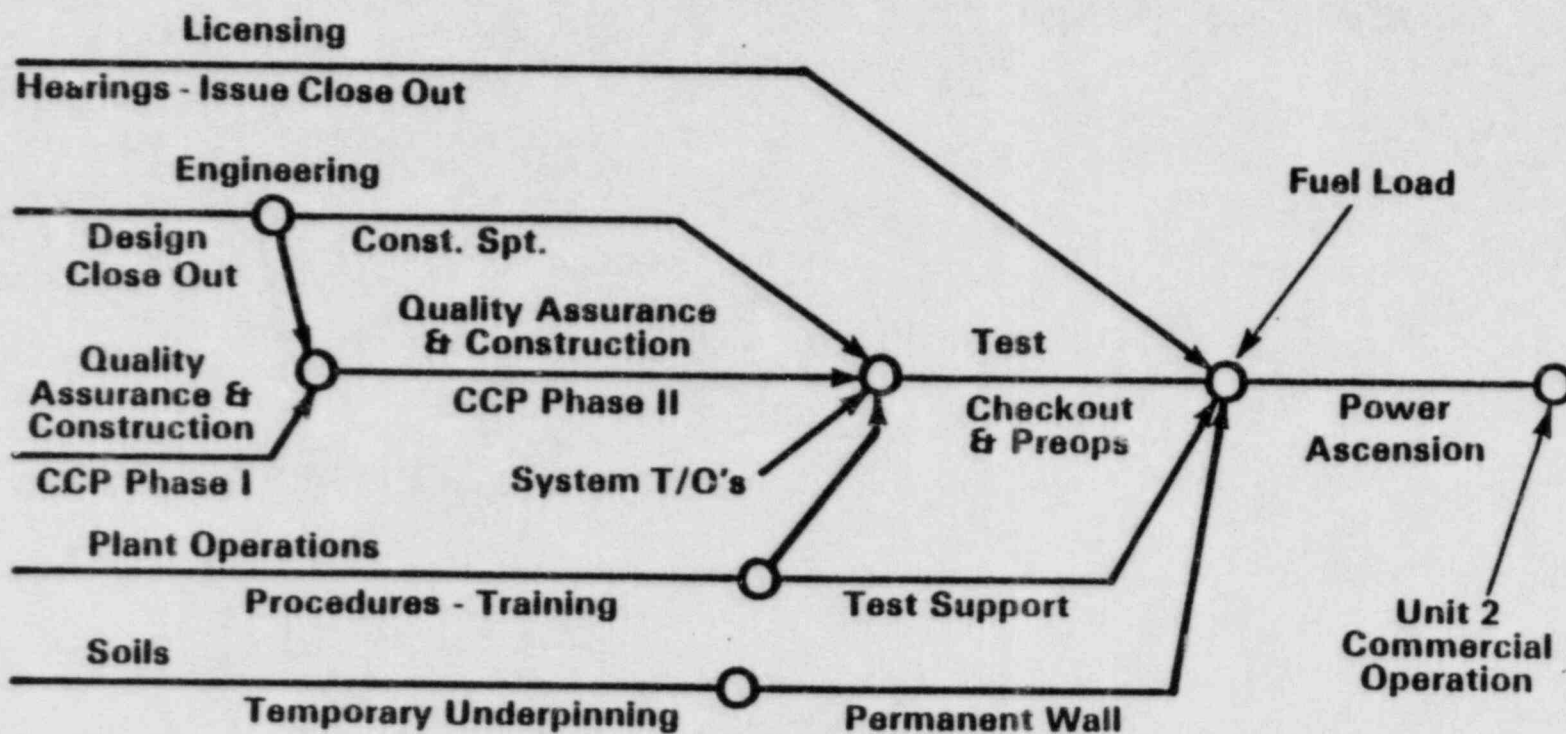
- 1) QVP — Based on 100% Reinspection**
- 2) Rework From Reinspection — Estimated to Require
1.6 x 10⁶ Hours**
- 3) Paperwork to Complete Job Estimated as 80,000 Construction Work Packages (CWPs), 33,000 NCRs and
16,500 FCRs/FCNs**

MIDLAND PROJECT SCHEDULE

MAJOR SCHEDULE ASSUMPTIONS

- **Unit 1 Decoupling Recommendations Implemented**
- **Project Performance Merits Regulatory Support**
- **QC Inspector Rampup to Two-Shift Operation by Mid-Summer 1984**
- **Funding Available**
- **Scope Remains Stable**
- **Nonconformances and Total Rework Within Estimate**

MIDLAND PROJECT SCHEDULE PROJECT COMPLETION PLAN SCHEDULE LOGIC



MIDLAND PROJECT SCHEDULE
MAJOR PROJECT MILESTONES
UNIT 2

- **Complete Engineering & Design (Rev. 0)** Jun. 84
- **Turbine Roil** Jun. 84
- **QC Inspector Rampup Complete** Aug. 84
- **Complete Status Assessment** Oct. 84
- **Complete Temporary Underpinning** Dec. 84
- **Complete System QVP** Jan. 85
- **Auxiliary Flushes to Reactor Vessel** Mar. 85
- **Complete Area QVP** July 85
- **Reactor Coolant System Hydrostatic Test** July 85
- **Hot Functional Test** Oct. 85
- **Major Containment Tests** Jan. 86
- **Integrated Safety Systems Test** Mar. 86
- **Fuel Load** July 86
- **Commercial Operation** Dec. 86

MIDLAND PROJECT SCHEDULE

INTEGRATED PROJECT
SCHEDULE

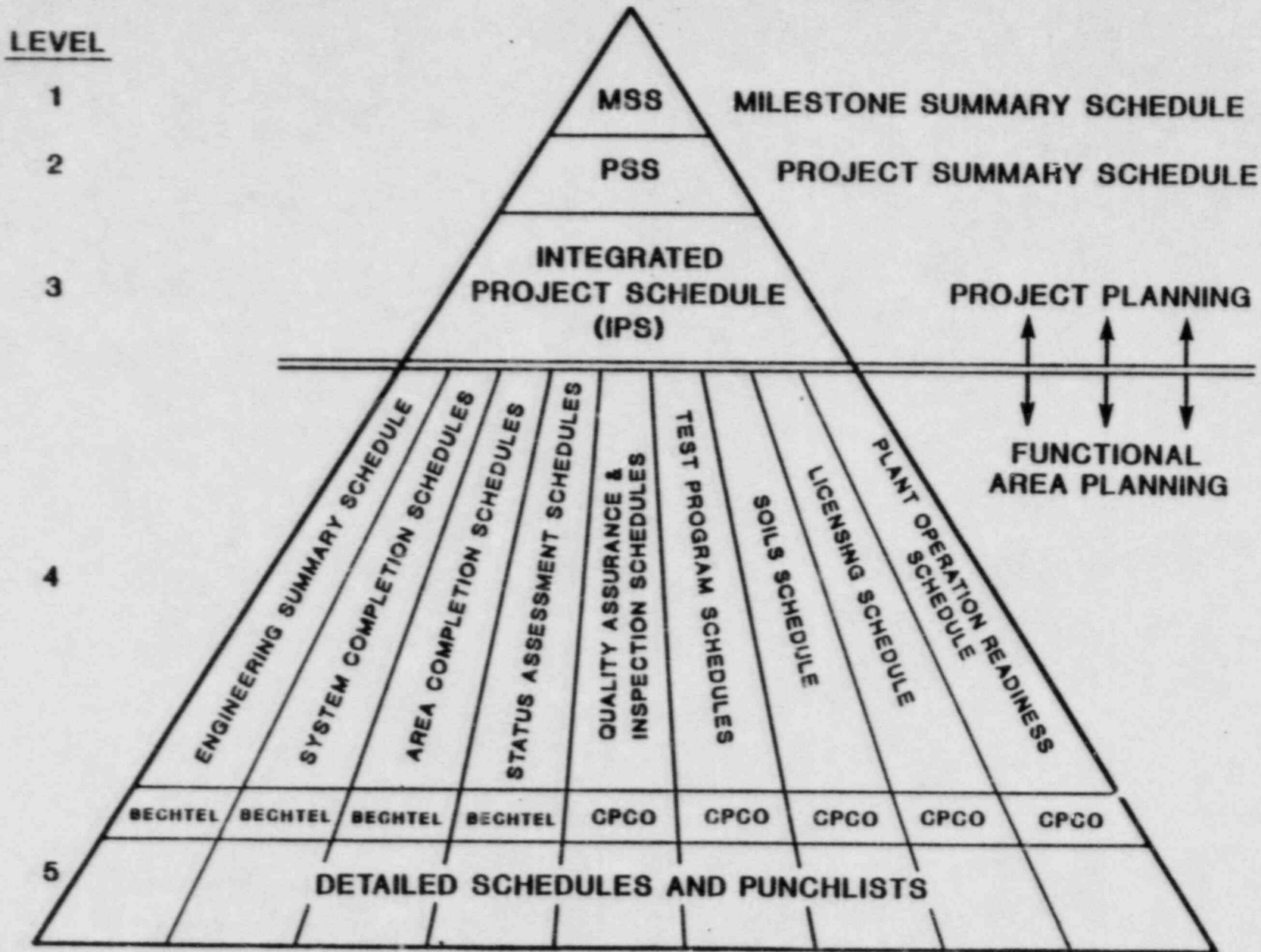
AR MOLLENKOPF

INTEGRATED PROJECT SCHEDULE

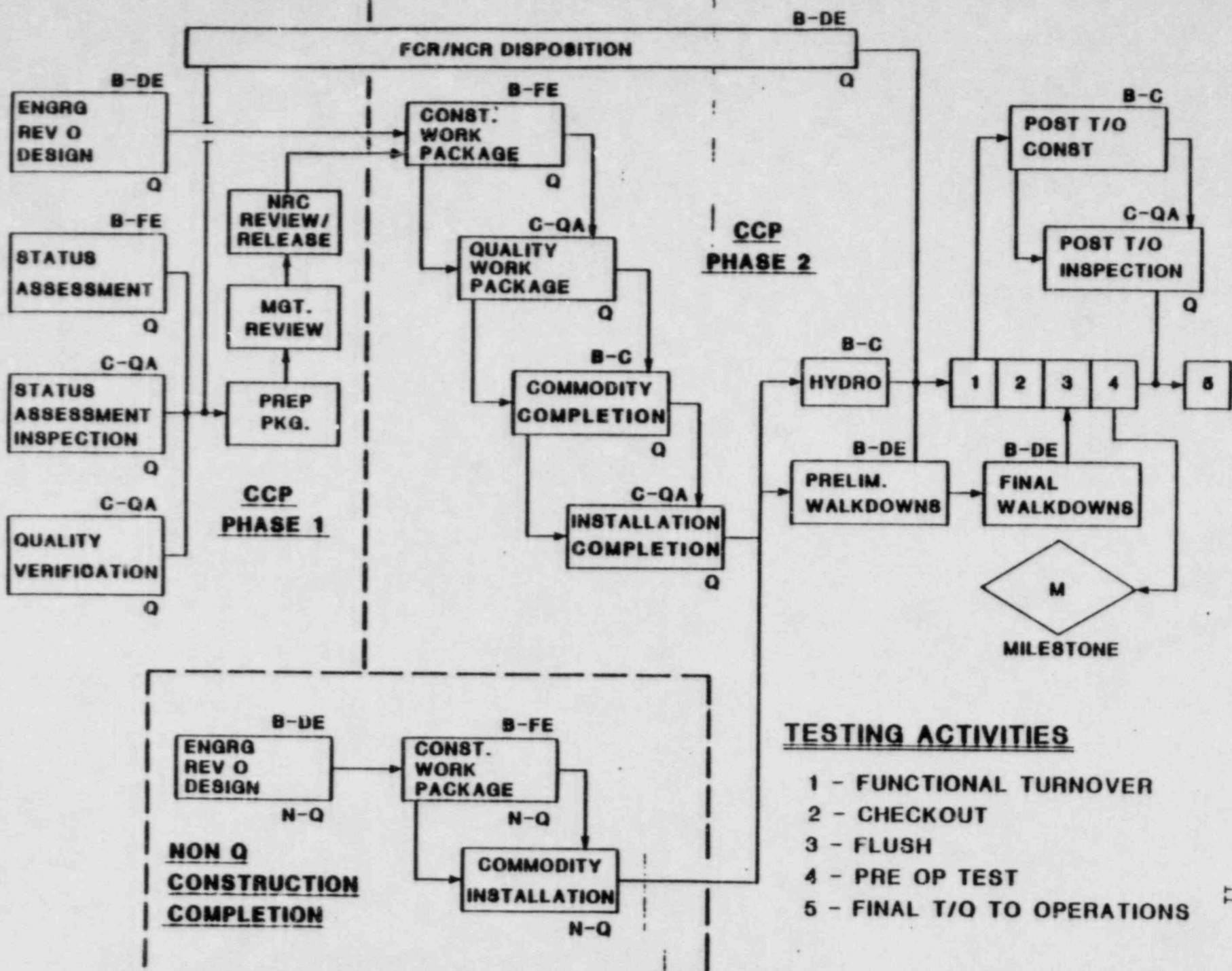
INTRODUCTION

- **PLANNING MODELS**
- **PLANNING DATA BASE**
- **PROJECT PRIORITIES**
- **SCHEDULE CRITICAL PATHS
ACTIVITIES**
- **SCHEDULE CONTINGENCY**

INTEGRATED PROJECT SCHEDULE SCHEDULE HIERARCHY



GENERIC IPS MODEL - PLANT SYSTEMS



INTEGRATED PROJECT SCHEDULE

PLANNING DATA BASE WORKSHEET

DATE: <u>4/16/84</u>		Q/NQ: <u>Q/NQ</u>		APPROVALS: _____						
TEAM: <u>12</u>		SYSTEM: <u>2BGB-2</u>		BY TEAM	PLNR	F.E.	SUPVR			
ACTIVITY CODE	COMMODITY	Q/NQ	QTY.	UNIT RATE	MAN-HOURS	TOTAL MH	NO.OF CRAFT	MH/DAY	DUR (DAYS)	SHIFTS
214788208	SMALL PIPE (LF)	Q	B 4	8.3	33	696	2	16	6	1
			P 128	5.1	643					
214788257		NQ	B 42	6.7	281	870	4	32	27	1
			P 128	4.6	589					
214788208	SM. HGRS									

MPQAD - QC INSPECTION - PHASE 2						SYSTEM: <u>2BGB-2</u>	
ACTIVITY CODE	TASK DESCRIPTION	DUR DAYS	QTY	UNIT RATE	QC MHRS	RESOURCE CODE	REF ACTIVITY
21470208	ERECT SMALL PIPE-Q	6	130lf	0.8	104	702.07	66,206
21470210	ERECT SMALL PIPE HGRS	15	48 ea.	3.0	144	702.07	
21470212	PIPE INSULATION						

INTEGRATED PROJECT SCHEDULE

RELATED DATA BASE SYSTEMS

- RWS - REMAINING WORK SCHEDULE
(ENGINEERING PUNCHLIST)
- MLCS - MATERIAL/LABOR CONTROL SYSTEM
- CPL - CONSTRUCTION PUNCHLIST
- MIRS - MIDLAND INSPECTION RECORDS SYSTEM
- QUAIL - QUALITY ACTION ITEM LIST
- MPL - MASTER PUNCHLIST

INTEGRATED PROJECT SCHEDULE

SHORT-TERM PROJECT PRIORITIES

	<u>PRIORITY</u>	<u>SYSTEM/AREA</u>	<u>SUPPORTS</u>
1.	TURBINE ROLL EXCEPTIONS	2ABA-2, -3, 2ABB-3 (MAIN STM LINE/ISO VALVES)	2TR
2.	MODULE 800 SWPS	CONDENSER CIRC. WATER	2TR
3.	MODULE 120D A/B LOWER ELEV.	2ALA-2 (AFW)	2G (F.W. FLUSHES) MODULE RELEASE
4.	NON-Q SYSTEM SPT-BY QC INSPECTION	NON-Q WORK INTERFACE W/ Q COMMODITIES	NON-Q SYSTEM COMPLETION IN 1984
5.	MODULE 240A	CONTROL ROOM CEILING	EFFICIENT CONST. SEQUENCING & CTL RM TESTING
6.	FLOOD & SECURITY DOORS	TOTAL PLANT	SECURITY SYSTEM COMPLETION
7.	MODULE 340 B&G (FWVIP) MODULE 102 (A/B PIPE CHASE) MODULE 120 (A/B LOWER ELEV.)	2AEA-3 (FEEDWATER) 2ALA-2 (AFW)	2G (F.W. FLUSHES)
8-13	MODULES 340, 150, 320, 330, 240, & 100	21 PARTIAL Q SYSTEMS	2B (AUX FLUSHES) 2C (CANAL HYDRO) 2D (RCS COLD HYDRO)

INTEGRATED PROJECT SCHEDULE
SCHEDULE CRITICAL PATHS
(TO 4/86 TARGET FUEL LOAD)

- MECHANICAL SYSTEMS (99) 3 W/ 0 FLOAT
 3 W/ 1 MONTH FLOAT
 93 W/ 2 TO 4 MONTHS FLOAT

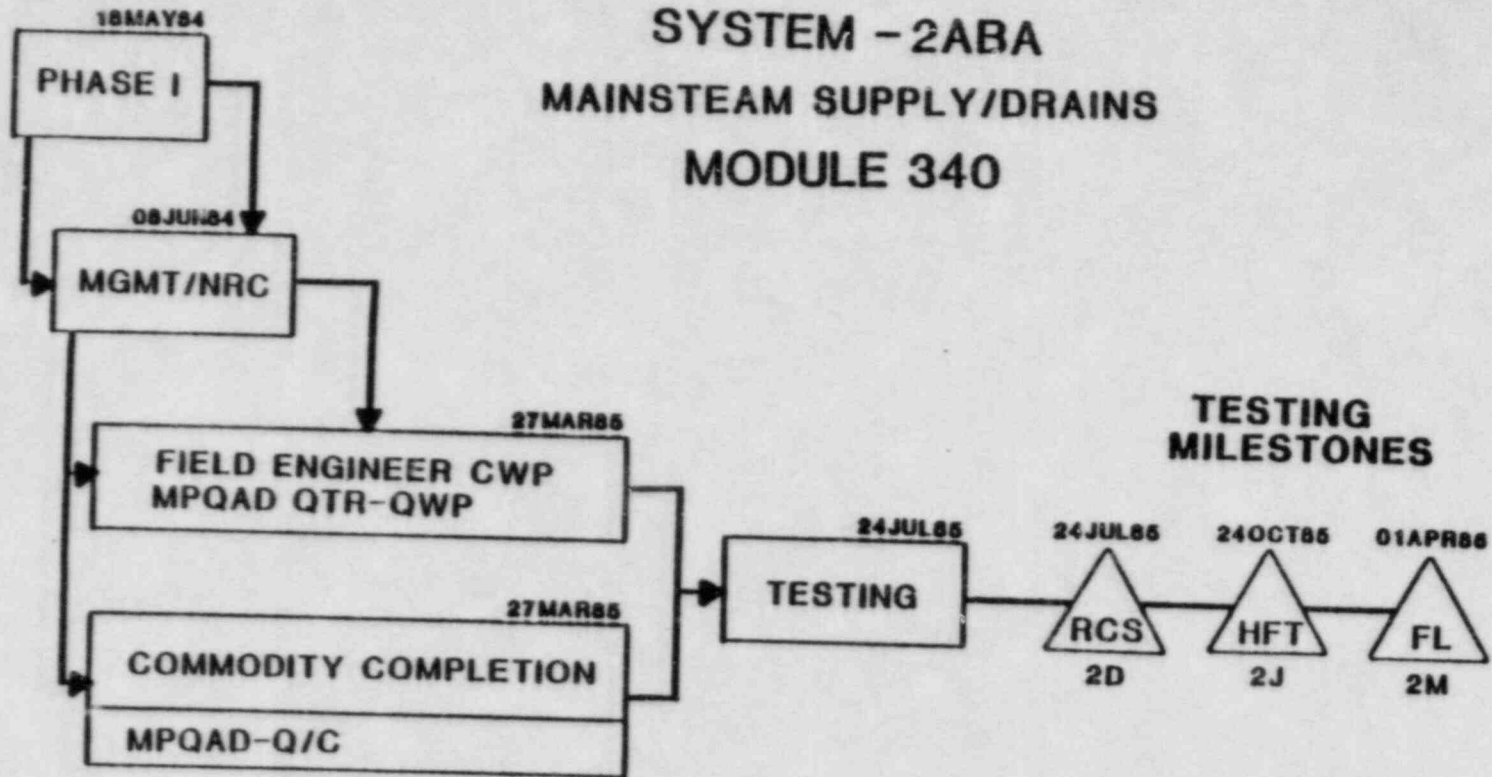
- HVAC SYSTEMS (25) 3 W/ + 1 MONTH
 22 W/ + 3 MONTHS

- ELECTRICAL SYSTEMS (33) NOT CRITICAL
 PREOPS COMPLETE EARLY 85

- SOILS-AUX BLDG +2 MONTHS

- AREAS-CONTROL RM (5/85) +2 MONTHS
 -ALL OTHER AREAS -NOT CRITICAL

**CRITICAL PATH
SYSTEM - 2ABA
MAINSTEAM SUPPLY/DRAINS
MODULE 340**



**SYSTEM 2ABA MODULE 340
MILESTONE 2D**

MAINSTEAM SUPPLY & DRAINS	REM MHS	REM DUR	FIN DATE
1. PHASE I MPQAD	7	5	18MAY84
2. PHASE I BPCO FLD. ENGR.	716	23	18MAY84
3. MEC MANAGEMENT REVIEW	NA	5	25MAY84
4. NRC REVIEW & RELEASE	NA	10	8JUN84
5. * FIELD ENGINEERING	2477	209	27MAR85
6. * MPQAD QTR/QWP -	1486	209	27MAR85
7. * CONSTRUCTION -	24743	204	27MAR85
8. * MPQAD QC -	3712	204	27MAR85
9. MECH. SYSTEM WLKDN P119 & P129	NA	5	3APR85
10. FUNCTIONAL TURNOVER	NA	5	10APR85
11. MILESTONE (TESTING)	SEE BELOW	75	24JUL85
TOTAL FOR ABOVE ACTIVITIES	35,266		
SYSTEM TOTAL FOR ENGINEERING	2,860	NA	NA
SYSTEM TOTAL FOR MPQAD	14,845	NA	NA
SYSTEM TOTAL FOR FIELD ENGR	16,392	NA	NA
SYSTEM TOTAL FOR CONSTRUCTION	93,922	NA	NA
SYSTEM TOTAL FOR GSO	3,370	NA	NA
SYSTEM TOTAL FOR TESTING	2,125	NA	NA
GRAND TOTAL	133,514		

* NOT SERIES ACTIVITIES . OCCUR WITH OVERLAP

INTEGRATED PROJECT SCHEDULE

SUMMARY

- **PROJECT PLANNING - IPS**
 - INTEGRATES & ALIGNS TOTAL TO-GO SCOPE
 - SETS SHORT TERM PROJECT PRIORITIES
 - RESOURCE REQUIREMENTS
 - PROBLEM AREA IDENTIFICATION
 - PROJECT COMPLETION FORECAST
 - SCHEDULE CONTINGENCY MANAGEMENT

- **FUNCTIONAL AREA PLANNING**
 - SYSTEM/AREA COMPLETION TEAMS
 - DETAILED WORKING SCHEDULES
 - BASED ON IPS REQUIREMENTS
 - SHORT TERM RESOURCE ALIGNMENT
 - FEEDS PROGRESS TO IPS

MIDLAND PROJECT SCHEDULE

CONSTRUCTION

DL QUAMME

MIDLAND SCHEDULE
MAJOR/KEY SCHEDULE ASSUMPTIONS
CONSTRUCTION SCHEDULE

- **FUNDING AVAILABLE**
- **TO-GO SCOPE REMAINS STABLE**
- **NON CONFORMANCES AND TOTAL REWORK WITHIN ESTIMATE**
- **QC INSPECTOR RAMP-UP TO TWO-SHIFT OPERATION BY
MID-SUMMER 1984**
- **NRC/THIRD PARTY REVIEW OF PHASE 1 PACKAGES WILL
SUPPORT THE SCHEDULE**

MIDLAND SCHEDULE
CONSTRUCTION MANHOUR (TO-GO) SCOPE SUMMARY
(TOTAL TO-GO AS OF 1/1/84)

MANHOURS (MILLIONS)

• BECHTEL	
• NONMANUAL	6.5
• MANUAL	6.3
• MAJOR SUBCONTRACTS	
• NSSS	0.2
• HVAC	1.1
• INSULATION	0.3
• PENETRATION SEALING	0.2
• AUX. BLDG. UNDERPINNING	1.9
• SERV. WTR. BLDG. UNDERPINNING	0.5

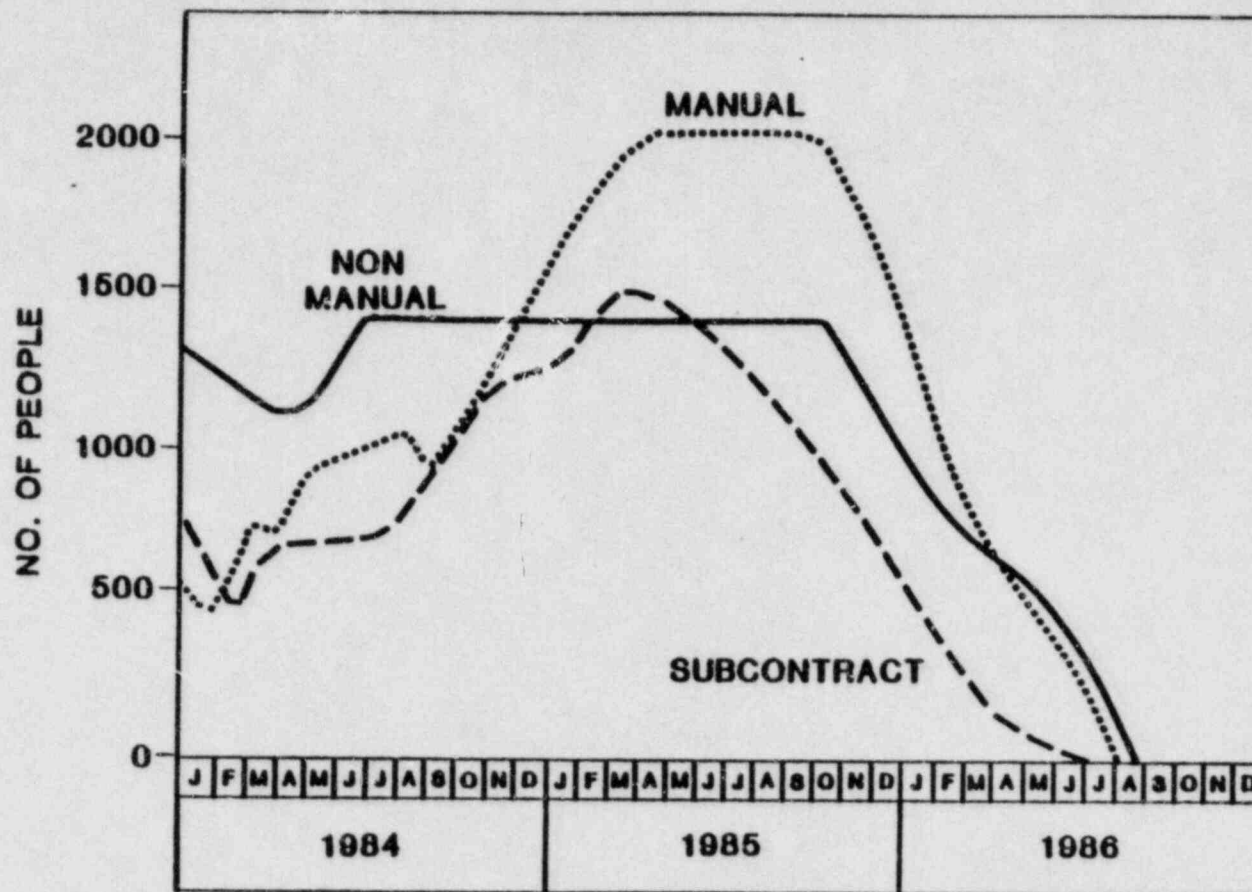
MIDLAND SCHEDULE
STATUS ASSESSMENT (BECHTEL SCOPE)
PHASE 1 QUANTITIES/MANHOURS

	<u>QUANTITIES</u>	<u>HOURS</u>
● MECHANICAL		
• LARGE PIPE	26,000 (LF)	6,600
• LARGE PIPE HANGERS	3,600 (EA)	23,000
• SMALL PIPE	39,800 (LF)	9,500
• SMALL PIPE HANGERS	6,200 (EA)	27,000
• MISC		<u>4,000</u>
		8/T 70,000
● ELECTRICAL		
• TERMINATIONS	44,200 (EA)	12,200
• EQUIPMENT	300 (EA)	<u>3,800</u>
		8/T 16,000
● INSTRUMENTATION		
• TUBING	35,200 (LF)	7,000
● RACEWAYS		
• SUPPORTS	6,700 (EA)	40,000
● AREA		
• STRUCTURAL STEEL	1,340 (TONS)	20,100
• PLATFORMS	460 (TONS)	18,300
• WHIP RESTRAINTS & JET BARRIERS	320 (EA)	6,500
• BLOCKWALLS	290 (EA)	6,900
• MISC		<u>27,400</u>
		8/T 79,200
	TOTAL	<u>212,200</u>

MIDLAND SCHEDULE
INSTALLATIONS - SCOPE SUMMARY

	<u>CURRENT FORECAST</u>	<u>TO-GO</u>
• LARGE PIPE (LF)	294,800	1,600
• LARGE PIPE HANGERS (EA)	16,000	1,460
• SMALL PIPE (LF)	339,400	28,090
• SMALL PIPE HANGERS (EA)	18,700	3,940
• WIRE & CABLE (LF)	10,694,000	660,640
• TERMINATIONS (EA)	356,000	62,220
• CONDUIT (LF)	623,300	47,360
• CABLE TRAY (LF)	87,300	500
• INSTRUMENT TUBING (LF)	160,000	43,640

MIDLAND SCHEDULE
BECHTEL SITE MANPOWER



MIDLAND PROJECT SCHEDULE

QUALITY ASSURANCE

RA WELLS

MPQAD INSPECTION REQUIREMENTS (CCP)

QUALITY VERIFICATION PLAN (QVP)

- 100% VERIFICATION OF ALL INSPECTIONS COMPLETED PRIOR TO DECEMBER 1982
 - PHYSICAL INSPECTION
 - DOCUMENT REVIEW

STATUS ASSESSMENT REINSPECTIONS

- VERIFICATION OF PARTIALLY COMPLETED INSPECTIONS PRIOR TO DECEMBER 1982
 - PHYSICAL INSPECTION
 - DOCUMENT REVIEW
- UPDATING OF INSPECTIONS TO LEVEL OF CONSTRUCTION COMPLETION

NEW INSPECTIONS

- NEW CONSTRUCTION ACTIVITIES

QVP/SA MAN HOUR ESTIMATES

- IDENTIFIED CLOSED INSPECTION RECORDS BY PQCI

- 100,000 PHYSICAL INSPECTIONS-DOCUMENT REVIEW

- 28,000 DOCUMENT REVIEW ONLY

- IDENTIFIED OPEN INSPECTION RECORDS BY PQCI

- 11,000 PHYSICAL INSPECTIONS-DOCUMENT REVIEW

- ESTIMATED NUMBER OF UPDATE INSPECTIONS

- 15% OF Q-CONSTRUCTION 3 MONTHS PRIOR TO DECEMBER 1982

- ESTIMATED UNIT RATES BY PQCI

- HISTORICAL BASIS

- PILOT TEAMS FOR MAJOR PQCI

- DETERMINED MAN HOUR ESTIMATES

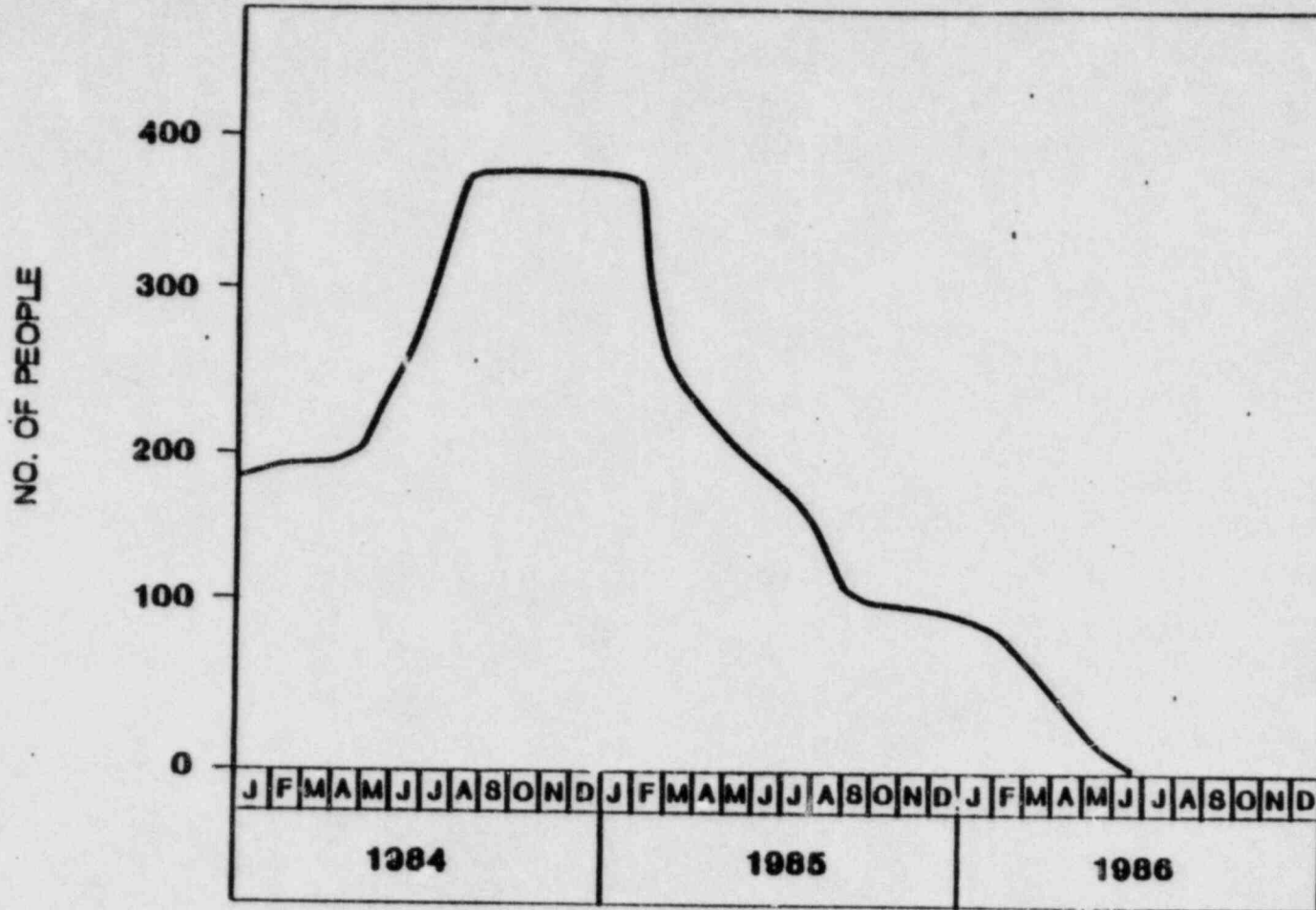
- 295,000 QVP - REINSPECTION/DOCUMENT REVIEW

- 20,000 QVP - DOCUMENT REVIEW ONLY

- 210,000 SA - REINSPECTION/DOCUMENT REVIEW

MIDLAND PROJECT FORECAST (84)

MPQAD INSPECTION MANPOWER



SCHEDULED SUPPORT TO DATE

- SUPPORTED TR MILESTONES
- SUPPORTING 120D MILESTONES
- SCHEDULE TO SUPPORT CRITICAL NEAR TERM MILESTONES

PERFORMANCE EFFICIENCIES

- SPECIAL DOCUMENT REVIEW GROUPS
- INSPECTION PLAN COMBINATION
- LEARNING CURVE IMPROVEMENTS
- PERFORMANCE MONITORING SYSTEM
- INSPECTION EVALUATION PROGRAM
- INCREASED STAFF
- TRAINING/CERTIFICATION PROCESS IMPROVEMENTS

REINSPECTION RESULTS

● 2,500 QVP REINSPECTIONS

- NUMBER OF NCR's CONSISTENT WITH SCHEDULE ASSUMPTIONS
- WORKMANSHIP GOOD
- CONFORMANCE TO DETAIL LACKING

● PREVIOUS CABLE REINSPECTIONS

- 9,000 CABLES AND 63,500 ATTRIBUTES
- LESS THAN 2% NONCONFORMANCES
- LESS THAN 0.5% REWORK

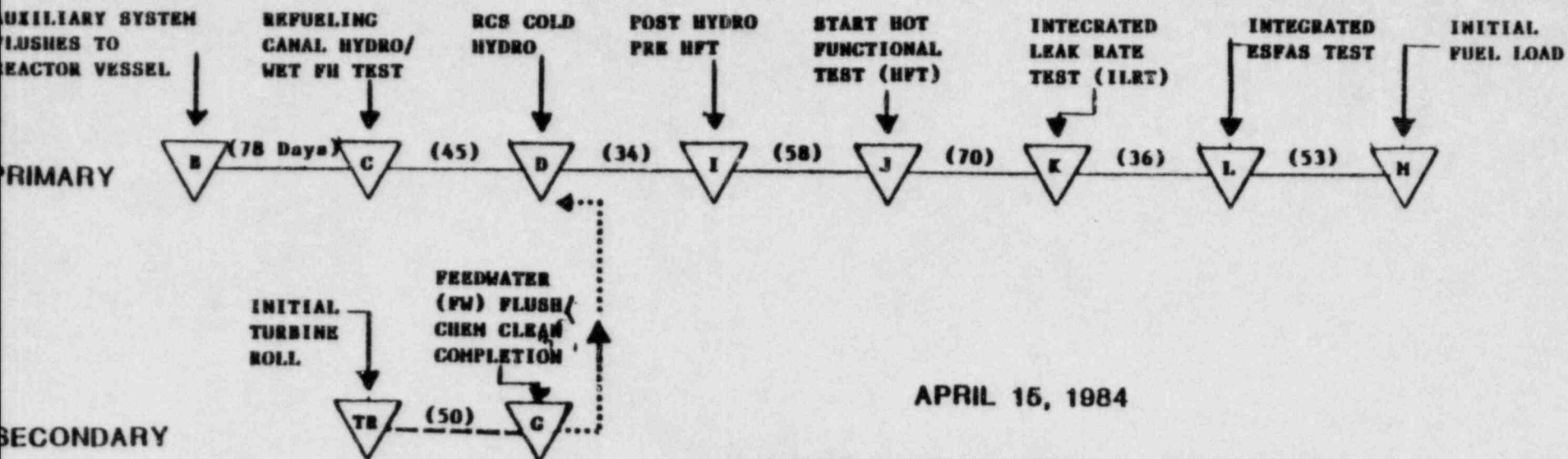
● 1,500 HANGER REINSPECTIONS

- 30% REWORK-GENERALLY MINOR

MIDLAND PROJECT SCHEDULE

TESTING

DL QUAMME



MIDLAND ENERGY CENTER TESTING DEPARTMENT

UNIT 2 MILESTONE SEQUENCE

COMPLETED MILESTONES:

- 2A - DRY FUEL HANDLING INDEX PREOP TKST (8-82)
- 2E - CONDENSATE STORAGE & TRANSFER FLUSH (10-82)
- 2F - CONDENSATE PUMP INITIAL RUN (11-82)
- 2H - INITIAL CONDENSER VACUUM (3-84)

MIDLAND ENERGY CENTER UNIT 2 TURNOVER STATUS

TOTAL TESTABLE

SUB SYSTEMS REQUIRED 693

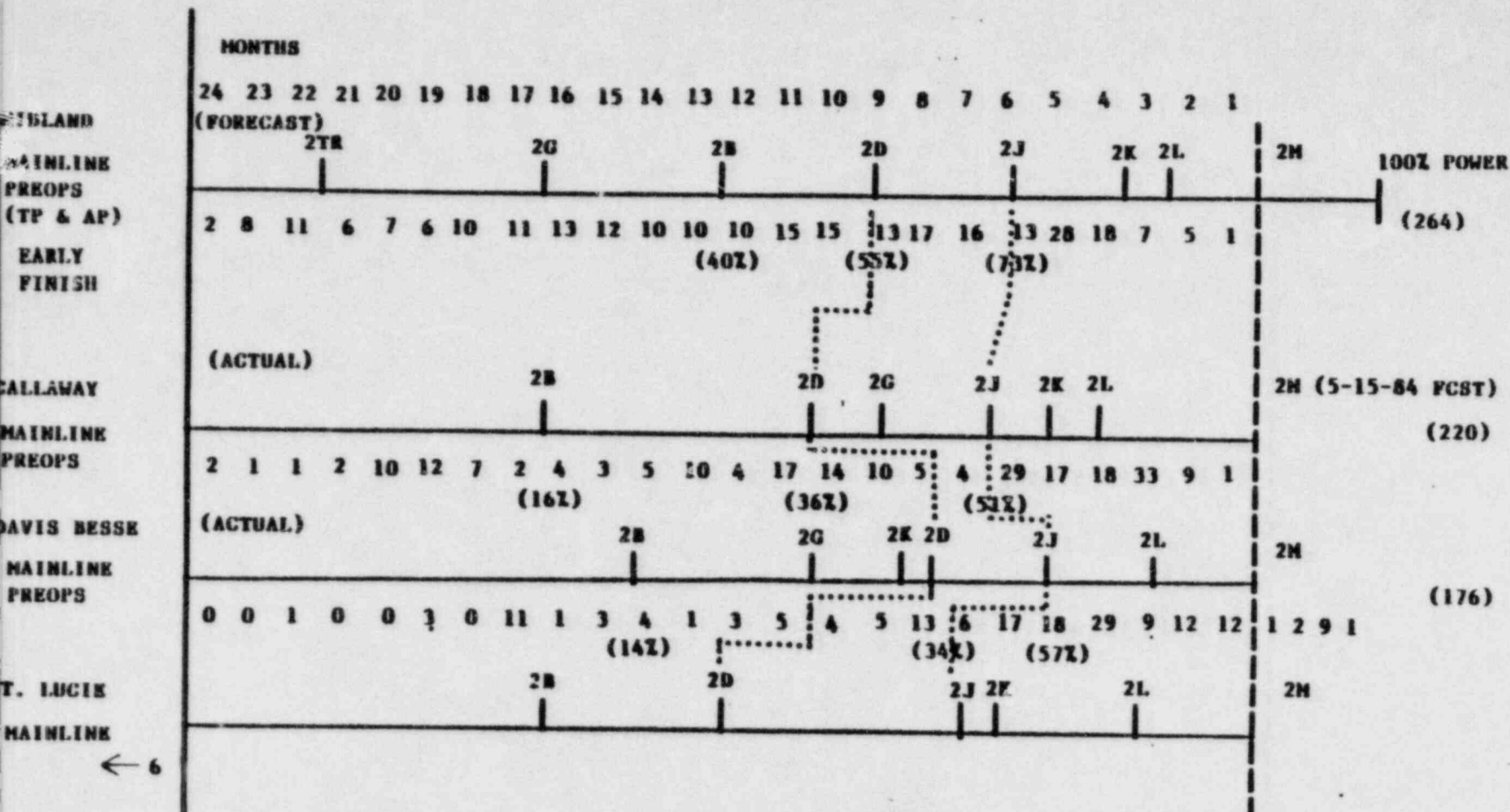
TURNED-OVER 536

TO-GO 'Q' 95

TO-GO 'NON-Q' 62

TOTAL TO-GO 157

MIDLAND ENERGY CENTER UNIT 2 TEST SCHEDULE COMPARISONS



MAINLINE LEGEND

- | SECONDARY | PRIMARY |
|---------------------------------|------------------------|
| 2TR - TURBINE ROLL | 2B - AUXILIARY FLUSHES |
| 2G - FEEDWATER FLUSH | 2D - RCS HYDRO |
| SECONDARY SIDE TESTING COMPLETE | 2J - HOT FUNCTIONAL |
| | 2K - SIT/ILRT TESTING |
| | 2L - ESPAS TESTING |
| | 2M - PIPE LOAD |

**MIDLAND ENERGY CENTER UNIT 2
TEST PROCEDURE STATUS
PREOPERATIONAL AND ACCEPTANCE TESTS**

TOTAL NUMBER OF PROCEDURES	264
 TO DEVELOP	51
 IN REVIEW CYCLE	68
 APPROVED PROCEDURES	145

MAY 1, 1984

TESTING ACTIVITIES STATUS

PERCENT COMPLETE

		CURRENT TOTAL F/C	SCHED %	ACTUAL %
INITIAL SYSTEM CHECKOUT	MH	550,000	19	49
SYSTEM FLUSHES	MH	66,000	15	28
SYSTEM PREOPERATIONAL TESTING	MH	266,000	9	15

EQUIPMENT RELIABILITY PROGRAMS

B & W OWNERS GROUP

NUCLEAR OPERATIONS & MAINTENANCE INFORMATION SERVICE

OTSG TASK FORCE

LAY-UP / PACS PROGRAM

- UNIT 1 SYSTEMS**
- CRITICAL UNIT 2 REVIEW**

PRE-CALIBRATION / TEMPORARY RELEASE PROGRAM

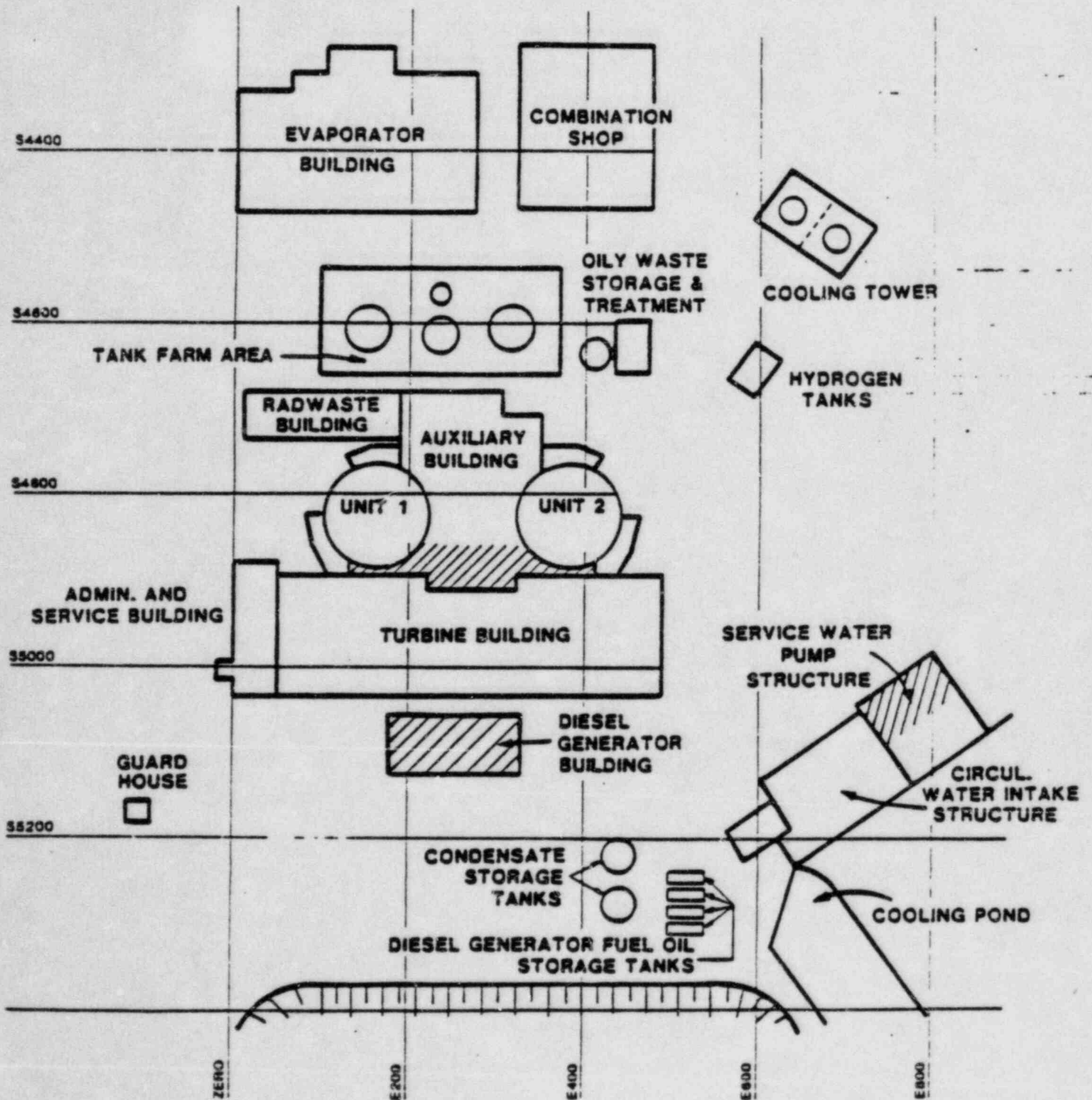
- EXECUTION OF REMAINING WORK UNDER CCP WILL RESULT IN A MORE COMPLETE SYSTEM WITH VERIFIED LEVEL OF QUALITY AT TIME OF SYSTEM TURNOVER AND INITIATION OF SYSTEM TESTING.
- DECOUPLING OF THE TWO UNITS RESULTS IN REQUIREMENT TO START-UP ONE PLANT RATHER THAN THE PARALLEL TWO UNIT START-UP PLANNED IN PREVIOUS SHCEDULES.
- TEST PROCEDURE DEVELOPMENT - ALL TEST PROCEDURES WILL BE APPROVED BY END OF THE YEAR INSURING WE MEET NRC REQ'T OF "AT LEAST 2 MONTHS PRIOR TO TEST START DATE".
- 2TR AND 2G MILESTONES PRIOR TO 2B THEREBY REDUCING SIGNIFICANTLY WORK HAS TO BE PERFORMED DURING PRIMARY MAINLINE ACTIVITIES.
- TRAINED AND EXPERIENCED TEST ENGINEER FROM BOP TESTING TO MOVE DIRECTLY INTO PRIMARY SYSTEM TESTING.
- TESTING MANPOWER BUDGETED FOR 1984 - 118
 - CPCO PERSONNEL 53
 - CONTRACT PERSONNEL 65
 - CURRENT TOTAL 119

MIDLAND PROJECT SCHEDULE

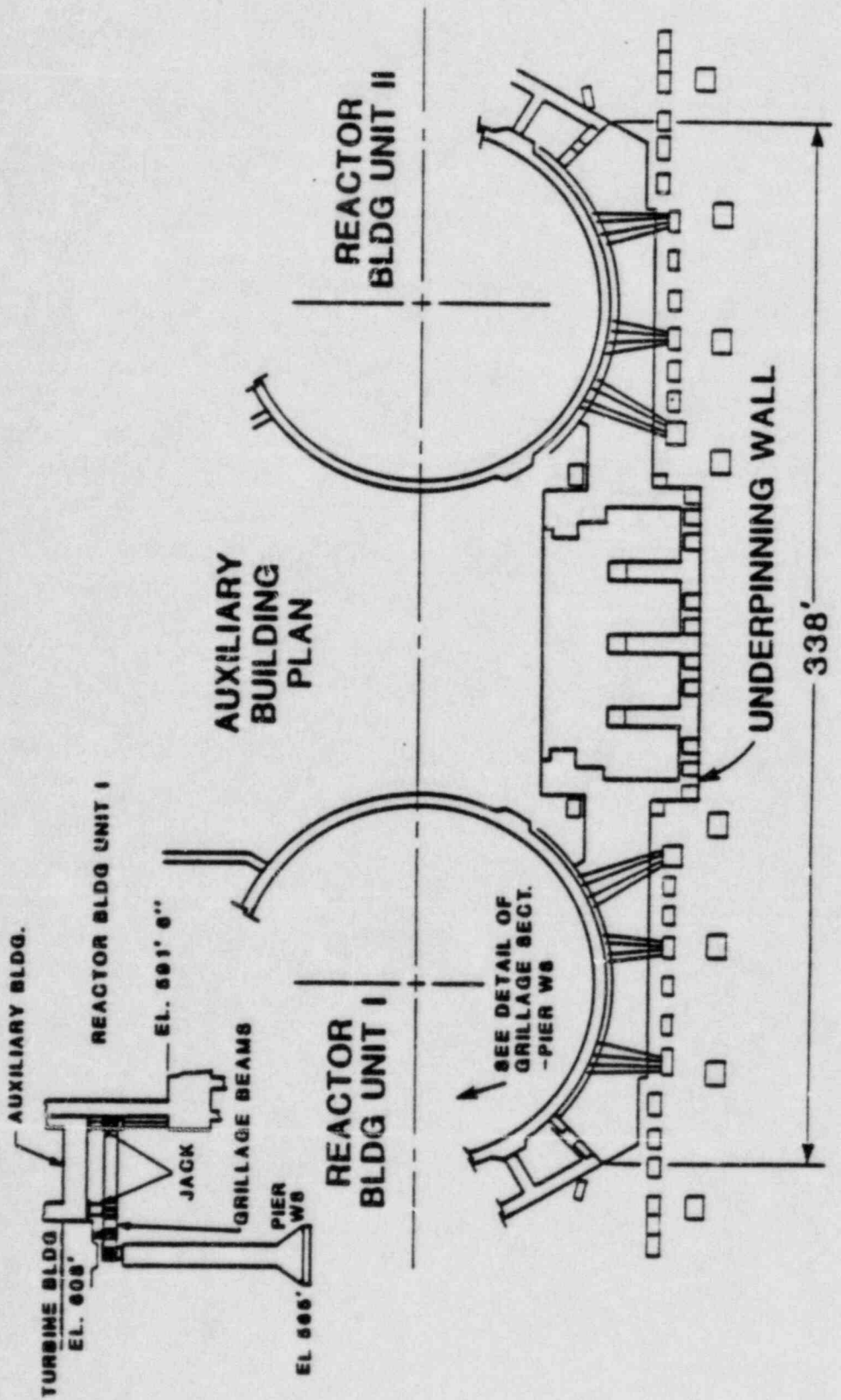
SOILS

JA MOONEY

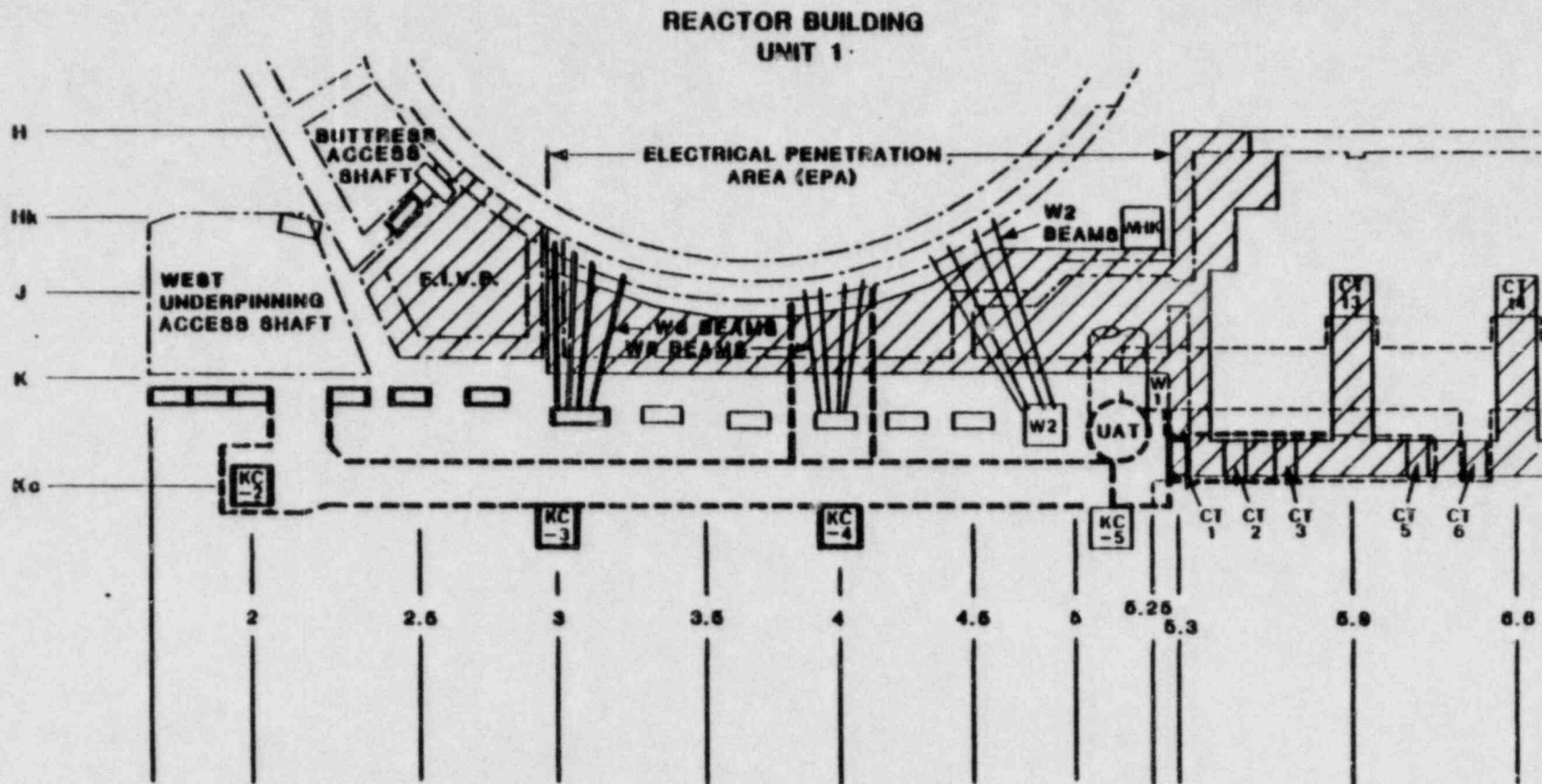
MIDLAND PROJECT SITE PLAN



MIDLAND PROJECT AUX. BUILDING SOILS REMEDIAL WORK



AUXILIARY BUILDING UNDERPINNING PLAN VIEW

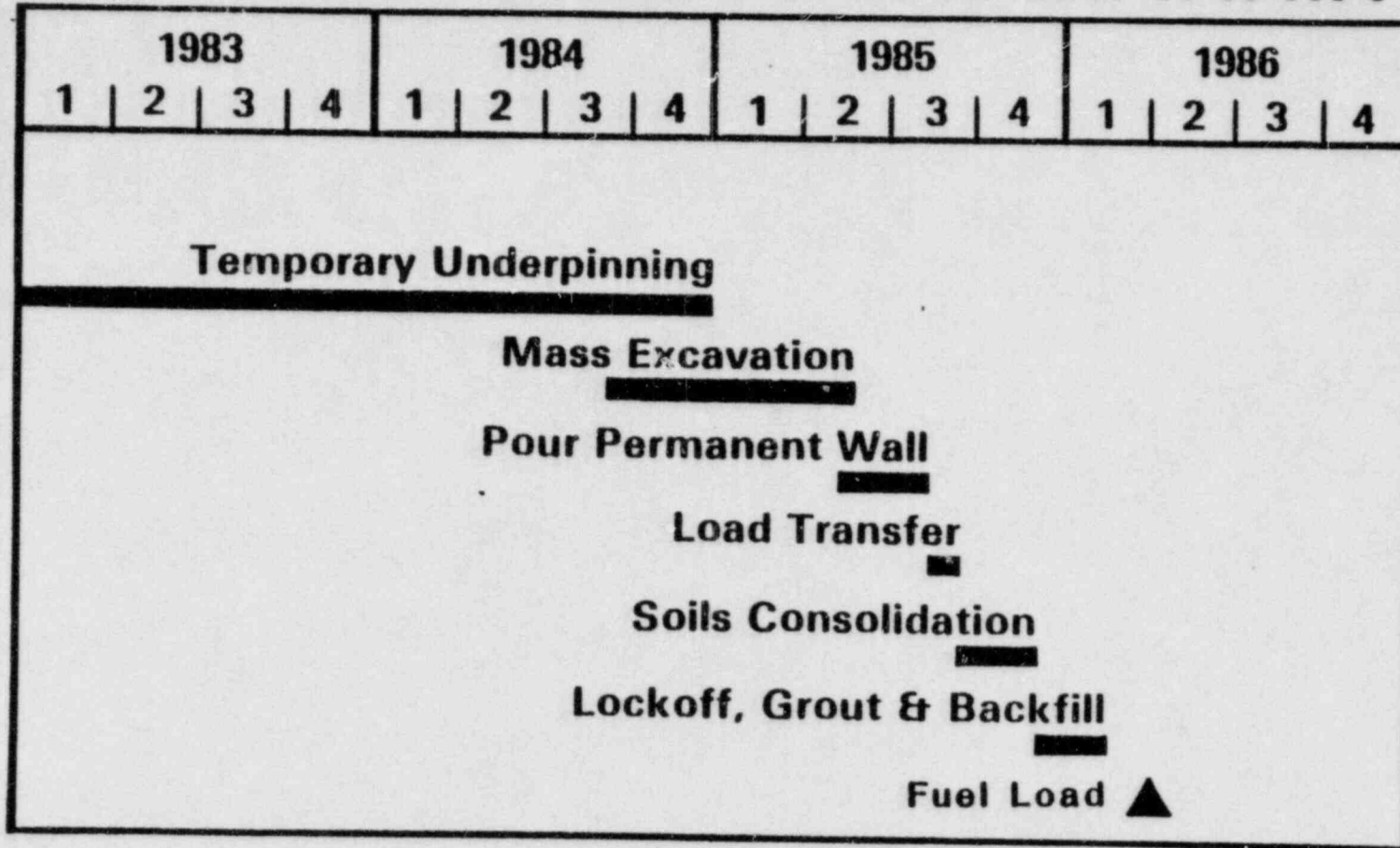


AUXILIARY BUILDING UNDERPINNING
SELECTED PRODUCTION RATES

<u>ACTIVITY DESCRIPTION</u>	<u>UNIT</u>	<u>RATE/ CREW SHIFT</u>
DRIFT EXCAVATION	HF	1.2
PIER EXCAVATION	YF	2.4
MASS EXCAVATION BY HAND	CY	8.7
MASS EXCAVATION BY MACH	CY	21.0
INSTALL PIER RESTEEL	LBS	435.0
INSTALL PIER CONCRETE	CY	8.1
INSTALL GRILLAGE BEAMS	LBS	1000.0

MIDLAND PROJECT SCHEDULE

AUXILIARY BUILDING UNDERPINNING



MIDLAND SOILS SCHEDULE

SCHEDULE CERTAINTIES

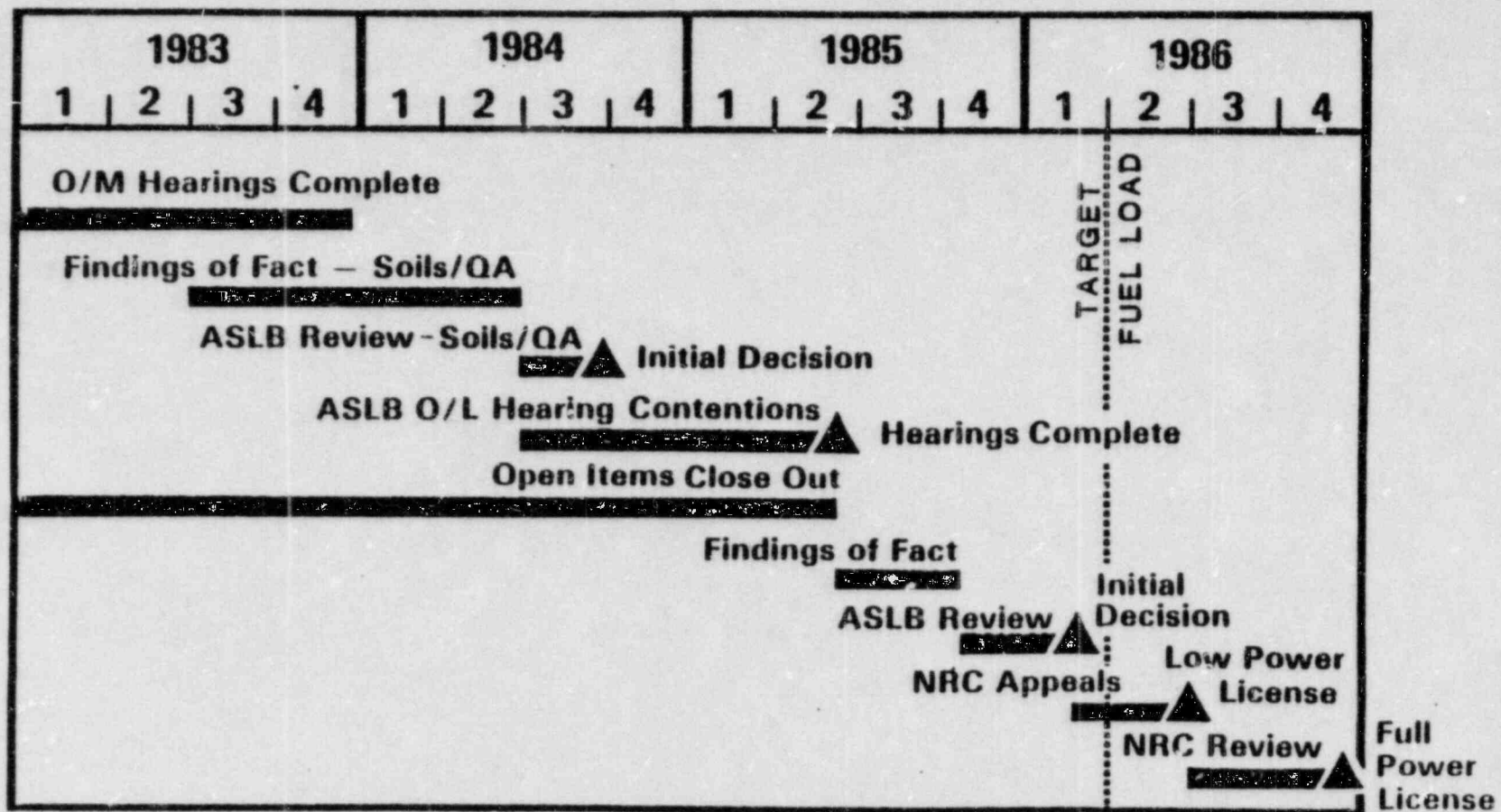
- DESIGN COMPLETE
- SSER ISSUED
- CONSTRUCTION 35% COMPLETE
- DEMONSTRATED PRODUCTIVITY RATE
- EXPERIENCED ORGANIZATION

MIDLAND PROJECT SCHEDULE

LICENSING

JN LEECH

MIDLAND PROJECT SCHEDULE LICENSING SCHEDULE



MIDLAND PROJECT SCHEDULE

CONCLUSIONS

JW COOK

BASES FOR SCHEDULE CONFIDENCE

- **Soils Activities Defined and Demonstrated**
- **CCP Program Approved and Implementation Initiated**
- **Design Complete**
- **Single Plant Completion**
- **Improved Overall Project Planning**
- **Additional Senior Staff**
- **Project Milestones**
- **Target Schedule**

REGION: III

LICENSEE PERFORMANCE EVALUATION (CONSTRUCTION)

Facility: Midland Units 1 and 2

Licensee: Consumers Power Company

Unit Identification:

<u>Docket No.</u>	<u>CP No./Date of Issuance</u>	<u>Unit No.</u>
50-329	CPPR-81, December 15, 1972	1
50-330	CPPR-82, December 15, 1972	2

<u>Reactor Information:</u>	<u>Unit 1</u>	<u>Unit 2</u>
NSSS	B&W	B&W
MWt	2452	2452

Appraisal Period: July 1, 1980 to June 30, 1981

Appraisal Completion Date:

Review Board Members:

Overall Licensee Performance Evaluation

During the evaluation period, the licensee's performance is assessed at below average in the technical areas of resolving the soils settlement issues; installation of piping and pipe suspension systems - particularly small bore piping; and electrical installations.

In the past three years there has been an abundant amount of activity associated with soils settlement issues. In spite of this the enforcement history in this area shows the licensee has demonstrated a lack of attention to detail. Therefore, the licensee is rated below average in this area. Continued enforcement in the soils area may cast dispersions on the licensee's ability to successfully perform proposed resolution to the soils settlement issues and invoke further escalated enforcement action in this area.

In the area of control of piping and pipe support systems, the licensee had received (during the evaluation period) escalated enforcement action. While in the process of attempting to correct these deficiencies, the licensee received additional items of noncompliance and escalated enforcement as a result of the NRC review into their resolution of the original items. This happened after the end of the evaluation period. Since then, the licensee's performance appears to be improved. However, the test of time will ensure that the licensee has actually improved their performance in control of piping and pipe supports systems or whether their improvement was only as a result of responding to escalated enforcement action.

In the electrical area the licensee had embarked on an ambitious "pulling schedule" commencing half way through the evaluation period. Prior to this, the NRC had verbally advised the licensee to have adequate number and quality of QC and QA personnel available when escalated electrical installation activities commenced. The enforcement history identified during the evaluation period indicates a lack of rigorous QC coverage. Since this enforcement, the

licensee has increased the rigor and frequency of overview inspections, performed a detailed audit pertaining to material storage and brought upper management's attention to the findings, and is presently inquiring (at the insistence of the NRC) into the adequacy of electrical QC coverage. Similarly, to the installation of piping and pipe support systems, time will establish the sincerity of corrective actions.

In the less technical, but more managerial, areas of corrective action and reporting and design control, the licensee has demonstrated during the evaluation period that the below average rating is warranted by not having a strong resolution to perpetually avoid the indicators discussed in the body of this report. The licensee's argumentative attitude toward responses to NRC enforcement issues has invoked management meetings with the licensee subsequent to the SALP evaluation period where the NRC has delineated what information constitutes an adequate response. Should the licensee offer strong responsible management conviction to resolving the reporting and design control issues, a turn-around in these areas could be expedited.

It is intuitively obvious from the above and the body of this report that the licensee's overall performance is rated below average.

REGION III

Cycle 2

SALP BOARD REPORT FOR

Facility: Midland

I. SUMMARY

A. Recommended Ratings:

<u>Functional Areas</u>	<u>Rating</u>
1. Quality Assurance	Average
2. Site Preparation and Foundation	Below Average
3. Containment Structures	Average
4. Safety Related Structures	Average
5. Piping and Hangers	Below Average
6. Safety Related Components	Average
7. Electrical	Below Average
8. Instrumentation	Not Rated
9. Fire Protection	Above Average
10. Preservice Inspection	Average
11. Corrective Action and Reporting	Below Average

12. Design and Design Changes Below Average

13. Other Functional Areas Not
Included Above Above Average

B. Recommended Overall Rating

Below Average.

C. Action Plan

Site Preparation and Foundation: Escalated inspection activity for each major evolution in the resolution of soils settlement issues.

Piping and Hangers: A complete and intensive inspection scheduled for early 1982.

Electrical: Comprehensive inspections at approximately two-month intervals placing attention in those areas of heaviest activity in the preceding month with particular emphasis on QC personnel.

Instrumentation: Comprehensive inspections at two-month intervals commencing when the instrumentation installation activities start to dramatically increase, with particular emphasis on design control and QC coverage. These inspections could be coincident with the electrical inspections.

Other Functional Areas: One team type inspection to cover all areas of HVAC System installation and the resolution of previous enforcement items.

III. PERFORMANCE ANALYSIS

1. Quality Assurance

The licensee is rated average. Effective August 15, 1980, Consumers Power Company reorganized the site QA functions by creating the Midland Plant Quality Assurance Department (MPQAD) which was composed of both Consumers Power Company and Bechtel Power Corporation personnel. This reorganization was instituted in the interest of more comprehensive coverage of QA and more timely resolution of noted discrepancies. Consumers Power Company retains the lead responsibility for QA.

Also during the reporting period, Consumers Power Company assumed responsibility for all on-site QA and QC functions for installation of HVAC systems. These functions and controls were previously handled by The Zack Company. The changes in responsibility were implemented to "establish more effective QA/QC interface; provide increased technical support; and provide a mechanism to improve inspection performance".

Because of changes in QA organization and changes in the Site QA Superintendent, the NRC regularly evaluated the impact of these changes on the overall QA aspects of the site and performed a Team Inspection in May 1981. A portion of this Team Inspection consisted of making a determination of the adequacy of QA and the influence of Production considerations on the independence of QA/QC. This inspection revealed that the number and qualifications of personnel in the Consumers Power Company QA organization were above average. The QA programs and overview inspection and audit functions were also above average. However, a severity level IV item of noncompliance was written against management's

failure to take prompt comprehensive corrective action in response to the identification of adverse quality trends (Inspection Report No. 50-329/81-12; 50-330/81-12). This item of noncompliance is indicative of Consumers Power Company QA Management exhibiting a hesitancy to determine the "root cause" of increases in deficiencies. This same weakness was identified during the previous SALP period.

A second item of noncompliance was identified which is indicative of questionable managerial QA control. This item pertained to the licensee's failure to evaluate the technical capability of the principal supplier of services for soil boring activities (Inspection Report No. 50-329/81-09; 50-330/81-09). During the inspections prior to taking soil borings, 15 items requiring QA resolution were identified by the NRC prior to any drilling activities but during the period when "setting up" for the drilling operations was being anticipated.

When considering an overall rating for the licensee's Quality Assurance capability, an average rating is realized with two major infractions being identified in two confined areas.

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When considering an overall rating for the licensee's Quality Assurance capability, an average rating is realized with two major infractions being identified in two confined areas.

2. Site Preparation and Foundation

The licensee is rated below average.

During the evaluation period, inspections have been performed to examine the licensee's implementation of corrective actions regarding the 10 CFR 50.54(f) request for additional information pertaining to soils settlement; observation of soils work activities and to witness taking of soil borings requested by NRC Reviewers and consultants.

Since 1978, the soils settlement issues have been paramount in the amount of attention given by the NRC to this licensee. This activity has resulted in an order issued in December 1979 which is the basis for a hearing on soils settlement issues. A multitude of effort has gone into soils testing and major re-review of the FSAR and design control. In spite of this attention, every inspection involving Regional based inspectors and addressing soils settlement issues has resulted in at least one significant item of noncompliance, and the following enforcement history for the soils settlement area has existed during the SALP evaluation period:

Two level IV violations were identified in NRC Inspection Report No. 50-329/80-32; 50-330/80-33.

- 1) Failure to initiate preventive action to preclude repetition of not identifying design documents as references to which the FSAR was to be reviewed against.
- 2) Three examples of failure to translate applicable regulatory requirements and design criteria into design documents.
 - a) Failure to maintain a coordination log of specification change notices (SCM).

- b) Failure to correctly translate Specification Change Notice No. SCN-9004 as a requirement into Rev. 20 of specification C-208.
- c) Failure of Engineering Department Project Instruction No. EDPI 4.25.1, Rev. 8 to establish adequate measures for design interface requirements.

One level V violation and a deviation were identified in NRC Inspection Report No. 50-329/81-01; 50-330/81-01.

- 1) Failure to establish test procedures for soils work activities.
- 2) Failure to supply an onsite geotechnical engineer.

One level V violation was identified in NRC Inspection Report No. 50-329/81-09; 50-330/81-09 which was previously discussed under the Quality Assurance Section. However, the finding of lack of QA was as a result of attempting to review the QA associated with procuring soil boring samples.

Failure to evaluate the technical capabilities of Woodward-Clyde (principal supplier of services for soil boring activities) prior to procurement of a drilling contractor.

Therefore, because of the above enforcement history, the rating is considered below average.

Board Comments:

Our increased inspection activity will continue. The Board notes that there was also an increased inspection frequency area in the SALP 1.

3. Containment Structures

The licensee is rated average. During the evaluation period, containment prestressing system procedures were reviewed; selected work activities associated with tendon insertion and buttonheading for Unit 1 were observed and prestressing system material records for Unit 1 and quality records for Units 1 and 2 were reviewed.

Considering that the licensee had previously experienced difficulty in installation of prestressing tendons which did not appear to exist during this evaluation period, the rating is considered average.

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4. Safety Related Structures

The licensee is rated average.

During the evaluation period, the Senior Resident Inspector witnessed portions of the atmospheric hydrostatic test placed on the borated water storage tanks (BWST). The Senior Resident Inspector observed Quality Control and the Authorized Nuclear Inspector examine the tanks. The hydrostatic test was done in an acceptable manner. Although the hydrostatic test was completed without complications, loading of the BWST with water resulted in cracks developing in the valve pit area associated with these tanks. This cracking in the valve pit support walls is subsequently related to soils issues.

5. Piping and Hangers

The licensee is rated below average.

During the evaluation period, installation of large and small bore piping and pipe hanger systems (including storage of piping components) was examined and noted in seven different inspection reports of regularly scheduled inspection activities. Three of these inspections resulted in seven items of noncompliance and an isolated instance of inadequate dunnage in a temporary storage area. The following items of noncompliance indicate weakness in the implementation of the QA program.

- 1) Bechtel Purchase Order did not specify applicable codes for purchase of 60,000 pounds of E7018 electrode.
- 2) Bypass of an inspection hold point for pressurizer surge piping. (Unit 2 only).
- 3) Failure to install large bore pipe restraints, supports, and anchors in accordance with design drawings and specifications.
- 4) Failure of QC inspector to reject large bore restraints, supports and anchors that were not installed in accordance with design drawings and specifications.
- 5) Failure to prepare, review and approve small bore pipe and piping suspension system designs performed onsite in accordance with design control procedures.
- 6) Failure to adequately control documents used in site small bore piping design activities.
- 7) Failure of audits to include a detailed review of system stress analysis and to follow up on previously identified hanger calculation problems.

Also during the evaluation period, an Immediate Action Letter (IAL) was issued on May 22, 1981, pertaining to the design control and issuance of drawings for the installation of small bore piping and support systems. The NRC Inspection of July 16-17 and 23-24, 1981 (NRC Inspection Report No. 50-329/81-14; 50-330/81-14) determined that the licensee had "satisfactorily addressed" the provisions of the May 22, 1981 IAL. Also, subsequent to the evaluation period, on July 27, 1981, a Letter of Understanding was submitted by the licensee stating the actions to be taken to control modification to small bore piping drawings which do not have Committed Preliminary Design Calculations (CPDC).

Considering the above escalated enforcement action plus the enforcement history; the rating is below average.

6. Safety Related Components

The licensee is rated average.

During the evaluation period, NRC Inspectors observed alignment of reactor coolant pumps; installation of lower core support assembly guide blocks; installation of core support assembly vent valves and associated portions of quality documentation. The enforcement history consisted of two items of noncompliance and a Letter of Understanding. All were issued as a result of NRC findings during the installation of the core support assembly vent valves.

The following is a summary of the items of noncompliance which culminated in a Letter of Understanding issued by the licensee on January 22, 1981. The Letter of Understanding stated that the Stop Work on assembly of core support assembly vent valves would remain in effect until procedures, personnel training and QA overview inspection plans are upgraded.

- 1) Failure to have an appropriate procedure for installation of vent valves.
- 2) Failure to follow access control procedures and account for items used in the assembly of the U/2 core support assembly vent valves on the equipment entry log.

Because the above enforcement was aimed at an isolated instance and may have been directly related to changes in NSSS QC personnel changes and because the licensee had in the past and since this episode continues to maintain QA control for assembly of NSSS equipment (particularly reactor internals), the overall rating in this area is considered to be average.

7. Electrical

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The licensee is rated below average.

During the evaluation period, two routine inspections and one team inspection were performed with a substantial portion of the inspection effort dedicated to the electrical area. Five other inspection periods addressed specific electrical items with one of these inspections addressing the in place storage condition of electrical equipments. As a result of the inspection effort dedicated to the electrical area, six items of noncompliance were identified. The inspection effort into the equipment storage conditions resulted in a single item of noncompliance with three examples --- two of these examples were electrical equipment.

It must be emphasized that there was essentially no electrical work being performed for more than six months into the evaluation period because of the need to perform re-engineering to permit routing of the cables without thermal and/or physical overload of the raceways. When electrical work resumed, it was done on a very ambitious schedule. However, it appears that not enough qualified QC personnel, rigorous QA audits and established procedural controls were invoked to avoid the following list of enforcement items.

- 1) Failure to establish procedures for temporary support of cable, cable coils --- and for routing cables.
- 2) Electrical contractors failed to verify conformance to paragraph 3.1, failure to perform adequate inspection.
- 3) Failure to identify and control nonconforming components.
- 4) Failure to translate design criteria into drawings and specifications.

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- 5) Failure to identify during inspection that a nonconforming condition with regard to minimum installed cable bend radius existed.
- 6) Failure to take proper corrective action with regard to the lack of approved procedures for the rework of electrical raceways.
- 7) Failure to provide adequate storage conditions for
 - a. Control Rod Drive Primary AC Breakers
 - b. New and spent fuel storage racks
 - c. Emergency battery chargers

Therefore, the licensee's performance in this area is considered below average.

8. Instrumentation

The licensee is not rated in this area because a minimal amount of instrumentation installation and subsequent inspection effort has occurred during this evaluation period.

9. Fire Protection

The licensee is rated above average.

During the evaluation period, the Senior Resident Inspector toured selected areas of the site each month to assess the cleanliness of the site and determine the potential for fire or other hazards which might have a deleterious effect on personnel and equipment. The site has maintained an adequate safety record during this SALP period. A substantial portion of the site safety program is devoted to fire protection. The licensee conducts weekly training and drills for the on site fire brigade. The fire brigade has consistently passed the quarterly fire drills imposed by the licensee's insurance agency. Volatile chemicals are controlled and issued in small quantities in metal containers. Volatile chemicals, oils, combustables and trash are not tolerated in an unclean and uncontrolled state. Fire hazards were minimized during the evaluation period and the licensee has accrued a multi-million hour safety record.

10. Preservice Inspection

The licensee is rated average.

During the evaluation period, three routine inspections were performed to evaluate the ultrasonic testing (UT) of the reactor pressure vessels by South West Research Institute (SWRI) and the preservice inspection being performed by Babcock & Wilcox (B&W). The inspection effort revealed that adequate management controls existed for the inservice inspection program, procedures, and material and equipment. The licensee responses to I&E Bulletins was determined to be complete in this area. The data reports demonstrated that QA/QC audits and requirements are met. The qualifications and training of SWRI and B&W personnel was in accordance with SNT-TC-1A, 1975.

Considering the above performance and the overall effectiveness and the cooperative attitude of the licensee and nondestructive evaluation personnel, the licensee is considered average in the preservice inspection area.

11. Corrective Action and Reporting

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The licensee is rated below average.

During the evaluation period, the licensee submitted twelve Construction Deviation Reports to the NRC with most of the information contained being a fair (but not necessarily an elaborate) description of the circumstances resulting in the 10 CFR 50.55(e) report. The following is an abbreviated summary of each 10 CFR 50.55(e) submitted to the NRC during the evaluation period.

- 1) High Energy Line Break Analysis (HELBA), steady state thrust forces rather than transient peak thrust forces were used in the energy balance techniques for the design of HELBA pipe whip restraints.
- 2) Sway Strut Rod Ends Deficiency, ITT Grinnell supplied sway struts, snubbers and shock suppressors have loose or totally disengaged rod end bushings.
- 3) Component Cooling Water (CCW) Design, CCW system susceptibility to Loss of Coolant Accident (LOCA) induced failures.
- 4) Nuclear Steam Supply System (NSSS) analysis, anomalies identified in the NSSS seismic and Loss of Coolant (LOCA) analysis of the primary system.
- 5) Emergency Core Cooling Actuation System (ECCAS) vendor wiring in the ECCAS cabinets 1C45 and 2C45 was inconsistent with redundant subsystem modules in the cabinets.
- 6) Low alloy quenched and tempered bolting $1\frac{1}{2}$ inches and greater in support of safety related systems.

- 7) Underrated Terminal Strips on Limitorque Operators.
- 8) Seismic model of Auxiliary Building has incorrect assumption that control tower and main portion of Auxiliary Building are an integral unit between elevation 614 and 659.
- 9) Borated Water Storage Tank Foundation stress cracks.
- 10) ITE Gould Class 1E equipment, unqualified cable used to wire equipment and/or controls.
- 11) Shear reinforcement at major containment penetrations.
- 12) Reactor Cavity cooling system.

During the evaluation period, the licensee failed to make a timely determination for the need to submit a 10 CFR 50.55(e) report to the NRC based on a 10 CFR Part 21 report from Transamerica Delaval, Inc. pertaining to diesel engine link rod clearances and this was identified by the NRC as an item of noncompliance. The licensee has taken positive actions to ensure that any safety related information received pertinent to the Midland Site is evaluated with respect to the impact on overall safety.

With regard to responses to items of noncompliance, the licensee has contested 9 of the 22 items of noncompliance written against areas other than HVAC system installation. Of the nine items contested by the licensee, the NRC agreed in two instances and removed the items of noncompliance. Of the twenty total items of noncompliances against the installation of HVAC systems (19 items in NRC Inspection Report No. 50-329/80-10; 50-330/80-11 and one item in NRC Inspection Report No. 50-329/80-21; 50-330/80-22) the licensee contested five items and the NRC agreed in two instances and removed the items of noncompliance.

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It is realized that the licensee does have appeal rights on items of noncompliance, but when the licensee appeals over 40% (excluding HVAC system citations) and realizes a less than 10% success rate, it becomes apparent that the licensee's rebuttal lacks substance on a high percentage of the time. The licensee's inadequate responses delays an expedient resolution to the items of noncompliance and conveys an uncooperative attitude and ultimately affects the efficient operation of both the licensee and NRC and becomes a detriment to construction of a quality plant. Subsequent to the evaluation period, licensee management were invited to a meeting in the Regional Office so the NRC could explain their position on what constitutes an adequate response to noncompliances and subsequent corrective action.

Based on the questionable quality of the licensee's response to enforcement items, this area of corrective action and reporting is considered below average.

12. Design and Design Changes

The licensee is rated below average.

During the evaluation period, three items of noncompliance were identified against 10 CFR 50 Appendix B, Criterion III, Design Control and one item against Criteria XVI, Corrective Action which was closely related to deficiencies in design control. These items of noncompliance have been addressed in other sections of this SALP report. However, the common bond between these items of noncompliance is that each addresses inadequate design control.

The following is a reference list of these items of noncompliance:

1) Section 2, Site Preparation and Foundations

- (a) Failure to initiate preventive action to preclude repetition of not identifying design documents.
- (b) Three examples of failure to translate applicable regulatory requirements and design criteria into design documents.

2) Section 5, Piping and Hangers

Failure to prepare, review and approve small bore pipe and piping suspension system designs performed onsite in accordance with design control procedures.

3) Section 7, Electrical

Failure to translate design criteria into drawings and specifications.

In addition to the enforcement items listed above, an Immediate Action Letter was issued by the NRC pertaining to design control and issuance of

drawings for the installation of small bore piping. This item was previously iterated in Section 5, Piping and Hangers.

Also, the following five 10 CFR 50.55(e) summaries, which were among the twelve Construction Deficiency Reports submitted demonstrates there was lack of QA in design control and these instances should have been licensee controllable.

- 1) High Energy Line Break Analysis (HELBA), steady state thrust forces rather than transient peak thrust forces were used in the energy balance techniques for the design of HELBA pipe whip restraints.
- 2) Component Cooling Water (CCW) Design, CCW system susceptibility to Loss of Coolant Accident (LOCA) induced failures.
- 3) Seismic model of Auxiliary Building has incorrect assumption that control tower and main portion of Auxiliary Building are an integral unit between elevation 614 and 659.
- 4) Borated Water Storage Tank Foundation stress cracks.
- 5) Shear reinforcement at major containment penetrations.

The fact that the licensee is able to often times identify design deficiencies through their audit programs and take appropriate action is commendable. However, these design deficiencies would not occur if there were more stringent control at the source of these design errors and deficiencies.

Considering the above indicators which suggest questionable design control and the amount of re-engineering which has transpired in electrical, civil, and piping areas, the licensee's performance is rated as below average.

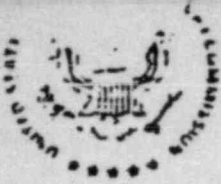
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The fact that the licensee is able to often times identify design deficiencies through their audit programs and take appropriate action is commendable. However, these design deficiencies would not occur if there were more stringent control at the source of these design errors and deficiencies. Therefore, the licensee is rated as below average in this area.

13. Other Functional Areas Not Included Above

The licensee is rated above average. On January 7, 1981, a \$38,000 Civil Penalty was levied against the licensee for QA deficiencies in the installation of HVAC systems which were noted during an investigation during the period of March 6, 1980 to July 31, 1980. Seventeen items of noncompliance were identified during this period and one additional item was identified in a later report (NRC Inspection Report No. 50-329/80-21; 50-330/80-22). The later item was not considered in the Civil Penalty.

Considering the above enforcement history would ordinarily force a rating of below average in this area. However, because of the overlap into the previous SALP (evaluation period of July 1, 1979 to June 30, 1980) for the investigation and subsequent escalated enforcement action and previous discussions in this area, this present SALP overall evaluation shall not be influenced by the enforcement history for installation of HVAC systems. Since the Consumers Power Company has accepted complete responsibility for HVAC System QA/QC functions, a marked improvement has been noted in the control of HVAC installation. Because of the aggressiveness of Consumers Power Company to accept QA/QC responsibility for HVAC system installation and to staff this organization with an adequate number of skilled personnel, the rating in this area is presently considered above average.



UNITED STATES
NUCLEAR REGULATORY COMMISSION
WASHINGTON, D. C. 20555

SEP 2 1981

R.J. COOK

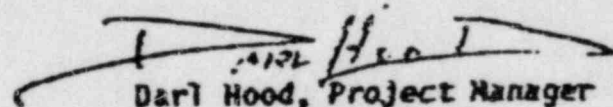
MEMORANDUM FOR: Darrell G. Eisenhut, Director
Division of Licensing, NRR

THRU: Robert L. Tedesco, Assistant Director
for Licensing, DL

FROM: Darl Hood, Project Manager
Licensing Branch #4, DL

SUBJECT: NRR PERFORMANCE EVALUATION FOR SAMP CYCLE 2 FOR
MIDLAND PLANT, UNITS 1 AND 2

The enclosure provides NRR's performance evaluation as part of the Systematic Assessment of Licensee Performance, Cycle 2, for Midland Plant, Units 1 and 2. The evaluation was prepared by the Project Manager and covers the period July 1, 1980 to June 30, 1981. Since most of the interaction with Consumers Power Company during this assessment period regarded the soils settlement and seismic input for the site, concurrences from the Division of Engineering were obtained during the preparation of this assessment.


Darl Hood, Project Manager
Licensing Branch #4
Division of Licensing

Enclosure:
As stated

810915064 KA

NRR PERFORMANCE EVALUATION

Facility: Midland Plant, Units 1 and 2

Project Manager: Darl Hood

Appraisal Period: July 1, 1980 - June 30, 1981

1. Performance Elements

-- Quality of Responses and Submittals

Responses and submittals during this review period have principally regarded the soils settlement issue, including seismic input, and responses to Post-TMI requirements (NUREG-0737). These matters involve significant design changes, extensive additional calculations, soils exploration and laboratory analyses. During the earlier part of this review period, replies to staff's request were not substantive and tended to argue the staff's need for that information; once the management appeal decision or staff position was taken, the replies tended to become responsive. Hence, the quality of the response tends to be acceptable once the need is firmly established. Following a long appeal to NRR management, recent responses providing soil borings and laboratory tests comply with the staff request and are of acceptable quality. Recent responses establishing new seismic design criteria for the site have been of high quality once the staff position letter (R. Tedesco, October 1, 1980) established the need. Like many other plants, the responses to post-TMI requirements at this point in time largely reflect plans and commitments with details left for a later stage. In summary, while early responses during the report period were below average in responsiveness, the more recent responses tend to be substantive and of acceptable quality. This recognizes, of course, that in several areas, design progress does not yet provide for substantive replies.

b. Efforts Required to Obtain an Acceptable Response or Submittal

(1) Timeliness

It generally takes more than the average time and effort to obtain acceptable and substantive responses from this applicant. The propensity of this applicant to utilize the hearing process and NRC management appeal process to resolve disagreements requires that additional time and effort be expended by the staff in satisfying the applicant that the staff's request or views are adequately based. Examples during this report period are discussed above for the staff request for soil borings and the need for seismic criteria resolution. Such factors make it difficult to maintain schedules for this application.

(2) Effort

Refer to item 1b (1) above.

(3) Responsiveness to staff requests

Refer to item 1a

(4) Anticipate or reacts to ~~unc~~ needs

This is an average utility in this area. The utility's effort to anticipate post-TMI changes were quite favorable. However the utility's early reluctance to provide information needed by the staff with respect to soils issues denotes a lack of appreciation of or reaction to staff ~~needs~~ needs. An improvement in this item has occurred during the latter phase of this review period as the potential of licensing delays impacting construction completion is realized by this utility.

c. Working Knowledge of Regulations, Guides, Standards and Generic Issues

This Utility has a good and current working knowledge of licensing matters. I would rate it above average in this respect.

d. Technical Competence

This is an experienced Utility with two operating nuclear plants (Palisades and Big Rock Point). The Utility is considered to be average to above average overall in technical competence. However, in the soils and foundation engineering areas, the Utility has relied heavily upon Bechtel, and Bechtel in turn, upon consultants. The effectiveness derived from employing expert consultants has, in the past, been diminished by the practice of Bechtel to utilize consultants' information as recommendations only and thus to modify or ignore their advice. Thus, the technical competence of the Midland project with respect to soils has depended upon the competence of Bechtel to recognize the significance of its decisions with respect to expert consultants' advice. Some improvements have been noted during this report period in a revised QA organization intended to provide more control to Consumer's over the project. Consumer's has also tended recently to contract directly with recent consultants, rather than to contract through Bechtel.

e. Conduct of Meetings with NRR

A significant improvement in the conduct and followup of meetings with NRR has occurred since the utility reorganization which began in March 1980 and was completed in October 1980. The utility is now considered average in this area.

f. Long-standing Open Items

While there are many long-standing open items on this plant, it is recognized that the early plant design and interrupted staff review following the TMI-2 accident have also contributed. Timely close-out of these items under the circumstances are judged reasonable. An exception to this is the applicant's delay in providing soil borings, which has delayed the soils hearing completion and results in overlaps with the Staff's OL SER preparation effort. This area will be quite significant during the next report period.

g. Organization and Management Capabilities

As noted in paragraphs 1d and 1e above, the recent Utility reorganization reflects significant improvements and a tendency toward increased self-sufficiency on the part of the Utility. The new organization is judged to be average in effectiveness.

n. Results of Operator Licensing Examinations

Not applicable to this appraisal period.

i. Performance on Specific Issues

Consultants utilized by this Utility for advice on soils remediation, soils borings and laboratory evaluation, and for resolution of seismic issues are among the best available. This is a positive factor contributing to the Utility's performance on very complex and sweeping issues.

2. Observed Trends in Performance

As noted in several items above, several improving trends in licensing performance have been observed.

3. Notable Strengths and Weaknesses

Strengths

This is an experienced Utility with a good knowledge of NRC licensing requirements.

Weaknesses

Needs to be satisfied as to the reality of NRC staff information needs before responsive and substantive replies are offered. It is thus difficult to maintain licensing review schedules on this plant. The Project Manager also believes that a more assertive role by the Utility in screening input from others for responsiveness to staff information requests could significantly increase licensing completion.

4. Overall Summary

Overall, this is considered to be an average Utility. This Utility has the ability to be responsive to staff requests and licensing needs, if properly motivated. Absent this motivation, Applicant tends to be unresponsive. This trend, however, is improving as schedular pressures accruing from untimely staff review become more obvious. Compared to other Utilities, this Applicant tends to make more frequent use of staff management appeals and use of licensing boards to obtain resolution of issues, often at the expense to licensing review schedules. More recently, a significant trend toward increased cooperation and communication with the technical staff at the reviewer levels has been noticed, a trend which this Project Manager feels will prove to be in the Applicant's best interest.

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SUMMARY OF ITEMS OF NONCOMPLIANCE

-329 50-330 E Report No.	Area of Noncompliance	Subject of Noncompliance	Unit 1 Points	Unit 2 Points	Type
-10 80-11	Criterion V	Activities affecting quality were not accomplished in accordance with documented instructions and procedures for fabrication.	10	10	Infraction
	Criterion V	Welders identification was not recorded on travelers.	2	2	Deficiency
	Criterion V	Unapproved marking material, Eberhard Faber Marquette was used to mark sheet steel stock and fabricated items installed in seismic Class 1 duct work without a change approved by the contractor.	2	2	Deficiency
	Criterion XII	Documentary evidence did not exist that material and equipment conform to procurement requirements prior to installation or use.	10	10	Infraction
	Criterion VIII	Failure to assure the identification of safety-related HVAC components throughout fabrication, erection and installation.	10	10	Infraction
	Criterion IX	Established welding procedures were not used as specified or in the manner used to qualify the			

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SUMMARY OF ITEMS OF NONCOMPLIANCE

E Report No.	Area of Noncompliance	Subject of Noncompliance	Unit 1 Points	Unit 2 Points	Type
-329 50-330 (cont) (cont) 0-10 80-11	Criterion IX	Procedures to control weld filler metal at the Midland construction site were not followed.	10	10	Infraction
	Criterion IX	Welding was not performed in accordance with pre-qualified welding procedures.	10	10	Infraction
	Criterion IX	Individual welds were not identified by welder ID numbers.	10	10	Infraction
	Criterion IX	Two welders were assigned the same welder's ID stamp.	10	10	Infraction
	Criterion X	Instructions and procedures for inspections were not prescribed for activities affecting quality.	10	10	Infraction
	Criterion X	The program for inspection was not adequate to assure compliance with applicable specifications.	2	2	Deficiency
	Criterion XV	Measures which would prevent the inadvertent use or installation of nonconforming materials had not been established.	10	10	Infraction
	Criterion XV	Nonconformance tags had been applied to fire			

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SUMMARY OF ITEMS OF NONCOMPLIANCE

-329 50-330 E Report No.	Area of Noncompliance	Subject of Noncompliance	Unit 1 Points	Unit 2 Points	Type
(cont) 0-10	(cont) 80-11 Criterion XVI	None of the seven nonconformance reports generated by CPGO during 5/23 - 10/2/79 had been promptly corrected.	10	10	Infraction
	Criterion XVI	Measures were not adequate to assure that conditions adverse to quality were promptly identified.	10	10	Infraction
	Criterion XVII	Sufficient records to furnish evidence of activities affecting quality were not maintained.	10	10	Infraction

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SUMMARY OF ITEMS OF NONCOMPLIANCE

IE Report No.	Area of Noncompliance	Subject of Noncompliance	Unit 1 Points	Unit 2 Points	Type
0-329 50-330 80-20 80-21	Criterion IV	Bechtel Purchase Order did not specify applicable codes for purchase of 60,000 pounds of E7018 electrode.	10	10	Infraction
80-21 80-22	Criterion XVIII	Failure to perform audit of Photon Testing, Inc. prior to welder training and qualification. (Zack)	10	10	Infraction
80-28 80-29	Criterion X	Bypass of an inspection hold point for pressurizer surge piping (Unit 2 only).		10	Infraction
80-31 80-32	Criterion II	Delay in making 10 CFR 50.55(e) reportability determinations and information was not immediately disseminated to the client for a Part 21 on diesel engine link rods.	10	10	Infraction
80-32 80-33	Criterion XVI	Failure to initiate preventive action to preclude repetition of not identifying design documents. Reviewers were not reviewing the FSAR against references.	10	10	IV

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SUMMARY OF ITEMS OF NONCOMPLIANCE

E Report No.	Area of Noncompliance	Subject of Noncompliance	Unit 1 Points	Unit 2 Points	Type
-329 50-330 D-32 80-33	Criterion III	<p>Three examples of failure to translate applicable regulatory requirements and design criteria into design documents.</p> <ul style="list-style-type: none">a) Failure to maintain a coordination log of specification change notices.b) Failure to correctly translate SCM-9004 as a requirement into Rev. 20 of specification C-208.c) Failure of EDPI 4.25.1, Rev. 8 to establish adequate measures to waive design interface requirements.	10	10	IV

SUMMARY OF ITEMS OF NONCOMPLIANCE

E Report No.	Area of Noncompliance	Subject of Noncompliance	Unit 1 Points	Unit 2 Points	Type
0-329 50-330 81-01 81-01	Criterion V 50.54f Ques. 23 Response	Failure to establish test procedures for soils work activities. Failure to supply an onsite geotechnical engineer.	10	10	V Deviation
81-04 81-04	Criterion V Criterion V	Failure to have an appropriate procedure for installation of vent valves. Failure to follow access control procedures and account for items used in the assembly of the U/2 core support assembly vent valves on the equipment entry log.		10 10	V V
81-08 81-08	Criterion XIII	Failure to provide adequate storage conditions for 1) Control Rod Drive Primary AC Breakers 2) New and spent fuel storage racks 3) Emergency battery chargers	10	10	V

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SUMMARY OF ITEMS OF NONCOMPLIANCE

E Report No.	Area of Noncompliance	Subject of Noncompliance	Unit 1 Points	Unit 2 Points	Type
-329 50-330 1-09 81-09	Criterion V	Failure to evaluate the technical capabilities of Woodward-Clyde (principal supplier of services for soil boring activities) prior to commencement of drilling operations.	10	10	V
1-11 81-11	Criterion V	Failure to establish procedures for temporary support of cable, cable coils --- and for routing cables.	10	10	V
	Criterion X	Electrical contractors failed to verify conformance to paragraph 3.1, failure to perform adequate inspection.	10		V
	Criterion XV	Failure to identify and control nonconforming components.	10	10	V
	Criterion III	Failure to translate design criteria into drawings and specifications.	10	10	V

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SUMMARY OF ITEMS OF NONCOMPLIANCE

329 50-330 Report No.	Area of Noncompliance	Subject of Noncompliance	Unit 1 Points	Unit 2 Points	Type
1-12 81-12	Criterion XVI	Routine analysis of report revealed that appropriate site managers have not routinely established comprehensive corrective actions in response to the identification of adverse quality trends.	10	10	IV
	Criterion X	Failure to identify during inspection that a nonconforming condition with regard to minimum installed cable bend radius existed.		2	VI
	Criterion XVI	Failure to take proper corrective action with regard to the lack of approved procedures for the rework of electrical raceways.	10	10	V
	Criterion V	Failure to install large bore pipe restraints, supports, and anchors in accordance with design drawings and specifications.	10	10	V
	Criterion X	Failure of QC inspector to reject large bore restraints, supports and anchors that were not installed in accordance with design drawings and specifications.	10	10	V

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SUMMARY OF ITEMS OF NONCOMPLIANCE

329 50-330 E Report No.	Area of Noncompliance	Subject of Noncompliance	Unit 1 Points	Unit 2 Points	Type
(cont) (cont) 81-12 81-12	Criterion III	Failure to prepare, review and approve small bore pipe and piping suspension system designs performed onsite in accordance with design control procedures.	10	10	IV
	Criterion VI	Failure to adequately control documents used in site small bore piping design activities.	10	10	V
	Criterion XVIII	Failure of audits to include a detailed review of system stress analysis and to follow up on previously identified hanger calculation problems.	10	10	V

II. NUMBER AND NATURE OF ENFORCEMENT ITEMS

Midland Unit 1

Functional Area	Noncompliances and Deviations									
	Severity Level						Classification			
	I	II	III	IV	V	VI	Vio	Inf	Def	Dev
1. Quality Assurance				1	1					
2. Site Preparation and Foundations				2	1					1
3. Containment Structures										
4. Safety-related Structures										
5. Piping & Hangers				1	4			1		
6. Safety-related Components										
7. Electrical					5					
8. Instrumentation										
9. Fire Protection										
10. Preservice Inspection										
11. Corrective Actions and Reporting								1		
12. Procurement										
13. Design and Design Changes										
14. Training										
15. Modules Not Included In Any Functional Area					1			15	3	
TOTALS				4	12			17	3	1

11. NUMBER AND NATURE OF ENFORCFMENT ITEMS

Midland Unit 2

Functional Area	Noncompliances and Deviations										
	Severity Level						Classification				
	I	II	III	IV	V	VI	Vic	Inf	Def	Dev	
1. Quality Assurance				1	1						
2. Site Preparation and Foundations				2	1						1
3. Containment Structures											
4. Safety-related Structures											
5. Piping & Hangers				1	4			2			
6. Safety-related Components					2						
7. Electrical					4	1					
8. Instrumentation											
9. Fire Protection											
10. Preservice Inspection											
11. Corrective Actions and Reporting								1			
12. Procurement											
13. Design and Design Changes											
14. Training											
15. Modules Not Included In Any Functional Area					1			15	3		
TOTALS				4	13	1		18	3		1

Number and Nature of Noncompliance Items

<u>Noncompliance Category</u>	<u>Unit 1</u>	<u>Points</u>	<u>Unit 2</u>	<u>Points</u>
Violations	-	-	-	-
Infractions	17	170	18	180
Deficiencies	3	6	3	6
Deviations	1	0	1	0

Severity Levels

I	-	-	-	-
II	-	-	-	-
III	-	-	-	-
IV	4	40	4	40
V	12	120	13	130
VI	-	-	1	2

B. Number and Nature of Deficiency Reports

Twelve (12) Construction Deficiency Reports (CDR's) reported pursuant to 10 CFR 50.55(e), were received by the regional office during the period of July 1, 1980 and June 30, 1981. The following list is a summary of each reportable item.

- *1. High Energy Line Break Analysis (HELBA), steady state thrust forces rather than transient peak thrust forces were used in the energy balance techniques for the design of HELBA pipe whip restraints.
2. Sway Strut Rod Ends Deficiency, ITT Grinnell supplied sway struts, snubbers and shock suppressors have loose or totally disengaged rod end bushings.
- *3. Component Cooling Water (CCW) Design, CCW system susceptibility to Loss of Coolant Accident (LOCA) induced failures.
4. Nuclear Steam Supply System (NSSS) analysis, anomalies identified in the NSSS seismic and Loss of Coolant (LOCA) analysis of the primary system.
5. Emergency Core Cooling Actuation System (ECCAS) vendor wiring in the ECCAS cabinets 1C45 and 2C45 was inconsistent with redundant subsystem modules in the cabinets.
6. Low alloy quenched and tempered bolting 1½ inches and greater in support of safety related systems.
7. Underrated Terminal Strips on Limitorque Operators.
- *8. Seismic model of Auxiliary Building has incorrect assumption that control tower and main portion of Auxiliary Building are an integral unit between elevation 614 and 659.

- *9. Borated Water Storage Tank Foundation stress cracks.
- 10. ITE Gould Class 1E equipment, unqualified cable used to wire equipment and/or controls.
- *11. Shear reinforcement at major containment penetrations.
- 12. Reactor Cavity cooling system.

*Indicates may have been licensee controllable and are indicative of lack of QA in design control.

C. Escalated Enforcement Actions

11-11-81

Civil Penalty

On January 7, 1981, a \$38,000 civil penalty was issued by the NRC as a result of an investigation pertaining to the installation of heating, ventilating and air conditioning equipment and systems. Nineteen items of noncompliance were identified in 10 of the 18 Appendix B criteria (10 CFR 50 Appendix B). The investigation was completed in July 1980.

Orders

None

Immediate Action Letters

On May 22, 1981, an Immediate Action Letter was issued by the Region III Office of Inspection and Enforcement concerning the issuance of fabrication and construction drawings for the installation of the safety related small bore piping and piping suspension systems.

Letters of Understanding

1. On January 22, 1981, Consumers Power Company issued a letter to the Director of Region III stating that their Stop Work Order of January 16, 1981 to B&W for installation of Core Support Assembly Vent Valves would remain in effect

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until the procedures were revised, training of personnel was completed, and the overview inspection plan was revised. This action was taken in lieu of Region III, Office of Inspection and Enforcement issuing an Immediate Action Letter.

On July 27, 1981, Consumers Power Company issued a letter to the Director, Region III delineating those actions to be taken to control modification to drawings which do not have the required Committed Preliminary Design Calculations (CPDC) and that the methodology for modifications to be fully documented and submitted to the Regional Office for review. This action was taken in lieu of Region III Office of Inspection and Enforcement issuing an Immediate Action Letter.



UNITED STATES
NUCLEAR REGULATORY COMMISSION
REGION III
799 ROOSEVELT ROAD
GLEN ELLYN, ILLINOIS 60137

Docket No. 50-186

University of Missouri
ATTN: Dr. Robert M. Brugger
Director
Research Reactor
Facility
Research Park
Columbia, MO 65201

Gentlemen:

This refers to the inspection conducted by

LETTER TO LICENSEE COVERING REACTOR INSPECTION.

Sincerely,

R. L. Spessard,
~~R. F. Weichman, Acting~~ Director
Division of Resident and Project
Inspection

Enclosure: IE Inspection
Report No.

cc w/encl:
DMB/Document Control Desk (RIDS)

(COLUMBIA)
5/81

The enforcement history ^{for the 2000s} ~~is as follows~~
settlement area is as follows:

Two level IV violations were identified
in NRC Insp Report No. 50-329/80-32,
50-330/80-33

1)

Failure to initiate preventive action
to preclude repetition of not identi-
fying design documents. Reviewers
were not reviewing the FSAR against
references.

2)

Three examples of failure to translate applica-
ble regulatory requirements and design criteria into design documents

- a) Failure to maintain a coordination log of specifica-
tion change notices.
- b) Failure to correctly translate SCM-9004 as a require-
ment into Rev. 20 of specification C-208.
- c) Failure of EDPI 4.25.1, Rev. 8 to establish adequate
measures to waive design interface requirements.



UNITED STATES
NUCLEAR REGULATORY COMMISSION
REGION III
795 ROOSEVELT ROAD
GLEN ELLYN, ILLINOIS 60137

Docket No. 50-156

The University of Wisconsin
ATT.: Mr. R. J. Cashwell
Reactor Director
Nuclear Engineering Department
Madison, WI 53705

Gentlemen:

This refers to the inspection conducted by

LETTER TO LICENSEE COVERING REACTOR INSPECTION.

Sincerely,

R. L. Spessard
~~W. C. Weichman, Acting~~ Director
Division of Resident and Project
Inspection

Enclosure: IE Inspection
Report No.

cc w/encl:
DMB/Document Control Desk (RIDS)
John J. Duffy, Chief
Boiler Inspector
Stanley York, Chairman
Public Service Commission

2. Site Preparation and Foundation

~~The rating is below average~~

During the ~~evaluation~~ period inspections have been performed to examine the licensee's implementation of corrective actions regarding the 10 CFR 50.54(f) request for additional information pertaining to soils settlement, observation of soils work activities and to witness taking of soil borings requested by NRC Reviewers.

Every inspection involving Regional Based Inspectors and addressing soils settlement issues has resulted in at least one ~~significant~~ significant item of Non Compliance. ~~One of the items of noncompliance pertaining to the licensee's failure to evaluate the technical capability of the supplier for soil boring services has been discussed under the section on Quality Assurance.~~ However, the finding of lack of QA was as a result of attempting to review the QA associated with ~~soil boring~~ soil boring samples.



UNITED STATES
NUCLEAR REGULATORY COMMISSION
REGION III
799 ROOSEVELT ROAD
GLEN ELLYN, ILLINOIS 60137

Docket No. 50-2

University of Michigan
ATTN: Dr. William Kerr, Director
Michigan Memorial - Phoenix
Project
Phoenix Memorial Laboratory
Ann Arbor, MI 48105

Gentlemen:

This refers to the inspection conducted by

LETTER TO LICENSEE COVERING REACTOR INSPECTION.

Sincerely,

R. L. Spessard
~~R. F. Weichman, Acting Director~~
Division of Resident and Project
Inspection

Enclosures:

1. Appendix A, Notice
of Violation (if applicable)
2. IE Inspection Rpt No.

cc w/encl:
DMB/Document Control Desk (RIDS)

Two level V, one level ^{violations} IV and
a deviation were identified in NRC
Insp Report No - 50-329/81-01; 50-330/81-01

②

Failure to establish test procedures for soils work activities.

Failure to control test results forms for soils work activities.

Failure to initial and date test report sheets or to control the use of signature stamps.

Failure to supply an onsite geotechnical engineer

One level V violation was identified in NRC Insp Rpt No. 50-329/81-09; 50-330/81-09 which was previously discussed under the Quality Assurance Section. However the finding of lack of QA was as a result of attempting to review the QA associated with procuring soil boring samples.

Failure to evaluate the technical capabilities of Woodward prior to commencement of drilling operations.

include (principal supplier of services for soil boring activities)



UNITED STATES
NUCLEAR REGULATORY COMMISSION
REGION III
799 ROOSEVELT ROAD
GLEN ELLYN, ILLINOIS 60137

Docket No. 50-356

University of Illinois
ATTN: Dr. George H. Miley
Chairman
Nuclear Engineering Program
214 Nuclear Engineering Laboratory
103 S. Goodwin Avenue
Urbana, IL 61801

Gentlemen:

This refers to the inspection conducted by

LETTER TO LICENSEE COVERING REACTOR INSPECTION.

Sincerely,

R. L. Sessard,
~~R. F. Weithman, Acting Director~~
Division of Resident and Project
Inspection

Enclosure: IE Inspection
Report No.

cc w/encl:
DMB/Document Control Desk (RIDS)

(LOPRA)
5/81

Considering the above enforcement history⁴
and the fact that an order was issued
in December 1979 which has cumulated
into a hearing on soil settlement
issues and the multitude of effort which
has gone into ~~the~~ soil testing, major re-review
of the DSAR and design control the
rating is obviously below average



UNITED STATES
NUCLEAR REGULATORY COMMISSION
REGION III
799 ROOSEVELT ROAD
GLEN ELLYN, ILLINOIS 60137

Docket No. 50-151

University of Illinois
ATTN: Dr. George H. Miley
Chairman
Nuclear Engineering Program
214 Nuclear Engineering Laboratory
103 S. Goodwin Avenue
Urbana, IL 61801

Gentlemen:

This refers to the inspection conducted by

LETTER TO LICENSEE COVERING REACTOR INSPECTION.

Sincerely,

R. L. Spessard
~~R. F. Weismann, Acting~~ Director
Division of Resident and Project
Inspection

Enclosure: IE Inspection
Report No.

cc w/encl:
DMB/Document Control Desk (RIDS)

(TRIGA)
5/81

3. Containment Structures

The licensee is rated average.

During the evaluation period containment prestressing system procedures were reviewed; selected work activities associated with tendon insertion and button heading ^{for unit 1} were ~~observed~~ observed and prestressing system material records for unit 1 and quality records ^{for units 1 and 2} were reviewed. ^{for units 1 and 2} ~~for units 1 and 2~~ ^{previously} ~~previously~~ ^{experienced} ~~experienced~~ Considering that the licensee had difficulty in installation of prestressing of containment tendons, which did not appear to exist during this ~~reporting~~ evaluation period, the rating is considered average.



UNITED STATES
NUCLEAR REGULATORY COMMISSION
REGION III
799 ROOSEVELT ROAD
GLEN ELLYN, ILLINOIS 60137

Docket No. 50-483
Docket No. 50-486

Union Electric Company
ATTN: Mr. John K. Bryan
Vice President - Nuclear
Post Office Box 149
St. Louis, MO 63166

Gentlemen:

This refers to the inspection conducted by

LETTER TO LICENSEE COVERING REACTOR INSPECTION.

Sincerely,

C. E. Norelius, ~~Acting~~ Director
Division of Engineering and
Technical Inspection

Enclosure: IE Inspection
Reports No. 50-483/
and No. 50-486/

cc w/encl:
Mr. W. H. Weber, Manager
Nuclear Construction
DMB/Document Control Desk (RIDS)
Resident Inspector, RIII
Region IV
Ms. K. Drey
Mr. Ronald Fluegge, Utility
Division, Missouri Public
Service Commission

(Callaway 1 & 2)
5/81

4. Safety Related Structures

The licensee is rated average

During the evaluation period the Senior Res Insp witnessed portions of the atmospheric hydrostatic test placed on the borated water storage tanks. The Senior Res Insp ~~observed~~ ^{observed} ~~observed~~ ^{observed} the Quality Control and the Authorized Nuclear Inspector examine the tanks. The hydrostatic test was acceptable and without complications. The rating in this area is consider average.

ST. LOUIS STEEL CASTING, INC.
NRC LIC. #1 24-01587-01
800 MOTT ST
ST. LOUIS MO 63111

ST. LOUIS TESTING LABORATORIES INC.
NRC LIC. #1 24-00188-02
2810 CLARK AVENUE
ST. LOUIS MO 63103

ST. LOUIS UNIVERSITY
NRC LIC. #1 24-00196-07
OFFICE OF RADIATION SAFETY
1402 SOUTH GRAND BOULEVARD
ST. LOUIS MO 63104

ST. LOUIS VETERANS ADMINISTRATION H
NRC LIC. #1 24-00144-05
915 NORTH GRAND BOULEVARD
ST. LOUIS MO 63125

ST. PAUL-RAMSEY MEDICAL CENTER
NRC LIC. #1 22-02003-04
DEPARTMENT OF RADIOLOGY
640 JACKSON STREET
ST. PAUL MN 55101

STANDARD OIL COMPANY (INDIANA)
NRC LIC. #1 12-13837-01
AMUCO RESEARCH CENTER
P. O. BOX 400
NAPEVILLE IL 60540

STATE OF MICHIGAN
NRC LIC. #1 21-18004-01
DEPT OF STATE HIGHWAYS AND TRANSPORT
DIMONDALE MI 48021

SUPERIOR INDUSTRIAL X-RAY COMPANY
NRC LIC. #1 12-02370-01
126TH STREET AND HUMAN AVENUE
BLUE ISLAND IL 60406

STEEL CORPORATION
NRC LIC. #1 14-02407
RIVERSIDE DIVISION
BETTENDORF IA 52722

SYBMON CORPORATION
NRC LIC. #1 34-17536-01
TAYLOR INSTRUMENT COMPANY DIVISION
557 EAST TALLMADGE AVENUE
AKRON OH 44310

TELEDYNE DHIICAST
NRC LIC. #1 34-00412-03
1075 JAMES STREET
SPRINGFIELD OH 45802

TEXER CORPORATION
NRC LIC. #1 34-19607-01
PLANT NO. 4
MUDSON OH 44236

TEST EQUIPMENT DISTRIBUTORS INC.
NRC LIC. #1 21-18220-01
711 JOHN R
TROY MI 48063

TOWNSEND AND HUTTON INC.
NRC LIC. #1 21-17095-01
2245 S. STATE STREET
ANN ARBOR MI 48189

TRANE COMPANY (THE)
NRC LIC. #1 48-11816-02
3600 PAMEL CHEEK ROAD
LA CROSSE WI 54601

TRANS WORLD AIRLINES INC
NRC LIC. #1 24-05151-03
KANSAS CITY INTERNATIONAL AIRPORT
P.O. BOX 20126
KANSAS CITY MO 64195

TRAVENOL LABORATORIES
NRC LIC. #1 12-15777-01
MYLAND DIVISION
RTE. 120 & WILSON ROAD
ROUND LAKE IL 60073

TRIN CITY TESTING AND ENGINEERING LA
NRC LIC. #1 22-01376-02
666 CRUMPELL AVENUE
ST. PAUL MN 55114

5. Piping and Hangers

The licensee is rated below average

During the evaluation period, installation of large and small bore piping and pipe hanger systems (including storage of piping components) was examined and noted in seven different inspection reports of regularly scheduled inspection activities. Three of these inspections resulted in seven items of noncompliance and an isolated instance of inadequate dunnage in a temporary storage area. The items of noncompliance are summarized below.

1)

Bechtel Purchase Order did not specify applicable codes for purchase of 60,000 lbs of E7018 electrode.

2)

Bypass of an inspection hold point. (Unit 2 only) for pressurized surge piping

3)

Failure to install large bore pipe restraints, supports, and anchors in accordance with design drawings and specifications.

FABRON HYERS INC.
NRC LIC. #1 34-19209-01
P.O. BOX 12216
CINCINNATI OH 45216

REALTIME CORPORATION
NRC LIC. #1 12-18079-02
RECEIVING, WAREHOUSE AND SHIPPING S
21 N. SKOKIE
LAKE BLUFF IL 60044

REFINERY PRODUCTS CORPORATION
NRC LIC. #1 48-03665-02
P.O. BOX 278
490 -14555 COMMERCE UNIVE
MENDOTA FALLS 53051

REGENTS OF THE UNIVERSITY OF MICHIGAN
NRC LIC. #1 21-00215-07MD
RADIATION CONTROL OFFICE
1121 E. CATHERINE STREET
ANN ARBOR MI 48104

RESEARCH INSTITUTE OF ONCOLOGY
NRC LIC. #1 12-16770-01
9150 CRAWFORD AVENUE
SKOKIE IL 60076

RESEARCH PRODUCTS INTERNATIONAL CORP
NRC LIC. #1 12-16244-01
410 NORTH BUSINESS CTR. DRIVE
MT. PROSPECT IL 60056

ROHM & HOFFMAN COMPANY (THE)
NRC LIC. #1 21-15297-01
24505 INDOPLFX CIRCLE
FARMINGTON MI 48018

RUSH-PRESBYTERIAN-ST. LUKE'S MEDICAL
NRC LIC. #1 12-00929-13
RADIATION SAFETY OFFICE
1753 WEST CONGRESS PARKWAY
CHICAGO IL 60612

SABROOK STEEL CASTINGS COMPANY (THE)
NRC LIC. #1 34-06664-02
STEPHENS AVENUE
LUCKLAND, OH 45215

SAMYER RESEARCH PRODUCT INC
NRC LIC. #1 34-02044-01
QUARTZ PRODUCTION DEPARTMENT
35400 LAKELAND BLVD
WILMINGTON OH 44094

SEAMAN NUCLEAR CORPORATION
NRC LIC. #1 48-12016-01
7315 SOUTH FIRST STREET
OAK CREEK WI 53154

SEARS, ROEBUCK AND CO.
NRC LIC. #1 12-10108-02
DEPARTMENT 604
2 NORTH LA SALLE STREET
CHICAGO IL 60602

SEARS, ROEBUCK AND CO.
NRC LIC. #1 12-10108-03E
2 NORTH LA SALLE STREET
CHICAGO IL 60602

SENTRY EQUIPMENT CORPORATION
NRC LIC. #1 48-19673-01
836 E. ARMOUR RD.
WILMINGTON WI 53066

SUILTEST INC.
NRC LIC. #1 48-15426-01
NUCLEAR INSTRUMENTS DIVISION
524 SOUTH BOULEVARD
BARABOO WI 53913

SUILTEST INCORPORATED
NRC LIC. #1 12-13793-01
SUBSIDIARY OF GENCO INSTRUMENT CORP
2205 LEE STREET
EVANSTON IL 60202

SOUTHWESTERN ENGINEERING JOPLIN
NRC LIC. #1 24-19500-01
P.O. BOX 1385
JOPLIN MO 64801

ST. JOSEPH HOSPITAL
NRC LIC. #1 21-03210-01
22101 MONROE ROAD
DETRUIT MI 48236

- 4) Failure of QC inspector to reject large bore restraints, supports and anchors that were not installed in accordance with design drawings and specifications.
- 5) Failure to prepare, review and approve small bore pipe and piping suspension system designs performed onsite in accordance with design control procedures.
- 6) Failure to adequately control documents used in site small bore piping design activities.
- 7) Failure of audits to include a detailed review of system stress analysis and to follow up on previously identified hanger calculation problems.

Also during the evaluation ^{period} an Immediate action letter was issued on May 22, 1981 pertaining to the ~~control~~ design control and issuance of drawings ~~for fabrication & installation~~ for the installation of small bore piping systems and support systems; Subsequent to the evaluation period on July 27, 1981 a Reverse Immediate

PHARMATOPES INC.
NRC LIC. #1 34-18309-01MD
4172 CHUBBSGATE SQUARE
BLUE ASH OH 45236

PHARMATOPES INC.
NRC LIC. #1 34-18484-01MD
1100 MARIG ROAD
COLUMBUS OH 43219

PHARMATOPES INC.
NRC LIC. #1 34-19008-01MD
2719 MANCHESTER ROAD
ANNON OH 44319

PHARMATOPES INC.
NRC LIC. #1 34-19007-01MD
300 FOREST AVENUE
DAYTON OH 45405

PHARMATOPES INC.
NRC LIC. #1 21-19219-01MD
1553 KALAHAZHO B.E.
GRAND RAPIDS MI 49507

PHARMATOPES INC.
NRC LIC. #1 13-19229-01MD
5347 WEST 86TH STREET
INDIANAPOLIS IN 46278

PHARMATOPES INC.
NRC LIC. #1 12-19333-01MD
1010 WEST JACKSON BLVD.
CHICAGO IL 60607

PHARMATOPES INC.
NRC LIC. #1 13-19451-01
1101 SHEFFIELD
OYEN IN 46311

PICKEN COMPUTATION
NRC LIC. #1 34-07225-15
595 NINEW ROAD
CLEVELAND OH 44143

PITTSBURGH DES MOINES STEEL COMPANY
NRC LIC. #1 14-01837-04
1015 TUTTLE STREET
DES MOINES IA 50308

PITTHAY CORPORATION
NRC LIC. #1 12-15023-01
MCK ELECTRONICS DIVISION
780 MCCLURE AVENUE
AURORA IL 60507

PHUCIEN & GAMBLE COMPANY
NRC LIC. #1 34-01572-15MA
P.O. BOX 39175
CINCINNATI OH 45239

PROGRESS SERVICES INC.
NRC LIC. #1 34-19592-01
70 COLUMBIA RD.
INDIANA OH 44256

QUAD CITY TESTING LABORATORY, INC.
NRC LIC. #1 14-17989-01
119 N. DIVISION STREET
DAVENPORT IA 52808

QUALITY CONTROL SERVICES
NRC LIC. #1 13-14856-01
4 MILKUM STREET
VINCENNES IN 47591

QUALITY TESTING INC.
NRC LIC. #1 34-17799-01
5021 N. 161ST STREET
CLEVELAND OH 44102

W. A. MILLER ELECTRONICS CORPORATION
NRC LIC. #1 21-14151-01
14500 - 167TH AVENUE
GRAND HAVEN MI 49417

NALSON MINING COMPANY
NRC LIC. #1 24-08334-02
CENTRAL RESEARCH, 348
900 CHECKERBOARD SQUARE
ST. LOUIS MO 63188

Action letter was submitted by the licensee stating the actions to be taken to control modification to small bore piping drawings which do not have Committed Preliminary Design Calculations (CPDC.) (3)

If Considering the above escalated enforcement ~~enforcement~~ action plus the enforcement history; the rating is below average

NORLAND INDUSTRIES
NRC LIC. #1 48-13403-02ND
P.O. BOX 47
FORT ATKINSON WI 53538

NORLAND INSTRUMENTS
NRC LIC. #1 48-13403-01
DIVISION OF NORLAND CORPORATION
ROUTE #2, NORLAND DRIVE
FORT ATKINSON WI 53538

NORTHWEST AIRLINES INC.
NRC LIC. #1 22-12080-01
MINNEAPOLIS - ST. PAUL INTERNATIONAL
MAIN OVERHAUL BASE
ST. PAUL MN 55111

NUCLEAR INSTRUMENTS CORPORATION
NRC LIC. #1 48-13752-01
8345 W. MILL ROAD
MILWAUKEE WI 53209

NUCLEAR PHARMACY INC.
NRC LIC. #1 48-17466-01ND
933 NORTH MAYFAIR ROAD, SUITE
WAWATOSA WI 53226

NUCLEAR PHARMACY INC.
NRC LIC. #1 12-18044-01ND
319 WEST ONTARIO STREET
CHICAGO IL 60610

NUCLEAR WELDING INC.
NRC LIC. #1 12-17506-01
6150 EAST AVENUE
MODGINS IL 60525

NUCLIN DIAGNOSTICS INC.
NRC LIC. #1 12-18228-01
3322 COMMERCIAL AVENUE
NORTHBROOK IL 60062

OHMART CORPORATION (THE)
NRC LIC. #1 34-00639-01
4241 ALLENHURF DRIVE
CINCINNATI OH 45209

OZARK AIR LINES, INC.
NRC LIC. #1 24-13591-01
P.O. BOX 10007, LAMBERT FIELD
ST. LOUIS MO 63145

P-L BIOCHEMICALS INC.
NRC LIC. #1 48-14075-03
1037 WEST MCKINLEY AVENUE
MILWAUKEE WI 53205

PACKARD INSTRUMENT COMPANY INC.
NRC LIC. #1 12-04933-02
2200 WARRENVILLE ROAD
DUWENESS GROVE IL 60515

PATHFINDER LABORATORIES INC.
NRC LIC. #1 24-16273-01
42 FORT HUMB DRIVE
WYLAND HEIGHTS MO 63141

PELTON CASTEEL INC
NRC LIC. #1 48-02669-02
148 WEST DEWEY PLACE
MILWAUKEE WI 53207

PHARMACO NUCLEAR INC.
NRC LIC. #1 24-16617-01ND
1734 EAST 63RD STREET STE 214
KANSAS CITY MO 64110

PHARMACO NUCLEAR INC.
NRC LIC. #1 24-19360-01ND
100 NORTH EUCLID AVENUE, SUITE
ST. LOUIS MO 63108

PHARMATOPES INC
NRC LIC. #1 21-17189-01ND
29721 COOLIDGE
OAK PARK MI 48237

PHARMATOPES INC.
NRC LIC. #1 34-16654-01ND
2208 WEST CENTRAL AVENUE
TULEDH OH 43606

6: Safety Related Components

The licensee is rated average NRC Inspectors

During the evaluation period ~~the~~ ~~NR~~ ~~Personnel~~

observed alignment of reactor coolant pumps;

installation of lower core support assembly guide

blocks; installation of core support assembly

vent valves and ~~the associated~~ ^{associated} portions of the quality

~~documentations~~ ^{documentations} ~~associated~~ ^{associated} portions of the quality ~~control~~ ^{control} ~~system~~ ^{system} consisted of

two items of noncompliance and ~~and~~ a Reverse

Immediate Action letter. ~~Statute~~ ^{Statute} ~~per~~ ^{per} ~~NR~~ ^{NR}

~~Ab~~ ^{Ab} were issued as a result of NRC

findings during the installation of the core

support assembly vent valves.

The following is a summary of the items of

noncompliance which emanated in the Reverse

Immediate Action letter issued by the licensee on

January 22, 1981. The immediate action letter

stated the Stop Work on assembly of ~~the~~ core

support assembly vent valves would ~~be~~

remain in effect until procedures, personnel

training and ^{QA} overview inspection plans ~~are~~ are

upgraded.

Failure to have an appropriate procedure for installation of vent valves.

*Procedures
in account for*

Failure to follow access control and severity levels
to be used in the assembly of the 1/2 core
de., U2 core-support assembly vent valves without being
support assembly valves in the equipment
accounted for on equipment log.
log

MIDWEST RESEARCH INSTITUTE
NRC LIC. #1 24-02564-03
425 VILKER BOULEVARD
KANSAAS CITY MO 64110

MILES LABORATORIES INC.
NRC LIC. #1 12-14138-01
MILFS RESEARCH DIVISION
195 WEST BIRCH
KANSAAS IL 60901

MILES LABORATORIES, INC.
NRC LIC. #1 13-02249-01
1127 MYNILE STREET
ELKHART IN 46514

MILWAUKEE COUNTY MEDICAL COMPLEX
NRC LIC. #1 48-04193-01
NUCLEAR MEDICINE DIVISION
8700 WEST WISCONSIN AVENUE
MILWAUKEE WI 53226

MINNEAPOLIS ELECTRIC STEEL CASTING
NRC LIC. #1 22-05572-02
DIVISION OF EVANS PRODUCTS
3901 UNIVERSITY AVENUE
MINNEAPOLIS MN 55421

MINNESOTA MINING & MANUFACTURING CO
NRC LIC. #1 22-00057-56MA
3M CENTER
ST PAUL MN 55105

MINNESOTA MINING & MANUFACTURING CO
NRC LIC. #1 22-00057-56MD
3M CENTER
ST PAUL MN 55101

MINNESOTA MINING AND MANUFACTURING
NRC LIC. #1 22-00057-59MD
3M CENTER
SAINT PAUL MN 55101

MINNESOTA, UNIVERSITY OF
NRC LIC. #1 22-00218-29
HEALTH SCIENCES
MINNEAPOLIS MN 55455

MINNESOTA, UNIVERSITY OF
NRC LIC. #1 22-00187-48MD
DIV. OF NUCLEAR MEDICINE, DEPT. OF
BOX 382, MAYO MEMORIAL BUILDING
MINNEAPOLIS MN 55455

MISSOURI STEEL CASTINGS COMPANY
NRC LIC. #1 24-15152-01
905 EAST 3RD STREET
JOPLIN MO 64801

MT. CARMEL MERCY HOSPITAL
NRC LIC. #1 21-00998-01
DEPARTMENT OF RADIOLOGY AND NUCLEAR
DETROIT MI 48235

NATIONAL AERONAUTICS AND SPACE ADMINISTRATION
NRC LIC. #1 34-00507-04
LEWIS RESEARCH CENTER, MS 49-4
3700 BRUNNEN ROAD
CLEVELAND OH 44135

NEW ENGLAND NUCLEAR CORPORATION
NRC LIC. #1 20-00320-19
549 ALBANY STREET
BOSTON MA 02118

NEWPORT NEWS INDUSTRIAL CORP. OF OH
NRC LIC. #1 34-16805-01
P.O. BOX 25
PENNY OH 44081

NILES STEEL TANK COMPANY
NRC LIC. #1 21-04741-01
INSPECTION DEPARTMENT
713 WAYNE STREET
NILES MI 49120

NITTAN CORPORATION
NRC LIC. #1 12-16029-02
1299 RAND ROAD
DEB PLAINER IL 60016

NUOTER CORPORATION
NRC LIC. #1 24-03783-01
1400 SOUTH THIRD STREET
ST LOUIS MO 63166

(2)

Because the above enforcement appeared to be aimed at an isolated instance and may have been directly related to changes in NSSS QC personnel changes and because the licensee had (and has) maintained QA control for assembly of ~~the reactor~~ NSSS equipment ~~performance~~ (particularly reactor internals) the overall rating in this area is considered to be average.

MARATHON OIL COMPANY
NRC LIC. #1 34-01541-02
539 SOUTH MAIN STREET
PINDLAY OH 45800

MARSHALL FIELD & COMPANY
NRC LIC. #1 12-12333-01
LICENSING DEPARTMENT
25 EAST WASHINGTON STREET
CHICAGO IL 60640

MARSHFIELD CLINIC
NRC LIC. #1 48-10466-03
1000 NORTH OAK AVENUE
MARSHFIELD WI 58449

MASSILLON STEEL CASTING COMPANY
NRC LIC. #1 34-02605-01
RESEARCH, DEVELOPMENT & INSPECTION
577 OBERLIN AVE S.W.
MASSILLON OH 44606

MAYNARD ELECTRIC STEEL CASTING COMP
NRC LIC. #1 48-07080-01
INDUSTRIAL RADIOGRAPHY DEPARTMENT
2856 SOUTH 27TH STREET
MILWAUKEE WI 53246

MAYO CLINIC
NRC LIC. #1 22-00519-03
RAUDIOLOGICAL SAFETY OFFICE
MUCHESTEN *141* MN 55901

MCHAN'S INSPECTION SERVICE
NRC LIC. #1 48-14158-01
8517 N. KAHL AVENUE
MILWAUKEE WI 53225

MEAD JOHNSON AND COMPANY
NRC LIC. #1 13-00772-02
DELETE
MEAD JOHNSON RESEARCH CENTER
EVANSVILLE IN 47721

MEDI-PHYSICS INC
NRC LIC. #1 12-13813-01
3350 NORTH RIDGE
AKLINGTON HEIGHTS IL 60004

MEDI-PHYSICS INC
NRC LIC. #1 12-13813-02MD
3350 NORTH RIDGE
AKLINGTON HEIGHTS IL 60004

MEDICAL COLLEGE OF OHIO AT TOLEDO
NRC LIC. #1 34-13011-04
C.S. 10008
TOLEDO OH 43164

METHODIST HOSPITAL
NRC LIC. #1 13-02063-01
1604 NORTH CAPITOL AVENUE
INDIANAPOLIS IN 46202

MICHAEL REESE HOSPITAL AND MEDICAL
LIC. #1 12-00074-04
MOISOTDPE LABORATORY
25TH AND ELLIS AVENUE
CHICAGO IL 60616

MICHIGAN TESTING ENGINEERS INC.
NRC LIC. #1 21-14810-01
407 BRANCH
24355 CAPITOL AVENUE
DETROIT MI 48239

MIDLAND-HOBS CORPORATION
NRC LIC. #1 34-01115-02
NATIONAL CASTINGS DIVISION
1414 E. BRUADWAY
TOLEDO OH 43691

MIDSTATE TESTING LABORATORY INC.
NRC LIC. #1 13-11822-01
7943 NEW JENSEY AVENUE
HAMMOND IN 46323

MIDWEST INSPECTION SERVICE LTD
NRC LIC. #1 48-16296-01
957 PANCEL LANE
GREEN HAY WI 54304

MIDWEST RESEARCH INSTITUTE
NRC LIC. #1 24-02564-02
425 VULNER BOULEVARD
KANSAS CITY MO 64110

1. Electrical

The licensee is rated below average

During the ^{evaluation} reporting period two routine inspections and one team inspection, ~~plus~~ ~~another~~ were performed ~~above~~ with ~~a significant~~ a substantial portion of the inspection effort dedicated to the electrical area. Five other inspection periods addressed specific electrical items with one of these inspections addressing the ⁱⁿ storage place storage ^{condition} of electrical equipments. ~~As~~ ~~the~~ ~~inspection~~ a result of the inspection effort dedicated to the electrical area, ~~five~~ ^{five} items of non compliance were identified. The inspection effort into the ~~at~~ ~~in~~ ~~place~~ ~~for~~ ~~the~~ ~~equipment~~ storage conditions resulted in a single item of non compliance with three examples - two of these examples were electrical equipment.

It must be emphasized that ~~for~~ ~~at~~ ~~least~~ there was ~~an~~ ~~essential~~ ~~need~~ ~~for~~ ~~electrical~~ ~~work~~ ~~being~~ ~~performed~~ ~~for~~ ~~the~~ ~~first~~ ~~half~~ ~~of~~ ~~the~~ ~~report~~ ~~period~~ ~~and~~ ~~that~~ ~~when~~ ~~electrical~~ ~~work~~ ~~resumed~~ ~~more~~ ~~than~~ ~~six~~ ~~months~~ ~~into~~ ~~the~~ ~~evaluation~~ ~~period~~ ~~because~~ ~~of~~ ~~the~~ ~~need~~ ~~to~~ ~~perform~~ ~~more~~ ~~all~~ ~~-~~ ~~engineering~~.

JOHN DEENE FOUNDRY
NRC LIC. #1 12-09111-01
ROUTE A4 AND 14TH AVENUE
EAST MOLINE IL 61244

KAST METALS CORPORATION
NRC LIC. #1 14-07206-01
KEOKUK STEEL CASTING DIVISION
COMMERCIAL & M STREETS
KEOKUK IA 52632

KELSEY-HAYES COMPANY INCORPORATED
NRC LIC. #1 12-02360-02
GRANITE DIVISION
302 PEOPLES AVENUE
MOCAPROD IL 61101

KRUEGEL, RICHARD E.
NRC LIC. #1 34-09037-01
DBA GENERAL TESTING AND ENGINEERING
P. O. BOX 116
WASHINGTON OH 44480

LAKE CENTER INDUSTRIES
NRC LIC. #1 22-17541-02
111 MARKET STREET
MINONA MN 55987

LAKEHEAD TESTING LABORATORY INC.
NRC LIC. #1 22-14697-01
P. O. BOX 7168
DULUTH MN 55807

LO CLOSENS
NRC LIC. #1 12-19544-01
P. O. BOX 100
PRINCETON IL 61356

LEAHY NUCLEAR CORPORATION
NRC LIC. #1 21-17126-01ND
23100 WEST EIGHT MILE ROAD
SOUTHFIELD MI 48034

LEAR SIEGLEN INC.
NRC LIC. #1 21-07265-01
4141 EASTERN AVENUE S.E.
GRAND RAPIDS MI 49508

LIBBY MCNEILL & LITNEY
NRC LIC. #1 12-09953-01
RESEARCH & PRODUCT DEVELOPMENT
1800 WEST 119TH STREET
CHICAGO IL 60643

LOYOLA UNIVERSITY MEDICAL CENTER
NRC LIC. #1 12-11355-04
2160 S. FIRST AVENUE
MAYWOOD IL 60153

MAGNA CHEK INC.
NRC LIC. #1 21-19111-01
2125 RIGGS STREET
WARREN MI 48091

MAGNAFLUX CORPORATION
NRC LIC. #1 12-00622-07
7300 WEST LAWRENCE AVENUE
CHICAGO IL 60656

MAGNAFLUX CORPORATION
NRC LIC. #1 12-00622-08
7300 WEST LAWRENCE AVENUE
CHICAGO IL 60656

MALLINCKRODT INC
NRC LIC. #1 24-04206-03G
675 BROWN ROAD
ST. LOUIS MO 63134

MALLINCKRODT INC
NRC LIC. #1 24-04206-04MA
MALLINCKRODT & 2ND ST
ST LOUIS MO 63147

MALLINCKRODT INC.
NRC LIC. #1 24-04206-01
MALLINCKRODT/NUCLEAR
BOX 10172 LAMBERT FIELD
ST. LOUIS MO 63149

MALLINCKRODT INC.
NRC LIC. #1 24-04206-05MO
MALLINCKRODT AND SECOND STREET
ST. LOUIS MO 63147

it was done ^{per} on a very ~~rigorous~~ ^{ambitious} ~~the~~ schedule. However it appears that not enough qualified QC personnel, rigorous QA audits and established procedural controls were invoked to avoid the following ~~list~~ of enforcement items

1) Failure to establish procedures for temporary support of cable, cable coils --- and for routing cables.

2) Electrical contractors failed to verify conformance to paragraph 3.1, failure to perform adequate inspection.

3) Failure to identify and control nonconforming components.

~~4~~ Failure to translate design criteria into drawings and specifications.

4 Failure to translate design criteria into drawings and specifications

MONEYWELL INCORPORATED
NRC LIC. #1 22-01870-06
2753 FOURTH AVENUE SOUTH
MINNEAPOLIS MN 55408

MUMFET CORPORATION
NRC LIC. #1 48-01094-03
CIRCULAR STEEL CASTING DIVISION
2450 SOUTH 20TH STREET
MILWAUKEE WI 53215

MUTCHINSON AREA VULTECH INSTITUTE
NRC LIC. #1 22-15554-01
200 CENTURY AVENUE
MUTCHINSON MN 55350

ILLINOIS UNIVERSITY OF
NRC LIC. #1 12-00088-06
1853 WEST PULK STREET
CHICAGO IL 69980

IMMUNO ASSAY CORPORATION
NRC LIC. #1 21-17915-01
25050 FORD ROAD
DEARBORN HEIGHTS MI 48127

IMMUNO NUCLEAR CORPORATION
NRC LIC. #1 22-16719-01
P.O. BOX 285
STILLWATER MN 55042

INDIANA UNIVERSITY - INDIANAPOLIS
NRC LIC. #1 13-02752-03
1100 WEST MICHIGAN STREET
INDIANAPOLIS IN 46223

INDUSTRIAL NOT SERVICES DIVISION
NRC LIC. #1 13-06147-04
2124 WENDELL AVENUE
INDIANAPOLIS IN 46202

INDUSTRIAL NUCLEAR COMPANY INCORPORATED
NRC LIC. #1 24-12585-01
9641 LACKLAND ROAD
OVERLAND MO 63114

INDUSTRIAL INSPECTION INDUSTRIES INC
NRC LIC. #1 34-14071-01
5250 MAYFAIR ROAD
NORTH CANTON OH 44720

INTERIOR, DEPARTMENT OF THE
NRC LIC. #1 24-02619-02
BUREAU OF MINES
MOLLA MO 65401

INTERSTATE BLOOD BANK INCORPORATED
NRC LIC. #1 12-16600-01
3524 WEST LAWRENCE AVENUE
CHICAGO IL 60625

IOWA UNIVERSITY OF
NRC LIC. #1 14-02438-07
A CITY IA 52240

IBOTEC CORPORATION
NRC LIC. #1 34-16490-01
1029 SENATE DRIVE
CENTERVILLE OH 45459

J. I. CULLEN COMPANY INC.
NRC LIC. #1 12-15025-01
INDUSTRIAL INSPECTION AND TESTING 8
ROUTE 84
FULTON IL 61252

JAN X-RAY SERVICES INC.
NRC LIC. #1 21-16560-01
4105 MCCAIN ROAD
JACKSON MT 49201

JEMCO ENGINEERING COMPANY
NRC LIC. #1 12-17261-01
400 E. VAPELLA STREET
MINOOKA IL 60447

JOHN C. HAYNES COMPANY
NRC LIC. #1 34-13774-01
800 HEBBURN ROAD
NEWARK OH 43055

5 (S) (S)

Failure to identify during inspection that a nonconforming condition with regard to minimum installed cable bend radius existed.

6 (S) (S)

Failure to take proper corrective action with regard to the lack of approved procedures for the rework ^{of electrical} items.
race ways

7 (S) (S)

Failure to provide adequate storage conditions for

- 1) Control Rod Drive Primary AC Breakers
- 2) New and spent fuel storage racks
- 3) Emergency battery chargers

Therefore, the licensee's performance in this area is considered below average.

GENERAL MOTORS CORPORATION
NRC LIC. #1 34-5315-02
CENTRAL FOUNDRY DIVISION DEFIANCE P
STATE HIGHWAY NO. 281
DEFIANCE OH 43512

GEORGIA-PACIFIC CORPORATION (THE)
NRC LIC. #1 34-17532-01
P.O. BOX 59
FRANKLIN OH 45005

GLADSTONE LABS, INC. (THE)
NRC LIC. #1 34-01764-02
1034 HODDGEN STREET
CINCINNATI OH 45204

GRAVER NORTHEAST
NRC LIC. #1 13-18162-01
4809 TOD AVENUE
EAST CHICAGO IN 46312

GREGE FOUNDRY INCORPORATED
NRC LIC. #1 88-02844-01
METALLURGICAL DEPARTMENT
1320 SOUTH FIRST STREET
MILWAUKEE WI 53204

H. C. MILLING CO.
NRC LIC. #1 34-14924-01
4120 AIRPORT ROAD
CINCINNATI OH 45226

HARRISON STEEL CASTINGS COMPANY
NRC LIC. #1 13-02141-01
P. O. BOX 60
ATTICA IN 47918

HARRY S. TRUMAN MEMORIAL VETERANS H
NRC LIC. #1 24-15235-03
800 STADIUM ROAD
COLUMBIA MO 65201

HAKSHA-CHEMICAL COMPANY (THE)
NRC LIC. #1 34-06598-05
6801 CUCHRAN ROAD
SOLON OH 44139

HAYES-ALBION CORPORATION
NRC LIC. #1 21-00356-02
CASTINGS GROUP, ALBION DIVISION
ALBION MI 49224

HEALTH PHYSICS ASSOCIATES LTD.
NRC LIC. #1 12-09160-03
3304 COMMERCIAL AVENUE
NORTHBROOK IL 60062

HENNEPIN COUNTY MEDICAL CENTER
NRC LIC. #1 22-11070-01
701 PARK AVE. SOUTH
MINNEAPOLIS MN 55415

HEWSON TESTING LABORATORY INC.
NRC LIC. #1 34-00681-03
DEPARTMENT OF RADIOGRAPHY
5075 EAST SCHAAP ROAD
CLEVELAND OH 44131

HILLCREST HOSPITAL COMPLEX
NRC LIC. #1 34-09739-01
6760/4780 MAYFIELD ROAD
MAYFIELD HEIGHTS OH 44124

HONEYWELL CORPORATE TECHNOLOGY CENT
NRC LIC. #1 22-01870-16
10701 LYNDALE AVENUE SO.
BLOOMINGTON MN 55420

HONEYWELL INC.
NRC LIC. #1 12-12267-02
1300 WEST DUNDREE ROAD
ARLINGTON HEIGHTS IL 60004

HONEYWELL INC.
NRC LIC. #1 22-01870-13
MANUFACTURING
2701 FOURTH AVENUE SOUTH
MINNEAPOLIS MN 55408

HONEYWELL INC.
NRC LIC. #1 22-19422-01
RAIL STATION MN17-3636
2600 RIDGEWAY PARKWAY
MINNEAPOLIS MN 55413

8. Instrumentation

~~The~~
The licensee is not rated in this area.

Minimal amount of instrumentation installation and subsequent inspection effort has occurred during this reporting period. Those findings which have pertained to instrumentation are included in the electrical section (Section 7). The NRC's most substantial finding pertained to the licensee's failure to translate design criteria into drawing and specifications by not identifying impulse instrument lines per IEEE-279-1971, Section 4.22.

To evaluate the licensee's performance in this area based on this one finding and considering the ~~slight~~ lack of effort in this explicit area would tend to unduly bias the overall evaluation of the licensee's performance. Therefore, no rating of the licensee is attempted in this area.

BUSINESS CORPORATION OF AMERICA
NRC LIC. #1 34-13477-02G
6106 INTERSTATE CIRCLE
CINCINNATI OH 45242

DIM CHEMICAL US AREA
NRC LIC. #1 21-00265-06
1803 BUILDING
MIDLAND MI 48640

UNAVO CORPORATION
NRC LIC. #1 34-00850-02
PIPE FABRICATION DIVISION
1111 GILMAN AVENUE
MARIETTA OH 45750

DUNCAN FOUNDRY & MACHINE WORKS INC.
NRC LIC. #1 12-09687-01
102 W. 7TH STREET
ALTON IL 62002

DURINDO COMPANY INCORPORATED
NRC LIC. #1 34-06398-01
450 NORTH FINDLAY STREET
DAYTON OH 45401

DUNLACHEN, JAMES
NRC LIC. #1 13-07215-01
6741 ALLISONVILLE ROAD
INDIANAPOLIS IN 46220

EDSEL H. FORD INST. FOR MED. RESEARCH
NRC LIC. #1 21-04109-16
2799 GRAND BOULEVARD
DETROIT MI 48202

FARWELL-CHEEK STEEL COMPANY
NRC LIC. #1 34-02832-02
706 LANE STREET
SANDUSKY OH 44870

FONT WAYNE MEDICAL LABORATORY CORP
NRC LIC. #1 13-16080-01
347 WEST BERRY STREET
FONT WAYNE IN 46802

GAMMA FIELD RADIOGRAPHIC FACILITY
NRC LIC. #1 12-13858-01
9234 SOUTH KILPATRICK STREET
OAK LAWN IL 60453

GENERAL ELECTRIC COMPANY
NRC LIC. #1 34-00054-05
LAMP DIVISION
NELA PARK
CLEVELAND OH 44112

GENERAL ELECTRIC COMPANY
NRC LIC. #1 34-00499-10
AIRCRAFT ENGINE GROUP
CINCINNATI OH 45215

GENERAL ELECTRIC COMPANY
NRC LIC. #1 48-00337-06
55 ELECTRIC AVENUE
MILWAUKEE WI 53201

GENERAL INSTRUMENT CORPORATION
NRC LIC. #1 12-19460-01
LAMP DIVISION
4433 N. RAVENSWOOD
CHICAGO IL 60640

GENERAL MOTORS CORP.
NRC LIC. #1 21-08678-04
CHEVROLET MOTOR DIV., SAGINAW MODUL
1805 VETERANS MEMORIAL PARKWAY
SAGINAW MI 48601

GENERAL MOTORS CORPORATION
NRC LIC. #1 12-02251-01
CENTRAL FOUNDRY DIVISION
DANVILLE PLANT
DANVILLE IL 61832

GENERAL MOTORS CORPORATION
NRC LIC. #1 12-08050-01
ELECTRO-MOTICE DIVISION ENGINEERING
LAGRANGE IL 60525

GENERAL MOTORS CORPORATION
NRC LIC. #1 21-02392-01
CENTRAL FOUNDRY DIVISION
77 W. CENTER
SAGINAW MI 48605

9 Fire Protection

The licensee is rated above average. During the evaluation period the Senior Res Insp ^{toured selected areas} ~~to~~ ~~inspected~~ of the site each month to assess the cleanliness of the site and determine the potential for fire or other hazards which might have a deleterious effect on personnel and equipment. The site has maintained an excellent safety record of which fire protection is a substantial portion of their overall program. ~~This safety record~~ Their multi-million man-hour safety records have been recognized by the safety departments of Bechtel and Consumers Power Co.

COLBY AND THIEL-ELIOTT TESTING COMPANY
NRC LIC. #1 24-13737-01
10627 LIBERTY AVE
ST. LOUIS MO 63132

CULT INDUSTRIES OPERATING CORP
NRC LIC. #1 48-02387-03
FAIRBANKS HORSE ENGINE DIVISION
701 LAWTON AVENUE
MELBIT WI 53511

CUNSECO INC.
NRC LIC. #1 48-16774-01
611 NORTH ROAD
MELFORD WI 54451

CONSUMERS PAPER COMPANY
NRC LIC. #1 21-08606-03
212 WEST MICHIGAN AVENUE
JACKSON MI 49201

COOK COUNTY HOSPITAL
NRC LIC. #1 12-00010-05
DEPARTMENT OF RADIATION THERAPY AND
1903 WEST HARRISON STREET
CHICAGO IL 60612

COOK ELECTRIC COMPANY
NRC LIC. #1 12-02203-12
6201 PAXTON STREET
MONTON GROVE IL 60053

CORLE COMPANY
NRC LIC. #1 24-00563-02
HIGHWAY FITTING DIVISION
1450 SOUTH SECOND STREET
ST. LOUIS MO 63166

CRUCIBLE STEEL CASTING COMPANY
NRC LIC. #1 34-04657-02
8401 ALMIRA AVENUE
CLEVELAND OH 44102

CIL ENGINEERING INC.
NRC LIC. #1 34-08331-01
2800 FISHER ROAD
COLUMBUS OH 43204

DAP INC.
NRC LIC. #1 13-11837-02
ANNO ADHESIVE TAPES
U.S. 20 & OHIO STREET
MICHIGAN CITY IN 46360

DAYTON MALLEABLE IRON COMPANY
NRC LIC. #1 34-06927-02
IRONTON MALLEABLE DIVISION
2520 SOUTH THIRD STREET
IRONTON OH 45638

DAYTON X-RAY COMPANY
NRC LIC. #1 34-06943-01
NON-DESTRUCTIVE X-RAY LAB
1150 WEST 2ND STREET
DAYTON OH 45407

DEARBORN CLINICAL LABORATORIES
NRC LIC. #1 21-16053-01
2400 MICHIGAN STREET
DEARBORN MI 48124

DELUCA JR. PHD., PAUL M.
NRC LIC. #1 44-16928-01
MEDICAL PHYSICS SECTION DEPARTMENT
UNIVERSITY OF WISCONSIN
MADISON WI 53706

DETECTOR ELECTRONICS CORP.
NRC LIC. #1 22-18199-02E
7351 WASHINGTON AVE. SOUTH
MINNEAPOLIS MN 55435

DETROIT MID MEDICAL LAB INC.
NRC LIC. #1 21-15764-01
20851 WEST 4 SEVEN MILE ROAD
DETROIT MI 48219

DIAGNOSTIC MANAGEMENT INC.
NRC LIC. #1 22-19174-01-10
DBA UNIVERSITY NUCLEAR PHARMACY
2233 UNIVERSITY AVENUE, SUITE
ST. PAUL MN 55114

DIAGNOSTIC REAGENTS INC.
NRC LIC. #1 21-19345-02
1034 HUNNDE
DEARBORN MI 48124

10. Inservice Inspection

The licensee is rated average.

During the evaluation period, three routine inspections were performed to evaluate the ultrasonic testing (UT) of the reactor pressure vessels by Southwest Research Institute (SWRI) and the inservice inspection being performed by Babcock & Wilcox ^(B&W). The inspection effort revealed that adequate controls management controls existed for the inservice inspection program, procedures, and material and equipment. The licensee responses to I+E Bulletins was determined to be complete in this area. The data reports demonstrated that that QA/QC audits and requirements are met. The qualifications and training of SWRI and B&W personnel was in accordance with SNT-TC-2A1975.

Considering the above performance

MICROM CORPORATION
NRC LIC. #1 34-13845-01
12345 KINSMAN ROAD
NEWBURY NH 44065

BIO-DYNAMICS/BMC
NRC LIC. #1 13-17999-01-A
9115 HAGUE ROAD
INDIANAPOLIS IN 46250

BIO-DYNAMICS/BMC
NRC LIC. #1 13-17999-03
9115 HAGUE ROAD
INDIANAPOLIS IN 46250

BIO-SCIENCE LABORATORIES
NRC LIC. #1 24-16798-01
ST. LOUIS BRANCH
1350 PAGE INDUSTRIAL BLVD.
OVERLAND MO 63132

BIO-SCIENCE LABORATORIES
NRC LIC. #1 21-16923-01
DETROIT BRANCH
24469 INDOPLEX CIRCLE
FARMINGTON HILLS MI 48024

BUCKEYE INTERNATIONAL
NRC LIC. #1 34-06627-01
METALLURGICAL LABORATORY
2211 PARSONS AVENUE
COLUMBUS OH 43207

COLYMIUS-EMIE CO.
NRC LIC. #1 48-06390-01
FOUNDRY QUALITY CONTROL DEPARTMENT
1100 MILWAUKEE AVENUE
SOUTH MILWAUKEE WI 53172

CALUMET TESTING SERVICES INC.
NRC LIC. #1 13-16347-01
4707 EUCLID
EAST CHICAGO IN 46312

CATERPILLAR TRACTOR COMPANY
NRC LIC. #1 12-00013-02
RESEARCH DEPARTMENT
PEURIA IL 61602

CATERPILLAR TRACTOR COMPANY
NRC LIC. #1 12-17531-01
MAPLETON IL 61547

CATERPILLAR TRACTOR COMPANY
NRC LIC. #1 12-18023-01
27TH AND PERKINS ROAD
DECATUR IL 62529

CEIMON ELECTRONIC CORPORATION
NRC LIC. #1 12-09745-01
715 HAMILTON STREET
GENEVA IL 60134

CHEMNE CONTRACTING CORPORATION
NRC LIC. #1 22-18342-01
1777 WASHINGTON AVENUE SOUTH
MINNEAPOLIS MN 55440

CHEMRY ELECTRICAL PRODUCTS CORPORAT
NRC LIC. #1 12-15880-01
3600 SUNSET AVENUE
WAUKEGAN IL 60085

CHICAGO BRIDGE AND IRON COMPANY
NRC LIC. #1 12-05639-01
P.O. BOX 774
N.E. 50 & ST GEORGE RD N.E.
KANKAKEE IL 60901

CLARK EQUIPMENT COMPANY
NRC LIC. #1 21-02872-01
METALLURGICAL AND EXPERIMENTAL LAB
324 EAST DENEY AVENUE
BUCHANAN NY 49107

CLEVELAND CLINIC FOUNDATION
NRC LIC. #1 34-00466-01
9500 EUCLID AVENUE
CLEVELAND OH 44106

CLEVELAND X-RAY INSPECTION INC.
NRC LIC. #1 35-15205-01
HIGHWAY 64, P.O. BOX 295
CLEVELAND OH 74020

AM CORPORATION
C. #1 12-12836-05
SOUTH CLEARBROOK DRIVE
TOWN HEIGHTS IL 60005

AMOCO OIL COMPANY
NRC LIC. #1 12-06708-01
WOOD RIVER REFINERY
400 SOUTH MAIN STREET
WOOD RIVER IL 62095

AMOCO OIL COMPANY
NRC LIC. #1 24-17661-01
SUGAR CREEK REFINERY
11400 KENTUCKY ROAD
SUGAR CREEK MO 64054

DEPARTMENT OF THE
C. #1 24-12705-01
ARMY TROOP SUPPORT AND AVIATION
WOLFELMOR BOULEVARD
UIS MO 63120

ARMY, DEPARTMENT OF THE
NRC LIC. #1 12-00722-04
U. S. ARMY ARMAMENT MATERIEL HEADQUARTERS
BUCK ISLAND IL 61201

ARMY, DEPARTMENT OF THE
NRC LIC. #1 13-18235-01
CHANE ARMY AMMUNITION ACTIVITY
CHANE IN 47522

BANK & ENGINEERING COMPANY
C. #1 22-13253-01
17TH EMMERSON
GE MN 53008

ATOMIC ENERGY OF CANADA LIMITED
NRC LIC. #1 12-18442-01
2600 GREENLEAF AVENUE
ELKGROVE VILLAGE IL 60007

BABCOCK & WILCOX CO. (THE)
NRC LIC. #1 34-02160-04
B & W CONSTRUCTION COMPANY
3333 COPLEY ROAD
COPLEY OH 44321

B & WILCOX COMPANY
C. #1 34-02160-03
DEPARTMENT
OF AVENUE
ON OH 44203

BABCOCK AND WILCOX COMPANY
NRC LIC. #1 13-11317-01
X-RAY DEPARTMENT
HIGHWAY 69 WEST
MT VERNON IN 47620

BABCOCK AND WILCOX COMPANY
NRC LIC. #1 34-15454-01
1501 HOFF ROAD S. W.
CANTON OH 44710

PACKAGING PRODUCTS INC.
C. #1 13-02557-01
MAGEDONIA AVENUE
IN 47302

BANNERBY-CHENEY COMPANY
NRC LIC. #1 34-12198-02
435 N. CASSADY AVENUE
COLUMBUS OH 43219

BAYLESS PATHOLOGY ASSOCIATES INC.
NRC LIC. #1 34-19530-01
23420 COMMERCE PARK ROAD
BEACHWOOD OH 44122

INSTRUMENTS INC.
C. #1 12-15201-02
LINCOLN AVENUE
OOD IL 60646

BECKMAN INSTRUMENTS INC.
NRC LIC. #1 22-17340-01
7262 WASHINGTON AVENUE SOUTH
EDEN PRAIRIE MN 55344

BELOIT CORPORATION
NRC LIC. #1 48-02412-02
FABRIC DIVISION
ONE ST. LAWRENCE AVE
BELOIT WI 53511

14. Concurrent Action and Reporting

During the evaluation period the licensee ~~submitted twelve~~ ^{submitted twelve} ~~reports~~ ^{Construction Deviation Reports} to the NRC, with most of the information contained being a fair (but not necessarily an elaborate) description of the circumstances resulting in ~~the~~ 10 CFR 50.55(e) report.

The following ^{are} ~~is~~ ^{are} summaries of each 10 CFR 50.55(e) ~~submitted to the NRC~~ ^{submitted} during the evaluation period.

1. High Energy Line Break Analysis (HELBA), steady state thrust forces rather than transient peak thrust forces were used in the energy balance techniques for the design of HELBA pipe whip restraints.
2. Sway Strut Rod Ends Deficiency, ITT Grinnell supplied sway struts, snubbers and shock suppressors have loose or totally disengaged rod end bushings.
3. Component Cooling Water (CCW) Design, CCW system susceptibility to Loss of Coolant Accident (LOCA) induced failures.
4. Nuclear Steam Supply System (NSSS) analysis, anomalies identified in the NSSS seismic and Loss of Coolant (LOCA) analysis of the primary system.
5. Emergency Core Cooling Actuation System (ECCAS) vendor wiring in the ECCAS cabinets 1745 and 2045 was inconsistent with redundant subsystem modules in the cabinets.
6. Low alloy quenched and tempered bolting $1\frac{1}{2}$ inches and greater in support of safety related systems.
7. Underrated Terminal Strips on Limitorque Operators.
8. Seismic model of Auxiliary Building has incorrect assumption that control tower and main portion of Auxiliary Building are an integral unit between

SL-600

ABBOTT LABORATORIES
NRC LIC. #1 12-00621-03
DIAGNOSTICS DIVISION
NORTH CHICAGO IL 60064

ACCUMAY CORPORATION
NRC LIC. #1 34-00255-03
650 ACKERMAN ROAD
COLUMBUS OH 43202

ADK TECHNOLOGY CORPORATION
NRC LIC. #1 12-19537-01
7343 W. WILSON AVENUE
MANNHOOD HEIGHTS IL 60656

- 9. Borated Water Storage Tank Foundation stress cracks.
- 10. ITE Gould Class 1E equipment, unqualified cable used to wire equipment and/or controls.
- 11. Shear reinforcement at major containment penetrations.
- 12. Reactor Cavity cooling system.

During the evaluation period the licensee failed to make a ^{timely} determination for the need to ~~to~~ submit a 10 CFR 50.55(e) report to the NRC based on a 10 CFR Part 21 report from Transamerica Delaval, Inc pertaining to diesel engine link rod clearances and this was identified as an item of non compliance. The licensee has taken positive actions to ensure that ~~only~~ safety related information received pertinent to the Midland Site is evaluated with respect to the impact on overall safety.

With regard to references of to items of non compliance, the licensee has contested 9 of the ²² items of non compliance written against areas other than HVAC system installation of these 9 items

One level ~~IV~~ and two level V violations and a deviation were identified in NRC Inspection Report No. 50-329/81-01; 50-330/81-01.

- 1) Failure to establish test procedures for soils work activities.
- 2) ~~Failure to control test results forms for soils work activities.~~
- 3) ~~Failure to initial and date test report sheets or to control the use of signature stamps.~~
- 4) Failure to supply an onsite geotechnical engineer.

One level V violation was identified in NRC Inspection Report No. 50-329/81-09; 50-330/81-09 which was previously discussed under the Quality Assurance Section. However, the finding of lack of QA was as a result of attempting to review the QA associated with procuring soil boring samples.

Failure to evaluate the technical capabilities of Woodward-Clyde (principal supplier of services for soil boring activities) prior to commencement of drilling operations.

Considering the above enforcement history and the fact that an order was issued in December 1979 which has culminated in a hearing on soils settlement issues and the multitude of effort which has gone into soils testing, major re-review of the FSAR and design control; the rating is obviously below average.

contested by the licensee, the NRC agreed in two instances and removed the items of noncompliance. Of the twenty total items of noncompliances against the installers of HVAC systems (19 items in NRC Insp Rpt No. 50-329/80-10; 50-330/80-11 and one item in NRC Insp Rpt No. 50-329/80-21; 50-330/80-22) the licensee contested five items and the NRC agreed in two instances and removed the items of noncompliance.

It is realized that the licensee does have appeal rights on items of non compliance but when the licensee appeals over 40% (excluding HVAC system citations) and realizes a less than 10% success rate it becomes apparent that the licensee's rebuttal lacks substance on a high percentage of the time. The licensee's inadequate responses ~~may result in a high percentage of items of non compliance~~ ~~may result in a high percentage of items of non compliance~~ delays an expedient resolution to the items of non compliance and conveys a vindictive attitude which and ultimately affects the efficient operation of both the licensee and NRC. ~~Final~~

MARATHON OIL COMPANY
NRC LIC. #1 34-01541-02
539 SOUTH MAIN STREET
FINDLAY OH 45840

MARSHALL FIELD & COMPANY
NRC LIC. #1 12-12333-01
LICENSING DEPARTMENT
25 EAST WASHINGTON STREET
CHICAGO IL 60690

MARSHFIELD CLINIC
NRC LIC. #1 48-10966-03
1000 NORTH OAK AVENUE
MARSHFIELD WI 54449

MASSILLON STEEL CASTING COMPANY
NRC LIC. #1 34-02605-01
RESEARCH, DEVELOPMENT & INSPECTION
977 OBERLIN AVE S.W.
MASSILLON OH 44646

MAYNARD ELECTRIC STEEL CASTING COMP
NRC LIC. #1 48-07080-01
INDUSTRIAL RADIOGRAPHY DEPARTMENT
2856 SOUTH 27TH STREET
MILWAUKEE WI 53246

MAYO CLINIC
NRC LIC. #1 22-00519-03
RADIOLOGICAL SAFETY OFFICE
RUCHESTER MN 55901

MCHAN'S INSPECTION SERVICE
NRC LIC. #1 48-14158-01
8517 N. KAIL AVENUE
MILWAUKEE WI 53225

MEAD JOHNSON AND COMPANY
NRC LIC. #1 13-00772-02
DELETE
MEAD JOHNSON RESEARCH CENTER
EVANSVILLE IN 47721

MEDI-PHYSICS INC
NRC LIC. #1 12-13813-01
3350 NORTH RIDGE
ARLINGTON HEIGHTS IL 60004

MEDI-PHYSICS INC
NRC LIC. #1 12-13813-02MD
3350 NORTH RIDGE
ARLINGTON HEIGHTS IL 60004

MEDICAL COLLEGE OF OHIO AT TOLEDO
NRC LIC. #1 34-13011-08
C.S. 10008
TOLEDO OH 43164

METHODIST HOSPITAL
NRC LIC. #1 13-02063-01
1604 NORTH CAPITOL AVENUE
INDIANAPOLIS IN 46202

MICHAEL WEESE HOSPITAL AND MEDICAL
NRC LIC. #1 12-00074-04
ISOTOPE LABORATORY
24TH AND ELLIS AVENUE
CHICAGO IL 60616

MICHIGAN TESTING ENGINEERS INC.
NRC LIC. #1 21-14810-01
HOT BRANCH
24355 CAPITOL AVENUE
DETROIT MI 48239

MIDLAND-KOBS CORPORATION
NRC LIC. #1 34-01115-02
NATIONAL CASTINGS DIVISION
1414 E. BRADWAY
TOLEDO OH 43691

MIDSTATE TESTING LABORATORY INC.
NRC LIC. #1 13-11822-01
7943 NEW JERSEY AVENUE
HAMMOND IN 46323

MIDWEST INSPECTION SERVICE LTD
NRC LIC. #1 48-16296-01
957 PANCEL LANE
GREEN HAY WI 54304

HIGHEST RESEARCH INSTITUTE
NRC LIC. #1 24-02564-02
425 VOLKEM BOULEVARD
KANSAS CITY MO 64110

Given though the licensee's ~~response~~ ^{inadequate} responses

a detriment to construction of a Quality plant. Subsequent to the evaluation period, licensee management ~~and~~ were invited to a meeting in the Regional Office to explain the NRC's position on what constitutes an adequate response to noncompliances and subsequent corrective action.

Based on the questionable quality of the licensee's response to enforcement items, this ~~area~~ area of corrective action and reporting is considered below average.

JOHN DEENE FOUNDRY
NRC LIC. #1 12-09111-01
ROUTE A4 AND 14TH AVENUE
EAST MOLINE IL 61244

EAST METALS CORPORATION
NRC LIC. #1 14-07206-01
KEOKUK STEEL CASTING DIVISION
COMMERCIAL & M STREETS
KEOKUK IA 52632

KELSEY-HAYES COMPANY INCORPORATED
NRC LIC. #1 12-02360-02
GRANITE DIVISION
302 PEOPLES AVENUE
MUCKFORD IL 61101

KRUEGEL, RICHARD E.
NRC LIC. #1 34-09037-01
DBA GENERAL TESTING AND ENGINEERING
P. O. BOX 115
WASHINGTON OH 44480

LAKE CENTER INDUSTRIES
NRC LIC. #1 22-17541-02
111 MARKET STREET
WINONA MN 55987

LAKEHEAD TESTING LABORATORY INC.
NRC LIC. #1 22-14897-01
P. O. BOX 7168
DULUTH MN 55807

L. CLOSENS
NRC LIC. #1 12-19544-01
P. O. BOX 100
PRINCETON IL 61356

LEAHY NUCLEAR CORPORATION
NRC LIC. #1 21-17126-01-0
23100 WEST EIGHT MILE ROAD
SOUTHFIELD MI 48034

LEAR SIEGLEN INC.
NRC LIC. #1 21-07265-01
4141 EASTERN AVENUE S.E.
GRAND RAPIDS MI 49508

LIBBY MCNEILL & LIBBY
NRC LIC. #1 12-09953-01
RESEARCH & PRODUCT DEVELOPMENT
1800 WEST 119TH STREET
CHICAGO IL 60643

LOYOLA UNIVERSITY MEDICAL CENTER
NRC LIC. #1 12-11355-04
2160 S. FIRST AVENUE
MAYWOOD IL 60153

MAGNA CHEK INC.
NRC LIC. #1 21-19111-01
2125 RIGGS STREET
WAXHEN MI 48091

MAGNAFLUX CORPORATION
NRC LIC. #1 12-00622-07
1700 WEST LAWRENCE AVENUE
CHICAGO IL 60656

MAGNAFLUX CORPORATION
NRC LIC. #1 12-00622-08
7300 WEST LAWRENCE AVENUE
CHICAGO IL 60656

MALLINCKRODT INC
NRC LIC. #1 24-04206-036
675 BROWN ROAD
ST. LOUIS MO 63134

MALLINCKRODT INC
NRC LIC. #1 24-04206-04MA
MALLINCKRODT & 2ND ST
ST LOUIS MO 63147

MALLINCKRODT INC.
NRC LIC. #1 24-04206-01
MALLINCKRODT/NUCLEAR
BOX 10172 LAMBERT FIELD
ST. LOUIS MO 63149

MALLINCKRODT INC.
NRC LIC. #1 24-04206-05MO
MALLINCKRODT AND SECOND STREET
ST. LOUIS MO 63147

12. Design and Design Changes ①

The licensee is rated below average. During the evaluation period three items of noncompliance were identified against 10 CFR 50 Appendix B, Criterion III Design Control and one item against criteria XVI, Corrective Action which was closely related to deficiencies in design control. However these items of noncompliance have been addressed in other sections of the ~~FSAR~~ this SAR Report. The following is a summary of this enforcement action:

(1) Discussed in Section 2, Site Preparation and Foundations

(a)

Failure to initiate preventive action to preclude repetition of not identifying design documents. Reviewers were not reviewing the FSAR against references.

MONEY-BELL INCORPORATED
NRC LIC. #1 22-01070-06
2753 FOURTH AVENUE SOUTH
MINNEAPOLIS MN 55408

MOHRT CORPORATION
NRC LIC. #1 48-01094-03
CHICIBLE STEEL CASTING DIVISION
2850 SOUTH 20TH STREET
MILWAUKEE WI 53215

MUTCHINSON AREA VULTECH INSTITUTE
NRC LIC. #1 22-15554-01
200 CENTURY AVENUE
MUTCHINSON MN 55350

ILLINOIS, UNIVERSITY OF
NRC LIC. #1 12-00088-06
1053 WEST PULK STREET
CHICAGO IL 69980

IMMUNO ASSAY CORPORATION
NRC LIC. #1 21-17915-01
25050 FORD ROAD
DEARBORN HEIGHTS MI 48127

IMMUNO NUCLEAR CORPORATION
NRC LIC. #1 22-16719-01
P.O. BOX 285
STILLWATER MN 55042

INDIANA UNIVERSITY - INDIANAPOLIS
NRC LIC. #1 13-02752-03
1100 WEST MICHIGAN STREET
INDIANAPOLIS IN 46223

INDUSTRIAL MNT SERVICES DIVISION
NRC LIC. #1 13-06147-08
2124 WENDELL AVENUE
INDIANAPOLIS IN 46202

INDUSTRIAL NUCLEAR COMPANY INCORPORATED
NRC LIC. #1 24-12585-01
9641 LACKLAND ROAD
OVERLAND MO 63114

INDUSTRIAL INSPECTION INDUSTRIES INC
NRC LIC. #1 34-14071-01
5250 MAYFAIR ROAD
NORTH CANTON OH 44720

INTERIOR, DEPARTMENT OF THE
NRC LIC. #1 24-02619-02
BUREAU OF MINES
MOLLA MO 65401

INTERSTATE BLOOD BANK INCORPORATED
NRC LIC. #1 12-16000-01
3324 WEST LAWRENCE AVENUE
CHICAGO IL 60625

IOWA, UNIVERSITY OF
NRC LIC. #1 14-02938-07
A CITY IA 52240

INDTEC CORPORATION
NRC LIC. #1 34-18490-01
1029 SENATE DRIVE
CENTERVILLE OH 45459

J.I. CULLEN COMPANY INC.
NRC LIC. #1 12-15025-01
INDUSTRIAL INSPECTION AND TESTING S
ROUTE 84
FULTON IL 61252

JAN X-RAY SERVICES INC.
NRC LIC. #1 21-16560-01
4105 MCCAIN ROAD
JACKSON MI 49201

JEMCO ENGINEERING COMPANY
NRC LIC. #1 12-17261-01
400 E. MAPPELLA STREET
MINOOKA IL 60447

JOHN C. HAYNES COMPANY
NRC LIC. #1 34-13774-01
800 HEBBURN QUAD
NEARAK OH 43055

(b)

Three examples of failure to translate applicable regulatory requirements and design criteria into design documents

- a) Failure to maintain a coordination log of specification change notices.
- b) Failure to correctly translate SCM-9004 as a requirement into Rev. 20 of specification C-208.
- c) Failure of EDPI 4.25.1, Rev. 8 to establish adequate measures to waive design interface requirements.

(2) Discussed in Section 5, Piping and Hanger

Failure to prepare, review and approve small bore pipe and piping suspension system designs performed onsite in accordance with design control procedures.

(3) Discussed in Section 7, Electrical

Failure to translate design criteria into drawings and specifications.



UNITED STATES
NUCLEAR REGULATORY COMMISSION
REGION III
799 ROOSEVELT ROAD
GLEN ELLYN, ILLINOIS 60137

Docket No. 70-152

Purdue University
ATTN: Dr. Paul L. Ziemer
Radiological Control
Officer
Bionucleonics Department
West LaFayette, IN 47907

Gentlemen:

This refers to the inspection conducted by

LETTER TO LICENSEE COVERING FUEL FACILITIES INSPECTION.

Sincerely,

C. E. Norelius, ~~Acting~~ Director
Division of Engineering and
Technical Inspection

Enclosure: IE Inspection
Report No.

cc w/encl:
DMB/Document Control Desk (RIDS)

In addition to the enforcement items ③ discussed above, an Immediate Action letter was issued by the NRC pertaining to design control and issuance of drawings for the installation of small bore piping. This item was previously iterated in Section 5, Piping and Hangers -

Although the above items have been discussed in three other functional areas of this SACR report, the common bond between them is that each address ~~is design control~~ inadequate design control.

Also, the following five 10CFR 50.55(e) summaries, which were among the twelve ~~the~~ Construction Deficiency Reports submitted, strongly suggest that there may be a blatant lack of QA in design control and these instances may have been licensee controllable.



UNITED STATES
NUCLEAR REGULATORY COMMISSION
REGION III
799 ROOSEVELT ROAD
GLEN ELLYN, ILLINOIS 60137

Docket No. 50-182

Furdue University
ATTN: Dr. P. Lykoudis
Department of Nuclear
Engineering
West Lafayette, IN 47907

Gentlemen:

This refers to the inspection conducted by

LETTER TO LICENSEE COVERING REACTOR INSPECTION.

Sincerely,

R. L. Spessard,
~~R. F. Weichman, Acting~~ Director
Division of Resident and Project
Inspection

Enclosure: IE Inspection
Report No.

cc w/encl:
E. Stansberry, Reactor
Supervisor
DMB/Document Control Desk (RIDS)

- 1) High Energy Line Break Analysis (HELBA), steady state thrust forces rather than transient peak thrust forces were used in the energy balance techniques for the design of HELBA pipe whip restraints.
- 2) Component Cooling Water (CCW) Design, CCW system susceptibility to Loss of Coolant Accident (LOCA) induced failures.
- 3) Seismic model of Auxiliary Building has incorrect assumption that control tower and main portion of Auxiliary Building are an integral unit between elevation 614 and 659.
- 4 Borated Water Storage Tank Foundation stress/cracks.
- 5. Shear reinforcement at major containment penetrations.

Considering the above indicators which suggest questionable design control and the amount of re-engineering which has transpired in electrical, civil, and piping areas, the licensee's performance is rated as below average.

The fact that the licensee is able to often times identify design deficiencies through their ~~own~~ audit programs and take appropriate action is commendable. However, these design deficiencies would not occur if there were more stringent control of the amount of these design errors and

The licensee is below average in this area



UNITED STATES
NUCLEAR REGULATORY COMMISSION
REGION III
799 ROOSEVELT ROAD
GLEN ELLYN, ILLINOIS 60137

Docket No. 50-546
Docket No. 50-547

Public Service of Indiana
ATTN: Mr. S. W. Shields
Senior Vice President
Nuclear Division
Post Office Box 190
New Washington, IN 47162

Gentlemen:

This refers to the inspection conducted by

LETTER TO LICENSEE COVERING REACTOR INSPECTION.

Sincerely,

C. E. Norelius, ~~Acting~~ Director
Division of Engineering and
Technical Inspection

Enclosure: IE Inspection
Reports No. 50-546/
and No. 50-547/

cc w/encl: *Executive Director, Nuclear*
W. M. Petro, *Project Director - Management*
C. Kammerer, CA
J. H. Sniezek, IE
DMB/Document Control Desk (RIDS)
Resident Inspector, RIII
LeBoeuf, Lamb, Leiby & MacRae
Dave Martin, Office of Attorney
General
John R. Galloway, Staff Director,
Environment, Energy and Natural
Resources Subcommittee
E. P. Martin, Wabash Valley Power
Association

(Please note: Kammerer and Sniezek are to
receive copies w/concurrences)

(Marble Hill 1 & 2)
5/27/81



UNITED STATES
NUCLEAR REGULATORY COMMISSION
REGION III
799 ROOSEVELT ROAD
GLEN ELLYN, ILLINOIS 60137

Docket No. 50-150
Docket No. 70-801
Docket No. 70-996

Ohio State University
ATTN: Dr. Henry G. Cramblett
Acting Vice President
for Medical Affairs and
Dean, College of Medicine
218 Medical Administration Center
370 West Ninth Avenue
Columbus, OH 43210

Gentlemen:

This refers to the inspection conducted by

LETTER TO LICENSEE COVERING SAFEGUARDS INSPECTION.

Sincerely,

C. E. Norelius, ~~Acting~~ Director
Division of Engineering and
Technical Inspection

Enclosure: IE Inspection
Report No.

cc w/encl:
DMB/Document Control Desk (RIDS)

SALP ~~and~~ overall evaluation shall
not be influenced by the enforcement
of history for installation of HVAC systems
since the ~~Business~~ ^{Consumer Power Co} has accepted complete
responsibility for HVAC System ~~to~~ QA/QC
functions a marked improvement has
been noted in the control of HVAC ~~work~~
installation.



UNITED STATES
NUCLEAR REGULATORY COMMISSION
REGION III
799 ROOSEVELT ROAD
GLEN ELLYN, ILLINOIS 60127

Docket No. 50-150

Ohio State University
ATTN: Dr. Robert F. Redmond
Director
Engineering Experiment
Station
161 Hitchcock Hall
2070 Neal Avenue
Columbus, OH 43210

Gentlemen:

This refers to the inspection conducted by

LETTER TO LICENSEE COVERING REACTOR INSPECTION.

Sincerely,

R. L. Spessard,
~~R. F. Hochman, Acting Director~~
Division of Resident and Project
Inspection

Enclosure: IE Inspection
Report No. 50-150/

cc w/encl:
DMB/Document Control Desk (RIDS)

4 of below
3

gabone ~~Case~~
③

Site Preparation and Foundation: Escalated inspection activity for each major evolution in the resolution of soils settlement issues

Piping and Hangers: A complete and intensive inspection ~~about February~~ scheduled for early 1982

Electrical: Comprehensive inspections at approximately ~~one~~ two month intervals placing attention in those areas of heaviest activity in the preceding month ~~with particular~~ ^{with particular} emphasis on QC personnel

Instrumentation: Comprehensive inspections at two month intervals commencing when the instrumentation installation activities start to dramatically increase ~~there~~ with particular emphasis on design control and QC coverage. These inspections could be coincident with the electrical inspections.



UNITED STATES
NUCLEAR REGULATORY COMMISSION
REGION III
799 ROOSEVELT ROAD
GLEN ELLYN, ILLINOIS 60137

Docket No. 50-263

Northern States Power Company
ATTN: Mr. Dennis E. Gilberts
Senior Vice President
Power Supply
414 Nicollet Mall
Minneapolis, MN 55401

Gentlemen:

This refers to the inspection conducted by

LETTER TO LICENSEE COVERING REACTOR INSPECTION.

Sincerely,

R. L. Spessard
~~W. C. Heschman, Acting~~ Director
Division of Resident and Project
Inspection

Enclosure: IE Inspection
Report No. 50-263/

cc w/encl:
Mr. W. A. Shamla, Plant
Manager
DME/Document Control Desk (RIDS)
Resident Inspector, RIII
John W. Ferman, Ph.D.,
Nuclear Engineer, MPCA

(Monticello)
5/81

Other Functional Areas: One team type
inspection ~~with~~ to cover all areas
of HVAC System installation and
the resolution of previous enforcement
items. ~~requests~~

13. Other Functional Areas Not Included Above

The licensee is rated above average.

On January 7, 1981, a \$38,000 Civil Penalty was levied against the licensee for QA deficiencies in the installation of HVAC systems which were noted during an investigation during the period of March 6, 1980 to July 31, 1980. Seventeen items of noncompliance were identified during this period and one additional item was identified in a later report (NRC Inspection Report No. 50-329/80-21; 50-330/80-22). The later item was not considered in the Civil Penalty.

Considering the above enforcement history would ordinarily force a rating of below average in this area. However, because of the overlap into the previous SALP (evaluation period of July 1, 1979 to June 30, 1980) for the investigation and subsequent escalated enforcement action and previous discussions in this area, this present SALP overall evaluation shall not be influenced by the enforcement history for installation of HVAC systems. Since the Consumers Power Company has accepted complete responsibility for HVAC System QA/QC functions, a marked improvement has been noted in the control of HVAC installation. *Because of the aggressiveness*

of Consumers Power Co to accept QA/QC responsibility for HVAC system installation and to staff this organization with and adequate number of skilled personnel the rating in this area is ~~not~~ presently considered above average



UNITED STATES
NUCLEAR REGULATORY COMMISSION
REGION III
799 ROOSEVELT ROAD
GLEN ELLYN, ILLINOIS 60137

Docket No. 50-10
Docket No. 50-237
Docket No. 50-249

Commonwealth Edison Company
ATTN: Mr. Cordell Reed
Vice President
Post Office Box 767
Chicago, IL 60690

Gentlemen:

This refers to the inspection conducted by

LETTER TO LICENSEE COVERING REACTOR INSPECTION.

Sincerely,

R.L. Spessard
~~R. F. Hirschman, Acting~~ Director
Division of Resident and Project
Inspection

Enclosure: IE Inspection
Reports No. 50-10/ ,
No. 50-237/
and No. 50-249/

cc w/encl: *Louis O. DelGiorgio*
Mr. ~~J. S. Abel~~, Director
of Nuclear Licensing
Mr. D. J. Scott,
Station Superintendent
DMB/Document Control Desk (RIDS)
Resident Inspector, RIII
Mary Jo Murray, Office of
Assistant Attorney General

(Dresden 1, 2 & 3)
5/81

Overall Licensee Performance Evaluation

During the evaluation period the licensee's performance is assessed at below average in the technical areas of resolving the soils settlement issues; installation of piping and pipe suspension systems - particularly, small bore piping; and electrical installations. With the activity which has been associated with the soils settlement ~~issues~~ in the past ~~three years~~, the enforcement history ^{demonstrate} in this area shows the licensee has ~~a~~ ~~lack of attention to detail~~.

9. In the past three years there has been ~~an~~ ~~abundant amount~~ of activity associated with soils settlement issues. In spite of this the enforcement history in this area shows the licensee has ~~demonstrated~~ a lack of attention to detail. ~~Because~~ ~~of the~~ ~~ongoing~~ ~~soils settlement~~ and the ~~licensee's~~ ~~performance~~ is ~~rated~~ below average



UNITED STATES
NUCLEAR REGULATORY COMMISSION
REGION III
799 ROOSEVELT ROAD
GLEN ELLYN, ILLINOIS 60137

Docket No. 50-373
Docket No. 50-374

Commonwealth Edison Company
ATTN: Mr. Cordell Reed
Vice President
Post Office Box 767
Chicago, IL 60690

Gentlemen:

This refers to the inspection conducted by

LETTER TO LICENSEE COVERING REACTOR INSPECTION.

Sincerely,

C. E. Norelius, ~~Acting~~ Director
Division of Engineering and
Technical Inspection

Enclosure: IE Inspection
Reports No. 50-373/
and No. 50-374/

cc w/encl: *James O. McGeorge*
Mr. J. S. Abel, Director
of Nuclear Licensing
Mr. L. J. Burke, Site
Construction Superintendent
Mr. T. E. Quaka, Quality
Assurance Supervisor
Mr. R. H. Holyoak, Station
Superintendent
Mr. B. B. Stephenson
Project Manager
DMB/Document Control Desk (RIDS)
Resident Inspector, RIII
Mary Jo Murray, Office of
Assistant Attorney General

(La Salle 1 & 2)
5/81

enforcement history in this area brought
was brought to the licensee's attention during
the previous SAEP evaluation period. These
same basic ~~issues~~ enforcement
issues are

in this area. Continued enforcement in the
soils area may cast dispersions on the licensee's
ability to successfully perform proposed
resolution to the soils settlement issues and
invoke further escalated enforcement action in
this area.

~~In the area of installation of riprap and
piping support systems (the licensee has
found to have rated below average
rating of below average is justified by
Central of~~

In the area of ~~small~~ riprap and pipe
support systems, the licensee had received
~~escalated~~ (during the evaluation period) escalated
enforcement action. While in the process
of attempting to correct these deficiencies, the
licensee and the NRC's subsequent reviews
the licensee received additional items of
noncompliance ^{incl. escalated enforcement} as a result of the NRC
review into this area. Their resolution of



UNITED STATES
NUCLEAR REGULATORY COMMISSION
REGION III
799 ROOSEVELT ROAD
GLEN ELLYN, ILLINOIS 60137

Docket No. 50-454
Docket No. 50-455

Commonwealth Edison Company
ATTN: Mr. Cordell Reed
Vice President
Post Office Box 767
Chicago, IL 60690

Gentlemen:

This refers to the inspection conducted by

LETTER TO LICENSEE COVERING REACTOR INSPECTION.

Sincerely,

C. E. Norelius, ~~Acting~~ Director
Division of Engineering and
Technical Inspection

Enclosure: IE Inspection
Reports No. 50-454/
and No. 50-455/

cc w/encl: *Louis C. Halberge*
Mr. ~~J. S. Abel~~, Director
of Nuclear Licensing
Mr. V. I. Schlosser
Project Manager
Mr. Gunner Sorensen, Site
Project Superintendent
Mr. R. E. Querio,
Station Superintendent
DMB/Document Control Desk (RIDS)
Mary Jo Murray, Office of
Assistant Attorney General
Myron M. Cherry, Chicago

(Byron 1 & 2)
5/81

the original items ~~at~~ This happened after the end of the evaluation period. Since then the licensee's performance appears to be improved. However, the test of time will ensure that the licensee has actually improved their performance in control of piping and pipe support systems or whether their improvement was only as a result of responding to escalated enforcement action.

In the electrical area, the licensee had embarked ~~on~~ on an ambitious "pulling schedule" commencing ~~at~~ half way through the evaluation period. Prior to this the NRC had verbally advised the licensee to have ~~an~~ adequate ~~number~~ number and quality of QC and QA personnel available when escalated electrical installation activities commenced. The enforcement history identified during the evaluation period ~~seems~~ ~~to~~ indicates a lack of ~~the~~ rigorous



UNITED STATES
NUCLEAR REGULATORY COMMISSION
REGION III
799 ROOSEVELT ROAD
GLEN ELLYN, ILLINOIS 60137

Docket No. 50-456
Docket No. 50-457

Commonwealth Edison Company
ATTN: Mr. Cordell Reed
Vice President
Post Office Box 767
Chicago, IL 60690

Gentlemen:

This refers to the inspection conducted by

LETTER TO LICENSEE COVERING REACTOR INSPECTION.

Sincerely,

C. E. Norelius, ~~Acting~~ Director
Division of Engineering and
Technical Inspection

Enclosure: IF Inspection
Reports No. 50-456/
and No. 50-457/

cc w/encl: *Louis O. McGeorge*
Mr. ~~J. S. Abel~~, Director
of Nuclear Licensing
Mr. V. I. Schlosser
Project Manager
Mr. R. Cosaro, Project
Superintendent
Mr. J. F. Gudac
Station Superintendent
DME/Document Control Desk (RIDS)
Mary Jo Murray, Office of
Assistant Attorney General

(Braidwood 1 & 2)
5/81

QC Coverage. Since this enforcement the licensee has increased the rigour and frequency of overview inspections, performed a detail audit pertaining to material storage and brought upper management attention to the findings, and is presently inquiring (at the insistence of the NRC) into the adequacy of electrical QC coverage. Similarly to the installation of piping and pipe support systems, time will ~~be~~ establish the sincerity of corrective actions.

but more managerial

In the less technical areas of corrective action and repairing and design control the licensee has demonstrated during the evaluation period that the below average rating is warranted, by not having a strong resolution to perpetually avoid the indicators discussed in the body of this report. The licensee's ~~attitude~~ ^{attitude} toward their responses to NRC enforcement issues has evoked management meetings with the licensee



UNITED STATES
NUCLEAR REGULATORY COMMISSION
REGION III
799 ROOSEVELT ROAD
GLEN ELLYN, ILLINOIS 60137

Docket No. 70-36

Combustion Engineering, Inc.
ATTN: Mr. H. V. Lichtenberger
Vice President
Manufacturing
Nuclear Power Systems
Windsor, CT 06095

Gentlemen:

This refers to the inspection conducted by

LETTER TO LICENSEE COVERING A FUEL FACILITY INSPECTION

Sincerely,

C. E. Norelius, ~~Acting~~ Director
Division of Engineering and
Technical Inspection

Enclosures:

1. Appendix A, Notice of
Violation (if applicable)
2. IE Inspection Report
No. 70-36/

cc #/encls:

Mr. J. A. Rode, Plant
Manager
DMB/Document Control Desk (RIDS)

subsequent to the SA & P evaluation period
were the NRC has delineated what ~~was~~ ~~not~~
information constitutes ~~an~~ an adequate
response. Should the licensee offer strong
responsible management conviction to
~~resolve~~ resolving the reporting and design control
issues - a turn around in ~~this~~ these
areas could be ~~expected~~ expedited.

~~From the above~~
It is intuitively obvious from the above
and the body of this report that the licensee
overall performance is rated below
average.



UNITED STATES
NUCLEAR REGULATORY COMMISSION
REGION III
799 ROOSEVELT ROAD
GLEN ELLYN, ILLINOIS 60137

Docket No. 50-346

Toledo Edison Company
ATTN: Mr. Richard P. Crouse
Vice President
Nuclear
Edison Plaza
300 Madison Avenue
Toledo, OH 43652

Gentlemen:

This refers to the inspection conducted by

LETTER TO LICENSEE COVERING REACTOR INSPECTION.

Sincerely,

R. L. Spessard,
~~R. F. Hershman, Acting~~ Director
Division of Resident and Project
Inspection

Enclosure: IE Inspection
Report No. 50-346/

cc w/encl:
Mr. T. D. Murray, Station
Superintendent
DMB/Document Control Desk (RIDS)
Resident Inspector, RIII
Harold W. Kohn, Power
Siting Commission
Helen W. Evans, State
of Ohio

(Davis-Besse 1)
5/81

23
III. Performance Analysis ^{the licensees rating}
~~The licensee is rated overage~~ ^{is average}

1. Quality Assurance ^{the rating is average}

^{effective Aug. 15, 1980}
During the ~~last~~ ^{last} ~~business~~ ^{business} period, Consumers

Power Co. ~~was~~ reorganized ~~then~~ the
then site QA functions by creating
the Midland Plant Quality Assurance
Department ~~was~~ ^(MP QAD) which was

composed of both Consumers Power
Co. and Bechtel Power Corp. personnel.
This reorganization was instituted in the
interest of ~~Quality~~ ^{efficiency} ~~and~~ ^{more}
comprehensive coverage ~~of~~ ^{of} QA ~~and~~ ^{and}
and more timely resolution ^{of} noted
discrepancies. Consumers Power Co. retains
the lead responsibility for QA.

also during the reporting periods. Consumers
Power Co. ~~was~~ ^{MP QAD} assumed ~~all~~
responsibility for all on-site QA and
QC functions for installation of HVAC



UNITED STATES
NUCLEAR REGULATORY COMMISSION
REGION III
799 ROOSEVELT ROAD
GLEN ELLYN, ILLINOIS 60137

Docket No.
Docket No.

Wisconsin Electric Power Company
ATTN: Mr. Sol Burstein
Senior Executive Vice President
Power Plants
231 West Michigan
Milwaukee, WI 53201

Gentlemen:

This refers to the inspection conducted by

LETTER TO LICENSEE COVERING REACTOR INSPECTION.

Sincerely,

C. E. Norelius, ~~Acting~~ Director
Division of Engineering and
Technical Inspection

Enclosure: IE Inspection
Report No.

cc w/encl:
DMB/Document Control Desk (RIDS)
John J. Duffy, Chief
Boiler Inspector
Stanley York, Chairman
Public Service Commission

(Haven 1 & 2)
5/81

systems. These functions and controls were ⁽²⁾ previously handled by the The Zack Co.

The changes in responsibility were implemented to "establish more effective QA/QC interface; provide increased technical support for problem identification and provide a mechanism to improve inspection performance.

Because of these changes in QA organization and changes in the Site QA Superintendent, the NRC ~~evaluated~~ ^{evaluated} the impact of these changes on the overall QA aspects of the site and performed a ~~team inspection~~ ^{team inspection} in May, 1981. ~~The inspection with a portion of which~~ ^{consisted of making a} determination of the adequacy of QA and the influence of Production considerations on the independence of QA/QC. This inspection revealed that the number and qualifications of personnel in the Consumers Power Co. QA organization were above average the QA programs and ^{oversight} inspection and audit functions were also above average. However, a severity level IV item of ~~noncompliance~~ noncompliance was written against



UNITED STATES
NUCLEAR REGULATORY COMMISSION
REGION III
799 ROOSEVELT ROAD
GLEN ELLYN, ILLINOIS 60137

Docket No. 50-266
Docket No. 50-301

Wisconsin Electric Power Company
ATTN: Mr. Sol Burstein
Executive Vice President
Power Plants
231 West Michigan
Milwaukee, WI 53201

Gentlemen:

This refers to the inspection conducted by

LETTER TO LICENSEE COVERING REACTOR INSPECTION.

Sincerely,

R. L. Spessard
~~R. E. Heishman~~ Acting Director
Division of Resident and Project
Inspection

Enclosure: IE Inspection
Reports No. 50-266/
and No. 50-301/

cc w/encl:
G. A. Reed, Manager
DMB/Document Control Desk (RIDS)
Resident Inspector, RIII
John J. Duffy, Chief
Boiler Inspector
Peter Anderson, Wisconsin's
Environmental Decade
Stanley York, Chairman
Public Service Commission

(Point Beach 1 & 2)
5/81

Management's failure to take prompt comprehensive corrective action in response to the identification of adverse quality trends. This item of non-compliance is indicative of ³ Consumes Power Co. QA Management exhibiting a hesitancy to determine the "root cause" of increases in deficiencies. This same weakness was identified during the previous SALP period.

A second item of non-compliance was identified ^{which is indicative of questionable managerial QA control.} ~~pertaining to~~ ^{possible root cause} This item pertained to the licensee's failure to evaluate the technical capability of the principal supplier of services for soil boring activities. ^{Inspection No. 5/1/09} During the inspections prior to taking soil borings, 15 items requiring QA resolution were identified by the NRCD prior to any drilling activities but during the period when "setting up" for the drilling operations was being anticipated.

When considering an overall rating



UNITED STATES
NUCLEAR REGULATORY COMMISSION
REGION III
799 ROOSEVELT ROAD
GLEN ELLYN, ILLINOIS 60137

Docket No. 50-87

Westinghouse Electric Corporation
ATTN: Mr. G. W. Scholand, Manager
Westinghouse Nuclear
Training Center
505 Shiloh Boulevard
Zion, IL 60099

Gentlemen:

This refers to the inspection conducted by

LETTER TO LICENSEE COVERING REACTOR INSPECTION.

Sincerely,

R. L. Spessard, Director
Division of Resident and
Project Inspection

Enclosure: IE Inspection
Report No. 50-87/

cc w/encl:
C. Bach, Manager, Instruction
(Fundamentals) and Training
Reactor
A. T. Sabo, Director, Licensing
Safeguards & Safety
A. Joseph Nardi, Manager
NES License Administration
DMB/Document Control Desk (RIDS)

(Westinghouse Nuclear Training Center)
8/81

for the licensee's Quality Assurance (4)
capability, an average rating, ~~is~~ is
realized with two major ~~deficiencies~~ ^{infect}
infections being identical in two confined
areas.

105
For comments please
CER/

SUGGESTED CHANGES FOR THE MIDLAND PROJECT

Historically, the Midland Project has had periods of questionable quality assurance as related to construction activities and has had commensurate regulatory attention in the form of special inspections, special meetings, and orders. ~~Local intervenors have given~~ These problems ^{have been given} higher public visibility than most other construction sites in Region III. As questions arise regarding the adequacy of construction or the assurance of adequate construction, we are faced with determining what regulatory action we should take. We are again faced with such a situation.

Current Problem

As background, but definitely a contributing factor, Midland is operating under an NRC staff and a clarifying Board order related to remedial soils work at the site. The ^{current} problem was caused by a major breakdown in the adequacy of soils work during the late 1970's. Because of the increased regulatory attention given the site, we expect that exceptional attention ^{would} ~~will~~ be given to this activity and that licensee performance ^{would} ~~should~~ be better than other sites or areas which have not had such significant problems and therefore have not attracted this level of regulatory attention. However, that does not appear to be the case and Midland seems to continually ^{more than} have its share of regulatory problems. The following are some of the specific items which are troublesome to the staff.

Technical Issues

1. In the remedial soils area, the licensee has conducted safety related activities in an ~~uncontrolled~~ ^{inadequate} manner in several instances - removal of dirt around safety related structures, pulling of electrical cable, drilling in ~~the~~ ^{to} safety related ~~equipment~~ ^{utilities}.
2. In the electrical area, in trying to resolve a problem of the adequacy of selected QC inspectors' work conducted in 1980, the licensee completed only part of the reinspection even when problems were identified and appears inclined to accept that 5% of electrical cables may be misrouted (their characterization of "misrouting" may imply greater significance than we would attach ^{to} similar findings).
3. In the pipe support area, in trying to resolve a problem of the adequacy of QC inspections conducted in 1980, the licensee has portrayed only a small percentage of defects of "characteristics" identified and has not addressed the findings in terms of a large percentage of snubbers which may be defective because of the characteristics within each snubber that may be defective (e.g., if only one characteristic was defective out of 50 reviewed on a single hanger, the percentage is small; but if the one defective characteristic makes the hanger defective the result would have a much greater significance level.) The licensee had done a detailed

statistical analysis in an attempt to show that the small percentage of characteristics were found rather than broadly approaching the problem with significant reinspections to determine whether or not construction was adequate.

Communications

Multiple misunderstandings, meetings, discussions, and communications seem to result in dealing with the Midland Project. Some examples are:

1. NRC staff attending a meeting in Washington on March 10, 1982, heard the Consumers Power Company staff say that electrical cable pulling related to soils remedial work was completed. It was determined to be ongoing the next day at the site.
2. When Region III attempted to issue a Confirmatory Action Letter, J. Cook informed W. Little of his understanding that both J. Keppler and H. Denton had agreed that the subject of the CAL was not a safety related item subject to NRC regulatory jurisdiction. Such agreements had not in fact occurred and following a meeting, Consumers Power Company issued their commitments in a letter to Region III,

3. In reviewing a licensee May 10, 1982 letter, responding to the Board Order, the NRR staff had an unsigned letter and Region III had a signed copy both dated the same date but differing in content.
4. Recently a Region III inspector in closing out and exiting from his inspection described the exit meeting as being the most hostile he had ever participated in.
5. The responses to any Region III enforcement letters issued to Midland are more lengthy and are argumentative than are any other responses from any other licensee in Region III. This point was made in the SALP response provided by Midland and the SALP response in itself from Midland is an example of the type of response which we commonly receive from the site. The length of the response is at least as long as the initial SALP report.

*Subjunctive & Objectional
Of inspectors*

Staff Observations

1. With regard to corrective actions of identified noncompliances, the Midland response seems to lean towards doing a partial job and then writing up a detailed study to explain why what they have done is sufficient rather than doing a more complete job and assuring 100% corrective action has occurred. In the detailed writeups that are prepared, it is the staff's view that the licensee does not always represent the significance properly and the analyses and studies often raise more questions than they solve, thus time appears

to have been wasted in writing an analysis rather than in fixing the problem.

2. Midland site appears to be overly conscious with regard to whether or not something is an item of noncompliance and spends a lot of effort on defending whether or not something should be noncompliance ~~again~~ as opposed to focussing on the issue being identified and taking corrective action. This appears in part to be due to their sensitivity of what appears in the public record as official items of noncompliance. This ~~may be the~~ sensitivity may have resulted from the extended public visibility which has attended construction of the facility. The staff's view is that the Midland site would look better from the public standpoint and be more defensible from NRC's standpoint, if they concentrated on fixing identified problems rather than arguing as to the validity of citations. This type of view ^{was expressed by} ~~also resulted from~~ a recent effort to clarify in detail that certain construction items ^{the utility during} on the soils remedial work should not be subject to NRC's regulatory action.

3. The Midland project is one of the most complex and complicated ever undertaken within Region III. The reason is that they are building 2 units of the site simultaneously and additionally have an underpinning construction effort which in itself is probably the equivalent of building a third reactor site. The massive construction effort and the various stages of construction activity which are

involved make the site extremely complicated to manage. This activity appears to cause a lot of pressure on the licensee management.

4. Mr. J. Cook, the Vice President responsible for the Midland site is an extremely capable and dynamic individual. However, these characteristics in conjunction with the complexity and immenseness of operation as set forth in 3, above, may actually be contributing to some of the confusion which seems to exist. The staff views that (1) he is too much involved in detail of plant operations and there are times when the working level staff appears to agree and be ready to take action where Mr. Cook may argue details as to the necessity for such action or may argue as to the specific meaning of detailed work procedures, (2) this kind of push may lead to such things as letters both signed and unsigned appearing in NRR and causing confusion, (3) this push may lead to some animosity at the ^{licensee's} staff level if NRC activities are looked on as slowing progress of construction at the site.

Recommendations

It appears essential that some action be taken by NRC to improve the regulatory performance of the Midland facility. The following specific suggestions are made.

1. The company must be made aware and have emphasized to them again that their focus should be on correcting identified problems in a

complete and timely manner.

2. We should question whether or not it is possible to adequately manage a construction program which is as complex and diverse as that which currently exists at Midland. We would suggest specifically that the following activities be considered:

- a. That the licensee cut back work and dedicate their efforts to getting one of the units on line in conjunction with doing the soils remedial work.
- b. That they have a separate management group all the way to a possible new Vice President level, one of which would manage the construction of the reactor to get it operational and the second to look solely after the remedial soils and underpinning activities.

3. Consumers Power Co should give serious consideration to contracting for an independent design and construction verification program. This would provide an important additional measure of credibility to the design and construction adequacy of the Midland facility.

203

ROUTING AND TRANSMITTAL SLIP

Date

9-2-81

TO: (Name, office symbol, room number, building, Agency/Post)

Initials

Date

1.

2. Ron Cook

3.

4.

5.

Action	File	Note and Return
Approval	For Clearance	Per Conversation
As Requested	For Correction	Prepare Reply
Circulate	For Your Information	See Me
Comment	Investigate	Signature
Coordination	Justify	

REMARKS

a draft copy of the NRC Chapter 0516, SALP Report. I hope it is better than the first one you received.

CEJ

DO NOT use this form as a RECORD of approvals, concurrences, disposals, clearances, and similar actions

FROM: (Name, org. symbol, Agency/Post)

Room No.—Bldg.

Cecil Jones

Phone No.

5041-102

OPTIONAL FORM 41 (Rev. 7-76)
Prescribed by GSA
FPMR (41 CFR) 101-11.206

U.S. GPO: 1979-261-647/3310

Quality Assurance

Containment Shovel

Mini Board 10/5 week of

Final Report 10/12 - week of

Big Board Mtg. 10/19

Two days later at CLC

CPCo page 1-1

The NRC did not state there was progress in the management of CPCo's QA program. In fact, an analysis of what was originally proposed for this section indicates the converse (Read DRAFT of General Statement). In fact, the demonstrated inability of CPCo to manage the project has culminated in the NRC forming a separate section.

Page 1-1, paragraph 1-C

#2 Streeter asked for the start up procedures at the Cycle 1 SALP.

Page 1-1, paragraph 1-C

#3 CPCo has a difficult time discerning between consultation and regulation.

Page 1-2, paragraph D

#4 This is a false statement. The NRC has continually explained what the licensee is required to do. CPCo told to get "geared up for aggressive cable pulling", CPCo was told what QA/QC requirements needed for soils (I can't find particulars when CPCo was forewarned about piping - BUT) there were indicators plus already established regulations which would cover piping. NRC found things not good with piping at team inspection and came back 1 1/2 months and found things still not good. Although we have a policy of preventive inspection - CPCo chooses to abuse this at various times - up to and including the present. (Aux Feed Ring, Soils, Electrical Mis-route) The NRC did not fall short of obligations they do not have - when the benevolence of the NRC recommends means of improving the licensee's performance - the NRC finds the licensee's hearing is fine, but the listening is not keen enough to avoid regulatory difficulty - and when it is keen enough, CPCo argues about our benevolence.

Page 1-2, paragraph D

#5 This is pure crap. They consistently want to know exactly what we are going to look at - just so those areas the NRC addresses look good - no matter what the rest of the job is like and then attempt to argue with us as to whether we are allowed to look in those areas.

We do supply the licensee information that could impact their plant in the form of the numerous daily reports, bulletins, PNs, etc. which I personally supply to them. Pity CPCo does not know how to use our good advice - i.e. - "Q-ness" of soils.

Even had meeting in Jackson to describe Davis Besse construction difficulty.

Page 1-2, paragraph D

#6 The Resident Inspector continually has contact with your working level personnel and supplies them information which has transpired at other sites - any of which, if harbored by the NRC inspectors at Midland could culminate in stronger enforcement than you have heretofore been subjected. I might add that this is done with considerable expenditure of time (estimate 10 hrs/wk) to scan the copious amount of literature assimilated by the Resident Office. The statement used by CPCo - "these efforts suffer by lack of NRC input at detailed working levels" is indicative to the NRC of CPCo managerial inability to notice the communications which have transpired between NRC/CPCo at the detail level - and also CPCo's management's inability to acknowledge those findings brought forth by the personnel in the trenches which indicate CPCo is headed on a disastrous path.

Page 1-2, paragraph D

#7 The NRC inspectors were already scheduled to come before the SALP meeting of April 26. To have come earlier would have resulted in a purely consultant role. As it was, their visit was very premature.

Page 1-2, paragraph E

#8 The fact that issues are mentioned in different places in the SALP report does not mean that CPCo has been put in double jeopardy - in fact, one of the prime functions of the board was to discern that double jeopardy had not occurred. NRC would expound upon CPCo to give an explicit example (Read top of SALP P4 under Criteria).

Page 1-3

The NRC has used other mechanisms - i.e. noncompliances, IAL - - - to express particular concerns. The SALP is an appraisal of the information/record as it had transpired during the period.

Page 1-3, paragraph E

89 Containment was rated as Category II because: (Ref. Rpt. 80-25/26)

1) The number of NCRs generated indicates the CPCo is not all that good at prestressing; because "it was noted that the stressing sequence has been modified a number of times - - - which indicates that CPCo does not really know what they are doing. This changing of prestressing sequence required a FCR which is used to cover other than ordinary situations. Preservice Inspection area was rated Category II because: 1) Our inspectors have noted that excessive amounts of solvent were being used to clean the excess penetrant and "perhaps" remove die from indicator locations, and because our inspectors have noted that CPCo attempted to use UT calibration blocks which were not within the temperature requirements for the piece under examination - there are other examples of this type of sloppiness in your technique.

During the April SALP, I explained to you that the reason for a Category 2 in the Preservice Inspection area was because of a lack of rigor in your technique. The fact that you made this comment in your response to the SALP report indicates: 1) You do not listen well to the NRC - as stated earlier, you are prone only to strong enforcement action.

Because of the consternation that granting a Category I in Fire Protection has caused - the "Additional improvement" you suggested is to never offer a Category 1 unless it can be demonstrated that only the most profound activity had transpired to rate that Category 1. If the NRC were to be faulted in the assignment of Category classification - it would be in granting a Category 1 when a Category 2 would have been more consistent - as you eloquently pointed out.

Page 1-3, paragraph E

90 After your response to the SALP report, it is agreed that the number and seriousness of enforcement actions should be a major criteria. Therefore, the inspectors are encouraged to avoid any grey area zones and invoke enforcement action no matter how slight the violation of the regulation may seem.

Page 1-3, paragraph E

91 On page 4 of our SALP report, seven criteria for evaluation are listed. Your performance at ASLB hearing is not listed as one of the criteria.

Page 1-3, paragraph E

#12 An analysis of the SALP report will indicate that those things addressed were those things and actions which transpired during the SALP period.

Page 1-4, paragraph A.3

#13 Your response is argumentative in nature.

Page 1-4, paragraph B.1

#14 If CPCo had stopped the work prior to the NRC focusing attention in this area, the NRC would have stated the CPCo's audit programs and QA were effective. However, this is not the case and CPCo opted to stop work after the NRC identified the discrepancies and prior to the NRC issuing an order. The fact that piping did not require rework is because of luck and happenstance - not because of the rigor of the quality related programs.

Page 1-4, paragraph B.2

#15 Again, another indicator of CPCo's inability to listen to the NRC. At the April 26, 1982 SALP I said: that today the piping area would be considered a Category 2 - but without benefit of I. Yin's inspection efforts which were ongoing at the time of the SALP. However, I. Yin's inspection showed that you had "diluted" the trend program to the point that CPCo could not identify that approximately 47% of the installed hangers had some uncorrected deficiency. Had this information been fully known at the time of the SALP, CPCo would have remained in a Category III state.

Page 1-4& 1-5, paragraph C.1

#16 The implication - more clearly stated is that in spite of NRC's advice to have an adequate number of QC/QA personnel available prior to embarking on an ambitious pulling schedule, the record shows that you (CPCo) did not heed this advice. Obviously, another case of inadequate listening.

The number of QC personnel and what constitutes an adequate number could be extensively discussed. However, the NRC's concerns also addressed the quality of the individuals - the qualifications and the ability of these people to do quality work commensurate with the job. CPCo's response to the SALP did not address the quality of the QC/QA personnel, BUT the record does - AND, the record shows that the QC personnel on the site could not handle the ambitious

pulling schedule without getting into regulatory difficulties.

You made the statement in your response that "process inspection is required to verify cable pulling tensions." How can this be when you have not been able to address how to install instrument cables with low tension requirements - and indeed confirm that the limiting tensions have not been exceeded.

Page 1-5, paragraph C.2

#17 If the seven items of identified noncompliances are considered by CPCo to be "not excessive and were of relatively low consequence" then CPCo has a much greater tolerance for mediocrity than the NRC - and with this attitude, it is of little wonder that there are regulatory difficulties at Midland Site. This statement would support removal of the license until such time as a complete purge of CPCo management has transpired and an attitude re-alignment has occurred to the extent that CPCo enjoys a tolerance for mediocrity commensurate with the NRC.

Page 1-5, paragraph D.1

#18 If the comments of item 17 above were not convincing enough, then apply the same logic and comments to this item - and there are now two excellent reasons why all construction should be stopped at the Midland Site - assuming, of course, that CPCo tolerance for inadequate performance is as implied in their response.

Page 1-5, paragraph D.2

#19 If indeed the QA/QC staff is sufficient as stated, then the reason for your continued regulatory difficulties in the soils area - including an ASLB order - is that this "adequate staff" is not managed - or is not permitted to do their job. The fact that your opinion states there has never been any inadequacy in qualifications of the personnel further supports the concept of CPCo to manage the underpinning work. Since the time of the SALP through the present, there has been one mishap after another which is identified by NRC - and still these adequate QC/QA personnel do nothing while the NRC AND your production side of the house attempt to control gross inadequacies in the soils area - in spite of QC and continual arguments over the Q-ness.