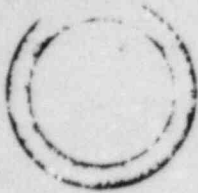


12

Mr. Patch



Consumers
Power
Company

General Offices: 212 West Michigan Avenue, Jackson, MI 49201 • (517) 788-0550

February 5, 1982

Charles Bechhoefer, Esq.
U.S. Nuclear Regulatory Commission
Atomic Safety & Licensing Board Panel
Washington, DC 20555

Jerry Harbour
U.S. Nuclear Regulatory Commission
Atomic Safety & Licensing Board Panel
Washington, DC 20555

Dr. Frederick P. Cowan
6152 N. Verde Trail
Apt. B-125
Boca Raton, FL 33433

Ralph S. Decker
Route No. 4
Box 190D
Cambridge, MD 21613

RE: Midland OM-OL Proceedings
Docket Nos. 50-329, 50-330

Gentlemen:

Attached are copies of reports of audits recently conducted by the Midland Project Quality Assurance Department, numbered as follows:

- | | |
|-----------------|---------------|
| M-01-306-1 | M01-600-1-01 |
| M01-306-1-01 F | M01-600-1-02 |
| M-01-306-1-02 F | M01-600-1-01U |
| M-01-306-1-03 F | M-01-21-1-01 |
| M-01-302-1 | M-01-21-1-04 |
| M-01-302-1-1 F | M01-202-2 |
| M01-202-0-02 | M01-201-2-01F |
| M01-600-1 | M01-201-2 |

Very truly yours,

James E. Brunner

James E. Brunner

cc OM-OL Service List

LEGAL
DEPARTMENT

Lawrence B. Lindemer
Vice President
and General Counsel

Judd L. Bacon
Allen B. Bass
O. K. Petersen
William E. Wisner
Managing Attorneys

Robert J. Byers
Howard E. Clark
Beaundy E. Hagen
Senior Attorneys

Francis X. Berkemeier
J. E. Brunner
Julie A. Canham-Rogers
Lesley Daoud
Charles D. Dawson
James W. Dempsey
John P. Dickey
Kevin F. Duffy
Donald E. Frchette
George F. Hill
Laurene H. Horisny
Wayne A. Kirkby
Albert D. McCallum
David A. Mikelonis
Paula H. Mills
Vincent P. Provenzano
Jon R. Robinson
David R. Rood
Gregory A. Sando
Jack D. Shumate
Walter Scott Sipars
A. T. Udrys
Dennis L. Vigione
Theodore J. Vogel
Michael G. Wilson
Attorneys

Handwritten notes:
Send to
ZALAN
Patou / Thepsin
Hodgdon / Blume
Wilcox / Khandler
Rutberg
FF

8408150586 840718
PDR FOIA
RICE84-96 PDR

AUDIT REPORT

AUDIT TEAM LEADER/DATE: <i>D. D. Cochran 12/22/81</i>	APPROVED BY/DATE: <i>M. J. Schaffer 12/23/81</i>	AUDIT NO: M-01-306-1 ✓
		FILE NUMBER: 18.4.3.4 and 18.4.3.6
		DATE OF AUDIT: Nov 20 - Dec 2, 1981
		ORGANIZATION AUDITED: Bechtel Const/QC
PLANT & PROJECT: Midland 1 and 2		

SCOPE AND OBJECTIVE

The objectives of this audit were to verify implementation of records, procedures and completed cable terminations. The audit scope is completed cable terminations covered in the following Bechtel Procedures and Drawings:

- 1) E42A Rev 53
- E37 Rev 50
- E47 Rev 2
- E900 Rev 54
- FPE 7.000 Rev 9
- PSP G-6.1
- PQCI 7220/E5.0 Rev 8

IDENTIFICATION OF AUDITORS

D D Cochran Audit Team Leader (CPCo)
 D C Hendrix Auditor (CPCo)
 M A Leach Auditor (CPCo)
 H J Perrine Auditor (CPCo)

PERSONS CONTACTED DURING THE AUDIT

<u>Name</u>	<u>Company</u>	<u>Title</u>	<u>Attended Entrance Mtg</u>	<u>Attended Exit Mtg</u>
J E Stubbs	Bechtel	A I Coordinator, FE	X	X
J E Russel	Bechtel	Lead Electrical QCE		X
B J Collin	Bechtel	Asst Project Engineer	X	X
E Quayle	Bechtel	Electrical Engineer, FE	X	X
P Townsend	Bechtel	Electrical Engineer, FE	X	
D Clayton	Bechtel	Night Shift Elect Supt		

AUDIT SUMMARY

A. A pre-audit entrance meeting was held on November 20, 1981, with personnel in attendance as noted in Paragraph III. The audit team was introduced, the audit scope, plan, schedule and audit finding procedures were discussed.



AUDIT REPORT

CONTINUATION SHEET

M-01-306-1

AUDIT NO:
PART 2 OF 2

- B. Audit checklists were developed from FPE 7.000, "Cable Terminations", PQCI 7220/E5.0, "Cable Terminations", PSP G6.1, "Quality Control Inspection Plans."
- C. The audit resulted in three (3) findings all of which were issued closed. (See "List of Attachments").
- D. A post-audit exit meeting was held on December 2, 1981, with those in attendance as noted in Paragraph III. Draft audit findings were presented and discussed.

EVALUATION OF EFFECTIVENESS

With the exception of the three (3) findings, the quality program for Cable Terminations, within the scope of this audit, is considered satisfactory. 700 Terminations were checked in the field and 364 Inspection Records from the QC Vault were reviewed.

LIST OF ATTACHMENTS

- 1) Audit Finding Reports M-01-306-1-01 thru M01-306-1-03
- 2) Completed checklists (file copy only)



Consumers
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QA50-1

AUDIT FINDING REPORT

PRK TS, ENGINEERING AND CONSTRUCTION -
QUALITY ASSURANCE DEPARTMENT

Priority: 1

Trend: B-3, I-3, B-3, I-3

SUS: 2BBA

Al: s-1170

IS CONSTRUCTION VERIFIED AS REQUIRED? / "AS NEEDED" CONSTRUCTION WITH REFERENCES:

E-37 Circuit Schedule for Cable 2BB 5619 E-1 (Code B27) from 2B56 to 2C14 shows wire No 10 as a spare (color O-BK). E-900 connection list shows wire 10 SP to be terminated on Terminal 15 in 2B56 Cubical 19.

Contrary to the above: Construction terminated Wire No 10 on Terminal 14. QCIR 2BB5619E-1a Log No 129555 does not reflect the termination error as required by PQCI E-5.0 Activity 3.8.

AFR SER NO:
M01-306-1-01 F

FCN/DEPT AUDITED:
Bechtel Const/QC

DATE OF ISSUANCE:
12/1/81

FILE NUMBER:
18.4.3.4 & 18.4.3.6

DISTRIBUTION:

LEDavis
ESmith

WRBird JLWood
CMC/KFH ALAB (2)
JWCook
MADietrich
GSKeeley
BWMarguglio
DBMiller
JARutgers
DATaggart
DMTurnbull
RAWells

COMPLETED CORRECTIVE ACTION:

Construction to correct termination error. (LEDavis)
QC to reinspect termination and revise QCIR. (ESmith)

CORRECTIVE ACTION COMPLETION:

FCN E5836 has been issued to "spare" the O-BK Conductor.
Cable 2BB5619E from 2B56 has been reterminated. (GQuayle) 12/18/81

DATE OF C/A COMPLETION: 12/18/81

ORG. RESP FOR C/A:

FE/QC

PERSON MAKING C/A COMMITMENT:

GQuayle/JRussell

DATE OF C/A EFFECTIVENESS:

METHOD OF VERIFICATION:

Reviewed FCN E5836 and inspected termination 2BB5619E-1b.
Corrections have been made.

IS REPORTABLE FOR 2005/06/01:

YES

NO

IF "YES", DATE OF REPORT TO MRC:

N/A

IF "YES", TIME OF REPORT TO MRC:

N/A

IF "YES", NAME OF MRC OFFICIAL TO WHOM REPORTED:

IF "YES", WHO MADE REPORT:

N/A

N/A

ORIGINATOR'S SIGNATURE/DATE:

Mollie G. Leach 12-1-81

SUPERVISOR'S SIGNATURE/DATE:

M. J. Schaffer 12/23/81

VERIFICATION SIGNATURE:

Nonald Matt for DANNY COCHRAN

VERIFICATION DATE:

12/23/81



Consumers
Power
Company

AUDIT FINDING REPORT

QA50-1 Priority: 1 Trend: B-3, I-3 B-5, I-3 SUS: 2PEA AI: S-1171

IS CONDITION VERSUS "AS REQUIRED", "AS NEEDED" CONDITION WITH REFERENCES:

E-37 Circuit Schedule for Cable 2AG1108 B-2 (Code B27) from 2C15 to C231 shows Wire 12 Bk-W to be terminated. E-900 connection list shows wire No 12 as spare.

Contrary to the above: The E-37 and E-900 shows a conflict in whether wire 12 is to be used, or be a spare.

APR NO:	M-01-306-1-02 F
PROJ/DEPT AUDITED:	Bechtel Const/OC
DATE OF ISSUANCE:	12/1/81
FILE NUMBER:	18 4 3 4 5 18 4 3 6
DISTRIBUTION:	LEDavis
	WRBird JLWood
	CMC/KFH ALAB (2)
	JWCook
	MADietrich
	GSKeeley
	BWMarguglio
	DBMiller
	JARutgers
	ESmith
	DATaggart
	DMTurnbull
	RAWells

COMPLETED CORRECTIVE ACTION:

Engineer to research and correct error as required. Vendor Drawing to be revised and corrected if necessary.

CORRECTIVE ACTION COMPLIANCE:

FCN E5712 was written to revise connection list E-900 and vendor drawing M18-346-7B.ables have been reterminated. (GQuayle) 12/18/81

DATE OF C/A COMPLETION:	12/18/81	ORG. RESP FOR C/A:	FE	PERSON MAKING C/A COMPLIANCE:	GQuayle
DATE OF C/A EFFECTIVENESS:					

METHOD OF VERIFICATION:

Reviewed FCN E5712

IS REPORTABLE PER 2-551(a):	YES <input type="checkbox"/> NO <input checked="" type="checkbox"/>	IF "YES", DATE OF REPORT TO MRC:	N/A
IF "YES", TIME OF REPORT TO MRC:	N/A	IF "YES", NAME OF MRC OFFICIAL TO WHOM REPORTED:	
IF "YES", WHO MADE REPORT:	N/A		N/A
REPORTOR'S SIGNATURE/DATE:	Molley G. Leach 12-1-81	SUPERVISOR'S SIGNATURE/DATE:	M. J. S. Hunter 12/23/81
VERIFICATION SIGNATURE:	H. Knald T. Tott for Danny Cochran	VERIFICATION DATE:	12/23/81



Consumers
Power
Company
QA50-1

AUDIT FINDING REPORT

Priority: 1 Trend: B-3 B-4 SUS: 2BCA AI: S-1174

Is condition versus "as required" / "as needed" condition with suspension?

FPE 7.000. Paragraph 7.5 states in part, "Care must be exercised when removing the individual conductor insulation so that the integrity of the conductor strands is maintained."

Contrary to the above, conductor integrity was not maintained on the following cables:

- 2BSP048 T-2 at 2J1145
- 2BY006 D-1 at 2C14

AFR SER NO:
M-01-306-1-03 F

PROJ/DEPT AUDITED:
Bechtel Const/OC

DATE OF ISSUANCE:
12/1/81

FILE NUMBER:
18.4.3.4 & 18.4.3.6

DISTRIBUTION:

LEDavis
ESmith

WRBird RAWells
CMC/KFH JLWood
JWCook ALAB (2)
MADietrich
GSKeeley
BWMarguglio
DBMiller
JARutgers
ESmith
DATaggart
DMTurnbull

RECOMMENDED CORRECTIVE ACTION:

- 1) Re-terminate listed cables (LEDavis)
- 2) Terminations re-inspected (JRussell)

CORRECTIVE ACTION COMPLIANT:

- 1) Cables reterminated (GQuayle)
- 2) Terminations re-inspected (JRussell)

DATE OF C/A COMPLETION: 12/17/81

ORG. RESP FOR C/A:
FE/QC

PERSON MAKING C/A COMPLIANT:
GQuayle/JRussell

METHOD OF VERIFICATION:

Inspected terminations and reviewed QCIR for the listed cables.

IS AF REPORTABLE PER 30.35(a)? YES NO

IF YES, DATE OF REPORT TO SEC: N/A

IF YES, WHO MADE REPORT: N/A

IF YES, DATE OF REPORT TO SEC: N/A

IF YES, NAME OF SEC OFFICIAL TO WHOM REPORTED: N/A

AFR ORIGINATOR'S SIGNATURE/DATE:
Donald Pitt for DANNY COCHRAN 12/1/81

SUPERVISOR'S SIGNATURE/DATE:
M. J. Schaeffer 12/23/81

C/A VERIFICATION SIGNATURE:
Donald Pitt for DANNY COCHRAN

VERIFICATION DATE:
12/23/81

AUDIT REPORT

Name: Mr. D. Taggart L. R. Howell Mr. M. Turnbull A. L. Pucci Mr. R. Hells C. M. / K. F. H. Mr. J. Wood Mr. A. LaB (2) Mr. G. Anderson Mr. A. Burns Mr. R. Hinojosa	AUDIT NO:	M-01-302-1
	FILE NO:	18.4.9
	DATE OF AUDIT:	11/23/81 through 11/30/81
	ORGANIZATION AUDITED:	Bechtel QC and Construction
AUDIT REP. NUMBER/DATE:	APPROVED BY/DATE:	PLANT & PROJECT:
11/10/81 12/21/81	[Signature] 12/21/81	Midland 1 and 2

SCOPE AND OBJECTIVE

The scope and objective of this audit was to verify rework was being performed in the mechanical and electrical areas in accordance with the requirements established in 10CFR50, Appendix B and ANSI-N.45.2.

AUDIT TEAM

The audit was performed by the following personnel:

- L R Howell Audit Team Leader
- G R Anderson Auditor
- A R Burns Auditor
- R A Hinojosa Auditor
- A L Pucci Auditor-in-Training

PERSONNEL CONTACTED DURING AUDIT

<u>NAME</u>	<u>COMPANY</u>	<u>TITLE</u>	<u>ATTENDED ENTRANCE MTG</u>	<u>ATTENDED EXIT MTG</u>
M Berghoff	CPCo	Construction - F E	X	X
R Black	Bechtel	Electrical - F E		X
W Creel	Bechtel	Ld Quality Control Eng		X
B Foote	Bechtel	Quality Control Admin Asst	X	X
D Hendricks	Bechtel	Electrical - F E		X
R Marl	Bechtel	Asst Ld Mech - F E	X	X
J Stubbs	Bechtel	Action Item Coord	X	X

AUDIT SUMMARY

- A. The pre-audit Entrance Meeting was held on November 23, 1981 with personnel in attendance as noted in the aforementioned paragraph. The audit team was introduced and the audit scope, plan schedule and planned exit meeting was discussed.
- B. The audit checklist was developed using the Federal Code of Regulations; Title 10; Part 50; Appendix B and ANSI-N45.2.
- C. The audit resulted in one (1) finding, which was issued closed. The audit finding report is attached to this report.
- D. No observations were generated as a result of this audit.
- E. No special instructions were given.

AUDIT REPORT

(CONTINUED)

F. The post-audit exit meeting was held on November 30, 1981, with the personnel noted in Paragraph III.

EVALUATION OF EFFECTIVENESS

The review for implementation of rework procedures and the verification of rework activities was performed. The audit indicated that there are no procedures for rework, however, both Quality Control and Construction have generated Administrative Guidelines to accomplish this task. Therefore, the effectiveness was evaluated using both the Federal Code, ANSI and the guidelines, which the two parties comply with. With the exception of the audit finding, Quality Control and Construction are implementing the codes and guidelines effectively.

LIST OF ATTACHMENTS

1. Audit Plan - Fily copy only.
2. Completed Checklist - Fily copy only.
3. Audit Finding Report - M-01-302-1-01.



AUDIT FINDING REPORT

Priority: N/A Trend: B-3, B-3, SUS: NTSHEZ AT: S-1170

Dwg 7220-E-42(Q) Sh 133, Rev 0, Detail 22B (attached) show the required bracing for a Type 22 or 22A Tray Support.

Contrary to the above, Cable Tray Support 750/25A does not have the Bottom Horizontal Member secured to the Vertical Member.

NOTE: This item has not been checked by Quality Control yet.

AFR SER NO
M-01-302-1-1 F

PROJ/DEPT AUDITED:
Bechtel Const & OC

DATE OF ORIGINAT ON:
11/25/81

FILE NUMBER: 18.4.3.4

DISTRIBUTION:

- WRBird
- CMG/KFH
- JWCook
- MADietrich
- GSKeeley
- BWMarguglio
- DBMiller
- JARutgers
- ESmith
- DATaggart
- DMTurnbull
- RAWells
- JLWood
- ALAB-2

RECOMMENDED CORRECTIVE ACTION:
Install and Bolt a P1332 Shelf Bracket to the Vertical Member and the Horizontal Member.

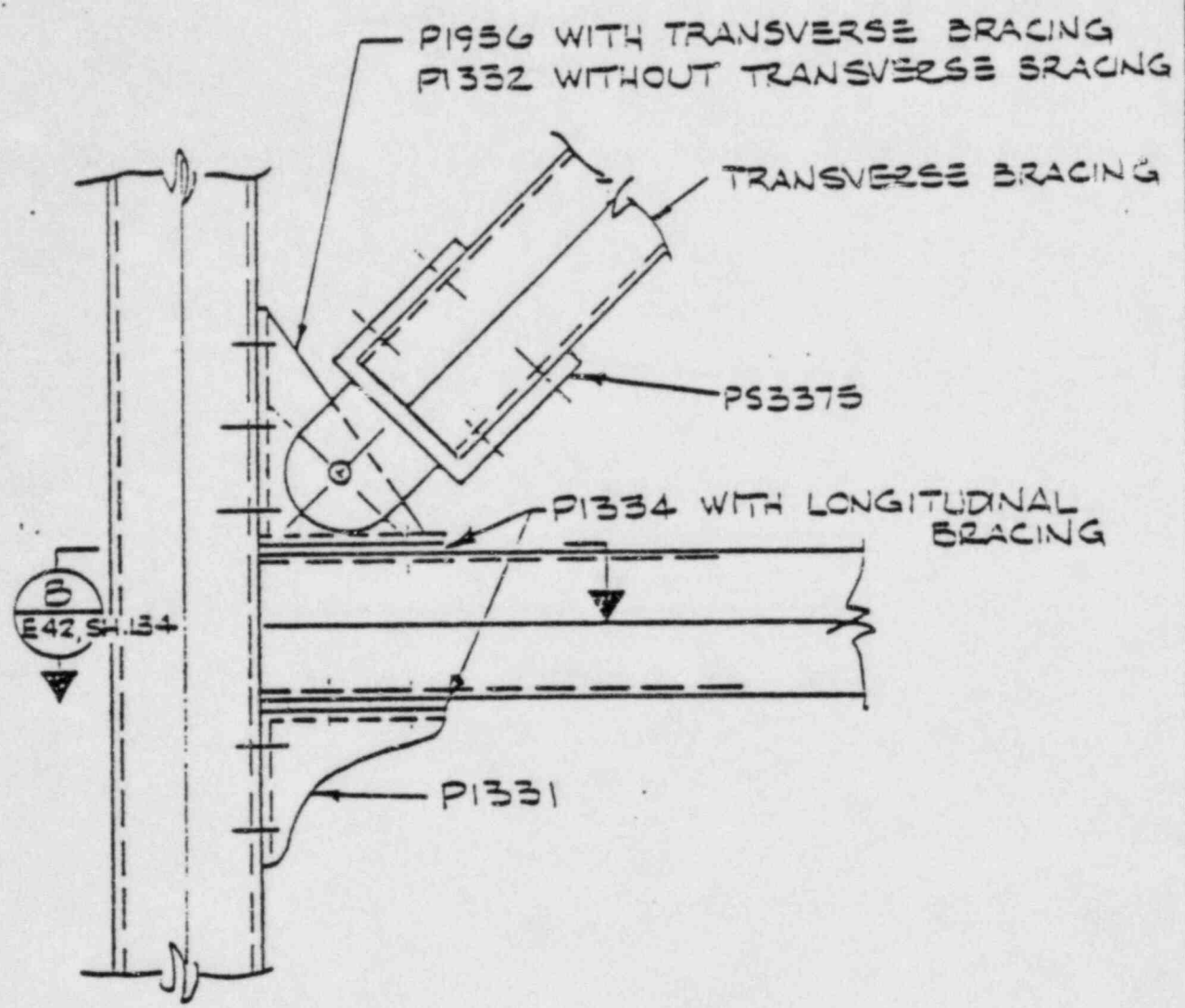
CORRECTIVE ACTION COMMITMENT:

DATE OF C/A COMPLETION:	ORG. RESP FOR C/A: Bechtel Const	PERSON MAKING C/A COMMITMENT: J Armando
DATE OF C/A EFFECTIVENESS:		


METHOD OF VERIFICATION:
Visual Inspection to verify installation of shelf bracket.

IS AF REPORTABLE PER 50.55(a): YES <input type="checkbox"/> NO <input checked="" type="checkbox"/>	IF "YES", DATE OF REPORT TO NRC: N/A
IF "YES", TIME OF REPORT TO NRC: N/A	IF "YES", NAME OF NRC OFFICIAL TO WHOM REPORTED: N/A
IF "YES", WHO MADE REPORT: N/A	
AFR ORIGINATOR'S SIGNATURE: <i>Knud H. Knudsen</i>	SUPERVISOR'S SIGNATURE: <i>Lee R. Howell 12-2-81</i>
C/A VERIFICATION SIGNATURE: <i>Knud H. Knudsen</i>	VERIFICATION DATE: 12/2/81

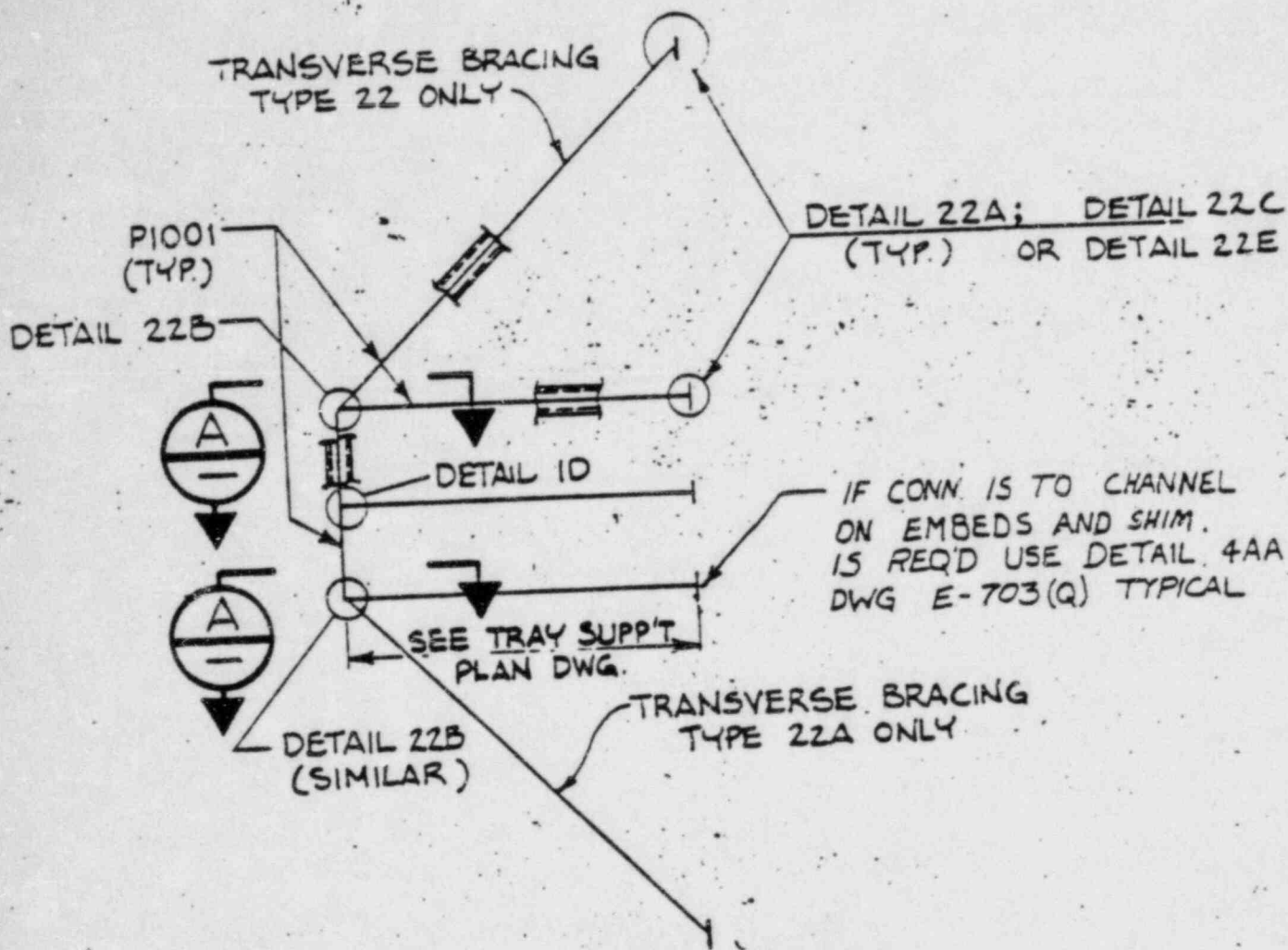
This drawing and the design it covers are the property of BE CIE. It is to be used only for the project and location specified. It is not to be reproduced, copied, loaned, exhibited, or used except in the form and for the purpose intended.



DETAIL 22B

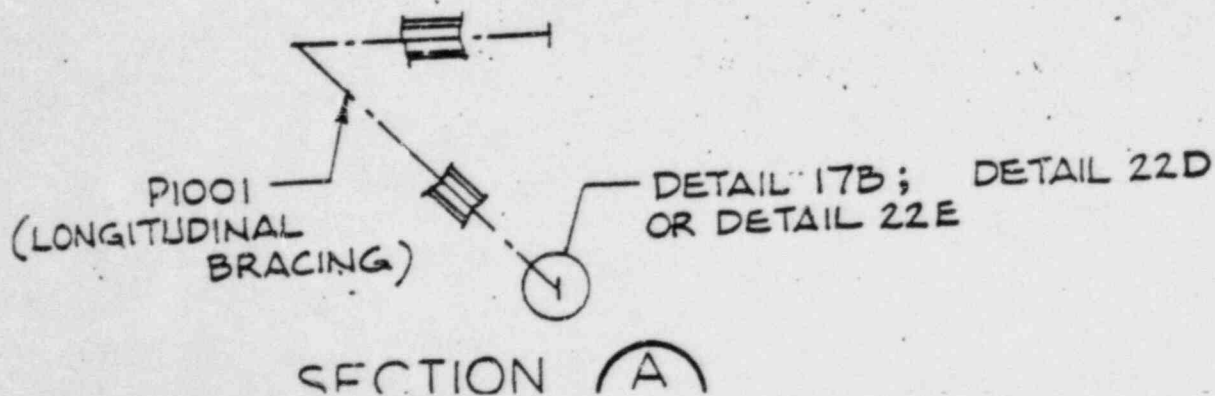
△									
△									
△	2-10-77	ISSUED FOR CONSTRUCTION	GLM	RLP	HY	WTR	11/1/77		
NO.	DATE	REVISIONS	BY	CHK'D	GROUP LEAD	GROUP SURV.	PROJ. ENGR.	CHIEF ENGR.	
SCALE NTS		DESIGNED	DRAWN GLM						
ORIGIN		MIDLAND PLANT UNITS 1 & 2				JOB No. 7220			
		CONSUMERS POWER COMPANY				DRAWING No.			
		CONDUIT AND TRAY				REV			
		NOTES, SYMBOLS AND DETAILS				E-42 (D) SHE. 133			
									0

A.A.G. 1226/3
 "A" SIZE



SUPPORT TYPES 22 & 22A

- NOTES:
- 1.) LONGITUDINAL BRACING NEEDED WHEN SHOWN ON LAYOUT DWG.
 - 2.) FOR 2 LAYERS, LOCATE LONGITUDINAL BRACING AT CONNECTION WITHOUT TRANSVERSE BRACING UNLESS NOTED OTHERWISE ON PLAN DRAWING.





Consumers
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Company
QASO-C

019130

AUDIT FINDING REPORT

PROJECTS, ENGINEERING AND CONSTRUCTION -
QUALITY ASSURANCE DEPARTMENT

IS CONCLUSION VERIFIED AS REQUIRED? / AS NEEDED? COMPLETE WITH REFERENCES:

Bechtel commitment in the FSAR under "Interrupting Capacities" in Section 8.3 states: The magnitude of short circuit currents in low voltage system is determined in accordance with ANSI C37.13, 1973.

Contrary to the above, CPDC, PE-20, Rev. 0 dated 11/17/75 [short circuit calcs for motor control center (MCC)] did not reference ANSI Standard or comply with its requirements.

AFR NO: M01-202-0-02

PROJ/DEPT ASSIGNED: Midland/Electrical

DATE OF ORIGINATION: 12/18/80

FILE NUMBER: - - -
RCBaumen JARutgers
WRBird CTSpringer
[REDACTED] DATaggart
JWCook JLWood
LHCurtis D2.4.1
MADietrich
GREagle
LJGrant
RCHollar
EMHughes
MWKirkland
JGKovach
BWMarguglio
DNReia

RECOMMENDED CORRECTIVE ACTION:

- Revise calculation and implement the requirement of ANSI C37.13, 1973.
- Each MCC should be checked to verify its component interrupting rating adequacy.
- Develop solution as appropriate.

CORRECTIVE ACTION COMMENT:

This is engineering's complete response to the above AFR. Calculation PE-20 has been revised to include the following:

- Requirements of ANSI C37.13-1973
- The MCC with the least feeder cable (ie. the "worst case") was checked for short circuit current capability including pressurizer heater control centers. The "worst case" was acceptable. In addition, the MCC (Cont. on next page)

DATE OF C/A COMPLETION:)
DATE OF C/A EFFECTIVENESS:) April 30, 1981

ORG. RESP FOR C/A:
Electrical

PERSON MAKING C/A COMMENT:
B.P. Kononetz

METHOD OF VERIFICATION: Calculation PE-21Q Rev. 1 dated 1/19/82 has addressed the above deficiencies as required. The corrective action is complete and adequate.

CLOSED

IS AF REPORTABLE PER 50.55(a)? YES NO

IF "YES", DATE OF REPORT TO REC:

IF "YES", TIME OF REPORT TO REC: N/A

IF "YES", NAME OF REC OFFICIAL TO WHOM REPORTED:

IF "YES", WHO MADE REPORT: N/A

ORIGINATOR'S SIGNATURE:
D. B. Reia

SUPERVISOR'S SIGNATURE:
[Signature]

C/A VERIFICATION SIGNATURE:
[Signature]

VERIFICATION DATE:
1/28/1982

019130

AFR M01-202-0-02
Corrective Action Commitment
(Cont.)

controller component interrupting rating adequacy is not a part of this calculation but is covered in calculation PE-21.

*R.C. Hollen for
L.H. Curtis*

cc. B. R. Kappel
Lynn Curtis

Com Use: Closes Com 19130
Written Reply Requested: No



AUDIT REPORT

PROJECTS, ENGINEERING
AND CONSTRUCTION -
QUALITY ASSURANCE DEPARTMENT

PAGE 1 OF 3

RCash WRBird DCalkins JWCook MADietrich RGreune GSKeeley			HPLeonard BWMarguglio RBMcCarley DBMiller JARutgers ESmith DATaggart			RAWells ALAB-2 LEDavis			RECEIVED JAN 23 1982 C. P. Co. Legal			AUDIT NO: M01-600-1		
SUS. OF AUDIT TEAM LEADER/DATE: <i>Susan Bandla</i> 12/16/81			APPROVED BY/DATE: <i>[Signature]</i> 12/16/81			FILE NUMBER: 18,47			DATE OF AUDIT: 11-23-81 to 11-25-81			ORGANIZATION AUDITED: The Zack Company		
						PLANT & PROJECT: Midland Plant, Units 1 & 2								

I. SCOPE AND OBJECTIVE

The objective of the audit was to verify Zack Company compliance with the applicable portions of the program relative to the control of weld filler metal and welder qualification/certifications at the Midland Plant.

The audit scope included those activities described in the following procedures:

- A) FQCP-6, "Weld Rod Control," Rev. 6
- B) WPS-7, "Qualification/Certification of Welders using GMAW, SMAW and CAW Processes," Rev. 7

II. IDENTIFICATION OF AUDITORS

The audit was performed by the following personnel:

- SEBandla - Audit Team Leader (MPQAD)
- EWGoold - Auditor-in-Training (MPQAD)
- GEParker - Auditor-in-Training (MPQAD)

III. PERSONS CONTACTED DURING THE AUDIT

The following personnel were contacted during the audit:

Name	Organization	Title	Audit Entrance	Audit	Audit Exit
DMonroe	Zack	Project Engineer	X		
JO'Connell	Zack	Field Engineer	X	X	X
RBasiaga	Zack	Welding Engineer	X	X	X
LRetlewski	Zack	Project Superintendent		X	
RMcCarley	Zack	Project Manager		X	
RBrown	Zack	Fab Shop Foreman		X	
SBandla	MPQAD	Audit Team Leader	X		X
EGoold	MPQAD	Auditor-in-Training	X		X
GParker	MPQAD	Auditor-in-Training	X		X
RLuis	Bechtel	Lead HVAC S/C Engineer	X		X



AUDIT REPORT

IV. AUDIT SUMMARY

- A) A pre-audit entrance meeting was held on November 23, 1981 with personnel in attendance as noted in paragraph III. The audit scope, plan, tentative schedule and audit finding procedure were discussed. Contacts for the various phases of the audit were identified.
- B) Checklists for this audit were developed from the Zack procedures noted in paragraph I. Specific sections audited were as noted on the completed checklists. Data was collected by proceeding through the checklists for each procedure audited. All checklists employed during the course of the audit are attached to the file copy of this report.
- C) The audit resulted in two (2) findings, one (1) unresolved item and one (1) observation.
- D) The following observation was made as a result of this audit:

Section 7.10 of WPS-7, Rev. 7, Maintenance of Welder Qualification, states "The PM maintains sufficient documented evidence, in the form of a log, completed weld filler metal issue tags, etc., which demonstrates the maintenance of each welder's qualifications per the requirements of AWS D1.1-79, Section 5.30 and AWS D1.3-78, Section 6.8.2.11." No log or file of completed weld filler metal issue tags to demonstrate maintenance of each welder's qualification was found.

However, documented evidence (in the form of the welder's ID listed on travelers/ NCR's for work performed during the past six months) was provided, as requested for the following:

<u># of welders for which evidence was provided</u>	<u>population</u>	<u>weld procedure specification</u>
1	3	WPS-1
7	59	WPS-2
2	7	WPS-6

Travelers do provide documentation demonstrating maintenance of a welder's qualification. However, they do not provide timely identification of failure to maintain welder qualifications.

It is recommended that documentation be established and updated periodically to demonstrate continuously that each welder is maintaining qualifications, as required by AWS D1.1-81, Section 5.30 and AWS D1.3-78, Section 6.8.2.11.

A response to this observation is requested by January 4, 1982. (AI: S-1191, SUS: DCUMHO, PRIORITY: 5, TREND: Do not Trend).

- E) The post-audit exit meeting was held November 25, 1981 with those in attendance as noted in paragraph III. At that time, two (2) draft audit findings, one (1) unresolved item and one (1) observation were presented and discussed. One (1)



AUDIT REPORT

audit finding was considered an isolated case, was corrected prior to the exit meeting and is issued closed. Commitment dates for responses to all items were agreed upon. Zack is encouraged to begin corrective action as soon as possible.

F) Responses to the audit finding, observation and unresolved item are to be forwarded to MPQAD HVAC.

V. EVALUATION OF EFFECTIVENESS

Use of the procedures listed in paragraph I was satisfactory. However, there are some questions regarding the purpose for the Filler Metal Withdrawal Authorization Form (unresolved item) and the need to provide a method for a more timely identification of when a welder's qualification will expire (observation). Resolution of these questions should minimize potential conflicts of interpretation for form use and provide a more exact method for controlling welder qualification update.

VI. LIST OF ATTACHMENTS

- 1) Audit Finding Reports M01-600-1-01 and M01-600-1-02
- 2) Unresolved Item M01-600-1-01U
- 3) Audit Plan (file copy only)
- 4) Completed Checklists (file copy only)
- 5) Audit Entrance/Exit Meeting Attendance Sheets (file copy only)



Consumers Power Company

PROJECTS, ENGINEERING AND CONSTRUCTION - QUALITY ASSURANCE DEPARTMENT

AUDIT FINDING REPORT

AS IS" CONDITION VERSUS "AS REQUIRED" / "AS NEEDED" CONDITION WITH REFERENCES:

1. The following nonconformances were found against the implementation of WPS-7, Rev. 7 (217 welder qualification/certification forms were reviewed).
 - a) Contrary to Sections 6.1 and 7.1 of WPS-7, Rev. 7, the qualification statements on the welder's qualification/certification form for WPS-2 were found to be inconsistent with the test results. See Attachment #1.
 - b) Contrary to Sections 6.2 and 6.3 of WPS-7, Rev. 7, the specifications listed in Attachment #2 were found to be missing or incorrect on the welder qualification/certification forms for WPS-2. See Attachment #2.
 - c) Contrary to Section 6.1 of WPS-7, Rev. 7, one welder qualification/certification form for WPS-2 was found to be used to test, qualify and certify a welder for WPS-1, Flare-V (cont.)

APR SER NO: M01-600-1-01

PROJ/DEPT AUDITED: Zack Co/Site

DATE OF ORIGINATION: 11-25-81

FILE NUMBER: 18.4.7

DISTRIBUTION:

- RCash DCalkins
- WRBird RGreune
- JWCook RBMcCarle
- GSKeeley LEDavis
- MPLeonard MADietrich
- BWMarguglio
- DBMiller
- JARutgers
- ESmith
- DATaggart
- PAWells
- PLAB - 2

RECOMMENDED COLLECTIVE ACTION:

1. Review all welder qualification/certification forms for:
 - a) Qualification statements inconsistent with the test results listed on that form. (continued on page 2)

CORRECTIVE ACTION COMMITMENT:

A response to this item is requested by 1/4/82.

DATE OF C/A COMPLETION:

DATE OF C/A EFFECTIVENESS:

ORG. RESP FOR C/A:

Zack Company

PERSON MAKING C/A COMMITMENT:

J. O'Connell

METHOD OF VERIFICATION:

IS AF REPORTABLE PER 90.25(a)?

YES NO

IF "YES", DATE OF REPORT TO NRC:

N/A

IF "YES", TIME OF REPORT TO NRC:

N/A

IF "YES", NAME OF NRC OFFICIAL TO WHOM REPORTED:

N/A

IF "YES", WHO MADE REPORT:

N/A

APR ORIGINATOR'S SIGNATURE:

Ernest A. Deald 12-15-81 *ld*

SUPERVISOR'S SIGNATURE:

J. O'Connell 12/16/81

C/A VERIFICATION SIGNATURE:

VERIFICATION DATE:

AFR: M01-600-1-01
DATE: 11-25-81
FILE: 18.4.7
ATTACHMENT #2
Page 1 of 1

<u>Type of joint</u>	<u># reviewed</u>	<u># missing/incorrect</u>	<u>descriptions</u>
7.2D Sheet-to-Sheet T-joint, Fillet Weld	73	20	Sheet steel speci- fication was found to be missing.
Sheet-to-Sheet T-joint, Fillet Weld	73	23	Filler Metal Speci- fication was listed as A5.3/4. (not A5.1 per WPS-2).
Sheet-to-Sheet T-joint, Fillet Weld	73	17	Filler Metal Speci- fication was listed as A5.0 (not A5.1 per WPS-2).

Type of joint per WPS-7	# reviewed	# qualification statements found incorrect	position/progression in qualification statement not found in test results
Test 7.2G Structural-to-Structural Groove Weld	61	27	Vertical - position Down - progression

This problem is limited to the individual's welder qualification/certification form. None of the above 27 welders are listed as qualified to the Structural-to-Structural, Groove Weld in the Vertical-position with progression-down in the Welder Qualification Report (used by production and QC as the welder qualification document) published by MPQAD - HVAC Section.

Test 7.2D Sheet-to-Sheet T-Joint, Fillet Weld	73	7	Vertical - position Down - progression
"	73	5	Vertical - position Up - progression
"	73	1	Overhead - position

This problem is also limited to the individual's welder qualification/certification form. In each of the above instances the welder has qualified to the Vertical-position; Up and Down progressions and Overhead-position on separate tests, as noted on separate welder qualification/certification forms.

Test 7.2C Sheet-to-Sheet T-Joint, Fillet Weld	1	1	Vertical - position Down - progression
--	---	---	---

This problem is limited to individual's welder qualification/certification form. The welder qualification report does not list this qualification for the welder.

Type of joint per WPS-7	# reviewed	# qualification statements found incorrect	position/progression in qualification statement not found in test results
Test 7.2F			
Sheet-to-Sheet Flare-V, Groove Weld	34	9	Vertical - position Down - progression
"	34	5	Vertical - position Up - progression

This problem is limited to the individual's welder qualification/certification form for 13 of the above 14 instances. In 13 instances the welder has qualified to the Vertical-position with (Up and Down) progressions on separate tests, as noted on separate welder qualification/certification forms. In one instance, no test results were found to indicate the welder qualified to the Vertical-position, Down-progression. The Welder Qualification Report (used by production and QC as the document signifying welder qualification) incorrectly lists this welder as being qualified to this weld in the Vertical-position with Down-progression.

Test 7.2A			
Sheet-to-Sheet Square Groove-Butt Joint	23	13	All positions not qualified for 22 GA. or (20 and 22 GA.)
"	23	1	Vertical - position Down - progression for 16 GA.

This problem is limited to the individual's welder qualification/certification form. In the first 13 instances the welder's qualifications, as indicated by the test results are accurately reflected in the Welder Qualification Report. In the last instance the welder was qualified to the Vertical-position with Down-progression in separate test results on a separate welder qualification/certification form.

RECOMMENDED CORRECTIVE ACTION (CONTINUED FROM PAGE 2)

2. In accordance with WPS-7, Rev. 7 provide corrections to the deficient welder qualification/certification forms identified in corrective action 1a, b, c, d and e above.
3. a) Provide documentation identifying correct sheet steel and filler metal specifications for welder's qualification/certification forms found in corrective action 1b above, and correct those welder's qualification/certification forms per WPS-7, latest revision.
b) Or requalify welder(s), if applicable.
c) Identify and evaluate all applicable work that individual(s) welded, if unable to requalify.
4. Review unused welder qualification/certification forms on hand for accuracy of pre-printed information. Remove and destroy all unused forms containing inaccurate information.
5. Provide training to cognizant personnel for recording data per WPS-7, latest revision.



AUDIT FINDING REPORT

AS IS CONDITION VERSUS AS REQUIRED / AS NEEDED CONDITION WITH REFERENCES:

1. Paragraph 7.6 of FQCP-6, Rev. 4 requires that "Holding oven shelf marking, due to heat, is applied to the exterior side of the door" (Vice marking shelves inside oven). One oven checked since there is only one oven.

Contrary to the above, a label (shelf marking) on the oven door contained information indicating that both 1/8" and 3/32" 7018 rod was contained inside on respective shelves. In fact, there was no 3/32" rod inside.

The label was corrected to show only the type of rod actually inside the oven.

2. Paragraph 7.11.1 of FQCP-6, Rev. 4 requires that the 'F, GF or PS removes the electrode (rod) from the portable rod warmer caddies and returns it to the holding oven...' Approximately 15 warmer caddies were checked.

Contrary to the above, a warmer caddy (Z024) was found
(continued)

APR SER NO	M01-600-1-02
PROJ/DEPT AUDITED	Zack - Midland
DATE OF ORIGINAT ON	11-25-81
FILE NUMBER	18,4,7
DISTRIBUTION:	
RCash	DCalkins
WRBird	RGreune
JWCook	RBMcCarley
GSKeeley	MADietrich
HPLeonard	LEDavis
BWMarguglio	
DBMiller	
JARutgers	
ESmith	
DATaggart	
RAWells	
ALAB-2	

RECOMMENDED CORRECTIVE ACTION:

Both conditions were corrected at the time of the audit.

CORRECTIVE ACTION COMMITMENT:

None required, isolated case.

DATE OF C/A COMPLETION:	N/A	ORG. RESP FOR C/A:	N/A	PERSON MAKING C/A COMMITMENT:	N/A
DATE OF C/A EFFECTIVENESS:	N/A				

METHOD OF VERIFICATION:

Conditions noted were corrected and verified at the time of the audit. This audit finding is issued closed.

IS AF REPORTABLE PER 50.55(*):	YES <input type="checkbox"/> NO <input checked="" type="checkbox"/>	IF "YES", DATE OF REPORT TO NRC:	N/A
IF "YES", TIME OF REPORT TO NRC:	N/A	IF "YES", NAME OF NRC OFFICIAL TO WHOM REPORTED:	N/A
IF "YES", WHO MADE REPORT:	N/A		
AFR ORIGINATOR'S SIGNATURE:	<i>Geoffrey E Parker</i> 12/15/81	SUPERVISOR'S SIGNATURE:	<i>[Signature]</i> 12/16/81
C/A VERIFICATION SIGNATURE:	<i>Geoffrey E Parker</i> Set	VERIFICATION DATE:	11-25-81



Consumers
Power
Company
QA76-0

UNRESOLVED ITEM

PROJECTS, ENGINEERING
AND CONSTRUCTION -
QUALITY ASSURANCE DEPARTMENT

6. DESCRIPTION OF UNRESOLVED ITEM:

Zack Procedure MP-FQCP-6, Rev. 4, paragraph 7.9 requires the following:

"Issuance and return of weld filler metal is controlled through the use of a Filler Metal Withdrawal Authorization form. This form is initiated and maintained with the issued material from the time it is issued and until it is returned. Filler Metal Withdrawal Authorizations forms are destroyed following the return of the unused weld filler material."

During the course of the audit, controls relative to paragraph 7.9 were surveyed. It was found that the "cold" rod caddies had been modified to provide a pocket in which to keep the Authorization form. However, neither the warmer caddies or the weld machines (wire spools) had any provision for easily keeping the Authorization form with the issued material (rod or wire). Consequently, the welder responsible for the Authorization form as well as the issued material, would keep the Authorization form on his person or with his caddy to avoid loss. In two cases, the issued material was some distance from the Authorization form. In one of those two cases, the Welder with the form was on elevation 569' while the wire spool and welding machine were on elevation 634'.

(continued on page 2)

1. URI NO:

M01-600-1-01U

2. PROJ/DEPT AUDITED:

Zack - Midland Plant

3. DATE OF ORIGINATION:

11-23-81

4. FILE NO:

18.4.7

5. DISTRIBUTION:

RCash	DCalkins
WRBird	RGreune
JWCook	RBMCarley
GSKeeley	LEDavis
HPLeonard	MADietrich
BWMarguglio	
DBMiller	
JARutgers	
ESmith	
DATaggart	
RAWells	
ALAB-2	

7. REQUIRED ACTION:

- Determine purpose for the controls imposed by FQCP-6, especially those in paragraph 7.9.
- Determine if procedure FQCP-6, should be revised to more clearly meet the purpose.
- Provide a written explanation of the purpose and any proposed revision, clarify that purpose.

8. ACTION REQUIRED FROM: Zack

9. ACTION REQUIRED BY-DATE: 1-4-82

10. RESPONSE TO URI:

11. URI ORIGINATOR'S SIGNATURE/DATE:

Stephen S. Parker 12-15-81

12. SUPERVISOR'S SIGNATURE/DATE:

[Signature] 12/16/81

13. URI CLOSURE-BASED ON:

RECEIPT OF
ACCEPTABLE
RESPONSE

ISSUANCE OF
AFR

14. AFR NO _____

15. CLOSED BY-SIGNATURE/DATE:

URI: M01-600-1-01U
PROJ/DEPT: Zack - Midland
DATE: 11-23-81
FILE: 18.4.7
Page 2 of 2

6. DESCRIPTION OF UNRESOLVED ITEM:

(continued from Page 1)

There did not seem to be any loss of material control since the wire spool was under lock and key and could be opened only by the welder operator who had the Authorization form on his person. Further evaluation brought the following question to mind; i.e., is the issuance of the Authorization form to control the issued material or the welder responsible for the issued material?

M10-79



Consumers Power Company

PROJECTS, ENGINEERING AND CONSTRUCTION - QUALITY ASSURANCE DEPARTMENT

AUDIT FINDING REPORT

UFI 73*03*03

Trend F3 AI S864 SUS Indeterminate

Priority 5

AS IS CONDITION VERSUS AS REQUIRED / AS NEEDED CONDITION WITH REFERENCES:

QA Plan Procedure 4.6, Paragraph 5.6 states "Calibrations shall be performed using reference standards traceable to the National Bureau of Standards or shall be the self-ratio type of calibration."

Contrary to the above, a review of NDE calibration and certification equipment documentation indicates the reports/data sheets do not provide a block entry or line space for recording the serial numbers of calibration standards used for calibration of ultrasonic equipment. To maintain traceability, reports must provide a complete history of examinations (equipment, materials, standards, etc) that are traceable to known standards, directly or indirectly.

This is one item of of twelve reviewed for similar information.

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JAN 28 1982

C.P. Co. Legal

AFR SER NO: M-01-21-1-01

PROJ/DEPT AFFECTED: Sechtel/
GEO Const. Testing

DATE OF ORIGINATION: 6-11-81

FILE NUMBER: 18.4.7

DISTRIBUTION:
WRBird JEBrunner
JWCook RAWells
~~PECooke~~ JLWood
MADietrich
~~WDGreenwell~~
PJHerbert
GSKeeley
BWMarguglio
DEMiller
JARutgers ALAB (2)
ESmith
DATaggart
MPQAD Routing
-SKT/GAE

RECOMMENDED CORRECTIVE ACTION:

- 1) Revise existing calibration report form to incorporate calibration block (standard) serial number as that used in calibrating machine/equipment.
- 2) Provide justification for deviation from traceability requirement. (cont on other side)

CORRECTIVE ACTION COMMITMENT:

Corrective action commitment will be provided 14 days after receipt of audit report.

DATE OF C/A COMPLETION:

ORG. KEEP FOR C/A:

PERSON MAKING C/A COMMITMENT:

DATE OF C/A EFFECTIVENESS:

Subcontracts

TCash

METHOD OF VERIFICATION:

N/A Review of documentation indicates AFR should not have been issued.

IS AF REPORTABLE PER 50.55(a): YES NO

IF "YES", DATE OF REPORT TO SRC:

N/A

IF "YES", TIME OF REPORT TO SRC:

N/A

IF "YES", NAME OF SRC OFFICIAL TO WHOM REPORTED:

N/A

IF "YES", WHO MADE REPORT:

N/A

AFR ORIGINATOR'S SIGNATURE:

SUPERVISOR'S SIGNATURE:

DR Keating 6-17-81

C/A VERIFICATION SIGNATURE:

TRC Tony Charlotte

VERIFICATION DATE:

1/25/82



AUDIT FINDING REPORT

UFI 73*03*03

Trend F3 AI S867 SUS Indeterminate

Priority 5

AS IS' CONDITION VERSION 'AS REQUIRED' / 'AS NEEDED' CONDITION WITH REVISIONS:

GEO Construction - QA Plan Test and Inspection Procedure 3.23.A.1, Revision 2, Paragraph 5.1 states: "Penetrant materials shall be selected from Table 1. Intermixing penetrant materials from different manufacturers or family groups is not permitted."

NOTE: Table 1 shows only (1) manufacturer and only (1) penetrant family.

Contrary to the above, a review of material certifications indicated that several batches of penetrant materials other than those listed in Table (1) of penetrant procedure 3.23.A.1 are being used presently and have been used in the past.

APR SER NO:
M-01-21-1-04
PROG/DEPT AUDITED: Bechtel/
GEO Const. Testing
DATE OF ORIGINATOR:
6-11-81
FILE NUMBER:
18.4.7
DISTRIBUTION:
WRBird JEBrunner
JWCook RAWells
TFcooke JLWood
MADietrich ALAB(?)
WDGreenwell
PJHerbert-
GSKeeley
BWMarguglio
DBMiller
JARutgers
ESmith
DATaggart
MPQAD Routing
SKT/CAG--

RECOMMENDED CORRECTIVE ACTION:

- 1) Provide justification for deviation from procedure requirements.
- 2) Review NDE reports past and present and determine (provide verification) that materials used were not detrimental to any items on which they were used.

CORRECTIVE ACTION COMMITMENT:

Corrective action commitment will be provided 14 days after receipt of audit report.

DATE OF C/A COMPLETION:

ORG. RESP FOR C/A:

PERSON MAKING C/A COMMITMENT:

DATE OF C/A EFFECTIVENESS:

Subcontracts

RCash

METHOD OF VERIFICATION:

Reviewed BPCo letter BCCC-6171 w/attached GEO response PBT-206-435

IS AF REPORTABLE PER 50.55(e): YES NO

IF "YES", DATE OF REPORT TO HRC:
N/A

IF "YES", TIME OF REPORT TO HRC:
N/A

IF "YES", NAME OF HRC OFFICIAL TO WHOM REPORTED:

IF "YES", WHO MADE REPORT:
N/A

N/A

AFR SIGNATURE'S SIGNATURE:

SUPERVISOR'S SIGNATURE:

[Signature]

[Signature] 6-17-81

C/A VERIFICATION SIGNATURE:

VERIFICATION DATE:

TRC *Tony R. Charlette*

1/25/82

COMPANY
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 JAN 21 1982
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 CONSUMERS POWER CO.

Bechtel Power Corporation
 VMS
 JPF
 Post Office Box 2167
 Midland, Michigan 48640
 RFK
 REM
 January 11, 1982
 ALM
 BHP
 NJS
 TAB

FIELD QUALITY ASSURANCE JAN 12 1981
 MIDLAND, MICHIGAN

Consumers Power Company
 P. O. Box 2167
 Midland, MI. 48640

Site Mgr.
 Midland Project

Is this issue now closed?

Attention: W. Bird

Job 7220 Midland Project
 Subcontract 7220-FSC-206
 Response to Audit Report
 Number M-01-21-1
 BCCC-6171

Dear Mr. Bird:

- References:
- 1.) MPQAD Audit Report No. M-01-21-1, dated May 13 through May 28, 1981.
 - 2.) BPCo to GEO letter FSC-206-B-373, dated July 24, 1981.
 - 3.) GEO to BPCo letter PBT-206-389, dated August 3, 1981.
 - 4.) BPCo to MPQAD letter BCCC-5758, dated August 21, 1981.
 - 5.) MPQAD to BPCo, Letter File 18.4.7, Serial 12584 A1:S-685, dated August 27, 1981.
 - 6.) BPCo to GEO letter FSC-206-B-385, dated September 2, 1981.
 - 7.) GEO to BPCo letter PBT-206-411, dated October 2, 1981.
 - 8.) BPCo to MPQAD letter BCCC-5908, dated October 21, 1981.
 - 9.) MPQAD to BPCo letter, File 18.4.7, Serial 14457 A1:S-685, dated November 5, 1981.
 - 10.) BPCo to GEO letter FSC-206-B-407, dated November 23, 1981.
 - 11.) BPCo to GEO letter FSC-206-B-415, dated December 22, 1981.
 - 12.) GEO to BPCo letter PBT-206-435, dated December 30, 1981.

This letter is in response to your letter, reference No. 9 above, in which you requested further subcontractor response relative to the above subject Audit Report.

Attached, for your information and files, is a copy of GEO Construction Testing letter, reference No. 13 above, which constitutes the requested response.

THIS COPY FOR

ACTION PRINT	TRC
INFO PRINTS	CME
MPQA ROUTING	DMT
PRINT TO FILE	
ORIG TO FILE	16.0

ird
5171
e 2

This formal response from GEO Construction Testing closes this finding and no further action will be required unless requested by future correspondence.

Very truly yours,


L. E. Davis
Site Manager

LED/RCA/DAP/ck

Attachment: GEO letter PBT-206-435.

cc: J. Cooke - Jackson w/a
B. Peck - w/a
G. Keeley - w/a
B. Marguglio - w/a
D. Turnbull - w/a
D. Miller - w/a
D. Taggart - Jackson w/a

Bechtel Power Corporation
Page 2
December 30, 1981

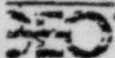
If you establish a requirement for serialization and traceability of such self-ratio type of ultrasonic calibration standards, over and above the code requirements, we will certainly revise our procedures accordingly, and furnish such standards.

Item 2, M-01-21-1-04

We have fully complied with your request. Corrective action taken is as follows:

- a) Procedure 3.23.A.1 was revised under new corporation name (GEO) and procedure number (23.A.1) to expand Table 1, permitting other manufacturers brand of penetrant materials and submitted for review.
- b) A training session was held for the cognizant inspection personnel, instructing them in the requirements of procedure and the importance of using only approved penetrant materials. Documentation of this session is on file in the GEO project office.
- c) A review of NDE reports was made which revealed that only two (2) types of penetrant materials were used (S & NF). Both of these materials are of the same manufacturer, the same sensitivity, and are fully interchangeable. This is substantiated by a report from the material manufacturer (Magnaflux Corporation). A copy of this report was submitted to you as an attachment to our Letter PBT-206-389 (Reference a), and is also on file in the GEO project office.
- d) The use of Type S material was discontinued immediately, only Type NF material is currently being used.
- e) Our Project Manager performs receiving inspection on all penetrant material supplied by Bechtel to assure only those materials in complete compliance with the applicable procedure, codes and specifications is released for use.

We believe that we have more than complied with your recommendations and sufficient corrective action has been taken to not only correct the deficiencies, but to also prevent reoccurrence.



Construction Testing

Bechtel Power Corporation

Page 3

December 30, 1981

We trust that you will find this response satisfactory. If there are any further questions, contact us at any time.

Very truly yours,

GEO CONSTRUCTION TESTING, INC.

R. L. Hilyard
Executive Vice President

RLH:pcb

cc: G. Lambert
K. Panther



File audit reports

AUDIT REPORT

DATE OF ISSUANCE:

IDENTIFICATION: RCBauman AEBice WRBird (CPCo-M1079) JWCOOK MADietrich PLGray WDGGreenwell JAHorsch	RMHughes RIZmer (Bechtel-SF) BWMarguglio DBMiller PAPerry JARutgers JSalasky (Bechtel-SF) ESmith DATaggart	RAWells JLWood JTCristy RECEIVED JAN 18 1982 C.P. Co Legal	AUDIT NO: M01-202-2
			FILE NUMBER: D2.4.1
SER. OF AUDIT TEAM LEADER/DATE: R E Field 11-13-82			DATE OF AUDIT: January 6-8, 1982
APPROVED BY/DATE: <i>[Signature]</i> 1-14-82			ORGANIZATION AUDITED: Bechtel SQD Audit of Transamerica Delaval-Gems Sensor Division Midland Plant Units 1 & 2

I. AUDIT SCOPE AND OBJECTIVES

- A. Active participation (as an auditor) in the Bechtel full scope audit of Transamerica Delaval-Gems Sensor Division, from a Midland Project viewpoint, and
- B. CPCo evaluation of the Bechtel audit compared to the requirements of Section 2.3 "Supplier Quality Program Audits," of the PSQ Manual, 6th edition.

II. AUDIT TEAM MEMBERS AND PERSONNEL CONTACTED

For objective "A", team members and contacts are listed in the Bechtel Audit Report, Attachment 2.

For objective "B", R E Field was Audit Team Leader and sole team member. Contacts are listed as Bechtel Audit Team Members in Attachment 2.

III. SUMMARY OF AUDIT RESULTS

For objective "A", see Attachment 2.

For objective "B", the audit was conducted in compliance with PSQ Manual requirements. No deficiencies were noted. (See Attachment 1 for evaluation of the Bechtel Audit Team Leader.)

IV. ATTACHMENTS

- 1. Bechtel ATL Evaluation
- 2. Bechtel Audit Report

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 JAN 18 1982
 MIDLAND PROJECT
 MANAGEMENT



Consumers
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QA65-0

AUDIT TEAM MEMBER EVALUATION

PROJECTS, ENGINEERING
AND CONSTRUCTION -
QUALITY ASSURANCE DEPARTMENT

Name of Evaluated Person: RICHARD IZMER	Audit Team Position: BIZ CMTL ATL	Audited Organization: BIZ CMTL SQD - AUDIT OF TRANS- AMERICA DELAVAL	Date of Audit: 1/6-8/82
---	---	--	-----------------------------------

Item	Satisfactory/ Unsatisfactory	Comments
1 Team Selection (ATL only)	SAT	
2 Team Orientation (ATL only)	SAT	
3 Knowledge of Audit Procedures	SAT	
4 Check List Preparation	SAT	
5 Audit Plan (ATL only)	SAT	
6 Scheduling of Audit (ATL only)	SAT	
7 Notification (ATL only)	SAT	
8 Pre-Audit Team Meeting	SAT	
9 Conduct of Entrance Meeting	SAT	
10 Coordinating the Audit Team	SAT	
11 Pace of the Audit	SAT	
12 Communication - Team	SAT	
13 Communication - Audited Org.	SAT	
14 Presentation of Questions	SAT	
15 Pursuit of Questions	SAT	
16 Review of Objective Evidence	SAT	
17 Presentation of Findings	SAT	
18 Determination of Cause of Findings	SAT	
19 Effect of Finding on Product/Service	SAT	
20 Formulation of Recommended CA	SAT	
21 Mini Exit Review	SAT	
22 Conduct of Exit Meeting (ATL only)	SAT	
23 Participation in Exit Meeting	SAT	
24 Preparation of Report	SAT	
25 Completion of Checklists	SAT	
26 Adequacy of Audit Notes	SAT	
27 Follow-Up	SAT	(DURING AUDIT)
28 Personal Conduct	SAT	
29	.	

Overall Evaluation **SATISFACTORY.**

Evaluated By: RE Hill	Date: 1/13/82
------------------------------	----------------------



REPORT OF AUDIT SUPPLIER QUALITY PROGRAM PSQ-396 A

Supplier Emm Alford
Plainville, Ct.

B. PART I—AUDIT ADMINISTRATIVE DATA AND AUDIT SUMMARY (Continued)

3. Audit Scope and Summary (Continued):

a. Comment on areas of the quality program observed to be functioning exceptionally well:

None

b. The Quality Assurance Program elements examined by this audit were found to be effectively implemented with the following exceptions:

During the week of 1-8-82 a Bechtel Audit Team performed a Final scope Audit on "Emm Alford" (Plainville) Quality Program and practices to Bechtel Purchase Order # 101-100-1.

Audit resulted in 5 program non-compliance being written:

AFR #1 - Q.C. Manual / Procedures Manual not being revised / updated, as required.

AFR #2 - Hold Points not being documented.

AFR #3 - Calibration Test Requirements / Calibration Test Procedures not available.

AFR #4 - Test / Inspection Equipment not documented on Test / Inspection reports.

AFR #5 - Auditor's qualifications and Corrective Actions / Re-verifications not documented.

No restrictions on any of the above AFR's.

At Exit Briefing, supplier was given formal Report of Audit, all 5 AFR's, 5 blank CAR's (PSQ-395-A) and instructions on their completion.

Supplier agreed to forward completed CAR's to SFHO by dates listed on individual AFR's.

c. Restrictions imposed/recommended

1) Hold on release of material/equipment for shipment: *N/A*

2) Control measures on further processing of selected activities: *N/A*

	NAME	PROJECT	DATE
PROJECT CONCURRENCE ON RESTRICTION 5c 2) ABOVE:	<i>N/A</i>	<i>N/A</i>	<i>N/A</i>

ATTACHMENTS
5
AUDIT FINDING REPORTS

SIGNATURE OF AUDIT TEAM LEADER

Richard W. Jones - ATL

DATE

1-7-82



REPORT OF AUDIT SUPPLIER QUALITY PROGRAM PSQ-398 A

PART I - AUDIT ADMINISTRATIVE DATA AND AUDIT SUMMARY (Continued)

4. Audit Meeting Data:

	NAME	MEMBER STATUS (Auditor, Observer, or Technical Specialist)	PROJECT/AREA OR DIVISION OFFICE	*ATTENDANCE		
				A	B	C
BECHTEL	<i>Richard Lower</i>	AUDIT TEAM LEADER	SFHO	✓	✓	✓
	<i>Nolan Richards</i>	Auditor	SFHO	✓	✓	✓
	<i>Frank St. Onse</i>	SQR/Observer	SFHO	✓	✓	✓
	<i>Pat Perry</i>	Observer	Proj. Q.C. (7220)	✓	✓	✓
OTHERS	<i>Ken Titch</i>	Auditor	Com. Power Div.	✓	✓	✓
SUPPLIER	<i>Josiah Rhodes</i>	Q.C. Insp.			✓	✓
	<i>Charlie Davis</i>	Q.C. Insp.			✓	✓
	<i>Warren Heist</i>	Tech. Aide			✓	✓
	<i>Dale Joewa</i>	Chief Inspector			✓	✓

5. Audit Scope and Summary: ()**

SCOPE		QUALITY ELEMENT	FINDING	SCOPE		QUALITY ELEMENT	FINDING
YES	NO			YES	NO		
✓		1. Organization <i>AFR#1</i>	X	✓		11. Test Control <i>AFR#3 & #4</i>	X
✓		2. Quality Assurance Program <i>AFR#1</i>	X	✓		12. Control of Measuring and Test Equipment	S
✓		3. Design Control	S	✓		13. Handling, Storage and Shipping	S
✓		4. Procurement Document Control	S	✓		14. Inspection, Testing and Operating Status	S
✓		5. Instructions, Procedures and Drawings	S	✓		15. Nonconforming Items	S
✓		6. Document Control	S	✓		16. Corrective Action	S
✓		7. Control of Purchased Material, Equipment and Services	S	✓		17. Quality Assurance Records	S
✓		8. Identification and Control of Material, Parts, and Components	S	✓		18. Audits <i>AFR#5</i>	X
✓		9. Control of Special Processes	S	✓		19. Special Audit Requirements	S
✓		10. Inspection <i>AFR#2 & #4</i>	X				

*ATTENDANCE:
A-At Pre-Audit Meeting
B-At Entrance Meeting
C-At Exit Briefing

**AUDIT FINDING CODE: S-Satisfactory
X-Program Deficiency
N/A-Not Applicable



AUDIT FINDING REPORT PSQ-395

AUDIT FINDING REPORT NO. 1 DATE 1-6-82 NAME OF EVALUATOR(S) Richard Jones

1. SUPPLIER: Transamerica Delaval Inc. - Elm Grove Div. - Plainville, Ct.

2. CHECKLIST AUDIT ITEM NO: I and II

3. CONTROLLING DOCUMENT(S): (Quality manual, Procedure, Spec. references) QCMANUAL, REV. F / PROC. MANUAL, REV. I

4. REQUIREMENT: (Quote or paraphrase the controlling document, i.e. Section, paragraph)

para. 2.2 of Sect. 2 of QCM states in part: "It is our policy to continually review, and update the (Quality) program."

para. 2 of Sect. 2 of PM states: "This manual will be reviewed at intervals not to exceed one year, and changes will be made if necessary."

5. FINDING: (Describe the deficiency in detail, i.e. What? How many? Numbers? When?)

- 1) Supplier has relocated from Lewis town facility at Farmington, Ct. to present Cooke Rd location at Plainville, Ct. about 1 1/2 yrs ago and has not revised either of the above manuals to reflect this change.
- 2) Organizational Chart does not accurately reflect organizational responsibilities/authority
- 3) No evidence of annual review for either manual.

6. IMPACT ON QUALITY: (List direct and potential impact on quality of material)

No Direct Impact on quality.
Potential Hints for materials to be manufactured under the wrong/inadequate programs

7. RECOMMENDED CORRECTIVE ACTION: (Actions recommended are suggested methods only and not contractually binding. Specific action to be taken to resolve the finding is left to the discretion of the supplier.)

Implement established procedures.
Evaluate effect on Bechtel materials presently in stock and already shipped

8. AUDIT FINDING DISCUSSED WITH:

a. Supplier Management Representative: Name: Mr. Joseph Rhodes Position: Q. C. Mgr.

b. Assigned Bechtel Quality Representative: Name: Mr. Frank St. Onge Date: 1-6-82

9. SUPPLIER AGREES TO COMPLETE CORRECTIVE ACTION BY (Date): 1/29/82 COMPLETION RESPONSE

10. RESTRICTION IMPOSED AS A RESULT OF THIS FINDING

a) Type Restrictions: None

b) Project(s) Affected: 7220/12501



AUDIT FINDING REPORT PSQ-395

AUDIT FINDING REPORT NO. 2 DATE 1/6/82 NAME OF EVALUATOR(S) RE FIELD

1. SUPPLIER: TRANSAMERICA DELAVAL - GEMS SENSOR DIV.

2. CHECKLIST AUDIT ITEM NO: X-4

3. CONTROLLING DOCUMENT(S): (Quality manual, Procedure, Spec. references) QC MANUAL, REV. "F" / PROCEDURES MANUAL, REV. "I"

4. REQUIREMENT: (Quote or paraphrase the controlling document, i.e. Section, paragraph) QC MANUAL, PARA. 10.5 REQUIRES CUSTOMER'S HOLD POINTS TO BE INDICATED IN APPROPRIATE DOCUMENTS. PROCEDURES MANUAL SECTION 3, PARA. 3 REQUIRES CLASS III ORDERS TO HAVE SPECIAL REQUIREMENTS TRAVELLER (SR-1) INCLUDING SPECIAL INSPECTION REQUIREMENTS.

5. FINDING: (Describe the deficiency in detail, i.e. What? How many? Numbers? When?)
CONTRARY TO THIS, HOLD POINTS FROM 7220 - J297 (W/O 05465-01 Thru - 05) WERE NOT SPECIFIED ON THE SR-1 FORMS

6. IMPACT ON QUALITY: (List direct and potential impact on quality of material)
NO DIRECT IMPACT. POTENTIAL EXISTS FOR NONCONFORMING ITEMS TO BE FABRICATED / SHIPPED.

7. RECOMMENDED CORRECTIVE ACTION: (Actions recommended are suggested methods only and not contractually binding. Specific action to be taken to resolve the finding is left to the discretion of the supplier.) RE - INSTRUCT RESPONSIBLE PERSONNEL AND IMPLEMENT ESTABLISHED PROCEDURES.

8. AUDIT FINDING DISCUSSED WITH:
a. Supplier Management Representative: Name: J. RHOADES Position: QC MANAGER
b. Assigned Bechtel Quality Representative: Name: M. ST. ONGE Date: 1/7/82

9. SUPPLIER AGREES TO COMPLETE CORRECTIVE ACTION BY (Date): 2/5/82 COMPLETION RESPONSE

10. RESTRICTION IMPOSED AS A RESULT OF THIS FINDING
a) Type Restrictions: NONE
b) Project(s) Affected: 7220/12501



AUDIT FINDING REPORT PSQ-395

AUDIT FINDING REPORT NO.	3	DATE	1/6/82	NAME OF EVALUATOR(S)	RIZ FIELD
--------------------------	---	------	--------	----------------------	-----------

1. SUPPLIER: TRANSAMERICA DELAVAL - GEMS SENSOR DIV.

2. CHECKLIST AUDIT ITEM NO: XI - 1

3. CONTROLLING DOCUMENT(S): (Quality manual, Procedure, Spec. references) SPEC. 7220 - J297A, REV. 1

4. REQUIREMENT: (Quote or paraphrase the controlling document, i.e. Section, paragraph)
PARA. 8.2.3 REQUIRES EACH ASSEMBLED INSTRUMENT TO BE COMPLETELY TESTED BY SELLER, INCLUDING A CALIBRATION TEST.

5. FINDING: (Describe the deficiency in detail, i.e. What? How many? Numbers? When?)
CONTRARY TO THIS W/O'S # 05465 - 01 THRU - 05 SHOW NO CALIBRATION TEST REQUIREMENT, NOR IS THERE AN ESTABLISHED CALIBRATION TEST PROCEDURE.

6. IMPACT ON QUALITY: (List direct and potential impact on quality of material)
NO DIRECT IMPACT. POTENTIAL EXISTS FOR ITEMS TO BE SHIPPED WITHOUT PROPER CALIBRATION TESTS. HAVING BEEN PERFORMED.

7. RECOMMENDED CORRECTIVE ACTION: (Actions recommended are suggested methods only and not contractually binding. Specific action to be taken to resolve the finding is left to the discretion of the supplier.) IMPLEMENT ESTABLISHED PROCEDURES.

8. AUDIT FINDING DISCUSSED WITH:
 a. Supplier Management Representative: Name: J. RHOADES Position: QC MANAGER
 b. Assigned Bechtel Quality Representative: Name: M. ST. ONGE Date: 1/7/82

9. SUPPLIER AGREES TO COMPLETE CORRECTIVE ACTION BY (Date): 2/5/82 COMPLETION RESPONSE

10. RESTRICTION IMPOSED AS A RESULT OF THIS FINDING
 a) Type Restrictions: NONE
 b) Project(s) Affected: 7220/12501



AUDIT FINDING REPORT PSQ-395

AUDIT FINDING REPORT NO. 4 DATE 1/6/82 NAME OF EVALUATOR(S) PE FIELD

1. SUPPLIER: TRANSAMERICA DELAVAL - GEMS SENSOR DIV.

2. CHECKLIST AUDIT ITEM NO: ~~XII~~ X-3 + XI-2

3. CONTROLLING DOCUMENT(S): (Quality manual, Procedure, Spec. references) PROCEDURES MANUAL, REV. "I"

4. REQUIREMENT: (Quote or paraphrase the controlling document, i.e. Section, paragraph)

SECTION 12, PARA. 4, REQUIRES THAT QC IMPOUND PRODUCTS INSPECTED WITH SUCH EQUIPMENT (I.E. INSTRUMENTS FOUND OUT OF CALIBRATION) UNTIL ACCEPTABLE M+TE IS AVAILABLE AND PARTS RE-INSPECTED AND FOUND ACCEPTABLE TO QC.

5. FINDING: (Describe the deficiency in detail, i.e. What? How many? Numbers? When?)

EXAMINATION OF INSPECTION AND TEST RECORDS IN WORK ORDER PKG. 0111-01 SHOWED NO RECORD OF CALIBRATED EQUIPMENT USED IN INSPECTIONS AND TESTS. FURTHERMORE DISCUSSION WITH QC MANAGER REVEALED NO OTHER RECORD IS MADE, SUCH AS A M+TE USAGE LOG. THIS MAKES COMPLIANCE WITH SECTION 12, PARA. 4, EXTREMELY DIFFICULT IF NOT IMPOSSIBLE.

6. IMPACT ON QUALITY: (List direct and potential impact on quality of material)

NO DIRECT IMPACT BUT THE POTENTIAL EXISTS THAT UNLESS M+TE S/N'S ARE RECORDED ON EITHER THE INSPECTION/TEST RECORDS OR IN A DAILY USAGE LOG, RE-EVALUATION OF PREVIOUSLY INSPECTED ITEMS CANNOT BE READILY ACCOMPLISHED.

7. RECOMMENDED CORRECTIVE ACTION: (Actions recommended are suggested methods only and not contractually binding. Specific action to be taken to resolve the finding is left to the discretion of the supplier.)

REVISE PROGRAMMATIC SYSTEM TO INCLUDE DOCUMENTING S/N'S OF M+TE USED FOR INSPECTION + TESTS.

8. AUDIT FINDING DISCUSSED WITH:

a. Supplier Management Representative: Name: J RHOADES Position: QC MANAGER

b. Assigned Bechtel Quality Representative: Name: M ST. ONGE Date: 1/7/82

9. SUPPLIER AGREES TO COMPLETE CORRECTIVE ACTION BY (Date): 2/5/82 COMPLETION RESPONSE

10. RESTRICTION IMPOSED AS A RESULT OF THIS FINDING a) Type Restrictions: NONE b) Project(s) Affected: 7220/12501

AUDIT REPORT

DATE OF ISSUANCE: 2/1/82

PAGE 1 OF 3

DISTRIBUTION: JMAnderson RCBauman WRBird [REDACTED] JWCook LHCurtis EMHughes MADietrich	GREagle REField LJGrant RCHollar MWKirkland BWMarguglio DNReia JARutgers	CTSpringer DATaggart RAWells JLWood DQAE File D2.4.1	AUDIT NO: M01-201-2
			FILE NUMBER: D2.4.1
			DATE OF AUDIT: 1/25-29/82
			ORGANIZATION AUDITED: Bechtel Engineering Control Systems
SIG. OF AUDIT TEAM LEADER/DATE: <i>DNReia 2/1/1982</i>		APPROVED BY/DATE: <i>REagle 2/1/82</i>	
		PLANT & PROJECT: Midland Plant Units 1 & 2	

I. SCOPE AND OBJECTIVE

The audit was full scope and covered engineering activities for design specifications, material requisitions, design drawings and vendor documentation. The objective of the audit was to determine control system compliance with Engineering Department procedures and project commitments.

II. AUDIT TEAM

The audit team consisted of the following personnel:

- D N Reia Audit Team Leader
- C T Springer Auditor
- R E Field Auditor

III. PERSONNEL CONTACTED DURING AUDIT

Name	Discipline	Attended Entrance Mtg	Attended Exit Mtg
J M Anderson	CS Supervisor	X	X
G Singh	CS Deputy Supervisor	.	X
K Victorson	Project Adm.		
C Kost	Control Systems		
R C Hollar	QE	X	
K R Kallay	QE	X	X
S Shei ld	QE Staff		
G Maule	QE		X
D Barsky	Project Adm.		

IV. ENTRANCE MEETING

A pre-audit entrance meeting was held on January 25, 1982, and was attended by those identified in Sections II and III above. Audit scope, plan, and objective were discussed.



AUDIT REPORT

CONTINUATION SHEET

V. AUDIT SUMMARY

A. Area audited

The audit checklist was developed from the latest revision of Engineering Department procedures and is attached to the file copy of this report. All items on the checklist have been verified as they apply to the Control System discipline. The checklist covered specifications, MRs, SCNs, SDDRs, DCCL, DRNs, DRVCLs, DCNs, G-321D, FCRs, FCNs, Design Interface control, Design drawings, Review of SQ-Audited and Inspection reports and Project Quality Indoctrination and Training.

B. Finding and Observations

- a) Two audit findings were identified during the audit. AFR-1 addresses a deficiency in the DCCL and AFR-2 addresses deficiencies associated with two DCNs on Drawings J-749 Sh. 1 and J-750 Sh. 1 in which the originator did not date these DCNs upon issuance. (See attached report for details.) The audit findings were isolated instances and the deficiencies were corrected during the audit. Since no process corrective action is required, these audit findings are issued closed.
- b) There were two observations identified during the audit.

Observation 1

In one of 10 drawings examined, there was no objective evidence of coordination on J-51 Sh 1 Rev 3 in the discipline coordination log. Neither was there a coordination print on file. However, evidence of coordination with Electrical and Mechanical did exist on stick print. The log was corrected; No further action is required.

Observation 2

Discussion with Control Systems and review of EDP 4.62 Rev 3, as amended by MED 4.62-0, Rev 17, have shown that EDPs have not yet been fully revised to reflect that Design document logging responsibilities have been transferred to Project Administration. Specifically, MED 4.62-0, Rev 17, Para 3.6, needs revision to delete the last two lines or to reflect that annotation of FCR "logs" refers to Project Administration's updating of the MAPPER Change Notice Register.

C. Audit Evaluation

Within the scope of the audit, the Control System discipline was found to be in compliance with project procedures and design commitments, except as identified under B above.



Consumers
Power
Company
QA24-0

AUDIT REPORT

CONTINUATION SHEET

PROJECTS, ENGINEERING
AND CONSTRUCTION -
QUALITY ASSURANCE DEPARTMENT

AUDIT NO: M01-201-2
PAGE 3 OF 3

VI. EXIT MEETING

An audit exit meeting was conducted on January 29, 1982, and attended by those personnel identified in Sections II and III of this report. During this meeting, audit results were discussed.

VII. CLOSING ITEM

A response to observations is not required by Consumers Power Company procedure.

Any questions in regard to this audit should be addressed to:

D N Reia
Bechtel, Ann Arbor
(313) 994-7454



Consumers
Power
Company
QA50-1

AUDIT FINDING REPORT

AFR #1

AS IS" CONDITION VERSUS "AS REQUIRED" / "AS NEEDED" CONDITION WITH REFERENCES:

EDP 4.34, Rev 2, 5/27/76, indicates the "Project Engineering team is responsible for initiating and maintaining the DCCL."

Two (2) of ten (10) reviewed DCCL specification entries were incorrect, as follows:

- Spec J-291-4 was listed as J-2914, and its location at the end of the spec listing tended to confirm the erroneous large number.
- Spec J-297 was titled "Ultrasonic Level Monitoring Devices," which is the title of Spec J-296.

AFR SER NO: M01-201-2-01F	
PRG/DEPT AUDITED: Midland/ Control Systems	
DATE OF ISSUANCE: January 29, 1982	
FILE NUMBER: D2.4.1	
DISTRIBUTION:	
JAnderson	JARutgers
RCBauman	CTSpringer
WRBird	DATaggart
JEBrunner	RAWells
JWCook	JLWood
LHCurtis	D2.4.1
EMHughes	
MADietrich	
GREagle	
REField	
LJGrant	
RCHollar	
MWKirkland	
BWMarguolio	
DNReia	

RECOMMENDED CORRECTIVE ACTION:

Investigative/Remedial: Review all Control Systems DCCL entries for numbering and titling errors; correct items found, and reissue.

Corrective: Not applicable, as this is considered to be an isolated condition.

CORRECTIVE ACTION COMMITMENT:

N/A

CLOSED

DATE OF C/A COMPLETION:

ORG. RESP FOR C/A:

PERSON MAKING C/A COMMITMENT:

DATE OF C/A EFFECTIVENESS:

METHOD OF VERIFICATION:

The DCCL has been revised, reviewed and issued before the Exit meeting under Rev. 8 dated 1/29/82.

IS AF REPORTABLE PER 90.55(e):

YES NO

IF "YES", DATE OF REPORT TO NRC:

IF "YES", TIME OF REPORT TO NRC:

IF "YES", NAME OF NRC OFFICIAL TO WHOM REPORTED:

IF "YES", WHO MADE REPORT:

AFR ORIGINATOR'S SIGNATURE/DATE:

C.T. Springer / *[Signature]*

2/1/82

SUPERVISOR'S SIGNATURE/DATE:

[Signature] 2/1/82

C/A VERIFICATION SIGNATURE:

[Signature]

VERIFICATION DATE:

1/29/82



Consumers
Power
Company
QASO-1

AUDIT FINDING REPORT

PROJECTS, ENGINEERING AND CONSTRUCTION -
QUALITY ASSURANCE DEPARTMENT

AFR #2

AS IS CONDITION VERSUS "AS REQUIRED" / "AS NEEDED" CONDITION WITH REFERENCES:

Paragraph 3.1 of EDP 4.47 Rev 2, requires each DCN to be dated and signed by the originator.

Contrary to this, 2 of 10 DCNs examined were not dated by the originators -

DCN #1 J-749 Sh. 1

DCN #1 J-750 Sh. 1

AFR SER NO:
M01-201-2-02F

PRG./DEPT AUDITED: Midland
Control Systems

DATE OF ISSUANCE:
1/28/82

FILE NUMBER:
D2.4.1

DISTRIBUTION:
JAnderson JARutgers
RCBauman CTSpringe
WRBird DATaggart
JEBrunner RAWells
JWCook JLWood
LHCurtis D2.4.1
EMHughes
MADietrich
GREagle
REField
LJGrant
RCHollar
MWKirkland
BWMarguglio
DNRefa

RECOMMENDED CORRECTIVE ACTION:

Re-emphasize requirement to control systems personnel who originate DCNs.

CORRECTIVE ACTION COMMENT:

N/A

CLOSED

DATE OF C/A COMPLETION:

ORG. RESP FOR C/A:

PERSON MAKING C/A COMPLETION:

DATE OF C/A EFFECTIVENESS:

METHOD OF VERIFICATION:

Item from G.S. J. Anderson to control system engineers re-emphasizing the above requirements was issued on 1/28/1982.

IS AF REPORTABLE PER 50.151(a)?

YES NO

IF "YES", DATE OF REPORT TO NSC:

N/A

IF "YES", TIME OF REPORT TO NSC:

N/A

IF "YES", NAME OF NSC OFFICIAL TO WHOM REPORTED:

N/A

IF "YES", WHO MADE REPORT:

N/A

AFR ORIGINATOR'S SIGNATURE/DATE:

RE. Field / JAR 2/1/82

SUPERVISOR'S SIGNATURE/DATE:

B. Eagle 2/1/82

C/A VERIFICATION SIGNATURE:

B. Reiser

VERIFICATION DATE:

1/29/82

Public Meeting Feb. 8

(54)

- 1) crafts are adequate?
- 2) Inspection - room by room (system by system in room)
- 3) CPD-A & BQ-Top-1 will be revised to incorporate conflicts

4) please elaborate on ^{GA} qualifications of people
why you think

Soils GA/GC person doesn't exist

Don Ann ^{Blondy (Baker)} → Dowity (CPG)

- 5) Respect work of flunked inspectors, Sep 29
- 6) Q-list R.G. 1.29 + D. Exhaust Hangers that were missed
responsible for
- 7) Team is not ~~verifying~~ 10CFR50 requirements
- 8) sampling plan - use other methods for inaccessible work
k.g. instead of records.
9. 3RD party, ie. Stone & Webster → do not look @
adequacy of procedures.
i.e. only programmatic
not industry standards.
need technical review

Public Meeting Feb. 8

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. INFJ Self Evaluations
4. 1971 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

Snieszek - 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 - MPQAD 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.

Smiezek - 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.

Keppler - 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:

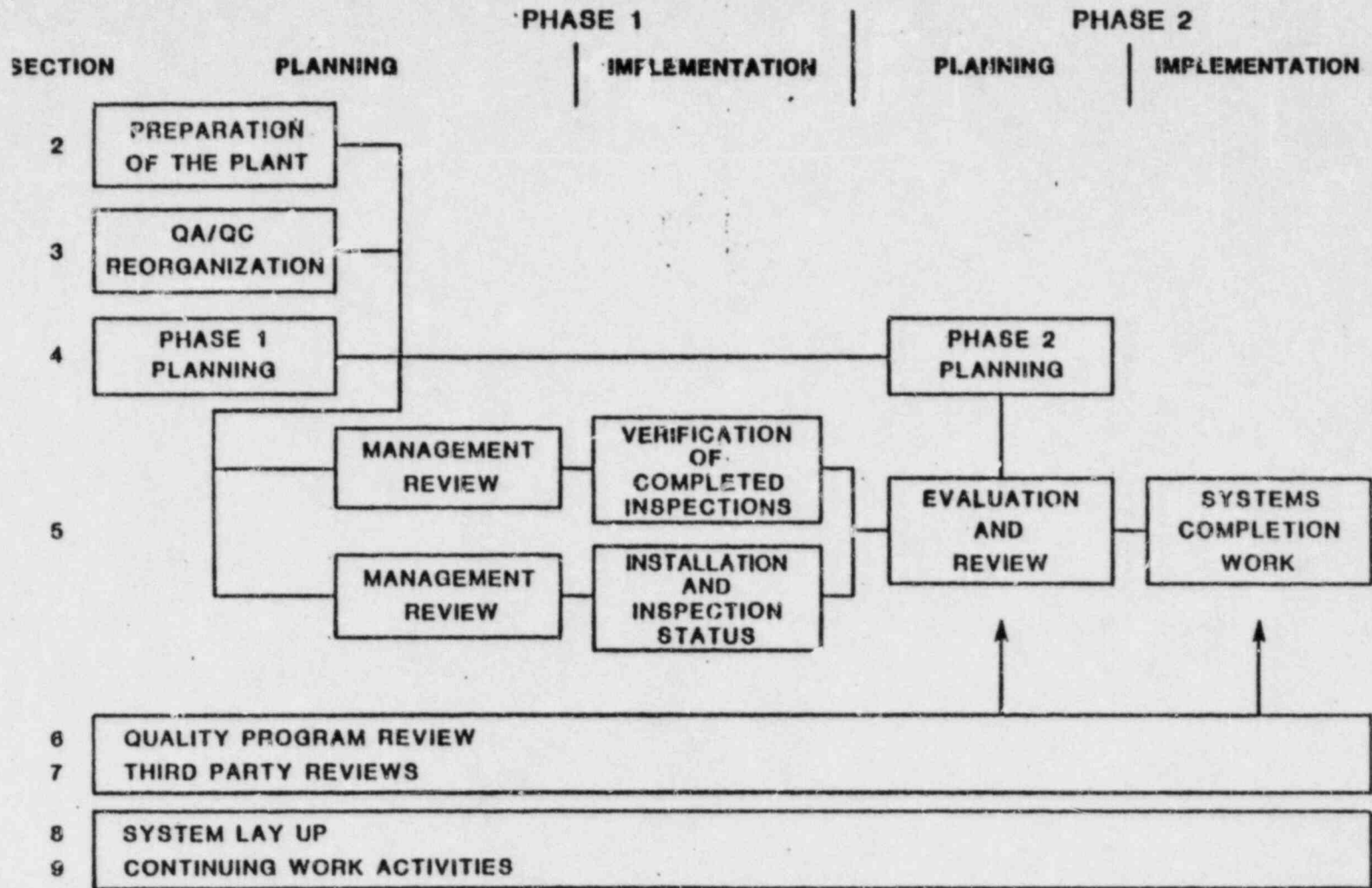
- EXPANDING AND CONSOLIDATING CONSUMERS POWER COMPANY CONTROL OF THE QUALITY FUNCTIONS.
- IMPROVING THE PRIMARY INSPECTION PROCESS.
- PROVIDING A UNIFORM UNDERSTANDING OF THE QUALITY REQUIREMENTS AMONG ALL PARTIES.

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

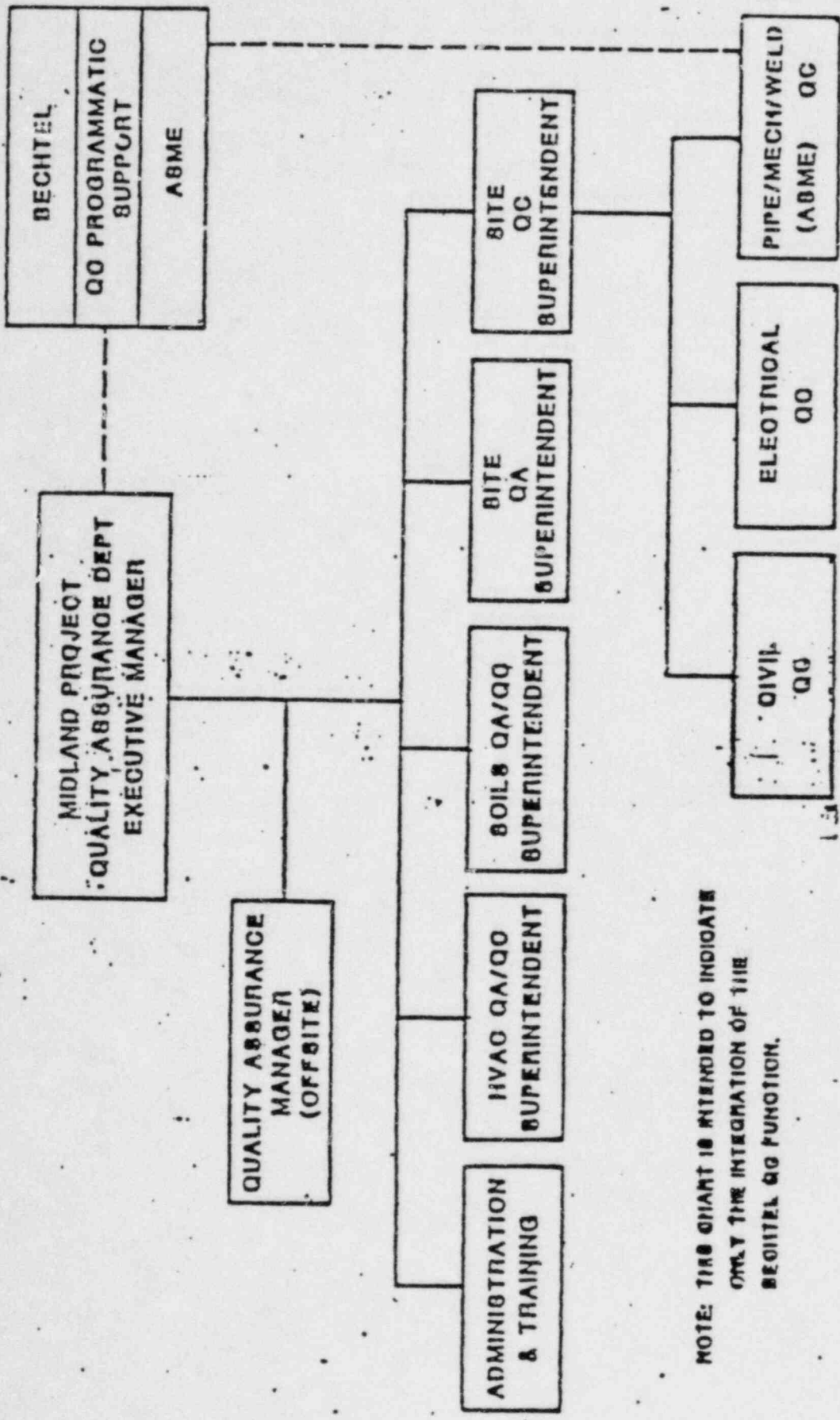
SUBMIT PROGRAMMATIC
CHANGES TO NRC

2/17/83

COMPLETE INSPECTOR
RECERTIFICATION

4/1/83

FIGURE 3-1
MPQAD 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

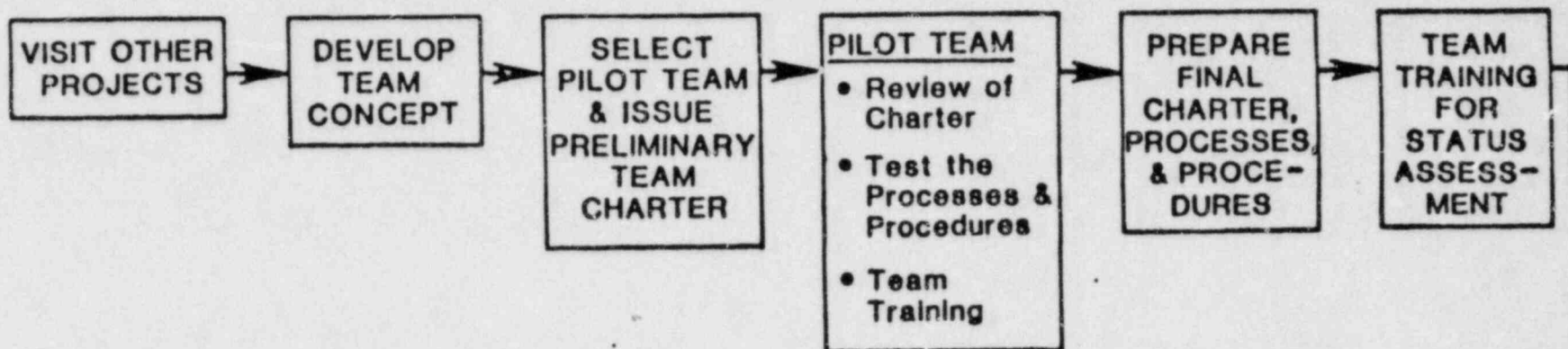
STATUS ESTABLISH TEAM CONCEPT AND DESIGNATE PILOT TEAM 1/21/83

BENEFITS OF 'COMPLETION TEAM' APPROACH

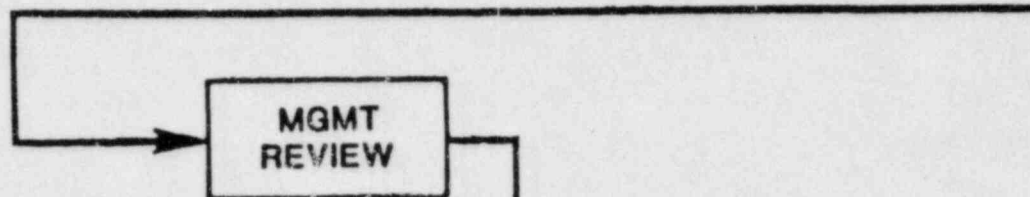
- SINGLE GROUP RESPONSIBLE FOR ALL ASPECTS OF SYSTEM COMPLETION TO FUNCTIONAL TURNOVER
- IMPROVED COMMUNICATION BY BEING PHYSICALLY LOCATED TOGETHER
- IMPROVED MAINTENANCE OF STATUS OF WORK
- SINGLE POINT CONTACT FOR QUALITY INSPECTION REQUIREMENTS
- IMPROVED INTEGRATION OF QUALITY INSPECTION PLANS WITH THE INSTALLATION PLANS
- SINGLE POINT CONTACT FOR ENGINEERING/DESIGN REQUIREMENTS
- SINGLE POINT CONTACT FOR TESTING REQUIREMENTS

SYSTEM TEAM DEVELOPMENT

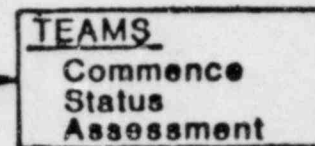
ORGANIZATIONAL PROCESS & PROCEDURE DEVELOPMENT



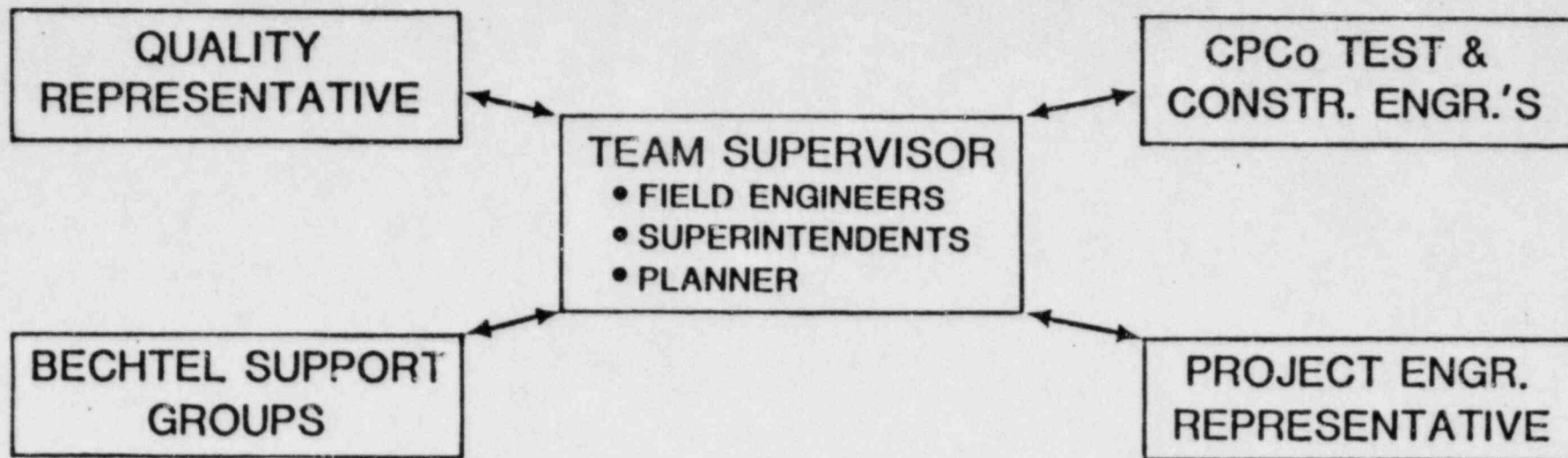
REVIEWS AND APPROVALS



COMMENCE WORK



SYSTEM TEAM OPERATIONS



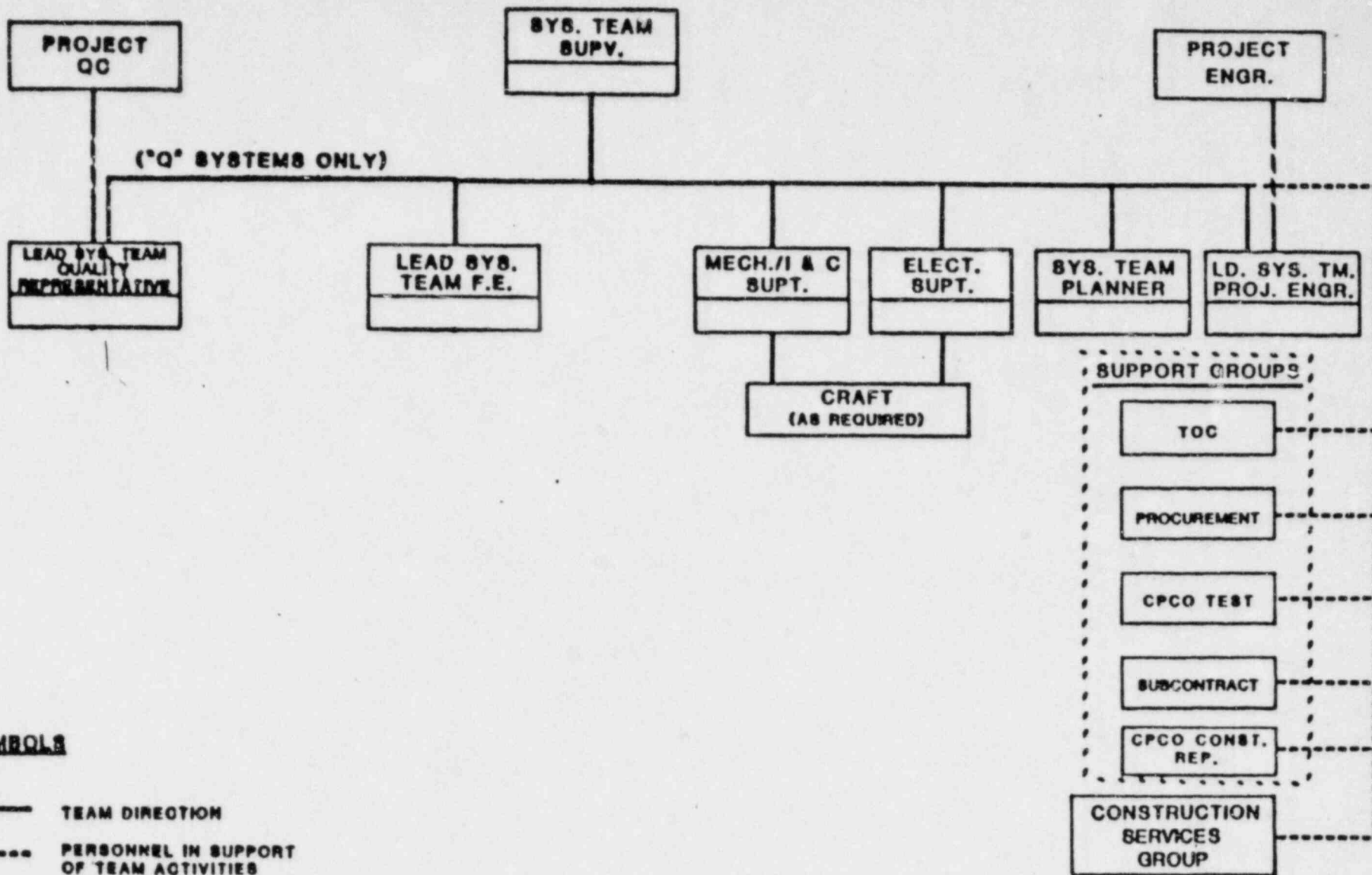
PHASE I

- 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

Q/M-0460

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-QA

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

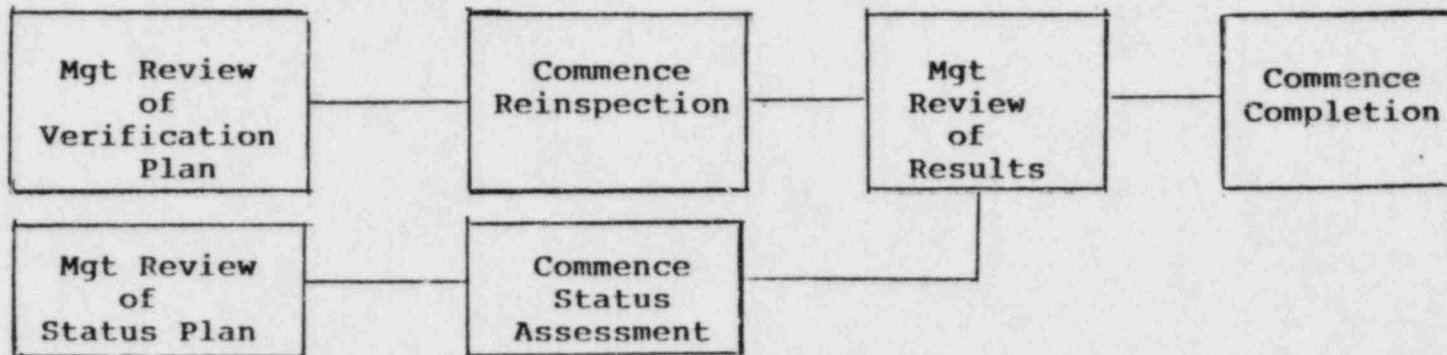
- . ELIMINATION OF REDUNDANT OR DUPLICATIVE PROCEDURES
- . FOCUS ON SINGLE MISSION FOR QUALITY ORGANIZATIONS
- . ELIMINATION OF POTENTIAL INSPECTOR MISINTERPRETATION

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 CPO 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

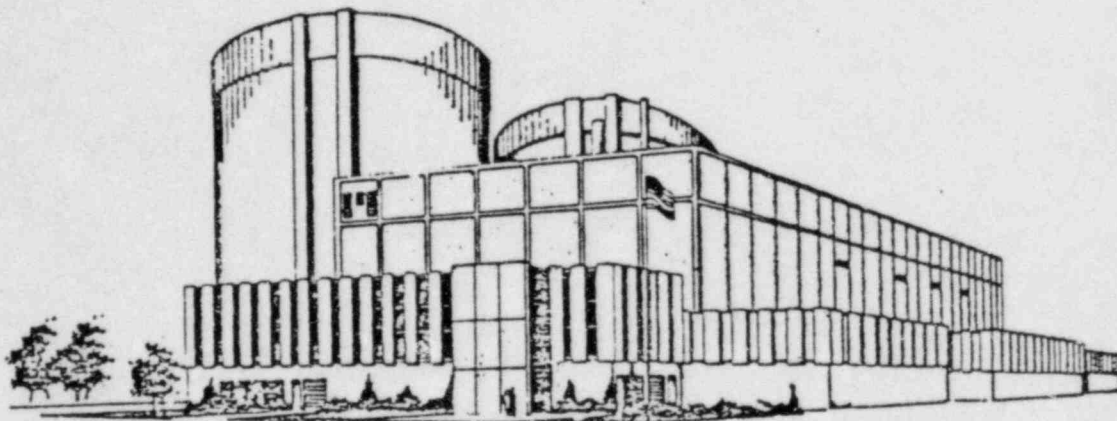
Need technical review

Pragmatic ONLY

-Schedule

- 1 - Award Contract February 15, 1983
- 2 - Activities 1 through ~~5~~ ⁴ 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

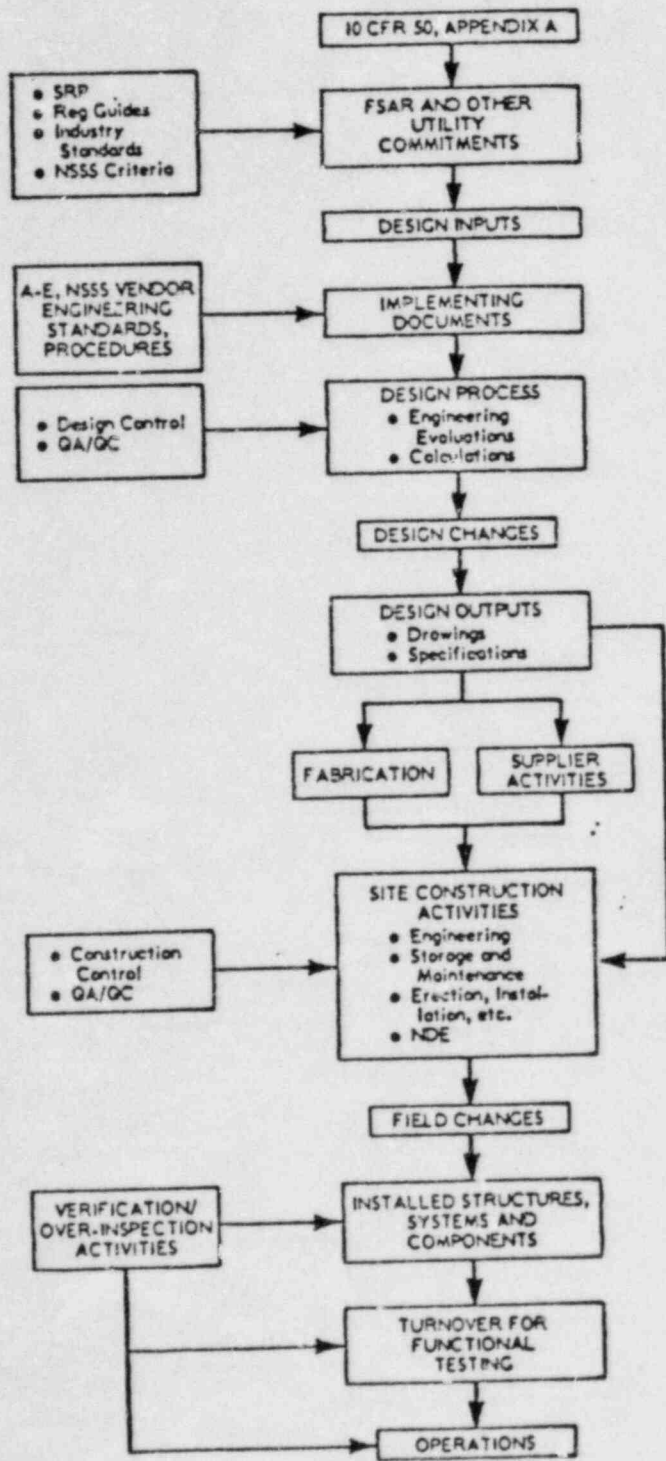


PROGRAM STATUS

- 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

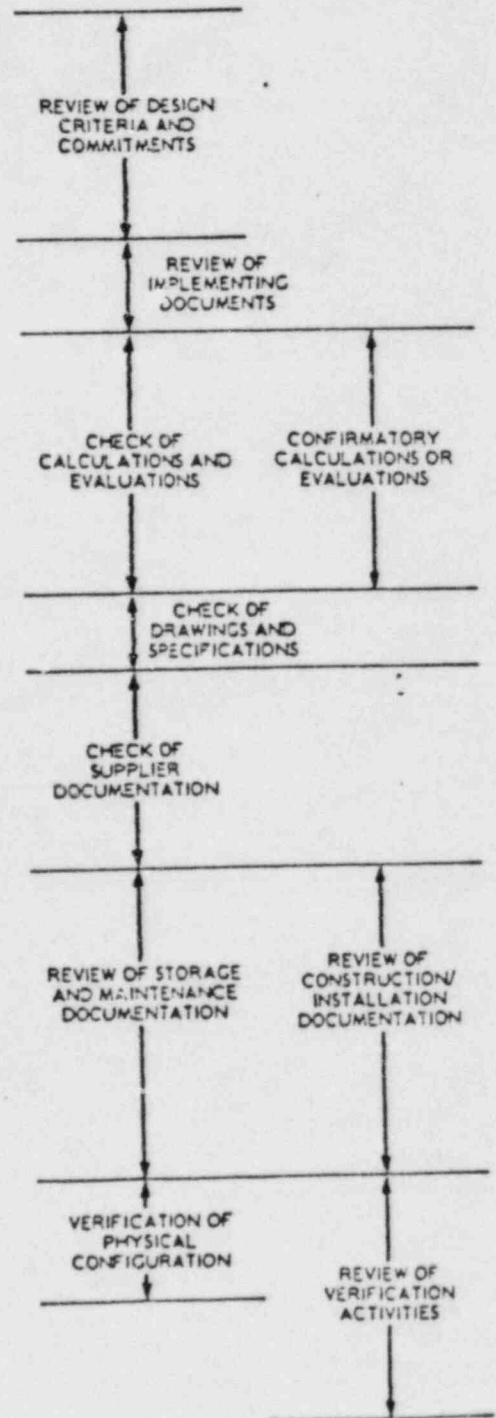


INTER-RELATIONSHIP BETWEEN THE MIDLAND DESIGN AND CONSTRUCTION PROCESS AND THE MIDLAND IDV PROGRAM



DESIGN AND CONSTRUCTION PROCESS

IDV
↑
↓
ICV



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	CHEK ^{TS} OF CALCULATIONS AND EVALUATIONS	CONFIRMATORY CALCULATION OR EVALUATION	CHECK OF DRAWINGS AND SPECIFICATIONS
<u>I. 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



Oswald U. Anders
801 Linwood Dr
Midland MI

Feb. 8, 1983

My name is Oswald Anders. I am a resident of Midland, Mich. I am a registered voter and have owned property in this city for more than a quarter century. For the past five years, I have a small farm five miles out of town. I have raised a family of three sons in Midland and been involved with various civic and church activities.

I know that the economy and welfare of Midland is closely tied to that of its major industry, the world size chemical plant of the Dow Chemical Co. which has its ~~work~~ origins and headquarters here. This chemical plant is based on local brines but has to import all its other raw materials and fuel. Foreseeing future energy shortages and the high projected need of the Midland plant, Dow's management in the 1960's concluded that the supply of energy would be best assured by a cogenerating nuclear plant built here in Midland. And this was a decade before the first oil crisis.

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- 2 -

Since then the energy situation for the Midland plant has not changed and from what I have seen this plant is committed to, and has been preparing for the availability of nuclear generated steam. It has gone through a severe austerity program in recent years because of the continued delays of the availability of such steam, but expects to have such available by the end of next year.

It is my personal conviction that Dow's Midland plant, as a world size chemical plant will be dependent on this steam as its reliable energy supply after 1984. If the latter is not forthcoming this plant will have no future and as such will be eventually phased out and written off. If this happens Midland, which is a bright spot in cultural activity, sports, and science as well as industry on the map of Michigan will revert to a ghost town with no future. Its fate thus is closely tied to the completion of the Midland nuclear plant.

I have personally built two structures, a log house and a pole barn and completely rebuilt from the exterior walls a

concrete block house and redecorated two others. All these were constructed according to local building codes and passed ~~Local~~ inspections by local authorities. I have been in Europe and visited many great cathedrals and castles. I have also over the years visited the construction site of the Midland nuclear plant four times. I was impressed both by the attention to detail and the level of activity at that site. The codes to which this mammoth high-technology machine is built are an order of magnitude more demanding than the local building codes in accordance to which I did my constructions, installation of electrical wiring and plumbing.

In my projects I often found it less confusing to first finish one type of construction with a straight forward objective and a specialized crew and then tear down part of that construction to install other work with a different crew rather than have two crews wait for each other and putting details in as they went along. This saved me money and time. I am not surprised to hear

same rush is also done on the Midland nuclear plant project.

In this context I find it quite understandable that the rough work be completed first, even if initially not to final specifications and that after a thorough subsequent inspection which identifies the deficiencies, the latter are remedied. In case of the Midland nuclear plant project one has, after all, take into account that the same construction people who built our local ~~concr~~ structures ~~and were used to the guidelines of our local codes had to be used to build the nuclear plant~~ according to the specifications of our local codes are employed at the nuclear plant site and had to learn to meet the much more restrictive codes to which they are not accustomed.

Relative to the size of the project the speed of construction at the Midland project recently has been amazing. The size of the turbine building alone may be compared to Westminster Abbey in London, England. Yet while the construction time for European cathedrals were at times counted in centuries, a few years must do to build the

nuclear plant. This is a mammoth undertaking. The Midland project for a decade has been the largest construction site in Michigan. The logistics is mind boggling. Former generations tried to build the tower of Babel and could not finish it. Our project is much more complex and is also built by people of different tongues collaborating to achieve a historic objective: the energy independence of Mid Michigan for a hundred years. Yet the leaders of this project have been able thus far to bring it to more than 80% of completion. The safety record is absolutely exemplary and the quality of construction, when measured by ordinary yardsticks, fantastic. By all rights they ought to be able to complete the job before being criticized.

As part of a former assignment at Dow I have had the opportunity to get acquainted with regulatory action by NRC. I have observed on several occasions NRC inspectors spending enormous amounts of time reading every line of the dull maintenance operating logs of nuclear equipment. I had written these logs, prepared and signed

... 5 - while reading up in a log soon
at a time from cover a cover

them and yet, the inspectors found that I had entered a different date at the top of the page than on the bottom, although the context proved they were written on the same day. And I was embarrassed and promised to be more careful. And my boss was told. Yet overall the inspector was satisfied with the log. Look at me. Not even I am perfect in the eyes of God nor the NRC, and I have easy assignments. Who can expect that such constant surveillance of excellent work will not result in occasional non-compliance of the very strict regulations applying to nuclear construction. Yet the items inspected are legion at the Midland nuclear plant site and even a 0.1% non-compliance rate would fill a book and give the critics and self-righteous food for a feast of hypocritical outrage.

The point is that this type inspection, as frustrating as it is at times to the people concerned, does discover the errors and over-rights and gives the opportunity to set them right. For the Midland nuclear plant they are necessary and a means to complete the plant not an indication of sloppy work.

One of the prerequisites for NRC granting an operating license to the Midland nuclear plant is the availability of a tested nuclear emergency plan. As part of this plan the Michigan Div. of the Dow Chemical Co. has put into action a training and information program that by now has involved every employee. As representative of my building I participated in the training as nuclear emergency worker and spent a whole week in training. I was impressed by the wealth of detail, the quality of the and scope of the plan and the no-nonsense attitude of the responsible people from Dow and Consumers Power Co. who put on the program. They definitely count on the Nuclear Plant to be completed on time. They believe it can be done within the difficult and stringent regulatory specifications. They are confident that they can do it and they appeared credible to me.

From what I have experienced and heard I believe that the project is healthy and the plan for its completion sound. I have read it as submitted by Consumers Power Co. I believe that the criticisms repeatedly appearing in the press, touch but the expectable small number of ~~the~~ remediable deficiencies, blown there all out of proportion. I am not afraid of the plant. I believe it can be operated safely. I

Construction Completion Plans submitted is sound and should be permitted to be implemented.

Oswald W. Jenkins



CONSUMERS
POWER
COMPANY

Midland Project: PO Box 1963, Midland, MI 48640 - (517) 631-8650

January 27, 1983

Mr. W. D. Shafer, Chief
Midland Project Section
U.S. Nuclear Regulatory Commission
Region III
799 Roosevelt Road
Glen Ellyn, IL 60137

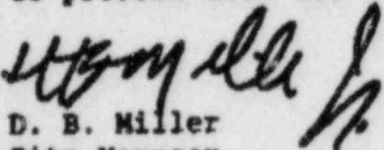
MIDLAND PROJECT GWO 7020
FOUR POINT JACKING FOR THE FIVP
File: 0485.16 UFI: 12*32

Serial: CSC-6528

42*05*22*04

This letter is to confirm and document discussions with your Dr. Landsman and Joe Kane with NRR regarding the loads to be applied during the FIVP four point jacking. Based on our discussions held on January 25, 1983, Consumers Power Company agreed to increase the total jack load to a value 10% above the estimated weight of the structure. Based on an estimated weight of 1715K, we would jack the structure to a maximum load of 1890K.

Based on the above noted agreement, we request your authorization to proceed with the work.


D. B. Miller
Site Manager

DBM/RMW/dmw

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