

Biennial Quality Assurance Audit
Of The
Midland Plant Unit 1 And 2

Prepared For:

Consumers Power Company
212 West Michigan Avenue
Jackson, MI 49201

March 1, 1983

Management Analysis Company
Project Number: MAC-82-E112

Consumers Power Company
Purchase Order Number: CP-10-9895Q

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1.0 INTRODUCTION

The Biennial Quality Audit of Consumers Power Company's (CP Co) Projects, Engineering and Construction (PE&C) Midland Project was conducted by Management Analysis Company (MAC) during the period of November 8, 1982 through December 18, 1982.

The audit, conducted in accordance with the requirements of 10CFR50, Appendix B, 18 criteria, consisted of the CP Co and Bechtel procedures review and the implementation of the approved procedures at Midland and Ann Arbor. The results of both the review and the implementation are included in this report.

The audit team consisted of the following members:

- J. R. Copley, Lead Auditor
- W. J. Friedrich, Auditor
- L. E. Zwissler, a MAC Vice President, Auditor

The audit for procedural adequacy and the audit for implementation at Midland were performed by Copley, Friedrich and Zwissler. The audit for implementation at Jackson and Ann Arbor was performed by Copley.

In all areas of the audit, full cooperation was provided by CP Co and Bechtel personnel. MAC appreciates this attitude and the opportunity to be of service to CP Co.

2.0 CONCLUSION

The auditors conclude that CP Co's Midland site generally meets the requirements of 10CFR50, Appendix B and other requirements of the NRC, and provides an adequate quality program for the safety-related portion of design and construction of the Midland Nuclear Power Plant.

Seven Audit Finding Reports (AFRs) were originated. They are numbered MA/4-1 through MA/4-7 and are presented in Attachment A of this report.

Following are the topics covered in each finding.

1. Organization Description
2. NRC Interface
3. Functional Turnover
4. Quality Action Item List, "Priority Assignments" & "Close Out"
5. Procurement Supplier Quality Department
6. Trend Analysis, Phase III
7. Bechtel Field Procedures Manual

One Unresolved Item (URI) was originated relating to Source, Receiving and Site Inspection. It is numbered MA/4-1U and is presented in Attachment B of this report.

Nine Observations (OBS) were made and are presented in Attachment C of this report.

Following are the subjects covered by the observations:

1. Source Inspection
2. Reports
3. Site Inspection Planning and Site Inspection
4. Tagging, Status and Segregation of Material
5. NDE Receipt Inspection
6. NCRs versus IPINs
7. Training Records
8. Training Coordinator
9. QA Program Acceptance

3.0 THE AUDIT

The entrance meeting for the audit was held on November , 1982 in conjunction with the entrance meeting for the INPO-type evaluation. The meeting was attended by members of CP Co, BPCo and the MAC audit and INPO teams. Specifically, the attendees were:

B. Marguglio	CP Co	P. Corcoran	BPCo
R. Wells	CP Co	R. Clark Ash	BPCo
R. Bauman	CP Co	T. Johnson	BPCo
K. Kline	CP Co	R. Stubbs	BPCo
C. Maynard	CP Co	F. Shepard	BPCo
D. Taggart	CP Co	D. Nakerhaus	BPCo
R. McCue	CP Co	S. Jarm	BPCo
B. Peck	CP Co	L. Zwissler	MAC
D. Johnson	CP Co	J. Copley	MAC
T. Palmisano	CP Co	W. Friedrich	MAC
D. Karjala	CP Co	*R. Lee	MAC
T. Sullivan	CP Co	*J. Briskin	MAC
T. C. Cooke	CP Co	*K. Horst	MAC
E. Smith	BPCo	*D. Hubbard	MAC
J. Gilmartin	BPCo	*A. Robeson	MAC
J. Reinsh	BPCo	*V. Johnson	MAC

*Members of INPO team

The purpose of this meeting was to explain the audit methods, areas, scope and goals.

The need for openness and cooperation by all of the interviewees was emphasized. The importance of preparing the way for the auditors was explained.

An exit meeting was held on February 23, 1983 at which time the findings, unresolved item and observations of the audit were discussed. The attendees were:

J. W. Cook	CP Co
B. W. Marguglio	CP Co
W. C. Carr	CP Co
M. Curland	CP Co
G. F. Ewert	CP Co
W. Friedrich	CP Co
D. Jones	CP Co
H. P. Leonard	CP Co
D. B. Miller, Jr	CP Co
R. Wells	CP Co
J. A. Rutgers	Bechtel
M. A. Dietrich	Bechtel
J. Copley	MAC
L. Zwissler	MAC

4.0 MANUAL REVIEW AND PROGRAM IMPLEMENTATION

To determine compliance with NRC requirements and the extent of implementation, the following manuals were reviewed.

CP Co Manuals

- Volume I - QA Policy Manual
- Volume II - QA Program Procedures for Design and Construction
- Midland Project QA Department Procedures Manual
- Midland Nuclear Plant Testing Program Manual
- Midland Project Procedures Manual
- Final Safety Analysis Report

BPCo Manuals

- QC Notices Manual
- QA Manual
- Project Procedure Manual
- Field Procedures and Instructions Manual

5.0 DOCUMENTATION REVIEWED

During the course of the audit, the following types of documentation were reviewed as part of the programmatic verification.

Nonconformance Reports (NCR)
In-Process Inspection Notices (IPIN)
Quality Action Item Lists (QUAIL)
Trend Reports
Purchase Orders/Changes
Source Inspection Plans
Receipt Inspection Plans
Weld Planning Sheets
Corrective Action Requests (CAR)
Management Corrective Action Requests (MCAR)
Field Change Notices (FCN)
Field Change Requests (FCR)
Field Sketches (FSK)
Drawings
Audit Reports (CP Co, BPCo, Site, Jackson, Ann Arbor)
Vendor Document Packages
Certification, Training and Test Schedules
Turnover Packages, Including Schedules Walkdown Inspection Reports
Work Requests
Project Quality Control Instructions and Reports (PQCI/PQCIR)
Training Programs and Materials
Master Punch Lists
Audit Finding Reports (AFR)
Stop Work Order Log (SWOL)

6.0 IMPLEMENTATION/DISCUSSION OF AREAS OF GOOD PRACTICE AND CONCERN

After the manual review, the audit then determined the extent to which the procedural requirements were implemented and adhered to. This was accomplished by observation of the operations and interviews throughout the Midland site and the Jackson and Ann Arbor offices.

6.1 TRAINING

The audit team noted that the CP Co-BPCo coordinated training program is well based, extensive and an excellent example of what can be accomplished by mutual agreements between client and constructor.

6.2 SOURCE AND RECEIVING INSPECTION

An indepth review of the source program was made at Ann Arbor, primarily because of the number of complaints about items that were inspected and accepted at the source (vendor) and were later found to be nonconforming as well as the lack of receipt inspection on these items.

The audit confirmed that BPCo policy does not provide for source inspectors to be hands-on, hardware oriented, but rather for system surveillance which supposedly will assure that the vendor's quality system is in place and thus produce conforming items. To that end, BPCo does not, by policy, provide any over check, even when substandard material is found by a receipt inspection.

It should be noted that CP Co has recently provided for "over inspection", but after installation.

6.3 CORRECTIVE ACTION

Another area of concern to the auditors was the corrective action activity at both Midland and Ann Arbor. This activity was reviewed indepth. The audit team found three areas of concern with the corrective action activities, as follows:

6.3.1 Understanding

It was readily apparent after auditing several meetings, reviewing documented procedures as well as discussions with various levels of QA and other disciplines, that the meaning of corrective action was interpreted as "fixing" the immediate problem. Corrective action should have meant that by determining root cause, corrective action can be taken to preclude recurrence.

6.3.2 Attitude

The audit confirmed that for the most part, corrective action extended only to correct the nonconformance and was not a positive action to preclude recurrence.

6.3.3 Time

The response from the majority of people involved in the disposition and corrective action process, when asked about the length of time to disposition overdue items was that they were not the highest priority unless upper management or Scheduling personnel became involved.

AUDIT FINDING REPORTS (AFRs)

Audit Finding Reports are documented nonconformances which are detected during an audit.

As a result of Audit MA/4, 7 AFRs were identified and are included with this attachment. Written responses are required as indicated on each AFR form.



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. Organization Description:

A number of procedures, distribution lists, etc. do not reflect the current Midland Project Quality Assurance Department organization.

AFR SER NO: 44/4-1

AMS-83-9-1F

PROJ/DEPT AFFECTED:
Midland/MPQAD

DATE OF Issue:

March 23, 1983

FILE NUMBER:

AMS-83-9

DISTRIBUTION:

RECOMMENDED CORRECTIVE ACTION:

Revise procedures, distribution lists, etc. to reflect current MPQAD organization.

CORRECTIVE ACTION COMMENT:

DATE OF C/A COMPLETION:

DATE OF C/A EFFECTIVENESS:

ORG. RESP FOR C/A:

A&MS

PERSON MAKING C/A COMMENT:

DJones

METHOD OF VERIFICATION:

IS AF RESPONSIBLE FOR 50.55(0)?

YES

NO

IF "YES", DATE OF REPORT TO MRC:

NA

IF "YES", TIME OF REPORT TO MRC:

NA

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

NA

IF "YES", WHO MADE REPORT:

NA

AFR ORIGINATOR'S SIGNATURE/Date:

3/23/83

Approved By/Date:

3/23/83

C/A VERIFICATION SIGNATURE:

VERIFICATION DATE:



Consumers Power Company

PROJECTS, ENGINEERING AND CONSTRUCTION - QUALITY ASSURANCE DEPARTMENT

AUDIT FINDING REPORT

AS IS CONDITION VERBIS "AS REQUIRED" / "AS REQUIRED" CONDITION WITH REFERENCES:

Procedure MPPM-20-Rev. 1

"Interfaces with NRC Region III Operations Branch During Preoperational Testing Programs"

Describes main contact with Construction NRC, Region III as being MPQA.

The main contact is through the CP Co site manager's office which is responsible for coordinating the NRC Region III visits.

AFR REF NO: 1017-2
AMS-83-9-2F

PROJ/DEPT AFFECTED:
Midland/SMO

DATE OF Issue:
March 23, 1983

FILE NUMBER:
AMS-83-9

DISTRIBUTION:

RECOMMENDED CORRECTIVE ACTION:

Revise procedure to reflect SMO being the main contact with NRC, Region III.

CORRECTIVE ACTION DEPARTMENT:

DATE OF C/A COMPLETION:

DATE OF C/A EFFECTIVENESS:

ORG. RESP FOR C/A:

Site Mgt Office

PERSON MAKING C/A COMPLETE:

DBMiller

METHOD OF VERIFICATION:

IS AF REPORTABLE PER 29 CFR 1910.102?

YES NO

IF "YES", DATE OF REPORT TO NRC:

NA

IF "YES", TIME OF REPORT TO NRC:

NA

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

NA

IF "YES", WHO MADE REPORT:

NA

AFR ORIGINATOR'S SIGNATURE/Date:

3/23/83

Approved By/Date:

3/23/83

C/A VERIFICATION SIGNATURE:

VERIFICATION DATE:



Consumers
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PROJECTS, ENGINEERING AND CONSTRUCTION -
QUALITY ASSURANCE DEPARTMENT

AUDIT FINDING REPORT

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

MPQAD Procedure E-6M, Rev. 2, "Functional Turnover"

Paragraph 5.5.2 describes the turnover inspection authorized by the MPQAD Turnover Group.

The procedure does not provide for any sample inspection.

Contrary to the above requirement, the objective evidence presented to the Audit Team indicated that sampling is used during the walkdown. The sample size (approximately 10%) does not relate to any reliability, probability or recognized formula for sampling, nor is it permitted by the procedure.

AFR SER NO: 4217-3
AMS-83-9-3F

FROM/DEPT AUDITED:
Midland/MPQAD

DATE OF Issue:
March 23, 1983

FILE NUMBER:
AMS-83-9

DISTRIBUTION:

RECOMMENDED CORRECTIVE ACTION:

1. Comply with the procedure as written or if sampling is needed, revise the procedure to define when sampling may be performed with provisions for scientific sampling plans.
2. Train all applicable personnel in sampling techniques.

CORRECTIVE ACTION COMPLETION:

DATE OF C/A COMPLETION:

ORG. REEP FOR C/A:

PERSON MAKING C/A COMMITMENT:

DATE OF C/A EFFECTIVENESS:

MPQAD

RAWells

METHOD OF VERIFICATION:

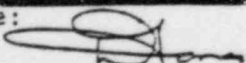
IS AF REPORTABLE PER 90.55(a)? YES NO

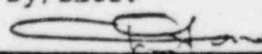
IF "YES", DATE OF REPORT TO REC:
NA

IF "YES", TIME OF REPORT TO REC:
NA

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

IF "YES", WHO MADE REPORT:
NA

AFR ORIGINATOR'S SIGNATURE/Date:
 3/23/83

Approved By/Date:
 3/23/83

C/A VERIFICATION SIGNATURE:

VERIFICATION DATE:



Consumers
Power
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AUDIT FINDING REPORT

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

MPQAD Procedure M-6, Rev. 0, "Quality Action Item List" (QUAIL)

- 1. Attachment "A" describes method of assigning priority ratings by originator.

Volume II, Procedure 16-1, Rev. 7 "Corrective Action"

- 1. 4.2.3 requires escalation to higher organizational authority to support the priority schedule.

Contrary to the above requirements:

- 1. Priorities are not assigned by actual definition of item type but rather as a means to expedite on an as-needed basis.
- 2. Rather than escalation to higher organizational levels, extension of time are given for item resolutions/dispositions which are overdue and in the process of extending the resolution/disposition time, priority points are not accumulated.

AFR REF NO: ~~1000~~
AMS-83-9-4F

PROJ/DEPT ASSIGNED:
Midland/MPOAD

DATE OF Issue:
March 23, 1983

FILE NUMBER:
AMS-83-9

DISTRIBUTION:

RECOMMENDED CORRECTIVE ACTION:

Provide training to those who issue and receive QUAIL items to bring about compliance and revise or eliminate the extension method now in effect which permits items to be open for extended periods of time.

CORRECTIVE ACTION COMMENT:

DATE OF C/A COMPLETION:

DATE OF C/A EFFECTIVENESS:

ORG. RESP FOR C/A:

MPQAD

PERSON MAKING C/A COMMENT:

RAWells

METHOD OF VERIFICATION:

IS AF REPORTABLE PER 90.551(a)?

YES NO

IF "YES", DATE OF REPORT TO MRC:

NA

IF "YES", TIME OF REPORT TO MRC:

NA

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

NA

IF "YES", WHO MADE REPORT:

NA

Approved By/Date:

3/23/83

3/23/83

C/A VERIFICATION SIGNATURE:

VERIFICATION DATE:



Consumers Power Company

PROJECTS, ENGINEERING AND CONSTRUCTION - QUALITY ASSURANCE DEPARTMENT

AUDIT FINDING REPORT

"AS IS" CONDITION VERSUS "AS SPECIFIED" / "AS SPECIFIED" CONDITION WITH REVISIONS:

Bechtel Procurement Supplier Quality Manual, Rev 1, Sect 3.2 "Surveillance Inspection," Para 4.3.8 "Supplier Nonconformance and Follow-up" requires that the Supplier Quality Representative document all deficiencies in equipment inspection characteristics, documentation, or procedures and verify the implementation of corrective action.

Contrary to the above -

The Supplier Quality Representative (SQR) has not identified all discrepancies as Source Inspected hardware have been received at site containing nonconforming characteristics.

The nonconforming items were discovered by the CP Co over-inspection program on site after installation.

AFR SER NO: ~~MA/4-5~~

AMS-83-9-5F

FROM/DEPT AUDITED:

Midland/BPCo

DATE OF ISSUE:

March 23, 1983

FILE NUMBER:

AMS-83-9

DISTRIBUTION:

RECOMMENDED CORRECTIVE ACTION:

The procedures pertaining to Receipt Inspection and Source Inspection should be revised to assure the quality of the items are properly documented by the Source Rep. and an over inspection at receipt be initiated to assure that the items are acceptable and the documentation is both complete and accurate.

CORRECTIVE ACTION COMPLETION:

DATE OF C/A COMPLETION:

DATE OF C/A EFFECTIVENESS:

ORG. RESP FOR C/A:

Bechtel/MPOAD

PERSON MAKING C/A COMPLETION:

JARutgers/RAWells

METHOD OF VERIFICATION:

IS AF REPORTABLE PER 501.551(a)?

YES NO

IF "YES", DATE OF REPORT TO SRC:

NA

IF "YES", TIME OF REPORT TO SRC:

NA

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

NA

IF "YES", WHO MADE REPORT:

NA

AFR ORIGINATOR'S SIGNATURE / Date:

3/23/83

Approved By/Date:

3/23/83

C/A VERIFICATION SIGNATURE:

VERIFICATION DATE:



Consumers
Power
Company

AUDIT FINDING REPORT

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

Procedure M-2, Rev. 3, "Trend Analysis, Phase III"

Paragraph 1.0 Purpose states: "To establish the MPQA requirements, responsibilities and method for trend analysis which is designed to serve as a management tool to detect changes in rates of nonconformance for selected performance areas and for selected nonconformance categories."

Present system does not fulfill the stated purpose because, for the reporting period, the frequency of nonconformances is not related to the amount of work performed in the given performance area.

APR 83 NO: NA/4-6-1

AMS-83-9-6F

PROJ/DEPT AUDITED:

Midland/MPQAD

DATE OF ISSUE:

March 23, 1983

FILE NUMBER:

AMS-83-9

DISTRIBUTION:

RECOMMENDED CORRECTIVE ACTION:

Revise the system to relate the frequency of nonconformances to a construction base in order to provide meaningful trend data, e.g., defects/linear feet of weld, defects/100 cable terminations, etc.

CORRECTIVE ACTION COMMENT:

DATE OF C/A COMPLETION:

DATE OF C/A EFFECTIVENESS:

ORG. RESP FOR C/A:

MPQAD

PERSON MAKING C/A COMMITMENT:

RAWells

METHOD OF VERIFICATION:

IS AF REPORTABLE PER 20.55(a)?

YES

NO

IF "YES", DATE OF REPORT TO MGC:

NA

IF "YES", TIME OF REPORT TO MGC:

NA

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

NA

IF "YES", WHO MADE REPORT:

NA

AFV ORIGINATOR'S SIGNATURE/Date:

3/23/83

Approved By/Date:

3/23/83

C/A VERIFICATION SIGNATURE:

VERIFICATION DATE:



Consumers
Power
Company

AUDIT FINDING REPORT

AS IS CONDITION VERSUS "AS REQUIRED" / "AS SPECIFIED" CONDITION WITH REVISIONS:

Bechtel Field Procedure FIG-1.110, Rev 1 "Identification of Q-Related Items in Proc/Inst." requires that:

Any Procedure/Instruction that does not contain "Q" Related Material will have the following statement in bold letters across the top of the title page or first page as appropriate.

"NON 'Q' RELATED MATERIAL"

Contrary to the above:

A review of Bechtel Procedures marked "Non Q" showed that some procedures covered "Q-Related" items while others had no classification. "Non Q" examples include:

- FIT 1.110, Rev 3 - "Construction General Service Organization (CGSO) Contractor Work Request."
- FIT 3.000, Rev 0 - "Area Turnover"
- FIP 4.100, Rev 1 - "General Cleanliness of Piping and Associated Compliance During Installation and/or Rework."

AFR SER NO: ~~111/4-77~~

AMS-83-9-7F

PROJ/DEPT AGENCY:

Midland/BPCo

DATE OF ISSUE:

March 23, 1983

FILE NUMBER:

AMS-83-9

DISTRIBUTION:

RECOMMENDED CORRECTIVE ACTION:

CP Co should review the field procedures and instructions for content to determine their proper classification.

CORRECTIVE ACTION COMPLETION:

DATE OF C/A COMPLETION:

DATE OF C/A EFFECTIVENESS:

ORG. RESP FOR C/A:

Bechtel/MPQAD

PERSON MAKING C/A COMPLETION:

JARutgers/RAWells

METHOD OF VERIFICATION:

IS AF REPORTABLE PER 50.55(a):

YES NO

IF "YES", DATE OF REPORT TO SRC:

NA

IF "YES", ID# OF REPORT TO SRC:

NA


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

NA

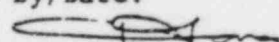
IF "YES", WHO MADE REPORT:

NA

AFR ORIGINATOR'S SIGNATURE/Date:

 2/27/83

Approved By/Date:

 3/23/83

C/A VERIFICATION SIGNATURE:

VERIFICATION DATE:

AUDIT UNRESOLVED ITEMS (URIs)

Audit Unresolved Items are audit elements or characteristics which, due to lack of investigative time or information, cannot be classified as conforming or nonconforming during the audit.

As a result of Audit MA/4, 1 URI was identified and is included with this attachment. Written response is required as noted on each URI form.



Consumers Power Company
QA76-0

UNRESOLVED ITEM

PROJECTS, ENGINEERING
AND CONSTRUCTION -
QUALITY ASSURANCE DEPARTMENT

6. DESCRIPTION OF UNRESOLVED ITEM:

MPQAD Procedures E-1M, Rev. 2 and D-4M provides a definition of sampling but does not provide when sampling shall be performed or the selection of scientific plans.

1. URI NO: MA/4-1U
AMS-83-9-1U

2. PROJ/DEPT AUDITED:
Midland/MPOAD

3. DATE OF ORIGINATION:
March 23, 1983

4. FILE NO:
AMS-83-9

5. DISTRIBUTION:

7. REQUIRED ACTION:


Upgrade the procedures to describe when sampling may be used and a reference or source that provides sampling rules and sizes for specific quality levels.

8. ACTION REQUIRED FROM: MPOAD-RAWells


9. ACTION REQUIRED BY-DATE: 3/15/83

10. RESPONSE TO URI:

11. URI ORIGINATOR'S SIGNATURE/DATE:

 3/23/83

12. Approved By/Date:

 3/23/83

13. URI CLOSURE BASED ON:

RECEIPT OF
ACCEPTABLE
RESPONSE

ISSUANCE OF
AFR

14. AFR NO _____

15. CLOSED BY-SIGNATURE/DATE:

AUDIT OBSERVATIONS (OBS)

Audit observations are either:

- (a) A condition which if allowed to continue may become a nonconformance, or
- (b) A recommendation which may improve the Quality Assurance Program.

As a result of Audit MA/4, 9 Audit Observations were identified and are included with this attachment. No specific written responses are required to these observations.

OBSERVATIONS1. Source Inspection

MPQAD Procedure E-1M, Rev. 2, "Site Inspection Planning and Site Inspection"

Paragraph 1.0 "Procedure defines the requirements, responsibilities and procedures for performing, documenting and statusing site inspection activities."

CP Co is currently planning and performing an "Over Inspection" of vendor supplied hardware that has already been installed.

The results of the inspection show that the work should be performed prior to installation.

Suggestion

Critical items being sourced by Bechtel should have CP Co participation at the vendors to eliminate over inspection and ensure the quality of incoming material.

2. ReportsTrend Report Review

The auditors determined that the Trend Report is too voluminous for its intended use. The total report (approximately 160 pages), including the areas that have had no activity, are sent to top level management for review and to determine significant trends. The whole report is also sent to people who only have specific areas of interest.

Suggestion

The Trend Report should be revised in format and reduced so that only the significant trends are immediately detected by both management and the affected area supervision.

QUAIL Report

MPQAD Administration publishes a "High Index Report," which is a combination of priority assignments and elapsed time, and which is not described in the MPQAD procedure.

There are high priority items which have been carried on the Quality Action Item List (QUAIL) for long periods of time (one, two or three years). The system in place to promptly close "old" items out is not being followed as set forth in Volume II, Procedure 16-1, Rev 7, paragraph 4.2.3.

OBSERVATIONS (Cont'd)QUAIL Report (Cont'd)

Another function of the report, the system for showing items overdue on the "High Index Report" is not being utilized to its fullest extent because the item may be intentionally kept off the list by the QAE granting a time extension which negates the overdue priority rating.

Suggestion

Revise the procedure so that the time factor established by the High Index Formula is not cancelled by an extension but rather continues to increase in points and the item remains on the report.

3. Site Inspection Planning and Site Inspection

The quality system provides for the use of two like inspection documentation formats for use in Site Inspection Planning and Site Inspection.

- CP Co's Project Inspection Plan and Reports (PIPR)

This system is described in CP Co MPQAD Procedure E-LM, Section : 0.

- Bechtel's Project Quality Control Instruction (PQCI)

This system is described in Bechtel's QC Notice Manual AAPD/PSP G.6.1.

Suggestion

Since both forms provide the same information and are used for the same purpose, (PIPR and PQCI), they should be reviewed with consolidation in mind. If differentiation must be maintained for application purposes, then the use of check boxes may be considered which will provide the documents application by checkmark.

OBSERVATIONS (Cont'd)4. Tagging, Status, Segregation of MaterialTagging and Status

Currently, the system for indicating the quality status of material is obtained by tagging nonconformances with a Hold. The acceptable material is assumed if no hold tag is evident to indicate any form of nonconformance. Also, nonconforming material is segregated upon receipt. This system is based on perimeter control; i.e., any material within the perimeter is acceptable.

Segregation (Identification)

Currently stores uses paint to identify Non-Q items. Non-Q and Q items are comingled.

Suggestions

- Use of accept tags/devices would be more effective and reliable in the control of material because it would positively preclude the inadvertent comingling of items from which the hold tag might have been removed or lost. Reinspection of an item (previously accepted) without a tag would determine its condition of acceptability.
- Comingling of Q and Non-Q parts is not a good practice from both a quality point of view and an accountability standpoint.
- Coupled with the practice of not identifying acceptable hardware and dependence on an identification process that identifies only the Non-Q, the audit clearly indicates that there is a higher probability of mis-identification and use of Non-Q in place of Q and nonconforming hardware instead of conforming.

5. Receipt Inspection NDE

Currently "a gentlemen's agreement" exists between Receipt Inspection and MPQE that provides for reading vendor supplied film at receipt.

Suggestion

This should be made part of the documented system and a condition of acceptance.

OBSERVATIONS (Cont'd)6. Nonconforming Report (NCR) and Inprocess Inspection Notice (IPIN)

Currently, two documents are used to document nonconformances. The IPIN is less formal and used to "turn back" work that can be reworked (conform to all design requirements). The NCR is used to report items that may be accepted as is or repaired (will not conform to design requirements but is functionally acceptable).

With the present system, the IPIN does not describe by item or quantity what portion of the operation was actually inspected and what was yet to be inspected to complete the inspection sequence. If the reinspection is not performed by the same inspector or in a timely manner, the possibility of closing out the I.R. by reinspection of only the documented open items instead of the entire sequence exists.

Suggestion:

1. The NCR can be used by developing a procedure for providing "Controlled" preliminary rework disposition thus eliminating a duplicating (and not satisfactory) form (the IPIN) for reporting incomplete operations (not merely for inspection).
2. Training should be provided to the QC Dept to assure that all inspectors document exactly the scope of the inspection completed and the identification of the balance that must be done during the re-inspection to close out the I.R.
3. To assure that the NCR preliminary disposition authority is not abused, the cognizant MPQAD QAE should review and concur in the disposition.

7. Training Records

The records of training are compiled in a file folder. A complete review of each item is required to determine complete qualifications.

Suggestion

A cover sheet should be included in the file which identifies the individual's basic position(s) and level(s) (I, II or III).

OBSERVATIONS (Cont'd)8 Training Coordinator

Currently, each operation at Midland has its own training coordinator (Soils, HVAC, MP Construction, Bechtel, etc).

Suggestion

The duties and records should be combined under one coordinator to reduce redundancy in papers and operations.

9. QA Program Acceptance

The audit interviews with various levels of workers/supervisors revealed a general feeling that the QE/QC requirements have not been standardized, but are subject to individual interpretation. This has resulted in "nit picking".

Suggestion

The necessity for inspectors to interpret the requirements should be eliminated by the use of planning and instructions that will clearly define the QE/QC requirements for verification and acceptance of the item(s).

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

NLC - 10

11/10/91

Feb. 8, 1993

CPCo/NRC Meeting - February 8, 1983 - 9:00 a.m.

Keppler's opening remarks and introductions.

Keppler - CPCo's implementation of program was not sound. Formalized CCP written by CPCo. Not approved by NRC. Purpose of meeting is to understand program and obtain public comment on it.

J. Cook - Soils work not covered in 1/10/83 letter. Treated separately. The program today excludes soils. Third party review will be discussed.

D. Miller - CCP Sources of Input (See attached sheet)

1. Evaluation of Systems
2. Transfer of QC to CPCo QA (MPQAD)
3. INPO Self Evaluations
4. 1981 SALP Report
5. October/November Diesel Generator Building Inspection
6. November NRC letter to ACRS
7. Need to place more emphasis on soils start

Eisenhut - What is problem you are addressing?

Miller - Novak letter to ACRS - validate past QC inspections, improve understanding of acceptance criteria.

QA/QC Implementation Improvement

1. Recertify QC inspectors
2. Integration of construction and inspection planning

Figure 1-1 - Schematic CCP

Davis/Shaffer - 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.

Shaffer - How will inspector know if room has been 100% inspected?

Miller - Rooms will be marked. Most critical systems will be done first, etc.

Eisenhut - Specs and drawings inspected to be accurate.

J. Cook - NRC never said CPCo had design problems.

Davis - Physical inspection fine - what about record verification?

Miller - Yes. You're right.

Keppler - Are you into Step 5 anywhere? (See schematic.)

Miller - No.

Miller - Section 2.0 Preparation of Plant

Roy Wells - Section 3.0

Shafer - How many inspectors are certified? When PQCI procedures ^{change} ~~change~~ will inspectors be retrained?

Wells - Yes. Procedures are being simplified. Inspectors will be recertified to new procedures. A Level III will make that decision.

Landsman - Will old manuals be used at all?

Wells - They are being rewritten to incorporate Bechtel's/CPCo's

Snizek - When these procedures are complete will there be any questions in the inspectors' minds?

Wells - None.

Shafer - What measures provide that once you get past system QC it ^{won't} ~~won't~~ be "business as usual"?

Figure 3.0 - 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.

Snizek - What is PQCI test?

Wells - Questions relate to how to perform inspections, etc.

Wells - Written test on technical inspection plan.

Shafer - Any feedback from PQCI staff?

Wells - Has not asked that question.

Harrison - Two people failed. Where are they now?

Wells - They are Bechtel employees. They are not being used in quality work.

Shafer - Performance demonstration - given by whom?

Wells -

Section 4.2 and 4.4

Don Miller - Benefits of Completion Team Approach (See sheet)

Eisenhut - Single point - who?

Miller - Quality representative.

Eisenhut - Same on last 2 bullets?

Miller - Yes.

Eisennut - QA/QC Manager responsible for inspection requirements? Why aren't governed by safety connotation of system?

Miller -

Novak - Team dedicated to one system?

Miller - Yes.

Shafer - How many teams?

Miller - About 25. No commitments. 850 total systems. Most of the systems turned over are electrical.

Snizek - I thought program would be used at turnover.

Miller - They will do QC inspection. For systems that have been turned over we will do . Miller gives team endpoint.

Burgess - System done? What do you mean?

Miller - System missing pump (for example). Flush and check, start layup. When done, start testing.

Gardner - Phase 1 - Quality Rep is doing most of the work.

Miller - Still working on team interaction.

Eisenhut - All safety-related structure systems components will be reverified?

Miller - Yes.

Landsman - What is safety-related?

Miller - We live to FSAR.

Eisenhut - FSAR may be amended.

Keppler - We're taking issue with the FSAR.

System Team Development - (See attached)

Keppler - Project time frame?

Miller - Sometime mid-March

Keppler - Management reviews by March?

Miller - Yes.

Gardner - Status activities and quality verification parallel

Now does team process identified nonconformances?

Miller - Working out details.

Shafer - Team not responsible for Appendix B?

Miller - Inspection of records done by QC

System Team Operations - (See attached)

Shafer - Can anyone write an NCR?

Miller - Yes.

Section 4.3 - Roy Wells

R. Cook - Does that include PQCI inspections?

Miller - Yes.

Inspection Plan (PQCI) Review and Revision - (See attached)

Eisenhut - First bullet - as opposed to safety-related? Explain difference between "important to safety" and "safety-related".

Wells - CPCo will look into Q-ness.

Gardner - No inspection due to backlog ever. Not a reinspection.

Wells - The team will do that.

Verification Program Concepts - (See attached)

Novak - System turned over - example.

Miller

Sniezek - 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.

Kepler - NRC never formally blessed Stone and Webster.

Eisenhut - NRC will pick system for design verification.

Kepler - CPCo feels made appropriate changes to QA, but wants a third party independent party overseeing.

Landsman - Stone and Webster does documentation review, makes sure implemented, does not do physical inspection.

Keeley - Geotechnical engineer.

J. Cook - Complete entire project, not just NRC concerns or QA concerns.
CPCo is committed to completing the plan.

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 CPC QA (MPQAD)
3. INPO SELF-INITIATED EVALUATION
4. 1981 SALP REPORT AND SUBSEQUENT DISCUSSIONS
5. THE OCTOBER/NOVEMBER DIESEL-GENERATOR BUILDING INSPECTION
6. NOVEMBER NRC LETTER TO THE ACRS
7. NEED TO PLACE MORE EMPHASIS ON SOILS START

CONSTRUCTION COMPLETION PROGRAM

OBJECTIVES

IMPROVE PROJECT INFORMATION STATUS BY:

- PREPARING AN ACCURATE LIST OF TO-GO WORK AGAINST A DEFINED BASELINE.
- BRINGING INSPECTIONS UP-TO-DATE AND VERIFYING THAT PAST QUALITY ISSUES HAVE BEEN OR ARE BEING BROUGHT TO RESOLUTION.
- MAINTAINING A CURRENT STATUS OF WORK AND QUALITY INSPECTIONS AS THE PROJECT PROCEEDS.

IMPROVE IMPLEMENTATION OF THE QA PROGRAM BY:

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

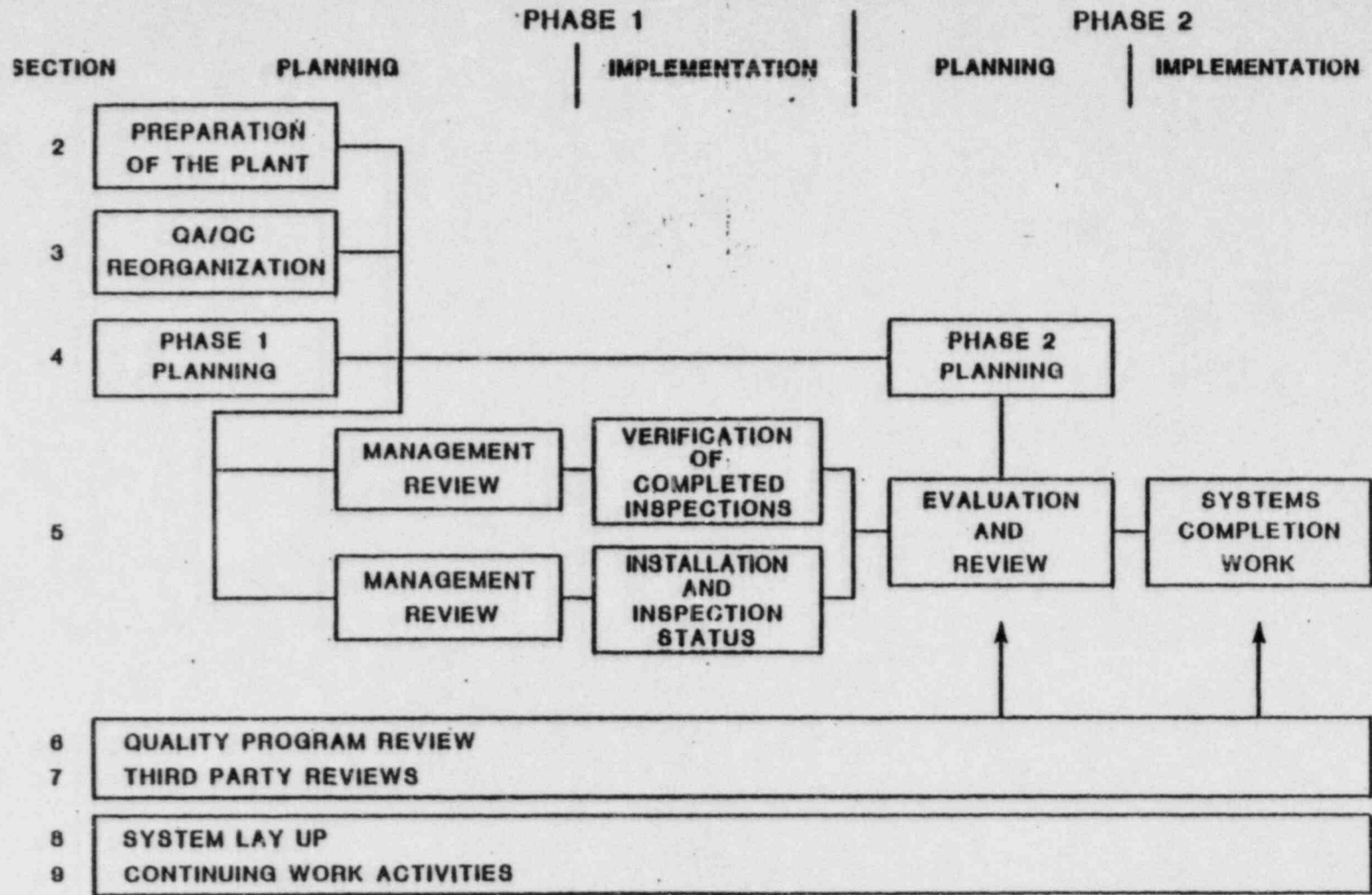
CONSTRUCTION COMPLETION PROGRAM (CONTD)

ASSURE EFFICIENT AND ORDERLY CONDUCT OF THE PROJECT BY:

- ESTABLISHING AN ORGANIZATIONAL STRUCTURE CONSISTENT WITH THE REMAINING WORK.
- PROVIDING SUFFICIENT NUMBERS OF QUALIFIED PERSONNEL TO CARRY OUT THE PROGRAM.
- MAINTAINING FLEXIBILITY TO MODIFY THE PLAN AS EXPERIENCE DICTATES.

FIGURE 1-1

CONSTRUCTION COMPLETION PROGRAM SCHEMATIC



SECTION 2.0
PREPARATION OF THE PLANT

OBJECTIVES: TO ALLOW IMPROVED ACCESS TO SYSTEMS FOR PROGRAM ACTIVITIES

DESCRIPTION: REDUCE THE WORKFORCE AND LIMIT Q ACTIVITIES
REMOVE THE CONSTRUCTION EQUIPMENT AND CLEAR AREAS
INSPECT, STORE AND SALVAGE EQUIPMENT

RESULTS: PLANT IS IN A CONDITION TO FACILITATE INSTALLATION AND INSPECTION
STATUS AND VERIFICATION OF COMPLETED WORK

STATUS: REDUCTION IN FORCE STARTED 12/1/82 WITH CLEANUP COMPLETED ON
1/31/83.

SECTION 3.0

QA/QC ORGANIZATIONAL CHANGES

OBJECTIVE:

- . ESTABLISH INTEGRATED QA/QC ORGANIZATION UNDER CPCO CONTROL
- . TRAIN AND RE-CERTIFY QC INSPECTION PERSONNEL

DESCRIPTION:

- . QC ORGANIZATION REPORTS DIRECTLY AND SOLELY TO CPCO MPQAD
- . QA AND QC RESPONSIBILITIES REDEFINED AS AN INTEGRATED TEAM
- . QA DEVELOPS INSPECTION PLANS - QC IMPLEMENTS PLANS - QA MONITORS
- . BECHTEL'S QC AND QA MANUALS USED AS APPROVED FOR MIDLAND
- . ASME REQUIREMENTS REMAIN IMPOSED ON CONTRACTOR AS N-STAMP HOLDER - QA MONITORS
- . QC INSPECTORS RECERTIFIED

RESULT EXPECTED:

- . FULLY INTEGRATED QUALITY ORGANIZATION UNDER CPCO CONTROL
- . UNIFORM UNDERSTANDING OF QUALITY REQUIREMENTS AMONG ALL PARTIES
- . IMPROVED PRIMARY INSPECTION PROCESS WITH RECERTIFIED PERSONNEL
- . IMPROVED AND AGGRESSIVE IMPLEMENTATION OF QA PROGRAM

STATUS:

TRANSFER QC
ORG TO CPCO

1/17/83

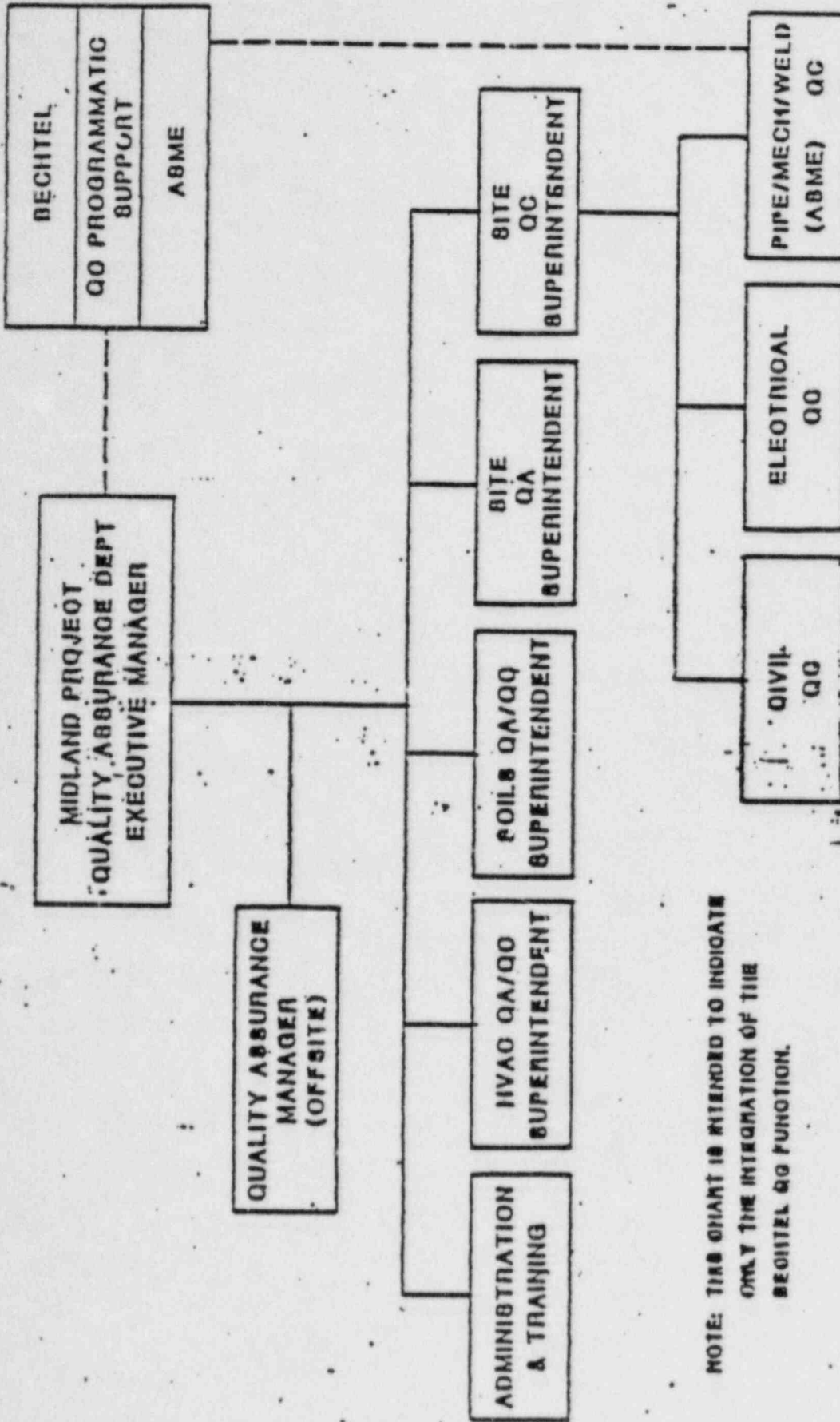
SUBMIT PROGRAMMATIC
CHANGES TO NRC

2/17/83

COMPLETE INSPECTOR
RECERTIFICATION

4/1/83

FIGURE 0-1
MPQAD ORGANIZATION



NOTE: THIS CHART IS INTENDED TO INDICATE ONLY THE INTEGRATION OF THE BECHTEL QA FUNCTION.

QC RECERTIFICATION

PROGRAM:

- . COVERS ALL QC INSPECTORS INTEGRATED WITH MPQAD
- . CLASS ROOM TRAINING ON PROGRAMMATIC AND INSPECTION PLANS
- . WRITTEN CLOSED BOOK EXAMINATIONS WITH 80% ACHIEVEMENT REQUIREMENT ON PROGRAMMATIC AND INSPECTION PLANS
- . ON THE JOB TRAINING AND PERFORMANCE DEMONSTRATION EXAMINATIONS WITH 100% ACHIEVEMENT REQUIREMENT ON INSPECTION PLANS
- . FINAL CERTIFICATION GIVEN BY MPQAD PERSONNEL QUALIFIED AS ANSI LEVEL III

TRAINING STAFF:

- . UNDER MPQAD DIRECTION
- . DEDICATED STAFF WITH SUPPORT BY EXPERIENCED MPQAD STAFF
- . EXPERIENCED TRAINING SUPERVISION AND SELECTED INSTRUCTORS
- . PRESENT COMPLEMENT
 - . SUPERVISORS
 - . INSTRUCTORS
 - . PROGRAM SUPPORT (LESSON PLANS - EXAMS)

STATUS: (AS OF 2/4/83)

- . ALL PERSONNEL RECERTIFIED TO QC PROGRAM
- . NEARLY 500 INSPECTOR - PQCI TESTS
- . OVER 100 PERFORMANCE DEMONSTRATIONS
- . APPROXIMATELY 75 INSPECTOR - PQCI CERTIFICATIONS

SECTION 4.2 AND 4.4

PROGRAM PLANNING

TEAM ORGANIZATION

OBJECTIVE: ORGANIZE AND TRAIN TEAM AND PREPARE PROCEDURES FOR INSTALLATION AND INSPECTION STATUS ASSESSMENT AND FOR SYSTEMS COMPLETION.

DESCRIPTION:

- .DEVELOP TEAM CONCEPT
- .SELECT PILOT TEAM TO TEST PROCESSES AND PROCEDURES
- .PREPARE JOB RESPONSIBILITIES AND PROCEDURES
- .PROVIDE TEAM TRAINING FOR STATUS ASSESSMENT AND SYSTEMS COMPLETION

RESULTS .IMPROVED INSPECTION AND INSTALLATION PLANNING AND EXECUTION

EXPECTED:

- .IMPROVED DIRECTIONS TO CRAFTS
- .IMPROVED COMMUNICATION BETWEEN CONSTRUCTION, QC, ENGINEERING AND TESTING

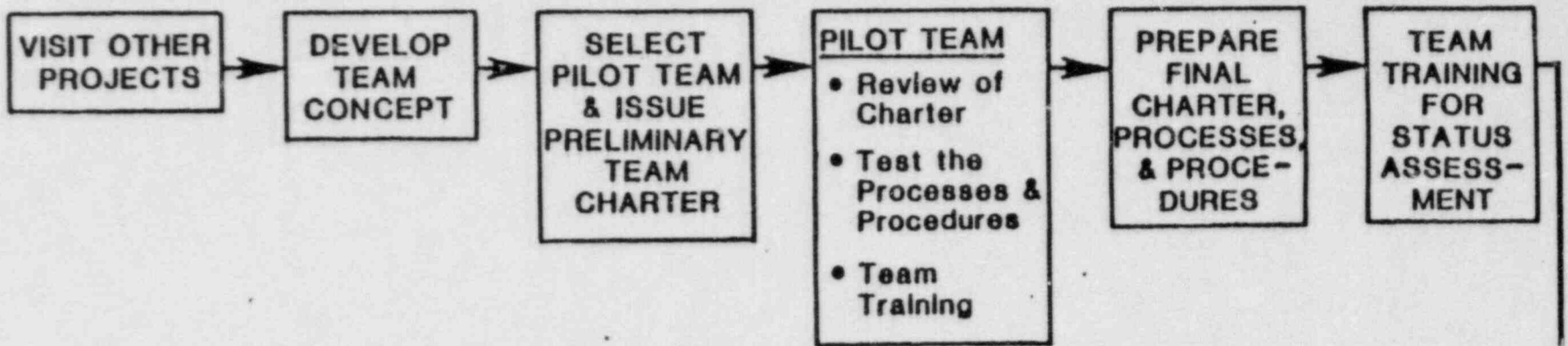
STATUS ESTABLISH TEAM CONCEPT AND DESIGNATE PILOT TEAM 1/21/83

BENEFITS OF "COMPLETION TEAM" APPROACH

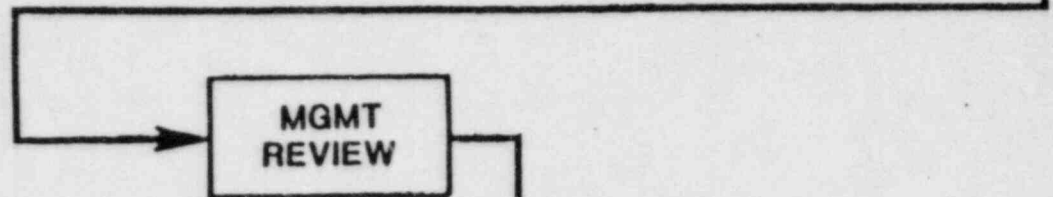
- SINGLE GROUP RESPONSIBLE FOR ALL ASPECTS OF SYSTEM COMPLETION TO FUNCTIONAL TURNOVER
- IMPROVED COMMUNICATION BY BEING PHYSICALLY LOCATED TOGETHER
- IMPROVED MAINTENANCE OF STATUS OF WORK
- SINGLE POINT CONTACT FOR QUALITY INSPECTION REQUIREMENTS
- IMPROVED INTEGRATION OF QUALITY INSPECTION PLANS WITH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

SYSTEM TEAM DEVELOPMENT

ORGANIZATIONAL PROCESS & PROCEDURE DEVELOPMENT



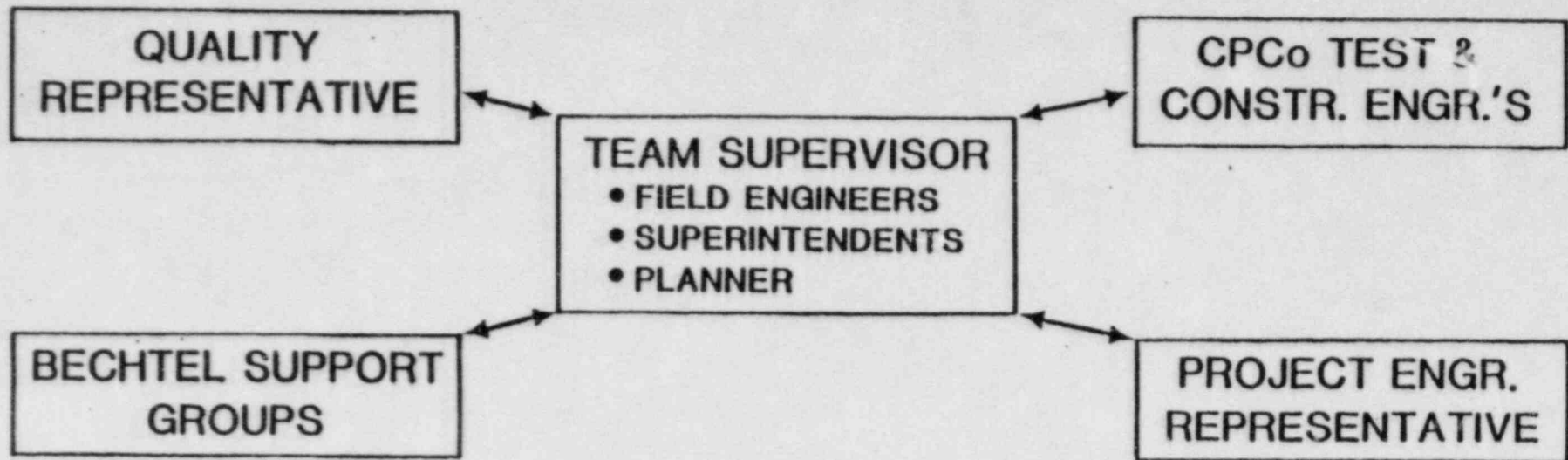
REVIEWS AND APPROVALS



COMMENCE WORK



SYSTEM TEAM OPERATIONS



PHASE I

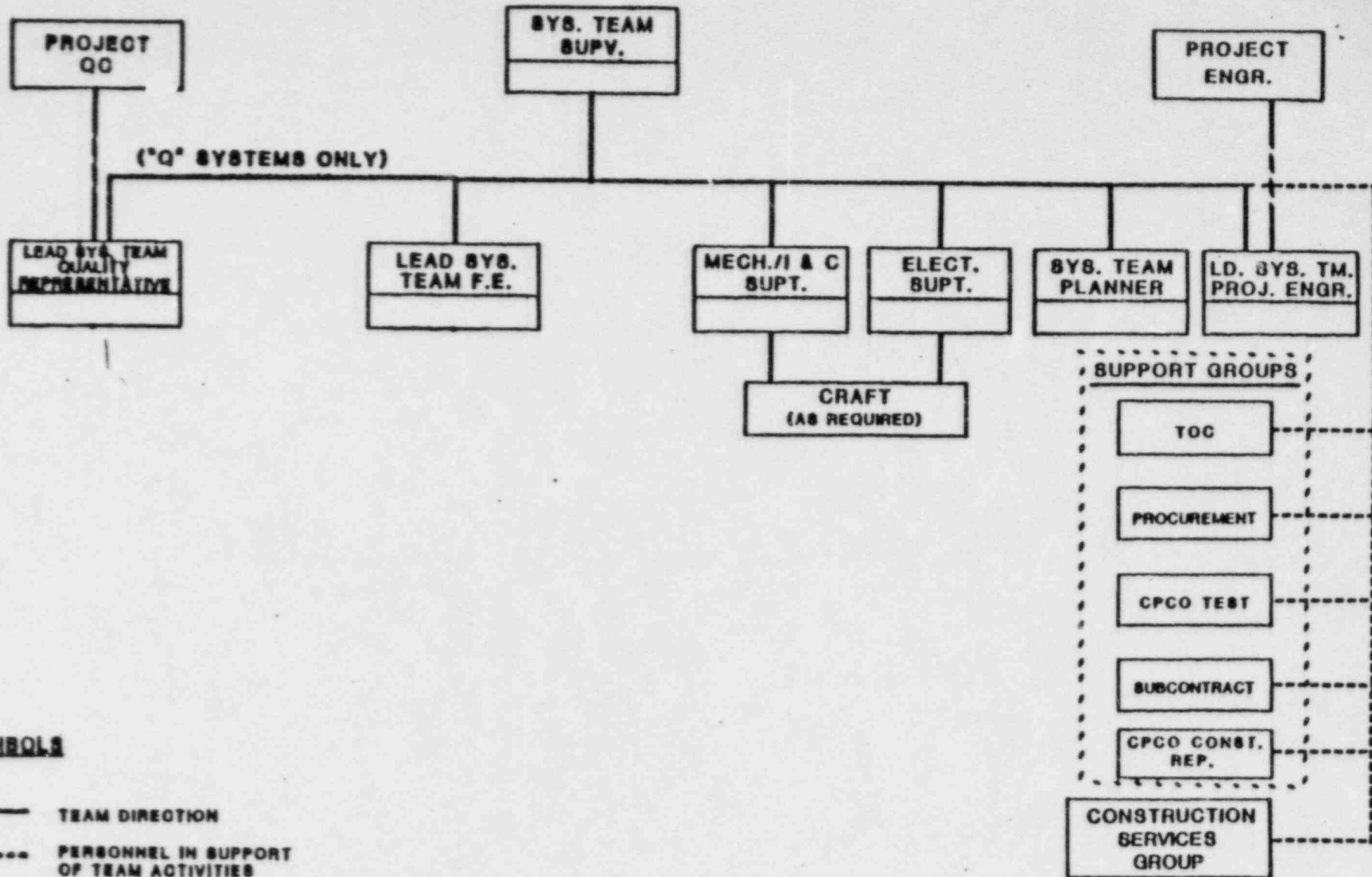
- REVIEW DOCUMENTS TO DESCRIBE THE SYSTEM SCOPE
- COMPARE PHYSICAL STATUS TO THE DOCUMENTS
- PERFORM QUALITY VERIFICATION ACTIVITIES AS ASSIGNED
- IDENTIFY REMAINING WORK

PHASE II

- DEVELOP DETAIL SYSTEM COMPLETION SCHEDULES
- DIRECT & ACCOMPLISH THE WORK
- MONITOR & REPORT STATUS/PROGRESS
- IDENTIFY PROBLEMS FOR RESOLUTION & MGMT. REVIEW
- COMPLETE THE SYSTEMS FOR FUNCTIONAL TURNOVER

0.
Subject

SYSTEM TEAM ORGANIZATION



Q/M-0480

otch
 Transparency Mounting Frame
 Part No. 0-21200-19919

Commercial Tape Division/3M

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

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SIGNIFICANT INSPECTION PROCESS IMPROVEMENTS

IMPROVED QUALITY CONTROL INSPECTIONS AND INSPECTION REPORTS

REVIEWED AND MODIFIED TO:

- . MINIMIZE INSPECTOR INTERPRETATIONS BY IDENTIFYING SPECIFIC ACCEPT/REJECT CRITERIA IN SELF CONTAINED PQCI
- . INSURE CLARITY AND EFFECTIVENESS OF PQCI BY PILOT TESTS
- . INSURE ALL INSPECTION ATTRIBUTES AND ACCEPTANCE CRITERIA ARE INCLUDED BY MPQAD-QA PREPARATION AND PROJECT ENGINEERING OVERVIEW

ABSOLUTE AND TIMELY REPORTING OF NONCONFORMANCES

PROCEDURES REVISED TO:

- . REQUIRE ALL NONCONFORMANCES ARE IDENTIFIED AND RECORDED FOR ANALYSIS AND DISPOSITION
- . IMPROVE TRENDING AND IDENTIFICATION OF PROCESS DEFICIENCIES FOR TIMELY MANAGEMENT ACTION
- . ELIMINATE DUPLICATIVE NONCONFORMANCE REPORTING SYSTEMS

QUALITY REPRESENTATIVE ON SYSTEM COMPLETION TEAM REPRESENTS MPQAD-QA/QC

INTEGRATED CONSTRUCTION/INSPECTION PROCESS

IMPROVED INTEGRITY AND TIMELINESS OF INSPECTIONS BY:

- . USE OF DEFINED HOLD POINTS FOR INSPECTION IN CONSTRUCTION SEQUENCES
- . FORMAL DOCUMENTATION OF ALL OBSERVED NONCONFORMANCES AT ALL INSPECTION POINTS

SIGNIFICANT INSPECTION PROCESS IMPROVEMENTS

(CONT'D)

- . DEDICATED QUALITY REPRESENTATIVE FOR SYSTEMS AS MEMBER OF TEAM
- . INTEGRATED PLANNING FOR INSPECTIONS BY TEAM

INTEGRATED QUALITY PROCEDURES DUE TO QA/QC INTEGRATION

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

SECTION 6.0

QUALITY PROGRAM REVIEW

OBJECTIVE:

REVIEW THE ADEQUACY AND COMPLETENESS OF THE QUALITY PROGRAM AND MAKE REVISIONS AS NECESSARY:

- . ON AN ONGOING BASIS FOR GENERAL IMPROVEMENTS
- . IN RESPONSE TO SPECIFIC CONCERNS (D/G INSPECTION)
- . IN RESPONSE TO THIRD PARTY REVIEWS

DESCRIPTIONS:

- . REVIEW SPECIFIC PROCEDURES FOR COMPLIANCE TO PROGRAM REVIEW
- REVIEW ACTUAL IMPLEMENTATION OF PROCEDURES
- . COORDINATE REVIEWS WITH OTHER PROJECT AREAS
- . PROVIDE INPUT AND RECOMMENDATION TO MANAGEMENT

RESULT EXPECTED:

- . CONTINUED OVERALL IMPROVEMENT IN THE QUALITY PROGRAM CONTENT AND IMPLEMENTATION

STATUS:

ONGOING
REVIEWS

COMPLETE PRE-
SENT SPECIFIC
EFFORTS

CURRENT SPECIFIC PROGRAMMATIC REVIEWS

EFFORTS PRESENTLY UNDERWAY TO REVIEW PROGRAMMATIC REQUIREMENTS AND IMPLEMENTATION FOR:

MATERIAL TRACEABILITY:

- . REVIEW OF ALL PROJECT COMMITMENTS
- . REVIEW OF IMPLEMENTING PROCEDURES
- . REVIEW OF PRIOR AUDITS
- . REVISION OF RECEIPT INSPECTION PQCI

Q-SYSTEM RELATED REQUIREMENTS

- . VERIFICATION OF PROJECT COMMITMENTS BY ENGINEERING AND LICENSING

DESIGN DOCUMENT CONTROL

- . FLOW CHART OF EXISTING PROCEDURES
- . CHECK OF ACTUAL IMPLEMENTATION
- . COMPARISON WITH PROGRAMMATIC REQUIREMENTS

RECEIPT INSPECTION

- . REVIEW OF SOURCE INSPECTION/RECEIPT INSPECTION SYSTEMS
- . PQCI REVISED
- . RECERTIFICATION OF INSPECTORS
- . CONSIDERATION OF SELECTED OVERINSPECTION

SECTION 8.0

SYSTEM LAYUP

OBJECTIVE: PROVIDE ADEQUATE PROTECTION FOR PLANT SYSTEMS AND COMPONENTS UNTIL PLANT STARTUP

DESCRIPTION: .IDENTIFY AND PROTECT SYSTEMS WETTED DUE TO HYDRO TESTING OR FLUSHING
.PROVIDE SCHEDULES FOR WALKDOWN TO ENSURE CLEANLINESS AND ADEQUATE PREVENTIVE MAINTENANCE
.CARRY OUT WALKDOWNS TO ENSURE COMPLETENESS OF SYSTEM LAYUP ACTIVITIES

RESULTS IMMEDIATE PROTECTION OF WETTED SYSTEMS

EXPECTED: PROVIDE CONTINUED CARE FOR ALL COMPONENTS UNTIL SYSTEM TURNOVER

STATUS: COMPLETE LAYUP OF ALL WETTED SYSTEMS 1/15/83

ISSUED SCHEDULES FOR WALKDOWNS 1/15/83

SECTION 9.0
CONTINUING WORK ACTIVITIES

OBJECTIVES:

- .MEET PREVIOUS NRC REQUIREMENTS AND CONTINUE WITH ACTIVITIES WHICH DO NOT IMPEDE THE EXECUTION OF THE PROGRAM

- .PROVIDE DESIGN SUPPORT FOR ORDERLY SYSTEM COMPLETION WORK AND RESOLUTION OF IDENTIFIED ISSUES

- .ESTABLISH A MANAGEMENT CONTROL TO INITIATE ADDITIONAL SPECIFIED WORK THAT CAN PROCEED OUTSIDE OF THE SYSTEMS COMPLETION ACTIVITIES

SECTION 9.0
CONTINUING WORK ACTIVITIES

DESCRIPTION: THOSE ACTIVITIES THAT HAVE DEMONSTRATED EFFECTIVENESS IN THE QUALITY PROGRAM IMPLEMENTATION WILL CONTINUE DURING IMPLEMENTATION OF THE CONSTRUCTION COMPLETION PROGRAM.

THESE ARE:

1. NSSS INSTALLATION OF SYSTEMS AND COMPONENTS BEING CARRIED OUT BY B&W CONSTRUCTION COMPANY
2. HVAC INSTALLATION WORK BEING PERFORMED BY ZACK COMPANY. WELDING ACTIVITIES CURRENTLY ON HOLD WILL BE RESUMED AS THE IDENTIFIED PROBLEMS ARE RESOLVED
3. POST SYSTEM TURNOVER WORK, WHICH IS UNDER THE DIRECT CONTROL OF CONSUMERS POWER COMPANY, WILL BE RELEASED AS APPROPRIATE USING ESTABLISHED WORK AUTHORIZATION PROCEDURES
4. HANGER AND CABLE RE-INSPECTIONS, WHICH WILL PROCEED ACCORDING TO SEPARATELY ESTABLISHED COMMITMENTS TO NRC
5. REMEDIAL SOILS WORK WHICH IS PROCEEDING AS AUTHORIZED BY THE NRC
6. DESIGN ENGINEERING WILL CONTINUE AS WILL ENGINEERING SUPPORT OF OTHER PROJECT ACTIVITIES

SECTION 9.0
CONTINUING WORK ACTIVITIES

STATUS:

. THESE ACTIVITIES ARE PROCEEDING
WITH SCHEDULES THAT ARE
INDEPENDENT OF THIS PLAN.

THIRD PARTY REVIEWS

- INPO Self-initiated Evaluation by MAC

- Independent Design Verification of
Auxiliary Feedwater and one Other
System

- Independent Installation Implementation
Overview (Soils Work being performed
by Stone & Webster)

SELF-INITIATED EVALUATION

-INPO Received Report January 31, 1983

-Submission to NRC

-Corrective Action Implementation

INDEPENDENT INSTALLATION IMPLEMENTATION OVERVIEW

-Status

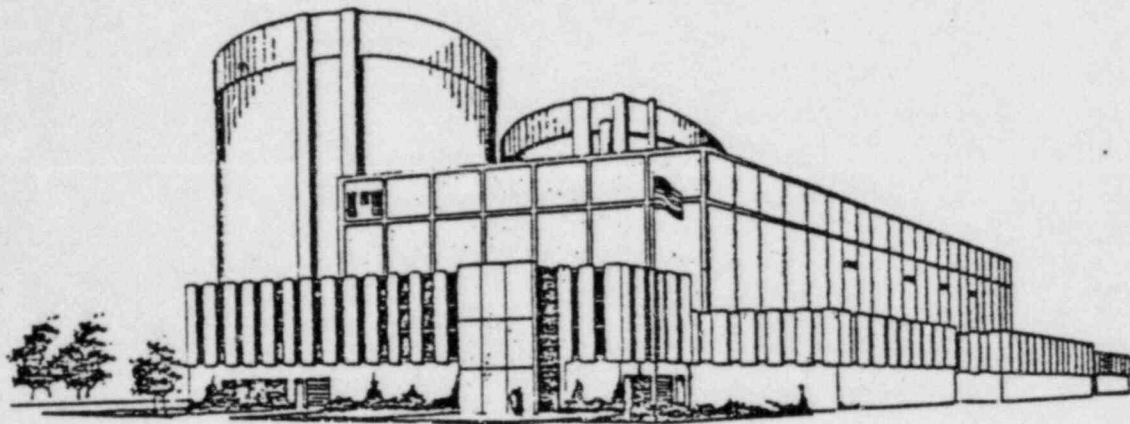
-Scope

- 1 - Familiarization With Procedures, Drawings, Specs, Organizations, Interfaces
- 2 - Evaluate adequacy of the above
- 3 - Evaluate compliance with above for construction activities and QC activities
- 4 - Submit observations and reports to Consumers Power with copies to NRC

-Schedule

- 1 - Award Contract February 15, 1983
- 2 - Activities 1 through 5 February 15 to August 15, 1983
- 3 - Final Report, Evaluation and Decision on Need to Extend Overview Schedule 9/1/83

MIDLAND INDEPENDENT DESIGN
VERIFICATION PROGRAM
FOR THE AFW SYSTEM AND ANOTHER SYSTEM
TO BE DETERMINED



FEBRUARY 8, 1983



TETRA CORPORATION

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

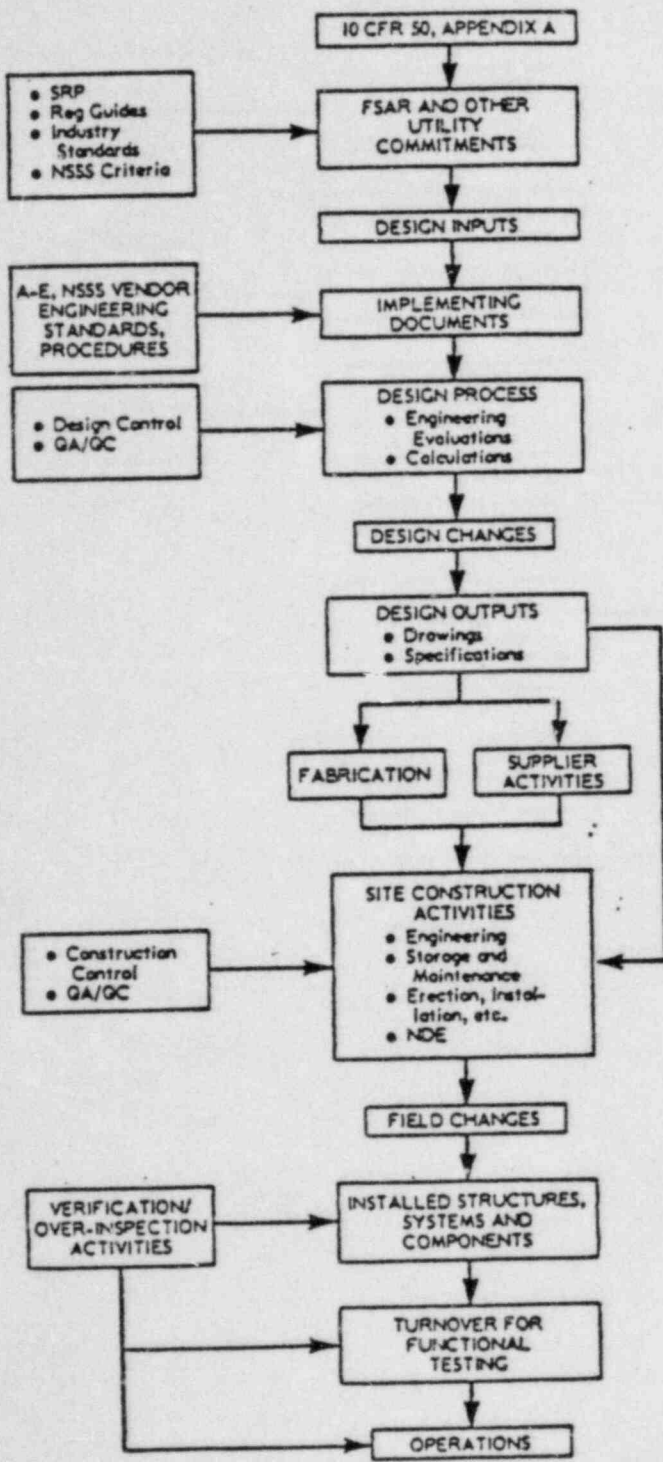


PROGRAM STATUS

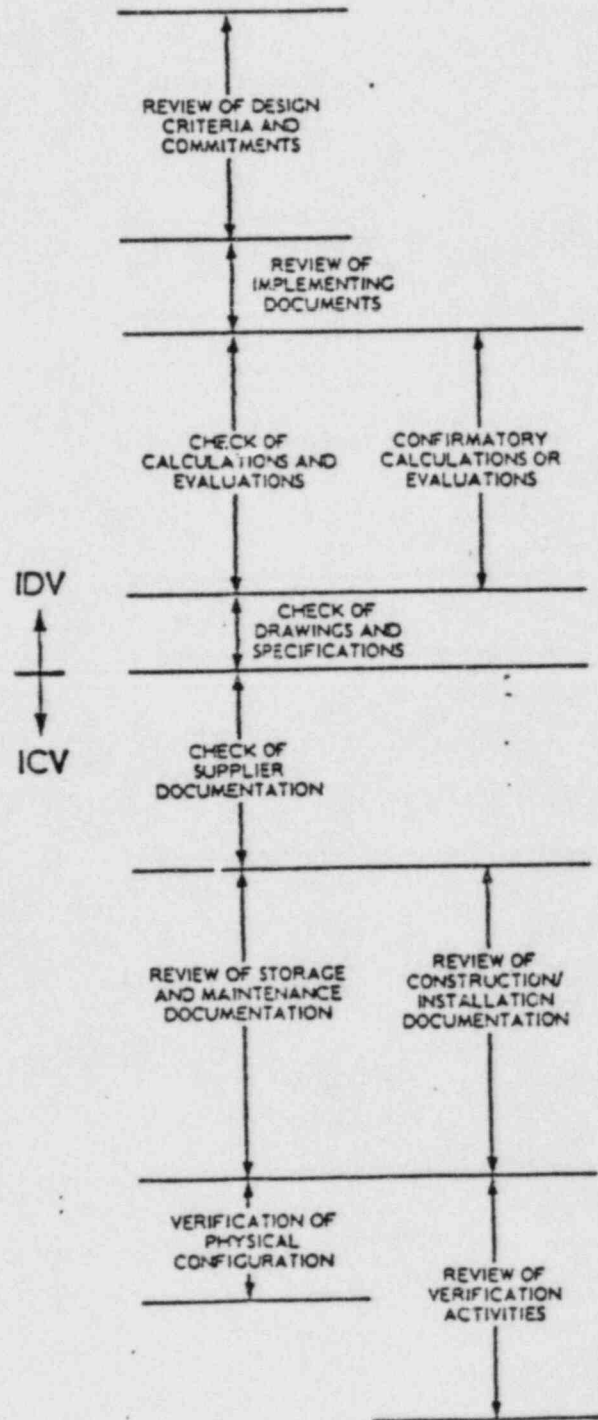
- PROJECT QUALITY ASSURANCE PLAN
 - DEVELOPED, APPROVED, AND UNDER IMPLEMENTATION
 - INCLUDES PROJECT CONTROL PROCEDURES, INSTRUCTIONS AND REPORTING REQUIREMENTS
- ENGINEERING PROGRAM PLAN
 - DEVELOPED, APPROVED, AND UNDER IMPLEMENTATION
 - 44 DESIGN TOPICS/5 CATEGORIES OF REVIEW
 - 15 CONSTRUCTION TOPICS/5 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



MIDLAND IDV PROGRAM

IDV
↑
↓
ICV

GOAL

- PROVIDE AN INDEPENDENT EVALUATION OF THE QUALITY OF THE MIDLAND PLANT DESIGN AND CONSTRUCTION

PHILOSOPHY OF REVIEW

- SELECT A REPRESENTATIVE SAMPLE OF ENGINEERED SYSTEMS, COMPONENTS, AND STRUCTURES WHICH WILL FACILITATE:
 - AN INTEGRATED ASSESSMENT OF IMPORTANT PARAMETERS AFFECTING THE FUNCTIONAL CAPABILITY OF THE TWO SYSTEMS, AND
 - THE ABILITY TO EXTRAPOLATE FINDINGS TO SIMILARLY DESIGNED FEATURES WITH A HIGH DEGREE OF CONFIDENCE
- CONSIDER POSITIVE AND NEGATIVE FINDINGS WHICH WILL ALLOW A BALANCED VIEW OF OVERALL QUALITY
- ASSESS ROOT CAUSE AND EXTENT OF IDENTIFIED FINDINGS
- REVIEW CORRECTIVE ACTION TAKEN TO ADDRESS FINDINGS

BASES FOR SAMPLE SELECTION

- SIMILAR TO SYSTEM SELECTION CRITERIA
 - IMPORTANCE TO SAFETY
 - INCLUSION OF DESIGN/CONSTRUCTION INTERFACES
 - ABILITY TO EXTRAPOLATE RESULTS
 - DIVERSE IN CONTENT
 - SENSITIVE TO PREVIOUS EXPERIENCE
 - ABILITY TO TEST AS-BUILT INSTALLATION
- STRONG RELIANCE UPON ENGINEERING JUDGMENT
- POTENTIAL USE OF STATISTICAL TECHNIQUES TO ESTABLISH SAMPLE SIZE FOR REPETITIVE PRODUCTION ACTIVITIES (E.G., CONCRETE AND STEEL PROPERTIES, WELDING RECORDS, ETC.)
- INDUSTRY DESIGN/CONSTRUCTION EXPERIENCE
- INDUSTRY OPERATING EXPERIENCE
- PROJECT DESIGN/CONSTRUCTION EXPERIENCE
 - AREAS EXPERIENCING REPEATED PROBLEMS
 - AREAS WHICH MAY NOT HAVE RECEIVED EXTENSIVE PRIOR REVIEW
- AREAS WHERE FINDINGS HAVE BEEN IDENTIFIED



INITIAL SAMPLE REVIEW MATRIX FOR THE AUXILIARY FEEDWATER SYSTEM
MIDLAND INDEPENDENT DESIGN VERIFICATION PROGRAM

DESIGN AREA	SCOPE OF REVIEW				
	REVIEW OF DESIGN CRITERIA AND COMMITMENTS	REVIEW OF IMPLEMENTING DOCUMENTS	CHECK OF CALCULATIONS AND EVALUATIONS	CONFIRMATORY CALCULATION OR EVALUATION	CHECK OF DRAWINGS AND SPECIFICATIONS
I. <u>AFW SYSTEM PERFORMANCE REQUIREMENTS</u>					
SYSTEM OPERATING LIMITS	X	X	X		
ACCIDENT ANALYSIS CONSIDERATIONS	X				
SINGLE FAILURE	X	X	X		
TECHNICAL SPECIFICATIONS	X	X			
SYSTEM ALIGNMENT/SWITCHOVER	X	X			
REMOTE OPERATION AND SHUTDOWN	X				
SYSTEM ISOLATION/INTERLOCKS	X	X			
OVERPRESSURE PROTECTION	X				
COMPONENT FUNCTIONAL REQUIREMENTS	X	X	X		X
SYSTEM HYDRAULIC DESIGN	X	X	X		
SYSTEM HEAT REMOVAL CAPABILITY	X	X	X		
COOLING REQUIREMENTS	X				
WATER SUPPLIES	X	X			
PRESERVICE TESTING/CAPABILITY FOR OPERATIONAL TESTING	X				
POWER SUPPLIES	X	X			
ELECTRICAL CHARACTERISTICS	X				
PROTECTIVE DEVICES/SETTINGS	X	X			X
INSTRUMENTATION	X	X	X		X
CONTROL SYSTEMS	X	X	X		
ACTUATION SYSTEMS	X				
NDE COMMITMENTS	X				
MATERIALS SELECTION	X	X			

INITIAL SAMPLE REVIEW MATRIX FOR THE AUXILIARY FEEDWATER SYSTEM
MIDLAND INDEPENDENT DESIGN VERIFICATION PROGRAM (CONTINUED)

DESIGN AREA	SCOPE OF REVIEW				
	REVIEW OF DESIGN CRITERIA AND COMMITMENTS	REVIEW OF IMPLEMENTING DOCUMENTS	CHECK OF CALCULATIONS AND EVALUATIONS	CONFIRMATORY CALCULATION OR EVALUATION	CHECK OF DRAWINGS AND SPECIFICATIONS
II. <u>AFW SYSTEM PROTECTION FEATURES</u>					
SEISMIC DESIGN	X				
• PRESSURE BOUNDARY	X	X	X	X	X
• PIPE/EQUIPMENT SUPPORT	X	X	X	X	X
• EQUIPMENT QUALIFICATION	X	X	X		X
HIGH ENERGY LINE BREAK ACCIDENTS	X				
• PIPE WHIP	X	X	X		X
• JET IMPINGEMENT	X				
ENVIRONMENTAL PROTECTION	X				
• ENVIRONMENTAL ENVELOPES	X	X	X	X	X
• EQUIPMENT QUALIFICATION	X	X	X		X
• HVAC DESIGN	X				
FIRE PROTECTION	X	X	X		
MISSILE PROTECTION	X				
SYSTEMS INTERACTION	X	X	X		
III. <u>STRUCTURES THAT HOUSE THE AFW SYSTEM</u>					
SEISMIC DESIGN/INPUT TO EQUIPMENT	X	X	X		X
WIND & TORNADO DESIGN/MISSILE PROTECTION	X				
FLOOD PROTECTION	X				
HELBA LOADS	X				
CIVIL/STRUCTURAL DESIGN CONSIDERATIONS	X				
• FOUNDATIONS	X	X	X		
• CONCRETE/STEEL DESIGN	X	X	X		X
• TANKS	X	X	X		

INITIAL SAMPLE REVIEW MATRIX FOR THE AUXILIARY FEEDWATER SYSTEM
MIDLAND INDEPENDENT DESIGN VERIFICATION PROGRAM

SYSTEM/COMPONENT	SCOPE OF REVIEW				
	REVIEW OF SUPPLIER DOCUMENTATION	REVIEW OF STORAGE AND MAINTENANCE DOCUMENTATION	REVIEW OF CONSTRUCTION/INSTALLATION DOCUMENTATION	REVIEW OF SELECTED VERIFICATION ACTIVITIES	VERIFICATION OF PHYSICAL CONFIGURATION
I. MECHANICAL					
• EQUIPMENT	X	X	X	X	X
• PIPING	X		X	X	X
• PIPE SUPPORTS	X		X	X	X
II. ELECTRICAL					
• EQUIPMENT	X	X	X	X	X
• TRAYS AND SUPPORTS	X				X
• CONDUIT AND SUPPORTS	X				X
• CABLE	X	X	X	X	X
III. INSTRUMENTATION AND CONTROL					
• INSTRUMENTS	X	X	X	X	X
• PIPING/TUBING	X				X
• CABLE	X				X
IV. HVAC					
• EQUIPMENT	X	X	X	X	X
• DUCTS AND SUPPORTS	X				X
V. STRUCTURAL					
• FOUNDATIONS	X		X		
• CONCRETE	X		X		X
• STRUCTURAL STEEL	X		X		X

SCOPE OF CONSTRUCTION VERIFICATION REVIEW

- REVIEW OF SUPPLIER DOCUMENTATION
 - SAMPLING CHECK AGAINST DESIGN SPECS AND DRAWINGS;
REVIEW OF
 - DRAWINGS
 - TEST REPORTS
 - CERTIFIED MATERIAL PROPERTY REPORTS
 - STORAGE AND INSTALLATION REQUIREMENTS
 - OPERATION AND MAINTENANCE REQUIREMENTS

- REVIEW OF STORAGE AND MAINTENANCE DOCUMENTATION
 - RECEIPT INSPECTION DOCUMENTATION

 - STORAGE, INCLUDING IN-STORAGE AND IN-PLACE MAINTENANCE
 - REQUIREMENTS INCLUDING PARAMETERS SUCH AS TEMPERATURE, HUMIDITY, CLEANLINESS, LUBRICATION, ENERGIZATION, ETC.

 - OBSERVATION OF ON-GOING ACTIVITIES

- REVIEW OF CONSTRUCTION/INSTALLATION DOCUMENTATION
 - IMPLEMENTATION OF PROPER REQUIREMENTS SUCH AS ERECTION SPECIFICATIONS, INSTALLATION REQUIREMENTS, CONSTRUCTION PROCEDURES, CODES AND STANDARDS, ETC.

 - REVIEW OF DESIGN CHANGES, FIELD MODIFICATIONS, ETC.

 - EVALUATION OF DOCUMENTATION FOR ITEMS SUCH AS CONCRETE, WELDING, BOLTING ACTIVITIES, ETC.



SCOPE OF CONSTRUCTION VERIFICATION REVIEW

(continued)

- OBSERVATION OF ON-GOING CONSTRUCTION ACTIVITIES
- REVIEW OF SELECTED VERIFICATION ACTIVITIES
 - CABLE SEPARATION, PIPE SUPPORT, AND BOLTING OVER-INSPECTION PROGRAMS, ETC.
 - OBSERVATION OF VARIOUS WALKDOWN ACTIVITIES (E.G., SYSTEMS INTERACTION - SEISMIC II/I)
 - COLD HYDROS
 - COMPONENT AND SYSTEM FUNCTIONAL TESTING PROGRAMS
 - CONSTRUCTION COMPLETION PROGRAM
- VERIFICATION OF PHYSICAL CONFIGURATION
 - INSTALLATION OF SYSTEM IN ACCORDANCE WITH PIPING AND INSTRUMENTATION DIAGRAMS
 - INSTALLATION OF COMPONENTS AND PIPING IN ACCORDANCE WITH ARRANGEMENT DRAWINGS AND ISOMETRICS (APPROXIMATE LOCATION AND ORIENTATION)
 - INSPECTION OF SELECTED FEATURES FOR COMPLIANCE WITH DESIGN DETAILS (APPROXIMATE DIMENSIONS)
 - VERIFICATION OF IDENTITY (EQUIPMENT PART NUMBERS, ETC.) IN ACCORDNACE WITH DRAWINGS, SPECIFICATIONS, OR SCHEMATICS
 - QUALITY OF WORKMANSHIP



5.

Meeting between NRC and Consumers Power Company
(2/8/83)

Opening Remarks

Good morning ladies and gentlemen. We are meeting here today to review Consumers Power Company's planned Construction Completion Program for the Midland Nuclear facility. This meeting is being held in front of the public because of the overall public interest that has been shown in the Midland project in general and identified quality assurance and construction problems in particular and is consistent with our established practice of holding meetings of this type permitting public attendance. While we welcome attendance by members of the public and the news media, I wish to emphasize that this is a meeting between Consumers Power Company and NRC, and involves public participation only through observation. Following this meeting the NRC will be glad to hear comments or respond to questions from the public concerning the subject matter of the meeting or other areas of interest concerning the Midland project and further opportunity for discussion by the public will occur tonight for those persons who could not attend this meeting. In addition to the two public meetings, a few of the NRC people and myself will be meeting this afternoon with senior representatives of Consumers Power Company and Bechtel corporation at the Midland construction site. This meeting is being held at their request to discuss the perceived importance of some of the specific problems identified by the NRC inspections last fall and to discuss Region III's handling of certain inspection findings relative to the approaches used by other NRC regions. That meeting will not get into the details of this morning's meeting.

I'd like to start by having the NRC people who are present here today to introduce themselves and then ask Consumers Power and their representatives to introduce themselves.

By way of background, for benefit of the public, Mr. Eisenhut and myself met with Mr. Selby and Mr. Cook of Consumers Power Company on two occasions in early September of last year to discuss renewed NRC concerns regarding the effectiveness of the quality assurance program at Midland. These meetings were an outgrowth of a detailed review and evaluation by members of my staff, attempting to assess the reasons why the quality assurance program was not effective in the early identification, correction and prevention of problems. Consumers Power Company was told that we believed their QA program was basically sound, but that the implementation of that program resulted in a number of problems. While we were unable to pinpoint the specific reasons for these implementation problems, we did share with Consumers Power management certain practices we believed warranted change. Furthermore, we told them that comprehensive programs needed to be developed and put into place in order to: (1) Provide assurance that completed construction work was sound, and (2) Provide assurance that future work would be effectively controlled. We requested CPCo to develop a program to deal with NRC's concerns and to submit that program for review by the staff.

with the remedial soils work and one dealing

On September 17, 1982, CPCo submitted two letters to the NRC --- one dealing with the remainder of the safety related work. A supplemental submittal was made on October 6, 1982. Two meetings, both open to the public, were subsequently held in Washington between NRC and CPCo to discuss these submittals. Concurrent with this review effort, my staff conducted an in-depth inspection of the civil, mechanical, and electrical work associated with the diesel generator building. This inspection effort identified a number of substantive quality assurance problems and led Consumers Power Company to conduct similar inspections of other plant areas. Those inspections by CPCo disclosed similar QA problems. These combined inspection findings, in conjunction with CPCo's overall assessment of the status of the project, resulted in CPCo's halting a large amount of safety related work at the Midland site and to develop a formalized Construction Completion Program for completing the Midland Project. We subsequently requested CPCo to tie together this program with their earlier submittals regarding proposed quality improvements into a single package. We also committed to have a public meeting to obtain the comments of concerned citizens and organizations once that program had been submitted to the NRC. This program was submitted by CPCo on January 10, 1983, and serves as the focal point for the meetings today.

With that status, I would now like to turn over the meeting to Mr. Selby.

MEETING AGENDA

1.0 INTRODUCTIONS

- A. NRC - James G. Keppler
- B. CPCo - James W. Cook

2.0 OPENING STATEMENT

- A. NRC - James G. Keppler/Darrel G. Eisenhut
- B. CPCo - John D. Selby/James W. Cook

3.0 CONSTRUCTION COMPLETION PROGRAM

PRESENTATION

- (1) SYSTEM STATUS
- (2) REINSPECTION
- (3) REPAIR/NEW WORK
- (4) THIRD PARTY ASSESSMENTS

4.0 CLOSING STATEMENTS

- A. CPCo - John D. Selby/James W. Cook
- B. NRC - James G. Keppler/Darrel G. Eisenhut

5.0 PUBLIC COMMENT



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

Attachment C
(K-3)

August 18, 1982

MEMORANDUM FOR: Region III Files

FROM: Robert F. Warnick, Acting Director, Office of Special Cases

SUBJECT: MEETING BETWEEN NRR AND REGION III RE CONSUMERS POWER COMPANY PERFORMANCE AT MIDLAND (DN 50-329; 50-330)

On July 26, 1982, R. F. Warnick and James G. Keppler met with E. G. Case, D. G. Eisenhut, R. H. Vollmer, R. O. Tedesco, T. H. Novak, W. D. Paton, and J. Rutberg to discuss the performance of Consumers Power Company at the Midland site.

During the meeting reference was made to information contained in two memos from the RIII staff. The first memo dated June 21, 1982 is from C. E. Norelius and R. L. Spessard and concerns suggested changes for the Midland Project. The second memo dated July 23, 1982 is from R. J. Cook and concerns the licensee's performance at Midland. Copies of the memos are attached.

The meeting resulted in the following recommendations:

- (1) Region III should obtain the results of the recent audit by KMC.
- (2) Schedule a public meeting between NRC and CPC management in Midland, Michigan, to obtain licensee commitment to accomplish (3) and (4) below.
- (3) The licensee should obtain an independent design review. (A vertical slice from design thru completion of construction.)
- (4) The licensee should obtain an independent third party to continuously monitor the site QA implementation and provide periodic reports to the NRC. Region III is to provide a suggested outline for the continuous monitoring function.

Robert F. Warnick
Robert F. Warnick, Acting Director
Office of Special Cases

Attachments: As stated

cc w/attachments: Meeting
participants

8303210295



(5) J Harrison
RTM

UNITED STATES
NUCLEAR REGULATORY COMMISSION
WASHINGTON, D. C. 20555

March 11, 1983

Docket Nos: 50-329 OM, OL
and 50-330 OM, OL

MEMORANDUM FOR: R. J. Mattson, Director, Division of Systems Integration
R. Vollmer, Director, Division of Engineering
R. F. Warnick, Director, Enforcement & Investigation
Staff, Region III
J. M. Taylor, Director, Quality Assurance Safeguards
and Inspection Programs, IE
T. Speis, Director, Division of Safety Technology

FROM: Thomas M. Novak, Assistant Director
for Licensing
Division of Licensing
Office of Nuclear Reactor Regulation

SUBJECT: REQUEST FOR REVIEW OF TERA'S ENGINEERING PROGRAM
PLAN AND PROJECT QUALITY ASSURANCE PLAN FOR
MIDLAND INDEPENDENT DESIGN AND CONSTRUCTION
VERIFICATION PROGRAM

Enclosures 1 and 2 are forwarded for your review and evaluation. Enclosure 1 is the Engineering Program Plan, Revision 1, being followed by the TERA Corporation for the Midland Independent Design and Construction Verification (ID/CV) Program. The TERA Plan is one part of a "Construction Completion Plan" (CCP) described in the Applicant's letter of January 10, 1983, which was the subject of a public meeting on February 8, 1983. The TERA Plan outlines the scope, philosophy of review, methodology, independence requirements, organization, control, documentation, reporting and quality assurance requirements for conducting the Midland ID/CV Program. The QA requirements (Section 6.1 of Enclosure 1) are being implemented, in part, by the QA/QC methods, procedures and instructions identified in the TERA Corporation QA Plan, Revision 3 (Enclosure 2).

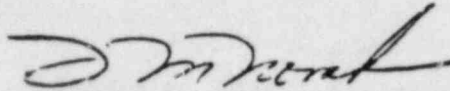
Enclosure 3 lists lead NRC review assignments for the major elements of the TERA program. Designation of lead responsibility is primarily with respect to execution of the program. All parties are encouraged to comment on any portion of the enclosures with respect to establishment of a suitable program. Those designated for lead review should solicit support from other parties as they deem appropriate.

Enclosure 4 outlines a tentative review schedule for the TERA Program. The schedule provides for staff comments on the program and a meeting to discuss these comments. At the completion of staff review, the staff will issue an SSER describing the proposed Program. The schedule also provides support for the OM-OL April 1983 soils hearing session since the TERA study and its results will be a part of the on-going hearing issue to determine adequacy of Midland QA implementation.

MAR 16 1983

~~8406020200~~

Please contact the Project Manager (Darl Hood, 492-8474) should you have questions regarding these assignments or the proposed review schedule.



Thomas M. Novak, Assistant Director
for Licensing
Division of Licensing
Office of Nuclear Reactor Regulation

Enclosures:
As stated

cc w/encl:
E. Goodwin
E. Adensam
J. Keppler
J. Gilray
J. Harrison
T. L. Harpster
J. H. Sniezek
W. Shafer
D. Eisenhut
L. Rubenstein
A. Thadani

REVIEW ASSIGNMENTS FOR MIDLAND IDCV PROGRAM

<u>Enclosure/Section</u>	<u>Title</u>	<u>Lead NRC Reviewer</u>
1.2	Technical (design) scope	DSI
	Interfacing of construction with design scope	RIII
1.3	Selection of 2nd System	DL
1.4	Independence	DL
2.0	Organization and Control	
	Design	IEHQ
	Construction interface	RIII
3.1	Design Methodology	
3.1.1	Review categories	DSI/DE*
3.1.2	Sampling plan	DST
3.1.3	Design Scope for AFW	DSI/DE*
3.1.4	Design Scope for Second System	DSI/DE*
3.1.5.1	IDV Design Criteria checklists	DSI/DE*
3.1.5.2	Implementing Document Checklists	DSI/DE*
3.1.5.3	Calculation Checklist	DSI/DE*
3.1.5.4	Drawing and Spec. Checklist	DSI/DE*
3.1.6	Additional Sampling or Verif.	DSI/DE*
3.2.1	ICV Review Categories	RIII
3.2.2	ICV Sample Selection	RIII
3.2.3	AFW Construction Review Scope	RIII
3.2.4	Second System Construction Review Scope	RIII
3.2.5	Checklists	RIII
3.2.6	Additional Sampling, Verification and Tests	RIII
4.0	Documentation	IEHQ
5.0	Reporting	DL
6.0	QA (Including referenced TERA QA Plan)	IEHQ

*Lead designation depends upon system/component/structure involved and corresponds to primary review responsibility designated by SRP.

MIDLAND ID/CV PROGRAM REVIEW SCHEDULE

Letter to Applicant on Selection of 2nd System	March 11
Staff Comments to PM	March 18
Meeting with TERA and Applicant on Staff Comments	March 22
File QA Testimony with ASLB (Includes staff evaluation of CCP, including ID/CVP)	March 25
QA session of OM-OL Soils Hearing	April 26 - May 3
Provide SSER #3 input to PM	May 13
Issue SSER #3	June 10
TERA completes evaluation and reports results to NRC	TBD
Update SSER with results	TBD (Results dependent)

MIDLAND PLANT INDEPENDENT REVIEW

1. INTRODUCTION & SUMMARY
2. BIENNIAL QUALITY AUDITS
3. INPO CONSTRUCTION EVALUATION
4. INDEPENDENT DESIGN VERIFICATION
5. APPENDIX: PREVIOUS ASSESSMENTS

1. INTRODUCTION AND SUMMARY

The ACRS report dated June 8, 1982 on Midland Units 1 and 2 stated that "the NRC should arrange for a broader assessment of Midland's design adequacy and construction quality with emphasis on installed electrical, control, and mechanical equipment as well as piping and foundations."

On July 9, 1982, the Staff issued a letter to Consumers Power Company requesting a report on Midland Design Adequacy and Construction Quality. In this letter, the Staff stated that "With respect to assessment of Midland's design adequacy, such assessment would represent a significant contribution to the licensing review process if performed by a qualified, independent source following procedures utilized by some operating plants for Independent Design Verifications."

On September 17, 1982, the Company issued a letter to Mr Harold R Denton and Mr J G Keppler outlining the approach Consumers Power Company proposed for an Independent Review of the Midland Project and indicated that there had also been a Bechtel Corporate Staff project evaluation performed (described in more detail in attached appendix). It was stated that Consumers Power Company believes that the approach we are proposing for the forthcoming Independent Review will give a broader overview than assessments currently being recommended by the NRC for other NTOL plants.

The overall Independent Review Program described herein consists of three specific evaluations combined into a single program. The INPO type construction evaluation (horizontal type review), will examine the current

overall project against the criteria developed by INPO for this program (a copy of the INPO Performance Objectives and Criteria for Construction Project Evaluations is attached). As indicated in the September 17, 1982 letter to Mr Denton and Mr Keppler, the INPO program for Midland will be different from most of industry's self-initiated evaluations in that an independent contractor rather than utility personnel will carry out the INPO evaluation. The second part of the Program described is the Biennial QA Audit which has been a requirement of the Company's QA Program for several years. The third part of the Program described in more detail is the Independent Design Verification (Vertical slice) of all aspects, historical and current, of a critical plant system or subsystem.

Consumers Power Company received proposals from several potential contractors to perform the complete program described above. With respect to the INPO type construction evaluation and Biennial QA Audit, we have selected Management Analysis Company (MAC) to perform these activities based on our evaluation of their technical capabilities and experience.

MAC has many years of experience in the Nuclear Industry and has performed Biennial QA Audits in addition to other type reviews of Company activities. MAC has previously consulted extensively at nuclear construction sites with identified QA problems. MAC was also a major participant in the development and implementation of the Palisades Regulatory Performance Improvement Program which has resulted in significant improvement to date at that facility. A description of other MAC assessments of Midland activities is included in the Appendix to this document.

The MAC Team will be under the direction of Mr L J Kube who has over 20 years experience in project management, engineering management, marketing, planning/scheduling, and design engineering having been employed by General Atomic and A O Smith Corporation prior to his employment with MAC. Mr Kube has been involved in the development of the INPO evaluation criteria, has participated in the three INPO Pilot evaluations and is the Project Manager for MAC for conducting an INPO evaluation on River Bend. The INPO type evaluation will be independent in that no Consumers Power Company or Bechtel personnel will be involved and MAC has never performed a direct line engineering or construction activity for Consumers Power Company.

For performance of the Independent Design Verification, we have selected Tera Corporation based on our evaluation of their technical capabilities and experience. Tera has many years of varied experience in the nuclear industry including independent design reviews, FSAR preparation, initial design of certain systems, and engineering, construction, operation and administration planning. Tera personnel are experienced in system design in the areas of mechanical, electrical, structural, and thermal hydraulic evaluations. Mr John W Beck, Vice President of Tera will be Project Manager for the Tera team. Mr Beck previously worked for Vermont Yankee Nuclear Power Corp as Executive Vice President serving as Chief Operating Officer. Prior to that he was Director of Engineering for Yankee Atomic Electric Co responsible for supervision and management of the plant, reactor, and environmental engineering departments. Prior to employment with Yankee, he was a Scientist at Bettis involved in Shippingport core design.

Individuals taking part in any of the three specific evaluations which make up the overall Independent Review Program will meet the "Independency Criteria" of Chairman Palladino's February 1, 1982 letter to Representative John Dingell and which are described as follows:

1. No individuals on the Project team will have been previously utilized by Consumers Power Company to perform design or construction work.
2. No individual involved will have been previously employed by Consumers Power Company.
3. No individual owns or controls significant amounts of Consumers Power Company stock.
4. No members of the present household of individuals involved are employed by Consumers Power Company.
5. No relatives of individuals involved are employed by Consumers Power Company in a management capacity.

MAC will be responsible for integrating an overall evaluation report made up of the three inputs.

The major objective of the overall evaluation report is to provide the NRC, ACRS, and the Consumers Power Company Chief Executive Officer with an assessment of the overall quality of the Midland Project. We believe that this assessment will adequately address the NRC, ACRS, and public's questions regarding the adequacy and construction quality of the plant.

The final report will be submitted to the NRC and an auditable record will be maintained of all comments on any draft or final reports, any changes made as a result of such comments, and the reasons for such changes.

2. BIENNIAL QUALITY AUDITS

Background Of Biennial Quality Audit Requirements

The Consumers Power Company Quality Assurance Program Manual For The Midland Nuclear Plant, Topical Report CPC-1-A, requires the review of the Consumers Power Corporate Nuclear Quality Assurance Program to be performed at least once every 24 months or once every second calendar year by a Quality Assurance Program Audit (referred to as the Biennial Quality Audit).

This audit may be accomplished by a team consisting of Environmental & Quality Assurance personnel, selected employees from other Consumers Power Company departments or by an audit team of Quality Assurance personnel under contract to Consumers Power Company.

Plans For The 1982 Biennial Quality Audit

The scope of the 1982 Biennial Quality Audit will be similar to the audits conducted in 1976, 1978 and 1980. The audit will evaluate the Quality Assurance Program being utilized by Consumers Power Company and by Bechtel and will evaluate on a sampling basis, the degree of compliance with the Program by Consumers Power Company and by Bechtel. Specifically, the 1982 Biennial Quality Audit will be conducted by Management Analysis Company (MAC) and will comply with the requirements of NRC Regulatory Guides 1.144 (9/80, Rev 1) and 1.146 (8/80, Rev 0).

3. INPO CONSTRUCTION EVALUATION

General

In early 1982, utility nuclear power plant construction problems stimulated industry initiative and action to ensure that programs in effect nationwide meet performance goals as intended. Accordingly, the Institute of Nuclear Power Operations (INPO) was tasked by the Utility Industry to develop and manage a construction project evaluation program. The first effort was to define Performance Objectives and Criteria for project evaluations. Use of these criteria for an overall evaluation is intended to provide considerably more depth than an audit, for an audit generally does not go beyond conformance to program requirements. The evaluations include some assessment of administrative and quality records, but more important, focus on evaluating the success and efficiency of the project organization, systems and procedures in achieving the desired end results.

Following the drafting of the Performance Objectives, three pilot evaluations were conducted by INPO on plants under construction ie, Vogtle, Shearon Harris, and Hope Creek. During the last pilot a representative from NRC was present during data collection, evaluation and exit interview with utility personnel.

Following the pilot evaluations, the Performance Objectives and associated Criteria were modified to reflect experiences gained. A copy of the criteria to be used for the INPO evaluation is attached.

The performance objectives are broad in scope; each generally covers a single, well-defined area. The supporting criteria are more narrowly focused statements of activities that support or help meet the performance objectives. Several criteria are listed under each performance objective.

There are five Performance Objectives and associated Criteria which specifically address design effort. These are:

DC.1 Design Input

Process for defining and controlling design input

DC.2 Design Interfaces

The identification and coordination of interfaces to ensure input requirements are satisfied

DC.3 Design Process

Process followed to ensure safe, reliable and verifiable designs in compliance with requirements

DC.4 Design Output

Development of designs which are complete, accurate, understandable and constructable

DC.5 Design Changes

Control of changes to ensure compliance with design requirements

In addition there are numerous Performance Objectives which support evaluating design control. These include: Construction Engineering, Project Planning, Training, Independent Assessments, etc.

The above INPO Performance Objectives and associated Criteria will be utilized for planning the Independent Design Verification.

The INPO type self evaluation is aimed at achieving a level of performance above that required to meet Regulatory Requirements. Members of 35 Utilities (including Consumers Power) met, drafted and reviewed performance objectives and criteria to support the performance objectives of seven areas including design. A complete list of the areas whose objectives are intended to define optimum performance is:

Organization and Administration

Design Control

Construction Control

Process Support

Training

Quality Programs

Test Control

The thrust of this type of evaluation is that if utilities attempt to meet standards above those normally required to achieve quality, there will be greater assurance that Regulatory Requirements are met. The program was then applied during three pilot evaluations and modified based on the experience gained during the pilot evaluations. It essentially looks at all aspects of work in progress. This program has been developed during the calendar year 1982 and industry has made a commitment to the NRC to initiate INPO type evaluation on nuclear plants under construction by the end of 1982. The only exceptions will include those plants very close to fuel load.

Consumers Power Company selected MAC to perform the INPO Construction Evaluation primarily because of MAC's involvement in the development of the Performance Objectives and participation in all three pilot evaluations. The team supplied by MAC will be individuals experienced in multi-discipline activities associated with nuclear power plant engineering and construction. In addition, team members will be experienced in interviewing and evaluating ie, the type of activity MAC has been performing for the nuclear industry over the past seven years.

PREPARATION FOR INPO TYPE EVALUATION

The evaluation team leader will review the job status, select work areas to be evaluated and select team members based on the above. A request will then be made to CP Co for background documents. The team will then review the documents and prepare a schedule. Individual assignments will also be made. Three Tera members of the team organization representing Civil, Mechanical, and Electrical disciplines will be part of the MAC INPO type evaluation team. Prior to actually performing the evaluation, all team members will receive training in plant orientation, procedures and INPO evaluation techniques.

PERFORMING THE EVALUATION

The entire evaluation team will initially meet at the Site to review the work in progress. Sections of the team will then move to the Designer's and Owner's Offices. Team members will then begin the task of collecting pertinent facts relative to various aspects of the job via observations, inspections, discussions and review of documents. These facts will be assigned to the appropriate performance objective and reviewed against that

objective. As findings develop, additional investigations may take place. During this time, the team will communicate with the project personnel to assure validity of findings and draft evaluation summaries will be prepared.

REPORTING

At the conclusion of the evaluation, the team will verbally communicate their findings to the project. A formal report will then be prepared and presented to CP Co management. CP Co will acknowledge the findings and transmit the findings with their plans for corrective action concurrently to the NRC and INPO. INPO will assimilate various utilities reports into a comprehensive summary document and report the overall program progress to the NRC.

4. INDEPENDENT DESIGN VERIFICATION

Goals and Objectives

The independent design review is directed at verifying the quality of design engineering for the Midland Plant. The approach selected is a review and evaluation of a detailed "vertical slice" of the project design by a technically competent, independent organization. The design and as-built configuration of a selected safety system will be reviewed to assure its adequacy to function in accordance with its safety design bases and to assure applicable licensing commitments have been properly implemented.

Summary and Scope of Effort

The independent design verification (IDV) will consist of an independent design review of the Unit 2 auxiliary feedwater system (AFW) as an applicable sample of the design engineering effort at Midland Plant. This system was selected based upon system selection criteria discussed below. The review will be conducted by Tera Corporation and will utilize a multidisciplinary team of senior staff personnel to assure that the design and as-built configuration of the AFW conforms to its safety design bases and Consumers Power Company's licensing commitments as a benchmark for its acceptability. The design process, from concept to installation, will be identified and interfaces between design engineers evaluated to assure sufficient controls were placed on the transfer and specification of important design information. Although the review will focus on the AFW, the interfacing systems will be reviewed to determine that appropriate design constraints were imposed to

assure functionability of the AFW. Initially, important design elements for AFW will be outlined to assure the IDV includes an appropriate sample of the design interfaces between Consumers Power, B&W the nuclear steam supply system (NSSS) vendor, Bechtel the architect engineer, and other service related contractors. Design elements such as environmental qualification envelopes, seismic analysis, hydraulics and system control requirements will be selected to allow a diverse review of the various engineering disciplines (eg, Mechanical, Civil, Electrical). The design reviews in each area will evaluate the design approach used and, where appropriate, independent analytical techniques will be used to confirm questionable approaches or to permit assessment of the significance of any identified discrepancies.

To assure that the installed equipment reflects system design requirements, design specifications and drawings will be reviewed and in-field inspection of selected sections of the AFW conducted. The in-field inspection will confirm that the AFW is configured as specified in the design documents.

Throughout the IDV, all findings will be documented by each reviewer. Each finding will then be evaluated by the team leaders and more significant findings forwarded to a senior review team. At the conclusion of the effort, a preliminary report will be provided to Consumers Power and the original designers for review and provision of additional documentation that could have an impact on the final report findings. An auditable record of comments and additional information provided will be maintained. The final report will summarize the work accomplished, procedures used and a complete list and description of all findings from the review.

System Selection Criteria

The selection of a system to be reviewed by the independent contractor was based on the six criteria which follow.

- Importance to Safety - The system should have a relatively high level of importance to the overall safety of the Midland Plant.
- Inclusion of Design Interfaces - The system should be one which involves multiple design interfaces among engineering disciplines as well as design organizations, such as the NSSS vendor, architect engineer and sub-tier contractors. The system should also be one where design changes have occurred and thus provide the ability to test the effectiveness of the design process exercised by principal internal and external organizations or disciplines in areas of design change.
- Ability to Extrapolate Results - The system should be sufficiently representative of other safety systems such that the design criteria, design control process and the design change process are similar so that extrapolation of findings to other systems can be undertaken with confidence.
- Diverse in Content - The major engineering disciplines should all have input to the design of the system.
- Sensitive to Previous Experience - The system should be one which includes design disciplines or interfaces which have previously exhibited problems and thus a test of the system should be indicative of any generic condition.

Ability to Test As-Built Installation - The system construction should be sufficiently completed that the as-built configuration can be verified against design.

The auxiliary feedwater system was selected for the independent design review after consideration of a number of other candidate systems. The auxiliary feedwater system had a sufficiently high profile for each of the criterion to justify its selection. Specifically, it involves interface with the NSSS vendor criteria, with containment design criteria, interface with design organizations, and the methodology of determining a water system's mechanical, electrical, and control component design criteria.

Technical Approach

The independent design verification (IDV) effort is comprised of three phases; Program Development, Review and Reporting.

The Program Development Phase includes the preparation of an IDV work plan and the development of a detailed review scope. The IDV work plan will include procedures and instructions for the work to be performed by Tera Corporation, the IDV contractor. An initial identification of the specific verification methods and depth of review to be utilized in addressing system design elements will also be completed as part of this phase.

The Review phase is the major activity of the IDV. This phase includes a design review of the systems as well as a field installation/as-built review to assure conformance of the design and the constructed facility. Initial efforts of the system design review will focus on the identification of the design process (chain) for the selected system. Emphasis will be placed on identifying design organizations and their subelements who contributed to the design and understanding the design practices and interactions between the design engineers. Paralleling this effort, the design and licensing criteria will be reviewed. It is anticipated that system design criteria information will include utility, B&W and Bechtel design requirements, licensing commitments, as well as other sub-tier documents.

The methods to be utilized in the review of system design elements will vary in depth. Depending upon the design area, the specific method may be a review of design criteria, a review of design calculations, a "blind" confirmatory

evaluation (eg alternative calculation or computer analysis by the IDV contractor) or a combination. Where appropriate, independent analytical techniques will be used to confirm design calculations or to permit assessment of the significance of any identified discrepancies. It is anticipated that the primary review method will be a review of calculations. Ultimately, the choice of review method will depend upon the nature of the design area and the type of verification method which is most effective in enabling the IDV reviews to reach a judgement as to the design adequacy in that design area.

This review will concentrate on each major step in the design process, for example:

- Design input information (transfer among designers, conformance with design criteria and commitments).
- Analyses and Calculations (selected review of inputs, assumptions, methodology, validation and usage of computer programs and reasonableness of certain analytical outputs).
- Drawings and Specifications (selected reviews for conformance with system design criteria, commitments, and incorporation of results of analyses and calculations).
- Field Verification (audit to assure that the as-built configuration reflects design requirements and pre-operational tests verify design analyses).

Findings from the INPO review as well as input from other sources such as, audit reports, 50.55e reports, design change reports and other documents will

also be considered to concentrate review in more depth in any areas where the design process may be suspect by historical evidence.

The IDV review scope will be broad enough in terms of design elements to include samples from each significant design organization, design interface and major engineering discipline.

The design elements to be evaluated include:

- Civil/Structural design of structures housing the AFW (eg, external or internal flooding, wind or tornado loads, seismic analysis, foundation design or missile protection).
- Mechanical/Electrical design of AFW systems and components (eg, pipe rupture protection, seismic subsystem evaluation, ASME code considerations, equipment qualification, penetration design, cable routing and separation, instrumentation and control system, system interlocks, fire protection, seismic and quality group classification or use of appropriate codes and standards).
- System performance requirements (requirements for accident mitigation, design transients and normal operation, hydraulic design, over-pressure protection, reliability, NPSH for pumps).

The installation/as-built verification review will include a walkdown of the selected system and inspection of system components. This review is intended to confirm system geometry and component nameplate data. Input from this evaluation will be assessed for its compatibility with design documents such as specifications and drawings.

The IDV will be conducted under project instructions and procedures that will require apparent discrepancies to be documented throughout the review.

Initially, these findings will be categorized based upon the lead reviewer's judgement as to status as follows:

- 1) Open- The finding has the potential for becoming a confirmed error, but additional investigation or confirmatory analysis is necessary to make a final judgement;
- 2) Confirmed - The finding is judged to be an apparent error by the review team and will require corrective action, such as additional documentation not utilized by the team that documents the resolution of the findings or additional analysis, design or construction changes or procedural changes that may be necessary to resolve the finding;
- 3) Resolved - Sufficient additional information was available in the ongoing review to resolve the findings and to completely close out any additional concern about the findings.

Additionally, findings will be categorized as to whether or not they affect the AFWs safety function or licensing criteria. Additional design information will be solicited to allow the lead reviewers to reach disposition of each finding. As the reviews of each major design element reach a suitable stage, the individual findings will be evaluated in an integrated manner by the project team to further define or resolve the findings and to assure the classification is proper. After the team has completed its review, each finding will be submitted to a senior level review team to provide additional professional opinion regarding the classification of the finding.

Reporting will be in two stages, preliminary and final. The preliminary report, including the findings, as modified by the senior review team, will be provided to Consumers Power Company for review by the original designers. The preliminary report will provide an opportunity for additional information to be supplied which could have an impact on the findings but was not known to the IDV project team. All comments, additional information and changes to the findings will be maintained in an auditable manner. The final report will summarize the work accomplished, procedures used and include a complete description of all findings.

APPENDIX
PREVIOUS ASSESSMENTS OF DESIGN
AND CONSTRUCTION QUALITY AT MIDLAND

Historically, Consumers Power Company and its contractors have been committed to perform their work using QA programs which respond to all 10CFR50 Appendix B Quality Assurance criteria.

In addition to the Consumers Power Company audits in the areas of design and construction, the Company has utilized outside consultants to conduct Biennial Quality Audits. The Consumers Power Company Biennial Quality Audits were first instituted in 1976 and were subsequently conducted during 1978 and 1980. These audits were conducted to determine the Program's adequacy and to determine, on a sampling basis, the degree of compliance with the program. A summary of those audits are as follows:

A. 1976 Biennial Quality Audit

In 1976, the Biennial Quality Audit was conducted by the Nuclear Audit and Testing Company (NATCO) and included approximately 24 man-days of audit effort. The audit involved auditing for adequacy and implementation of the Consumers Power Company QA Program Procedures at the Consumers Power Company General Office in Jackson, Michigan and at the Midland Site. In addition, the audit involved auditing for adequacy and implementation of the Bechtel Nuclear Quality Assurance Manual at the Midland Site. Audit findings resulting from this audit have been closed out.

E. 1978 Biennial Quality Audit

In 1978, the Biennial Quality Audit was conducted by the Management Analysis Company (MAC) and included approximately 70 man-days of audit effort. The audit involved auditing for adequacy and implementation of the Consumers Power Company QA Program Procedures at the Consumers Power Company General Office in Jackson, Michigan and at the Midland Site. In addition, the audit involved auditing for adequacy and implementation of the Bechtel Nuclear Quality Assurance Manual at the Bechtel Ann Arbor, Michigan offices (engineering) and at the Midland Site. Audit findings resulting from this audit have been closed out.

C. 1980 Biennial Quality Audit

In 1980, the Biennial Quality Audit was conducted by the Management Analysis Company (MAC) and included approximately 46 man-days of audit effort. The audit involved auditing for adequacy and implementation of the Consumers Power Company QA Program Procedures at the Consumers Power Company General Office in Jackson, Michigan and at the Midland Site. In addition, the audit involved auditing for adequacy and implementation of the Bechtel Nuclear Quality Assurance Manual at the Bechtel Ann Arbor, Michigan offices and at the Midland Site. Audit findings resulting from this audit have been closed out.

MAC also performed a special Assessment of Midland in 1981 which covered the following areas: Corrective actions resulting from 50.55e items including adequacy of corrective action, hardware inspection and system walkdown, corrective action status closeout of 1980 biennial Corporate Audit, assessment

of adequacy of Midland QA program (based on first two items), review of documentation (supplier quality verification records, radiographic records, certificates of compliance, and Bechtel FLAGS program), and assessment of Bechtel and Consumers personnel (Bechtel QC and auditors, Consumers auditors, and Bechtel welders' qualification).

Starting in 1976 upon the discovery of missing rebar in three areas of the auxiliary building (later this was determined to not be a safety problem), Consumers instigated a surveillance of construction activities by Consumers QA personnel. Consumers Power surveillance provides formalized quality control inspections beyond those quality control inspections performed by the Bechtel Quality Control group.

In August 1980 the Quality Assurance Organizations of Consumers Power Company and Bechtel were integrated into one group with Consumers having the responsibility for direction and management. Consumers Power at this time set up a Design QA Engineering (DQAE) group at the Bechtel Ann Arbor offices to conduct day to day monitoring of engineering activities of Bechtel. The Consumers Power DQAE provides design and procurement quality/reliability services of problem prevention and early problem detection, resolution, and corrective action. DQAE personnel are degreed and have had direct design related experience in the areas of nuclear, mechanical, electrical, electronics and civil engineering. The DQAE functions consist of:

1. Technical reviews of Design and Procurement documents (engineering procedures/instruction, selected design and procurement documents, and supplier design deviation requests).

2. Monitors that requirements of controlling documents are being implemented (FSAR, engineering procedures, Appendix B, codes and standards) into specifications, drawings, material requisitions, supplier documentation and design calculations.
3. Audits of engineering, supplier QA Department, Bechtel Quality Engineering and Document Control.

Starting in January 1979, NRC Region IV Vendor Inspection Branch has conducted seven inspections of the Bechtel Ann Arbor Office. The latest inspections were in May and July 1982. In three of these inspections, there were no findings. Corrective action has been completed on all of the findings from inspections prior to 1982. There were no findings from the May 1982 inspection and the one finding from the July 1982 inspection has not been closed out as yet.

Although not requested by the NRC, Consumers Power Company decided in early 1982 that based on occurrences at Diablo Canyon and other plants, an Independent Design Audit or Review was prudent. The Company did not know what NRC staff requirements would be applied to an independent audit for plants that are in the construction and licensing stage similar to Midland. It was decided that this particular Independent Design Review would be undertaken as soon as possible in order to provide timely identification of problems so that corrective action could be taken consistent with overall project schedules. The purpose was to review Bechtel Project Engineering activities to determine if design criteria are being correctly implemented and if design assumptions, design methods and the design processes are satisfactory. It was also decided that the review could be optimized by using people who were knowledgeable

about the Bechtel design process but were not working on Midland design such as Bechtel personnel located in offices other than Ann Arbor or Consumers personnel that have not been directly involved in Midland.

The review team consisted of six Bechtel and one Consumers Power Company employees with disciplines represented in the areas of mechanical, nuclear, electrical, civil/structural, plant design, control systems and technical support for plant operations. Short term assistance was provided by specialists and consultants from other Bechtel offices in specific areas such as piping design and seismic analysis. The general approach of the review was to conduct a broad review of important design methods and then to review in-depth, including field walkdowns, four features of the plant. Emphasis was on engineering and factors important to safety, calculations, and design features which will not be demonstrated by tests during construction and start-up. Interfaces within Bechtel and between Bechtel and B&W were also reviewed. The basic criteria and commitments used by the review team were the FSAR, Bechtel Topical Reports, project procedures, and industry guides and standards. Design methods selected for review included piping analysis, equipment qualification, separation hazards, instrumentation, structural and seismic analysis, and various nuclear analyses. The piping review included independent computer analysis of selected stress problems and hanger designs and a review of unique computer programs developed for the Midland Project. The four features of the plant for an in-depth review were: reactor cavity design, on-site electrical systems, decay heat removal system and piping for the high pressure safety injection system outside containment. The review has been completed with findings issued and replied to. The final report as well

as other design review information will be submitted to MAC and Tera for use in the performance of their activities.

GOVERNMENT ACCOUNTABILITY PROJECT

Institute for Policy Studies
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(202) 234-9382

March 7, 1983

Mr. Darrell Eisenhut, Director
Division of Licensing
U. S. Nuclear Regulatory Commission
Washington, D. C.

Dear Mr. Eisenhut:

On February 8, 1983, the Government Accountability Project (GAP) attended two public meetings in Midland, Michigan on behalf of the LONE TREE COUNCIL, concerned citizens, and several former and current employees working on the Midland Nuclear Power Plant, Units 1 and 2. As you know, the large public turnout for both the daytime meeting between Consumers Power and various Regional and Washington-based offices of the Nuclear Regulatory Commission (NRC) and the evening session between the NRC and the general public included spirited debate and lengthy presentations. These meetings, although highly beneficial to the education of the Michigan public about the nuclear facility being constructed in Midland, did not allow for the type of technical questions and detail about the Construction Completion Plan (CCP) in which GAP is particularly interested.

Therefore, I appreciate this opportunity to address a number of concerns that we have regarding issues presented at the public meeting and contained in the detailed CCP submissions. In order to complete our own continuing analysis of the Midland project, I would hope that you can provide answers to and/or comments on the enclosed questions.

Pending further public meetings and detailed review of basic elements of the Construction Completion Plan, I assume that your verbal requests to Consumers Power (Consumers) management to "hold off" on making any commitments will be translated into a firm NRC directive. As you know, Consumers has had a history of misinterpretations and miscommunications in relation to many of the aspects surrounding the Midland plant. The public understood quite clearly what your instructions were; if those have changed I suggest that you continue to express those changes to the public through the appropriate local media representatives.

I. REQUESTS FOR FURTHER INFORMATION

A. The relationship between the Washington NRC offices (NRR, DOL, etc.) and the Regional management and on-site Midland Special Team and Inspector.

It is unclear where the authority lines for approval of various elements of the Midland construction project are drawn. GAP investigators, staff and attorneys are continually getting unclear signals from the various regulation divisions as to who is making what decisions and when. Since it has been noted by the NRC staff itself that "[Consumers] seems to possess the unique ability to search all factions of the NRC until they

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March 7, 1983

have found one that is sympathetic to their point of view - irregardless of the impact on plant integrity,^{1/} it seems critical to establish once and for all the authority lines within the NRC that Consumers must respond to.

We are particularly concerned about the apparent transferring of responsibility for the on-site inspectors and the Midland Special Section Team to the Regional Administration and Washington-based NRC officials. Although I am sure that you have read the testimony of Mr. Keppler, submitted to the Atomic Safety and Licensing Board (ASLB) on October 29, 1983, and attached memorandum from the staff members that are more directly responsible for the Midland project, I have included them with this letter for your renewed attention following the results of the Diesel Generator Building inspection. (Attachment #1.)

There have been a number of incidents within the last several months where Regional personnel (RIII team or on-site) have indicated one answer pertaining to construction work, and then other action was taken after approval from NRR. Several examples of this that are fairly recent are:

1. A February 8, 1983 conference call between Consumers, Bechtel and the NRC regarding the discussion of loading sequence for pier load test and background settlement readings did not include any Region III personnel, most particularly Ross Landsman. Although I do not know the details of his exclusion, I am concerned that he was not a participant in the call, or in the decisionmaking process.
2. At the recent ASLB hearings NRR and RIII personnel were asked about the projected timeline for Consumers to approach the Feedwater Isolation Valve Pit jacking work. RIII personnel seemed confident that work would not begin on this until at least late March or early April, yet work actually was begun on the same day as the conversation, February 17, 1983.
3. The NRC has taken a position that "no major discrepancies" have been found in the soils remedial work to date. Yet: (a) two cracks, including one 10 millimeters by 7 inches long, have been discovered in the valve pit.^{2/} (b) A February 15, 1983 memorandum from R. B. Landsman to R. F. Warnick identifies three specific concerns since the beginning of the underpinning work that -- to GAP -- indicate serious flaws in the perception of Consumers about the seriousness of the work they are engaged in. These include craftworkers not receiving the required amount of training, arguments with Consumers about techniques that show a priority to deadlines instead of quality, and a major flaw in the Stone & Webster independent assessment. (Attachment #2.)

Given our experiences with the NRC inspection efforts, I am particularly anxious to have the on-site/special section team members have as much direct input into the review/licensing process as possible. Although I do not always agree with their decisions or their actions, I am more comfortable with their version of the facts on the Midland site.

^{1/}Memorandum from R. J. Cook to R. F. Warnick, July 23, 1982.

^{2/}According to the Midland Daily News, February 24, 1983, Construction Technology had performed an "independent" analysis of the cracks before the Midland team even had the opportunity to complete its own investigation or review.

B. The guidelines and timetable by which the independent third-party auditor will be chosen.

It is not at all clear what guidelines, if any, your office intends to employ in the review or monitoring of the selection process for the third-party auditor of the Midland facility. We are extremely distressed at the way that both Stone & Webster (S&W) and the TERA Corporation were approved by your office. We feel that the approval was more by default than by aggressive review of the proposals, contracts and criteria as presented to the NRR office. Further, it is very clear to us that the Regional personnel involved in the initial contact with the Stone & Webster organization gave the impression that S&W's on-site activities were authorized. Even if that impression was only technically incorrect, it is a serious breach of public trust by the Regional staff.

We recommend that your office adopt the prudent position that Consumers follow the nominating process used for Diablo Canyon's independent assessment. Although Midland's problems have not yet reached the stage of major public controversy such as Diablo or Zimmer, it is clearly evident that the sensationalism of the problems with the soils settlement and the cost of the Midland facility will move it more into the public eye as it reaches completion.

If there was any doubt as to the active interest of the Midland community regards to the Midland facility, the February 8, 1983 public meeting should have dispelled that misconception. The community surrounding the plant is extremely attentive to the issues and concerns raised by the nuclear facility -- the debate will continue. To choose another, more congenial approach to identifying the firm that will be responsible for the completion of the plant would be a grave mistake in our opinion.

C. The plans that the NRC staff has made to determine the actual "as built" condition of the rest of the buildings and systems on the Midland site in the wake of the findings in the Diesel Generator Building inspection.

The aggressive efforts of the DGB inspection were a solid step forward in determining the extent of the problems at the Midland facility. However, it is unfortunate that the inspection did not expand to other buildings. The public must have confidence that all the problems have been identified, as well as basic factors about how the problems were caused and how they are going to be fixed if there is ever any hope for restoring faith in the safety of the plant.

D. The methodologies that are to be employed in the technical review of generic problems on the site, such as determining the accuracy of quality control/quality assurance documentation made suspect by the flawed process, and the training and recertification of all the welders who were trained by Photon Testing, Inc.

The two items mentioned above, as well as problems that have resulted from the ZACK corporation, unidentifiable electrical cables, untrained quality control inspectors, material traceability inaccuracies, etc., must be addressed in any workplan to identify the problems on the site. It is not clear whether the NRC staff, the NRR staff or the independent auditor is to

March 7, 1983

be responsible for identification of all of the problems prior to the start up of construction activities on the site.

E. The resolution of what is and what is not "Q" work in regards to the soils remedial work should be handled in a public forum.

The "Q" debate between NRC staff members - including Regional management and the on-site inspectors - as well as between the NRR and NRC staff has been a topic of considerable concern to us. The resolution of these issues has critical implications for the rest of the soils work project. Because it has been a major item of discussion in the hearings currently underway in Midland, as well as among the staff, we believe that it would be beneficial for you to receive the position that concerned citizens have taken. I have suggested that those residents who have been following this issue very closely prepare a position statement for your office on the "Q" soils issue.

II. COMMENTS CONCERNING THE THIRD-PARTY REVIEWS

It is our understanding that there are currently three separate independent audits being conducted (or considered) at the Midland facility. These are:

(1) The Stone and Webster Corporation's third party independent assessment of the soils remedial work activities. A February 24, 1983 letter from Mr. Keppler to Consumers outlines the scope of the S&W assessment. It significantly broadens the original scope of S&W's review. As a result of the expansion of S&W's responsibilities, and apparently a close monitoring of their work by the RIII team, Mr. Keppler approved the release of additional underpinning work for construction. We request the following documents in reference to the S&W approval:

- a. The criteria that NRC officials used to judge the adequacy of the initial S&W work.
- b. The methodologies which the S&W personnel are utilizing to provide their QA overview and assessment of the design packages, inspector requalification and certification program, and training programs.
- c. The details of the expanded work contract which will assess the actual underpinning work on safety-related structures.

(2) The Independent Design Verification and vertical slice review being performed by the TERA Corporation. We have recently received the detailed Engineering Program Plan from TERA on the Midland Project. Although extremely impressed with some of TERA's procedures, organization and structure there are a number of areas which raise serious questions.

- a. What specific reporting procedures does TERA have to follow in regards to findings, corrective action reports, controversies among their own staff over issues of noncompliance or questionable accuracy, and internal reporting. Figure 1-1 clearly indicates that

March 7, 1983

TERA intends to notify the NRC at the same time as Consumers, but at the February 8 meeting there was a very clear example of that not actually happening because of miscommunication between TERA and the NRC.

b. What is the difference between a Corrective Action Report as referenced in the QA Audit Procedures and a Non-Conformance Report as required by 10 CFR Part 21. (A similar "informal" nonconformance reporting procedure at the William H. Zimmer plant caused innumerable problems for both the NRC and the licensee.) We would ask that the C.A.R.'s be forwarded to the NRC, or preferably be written up as NCR's immediately upon identification of an item of non-compliance. Any discretion between informal and formal procedures should be limited to the judgement of the NRC.

c. What is the intent and scope of the "EXCEPTIONS" referred to in Part 1.1 of the plan?

d. Who controls the Administrative decision making process between Consumers and TERA over specific points of technical controversy?

e. What documents will be forwarded to the NRC in support of the various findings - whether favorable or unfavorable - during the course of the two vertical slice reviews?

(Further comments and questions about the TERA plan will be forthcoming under separate cover when we are able to finish our review.)

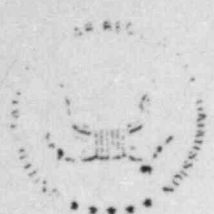
(3) The overall independent third-party assessment. Instead of providing your office with our detailed (and lengthy) analysis of the flaws and shortcomings of the CCP as introduced by Consumers in the January 10, 1983 letter and the public meeting we have decided to wait for further detail to be provided by Consumers on their plan. We are somewhat anxious about this, as we understand that there have been detailed discussions going on between the NRC and Consumers. As you know, similar events at the Zimmer plant led to increased public skepticism and an even greater loss of confidence in the NRC process.

We strongly encourage your office and the Regional Administrator to consider the process of choosing a third-party auditor as important and delicate as was the process at Zimmer. If there is to be a "closed door" approach to Midland we request that you articulate that at this time. If you do not we will assume that the NRC intends to follow a fully public process of nomination and selection.

Thank you for your time, we look forward to answers to our questions in the near future.

Sincerely,

BILLIE PIRNER GARDE
- Director, Citizens Clinic



UNITED STATES
 NUCLEAR REGULATORY COMMISSION
 REGION III
 799 ROOSEVELT ROAD
 GLEN ELLYN, ILLINOIS 60137
 January 4, 1983

W. J. ...
Klein

NOTICE OF SIGNIFICANT LICENSEE MEETING

Name of Licensee: Consumers Power Company
 Name of Facility: Midland Nuclear Power Plant, Units 1 and 2
 Docket Nos.: 50-329; 50-330
 Date and Time of Meeting: January 18, 1983 at 10:00 a.m.
 Location of Meeting: U. S. Nuclear Regulatory Commission
 799 Roosevelt Road
 Glen Ellyn, IL 60137
 Purpose of Meeting: Enforcement Conference to discuss the results of
 the special team inspection of the Diesel Generator
 Building

Region III Attend
 James G. Keppler
 Others as design

Administrator

NRR Attendees:
 D. Hood, Licen
 Others as des'

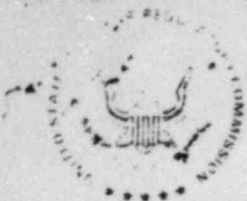
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IE Headquart
 J. H. Sniez
 Inspection
 Others as

Licensee
 J. W. Coc
 Others a

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 J. M. Taylor, Director,
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 W. D. Paton, ELD
 J. W. Gilray, QAB, NRR
 R. C. DeYoung, Director, Office of Inspection
 and Enforcement

~~8312140059~~



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

January 11, 1983

NOTICE OF SIGNIFICANT LICENSEE MEETING

Name of Licensee: Consumers Power Company

Name of Facility: Midland Nuclear Power Plant, Units 1 and 2

Docket No.: 50-329; 50-330

Date and Time of Meeting: February 8, 1983 at 1:00 p.m.

Location of Meeting: Quality Inn
Meeting Room E
1815 South Saginaw Rd.
Midland, MI

Purpose of Meeting: To discuss the licensee's integrated Construction
Completion Program and third party assessment effort

Region III Attendees:

James G. Keppler, Regional Administrator
Others as designated by Region III

OIE Headquarters Attendees:

James H. Sniezek, Deputy Director, Office
of Inspection and Enforcement
Others as designated by OIE

NRR Attendees:

D. Eisenhut, Director, Division of
Licensing
Others as designated by OIE

Licensee Attendees:

J. W. Cook, Vice President, Midland Project
Others as designated by the licensee

NOTE: Attendance by NRC personnel at this Region III/licensee meeting
should be made known by 9:00 a.m. before January 24, 1983, via
telephone call to W. D. Shafer, Region III, FTS 384-2656.

Time will be scheduled to answer questions from members of the
public at the conclusion of the NRC/licensee meeting.

Distribution:

See attached list

~~8312140037~~

January 11, 1983

Distribution:

- J. M. Taylor, Director, Division of Quality Assurance, Safeguards,
and Inspection Programs
- E. L. Jordan, Director, Division of Emergency Preparedness and Engineering
Response
- ✓ J. Axelrad, Director, Enforcement Staff
- J. P. Murray, Jr., Director, Rulemaking and Enforcement Division, ELD
- R. Hernan, LPM, NRR
- E. L. Adensam, Chief, LB4, NRR
- T. Novak, Assistant Director for Licensing, Division of Licensing
- R. A. Purple, Deputy Director, Division of Licensing, NRR