MIDLAND INDEPENDENT DESIGN AND CONSTRUCTION VERIFICATION PROGRAM
MONTHLY STATUS REPORT
NUMBER 9
PERIOD JANUARY 1, 1984 THROUGH JANUARY 31, 1984

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MIDLAND INDEPENDENT DESIGN AND CONSTRUCTION VERIFICATION PROGRAM (IDCV)

MONTHLY STATUS REPORT

NUMBER 9

PERIOD JANUARY 1, 1984 THROUGH JANUARY 31, 1984

1.0 INTRODUCTION AND PURPOSE

Monthly Status Reports have been instituted by agreement between the Consumers Power Company (CPC), the Nuclear Regulatory Commission (NRC) and TERA to provide parties external to TERA's IDCV project team with up-to-date information relative to program progress and any important issues identified during the reporting period. This report covers the period from January 1, 1984 through January 31, 1984. A description of the scope, reporting periods and report issuance dates for Monthly Status Reports, as well as a summary of the background of the IDCV program were presented in the initial Monthly Status Report dated May 27, 1983.

2.0 IDCV PROGRAM STATUS SUMMARY

2.1 Programmatic Activities

Attachment 1 provides an updated chronology of major project milestones. The project chronology from inception through the beginning of this reporting period can be found in the previous monthly status reports. Several milestones warrant special highlight.

On January 4, 1984, TERA issued a report entitled, "Midland Independent Design and Construction Verification Program: Structural Evaluation of the Diesel Generator Building."

A meeting was held on January 31, 1984 with Stone and Webster representatives to generally discuss coordination and interfacing between their Construction Implementation Overview (CIO) program and the Midland IDCVP. It was agreed

to formally place each organization on distribution to enhance efficient execution of both programs. Information transfer existed previously; however, not in a timely fashion. An increased effort will be made in the future to promote feedback between the two organizations and enhance the focus of activities within the CIO and IDCVP.

The sixth OCR Status Review meeting was held on February 1, 1984 at Bechtel's Ann Arbor, Michigan offices. Representatives from TERA, CPC, Bechtel, and the NRC participated at the meeting.

On February 10, 1984, TERA issued a letter that discusses the future direction of the IDCVP. The current status of the Midland project was identified as a major factor affecting the planned progress, this due principally to the fact that a portion of items within scope are in process and, therefore, unready for a "quality of the end product" verification. A limited modification of the methodology was proposed which is considered to provide enhancements to the overall program in meeting the original stated goals. Accordingly, the approach includes:

- Maintaining the existing vertical slice approach to design verification by:
  - reviewing end products for majority of sample;
  - reviewing engineering procedures and action plans and their implementation for the remainder of the sample where items are not complete.
- Postponement of the construction verification until completion of Phase I of the Midland project Construction Completion Program (CCP), thus taking advantage of the assemblage of relevant quality documentation by the Quality Verification Program (QVP). During the period of postponement, conduct a verification review of selected QVP documentation processes to allow expedited documentation and physical verification after Phase I of the CCP.
- Focused review of identified process-related issues resulting from existing Findings and ongoing work.

Thus, the principal alteration involves verification of a limited portion of the design verification sample by reviewing engineering procedures and action plans and their implementation for items not currently completed. It is estimated that approximately 10 to 20 percent of our sample would be verified in this manner, and that 80 to 90 percent of our sample will continue to be verified with emphasis on the quality of the end product.

Proceeding as such, we estimate completion of the design verification on or around July, 1984. We envision a series of topical reports over the interim months. The construction verification will recommence at an appropriate time commensurate with completion of Phase I of the CCP.

We have completed an assessment of status of the IDCVP as measured against the committed scope shown on the review matrices documented in the IDCVP Engineering Program Plan (EPP). Attachment 2 provides a key for designating completion status on the EPP matrices which are included as Attachment 3. The information presented on the EPP matrices served as input to an estimation of project completion status which is tabulated on Table I. The IDV and ICV are estimated to be 64 and 25 percent complete, respectively. A composite percentage completion of the IDCVP is 51 percent. These estimates are based upon the currently defined scope including all OCRs and Findings of record.

2.2 Design Verification Activities

2.2.1 Summary

The engineering evaluation of the diesel-generator building was released as scheduled on January 4. Emphasis continued to be placed on completing work previously initiated and dispositioning of OCRs.

2.2.2 Auxiliary Feedwater System Progress

In January the AFW system review continued, as it had in the previous two months, by concentrating on the disposition of OCRs and completion of supporting engineering evaluations. Lower priority is being given to completion of other

TABLE I

PROJECT COMPLETION STATUS
MIDLAND IDCV PROGRAM

	Percent Complete		
SYSTEM	IDV	ICV	IDCVP
AFW	67	37	56
SEP	51	19	41
CR-HVAC	78	21	57
COMPOSITE	64	26	51

engineering evaluations. No new engineering evaluations were initiated in January.

OCRs were resolved or otherwise dispositioned based upon receipt of additional information. Section 3.0 of this report discusses OCR status.

In the civil/structural area work continued in the completion of engineering evaluations and evaluation of previously received information. No new engineering evaluations were initiated, although several evaluations neared completion pending resolution of OCRs. The OCR meeting on civil/structural items tentatively scheduled for January 31 was postponed until further documentation could be made available to TERA prior to the meeting.

2.2.3 Standby Electric Power System Progress

The engineering evaluation of the diesel generator building (DGB) was documented in a report issued January 4, 1984. The report evaluated the DGB as-built condition and concluded that the DGB is capable of meeting its intended performance requirements. The review of the balance of the civil/structural topics continued in January, including the Standby Electric Power system protection features.

The draft engineering evaluations for the diesel generator (DG) electrical load capacity, electrical load sequencing, and electrical load shedding have been completed. Resolution of Confirmed Item C-110, relating to the DG independent load tabulation, was initiated with a review in Ann Arbor of SCN 4082 and related internal documentation during the last week of January. SCN 4082 updates the information in FSAR Table 8.3-1 (List of Loads Supplied by the Class IE AC System), which provides input to electrical calculation QPE-1 on DG sizing. The independent load tab utilized plant single lines, logic diagrams, and motor control center schedules to determine actual load. Confirmed item C-110 identifies differences in load constituents among QPE-1, Table 8.3-1, the plant drawings, and the independent load tab.

In addition, the draft engineering evaluations for the DG system interlocks, control systems, and actuation systems were completed. All diesel generator interlocks were reviewed, as well as the entire DG actuation subsystem. All DG instrumentation and controls required by criteria or commitments were reviewed for implementation. TERA personnel attended the public meeting at the NRC's offices in Bethesda relative to the Delaval diesel generator problem status and the Owners' Group design review and quality reverification efforts.

The draft engineering evaluation of the fire protection associated with the diesel generator building is currently undergoing internal review. The draft engineering evaluation of the DG and dc systems Technical Specifications has been completed, as has that for the consolidated criteria and commitments. The review of the 125Vdc system is progressing, with the draft engineering evaluation anticipated to be completed in February.

2.2.4 Control Room HVAC System Progress

The written response to Confirmed item C-084 provided in the January 19, 1984 Bechtel letter has been reviewed and evaluated, and the item will be further dispositioned in February. The verbal responses to Confirmed items C-097 and C-129 provide a basis for disposition of these items with minor additional information. This activity will be completed in February.

Approximately half of the engineering evaluations for the Control Room HVAC system performance topics are completed. Disposition of OCRs is progressing to support that effort. Of the 19 OCRs which have been issued, 14 are either resolved, classified as observations, or will be dispositioned in February based on information already received. Five OCRs will require additional review effort, one of which has reached confirmed status and the others are open.

The status of the structural review of the Auxiliary Building, which houses the system components, is discussed in Section 2.2.2 of this report. Structural assessment of duct and support qualification is progressing with calculations for individual designs being currently reviewed.

2.3 Construction Verification Activities

During the reporting period, the focus of ICV reviewers' efforts was directed upon the disposition of existing Findings and OCRs. Activities necessary to further progress the ICV reviews within the sample boundaries of the IDCVP selected systems have been postponed until completion of Phase I of the Midland project Construction Completion Program (CCP) for selected components and commodities. This subject as well as other modifications to the IDCVP methodology will be discussed with NRC and CPC at the February 29, 1984 status review meeting. Details describing the future direction of the IDCVP were presented in a February 10, 1984 letter from TERA to CPC and NRC.

Principal activities undertaken during the reporting period are as follows:

- Meetings with cognizant Midland site personnel were held on Thursday and Friday, January 12 and 13, 1984, for the purpose of obtaining additional information associated with the following reported Findings and Confirmed Items.

Finding/OCR

F-047: Storage & Maintenance

C-093: CR-HVAC Documentation
C-094: CR-HVAC Physical Verification
C-095: CR-HVAC Zack Welders
C-096: CR-HVAC Documentation

F-055: WPSs and PQRs

F-091: Hanger Insp. Training Program

C-092: Qualification of Inspectors

F-049: Cable Separation
F-050: Cable Misrouting

F-054: PQCI

F-052: Vendor Document Control

- On Tuesday, January 31, 1984, ICV program management personnel met with CIO management. The purpose of the meeting was to explore and understand how best to use each of the programs' outputs (CIO and IDCVP) so as to maximize information exchange and benefits of program activities. As a result of the meeting, a better understanding evolved concerning how best to integrate each program's efforts. Further discussions with CIO program management will occur periodically.

- Significant information was received from Bechtel and CPC concerning existing Findings OCRs. These data and information are currently being evaluated by ICV program personnel as a first step in determining the ultimate disposition of affected Findings and OCRs.

3.0 SUMMARY OF CONFIRMED AND RESOLVED ITEM REPORTS, FINDINGS REPORTS, AND FINDING RESOLUTION REPORTS

Attachment 4 provides TERA's Tracking System Summary for Open, Confirmed, and Resolved (OCR) Item Reports, Finding Reports, and Finding Resolution Reports. This tool assists TERA in tracking the disposition of issues as they progress through the review process. Items that have changed status or that have been added during the reporting period are noted with an asterisk. Attachment 5 provides retyped copies of current period Resolved Item Reports (that have closed out Confirmed Items), Confirmed Items, Finding Reports, and Finding Resolution Reports. Several Observations are also attached. The following paragraphs discuss items which have changed status in the past month.

During January eight new Confirmed Items were identified, five potential Open Items were resolved as Observations, and seven items were resolved or dispositioned as a result of receiving additional information. Additionally, two new items were identified as Open Items pending further review by TERA.

Of the eight new Confirmed Items, one (C-141) was opened last month, but was confirmed later based upon further review. It is concerned with the air quality for the diesel generator starting system. C-144 discusses concerns resulting from TERA review of piping analysis commitments and their implementation. Confirmed Item C-146 through C-150 are all associated with the Standby Electric Power system review. The subjects of these items are as follows:

C-146	Failure modes and effects for the pneumatic control system for diesel-generators
C-147	Diesel-generator load sequencer
C-148	Fire seals for penetrations
C-149	Compliance with NFPA 12
C-150	Compliance with NFPA 72D

Item C-153 discusses an apparent inconsistency among design documents related to control switches shown on the auxiliary shutdown panel.

Based upon further investigation by TERA two potential Open Items were resolved without issuance of either a Confirmed Item or an Observation.

The following Confirmed Items were resolved based upon the review of additional information provided by the project: C-025, C-039, C-040, C-074 and C-081.

ATTACHMENT 1

MIDLAND INDEPENDENT DESIGN AND
CONSTRUCTION VERIFICATION PROGRAM

TERA PROJECT 3201

PERIOD JANUARY 1, 1984 THROUGH JANUARY 31, 1984

Date	Milestone
January 4, 1984	TERA issues report entitled, "Midland IDCVP: Structural Evaluation of the Diesel Generator Building," which provided an evaluation of settlement induced cracking as it may potentially affect intended performance requirements and serviceabililty of the DGB
January 4, 1984	Fifth OCR Status Review meeting held at Bechtel's Ann Arbor, Michigan offices
January 12-13, 1984	Construction verification personnel on-site to obtain information relative to the disposition of outstanding OCRs/Findings
January 13, 1984	Eighth Monthly Status Report issued
January 18, 1984	TERA transmittal of additional resumes and statements of independence
January 20, 1984	Meeting summary issued for Fifth OCR Status Review meeting which took place on January 4, 1984
January 20, 1984	Meeting notice issued for Sixth OCR Status Review meeting
January 30-February 2, 1984	Design verification personnel at Bechtel's Ann Arbor, Michigan offices in support of the SEP review
January 31, 1984	Meeting with Stone and Webster to discuss coordination and interfacing of the CIO and the IDCVP
February 1, 1984	Sixth OCR Status Review meeting held at Bechtel's Ann Arbor, Michigan offices

ATTACHMENT 2
COMPLETION STATUS (1)

Level	Symbol	Description
1	●	Topic/engineering evaluation essentially complete(2) with no outstanding OCRs.
2A	⊘	Topic/engineering evaluation substantially complete;(3) one or more OCRs outstanding; no further input required from CPCo/Bechtel; no major design changes known.
2B	◒	Topic/engineering evaluation partially complete; may or may not have outstanding OCRs; may require input from CPCo/Bechtel to disposition the OCRs; TERA has substantially all information to complete; may have minor requests for information outstanding; minor design changes may be in progress.
2C	⊖	Topic/engineering evaluation partially complete; may or may not have outstanding OCRs; may require input from CPCo/Bechtel to disposition the OCRs; responses to outstanding information requests are required or significant additional information requests are expected; design changes may be in progress.
3	□	Topic/engineering evaluation started, but substantial effort required to complete. (4)
4		Topic/engineering evaluation not started.(5)

Notes:

(1) The status levels do not reflect Amendment 49 to FSAR. All engineering evaluations will require a check to determine that Amendment 49 has not invalidated them.

(2) "Essentially complete" means that verification or minor administrative tasks may remain to be completed prior to closeout of the engineering evaluation/topic.

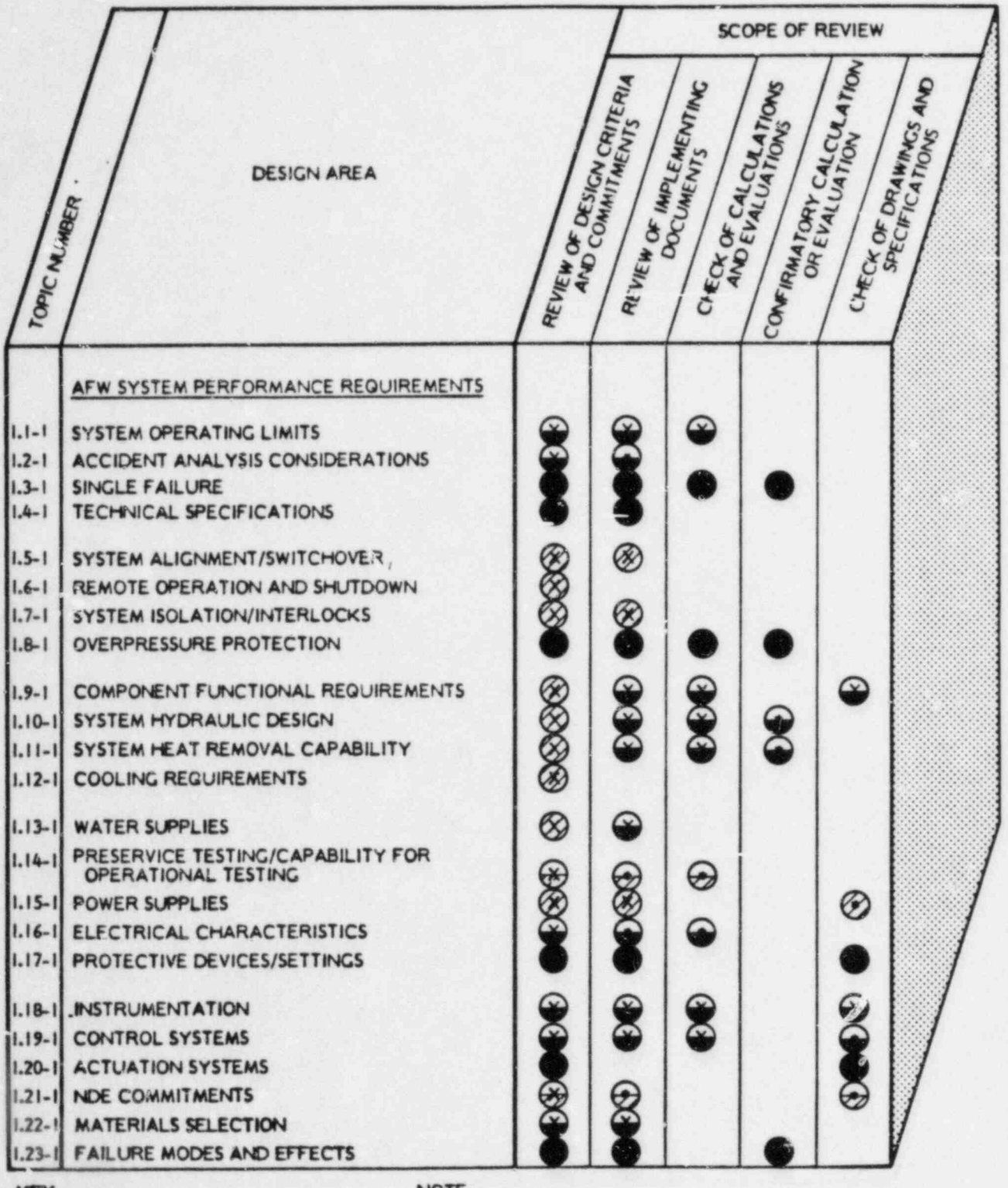
(3) "Substantially complete" means that, in addition to the items listed in note (2), there may be minor additions or clarifications required to documentation as well as dispositioning of OCRs.

(4) This category includes those topics for which design changes are known to be in progress and those where the number of OCRs indicates that additional sampling may be required.

(5) In most cases, sufficient information is available to initiate the topic/engineering evaluation, but the topic has been assigned a low priority.

ATTACHMENT 3
IDCVP REVIEW MATRICES

INITIAL SAMPLE REVIEW MATRIX FOR THE AUXILIARY FEEDWATER SYSTEM MIDLAND INDEPENDENT DESIGN VERIFICATION PROGRAM[1]



KEY

X - INITIAL SCOPE OF REVIEW

(X) - DELETED SCOPE OF REVIEW

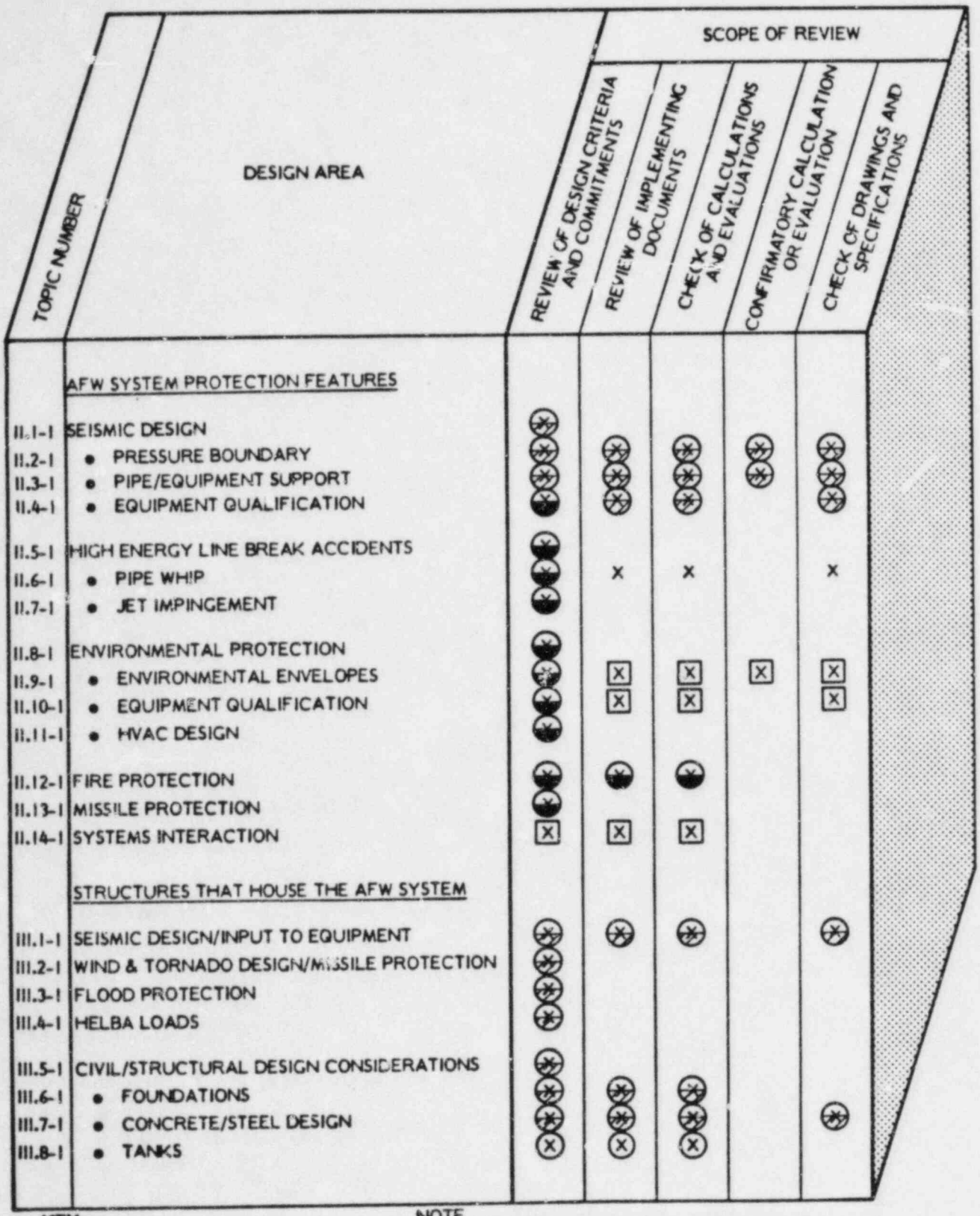
• - ADDED SCOPE OF REVIEW

NOTE

1. INITIAL SAMPLE DOCUMENTED IN REV. 0 AND 1 OF THIS PLAN HAS BEEN MODIFIED EFFECTIVE 4/13/83

FIGURE 1.2-2a

INITIAL SAMPLE REVIEW MATRIX FOR THE AUXILIARY FEEDWATER SYSTEM MIDLAND INDEPENDENT DESIGN VERIFICATION PROGRAM (CONTINUED)[1]



KEY

X - INITIAL SCOPE OF REVIEW

(X) - DELETED SCOPE OF REVIEW

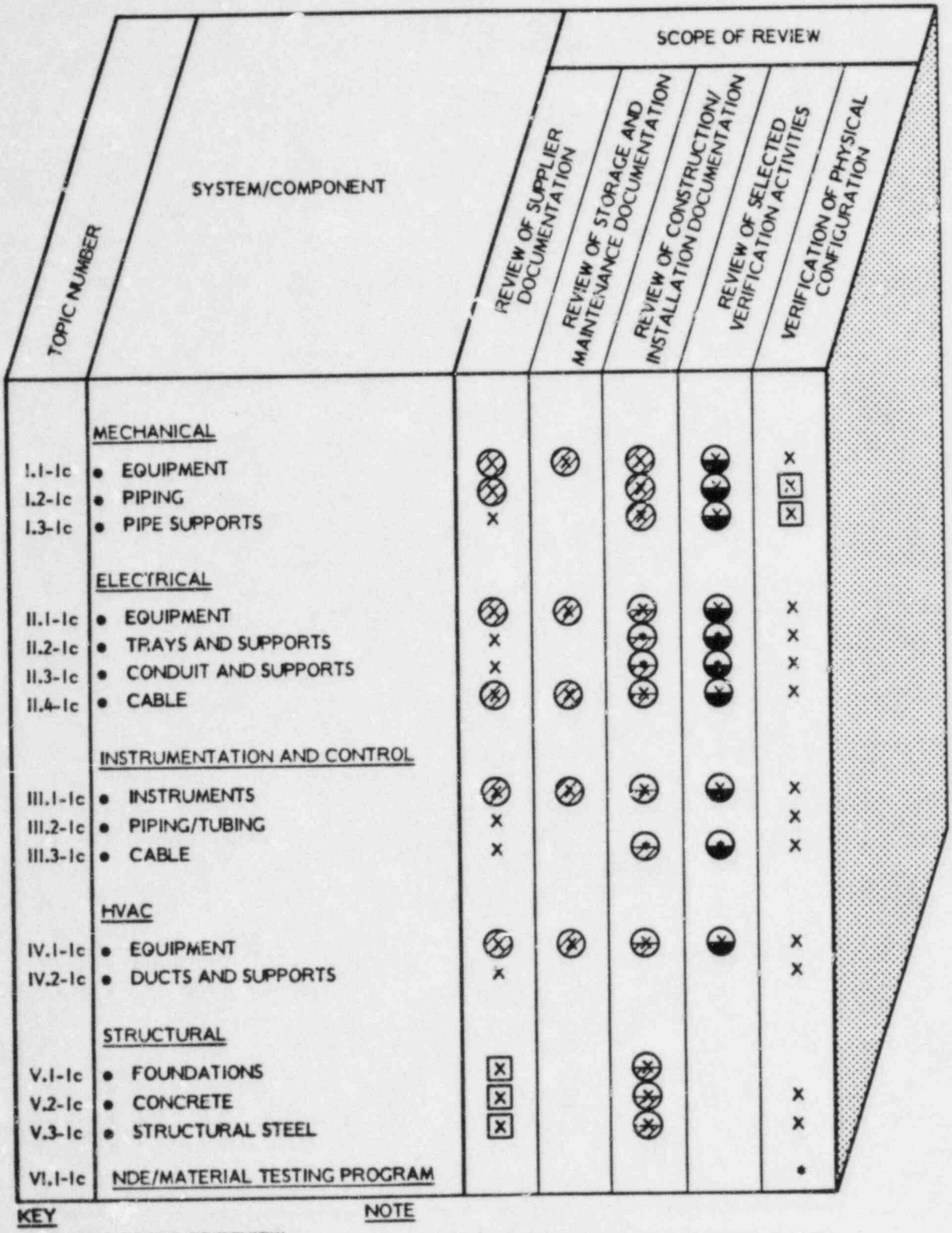
• - ADDED SCOPE OF REVIEW

NOTE

1. INITIAL SAMPLE DOCUMENTED IN REV. 0 AND 1 OF THIS PLAN HAS BEEN MODIFIED EFFECTIVE 4/13/83

FIGURE I.2-2b

INITIAL SAMPLE REVIEW MATRIX FOR THE AUXILIARY FEEDWATER SYSTEM MIDLAND INDEPENDENT CONSTRUCTION VERIFICATION PROGRAM[1]



KEY

X - INITIAL SCOPE OF REVIEW

(X) - DELETED SCOPE OF REVIEW

• - ADDED SCOPE OF REVIEW

NOTE

1. INITIAL SAMPLE DOCUMENTED IN REV. 0 AND 1 OF THIS PLAN HAS BEEN MODIFIED EFFECTIVE 4/13/83

FIGURE I.2-3

INITIAL SAMPLE REVIEW MATRIX FOR THE CONTROL ROOM HVAC SYSTEM
MIDLAND INDEPENDENT DESIGN VERIFICATION PROGRAM

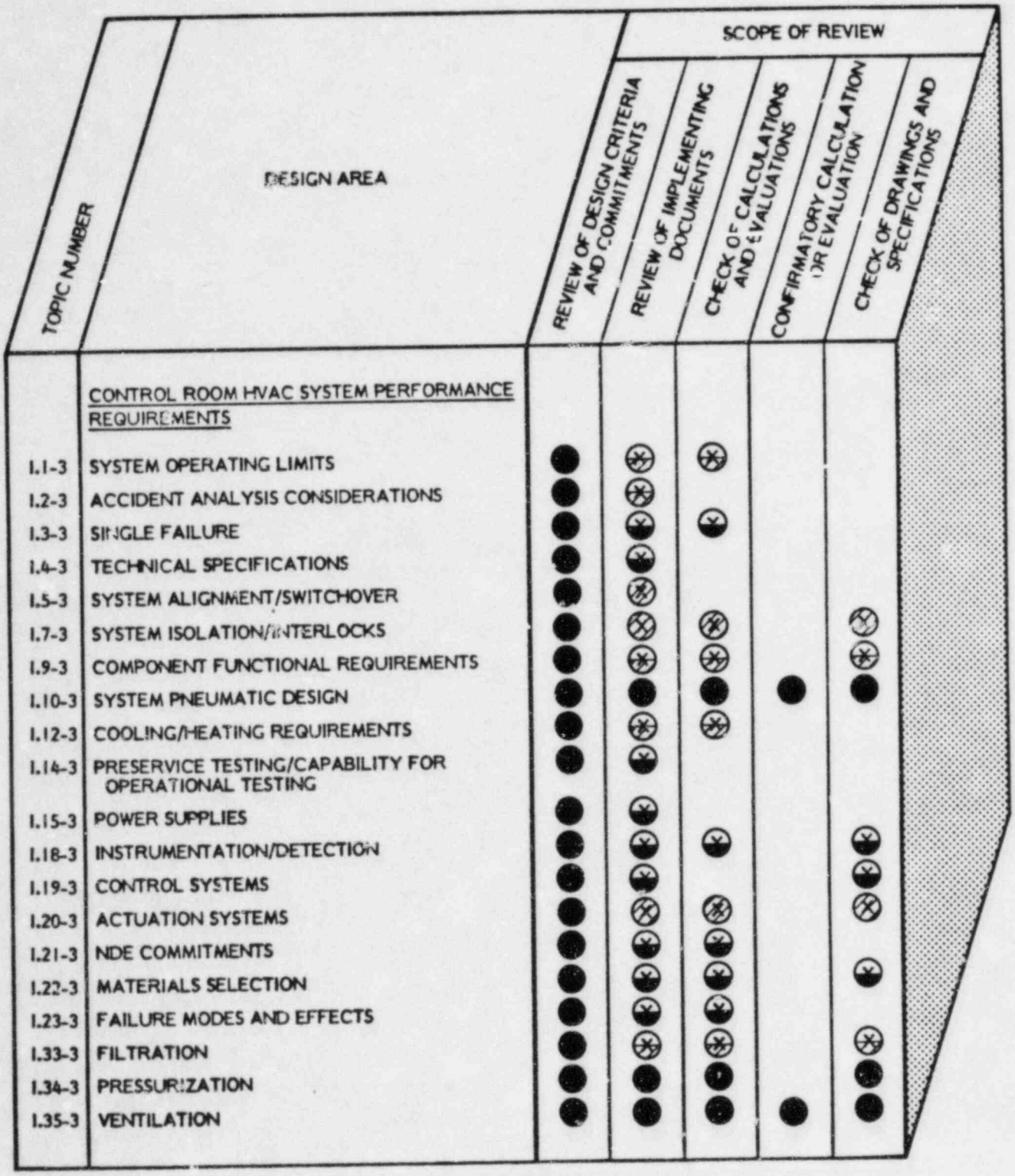


FIGURE 1.2-6a

INITIAL SAMPLE REVIEW MATRIX FOR THE CONTROL ROOM HVAC SYSTEM MIDLAND INDEPENDENT DESIGN VERIFICATION PROGRAM (CONTINUED)

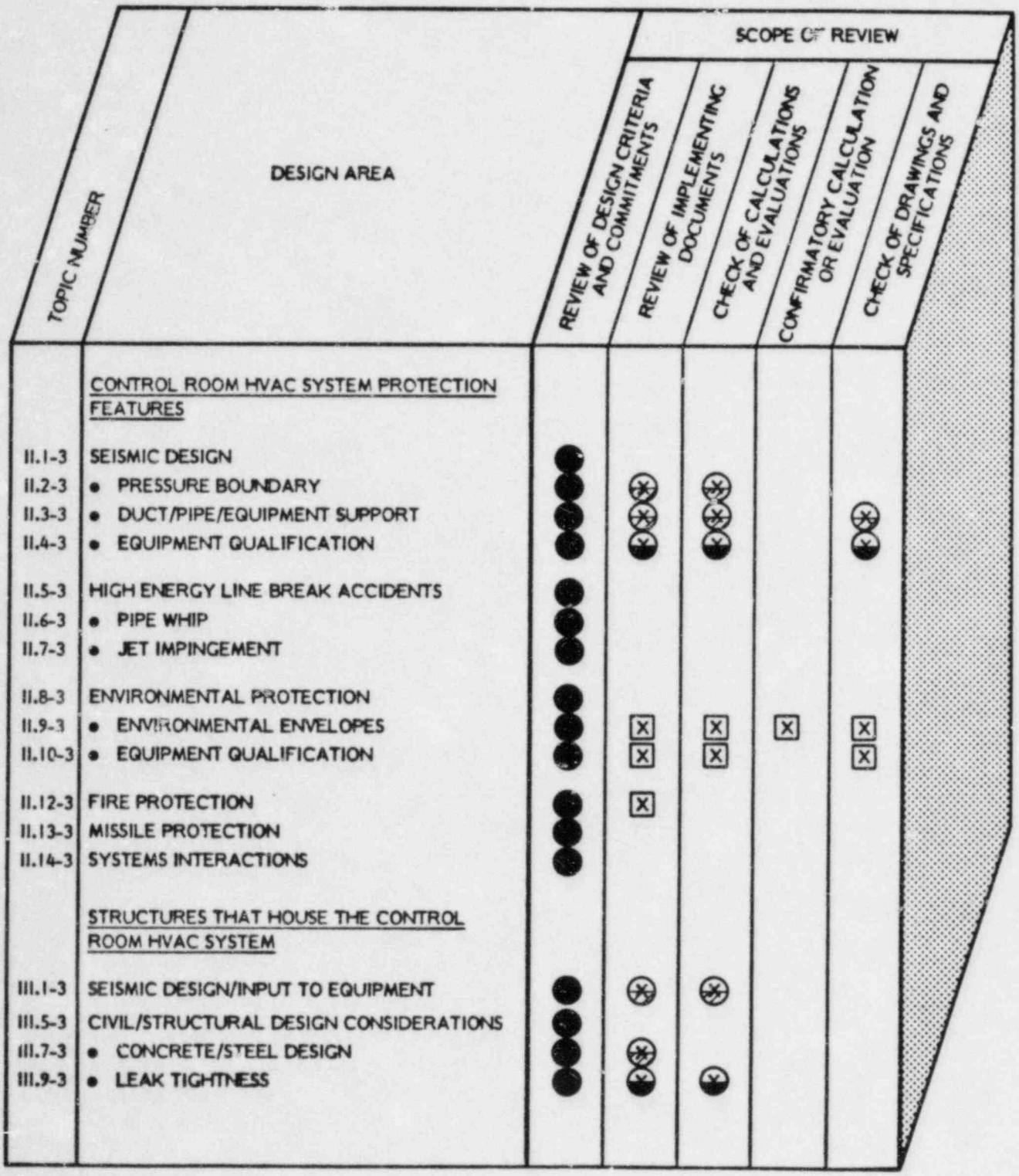


FIGURE I.2-6b

INITIAL SAMPLE REVIEW MATRIX FOR THE CONTROL ROOM HVAC SYSTEM
MIDLAND INDEPENDENT CONSTRUCTION VERIFICATION PROGRAM

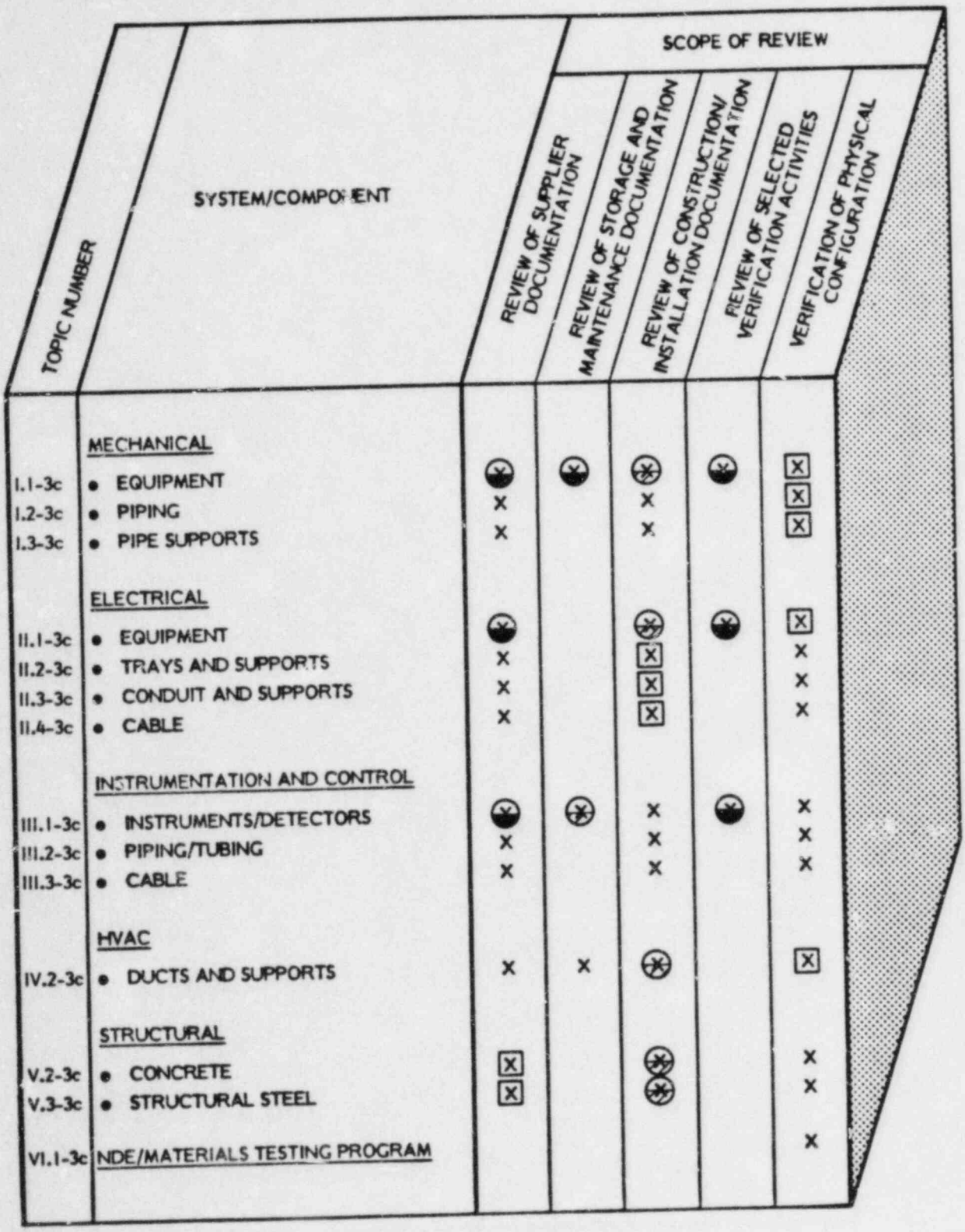


FIGURE I.2-7

INITIAL SAMPLE REVIEW MATRIX FOR THE STANDBY ELECTRIC POWER SYSTEM
MIDLAND INDEPENDENT DESIGN VERIFICATION PROGRAM

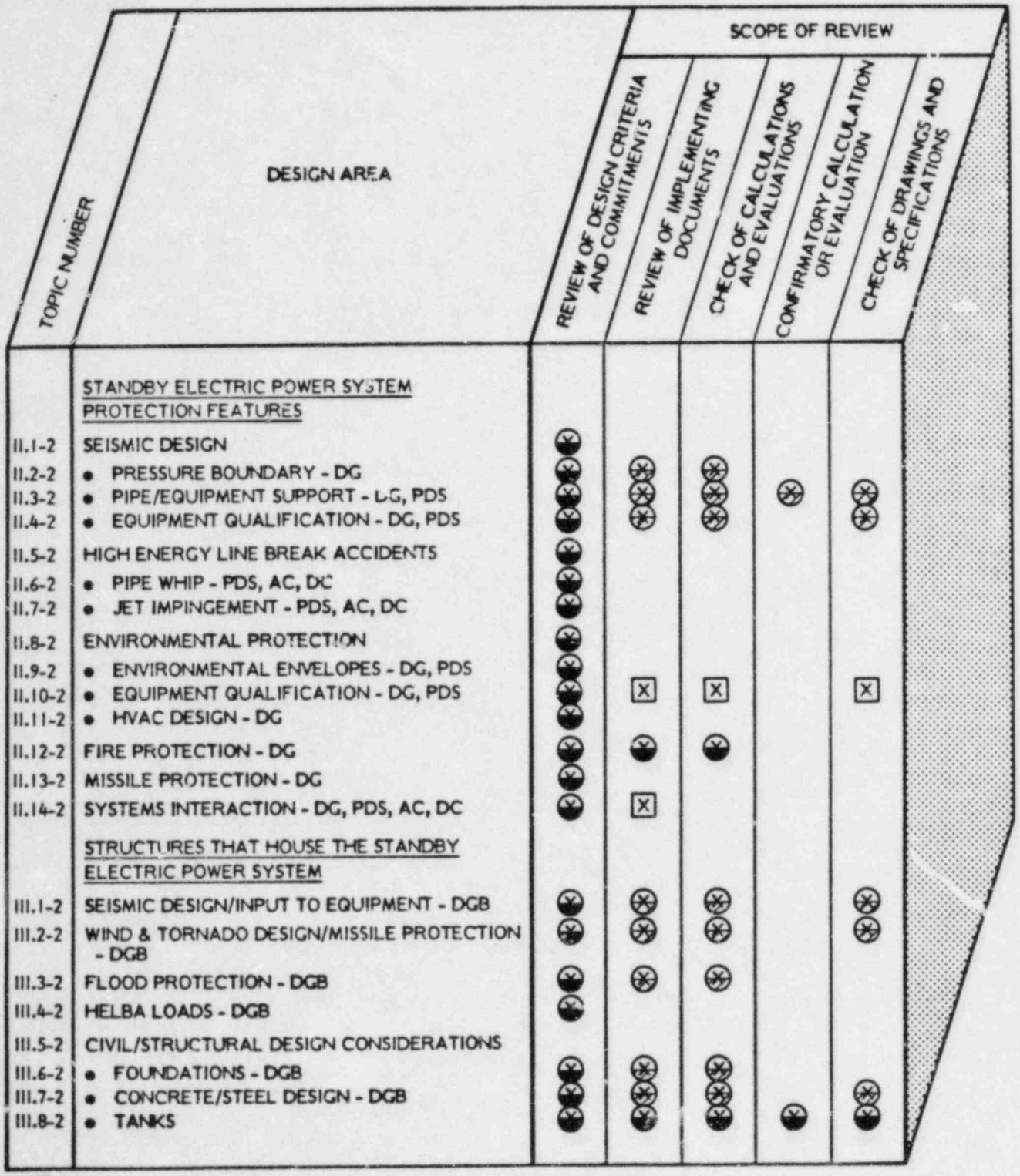
TOPIC NUMBER	DESIGN AREA	SCOPE OF REVIEW: REVIEW OF DESIGN CRITERIA AND COMMITMENTS	REVIEW OF IMPLEMENTING DOCUMENTS	CHECK OF CALCULATIONS AND EVALUATIONS	CONFIRMATORY CALCULATION OR EVALUATION	CHECK OF DRAWINGS AND SPECIFICATIONS
	STANDBY ELECTRIC POWER SYSTEM PERFORMANCE REQUIREMENTS					
I.1-2	SYSTEM OPERATING LIMITS - DG	◉	☒	☒		
I.2-2	ACCIDENT ANALYSIS CONSIDERATIONS - DG, AC, DC	◉	☒			
I.3-2	SINGLE FAILURE - DG, PDS, AC, DC	◉	X	X	X	
I.4-2	TECHNICAL SPECIFICATIONS - DG, DC	◉	◉			
I.6-2	LOCAL OPERATION - DG	◉				
I.7-2	SYSTEM INTERLOCKS - DG	◉	◉			
I.9-2	COMPONENT FUNCTIONAL REQUIREMENTS - DG, PDS, AC, DC	◉	☒	☒		☒
I.12-2	COOLING/HEATING REQUIREMENTS - DG	◉	☒	☒		
I.14-2	PRESERVICE TESTING/CAPABILITY FOR OPERATIONAL TESTING - DG	◉	☒	☒		☒
I.16-2	ELECTRICAL CHARACTERISTICS - DG, PDS, AC, DC	◉	☒	☒		☒
I.17-2	PROTECTIVE DEVICES/SETTINGS - DG, PDS	◉	☒	☒		
I.18-2	INSTRUMENTATION - DG, AC, DC	◉	◉	◉		◉
I.19-2	CONTROL SYSTEMS - DG	◉	◉	◉		◉
I.20-2	ACTUATION SYSTEMS - DG	◉	◉	◉		◉
I.23-2	FAILURE MODES AND EFFECTS - DG, PDS, AC, DC	◉	X	X		
I.24-2	ELECTRICAL LOAD CAPACITY - DG, PDS, AC, DC	◉	◉	◉	◉	
I.25-2	ELECTRICAL LOADS SEQUENCING - DG, PDS	◉	◉	◉		◉
I.26-2	ELECTRICAL LOAD SHEDDING - DG, PDS	◉	◉	◉		
I.27-2	FUEL OIL SYSTEM - DG	◉	X	X		
I.28-2	LUBE OIL SYSTEM - DG	◉	X			
I.29-2	STARTING MECHANISM AND AIR SUPPLY SYSTEM - DG	◉	X	X		X
I.30-2	COMBUSTION AIR SUPPLY - DG	◉	X	X		
I.31-2	INDEPENDENCE - DG, PDS, AC, DC	◉	X	X		
I.32-2	CABLE SIZING/ROUTING/SEPARATION - PDS	◉	X	X	X	X

KEY

DG - DIESEL GENERATOR
DGB - DIESEL GENERATOR BUILDING
PDS - POWER DISTRIBUTION SYSTEM
AC - PREFERRED 120V AC POWER SYSTEM SERVICING AFW SYSTEM
DC - 125V DC POWER SYSTEM SERVICING AFW SYSTEM

FIGURE I.2-4a

INITIAL SAMPLE REVIEW MATRIX FOR THE STANDBY ELECTRIC POWER SYSTEM
MIDLAND INDEPENDENT DESIGN VERIFICATION PROGRAM (CONTINUED)



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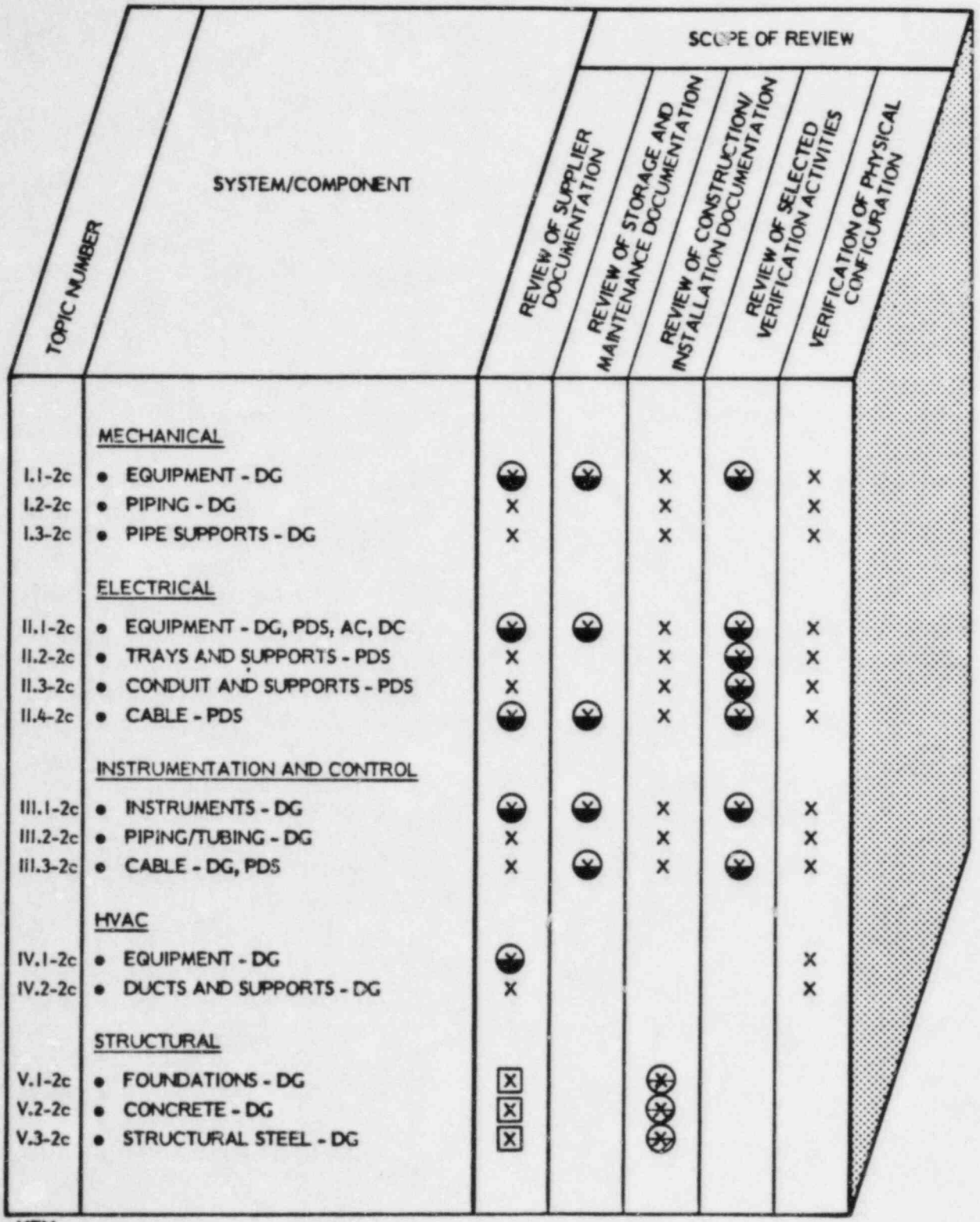
DC - 125V DC POWER SYSTEM SERVICING AFW SYSTEM

FIGURE I.2-4b

INITIAL SAMPLE REVIEW MATRIX FOR THE STANDBY ELECTRIC POWER SYSTEM
MIDLAND INDEPENDENT CONSTRUCTION VERIFICATION PROGRAM



KEY

DG - DIESEL GENERATOR
DGB - DIESEL GENERATOR BUILDING
PDS - POWER DISTRIBUTION SYSTEM
AC - PREFERRED 120V AC POWER SYSTEM SERVICING AFW SYSTEM
DC - 125V DC POWER SYSTEM SERVICING AFW SYSTEM

FIGURE I.2-5

ATTACHMENT 4

OCR, FINDING REPORT, AND FINDING RESOLUTION REPORT TRACKING SYSTEM
MIDLAND INDEPENDENT DESIGN AND CONSTRUCTION VERIFICATION PROGRAM
2/15/84

OCR No.	Resp. LTR	Potential Open Item	Open Item	Confirmed Item	Resolved Item/ Observation	Finding Report	Finding Resolution Report	Topic		Comments
001	RPS	12/21/83	3/4/83	3/4/83	7/12/83			I.4-1	Tech Specs	
002	RPS	12/21/83	3/4/83	3/4/83	7/12/83			I.4-1	Tech Specs	
003	RPS	1/3/83	3/4/83		3/4/83			I.8-1	Overpressure Protection	
004	RPS	1/3/83	3/4/83		3/4/83			I.8-1	Overpressure Protection	
005	FAD	1/4/83	3/4/83	3/4/83				I.1-1	System Operating Limits	
006	RPS	1/12/83	3/4/83		3/4/83			I.2-1	Acc. Anal. Consid.	
007	RPS	1/12/83	3/4/83		3/4/83			I.2-1	Acc. Anal. Consid.	
008	LB	1/19/83	3/4/83		7/12/83			I.19-1	Control Systems	
009	JAM	1/20/83	3/4/83		3/4/83			II.1-1	Seismic Design	
010	FAD	1/20/83	3/4/83	4/14/83	7/12/83			I.10-1	Hydraulic Design	*
011	LB	1/27/83	3/4/83	3/4/83	8/8/83			I.19-1	Control Systems	
012	LB	2/7/83	3/4/83	3/4/83		7/12/83	9/30/83	I.15-1	Power Supplies	
013	RPS	2/8/83	3/4/83		7/12/83			I.5-1	Syst. Align./Switchover	

* Change in Status During Reporting Period

OCR, FINDING REPORT, AND FINDING RESOLUTION REPORT TRACKING SYSTEM
MIDLAND INDEPENDENT DESIGN AND CONSTRUCTION VERIFICATION PROGRAM
2/15/84 (continued)

OCR No.	Resp. LTR	Potential Open Item	Open Item	Confirmed Item	Resolved Item/ Observation	Finding Report	Finding Resolution Report	Topic		Comments
014	RPS	2/8/83	3/4/83		7/12/83			I.5-1	Syst. Align./Switchover	
015	JAM	2/10/83	3/4/83	10/11/83				III.1-1	Seismic Design/Input to Equipment	
016	JAM	2/10/83	3/4/83		2/13/84			III.5-1	Civil/Str. Design Consid.	*
017	FAD	2/17/83	3/4/83	3/4/83	10/5/83			I.11-1	Heat Removal Cap	
018	FAD	2/17/83	3/4/83	3/4/83		11/11/83	11/11/83	I.10-1 I.11-1	Hydraulic Design Heat Removal Cap.	
019	LB	2/21/83	3/4/83		8/8/83			I.18-1	Instrumentation	
020	FAD	2/24/83	3/4/83	3/4/83	11/11/83			I.11-1	Heat Removal Cap.	B-080 Related
								I.9-1	Comp. Func. Req.	
021	FAD	2/24/83	3/4/83					II.10-1	Eq. Qual.	0-21, Rev. 1, 4/14/83
022	LB	2/24/83	3/4/83	8/8/83				I.19-1	Control Syst.	
023	LB	2/28/83	3/4/83		8/8/83			I.18-1	Instrumentation	
								I.19-1	Control	
024	RPS	3/1/83	3/4/83		2/13/84			I.2-1	Acc. Anal. Consid.	*

OCR, FINDING REPORT, AND FINDING RESOLUTION REPORT TRACKING SYSTEM
MIDLAND INDEPENDENT DESIGN AND CONSTRUCTION VERIFICATION PROGRAM
2/15/84 (continued)

OCR No.	Resp. LTR	Potential Open Item	Open Item	Confirmed Item	Resolved Item/ Observation	Finding Report	Finding Resolution Report	Topic		Comments
025	RPS	3/1/83	3/4/83	3/4/83	2/13/84			I.2-1	Acc. Anal. Consid.	*
026	FAD	3/1/83	3/4/83	11/11/83				I.8-1	Overpress. Prot.	
027	FAD	3/1/83	3/4/83	3/4/83	11/11/83			I.9-1	Comp. Func. Req.	
								II.9-1	Env. Eng.	
028	FAD	3/2/83	3/4/83	4/14/83	11/11/83			I.9-1	Comp. Func. Req.	
029	LB	2/22/83	3/4/83		3/4/83			I.18-1	Instrumentation	
								I.19-1	Control System	
030	LB	1/19/83	3/4/83		3/4/83			I.19-1	Control System	
031	DBT	2/11/83	3/4/83	3/4/83		8/30/83		I.3-Ic	Pipe Supports	C-31, Rev. 1, 7/12/83
032	DBT	2/11/83	3/4/83	3/4/83		7/12/83	7/12/83	I.3-Ic	Pipe Supports	C-32, Rev. 1, 7/12/83
033	DBT	2/11/83	3/4/83	3/4/83		7/12/83	7/12/83	I.3-Ic	Pipe Supports	C-33, Rev. 1, 7/12/83
034	DBT	2/11/83	3/4/83	3/4/83		7/12/83	7/12/83	I.3-Ic	Pipe Supports	C-34, Rev. 1, 7/12/83
035	DBT	2/11/83	3/4/83	3/4/83		7/12/83	7/12/83	I.3-Ic	Pipe Supports	C-35, Rev. 2, 7/12/83
036	JAM	2/11/83	3/4/83	3/4/83		7/12/83		II.2-1	Pressure Boundary	C-36, Rev. 2, 7/12/83

OCR, FINDING REPORT, AND FINDING RESOLUTION REPORT TRACKING SYSTEM
MIDLAND INDEPENDENT DESIGN AND CONSTRUCTION VERIFICATION PROGRAM
2/15/84 (continued)

OCR No.	Resp. LTR	Potential Open Item	Open Item	Confirmed Item	Resolved Item/ Observation	Finding Report	Finding Resolution Report	Topic		Comments
037	JAM	1/20/83	3/4/83	3/4/83	8/30/83			III.1-1	Seismic Design/Input to Equipment	
038	FAD	3/1/83	3/4/83	3/4/83				9.1	Component Functional Requirements	
039	LB	3/30/83	4/14/83	8/30/83	2/13/84			II.10-1	Env. Eq. Qual.	*
040	LB	3/8/83	4/14/83	9/30/83	2/13/84			I.16-1	Elec. Characteristics	*
041	LB	3/25/83	4/14/83		9/30/83			I.15-1	Power Supplies	
042	LB	3/31/83	4/14/83		9/30/83			I.10-1	Env. Eq. Qual.	
043	FAD	3/15/83	4/14/83	10/6/83		12/2/83		I.10-1	System Hydraulic Design	10"-2HBD-605
044	FAD	3/15/83	4/14/83		10/6/83			II.10-1	Env. Eq. Qual.	Resolved as Observation
045	DBT	3/17/83	4/14/83	5/25/83		8/8/83	11/11/83	II.1-1C	Electrical Equipment/ Storage & Maintenance	C-45, Rev. 1, 7/12/83
046	DBT	3/17/83	4/14/83	5/25/83		8/8/83	11/11/83	I.1-1C	Mechanical Equipment/ Storage & Maintenance	
047	DBT	7/7/83	7/26/83	8/8/83		8/30/83		I.1-1C	Mechanical Equipment/ Storage & Maintenance	C-47, Rev. 1, 8/30/83

OCR, FINDING REPORT, AND FINDING RESOLUTION REPORT TRACKING SYSTEM
MIDLAND INDEPENDENT DESIGN AND CONSTRUCTION VERIFICATION PROGRAM
2/15/84 (continued)

OCR No.	Resp. LTR	Potential Open Item	Open Item	Confirmed Item	Resolved Item/ Observation	Finding Report	Finding Resolution Report	Topic		Comments
048	FAD	7/29/83	7/29/83	8/8/83				II.10-1	Environmental Equipment Qualification	
049	RC	8/28/83	8/29/83	8/29/83		11/11/83		II.4-1c	Cable	
050	RC	8/28/83	8/29/83	8/29/83		11/11/83		II.4-1c	Cable	
051	JAM	8/12/83	8/30/83		8/30/83			III.1-1	Seismic Design/Input to Equipment	
052	DBT	9/30/83	9/30/83	9/30/83		12/1/83		All ICV Topics for AFW		Supplier Doc
053	FEP	9/27/83	9/29/83	9/29/83		12/1/83		All ICV Topics for AFW		Const./Installation Documentation
054	FEP	9/27/83	9/29/83	9/29/83		12/1/83		All ICV Topics for AFW		Const./Installation - PQCIs
055	DBT	9/19/83	9/29/83	11/11/83		12/1/83		All ICV Topics		Const./Installation Documentation - WPs & PQRs
056	DBT	9/26/83	9/29/83	11/11/83		12/1/83		All ICV Topics for AFW & SEP		Supplier/Doc. - Materials
057	DW	9/29/83	9/30/83		9/30/83			I.34-3	Pressurization	Resolved as Observation

OCR, FINDING REPORT, AND FINDING RESOLUTION REPORT TRACKING SYSTEM
MIDLAND INDEPENDENT DESIGN AND CONSTRUCTION VERIFICATION PROGRAM
2/15/84 (continued)

OCR No.	Resp. LTR	Potential Open Item	Open Item	Confirmed Item	Resolved Item/ Observation	Finding Report	Finding Resolution Report	Topic		Comments
058	DW	10/6/83	10/6/83					I.12-3	Cooling/Heating Requirements	
059	RPS	8/11/83			9/30/83			I.3-1 I.23-1	Single Failure Failure Modes & Effects	Resolved as Observation
060	DW	9/29/83	9/30/83					I.1-3	System Operating Limits	
061	DW	9/29/83			9/30/83			I.18-3	Instrumentation	Resolved as Observation
062	FAD	9/30/83	9/30/83					I.9-1	Comp. Func. Req.	
063	FAD	10/5/83			10/6/83			I.10-1	System Hydraulic Design	Resolved as Observation
064	FAD	10/5/83			10/6/83			I.10-1	System Hydraulic Design	Resolved as Observation
065	FAD	10/4/83	10/6/83					All IDV Topics		
066	DW	9/29/83	10/6/83	10/6/83	11/30/83			I.5-3 I.7-3	System Alignment/Switchover System Isolation/Interlocks	V
067	DW	9/29/83	9/30/83		9/30/83			I.34-3	Pressurization	Resolved as Observation
068	JAM	9/27/83	9/30/83	9/30/83				II.4-1	EQ/Seismic	

OCR, FINDING REPORT, AND FINDING RESOLUTION REPORT TRACKING SYSTEM
MIDLAND INDEPENDENT DESIGN AND CONSTRUCTION VERIFICATION PROGRAM
2/15/84 (continued)

OCR No.	Resp. LTR	Potential Open Item	Open Item	Confirmed Item	Resolved Item/ Observation	Finding Report	Finding Resolution Report	Topic		Comments
069	JAM	9/27/83	9/30/83	12/14/83				II.4-1	EQ/Seismic	
070	JAM	9/27/83	9/30/83		12/14/83			I.4-1	EQ/Seismic	Consolidated with C-069
071	JAM	9/27/83	9/30/83	12/14/83				III.1-1	Seismic Design/ Input to Equipment	
072	FAD	9/30/83	10/6/83					I.9-1	Comp. Func. Req.	
								II.2-1	Seismic Design - Pressure Boundary	
073	DW	9/29/83	10/6/83	10/6/83	11/11/93			I.12-3	Cooling/Heating Requirements	OCR-058 related
074	DW	9/29/83	10/6/83	10/6/83	2/13/83			I.1-3 I.2-3 I.15-3	System Operating Limits Acc. Anal. Consid. Power Supplies	*
075	DW	9/29/83	10/6/83	10/6/83	1/6/84			I.1-3 I.2-3	System Operating Limits Acc. Anal. Consid.	*
076	DW	9/29/83	10/6/83	10/6/83	1/6/84			I.12-3	Cooling/Heating Requirements	
077	JAM	9/27/83	10/6/83	10/6/83				II.4-1	EQ/Seismic	
078	FAD	9/30/83	10/6/83					I.9-1	Comp. Func. Req.	

OCR, FINDING REPORT, AND FINDING RESOLUTION REPORT TRACKING SYSTEM
MIDLAND INDEPENDENT DESIGN AND CONSTRUCTION VERIFICATION PROGRAM
2/15/84 (continued)

OCR No.	Resp. LTR	Potential Open Item	Open Item	Confirmed Item	Resolved Item/ Observation	Finding Report	Finding Resolution Report	Topic		Comments
079	JAM	8/29/83	10/6/83					III.5-1	Civil/Structural Design Considerations	
								III.6-1	Foundations	
080	FAD	11/1/83			11/11/83			I.9-1	Comp. Func. Req.	Resolved as Observation
081	FAD	11/1/83	11/11/83	11/11/83	2/13/84			II.2-1	Pressure Boundary	*See also Observations B-142 and B-143
								I.9-1	Comp. Func. Req.	
082	DW	10/18/83	11/11/83					I.9-3	Comp. Func. Req.	Chemical Conc./ Dow Interface
083	DW	10/31/83	11/11/83					I.2-3	Acc. Anal. Consid.	
084	DW	10/31/83	11/11/83	11/11/83				I.2-3	Acc. Anal. Consid.	
085	DW	10/31/83	11/11/83	11/11/83				All IDV Topics		Noted issues identified in CR-HVAC review
086	FAD	10/13/83			11/11/83			II.12-1	Fire Protection	Resolved as Observation
087	FAD	10/13/83	11/11/83	11/11/83				II.12-1	Fire Protection	
088	FAD	10/13/83	11/11/83	11/11/83				II.12-1	Fire Protection	

OCR, FINDING REPORT, AND FINDING RESOLUTION REPORT TRACKING SYSTEM
MIDLAND INDEPENDENT DESIGN AND CONSTRUCTION VERIFICATION PROGRAM
2/15/84 (continued)

OCR No.	Resp. LTR	Potential Open Item	Open Item	Confirmed Item	Resolved Item/ Observation	Finding Report	Finding Resolution Report	Topic		Comments
089	FAD	10/13/83	11/11/83	11/11/83				II.I2-I	Fire Protection	C-089, Rev. 1 11/29/83
090	FAD	10/13/83			11/11/83			II.I2-I	Fire Protection	Resolved as Observation
091	RSC	10/18/83	11/11/83	11/11/83		12/1/83		I.3-IC	Pipe Supports	Overinspection Prog.
092	RSC	10/18/83	11/11/83	11/11/83				I.3-IC	Pipe Supports	Overinspection Prog.
093	DBT	11/10/83	11/21/83	11/28/83				IV.2-3C	Const. Doc. Review	HVAC Ducts
094	DBT	11/10/83	11/21/83	11/28/83				IV.2-3C	Physical Verif.	HVAC Ducts
095	DBT	11/10/83	11/21/83	11/28/83				IV.2-3C	Const. Doc. Review	HVAC Welding Docs
096	DBT	11/10/83	11/11/83	11/28/83				IV.2-3C	Const. Doc. Review	HVAC Ducts and supports
097	LDB	11/30/83	12/5/83	12/9/83				I.3-3 I.5-3	Single Failure System Alignment	
098	DMW	11/7/83	12/5/83					III.1-1	Seismic Design	RG 1.92
099	JAM	11/30/83	12/5/83	12/9/83				III.1-1	Seismic Design	Slab Rotation

OCR, FINDING REPORT, AND FINDING RESOLUTION REPORT TRACKING SYSTEM
MIDLAND INDEPENDENT DESIGN AND CONSTRUCTION VERIFICATION PROGRAM
2/15/84 (continued)

OCR No.	Resp. LTR	Potential Open Item	Open Item	Confirmed Item	Resolved Item/ Observation	Finding Report	Finding Resolution Report	Topic		Comments
100	JAM	12/9/83			12/9/83			III.1-1	Seismic Design	Resolved as Observations
101	JAM	11/30/83	12/5/83	12/9/83				III.1-1	Seismic Design	DQ-38(Q)
102	JAM	11/30/83	12/5/83	12/9/83				III.1-1	Seismic Design	Computer Input
103	JAM	11/30/83	12/5/83	12/9/83				III.1-1	Seismic Design	
104	JAM	11/30/83	12/5/83	12/9/83				III.1-1	Seismic Design	Moment of Inertia Calc
105	JAM	11/30/83	12/5/83	12/9/83				III.1-1	Seismic Design	Program CE-207
106	JAM	11/30/83	12/5/83	12/9/83				III.1-1	Seismic Design	Soil Structure Interaction
107	JAM	11/30/83	12/5/83	12/9/83				III.1-1	Seismic Design	Stick Model Assumptions
108	JAM	11/30/83	12/5/83	12/9/83				III.1-1	Seismic Design	Stick Model Input
109	LDB	12/1/83	12/6/83	12/14/83				1.19-2	DG Control	Fuel Lockout
110	LDB	12/1/83	12/6/83	12/14/83				1.24-2	DG Load Capacity	Load Tabulation
111	GES	12/2/83	12/6/83	12/14/83				1.24-2	DG Load Capacity	Undervoltage

OCR, FINDING REPORT, AND FINDING RESOLUTION REPORT TRACKING SYSTEM
MIDLAND INDEPENDENT DESIGN AND CONSTRUCTION VERIFICATION PROGRAM
2/15/84 (continued)

OCR No.	Resp. LTR	Potential Open Item	Open Item	Confirmed Item	Resolved Item/ Observation	Finding Report	Finding Resolution Report	Topic		Comments
112	GES	12/9/83	12/14/83	12/14/83				I.30-2	DG Exhaust	
113	JAM	11/3/83	11/7/83	12/14/83				III.7-1	Conc/steel design	
114	JAM	11/3/83	11/7/83	12/14/83				III.7-1	Conc/steel design	
115	JAM	11/10/83	11/10/83	12/14/83				III.7-1	Conc/steel design	
116	JAM	11/10/83	11/10/83	12/14/83				III.7-1	Conc/steel design	
117	JAM	10/31/83	11/10/83	12/14/83				III.6-1 III.7-1	Foundations Conc/steel design	
118	JAM	10/31/83			12/14/83			III.6-1	Foundations	
119	JAM	10/5/83	11/14/83	12/14/83				II.4-1	Seismic Qual.	
120	JAM	10/26/83	11/14/83	12/14/83				II.4-1	Seismic Qual.	
121	JAM	10/26/83	11/14/83	12/14/83				II.4-1	Seismic Qual.	
122	JAM	10/26/83	11/14/83	12/14/83				II.4-1	Seismic Qual.	
123	DBT	12/20/83	12/28/83					Various ICV topics		
124	DBT	12/20/83	12/28/83					Various ICV topics		
125	JAM	12/30/83	1/6/84	1/6/84				III.1-2	Seismic Design	Stick Model

OCR, FINDING REPORT, AND FINDING RESOLUTION REPORT TRACKING SYSTEM
MIDLAND INDEPENDENT DESIGN AND CONSTRUCTION VERIFICATION PROGRAM
2/15/84 (continued)

OCR No.	Resp. LTR	Potential Open Item	Open Item	Confirmed Item	Resolved Item/ Observation	Finding Report	Finding Resolution Report	Topic		Comments
126	DMW	12/19/83			1/6/84			1.2-3	Acc. Anal. Consid.	Air Inleakage, Resolved as Observation
127	DMW	12/20/83			1/6/84			1.9.3	Comp. Func. Req.	Resolved as Observation
128	DMW	12/20/83			1/6/84			1.35-3	Ventilation	Resolved as Observation
129	DMW	12/30/83	1/6/84	1/6/84				1.9-3	Comp. Func. Req.	Damper Isolation Time
130	JAM	12/20/83	1/6/84	1/6/84				III.7-2	Conc/steel design	Source of Seismic Forces
131	JAM	12/20/83	1/6/84	1/6/84				III.6-2 III.7-2	Foundations Conc/steel design	Footing Strips
132	GES	12/9/83	1/6/84	1/6/84				1.26-2	Electrical Load Shedding	Under-Voltage Setpoints
133	GES	12/21/83	1/6/84	1/6/84				1.19-2	DG Control	Pneumatic Control
134	GES	12/29/83	1/6/84	1/6/84				1.7-2	Interlocks	Cross-unit Interface
135	GES	12/29/83	1/6/84	1/6/84				1.7-2	Interlocks	IEEE 308

OCR, FINDING REPORT, AND FINDING RESOLUTION REPORT TRACKING SYSTEM
MIDLAND INDEPENDENT DESIGN AND CONSTRUCTION VERIFICATION PROGRAM
2/15/84 (continued)

OCR No.	Resp. LTR	Potential Open Item	Open Item	Confirmed Item	Resolved item/ Observation	Finding Report	Finding Resolution Report	Topic		Comments
136	GES	12/29/83			1/6/84			I.7-2	Interlocks	Resolved as Observation
137	GES	12/29/83			1/6/84			I.7-2	Interlocks	Resolved as Observation
138	GES	12/29/83			1/6/84			I.7-2	Interlocks	Resolved as Observation
139	GES	12/9/83	1/6/84		2/13/84			I.25-2	DG Load Sequencing	*Resolved as Observation
140	GES	12/15/83	1/6/84					III.8-2	Oil Tanks	
141	GES	12/23/83	1/6/84		2/13/84			I.19-2	DG Controls	*
142	FAD	1/16/84			2/13/84			All IDV Topics		*Resolved as Observation, see also C-081
143	FAD	1/26/84			2/13/84			AFW System		*Resolved as Observation, see also C-081
144	DW	1/18/84	2/13/84					II.2-1 II.3-1	Pressure Boundary Pipe Support	*

OCR, FINDING REPORT, AND FINDING RESOLUTION REPORT TRACKING SYSTEM
MIDLAND INDEPENDENT DESIGN AND CONSTRUCTION VERIFICATION PROGRAM
2/15/84 (continued)

OCR No.	Resp. LTR	Potential Oper. Item	Open Item	Confirmed Item	Resolved Item/ Observation	Finding Report	Finding Resolution Report	Topic		Comments
145	DW	1/25/84	1/25/84					I.19-3	Control Systems	*
146	GES	1/20/84	2/13/84	2/13/84				I.19-2 I.29-2	DG Control Systems DG Starting Mechanism and Air Supply System	* *
147	GES	1/20/84	2/13/84	2/13/84				I.20-2	DG Actuation Systems	*
148	GES	2/7/84	2/13/84	2/13/84				I.12-2	Fire Protection	*
149	GES	12/30/83	2/13/84	2/13/84				I.12-2	Fire Protection	*
150	GES	12/30/83	2/13/84	2/13/84				II.12-2	Fire Protection	*
151	GES	1/10/84			2/13/84			I.4-2	Technical Specs	*Resolved as Observation
152	FAD	1/17/84			2/13/84			I.2-1	Accident Analysis Considerations	*Resolved as Observation
153	LDB	2/10/84	2/13/84	2/13/84				I.19-1	AFW Control Systems	*
154	GES	2/10/84	2/13/84					II.12-2	Fire Protection	*

ATTACHMENT 5

CURRENT PERIOD CONFIRMED AND
RESOLVED ITEM REPORTS, FINDiNG REPORTS,
FINDING RESOLUTION REPORTS,
AND OBSERVATIONS

MIDLAND INDEPENDENT DESIGN AND CONSTRUCTION VERIFICATION OPEN, CONFIRMED AND RESOLVED (OCR) ITEM REPORT

TYPE OF REPORT: OPEN _____ CONFIRMED _____ RESOLVED X ITEM

FILE NO. 3201-008
DOC NO. 3201-008 -R-025
REV. NO. _____

DATES REPORTED TO: LTR 1/27/84 SRT _____ PROJECT TEAM/PROJECT MGR. 2/13/84
PRINCIPAL-IN-CHARGE 2/14/84 CPC/DESIGN ORG. _____

STRUCTURE(S), SYSTEM(S), OR COMPONENT(S) INVOLVED:

AFW

IDCV PROGRAM AREA OR TASK (IF APPLICABLE):

Accident Analysis Considerations (I.2-1)

DESCRIPTION OF CONCERN:

See attached

SIGNIFICANCE OF CONCERN:

Failure of operator to take action quickly could result in total loss of AFW (taking into account single failure).

RECOMMENDATION _____ OR RESOLUTION X :

Ref. 1 provides a calculation which demonstrates that the operator has over 30 minutes to take corrective action. This is a reasonable basis for assuming that operator action will prevent excessive overfill of the steam generator.

COMMENTS BY SRT (IF REQUIRED):

REFERENCES (INCL. RELATED OCR ITEM REPORT NO.):

1. Memo Hamm (CPCo) to Gibson (CPCo), 9/15/83, File B10.4.9, Serial 25654

SIGNATURE(S)				
OCR ITEM REPORT ORIGINATOR	LTR	HAL PROJECT MANAGER FOR PROJECT TEAM	JWB PRINCIPAL-IN-CHARGE	SRT (IF REQUIRED)
1/27/84	1/27/84	2/13/84	2/14/84	
DATE	DATE	DATE	DATE	DATE

ATTACHMENT TO 3201-008-R-025

Description of Concern: The "Feed Only Good Generator" system may perform in a detrimental manner under conditions of steam generator tube failure followed by loss of offsite power. Its design would force it to direct feed to the "bad" steam generator only because FOGG logic directs feed to the steam generator with the higher pressure based upon a delta pressure measurement between the two SGs. Without prompt operator action, the steam-driven pump could be flooded and rendered inoperable as a result of leaking primary coolant. The FSAR analysis assumes operator action (no time delay mentioned) to "invert" FOGG and send flow to good generator such that the SG tube rupture is recognized and mitigated in sufficient time. The basis for this assumption is not clear. With a single failure of the motor driven AFW pump, all AFW may be rendered inoperable.

MIDLAND INDEPENDENT DESIGN AND CONSTRUCTION VERIFICATION
OPEN, CONFIRMED AND RESOLVED (OCR) ITEM REPORT

TYPE OF REPORT: OPEN _____ CONFIRMED _____
RESOLVED X ITEM

FILE NO. 3201-008
DOC NO. 3201-008-R - 039
REV. NO. _____

DATES REPORTED TO: LTR 1/19/84 SRT _____
PRINCIPAL-IN-CHARGE 2/14/84

PROJECT TEAM/PROJECT MGR. 2/13/84
CPC/DESIGN ORG. _____

STRUCTURE(S), SYSTEM(S), OR COMPONENT(S) INVOLVED:

Instrumentation Cable (E-60A) B28-C, 105-C, 115-C, 116-C, 117-C, 118-C, 126-C, S09-C, S10-C

IDCV PROGRAM AREA OR TASK (IF APPLICABLE):

AFW Review - Equipment Qualification Topic II.10-1

DESCRIPTION OF CONCERN: The equipment qualification test data presented in report E-60A is shown as being applicable to the above cables as well as others. Report E-60A provides data for a twisted shielded pair test sample which is normally applied to twisted shielded pairs, triple or quad from multi-conductor signal cable. The basis for this application is IEEE-383-1974, Table 1. None of the above cable types are shielded pairs, triple or quad from multi-conductor signal cable. There is no clear justification in the report E-60A for the application of the twisted shielded pair test data to these other cable types.

SIGNIFICANCE OF CONCERN:

The cable types listed above may not be adequately qualified or other qualification data may more appropriately apply to these cable types.

RECOMMENDATION _____ OR RESOLUTION X :

Bechtel in letter No. 131328 dated 10/12/83 satisfactorily justified the application of aging, DBE testing and post-LOE operability test data to all of the cable types in question. Later, in letter No. 136792, Bechtel justified the application of MSLB analysis results to #20 AWG cable (#16 AWG cable was used as a basis for the analysis) and also justified the application of submergence test data to unshielded cable. These responses have adequately resolved TERA's concerns regarding the qualification of the above cable types.

COMMENTS BY SRT (IF REQUIRED):

REFERENCES (INCL. RELATED OCR ITEM REPORT NO.):

SIGNATURE(S):

LDB	LDB	HAL	JWB	
OCR ITEM REPORT ORIGINATOR	LTR	PROJECT MANAGER FOR PROJECT TEAM	PRINCIPAL-IN-CHARGE	SRT (IF REQUIRED)
1/19/84	1/20/84	2/13/84	2/14/84	
DATE	DATE	DATE	DATE	DATE

MIDLAND INDEPENDENT DESIGN AND CONSTRUCTION VERIFICATION OPEN, CONFIRMED AND RESOLVED (OCR) ITEM REPORT

TYPE OF REPORT: OPEN _____ CONFIRMED _____
RESOLVED X ITEM

FILE NO. 3201-008
DOC NO. 3201-008-R - 040
REV. NC. _____

DATES REPORTED TO: LTR 1/19/84 SRT ~~2/14/84~~
PRINCIPAL-IN-CHARGE ~~2/14/84~~ PROJECT TEAM/PROJECT MGR. 2/13/84
CPC/DESIGN ORG. _____

STRUCTURE(S), SYSTEM(S), OR COMPONENT(S) INVOLVED:

AFW Cable 2AB5526A

IDCV PROGRAM AREA OR TASK (IF APPLICABLE):

AFW Electrical Characteristics 1.16-1

DESCRIPTION OF CONCERN: A check of the maximum cable length for cable 2AB5526A (power to valve 2MO-3970A) using the procedure of QPE-8 Rev. 2 resulted in a maximum length (408 ft) that is less than the stated actual installed length (435 ft) shown on the Circuit Schedule dated September 1983. The cable 2AB5526A appears to be undersized. The calculation of maximum cable length was performed using 5.8 amps (Ref.1) for max. current in the 3/C #14 AWG cable. Several other cable lengths were checked and found to be satisfactory.

SIGNIFICANCE OF CONCERN: Cable may be improperly sized resulting in overheating and degraded performance over life. The Bechtel check of cable lengths in the circuit schedule did not identify the undersized cable. There may be other safety related cables which are undersized.

RECOMMENDATION _____ OR RESOLUTION X :

Tera agrees with the Bechtel assessment that calculation QPE-8 is conservative for the specific MOV application cited here. To further review the cable routing and length control process, calculation QPE-17, "Motor Starter Control Circuit Sizing" was applied to scheme OAB4509 on diagram E-457 (Q) sheet 1 Rev. 6. Using the circuit schedule cable lengths, the minimum voltage required at the MCC for the control circuit to function was determined to be 400 volts. The appropriate MCC voltage available under full load running conditions was 426 volts (from VOLTANAL RUN dated 1-26-1983.) The cable lengths were satisfactory. This OCR is therefore resolved.

COMMENTS BY SRT (IF REQUIRED):

REFERENCES (INCL. RELATED OCR ITEM REPORT NO.):

1) Dwg. E-18 (Q) Sh.9, Rev. 14
2) Dwg E-37, Circuit Schedule Re. 67
3) 600V Cable Ampacity, Sizing..: QPE-8, Rev2

SIGNATURE(S):

LDB	LDB	HAL	JWB	
OCR ITEM REPORT ORIGINATOR	LTR	PROJECT MANAGER FOR PROJECT TEAM	PRINCIPAL-IN-CHARGE	SRT (IF REQUIRED)
1/19/84	1/19/84	2/13/84	2/14/84	
DATE	DATE	DATE	DATE	DATE

INDEPENDENT DESIGN AND CONSTRUCTION VERIFICATION
OPEN, CONFIRMED AND RESOLVED (OCR) ITEM REPORT

TYPE OF REPORT: OPEN _____ CONFIRMED _____
RESOLVED __X__ ITEM

FILE NO. 3201-008
DOC NO. 3201-008-R-074
REV. NO. _____

DATES REPORTED TO: LTR 2/13/84 SRT _____ PROJECT TEAM/PROJECT MGR. 2/13/84
PRINCIPAL-IN-CHARGE 2/14/84 CPC/DESIGN ORG. _____

STRUCTURE(S), SYSTEM(S), OR COMPONENT(S) INVOLVED:

Control Room HVAC System - Applicable to all mechanical and electrical aspects

IDCV PROGRAM AREA OR TASK (IF APPLICABLE):

Topic Numbers I.1-3, I.2-3, and I.15-3

DESCRIPTION OF CONCERN:

The specific criteria for control room environmental conditions during a station blackout are not identified. The system's functional requirements may depend upon whether a temperature limit exists.

SIGNIFICANCE OF CONCERN:

Both personnel habitability and equipment qualification could be affected by the operating limits established during a station blackout.

RECOMMENDATION _____ OR RESOLUTION __X__:

The referenced letter identified the bases for determining an upper bound temperature during blackout conditions which are documented in calculation FM-4321-46(Q). These bases were reviewed and it was confirmed that the calculation addressed the issue as described in the letter with one exception: the heat loads. Confirmation of heat loads is the subject of OCR 3201-008-0-058, and need not be addressed as part of this OCR. It is concluded that the Bechtel response is supported by a calculation and that the methods for addressing station blackout are adequate.

COMMENTS BY SRT (IF REQUIRED):

REFERENCES (INCL. RELATED OCR ITEM REPORT NO.):

1. Bechtel letter BLC-18457 to Consumers Power, dated 11/11/83
2. OCR 3201-008-0-058

SIGNATURE(S):

OCR ITEM REPORT ORIGINATOR	LTR	HAL PROJECT MANAGER FOR PROJECT TEAM	JWB PRINCIPAL-IN-CHARGE	SRT (IF REQUIRED)
1/17/84	1/17/84	2/13/84	2/14/84	
DATE	DATE	DATE	DATE	DATE

MIDLAND INDEPENDENT DESIGN AND CONSTRUCTION VERIFICATION
OPEN, CONFIRMED AND RESOLVED (OCR) ITEM REPORT

TYPE OF REPORT: OPEN _____ CONFIRMED _____
RESOLVED X ITEM

FILE NO. 3201-008
DOC NO. 3201-008-R-081
REV. NO. _____

DATES REPORTED TO: LTR 1/25/84 SRT _____ PROJECT TEAM/PROJECT MGR. 2/13/84
PRINCIPAL-IN-CHARGE 2/14/84 CPC/DESIGN ORG. _____

STRUCTURE(S), SYSTEM(S), OR COMPONENT(S) INVOLVED:

AFW System

IDCV PROGRAM AREA OR TASK (IF APPLICABLE):
Review of Calculations
I.9-1 Component Functional Requirements II.2-1 Pressure Boundary

DESCRIPTION OF CONCERN:

See attached

SIGNIFICANCE OF CONCERN:

The wrong pressures and temperatures may have been used in piping analysis if the analyst did not resolve these problems.

RECOMMENDATION _____ OR RESOLUTION X :

Calculation FM-4117-28(Q), Rev. 2, replaces the Rev. 0 version on which the original confirmed item was based. The calculation review indicated that the concerns previously identified were corrected in Rev. 2. Additional sampling was performed and no significant errors were found; some minor discrepancies were noted and are documented in an observation.

COMMENTS BY SRT (IF REQUIRED):

REFERENCES (INCL. RELATED OCR ITEM REPORT NO.):
OCR - 3201-008-B-142; OCR 3201-008-B-143
Bechtel calculation FM-4117-28(Q), Rev. 2

SIGNATURE(S):

FAD	FAD	HAL	JWR	
OCR ITEM REPORT ORIGINATOR	LTR	PROJECT MANAGER FOR PROJECT TEAM	PRINCIPAL-IN-CHARGE	SRT (IF REQUIRED)
1/25/84	1/25/84	2/13/84	2/14/84	
DATE	DATE	DATE	DATE	DATE

ATTACHMENT TO 3201-008-R-081

Description of Concern: Calculation FM-4117-28(Q) appears to contain errors which could affect subsequent analyses.

A. Sheet 18 lists hanger nodes 985-786 as corresponding to section 2 shown on sheet 11; however, this combination of nodes does not appear on sheet 23.

B. Sheet 23 refers in two places to node 936, which appears neither on sheets 11-12 nor on sheets 18-22.

C. Nodes 415-401 are listed on sheet 18 and on sheet 23. Sheet 18 states that these nodes are in section 1, but a comparison with sheets 11-12 shows that node 415 is in section 5 (see sheets 21 and 32). On sheet 23, nodes 415-401 are listed in mode 1 as 108^{0}/85 psig, whereas on sheet 32 nodes 415-401 are listed in mode 1 as 295^{0}/1875 psig.

D. Node 401 appears on both sheets 11 and 12.

MIDLAND INDEPENDENT DESIGN AND CONSTRUCTION VERIFICATION
OPEN, CONFIRMED AND RESOLVED (OCR) ITEM REPORT

TYPE OF REPORT: OPEN _____ CONFIRMED _____
Observation RESOLVED __X__ ITEM

FILE NO. 3201-008
DOC NO. 3201-008-B-139
REV. NO. _____

DATES REPORTED TO: LTR 2/7/84 SRT _____
PRINCIPAL-IN-CHARGE 2/14/84

PROJECT TEAM/PROJECT MGR. 2/13/84
CPC/DESIGN ORG. _____

STRUCTURE(S), SYSTEM(S), OR COMPONENT(S) INVOLVED:

Standby Electric Power: Deisel Generator

IDCV PROGRAM AREA OR TASK (IF APPLICABLE):

Topic 1.25-2: DG Load Sequencing

DESCRIPTION OF CONCERN:

Per FSAR, Section 8.3.1.1.8, all class 1E motors are required to be capable of accelerating to normal speed in ≤ 5 seconds (exception: vaneaxial fans). The LOP and ECCAS load sequences operate in increments of 5 seconds. No margin is defined.

SIGNIFICANCE OF CONCERN:

LOP/ECCAS load sequencer accuracy and repeatability is not defined. Potential for over lapping loads exists. ESFAS Material Requisition Section 5.M(16) pg.18 implies an accuracy requirement of ± 0.1 seconds. AFW motor data illustrates 3.5 seconds as the acceleration time. Therefore, margin is available for pump; margin may not exist elsewhere.

RECOMMENDATION _____ OR RESOLUTION __X__:

This item is resolved by classification as an observation. Process per PQAP.

COMMENTS BY SRT (IF REQUIRED):

REFERENCES (INCL. RELATED OCR ITEM REPORT NO.):

FSAR, PH 8.3-21, Rev 39; J-207, Attachment B, Section M.G., Rev. 10

SIGNATURE(S):

GR	GES	HAL	JWB	
OCR ITEM REPORT ORIGINATOR	LTR	PROJECT MANAGER FOR PROJECT TEAM	PRINCIPAL-IN-CHARGE	SRT (IF REQUIRED)
2/7/84 DATE	2/9/84 DATE	2/13/84 DATE	2/14/84 DATE	_____ DATE

AND INDEPENDENT DESIGN AND CONSTRUCTION VERIFICATION
OPEN, CONFIRMED AND RESOLVED (OCR) ITEM REPORT

TYPE OF REPORT: OPEN _____ CONFIRMED X
RESOLVED _____ ITEM

FILE NO. 3201-008
DOC NO. 3201-008-C-141
REV. NO. _____

DATES REPORTED TO: LTR 12/22/83 SRT _____
PRINCIPAL-IN-CHARGE 2/14/84

PROJECT TEAM/PROJECT MGR. 2/13/84
CPC/DESIGN ORG. _____

STRUCTURE(S), SYSTEM(S), OR COMPONENT(S) INVOLVED:

Standby Electric Power: Diesel Generator

IDCV PROGRAM AREA OR TASK (IF APPLICABLE):

Topic 1.19-2; DG Control System (Pneumatic)

DESCRIPTION OF CONCERN:

Material requsition M18(Q) Rev. 7 Sections 5.1.6 and 5.2.3 do not address air quality requirements for the DG pneumatic control system.

SIGNIFICANCE OF CONCERN:

Poor air quality may cause pneumatic control system malfunctions leading to a DG breaker trip & lockout or an engine shutdown.

RECOMMENDATION X OR RESOLUTION _____:

Process per PQAP.

COMMENTS BY SRT (IF REQUIRED):

REFERENCES (INCL. RELATED OCR ITEM REPORT NO.):

Vendor DWG. M18-22-12 OCR's C-133 and C-146.

SIGNATURE(S):

GR	GES	HAL	JWB	
OCR ITEM REPORT ORIGINATOR	LTR	PROJECT MANAGER FOR PROJECT TEAM	PRINCIPAL-IN-CHARGE	SRT (IF REQUIRED)
2/7/84	2/7/84	2/13/84	2/14/84	
DATE	DATE	DATE	DATE	DATE

MIDLAND INDEPENDENT DESIGN AND CONSTRUCTION VERIFICATION
OPEN, CONFIRMED AND RESOLVED (OCR) ITEM REPORT

TYPE OF REPORT: OPEN _____ CONFIRMED _____
Observation RESOLVED X ITEM

FILE NO. 3201-008
DOC NO. 3201-008-B- 142
REV. NO. _____

DATES REPORTED TO: LTR 1/16/84 SRT _____ PROJECT TEAM/PROJECT MGR. 2/13/84
PRINCIPAL-IN-CHARGE 2/14/84 CPC/DESIGN ORG. _____

STRUCTURE(S), SYSTEM(S), OR COMPONENT(S) INVOLVED:

IDVP (general)

IDCV PROGRAM AREA OR TASK (IF APPLICABLE):

DESCRIPTION OF CONCERN: In performing the IDVP it was noted that some documents (especially drawings) are difficult to read because of small lettering size, limited space to provide information, and poor quality reproduction. These problems are generic to the industry and Midland is far from unique in this regard. The concern is that users of these documents could make errors as a result of misreading the information. One of the calculations reviewed in the IDVP contained errors that, according to project personnel, were due to this problem. In this case the error was compounded by the failure of the checker to notice internal inconsistencies within the calculation.

SIGNIFICANCE OF CONCERN:

This item is classified as an Observation because the specific error was corrected when the calculation was revised in the normal design revision process. It is possible that significant errors could exist due to this problem.

RECOMMENDATION _____ OR RESOLUTION X :

Classify this item as an Observation. The purpose of this observation is to bring the concern to the attention of CPC/Bechtel.

COMMENTS BY SRT (IF REQUIRED):

REFERENCES (INCL. RELATED OCR ITEM REPORT NO.):

SIGNATURE(S):

FAD	FAD	HAL	JWB	
OCR ITEM REPORT ORIGINATOR	LTR	PROJECT MANAGER FOR PROJECT TEAM	PRINCIPAL-IN-CHARGE	SRT (IF REQUIRED)
1/16/84	1/16/84	2/13/84	2/14/84	
DATE	DATE	DATE	DATE	DATE

MIDLAND INDEPENDENT DESIGN AND CONSTRUCTION VERIFICATION OPEN, CONFIRMED AND RESOLVED (OCR) ITEM REPORT

TYPE OF REPORT: OPEN _____ CONFIRMED _____
Observation RESOLVED X ITEM

FILE NO. 3201-008
DOC NO. 3201-008-B-143
REV. NO. _____

DATES REPORTED TO: LTR 1/26/84 SRT _____ PROJECT TEAM/PROJECT MGR. 2/13/84
PRINCIPAL-IN-CHARGE 2/14/84 CPC/DESIGN ORG. _____

STRUCTURE(S), SYSTEM(S), OR COMPONENT(S) INVOLVED:

AFW System

IDCV PROGRAM AREA OR TASK (IF APPLICABLE):

Review of Calculations (general)

DESCRIPTION OF CONCERN:

OCR 3201-008-C-085 noted a series of errors in calculations. In reviewing calculation FM-4117-28(Q), Rev. 2, a few minor errors were noted. They all appear to be simple transcription errors and therefore this item should be considered as an Observation. See attachment for list of errors.

SIGNIFICANCE OF CONCERN:

The significance of the concern is more in the apparent lack of adequate checking than in the error itself.

RECOMMENDATION _____ OR RESOLUTION X :

This specific item is considered resolved by classification as an Observation; however, Bechtel should:

(a) Make the appropriate corrections to the calculation when the calculation is next revised or when required by CPC procedures.

(b) Consider this item in formalizing a response to C-085.

COMMENTS BY SRT (IF REQUIRED):

REFERENCES (INCL. RELATED OCR ITEM REPORT NO.):

SIGNATURE(S):

FAD	FAD	HAL	JWB	
OCR ITEM REPORT ORIGINATOR	LTR	PROJECT MANAGER FOR PROJECT TEAM	PRINCIPAL-IN-CHARGE	SRT (IF REQUIRED)
1/26/84	1/26/84	2/13/84	2/14/84	
DATE	DATE	DATE	DATE	DATE

ATTACHMENT TO 3201-008-B-143

DISCREPANCIES NOTED IN CALCULATION FM-4117-28(Q), REV. 2

Calc Sheet No.	Referenced Bechtel Drawing	Hanger Nodes Listed on Calc Sheet	Hanger Nodes Listed on Calc Sheets 11-12	Calc Sheet	Listed Hanger Nodes
18	H633-sh3(Q)	165-550	165-550	23	160-550
21	H634-sh5(Q)	310-395	310-395	30	310-397
22	H634-sh7(Q)	605-588	605-588	32	605-589

MIDLAND INDEPENDENT DESIGN AND CONSTRUCTION VERIFICATION
OPEN, CONFIRMED AND RESOLVED (OCR) ITEM REPORT

TYPE OF REPORT: OPEN _____ CONFIRMED X
RESOLVED _____ ITEM

FILE NO. 3201-008
DOC NO. 3201-008-C-144
REV. NO. _____

DATES REPORTED TO: LTR 1/18/84 SRT _____ PROJECT TEAM/PROJECT MGR. 2/13/84
PRINCIPAL-IN-CHARGE 2/14/84 CPC/DESIGN ORG. _____

STRUCTURE(S), SYSTEM(S), OR COMPONENT(S) INVOLVED:

AFW Piping and pipe supports

IDCV PROGRAM AREA OR TASK (IF APPLICABLE):

Topic II.2-1 Pressure Boundary and II.3-1 Pipe Support

DESCRIPTION OF CONCERN:

See attached.

SIGNIFICANCE OF CONCERN:

See attached.

RECOMMENDATION _____ OR RESOLUTION X :

Process per PQAP.

COMMENTS BY SRT (IF REQUIRED):

REFERENCES (INCL. RELATED OCR ITEM REPORT NO.):

Bechtel Calculation SC-10-639-14(Q) Rev.2

SIGNATURE(S):

DMW	FAD	HAL	JWB	
OCR ITEM REPORT ORIGINATOR	LTR	PROJECT MANAGER FOR PROJECT TEAM	PRINCIPAL-IN-CHARGE	SRT (IF REQUIRED)
1/18/84	1/18/84	2/13/84	2/14/84	
DATE	DATE	DATE	DATE	DATE

DESCRIPTION OF CONCERN:

A confirmatory seismic analysis for the piping analyzed in the referenced calculation was performed by TERA. The approach taken differed from the referenced calculation in three significant ways:

1. The Regulatory Guide 1.92 grouping method for modal summation of closely spaced modes was utilized instead of SRSS.

2. As-built stiffnesses were utilized for supports in the 6 inch piping.

3. The static load equal to the zero period acceleration (ZPA) times the system weight was combined with the dynamic load up to 33 Hz by SRSS instead of selecting the larger of the two loads.

Then to check the modeling, another analysis was performed using the same methods in these three areas as those used in the referenced calculation.

The analysis using the same methods produced very similar results to the referenced calculation. The analysis using the methods stated above resulted in significantly different results. In particular, the inertial seismic reaction loads at certain supports increase by over 50%. Each of the three differences in methods contributed to the differences observed at some support, but the most prevalent cause of differences was the third item, i.e., combination of static ZPA and dynamic loads.

The magnitude of seismic loads is very small in the piping analyzed and the stresses are well below allowable limits; therefore, it is unlikely that this particular piping system would ever require modification due to the increases discussed. The concern is that these types of increases could have an adverse effect in other piping systems.

SIGNIFICANCE OF CONCERN:

For the magnitude of seismic load in this piping system, there is no concern that the results will significantly affect the support design. For other piping, similar percentage increases are a concern. It is recognized that the method used here to account for higher frequency contribution is in general very conservative. Any method used to correct the static analysis to reflect only the mass participation not included in the dynamic analysis would substantially reduce many loads; however, the SRSS combination is a realistic approximation in some cases, in particular for axial nozzle loads or axial supports in long runs. It is possible that such loads are underestimated using the referenced calculation methods. The effects of closely spaced modes and support stiffnesses also need to be included as possible accumulative contributors to the total seismic response.

DMW:cas

MIDLAND INDEPENDENT DESIGN AND CONSTRUCTION VERIFICATION
OPEN, CONFIRMED AND RESOLVED (OCR) ITEM REPORT

TYPE OF REPORT: OPEN _____ CONFIRMED X
RESOLVED _____ ITEM

FILE NO. 3201-008
DOC NO. 3201-008-C-146
REV. NO. _____

DATES REPORTED TO: LTR 1/20/84 SRT _____ PROJECT TEAM/PROJECT MGR. 2/13/84
PRINCIPAL-IN-CHARGE 2/14/84 CPC/DESIGN ORG. _____

STRUCTURE(S), SYSTEM(S), OR COMPONENT(S) INVOLVED:

Standby Electric Power - Diesel Generator

IDCV PROGRAM AREA OR TASK (IF APPLICABLE):

Topic 1.19-2 - DG Control Systems
Topic 1.29-2 - DB Starting Mechanism and Air Supply System

DESCRIPTION OF CONCERN: The project response to NRC Question 010.15 on page Q&R 9.3-1 (relative to safety-related air operated equipment) addresses failure modes and effects analysis. The diesel generator pneumatic control system and its timing accumulators were not included in this response and other documentation addressing this subject was not available. The OCR's referenced below are examples of failures that may terminate DG output.

SIGNIFICANCE OF CONCERN:
Potential failure modes of the DG pneumatic control system should be identified and the associated effects evaluated.

RECOMMENDATION X OR RESOLUTION _____:

Process per PQAP

COMMENTS BY SRT (IF REQUIRED):

REFERENCES (INCL. RELATED OCR ITEM REPORT NO.):

As indicated in "Description" above and:
OCR C-133 - DG Control System (Pneumatic), OCR C-141 - DG Control System (Pneumatic)

SIGNATURE(S):

GES	GES	HAL	JB	
OCR ITEM REPORT ORIGINATOR	LTR	PROJECT MANAGER FOR PROJECT TEAM	PRINCIPAL-IN-CHARGE	SRT (IF REQUIRED)
1/20/84	1/20/84	2/13/84	2/14/84	
DATE	DATE	DATE	DATE	DATE

...MIDL...ND INDEPENDENT DESIGN AND CONSTRUCTION VERIFICATION
OPEN, CONFIRMED AND RESOLVED (OCR) ITEM REPORT

TYPE OF REPORT: OPEN _____ CONFIRMED X
RESOLVED _____ ITEM

FILE NO. 3201-008
DOC NO. 3201-008-C-147
REV. NO. _____

DATES REPORTED TO: LTR 1/20/84 SRT _____ PROJECT TEAM/PROJECT MGR. 2/13/84
PRINCIPAL-IN-CHARGE 2/14/84 CPC/DESIGN ORG. _____

STRUCTURE(S), SYSTEM(S), OR COMPONENT(S) INVOLVED:

Standby Electric Power - Diesel Generator

IDCV PROGRAM AREA OR TASK (IF APPLICABLE):

Topic 1.10-2, DG Actuation Systems

DESCRIPTION OF CONCERN:

The time allowed for the DG to start is 10 seconds from the receipt of a start signal at the DG control panel. The ESFAS has a maximum response time of 500 milliseconds. Therefore, the total start time from detecting a process variable out of spec to rated frequency and voltage is 10.5 seconds. The sequence of events tables referenced below utilized 10.0 seconds.

SIGNIFICANCE OF CONCERN:

The impact of the ESFAS response time in determining total DG start time needs to be confirmed for the IDCVP systems as well as the significance accounted for or evaluated in the various accident scenarios affecting other systems.

RECOMMENDATION X OR RESOLUTION _____:

Process per PQAP.

COMMENTS BY SRT (IF REQUIRED):

REFERENCES (INCL. RELATED OCR ITEM REPORT NO.):

FSAR pg 8.3-11, Rev. 47, ESFAS material requisition 7220-J-207(Q), Rev. 11, and FSAR Tables 10.4-12, Rev. 47 and 15.2-3, Rev. 33.

SIGNATURE(S):

GAR	GES	HAL	JWB	
OCR ITEM REPORT ORIGINATOR	LTR	PROJECT MANAGER FOR PROJECT TEAM	PRINCIPAL-IN-CHARGE	SRT (IF REQUIRED)
1/20/84	1/23/84	2/13/84	2/14/84	
DATE	DATE	DATE	DATE	DATE

MIDLAND INDEPENDENT DESIGN AND CONSTRUCTION VERIFICATION
OPEN, CONFIRMED AND RESOLVED (OCR) ITEM REPORT

TYPE OF REPORT: OPEN _____ CONFIRMED X
RESOLVED _____ ITEM

FILE NO. 3201-008
DOC NO. 3201-008-C-148
REV. NO. _____

DATES REPORTED TO: LTR 2/7/84 SRT _____ PROJECT TEAM/PROJECT MGR. 2/13/84
PRINCIPAL-IN-CHARGE 2/14/84 CPC/DESIGN ORG. _____

STRUCTURE(S), SYSTEM(S), OR COMPONENT(S) INVOLVED:

Diesel generator building fire barriers.

IDCV PROGRAM AREA OR TASK (IF APPLICABLE):

11.12-2 Fire Protection for Standby Electric Power Diesel Generators

DESCRIPTION OF CONCERN:

Penetration No. 327 is shown on Bechtel Dwg. No. A-873(Q) without a fire seal specified. Similar penetrations in the other fuel oil day tank rooms are all scheduled for a fire seal in the penetration. Also, penetrations shown on electrical dwgs. (7220-E-696(Q) & 7220-E-2696(Q)) are not identified for fire seals in the Architectural Penetration Sealing Schedule, Diesel Generator Bldg. (7220-A-873(Q)).

SIGNIFICANCE OF CONCERN:

Unsealed penetrations degrade the integrity of the 3-hour rated fire barriers.

RECOMMENDATION X OR RESOLUTION _____:

Assure these penetrations are adequately sealed to provide a 3-hour fire barrier and revise drawing A-873. Process per PQAP.

COMMENTS BY SRT (IF REQUIRED):

REFERENCES (INCL. RELATED OCR ITEM REPORT NO.):

Bechtel documents 7220-E696(Q), - 2696(Q), and A873(Q)

SIGNATURE(S):

JBM	GES	HAL	JWB	
OCR ITEM REPORT ORIGINATOR	LTR	PROJECT MANAGER FOR PROJECT TEAM	PRINCIPAL-IN-CHARGE	SRT (IF REQUIRED)
2/7/84	2/7/84	2/13/84	2/14/84	
DATE	DATE	DATE	DATE	DATE

MIDLAND INDEPENDENT DESIGN AND CONSTRUCTION VERIFICATION
OPEN, CONFIRMED AND RESOLVED (OCR) ITEM REPORT

TYPE OF REPORT: OPEN _____ CONFIRMED X
RESOLVED _____ ITEM

FILE NO. 3201-008
DOC NO. 3201-008-C-149
REV. NO. _____

DATES REPORTED TO: LTR 12/30/83 SRT _____ PROJECT TEAM/PROJECT MGR. 2/13/84
PRINCIPAL-IN-CHARGE 2/14/84 CPC/DESIGN ORG. _____

STRUCTURE(S), SYSTEM(S), OR COMPONENT(S) INVOLVED:

CO_2 Fire Suppression System for Diesel Generator Bldg., Diesel Generator Fuel Oil Transfer System

IDCV PROGRAM AREA OR TASK (IF APPLICABLE):

11.12-2, Fire Protection of Standby Electric Power Diesel Generators

DESCRIPTION OF CONCERN:

NFPA-12, 1-83.8 requires that equipment which contributes to the fire hazard be de-energized by actuation of the fire suppression system. There are no indications that CO_2 actuation terminates fuel oil transfer pump operation.

SIGNIFICANCE OF CONCERN:

Lack of compliance with NFPA 12 could increase severity of potential fire.

RECOMMENDATION X OR RESOLUTION _____:

Process per PQAP.

COMMENTS BY SRT (IF REQUIRED):

REFERENCES (INCL. RELATED OCR ITEM REPORT NO.):

NFPA 12.1

SIGNATURE(S):

JBM	GES	HAL	JWB	
OCR ITEM REPORT ORIGINATOR	LTR	PROJECT MANAGER FOR PROJECT TEAM	PRINCIPAL-IN-CHARGE	SRT (IF REQUIRED)
12/30/83	1/31/84	2/13/84	2/14/84	
DATE	DATE	DATE	DATE	DATE

MIDLAND INDEPENDENT DESIGN AND CONSTRUCTION VERIFICATION OPEN, CONFIRMED AND RESOLVED (OCR) ITEM REPORT

TYPE OF REPORT: OPEN X CONFIRMED _____ RESOLVED _____ ITEM

FILE NO. 3201-008
DOC NO. 3201-008-C-150
REV. NO. _____

DATES REPORTED TO: LTR 12/30/83 SRT _____ PRINCIPAL-IN-CHARGE 2/14/84

PROJECT TEAM/PROJECT MGR. 2/13/84
CPC/DESIGN ORG. _____

STRUCTURE(S), SYSTEM(S), OR COMPONENT(S) INVOLVED:
Fire Detection in Diesel Generator Rooms

IDCV PROGRAM AREA OR TASK (IF APPLICABLE):
Topic II.12-2: Fire Protection for Standby Electric Power

DESCRIPTION OF CONCERN: FSAR Section 9A.3.E.1 states that the Midland fire detection system complies with NFPA 72D and is connected to an emergency power supply provided by the balance-of-plant batteries. NFPA 72D requires that a secondary (standby) power supply be provided to the primary fire detection power supply, & that the secondary power supply automatically transfer to operate the system within 30 seconds of the loss of the primary power supply. NFPA 72D allows the secondary power supply to consist of one of the following: a storage battery with a 24-hour capacity; an engine driven generator with storage batteries; or multiple automatic starting engine driven generators. Fire detection for the diesel generator rooms is provided by fire detection devices that provide alarm as well as automatic actuation of the CO2 system. These fire detection devices receive backup power from the diesel generators, but only if manually added to the bus and then only if an ESFAS signal is not present. This design arrangement does not meet the requirements of NFPA 72D.

SIGNIFICANCE OF CONCERN: With an ESFAS-DG START signal, or if CO_2 system has not been manually added to bus after low voltage condition starts the diesels, there is no fire detection or alarm capabilities in the diesel generator rooms.

RECOMMENDATION X OR RESOLUTION _____:

Process per PQAP.

COMMENTS BY SRT (IF REQUIRED):

REFERENCES (INCL. RELATED OCR ITEM REPORT NO.):
As above and FSAR Table 8.3-1 Sheet 14 (Rev. 47)

SIGNATURE(S):

JM	CES	HAL	JWB	
OCR ITEM REPORT ORIGINATOR	LTR	PROJECT MANAGER FOR PROJECT TEAM	PRINCIPAL-IN-CHARGE	SRT (IF REQUIRED)
12/30/83	1/31/84	2/13/84	2/14/84	
DATE	DATE	DATE	DATE	DATE

MIDLAND INDEPENDENT DESIGN AND CONSTRUCTION VERIFICATION
OPEN, CONFIRMED AND RESOLVED (OCR) ITEM REPORT

TYPE OF REPORT: OPEN _____ CONFIRMED _____
Observation RESOLVED X ITEM

FILE NO. 3201-008
DOC NO. 3201-008-B-151
REV. NO. 0

DATES REPORTED TO: LTR 1/10/84 SRT _____ PROJECT TEAM/PROJECT MGR. 2/13/84
PRINCIPAL-IN-CHARGE 2/14/84 CPC/DESIGN ORG. _____

STRUCTURE(S), SYSTEM(S), OR COMPONENT(S) INVOLVED:
Technical Specifications for the SEP System

IDCV PROGRAM AREA OR TASK (IF APPLICABLE):
Topic I.4-2, Technical Specifications

DESCRIPTION OF CONCERN:

A review of the Midland Technical Specifications contained in Chapter 16 of the FSAR (16.3/4.8, Revision 47, 12/82) identified several variances with the NRC's B&W Standard Technical Specifications (STS) (NUREG-0103, Rev. 4, Fall 1980). The variances are identified on Attachment 1 to this report.

SIGNIFICANCE OF CONCERN:

At the present time, the Midland Specifications have several discrepancies with the STS, lack setpoints and operational limits, and lack much of the specificity required to assure that design and safety analysis assumptions are maintained. This should be corrected during future licensing activities; nowever if the proper attention is not placed on Technical Specifications, the potential exists for invalidating some design and safety analysis assumptions.

RECOMMENDATION _____ OR RESOLUTION X :

Because of the draft nature of the Technical Specifications and the fact that these issues should be resolved during the normal NRC review and approval, this OCR will be resolved by classification as an Observation. Accordingly, the noted Observation is provided for information to NRC and CPC and may serve as input as the Tech Specs are finalized.

COMMENTS BY SRT (IF REQUIRED):

REFERENCES (INCL. RELATED OCR ITEM REPORT NO.):

SIGNATURE(S):

JDR	GES	HAL	JWB	
OCR ITEM REPORT ORIGINATOR	LTR	PROJECT MANAGER FOR PROJECT TEAM	PRINCIPAL-IN-CHARGE	SRT (IF REQUIRED)
1/10/84	1/10/84	2/13/84	2/14/84	—
DATE	DATE	DATE	DATE	DATE

ATTACHMENT 1

	Technical Specification (TS)	Description of Discrepancy
1)	16.3.8.1.1.b.4	The Midland TS includes a requirement for jacket water and lube oil minimum temperatures when the outside air temperature is below some value. This specification is in addition to those in the STS. Because of limits on the diesel engine, the specifications should be included but not correlated to outside air temperature.
2)	16.4.8.1.1.2.a	The specification references Table 16.4.8-1 which is not included.
3)	16.4.8.1.1.2.a.5	The specification differs from the STS in that it allows loading to 525 KW in 60 seconds after synchronization. The NRC requirement is that it be synchronized and loaded within 60 seconds.
4)	16.4.8.1.1.2.b	The specification contains references to ASTM standards which are different from those in the STS. Although, later versions are committed to, there are additional standards that have been required of recently issued operating licensees such as ASTM-D2274-70.
5)	16.4.8.1.1.2.c.9	The specification does not define "short time" as 2000 hours as in the STS.
6)	16.4.8.1.1.2.c	There is no specification (16.4.8.1.1.2.c.14 in the STS) for verifying capability of the fuel transfer pump to transfer from each storage tank to day tank via installed lines. The STS includes cross-connect lines which are not part of Midland design but normally it is still required to verify capability of the fuel transfer system periodically.
7)	16.4.8.1.1.2.d	The Midland TS do not include this specification which requires tests to verify independence every 10 years or after modifications.

	Technical Specification (TS)	Description of Discrepancy
8)	16.4.8.1.1.3	The Midland TS do not include this specification on reporting diesel generator failures.
9)	16.3.8.1.2.b.4	This specification for minimum jacket water and lube oil temperature appear more appropriate than those of specification 16.3.8.1.1.b.4.
10)	16.3.8.1.2.b.1 and 2	The values for minimum fuel requirements of the day tanks and storage tanks are included in this shutdown specification but not in the operating specifications (16.3.8.1.1.b). In addition, these numbers appear to be very high such that there is not much margin for operational and test conditions before the tanks must be refilled to maintain operability ($\approx$ 7 gpm diesel consumption requires $\approx$8 hours to drop below the minimum requirement if the tanks were full). In addition, it is not clear if these values account for unusual portions of the storage as well as water retention allowable values in the storage tanks. Additionally, Calculation FM-4210-22 Rev.1,Page 6 indicates 32128.5 gallons are required. These numbers should be verified.
11)	16.4.8.1.2	The Midland TS do not include a reference to 4.8.1.1.3 like the STS. As indicated in comment 8 above, the Midland TS do not include a 4.8.1.1.3 section.
12)	16.3/4.8.1.3	These specifications are to be provided by later amendment and were not available for review.
13)	16.3/4.8.2.1	The specification does not include Applicability, Action or Surveillance Requirements.
14)	16.3/4.8.2.2	No specification is provided for AC Distribution - Shutdown.
15)	16.4.8.2.3.2.C.3	The wording "20% above the average at installation time" is not included in STS or other recent OLs. The NRC requires a maximum which is also much easier for the operating staff to verify.

16)	16.4.8.2.1.1	The specification does not include the required minimum voltage as per the STS.
17)	16.3/4.8.3	The specification for Electrical Equipment Protective Devices are not included in the Midland TS.

General

The Midland TS has several variances from the NRC's STS, but most of these will be corrected during NRC negotiations prior to receipt of the operating license. Besides the limits, setpoints, and operational values not being available, most of the Technical Specifications lack some of the plant specificity above the STS required to ensure valid design and safety analysis assumptions are maintained. Examples are requirements for the Diesel Generator Air Start systems and more specific requirements for verifying battery load profile requirements. Because of this, attached is a more recent set of approved Technical Specifications which have recently received much review and attention from the NRC and even though they are BWR Technical Specification, much of the electrical sections are similar. Some of these specifications should be considered by CPCo prior to a final "Proof and Review" copy of Technical Specifications.

MIDLAND INDEPENDENT DESIGN AND CONSTRUCTION VERIFICATION
OPEN, CONFIRMED AND RESOLVED (OCR) ITEM REPORT

TYPE OF REPORT: OPEN ____ CONFIRMED ____
Observation X RESOLVED X ITEM

FILE NO. 3201-008
DOC NO. 3201-008-B-152
REV. NO. ____

DATES REPORTED TO: LTR 1/17/84 SRT ____ PROJECT TEAM/PROJECT MGR. 2/13/84
PRINCIPAL-IN-CHARGE 2/14/84 CPC/DESIGN ORG. ____

STRUCTURE(S), SYSTEM(S), OR COMPONENT(S) INVOLVED:

Auxiliary Feedwater System

IDCV PROGRAM AREA OR TASK (IF APPLICABLE):

Accident Analysis Considerations (I.2-1)

DESCRIPTION OF CONCERN:

In the process of resolving OCR # C-025, a calculation for steam generator fill time (Ref. 1) was reviewed. The following discrepancies were noted:

A. It appears that justification for reliance on operator action as a design basis was based upon judgement prior to initiation of the referenced calc. We consider it to be good engineering practice to document items such as this within calcs supporting the design bases. Accordingly, calcs of this nature should be documented in accordance with ANSI N45.2.11 and afforded appropriate design control.

SEE ATTACHMENT

SIGNIFICANCE OF CONCERN:

None of these items has a significant impact on the calculation results or on the disposition of C-025.

RECOMMENDATION ____ OR RESOLUTION X :

Resolve as an Observation.

COMMENTS BY SRT (IF REQUIRED):

REFERENCES (INCL. RELATED OCR ITEM REPORT NO.):

1. Memo, Hamm to Gibson (9/15/83), File B10.4.9, Serial 26564

SIGNATURE(S)

FAD	FAD	HAL	JWB	
OCR ITEM REPORT ORIGINATOR	LTR	PROJECT MANAGER FOR PROJECT TEAM	PRINCIPAL-IN-CHARGE	SRT (IF REQUIRED)
1/17/84	1/17/84	2/13/84	2/14/84	
DATE	DATE	DATE	DATE	DATE

DESCRIPTION OF CONCERN (Continued):

B. Reference 1 is to a Jan. 1980 version of BAW 1612, whereas as a minimum, Rev. 1 (3/31/80) is known to exist.

C. The conversion factor for ft^3 to gal is incorrect. The correct value is 7.48 gal/ft^3.

D. Typographical error: "26.8^3 ft/min" should be "26.8 ft^3/min.

MIDLAND INDEPENDENT DESIGN AND CONSTRUCTION VERIFICATION
OPEN, CONFIRMED AND RESOLVED (OCR) ITEM REPORT

TYPE OF REPORT: OPEN _____ CONFIRMED X
RESOLVED _____ ITEM

FILE NO. 3201-008
DOC NO. 3201-008-C-153
REV. NO. 0

DATES REPORTED TO: LTR 2/10/84 SRT _____
PRINCIPAL-IN-CHARGE 2/14/84

PROJECT TEAM/PROJECT MGR. 2/13/84
CPC/DESIGN ORG. _____

STRUCTURE(S), SYSTEM(S), OR COMPONENT(S) INVOLVED:

Auxiliary Shutdown Panel (2C114)

IDCV PROGRAM AREA OR TASK (IF APPLICABLE):

AFW Control Systems (Topic 1.19-1)

DESCRIPTION OF CONCERN: Steam Generator (S/G) AFW isolation valve switches are arranged on panel 2C114 as shown below. Drawing J-909 shows demarkations which imply that Valves 3965A and 3970A isolate steam generator A while the other valves isolate steam generator B. This implication conflicts with P&ID M-439 which shows valves 3965A and 3970B isolating steam generator A and valves 3965B and 3970A isolating steam generator B. A similar apparent conflict exists on control board 1C11 in Unit No.1.

SIGNIFICANCE OF CONCERN:
The apparent conflict between the panel drawing and the P&ID could mislead the plant operator and result in operator error. It is supected that a like problem exists on the main control board to C-11. (Drawings were not available to confirm this.)

RECOMMENDATION X OR RESOLUTION _____:
Process per PQAP.

COMMENTS BY SRT (IF REQUIRED):

SWITCH POSITION ON PANEL 2C114:

*3965A
*3970A
*3970B
*3965A

* Denotes relative switch position on the panel drawing

REFERENCES (INCL. RELATED OCR ITEM REPORT NO.):
P&ID M-439, Rev. 10, M-438, Rev. 10
Drawings J-909, Rev.10, J-727, Rev.12

SIGNATURE(S):

LDB	LDB	HAL	JWB	
OCR ITEM REPORT ORIGINATOR	LTR	PROJECT MANAGER FOR PROJECT TEAM	PRINCIPAL-IN-CHARGE	SRT (IF REQUIRED)
2/10/84	2/10/84	2/13/84	2/14/84	
DATE	DATE	DATE	DATE	DATE