

TERA

April 4, 1984

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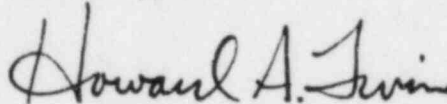
Mr. D. G. Eisenhut
Director, Division of Licensing
Office of Nuclear Reactor Regulation
U.S. Nuclear Regulatory Commission
Washington, D.C. 20555

Re: Docket Nos. 50-329 OM, OL and 50-330 OM, OL
Midland Nuclear Plant - Units 1 and 2
Independent Design and Construction Verification (IDCV) Program
Meeting Summary

Gentlemen:

The eighth meeting on Confirmed Items and Findings was held on March 28, 1984. A summary is provided to document items discussed and actions agreed upon by the participants.

Sincerely,



Howard A. Levin
Project Manager
Midland IDCV Program

cc: See Attached Sheet

Enclosure

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PDR ADDCK 05000329
A PDR

Mr. J. W. Cook
Mr. J. G. Keppler
Mr. D. G. Eisenhut

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April 4, 1984

cc: Participants:
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D. Quamme, CPC (site)
R. Whitaker, CPC (site)
D. Hood, NRC
J. Taylor, NRC, I&E
T. Ankrum, NRC, I&E
J. Milhoan, NRC, I&E
E. Poser, Bechtel
R. Burg, Bechtel
J. Agar, B&W
J. Karr, S&W (site)
IDCV Program Service List

HAL/djb



TERA CORPORATION

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AND CONSTRUCTION VERIFICATION PROGRAM

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SUMMARY OF EIGHTH STATUS REVIEW MEETING ON CONFIRMED ITEMS AND FINDINGS

March 28, 1984
Midland IDCVP Program

A meeting was held on March 28, 1984 at Bechtel's Ann Arbor, Michigan offices to obtain additional information related to Confirmed Items identified in the February IDCVP Monthly Status Report dated March 16, 1984 and to status other outstanding items identified previously. Attachment 1 identifies the attendees of the meeting which included representatives of TERA, CPC, Bechtel, and NRC. Attachment 2 presents the agenda issued for the meeting in a notice dated March 20, 1984.

Howard Levin, TERA, opened the meeting with a discussion of the agenda. All items noted on the agenda were agreed upon for discussion by the participants; however, the order was modified to improve the flow of the meeting and to utilize resources effectively. While not specifically called out on the agenda, a discussion of the status of selected construction verification items was added. The meeting then proceeded with its primary objective which is to ensure that all participants have a complete understanding of the technical issues expressed as Confirmed Items and Findings in the February Monthly Status Report. The responsible TERA personnel described each item, followed by discussion by either CPC or Bechtel, who were requested to identify additional information that may have bearing on the issues or to provide clarification which would allow these issues to be dispositioned directly.

The status of previously outstanding Confirmed Items and Findings was also discussed, except for those noted in the meeting announcement. The meeting announcement listed certain OCRs as being on hold or that sufficient information is available for TERA to disposition the item. A summary of the significant aspects of the discussion is provided in Attachment 3 along with any course of action identified.

ATTACHMENT I

MIDLAND NUCLEAR PLANT - UNITS 1 AND 2 INDEPENDENT DESIGN AND CONSTRUCTION VERIFICATION PROGRAM OCR STATUS REVIEW MEETING

March 28, 1984

<u>NAME</u>	<u>AFFILIATION</u>
Rob Burg	Bechtel/Licensing
Paul Milward	Bechtel/Site
F. A. Dougherty	TERA
H. Levin	TERA
G. E. Setka	TERA
C. Morigat	TERA
H. Wang	NRC/IE/DQAISP
D. F. Lewis	Bechtel
R. E. Whitaker	CPCO/MPQAD
R. F. Schofer	Bechtel/Nuclear
G. Singh	Bechtel/Control Systems
L. Lampson	Bechtel/Nuclear
Dave Horvath	Bechtel/Mechanical
B. K. Shete	Bechtel/Mechanical
Mike Gerding	Bechtel/Control Systems
Lou Gibson	CPCo
A. Amin	Bechtel/Mechanical
Al Strunk	Bechtel/Mechanical
A. Rajn	Bechtel/Electrical
Dennis Kelly	Bechtel/Electrical
P. V. Regupathy	Bechtel/Civil
V. Vegma	Bechtel/Civil
A. Julua	Bechtel/Electrical
S. Rao	Bechtel/Civil Structural
P. C. Gupta	Bechtel/Front Design
C. H. Perron	Bechtel/P.D. Staff
T. R. Thiruvengadam	CPCo

ATTACHMENT 2

MIDLAND INDEPENDENT DESIGN AND CONSTRUCTION VERIFICATION PROGRAM

AGENDA FOR MARCH 28, 1984
OCR STATUS REVIEW MEETING
BECHTEL OFFICES
ANN ARBOR, MICHIGAN

I. Estimated Time

Start: 9:00 AM
Lunch: 12:00 PM to 12:45 PM
Adjournment: 3:00 PM

II. Discussion of Confirmed Items, Findings, Observations, and Resolved Items

<u>Item</u>	<u>TERA Lead</u>
A. Mechanical/Systems	
R-026*	Dougherty
Z-043*	Dougherty
C-112	Setka
R-129*	Witt
C-133	Setka
C-144	Witt
C-148,	Setka
B-158*	Dougherty
B. Electrical	
R-097*	Witt
C-109	Setka
C-110*	Setka
R-111*	Setka
R-132*	Setka
R-134*	Setka
C-135	Setka
C-141	Setka
C-146	Setka
C-147	Setka
R-153*	Dougherty
B-159*	Setka

ATTACHMENT 2
(continued)

	<u>Item</u>	<u>TERA Lead</u>
C.	Civil/Structural	
	F-015*	Mortgat
	R-071*	Mortgat
	R-102*	Mortgat
	R-103*	Mortgat
	R-114*	Mortgat
	R-116*	Mortgat
	B-155*	Mortgat
	C-156*	Mortgat
	C-157*	Mortgat
III.	Presentation of plans/schedule for response to issues discussed at the March 1, 1984, civil/structural review meeting.	Burg (Bechtel)
IV.	Discussion of programmatic issues - as required.	
V.	Discussion of Action Items and Logistics for Information Exchange	
Notes:	<p>1. Items are grouped to the degree practical to facilitate discussion and minimize manpower requirements during the entire meeting.</p> <p>2. Items that changed status during the February reporting period are denoted with an asterisk.</p> <p>3. The following OCRs have not reached a final disposition; however, further TERA or Midland Project actions have been identified during past public meetings. Accordingly, discussions are not contemplated by TERA unless the Midland Project has identified new information that is pertinent to the ongoing activities.</p>	

C-005	F-050
C-022	F-052 thru -056
F-031	C-077
F-036	C-084
C-038	C-085
F-047	C-087 thru -089
C-048	F-091
F-049	C-092 thru -096

ATTACHMENT 3

SUMMARY OF DISCUSSION OF CONFIRMED ITEMS, FINDINGS, OBSERVATIONS, AND RESOLVED ITEMS

3201-008-F-047

Mr. Paul Milward, Bechtel, led a discussion which provided the project's response to this Finding which pertains to certain inconsistencies observed within the site storage and maintenance programs. He addressed specific TERA information requirements identified during the February 29, 1984 IDCVP Status Review Meeting and documented in a letter from Levin to Burg dated March 6, 1984.

- Valve 2LV-2975A1:

During the last meeting, TERA indicated concurrence that storage and maintenance activities for control valves would be relatively consistent regardless of the operator and concurrence with the proposed revision to the site storage instruction FI-197. The additional information requested pertains to clarifying references contained in Bechtel's January 8, 1984 response in a letter from Poser to Levin. There appeared to be a discrepancy between the referenced document (7220-J225B-54-6), which is an instruction manual for a CCI valve, whereas the installed valve is manufactured by Copes Vulcan. Mr. Milward indicated that the wrong document was referenced; however, the proper document contains the same requirements (i.e., the storage and maintenance program is the same for both the CCI and Copes Vulcan valves).

- Valve 2MO-3965A1:

In their January 8 letter, Bechtel indicated their position that the prime vendor, Anchor/Darling, misinterpreted Limitorque's lubrication instructions. TERA indicated at the February 29 meeting that

Bechtel's position appears inappropriate relative to instructions contained in Anchor/Darling's instruction manual, Vendor Document #7220-M117-142, page 19, paragraph 4.1, and that it appears these instructions relate specifically to the valve itself and are not related to the operator. Mr. Milward stated that certain instructions are confusing relative to when specific instructions apply (i.e., in-warehouse, in-place, or in-service). He indicated Bechtel's interpretation that the lube/stroking requirements for the valve and the operator lube requirements all apply once these components are placed in operation.

- Transmitter 2FT-3969A:

At the February 29 meeting, TERA indicated that taking credit for the functional capabilities of the transmitter is appropriate for a transmitter which is energized and properly sealed, i.e., a transmitter which is in operation. However, since TERA is addressing those activities necessary to maintain proper conditions for a transmitter which was in storage, it would appear that the vendor's recommended storage instructions should prevail unless a suitable alternative is identified. Mr. Milward indicated that while in storage, transmitters are placed in a "storage level A" humidity controlled environment where the humidity level is continually chart recorded. Therefore, individual component control through humidity indicators or desiccants is not necessary. Once transported to the general in-plant area, the transmitters are placed in a local "tented" environment which has dehumidifiers. The areas are monitored once a week. Mr. Milward indicated that he had reviewed data applicable back until March, 1981 and found the relative humidity to average approximately 45%.

- Air Handling Unit 2VM-54A:

Bechtel's January 8 response indicated that the TRANE Company was responsible for the meggering requirement prior to release from

storage. TERA's investigation revealed that the meggering requirement was derived from Bechtel's storage instruction in effect at the time the fan motor was released to construction--F-314, Rev. 1. At the February 29 meeting, TERA requested information which would serve to reconcile the apparent discrepancy and those procedures, instructions, etc. used to accomplish the transfer of maintenance responsibility from Bechtel To Zack.

Mr. Milward indicated that motors (such as these) of less than 50 hp were to be meggered at turnover; however, most motors have been subjected to this requirement. TERA found 1 of 2 which were not. Bechtel supplied equipment becomes the responsibility of the subcontractor (Zack) when released for installation. The material withdraw request (MWR) is the means of notification. Zack is then responsible for maintenance in accordance with their own procedures.

Mr. Lou Gibson, CPC, indicated that the project would document their completed response to this Finding in a transmittal to TERA.

3201-008-F-052

Bechtel indicated that a response was not complete. A schedule will be provided along with the 10-day response to issues discussed at this meeting.

3201-008-F-049, -050, -055, -056

Levin indicated TERA was awaiting information on these Findings. The project concurred, and it was agreed that the status remains unchanged.

3201-008-F-053, -054

Levin indicated that resolution of these Findings was on hold pending commencement of TERA's ICVP activities.

3201-008-C-092, -094 thru -096

Levin indicated that TERA has sufficient information to disposition these Confirmed Items.

3201-008-C-091, -093

These items were not discussed; however, they remain outstanding.

3201-008-R-026

TERA explained the basis for resolving C-026. There was no further discussion of this item.

3201-008-Z-043

This is a Finding Resolution Report, which was concerned with credit being taken for non-seismic pipe and a check valve following a seismic event. TERA discussed the basis for this Finding Resolution Report. There was no further discussion.

3201-008-R-129

The basis for resolution of this item was presented by TERA. There was no further discussion.

3201-008-C-112

TERA stated that it received the March 22 submittal by Bechtel which provides a revised calculation for the diesel generator exhaust back pressure. TERA is presently reviewing the revised calculation.

3201-008-C-133

This Confirmed Item involves the operability requirements for the pneumatic control system. The initial response by the project, dated February 24, provided an April 16 date for responding to this item. At the February 29 OCR meeting, it was noted that TDI has leak rate information which may be of value in resolving this item. Furthermore, it was noted that this item is being reviewed as part of the design and quality review of TDI being performed by CPC. At the March 28 meeting it was agreed that Bechtel will send TERA the available TDI leak rate data which they have. It was noted that this data actually applies to the SMUD diesel; thus, care must be exercised in using this information. Bechtel also has developed a calculation which may in part resolve this item. The calculation is in its final review process and should be complete within the next two weeks.

3201-008-C-144

This item is concerned with the assumptions used in piping stress analysis and subsequent calculation of support loads. The OCR identified differences between the analysis method used by Bechtel and the criteria which the IDVP considers appropriate. Bechtel stated that, although the analysis methods differ between those used on the project and by the IDVP, sufficient margin exists that the current design is adequate. Bechtel is initiating a study to demonstrate the adequacy of the current margins. It is estimated that the study will be complete in approximately six weeks. TERA requested that Bechtel provide a copy of the program plan document, memorandum, or other similar information which outlines the scope and approach being used for the study. In response to a question by TERA, Bechtel stated that they may or may not use the SMA study in developing their response to C-144.

3201-008-C-149

This Confirmed Item is concerned with the compliance of the plant with NFPA-12, which requires de-energizing equipment, such as the fuel oil transfer pumps, in the event of a fire. Further information on this Confirmed Item will be provided to TERA before the next OCR meeting.

3201-008-C-150

Bechtel stated that a SAR change will be prepared within the next two weeks to clarify the project position on implementation of NFPA requirements.

3201-008-C-148

Bechtel explained the relationship between electrical drawings and architectural drawings showing building penetrations and fire seals. The architectural drawings show the as-built condition and are updated periodically. The latest revisions of the drawings which are concerned with the penetrations discussed in this OCR are dated November 8, 1983. TERA will determine whether copies of those drawings have been received.

3201-008-R-097

TERA described the basis for resolving this OCR. There was no further discussion.

3201-008-C-109

Bechtel has provided a response concerning the fuel lock-out, which TERA is reviewing. TERA stated that no further information is needed at this time.

3201-008-C-110

Bechtel will provide a formal response to this Confirmed Item concerning Rev. 1 of the load tabulation within two weeks. Bechtel stated that they will provide an advance copy following the meeting.

3201-008-R-111

This item was resolved based on the receipt of a SAR change notice. There were no questions concerning this resolution.

3201-008-R-132

TERA noted that the documentation concerning the undervoltage set points has been updated and made consistent with the FSAR. No further discussion was held concerning this Resolved Item.

3201-008-R-134

TERA presented the basis for resolving this Confirmed Item regarding the LOP sequencer. No questions were raised concerning this resolution.

3201-008-C-135

Bechtel has provided a response concerning the conformance of interlocks to IEEE-308. TERA will determine the appropriate action to take.

3201-008-C-141

This Confirmed Item is concerned with the air quality requirements for the air supplied to the air receiver. Bechtel stated that the specification for the diesel generator is functional, and thus it is up to the vendor to determine air quality requirements. TERA noted that the specification was modified to account for the air system after the diesel was procured. Bechtel maintains that the performance of the air supply is within TDI's responsibility, and that the vendor has provided filters and dryers for the air system. Bechtel further stated that they have reviewed the system provided by TDI. TERA will review vendor information on system performance.

3201-008-C-146

Bechtel stated that the redundancy in the diesel generator systems provides assurance of the acceptability of postulated failures. They further stated that common mode failure is not a design basis for the plant, and that factors such as maintaining air quality minimize the potential for such failures. TERA questioned whether the FSAR is in error, in that the diesel generator and pneumatic

control system were not included in the list of pneumatic systems which the project provided to the NRC in response to a question. TERA further asked whether a failure modes and effects analysis should be provided in the event that it is determined that the pneumatic control system should have been listed in response to the NRC question. Bechtel will investigate whether it would be appropriate to include the diesel pneumatic control system in the list of pneumatic systems, and consequently whether a failure modes and effects analysis should be provided.

3201-008-C-147

This Confirmed Item noted that the ½ second response time of the ESFAS system was not included in accident response times. Bechtel stated that the B&W BOP criteria documents call for the diesel generator to start within ten seconds of the engine's receipt of the start signal. The B&W criteria also call for allowances to be made for response times. Bechtel stated they were aware of this situation and had reviewed it previously. Bechtel further stated that a SAR change notice would be needed.

3201-008-R-153

This item was fully discussed at the Confirmed Item stage at the previous OCR meeting. During that meeting, Consumers Power Company explained that the demarcations on the J-909 drawing did not represent the steam generators, as TERA had assumed. With this explanation, TERA was able to classify this OCR as resolved.

3201-008-C-156

TERA described how it calculated loads on the embedded channel, which resulted in this Confirmed Item stating that the calculated loads appear to exceed the allowable. Bechtel stated that a response is scheduled for April 13.

Calculation SQ-148-K(Q) was issued in response to a previous OCR. TERA's review indicated that this calculation contained an error. TERA stated during the meeting that the error is considered to be minor. However, this calculation calls into question the checking process used on the project. Bechtel stated that they would respond by April 13 with a description of the checking process.

Other Civil/Structural Items

Bechtel reviewed their expected response dates for all outstanding civil/structural and civil/soils OCRs. During this discussion, it was noted that TERA will provide a clarification of item number 8 of OCR 3201-008-C-104. The following table presents the scheduled response dates for civil/structural and civil/soils OCRs.

SCHEDULE FOR CIVIL OCRs

	<u>OCR #</u>	<u>Scheduled Response</u>
Civil/Structural	069	4/20
	099 (items 1,2)	4/20
	104 (3,6)	4/20
	104 (8)	later
	107 (2)	4/20
	108 (1, 2, 6, 7, 8)	4/20
	117 (1B)	4/6
	119 (2, 3)	4/20
Civil/Soils	117 (2, 3)	4/13
	117 (4)	5/2
	101	4/26
	130/131	4/26
	125	5/2

TERA has converted Confirmed Item C-015 into a Finding. This issue deals with the consideration of floor flexibility in the seismic analysis. TERA explained its basis for making this a Finding. Consumers Power Company stated that they had discussed this issue with the NRC previously and had clearly stated that floor flexibility was not considered a design basis for the plant. TERA indicated that while the project's commitments represent an important yardstick for measuring implementation of the design, an evaluation of the adequacy and completeness of criteria is part of the IDVP review. In TERA's view, this phenomena can potentially have a significant effect on the performance of certain components during an earthquake. Therefore, a determination should be made as to the safety significance of this issue to the Midland plant. TERA indicated that a basis was not provided in a Bechtel study referenced in the Finding, and that an SMA study establishes that floor flexibility can lead to significant additional amplification of response. CPC pointed out that SMA essentially has completed a current day "SRP" seismic analysis that considers the flexibility of floors and the impact on response and equipment qualification. It was concluded by CPC and TERA that the SMA study may provide additional information that would be useful in qualifying the significance of this Finding. A future meeting will be held to review the SMA seismic margins analysis and its applicability.