DmB

TERA

May 14, 1984

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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 ninth meeting on Confirmed Items and Findings was held on May 3, 1984. A summary is provided to document items discussed and actions agreed upon by the participants.

Sincerely,

Howard A. Levin

Howard A. Levin
Project Manager
Midland IDCV Program

cc: See Attached Sheet

Enclosure

8405240032 840514
PDR ADOCK 05000329
A PDR

MAY 21 1984

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SUMMARY OF NINTH STATUS REVIEW MEETING ON CONFIRMED ITEMS AND FINDINGS

May 3, 1984
Midland IDCV Program

A meeting was held on May 3, 1984 at Bechtel's Ann Arbor, Michigan offices to obtain additional information related to Confirmed Items identified in the March IDCVP Monthly Status Report dated April 17, 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 a revised agenda which is a reformatted version of the agenda issued for the meeting in a notice dated April 25, 1984.

Howard Levin, TERA, opened the meeting with a discussion of the agenda. The items noted on the revised agenda were agreed upon for discussion by the participants. 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 March 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 significant portion of the meeting was devoted to a discussion of civil/structural items. A summary of the significant aspects of the discussion is provided in Attachment 3 along with any course of action identified.

ATTACHMENT 1

MIDLAND NUCLEAR PLANT - UNITS 1 AND 2
INDEPENDENT DESIGN AND CONSTRUCTION VERIFICATION PROGRAM
OCR STATUS REVIEW MEETING
May 3, 1984

NAME	AFFILIATION
CATHIE PERLON	BECHTEL STAFF STRESS
John LeGette	" " "
Girish Shah	Midland Project - APE
P.V. Regupathy	MIDLAND PROJECT - CIVIL/STRUCTURAL
J. MARTORE	TERA
Bruce Hurley	CPCo
S. RAO	Midland Project Civil/struct.
M. DASGUPTA	Midland " Civil - Soils
V. Verma	Midland Project civil - Soils.
D. Reeves	" " " "
MO ELGALY	PRINCIPAL ENGINEER - BECHTEL CIVIL/STRUCTURAL STAFF
WILLIAM JOHNSON	MIDLAND PROJECT CIVIL/STRUCT.
DOUG NIMS	MIDLAND PROJECT CIVIL/SEISM
B.C. McConnel	Midland Project / Civil Stru

ATTACHMENT 1 (cont.)

MIDLAND NUCLEAR PLANT - UNITS 1 AND 2
INDEPENDENT DESIGN AND CONSTRUCTION VERIFICATION PROGRAM
OCR STATUS REVIEW MEETING
May 3, 1984

NAME	AFFILIATION
Rob Burg	Bechtel / Licensing
L D. Lampson	Bechtel / Nuclear
W.A. PARMLEY	CPCo
L.S. GIBSON	CPCo
FA Dougherty	TERA Corp
H. LEVIN	TERA CORP
D. K. Davis	TERA CORP
C. MORTGAT	TERA CORP
J. SETKA	TERA CORP
M. J. Holley, Jr.	HHB/TERA
H. Wang	NRC/IE/DQASIP
RE Whitaker	CPCo / MPQAD
DF Lewis	BECHTEL
A. I. STRUNK	Bechtel
A. AMIN	Bechtel mech.
V S. KUMAR	BECHTEL MECH
G.A. Reed	Bechtel Mech
D.A. Hewett	Bechtel Mech
Clare Bleaux	Bechtel Elec
P.B. Corbett	Bechtel Elec
Dennis Kelly	Bechtel Elec.

ATTACHMENT 2

COGNIZANT DISCIPLINE	OCR NUMBER
Mechanical (DG)	R-038
	C-133
	C-146
	C-147
	C-149
	C-150
	C-163
Mechanical (HVAC)	C-145
Nuclear	C-005
	B-166
Electrical	C-110
	C-161
	C-162
	C-165
Civil/Structural	C-069
	C-101
	C-104-3,-6
	C-107-2
	C-108-6,-7,-8
	C-117-1
	C-117-2,-3
	C-117-4
	C-156
	C-157
	C-168
	C-169
	C-170
Civil/Soils	C-125
	C-130
	C-131
CPCo/MPQAD	R-022
	F-055
	F-056
	Z-091
	R-092
	F-093
	R-094
	R-095
	R-096

ATTACHMENT 3

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

3201-008-F-093

This construction verification item was noted to have become a Finding in the eleventh Monthly Status Report, retaining the noted inconsistencies in welding standards as findings pending resolution of CPC Audit Finding Report MSA-83-3-06F.

3201-008-Z-091; 3201-008-R-092, -094, -095, -096

These items were mentioned as changing status, but details of the resolutions were not discussed to expedite the proceedings.

3201-008-C-005

A revision of this item has transpired to reflect a consolidation of issues expressed in the original issuance and the focus of ongoing activities.

3201-008-C-145

This item deals with discrepancies between the CR-HVAC P&ID and layout drawings. Bechtel responded to the five differences noted and said they would address the issue of drawing comparisons later.

Item 1. Bechtel gave a copy of DCN 24 to M-527, dated 1/16/84, which relocated the radiation detectors to agree with the P&ID.

TERA asked what the process was that detected the error and what is the lead document. Bechtel responded that the P&ID is the lead document and that the discrepancy was noticed when the drawing was revised.

Item 2. The taps are shown on the P&ID.

Item 3. The location of the smoke detectors was discussed.

Item 4. The layout drawing shows the instrument as AFMU6521B1, instead of AFMUOFE6521B1.

Item 5. The duct equivalent diameters on the P&ID are for general information only.

3201-008-R-038

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

3201-008-C-133

TERA asked for the status of the Bechtel calculation for the DG pneumatic system worst case allowable leakage. Bechtel responded that it was available today. A copy was subsequently received of FM-6320-13(Q) Rev. 0. Bechtel/CPC indicated that this item will be turned over to the TDI Owners Group for further investigation. The Bechtel calculation and previous TDI leak rate data will be evaluated by TERA.

3201-008-C-146

Bechtel indicated that NRC Question 10.15 is based on FSAR Section 9.3.1 dealing with the Instrument and Service Air System, and therefore, the response to Question 10.15 does not have to be changed to include the DG pneumatic system. The discussion focused on the efficacy of conducting a FMEA of the DG pneumatic control system to determine if it may be a contributor to common mode failure and to examine the significance of any identified failure modes. It was concluded that the pneumatic control systems are independent between DGs (i.e., a failure of one could not incorporate the other); however; certain design considerations warrant further review. The issue of common manufacturers of

equipment was dismissed as outside the scope of the IDVP. TERA indicated it would clarify issues requiring additional information.

3201-008-C-147

TERA requested a copy of SAR Change Notice documentation addressing the DG start time issue. Bechtel indicated that an I&C memo addresses this matter rather than a SAR Change Notice. Bechtel stated that a new SCN has been initiated and that a preliminary copy would be available internally by 5/10/84.

3201-008-C-149

Relative to NFPA 12 requirements, Bechtel stated that shutoff of equipment which contributes to the fire hazard is required only for fires that continue unabated. Since the DGB fire suppression system will not allow fires to continue, Bechtel stated that the auto shutoff feature is not required. Bechtel will formally document this response.

3201-008-C-150

Bechtel will transmit a copy of a SAR Change Notice to respond to this OCR on NFPA 72D requirements.

3201-008-C-163

Bechtel gave a discussion of the history of the IEEE 387 commitment. The original commitment was to Reg. Guide 1.9 Rev. 1. IEEE 387-1977 is now the controlling DG standard. Bechtel indicated that FSAR Ch. 8 needs to be revised. TERA stated that the FSAR needs to be revised in two places, citing the reference in Table 3.2-3 to IEEE 387-1972. Bechtel said they would investigate and formally respond.

3201-008-C-110

TERA asked about the response to the concern regarding the effect of load increases on the load steps for the DG's. Bechtel acknowledged that a response to this part was not given. TERA also asked Bechtel to address why the acknowledged load discrepancies occurred. Bechtel will formally respond to these issues.

3201-008-C-161

Bechtel stated that they have a TDI calculation on voltage drop. Bechtel will formally respond to this item.

3201-008-C-162

Bechtel will initiate a SAR Change Notice within one week to respond to this item.

3201-008-C-165

Bechtel will verify bus voltage criteria with B&W and formally respond to this item.

3201-008-C-144

Bechtel presented an overview of the outline presented in their April 27, 1984 memo (No. 149292). They plan a complete response in accordance with their outline in approximately six weeks. They indicated that the RG 1.92 issue of closely spaced modes was addressed in Appendix 3D of the FSAR. TERA requested the original documentation which supports this section of the FSAR. Bechtel stated that their response to the ZPA combination issue will include bases for why they feel their approach is adequately conservative. On the issue of support stiffness treatment, Bechtel stated that criteria exists as follows:

- large bore piping - deflection less than 1/16"
- small bore piping - frequency greater than .33 hertz

They feel that the deflection criteria produces frequencies of the order of 18 to 20 hertz. Bechtel indicated that on occasion, support stiffness had been modeled in an effort to reduce nozzle loadings on the main feedwater/steam systems. TERA asked Bechtel to address the potential for the inverse situation in their response. TERA indicated that written response and clarification to the April 27, 1984 memo would be forthcoming.

3201-008-C-069(2)

A vendor calculation was provided in response to this OCR. TERA will review this information.

3201-008-C-099(1), -099(2)

Bechtel described the equation used to calculate the displacements in calculation SQ-148G(Q) Rev. 0. Bechtel also generated a new calculation SQ-148L(Q) Rev. 0, to support that the relative effect of disregarding local rotation is negligible. TERA will review the calculation after a formal transmittal is provided. A memorandum to R. Tullock providing the displacements to be used by the pipe stress group will also be transmitted.

3201-008-C-101

Bechtel indicated that they would supply calculation package DQ-38.3(Q) for TERA's review. Since the comparison of displacements indicates that differences exist in the results of the two models, Bechtel will determine if they are due to differences in the rotational soil springs. In addition, they will specify if the displacements are averages or maximum values. TERA indicated that the compatibility evaluation should compare the uncracked finite element model response with that of the uncracked stick model response so that consistency of model parameters is maintained.

3201-008-C-104(3), -104(6)

Bechtel will transmit a summary sheet of 39 different model cases for the Auxiliary Building showing that the model is relatively insensitive to changes in the underpinning configuration. Bechtel indicated it was committed to review the final configuration when it is available.

Bechtel provided a correction to the Meeting Summary on Outstanding Civil/Structural Issues, March 1, 1984: under heading 3201-008-C-104 in Item 6, "Six percent of the slab weight" should read "Six percent of the mass of the entire wing." TERA indicated that no additional response to Confirmed Item C-104(8) was required.

3201-008-C-105

TERA indicated that no additional response to this OCR was required.

3201-008-C-107(2)

Bechtel indicated that a review of the EPA wing response indicated that the behavior is essentially rigid in nature. In addition, they indicated that no significant impact to local response was expected. A formal response to this OCR will be provided for TERA review.

3201-008-C-108

Bechtel generated a new calculation SQ-148L(Q) Rev. 0 to address items 1, 2, 3, 6, 7, and 8 supporting that none of these concerns has a significant impact on the analysis. TERA will review this calculation when it is formally transmitted. No additional response to items 4 and 5 is required.

3201-008-C-117(1b)

TERA indicated the written response dated April 19, 1984 was sufficient and that no additional information was required for its review.

3201-008-C-117(2), 117(3)

TERA indicated that the written responses provided April 23, 1984 were too general in nature and needed to be expanded. Bechtel indicated that they will identify all areas where the two methods of stress redistribution were used. They indicated that redistribution of stresses is limited by a check to assure that rebar strain does not exceed two times the yield strain. This will be verified in a calculation which will be provided to TERA for review. The guidance or procedures describing the applicable uses, methodology and limitations on stress distribution will be provided to TERA for review. A schedule for a response to item C117.4 will be provided by Bechtel in approximately one month.

3201-008-C-125(1)

Bechtel described the comparisons which were performed (including masses, translational and rotational soil springs, base shear and moments, foundation bearing pressures, and horizontal and vertical displacements). Consistent soil springs were used in the comparison since the rotational springs used in the stick model are generally stiffer than those used in the finite element model. The comparison yielded favorable results, with differences less than 8 percent. Bechtel will supply the comparison calculation to TERA for review.

3201-008-C-125(2)

Bechtel indicated that the response to this OCR will be incorporated in the response to Confirmed Item C-125(1), and will verify that no gross rotational behavior exists.

3201-008-C-130

Preliminary information indicates that this OCR should be resolved when Bechtel transmits the formal calculation package in response to this OCR. The seismic force values are located within Attachment C of the calculation. The reference has been added in the calculation.

3201-008-C-131

Bechtel indicated that they will supply a calculation demonstrating that the design of the footings is adequate for the loads obtained in the finite element analyses.

3201-008-C-156

TERA indicated that the response to this OCR (written response April 19, 1984) and the actions necessary to resolve it require that it become a Finding. TERA will review Bechtel actions taken in response to this item.

3201-008-C-157

TERA indicated that it was reviewing the written response provided April 19, 1984 and would assess it collectively within the review of C-085.

3201-008-C-170

Bechtel indicated that they will evaluate the significance of the identified errors to the overall results obtained in the associated calculation package. In addition, they will review other calculations performed by the originating engineer to assess the potential for similar errors.