50-329/330 OM, OL

Documents Produced by

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Staff Engineer with Consumers Power Co.

for Oral Deposition 12/11/80

From Thiru's Papers 12/12/80

TRT

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Bechtel Power Corporation
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Ann Arbor, Michigan
Mail Address P.O. Box 1000, Ann Arbor, Michigan 48106

BLC-9728
Consumers Power Company
1945 West Parnall Road
Jackson, Michigan 49201

September 12, 1980

Attention: Mr. J.W. Cook
Vice President
Midland Project

cc: JEB BCR

Subject: Midland Plant Units 1 & 2
Consumers Power Company
Bechtel Job 7220
50.54(f) August Status Report

Attached is the August Status Report giving the status of commitments made in the responses to NRC 50.54(f) Questions and supplementary questions from letters, meetings, etc. The following is a summary of the attached report:

Status Codes:(1)	Ques 1-22(1)	Ques 23(1)	Ques 24-35(1)	Supp. Ques.(1)
Code 1	59	29	0	0
Code 2	5	9	5	2
Code 3	18	5	0	2
Code 4	23	13	7	3
Code 5	6	0	0	2
Total Actions	111	56	12	9

(1) See first page of status report

The September Status Report will be submitted by October 10, 1980.

Very truly yours,

John A. Rutgers
Project Manager

JAR/VDP/bc
9/9/80
Attachment: 50.54(f) August Status Report
cc: W.R. Bird w/a
D.E. Horn w/a
G.S. Keeley w/a
G.R. Eagle (CPCo/AA) w/a

Response Requested: No

MIDLAND UNITS 1 AND 2

MASTER LIST OF COMMITMENTS TO NRC ON 10 CFR 50.54(f) RESPONSES

LEGEND 011616

Status Codes:

1	Complete, verified by quality assurance
2	Reported complete, not yet verified
3	Due, but not complete
4	Not yet due
5	Insufficient documentation in quality assurance files to establish or verify status

RESPONSIBLE ORGANIZATIONS:

PD	Plant design
PS	Pipe stress
LS	Licensing
GT	Geotechnical services
CE	Civil engineering services
FE	Field engineering
QA	Quality assurance
QE	Quality engineering
CPCo	Consumers Power Company
CPCo QA	Consumers Power Company quality assurance
CPCo PMO	Consumers Power Company project management organization

Notes:

1. Commitment dates for action items indicated by asterisks (*) have been transmitted to the NRC. These dates will not be changed without a formal transmittal to the NRC.

2. Questions 1 through 22 action item numbers are basically the same as those used by the diesel generator building task group, but have been modified to acknowledge action items/commitments made in all revisions of the responses.

3. Question 23 action item numbering is based on the Response to Question 23 submitted to Consumers Power Company via via BLC-8460, J.A. Rutgers to G.S. Keeley, dated November 14, 1979. These action item numbers have been modified to acknowledge action items/commitments made in all revisions of the responses.

4. Questions 24 through 35 action items were identified for the first time in the April issue of this status report and will be referred to by the action item numbers established in that issue.

References (applicable to Part II only):

A. Letter from G.S. Keeley to J.A. Rutgers, CPCo Serial 8548, 3/27/80

B. Commitments made in February 1980 meeting with NRC, Midland, Michigan

MIDLAND UNITS 1 AND 2

MASTER LIST OF COMMITMENTS TO NRC ON 10 CFR 50.54(f) RESPONSES

PART I: COMMITMENTS FROM QUESTIONS 1 to 35

Item	Description	Page	Rev	Resp Org	Responsible Engineer	Due Date	Status	Status Remarks
1-1*	Perform a final review and update of PSAR commitment list	1-3	1	LS		800101	1	
1-2*	Review sections of the FSAR determined to be inactive	1-4	1	LS		800101	1	Superseded by Item 23-44
1-3*	Review EDP 4.22	1-4	0	QE		790629	1	
1-4	Audit action items 1-3	1-4	0	QA		801101	4	
1-5*	Review specifications not included in the specificity study initially	1-5 I-8	0 0	QE		790629	3	
1-6*	Complete review of the Dames and Moore report	I-6		GT		790629	1	
1-7*	Complete review of pertinent portions of FSAR Sections 2.5 and 3.8	I-6		GT,CE		790629	1	
1-8	Correct settlement calculations	I-6		GT		791101	1	
1-9	Schedule audits of the geotech sections on a 6-month basis	I-7		QA		790504	1	
1-10*	Review drawings for possible effect of vertical duct bank restrictions	I-7		CE		790106	1	
1-11*	Complete actions in response to DRVCL audit	I-7/8		QE		790518	1	
1-12*	Revise EDP 4-49 to incorporate clarifications and instructions for use of SCN	I-8		QE		790504	1	
1-13	Schedule audits of each design discipline calculations on a yearly basis	I-8/9		QA		790504	1	
1-14	Reevaluate construction equipment used for compaction	I-11		FE		791204	1	See Item 23-20
1-15	Assign field soils engineer and soils engineer from design section	I-11		FE		790501	1	

MIDLAND UNITS 1 AND 2

MASTER LIST OF COMMITMENTS TO NRC ON 10 CFR 50.54(f) RESPONSES (Continued)

PART I: COMMITMENTS FROM QUESTIONS 1 to 35 (Continued)

Item	Description	Page	Rev	Resp Org	Responsible Engineer	Due Date	Status	Status Remarks
1-16*	Review construction specifications and procedures to identify equipment requiring qualification	I-11		FE		790629	1	See Item 23-8
1-17*	Review field procedure FPG-3.00 to ensure clarity and completeness	I-11		FE		790531	1	
1-18	Revise PQCI C-1.02 to provide inspection rather than surveillance and to record inspections	I-16		QC		800801	1	
1-19*	Complete in-depth review of soil test results	I-17		GT		790731	1	
1-20*	Perform in-depth audit of U.S. Testing	I-18		QA		790531	1	
1-21*	Review all active QCIs for surveillance callouts	I-18		QC		790629	1	
1-21A	Modify QCIs based on Item 1-21	NA		QC		800901	3	See Item 23-41
1-22*	Evaluate documentation (review) call-outs on QCIs	I-18	1	QC		790629	1	See Item 23-19
1-23	Incorporate scientific sampling plans for inspection	I-20		QC		791019	3	Committed statements not yet complied with
1-24*	Complete in-depth review of the Bechtel trend program	I-22		QA		790601	1	See Items 23-35 and 23-36
1-25*	Conduct QA training	I-22		QA		790601	1	
2-0	No Action Item							
3-1*	Clarify the Response to Question 362.12 in FSAR Revision 18	3-1	0	LS		790531	1	
4-1*	Provide criteria for permissible residual settlement	4-1	3	GT CE		791231	1	
4-2*	Provide details of treatment of loose sands	4-2	0	GT CE		790831	1	
4-3	Take dynamic modular measurements upon removal of preloads for diesel generator building and other buildings	4-3	3	GT		791031	1	

MIDLAND UNITS 1 AND 2

MASTER LIST OF COMMITMENTS TO NRC ON 10 CFR 50.54(f) RESPONSES (Continued)

PART I: COMMITMENTS FROM QUESTIONS 1 to 35 (Continued)

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Item	Description	Page	Rev	Resp Org	Responsible Engineer	Due Date	Status	Status Remarks
4-4	Use data of Item 4-3 to evaluate the seismic response of the structures	4-3	3	CE		791130	1	Partial Requirement of Items 13-6, 13-11, 13-16
4-5	Prepare additional response to NRC for Items 4-1 and 4-2	NA		CE		790831	1	
4-6	Monitor the non-Seismic Category I condensate storage tanks	4-4	5	GT CE	J. Wanzeck S. Rao	801130	4	Load test ongoing; results will be evaluated by geotech and civil
4-7	Remove unsuitable material in the tank farm and replace by compacted fill	4-3	3	GT	J. Wanzeck S. Rao	791130	3	
4-8	Fill the BWST with water to perform a full-scale test of subsurface material	4-3	3	GT CE	J. Wanzeck S. Rao	801130	4	Dwg C-1148 issued for construction. Load test to start in 9/80
4-9	Fill the diesel fuel oil tank with water to perform a full-scale test of the foundation soil	4-2	0	GT			1	
5-1	Monitor the settlement of the structures (which were subjected to preload) during the life of the plant to provide a record of performance	5-1	0	GT			1	Ongoing activity, requirements in Dwg C-994, Spec C-76
6-1	Construct and fill the borated water tank to make a full-scale test of the foundation soils	6-1	0	GT CE			1	See Item 4-8
6-2	Delay the piping connections to the BWST until most of the settlement has taken place under the test load	6-1	0				1	
6-3	Use settlement data from BWST to allow conservative piping connection design		0	NA			2	Included in Item 6-6
6-4	Evaluate the load test result of the diesel fuel oil tank and provide precise corrective measures if required	6-2	0	GT			1	
6-5	Monitor the piping between the BWST and the auxiliary building	6-1	1	CE			5	Ongoing activity

MASTER LIST OF COMMITMENTS TO NRC ON 10 CFR 50.54(f) RESPONSES (Continued)

PART I: COMMITMENTS FROM QUESTIONS 1 to 35 (Continued)

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Item	Description	Page	Rev	Resp Org	Responsible Engineer	Due Date	Status	Status Remarks
6-6	Evaluate the settlement from Item 6-3 in accordance with the procedure described in Question 17	6-1	1	PS			5	Complete monitor upon load test
6-7	Remove all unsuitable material in the tank farm area and replace with suitable compacted fill	6-1	3	GT			1	See Item 4-7
6-8	Monitor the non-Seismic Category I condensate storage tanks	6-2	3	GT			1	See Item 4-6
6-9	Determine long-term settlement based on the measured settlement of the loaded tanks	6-2	3	GT			4	Geotech to review load and predict long-term settlement based on Items 4-6, 4-8, and 4-9
7-1*	Perform continuity check on duct banks after completion of preload program	7-3	3	FE		791130	1	
7-2	Make results of continuity checks and settlement surveys available						5	Included in Item 7-1
7-3	If further corrective action is required, determine corrective measures						5	Included in Item 7-1
8-1	Establish a requirement to realign diesel generators if manufacturer's tolerance for pitch and roll are exceeded	8-2	0	CE		800304	1	Requirement shown in Dwg C-1011, Note 4
8-2	Monitor the diesel generator pedestal markers on a 60-day cycle throughout the construction phase.	8-2	0	CE		NA	1	Ongoing activity. Requirements in Dwg C-994 and Spec C-76. Included in Item 5-1
8-3	Review and modify the monitoring frequency for the diesel generator pedestal markers after 1 year of operation	8-2	0	CPCo		850101	5	
9-0	No Action Item	NA						
10-0	No Action Item	NA						
11-0	No Action Item	NA						
12-1	Complete one additional boring in the middle of diesel fuel oil tank area	12-1	0	GT		790423	1	

MASTER LIST OF COMMITMENTS TO NRC ON 10 CFR 50.54(f) RESPONSES (Continued)

PART I: COMMITMENTS FROM QUESTIONS 1 to 35 (Continued)

Item	Description	Page	Rev	Resp Org	Responsible Engineer	Due Date	Status	Status Remarks
12-2	Complete three additional borings in the auxiliary building control tower area	12-1	0	GT		790531	1	
12-3	Complete Table 12-1 for soils investigation and planned remedial measures; respond to NRC	Tbl 12-1	1	CE		790531	1	
12-4	Provide supporting soil condition for Seismic Category I utilities	Tbl 12-1	0	CE		790531	1	
12-5	Pressure grouting of void below the mud mat of the control tower as required	Tbl 12-1	0	CE	R. Zao	801231	4	Drawing C-1147 issued
12-6	Provide a detailed description of planned corrective actions in Interim Report 6 of MCAR 24	Tbl 12-1	1	CE		790630	1	
12-7	Perform a continuity check on one conduit in each duct bank made with a hard-fiber rabbit prior to cable pulling	Tbl 12-1 Pg 4	1	FE		800630	1	Ongoing activity. See field procedure FIE 4.500
12-8	Measure the gaps between embedded sleeves and pipes entering the service water valve pits when the surcharge is removed	Tbl 12-1 Pg 5	3	CE			1	
13-1	Complete seismic reanalysis of diesel generator building to account for current lack of compaction	13-1	0	CE		791031	1	Superseded by Items 13-6 and 13-7
13-2	Review diesel generator building design and Seismic Category I equipment piping and electrical systems to the enveloped seismic responses	13-		CE		791231	1	Superseded by Items 13-8 through 13-10
13-3A	Conduct a seismic reanalysis to account for revised soil structure interaction of service water pump structure;	13-2	0	CE		791231	1	Superseded by Items 13-11 through 13-15
13-3B	Review structural design and Seismic Category I equipment, piping, and electrical systems and incorporate the seismic responses of the reanalysis for the service water pump structure	13-2	0	CE		791231	1	Superseded by Items 13-11 through 13-15

MASTER LIST OF COMMITMENTS TO NRC ON 10 CFR 50.54(f) RESPONSES (Continued)

PART I: COMMITMENTS FROM QUESTIONS 1 to 35 (Continued)

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Item	Description	Page	Rev	Resp Org	Responsible Engineer	Due Date	Status	Status Remarks
13-4A	If significant change of foundation properties of the auxiliary building result, conduct a seismic reanalysis;			CE		791231	1	Superseded by Items 13-16 through 13-20
13-4B	Review structural design and Seismic Category I equipment, piping, and electrical systems and incorporate the seismic response of the reanalysis for the auxiliary building			CE		791231	1	Superseded by Items 13-16 through 13-20
13-5	Underground utilities - Investigate the change in differential displacement separately for buildings founded on fill pending results of seismic reanalysis					791231	1	Superseded by Item 13-21
13-6 (13-1)	Conduct a seismic reanalysis for the diesel generator building	13-2	0	CE	C. Chuang	801015	4	
13-7 (13-1)	Review structural design for seismic response from Item 13-6	13-2	0	CE		801031	4	
13-8 (13-2)	Review Seismic Category I equipment for seismic response from Item 13-6	13-2	0	CE	B. McConnel	801231	4	
13-9 (13-2)	Review piping system for seismic response from Item 13-6	13-2	0	PD	A. Patel		4	
13-10 (13-2)	Review electrical system for seismic response from Item 13-6	13-2	0	CE	B. McConnel	801231	4	
13-11 (13-3)	Conduct a seismic reanalysis for the service water pump structure	13-2	0	CE	C. Chuang	801031	4	
13-12 (13-3)	Review structural design for seismic response from Item 13-11	13-2	0	CE		800831	4	
13-13 (13-3)	Review Seismic Category I equipment for seismic response from Item 13-11	13-2	0	CE	B. McConnel	801231	4	
13-14 (13-3)	Review piping system for seismic response from Item 13-11	13-2	0	PD			4	
13-15 (13-3)	Review electrical system for seismic response from Item 13-11	13-2	0	CE	B. McConnel	801231	4	

MASTER LIST OF COMMITMENTS TO NRC ON 10 CFR 50.54(f) RESPONSES (Continued)

PART I: COMMITMENTS FROM QUESTIONS 1 to 35 (Continued)

011616

Item	Description	Page	Rev	Resp Org	Responsible Engineer	Due Date	Status	Status Remarks
13-16 (13-4)	Conduct a seismic reanalysis for the auxiliary building	13-3	0	CE	C. Chuang	800815	4	
13-17 (13-4)	Review structural design for seismic response from Item 13-16	13-3	0	CE		800930	4	
13-18 (13-4)	Review Seismic Category I equipment for seismic response from Item 13-16	13-3	0	CE	B. McConnel	801231	4	
13-19 (13-4)	Review piping system for seismic response from Item 13-16	13-3	0	PD			4	
13-20 (13-4)	Review electrical system for seismic response from Item 13-16	13-3	0	CE	B. McConnel	801231	4	
13-21 (13-5)	Investigate the effect on underground utilities for differential building displacement resulting from Items 13-6, 13-11, 13-16	13-5	0	CE PS	K. Lee	810131	4	
14-1	Review the estimated settlement upon completion of the load test program of the BWST	14-1	5	GT		810131	4	See remarks for Item 4-8
14-2	Analyze flexible buildings for differential settlement based on stiffness at the time of distortion. Evaluate forces due to arching or distortion according to Question 15	14-2	0	CE			1	Superseded by Item 14-6
14-3*	Map significant cracks in auxiliary building, feedwater isolation valve pits, and ring foundation for the BWSTs	14-3	0	CE		790630	1	
14-4*	Analyze buildings affected by differential settlement for observed differential settlement plus predicted differential settlement	14-4	0	CE		790831	1	
14-5	Prepare additional response to the NRC	14-		CE		790831	2	
14-6*	Analyze the diesel generator building for variable foundation properties by finite element model	14-2	3	CE		791231	1	

MASTER LIST OF COMMITMENTS TO NRC ON 10 CFR 50.54(f) RESPONSES (Continued)

PART I: COMMITMENTS FROM QUESTIONS 1 to 35 (Continued)

Item	Description	Page	Rev	Resp Org	Responsible Engineer	Due Date	Status	Status Remarks
14-7	Analyze the BWST foundation for variable foundation properties	14-2	5	CE	R. Zao	800831	3	Analysis ongoing
14-8	Compare allowable versus calculated forces and moments at critical sections for auxiliary building electrical penetration area and service water pump structure	14-5	5	CE		800831	3	Analysis ongoing
15-1*	Evaluate the differential settlements in accordance with provisions of ACI 318-71 for Seismic Category I structures founded partially upon natural soil and partially upon fill material	15-1	0	CE		791231	2	Rev 3 identified diesel generator building is the only affected structure, this item is same as Item 14-6
15-2	Expand the Midland project structural design criteria for Seismic Category I structures to include the differential settlement effect.	15-2	0	CE	D. Reeves	800831	3	
15-3	Prepare additional response to the NRC					791231	5	
16-1*	Perform soil borings in areas of buried pipes	16-1	0	GT		790831	1	Deleted in Rev 5. Requirement to perform borings is in Dwg C-1146
17-1*	Evaluate impact of the failure of buried non-Seismic Category I piping on safety-related structures, foundations, and equipment	17-1	0	CE		790629	1	Deleted in Rev 2. Evaluation was not requested by NRC.
17-2	If future profiles show any extreme conditions, analyze the piping system and make necessary repairs	17-3	0	CE		790901	2	Superseded by Item 17-5
17-3	Prepare additional response to the NRC					790629	1	
17-4	Profile the borated water lines by optical means	17-1	2	CE			4	Tracked by Item 6-5
17-5	Analyze buried piping considering the probable ultimate settlement. Provide unique resolution for any unacceptable stress conditions for the portion of the system	17-3	5	PS	J. Legette	800801	3	Report on method for analysis being reviewed

MASTER LIST OF COMMITMENTS TO NRC ON 10 CFR 50.54(f) RESPONSES (Continued)

PART I: COMMITMENTS FROM QUESTIONS 1 to 35 (Continued)

011616

Item	Description	Page	Rev	Resp Org	Responsible Engineer	Due Date	Status	Status Remarks
17-6	Investigate the excess rounding of profile data	Tbl 17-2	2	PS	J. Legette	800801	3	Same as Item 17-5
18-1	Perform reexamination of the stresses in all Seismic Category I connecting piping between buildings as a normal iteration of design. Consider stresses induced by differential settlement after connecting pipe and anticipated future settlement	18-1	0	PS	J. Legette	800801	3	Same as Item 17-5
18-2	Perform final analyses to demonstrate the margin of acceptability for additional differential settlement beyond that expected for the life of the plant	18-2	5	PS	J. Legette	800801	3	Same as Item 17-5
18-3	Design piping connecting from the diesel generator building to the pedestals which will accommodate the expected future settlement	18-2	5	PS	J. Legette	800801	3	Dependent on 17-5
19-1	Profile pipes in the vicinity of diesel generator building after removal of preload and evaluate as described in the Response to Question 17	19-1	0	PS	J. Legette	800801	3	Dependent on 17-5
19-2	Take additional gap measurements between embedded sleeves and pipes when surcharge is removed. Coordinate this information with the profile data	19-2	0	CE			2	Closed by Rev 5
19-3*	Perform a complete evaluation of safety-related piping after completion of the preload program	19-3	0	PS	J. Legette	800801	3	Dependent on Item 18-1
20-1	Analytically check the Seismic Category I systems affected by settlement for pump and nozzle loadings and verify that they are within specified or vendor-accepted limits	20-1	5	PS	J. Legette	800801	3	Dependent on Item 18-1
20-2	Verify piping support loads for systems subjected to settlement-induced loads	20-1	5	PS	J. Legette	800801	3	Dependent on Item 18-1
20-3	Prepare additional response to the NRC					800801	3	

MASTER LIST OF COMMITMENTS TO NRC ON 10 CFR 50.54(f) RESPONSES (Continued)

PART I: COMMITMENTS FROM QUESTIONS 1 to 35 (Continued)

011616

Item	Description	Page	Rev	Resp Org	Responsible Engineer	Due Date	Status	Status Remarks
20-4	Evaluate active valves affected by settlement for imposed loads and reactions; compare to the allowable for operability	20-1	5	PS	J. Legette	800801	3	Dependent on Item 18-1
21-0	No Action Item							
22-0	No Action Item							
23-1*	Consultant reports other than Dames & Moore were considered in accordance with the guidelines provided in NRC Regulatory Guide 1.70, Revision 2. Consultant reports were not attached to the FSAR, but portions of consultant reports were extracted and incorporated into the FSAR text itself. Those portions incorporated into the FSAR become commitments. Therefore, disposition of recommendations in consulting reports has been adequately accounted for in the preparation of the FSAR. Verification that those portions of consultant reports determined to be commitments and incorporated into the FSAR have been adequately reflected in project design documents is being accomplished via the FSAR rereview program described in the response to Question 23, Part 2. The two Bechtel QA audit findings reported in our April 24, 1979, response (Paragraph D.1, Page I-8) have been closed.	I-8, 23-7	4	PE		790518	1	

MASTER LIST OF COMMITMENTS TO NRC ON 10 CFR 50.54(f) RESPONSES (Continued)

PART I: COMMITMENTS FROM QUESTIONS 1 to 35 (Continued)

011616

Item	Description	Page	Rev	Resp Org	Responsible Engineer	Due Date	Status	Status Remarks
23-2*	On April 3, 1979, Midland project engineering group supervisors in all disciplines were reinstructed that the only procedurally correct methods of implementing specification changes are through the use of specification revisions or specification change notices. This was followed by an interoffice memorandum from the project engineer to all engineering group supervisors on April 12, 1979.	23-8, 23-24	4	PE		790312	1	
23-3*	Engineering Department Project Instruction 4.49.1 was revised in Revision 2 to state, "Under no circumstances will interoffice memoranda, memoranda, telexes, TWXs, etc be used to change the requirements of a specification."	I-8, 23-9, 23-24	4	PE			1	
23-4*	A review of interoffice memoranda, memoranda, telexes, TWXs, and other correspondence relating to specifications for construction and selected procurements of Q-listed items will be initiated. The purpose of the review will be to identify any clarifications which might reasonably have been interpreted as modifying a specification requirement and for which the specification itself was not formally changed. An evaluation will be made to determine the effect on the technical acceptability, safety implications of the potential specification modification, and any work that has been or may be affected. If it is determined that the interpretation may have affected any completed work or future work, a formal change will be issued and remedial action necessary for product quality will be taken in accordance with approved procedures. The foregoing procedure will be followed for all specifications applying to construction of Q-listed items.	23-5, 23-9	4	PE			1	

MASTER LIST OF COMMITMENTS TO NRC ON 10 CFR 50.54(f) RESPONSES (Continued)

PART I: COMMITMENTS FROM QUESTIONS 1 to 35 (Continued)

Item	Description	Page	Rev	Resp Org	Responsible Engineer	Due Date	Status	Status Remarks
	For specifications concerning the procurement of Q-listed items, the foregoing procedure will be implemented on a random sampling basis. The sample size has been established and the specification selection has been made.							
(21)	Review and acceptance criteria for the specifications will be defined by March 14, 1980.							
(47)	The review of construction and selected procurement specifications is scheduled to be completed by October 1980. If the acceptance criteria are not met, the review will be expanded to include other specifications for Q-listed items. At that time, a revised completion date will be established.							
23-5*	A study was completed which examined current procedures and practices for the preparation and control of the FSAR in view of these experiences. Procedural changes will be initiated by the revision of or addition to the engineering department procedures. This action is scheduled to be completed by January 31, 1980.	23-11	5			800131	1	
23-6*	An interoffice memorandum dated April 12, 1979, was issued by geotechnical services to alert personnel of the need to revise or annotate calculations to reflect current design status.	23-13	4	GT		790312	1	
23-7*	Field Instruction FIC 1.100, Q-listed Soils Placement Job Responsibilities Matrix, has been prepared and establishes responsibilities for performing soils placement and compaction.	I-11, 23-18, 23-20, 23-30		FE			1	
23-7A	Review Field Procedure FPG 3.000 to ensure clarity and completeness	I-11		FE			2	

MASTER LIST OF COMMITMENTS TO NRC ON 10 CFR 50.54(f) RESPONSES (Continued)

PART I: COMMITMENTS FROM QUESTIONS 1 to 35 (Continued)

Item	Description	Page	Rev	Resp Org	Responsible Engineer	Due Date 01 16 16	Status	Status Remarks
23-8*	Construction specifications, instructions, and procedures were reviewed to identify any other equipment requiring qualification which had not yet been qualified. No such equipment was identified.	I-11, 23-18	5	FE			1	
23-9*	A dimensional tolerance study was completed using the reactor building spray pump and ancillary system as the study mechanism.	I-8	4	PE			1	
23-10*	Engineering reviewed specifications not previously reviewed for the specificity or tolerance studies.	I-8					1	
23-11*	A specific review of the FSAR and specification requirements for the qualification of electrical and mechanical components has been made as part of the corrective action relating to CPCo's 50.55(e) report on component qualification.	I-8					1	
23-12*	Quality assurance will schedule yearly audits of the design calculational process for techniques and actual analysis in each of the design disciplines.	I-8					1	
23-13*	Audits of ITT Grinnell hanger design and CPCo relay setting calculation have been conducted.	I-8		QA			1	
23-14*	Bechtel project engineering will review design drawings for cases where ducts penetrate vertically through foundations. The possibility of the duct being enlarged over the design requirements and the effect this enlargement may have upon the structure's behavior will be evaluated by June 1, 1979. Proper remedial measures will be taken if the investigation shows potential problems.	I-7					1	

MASTER LIST OF COMMITMENTS TO NRC ON 10 CFR 50.54(f) RESPONSES (Continued)

PART I: COMMITMENTS FROM QUESTIONS 1 to 35 (Continued)

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Item	Description	Page	Rev	Resp Org	Responsible Engineer	Due Date	Status	Status Remarks
23-15*	An in-depth audit of U.S. Testing operations, covering testing and implementation of its QA program, will be conducted in late April or early May 1979, by Bechtel project QA and engineering.	I-18		QA			1	
23-16*	An in-depth training session will be given to Midland QA engineers covering the settlement problem and methods to identify similar conditions in the future.	I-22	4	QA		791130	1	
23-17*	An in-depth training session will be given to all CPCo and Bechtel QA engineers and auditors to increase their awareness of the settlement problem and discuss auditing and monitoring techniques to increase audit effectiveness.	I-22	4	QA		800229	1	
23-18*	An in-depth review of the Bechtel trend program data will be undertaken by Bechtel QA management to assure the identification of any other similar areas that were not analyzed in sufficient depth in the past reviews.	I-22	4	QA			1	
23-19*	Quality control instructions will be evaluated to ensure that the documentation characteristics which are to be inspected (i.e., surveillance and review callouts) are clearly specified.	I-18	4	QC			1	
23-19A	This action modified to include necessary revision to QCIs resulting from evaluation of surveillance and review callouts	I-18		QC		800901	4	To be completed when 23.41 is completed
23-20*	Field Instruction 1.100 will be supplemented by establishing requirements for demonstrating equipment capability, including responsibility for equipment approval, and providing records identifying this capability.	23-18	5	FE		791204	3	Awaiting equipment qualification report from geotechnical services based on CPCo NCR

MASTER LIST OF COMMITMENTS TO NRC ON 10 CFR 50.54(f) RESPONSES (Continued)

PART I: COMMITMENTS FROM QUESTIONS 1 to 35 (Continued)

Item	Description	Page	Rev	Resp Org	Responsible Engineer	Due Date	01|6|6 Status	Status Remarks
23-21*	See Item 23-4		5	FE		800314	1	
23-22*	Guidelines for surveillance of testing operations will be developed and included in field instructions for the onsite soils engineer. Engineering/geotechnical services will develop the guidelines by November 30, 1979.	23-27	5	GT		791130	1	
23-23*	Engineering will revise Engineering Department Procedure 4.22 by December 1, 1979, to clarify that engineering personnel preparing the FSAR will follow the requirements of Regulatory Guide 1.70, Revision 2, Standard Format and Content of Safety Analysis Reports for Nuclear Power Plants (September 1975). Specifically, Regulatory Guide 1.70 (Pages iv and v of the Introduction) requires that such consultant reports only be referenced with the applicable commitments and supporting information included in the text (third paragraph, Page v). Such a requirement would preclude repetition of this circumstance.	23-7, 23-46	5	PE		791130	1	
23-24*	To preclude any future inconsistencies between the FSAR and specifications, Engineering Department Project Instruction 4.1.1 will be revised to state that all specification changes, rather than just "major changes," will be reviewed for consistency with the FSAR.	23-11	5	PE		791130	1	
23-25*	Quality assurance will issue a Nuclear Quality Assurance Manual amendment to clarify the requirement that procedures include measures for qualifying equipment under specified conditions.	23-18		QA		800715 800902	3	Awaiting issuance of NQAM procedures needed for the CPCo/Bechtel QA integration
23-26*	In view of Item 6, geotechnical services will revise Procedure FP-6437 by December 31, 1979, to require that calculations be annotated to reflect current design status.	23-13	5	GT		800328	1	

MASTER LIST OF COMMITMENTS TO NRC ON 10 CFR 50.54(f) RESPONSES (Continued)

PART I: COMMITMENTS FROM QUESTIONS 1 to 35 (Continued)

Item	Description	Page	Rev	Resp Org	Responsible Engineer	Due Date	Status 0 1 6 1 6	Status Remarks
23-27*	Engineering Department Procedure 4.37 will also be revised by December 31, 1979, to require that calculations be annotated to reflect current design status.	23-13	5	QA		791227	1	
23-28*	Civil/Structural Design Criteria 7220-C-501 will be modified to contain the requirements that a duct bank penetration shall be designed to eliminate the possibility of the nonspecific size duct interacting with the structures.	23-15	5	CE	D. Reeves	800831	3	
23-29*	The civil standard detail drawings will be revised to include a detail showing horizontal and vertical clearance requirements for duct bank penetrations. The detail will address any mud mat restrictions.	23-15	5	CE		791231	1	Shown on civil Dwg C-14
23-30* (39)	Engineering will clarify specifications and construction will prepare procedures (governing the soils compaction equipment) to implement the requirements of the Nuclear Quality Assurance Manual as stated in Item 25	23-18	5	CE/FE		800912	4	Dependant on compaction report and NQAM
23-31*	Design documents, instructions, and procedures for those activities requiring inprocess controls will be reviewed to assess the adequacy of existing procedural controls and technical direction. Engineering review is scheduled for completion by October 24, 1980.	1-11, 23-20, 23-30	5	PE		801024	4	
23-32*	Guidelines for surveillance of testing operations will be developed and included in field instructions for the onsite soils engineer. Engineering/geotechnical services will develop the guidelines by November 30, 1979, and field engineering will prepare the instructions by February 29, 1980.	23-27	5	FE		800229	1	

MASTER LIST OF COMMITMENTS TO NRC ON 10 CFR 50.54(f) RESPONSES (Continued)

PART I: COMMITMENTS FROM QUESTIONS 1 to 35 (Continued)

Item	Description	Page	Rev	Resp Org	Responsible Engineer	Due Date	Status	0 1 1 6 1 6 Status Remarks
23-33*	The quality assurance audit and monitoring program will be revised to emphasize and increase attention to the need for evaluating policy and procedural adequacy and assessment of product quality. A specialized audit training program will be developed and implemented to ensure guidance for this revised approach.	23-35	5	QA		800912	4	Action completed except developing audit training program
23-34*	Control Document SF/PSP G-6.1 will be revised to provide requirements for inspection planning specificity and for the utilization of scientific sampling rather than percentage sampling.	I-20, 23-22, 23-24	5	QC		800915	3	SF/PSP G-6.1 has been submitted for publication
23-35*	Control Document SF/PSP G-3.2. Control of Nonconforming Items, is being revised to improve the definition of implementing requirements for identifying repetitive nonconforming conditions.	23-33	5	QC		800815	3	
23-36*	Control Document QADP C-101, Project Quality Assurance Trend Analysis, is being revised to improve the definition of implementing requirements for identifying repetitive nonconforming conditions.	23-33	5	QA		800124	1	
23-37*	Consistent with the intent of Items 23-35 and 23-36, QA will review nonconformance reports which were open as of November 13, 1979, or became open prior to implementation of the improved Project Quality Assurance Trend Analysis program as stated in Item 36.	23-33	5	QA		801231	4	
23-38*	A study was completed by October 31, 1979, to examine current procedures and practices for the preparation and control of the FSAR in view of these experiences. Procedural changes will be initiated by the revision of or addition to the engineering department procedures.	23-11	5	LS		791130	1	

MASTER LIST OF COMMITMENTS TO NRC ON 10 CFR 50.54(f) RESPONSES (Continued)

PART I: COMMITMENTS FROM QUESTIONS 1 to 35 (Continued)

011616

Item	Description	Page	Rev	Resp Org	Responsible Engineer	Due Date	Status	Status Remarks
23-39* (30)	Engineering will clarify specifications and construction will prepare procedures (governing the soils compaction equipment) to implement the requirements of the Nuclear Quality Assurance Manual as stated in Item 25.	23-18	5	FE		801017	4	
23-40* (31)	Design documents, instructions, and procedures for those activities requiring inprocess controls will be reviewed to assess the adequacy of existing procedural controls and technical direction. Engineering review is scheduled for completion by October 24, 1980, and field engineering and quality control review is scheduled for completion by November 28, 1980.	I-11, 23-20, 23-30	4	FE,QC		801128	4	Project engineering to provide list of design documents to FE and QC to start this item
23-41*	QCIs in use will be reviewed to ascertain that provisions have been included consistent with the revised control document, SF/PSP G-6.1, Quality Control Inspection Plans.	I-18, 23-22, 23-25	5	QC		801115	4	See Item 23-34
23-42* (31) (40)	Design documents, instructions, and procedures for those activities requiring inprocess controls will be reviewed to assess the adequacy of existing procedural controls and technical direction. Engineering review is scheduled for completion by October 24, 1980, and field engineering and quality control review is scheduled for completion by November 28, 1980. Any revisions required will be completed by January 23, 1981.	I-11, 23-22, 23-30	4	PE, FE,QC		810123	4	
23-43*	The impact of Item 41 on completed work will be evaluated, and appropriate actions will be taken as necessary.	23-22, 23-25	4	QC		810115	4	
23-44*	FSAR sections are being rereviewed as discussed in the Response to Question 23, Part 2.	23-7, 23-11	4	PE		800931	4	

MASTER LIST OF COMMITMENTS TO NRC ON 10 CFR 50.54(f) RESPONSES (Continued)

PART I: COMMITMENTS FROM QUESTIONS 1 to 35 (Continued)

011616

Item	Description	Page	Rev	Resp Org	Responsible Engineer	Due Date	Status	Status Remarks
23-44A	The audit committed to in our response to Question 1, Part b and described in Part 2, Section 5.0 will be conducted once during the FSAR rereview (commencing March 17, 1980) and again after completion of the reieview (commencing September 1, 1980).		4	QA		800901	4	
23-45*	U.S. Testing will be required to demonstrate to the cognizant engineering representative that testing procedures, equipment, and personnel used for quality verification testing (for other than NDE and soils) were, and are, capable of providing accurate test results in accordance with the requirements of applicable design documents.	I-18, 23-27, 23-31	5	CE		801001	2	Report submitted to QA
23-46*	A sampling of U.S. Testing's test reports (for other than NDE and soils) will be reviewed by the cognizant engineering representative to ascertain that results evidence conformance to testing requirements and design document limits.	23-28, 23-31	5	CE		801001	2	Report submitted to QA
23-47*	See Item 23-4	23-9, 23-25	4	PE		801031	4	
23-48*	CPCo will implement overinspection for soils placement, utilizing a specific overinspection plan.	I-11, I-16	4	CPCo-QA		NA	2	[1]Ongoing activity
23-49*	CPCo will perform overinspection of the U.S. Testing soils testing activities and reports, utilizing a specific overinspection plan.	I-17	4	CPCo-QA		NA	2	[1]Ongoing activity
23-50*	CPCo project management and QA review field procedures (new and revised) and CPCo QA reviews QCIs (new and revised) in line with Bechtel before release.	I-19	4	CPCo-QA, CPCo-PMO		NA	2	[1]Ongoing activity

MASTER LIST OF COMMITMENTS TO NRC ON 10 CFR 50.54(f) RESPONSES (Continued)

PART I: COMMITMENTS FROM QUESTIONS 1 to 35 (Continued)

011616

Item	Description	Page	Rev	Resp Org	Responsible Engineer	Due Date	Status	Status Remarks
23-51*	In 1978, CPCo implemented an overinspection plan to independently verify the adequacy of construction and the Bechtel inspection process, with the exception of civil activities. Reinforcing steel and embeds were covered in the overinspection.	I-19	4	CPCo-QA		NA	2	[1]Ongoing activity
23-52*	CPCo reviews onsite subcontractor QA manuals and covers their work in the audit process.	I-19	4	CPCo-QA		NA	2	[1]Ongoing activity
23-53*	An ongoing effort is improving the "surveillance" mode called for in the QCIs by causing more specific accountability as to what characteristics are inspected on what specific hardware and in some cases changing "surveillance" to "inspection."	I-19	4	QC		NA	2	See Item 23-19A
24-1	Determine final number of observation wells	24-21	5	GT		811031	4	Ongoing activity
24-2	Develop frequency for monitoring the observation wells	24-21	5	GT		810131	4	Ongoing activity
24-3	Develop system and schedule for monitoring sand removal	24-22	5	GT		810131	4	Ongoing activity
24-4	Evaluate results of temporary dewatering system to verify design bases	24-8	5	GT		801031	4	Ongoing activity
25-1	Revise seismic analysis for diesel generator building using the soil properties determined by the recent investigation and any foundation modifications	25-3	5	CE			2	Tracked by Item 13-6
25-2	Revise seismic analysis for auxiliary building using the soil properties determined by the recent investigation and any foundation modifications	25-3	5	CE			2	Tracked by Item 13-16

MASTER LIST OF COMMITMENTS TO NRC ON 10 CFR 50.54(f) RESPONSES (Continued)

PART I: COMMITMENTS FROM QUESTIONS 1 to 35 (Continued)

Item	Description	Page	Rev	Resp Org	Responsible Engineer	Due Date	Status	Status Remarks
25-3	Revise seismic analysis for service water pump structure using soil properties determined by the recent investigation and any foundation modification	25-5	5	CE			2	Tracked by Item 13-11
26-1	Analyze the effect of differential settlement of the diesel generator building in accordance with ACI 349 as supplemented by Regulatory Guide 1.142	26-2	5	CE		800930	4	
26-2	Incorporate in the Midland project standard design criteria the effect of differential settlement of structures which are founded partially or totally on fill	26-1	5	CE			2	Tracked by Item 15-2
27-1	Prohibit final piping connection to the diesel generator building before 12/31/81	Fig 27-9	5	PD		800731	4	
28-0	No Action Item							
29-0	No Action Item							
30-0	No Action Item							
31-1	Perform full-scale load test by filling the BWST with water	31-2	5	CT CE		801130	2	Tracked by Item 4-8
32-0	No Action Item							
33-1	Fill the diesel fuel oil tanks with oil prior to preoperational testing	33-2	5	CE		800829	4	Will be accomplished just prior to preoperational testing
34-0	No Action Item							
35-0	No Action Item							

MIDLAND UNITS 1 AND 2

MASTER LIST OF COMMITMENTS TO NRC ON 10 CFR 50.54(f) RESPONSES (Continued)

PART II: COMMITMENTS FROM SUPPLEMENTARY QUESTIONS

Item	Description	Ref	Rev	Resp Org	Responsible Engineer	Due Date	Status	Status Remarks
S-1	Advise Bechtel to commence dewatering and underpinning activities	A		CPCo			4	After favorable SER
S-2	Develop settlement time rate criteria for all Seismic Category I structures	A		GT		810331	4	
S-3	Monitor concrete cracks for service water pump structure and auxiliary building electrical penetration areas and the feedwater isolation valve pits before and after installation of piles and caissons	B		CE		801031	4	Due date is for incorporating requirement into drawing
S-4	Monitor concrete cracks in the BWST valve pits and repair any observed crack exceeding the ACI code limits	B		CE		800630	3	Due date is for incorporating requirement into drawing
S-5	Grout the local gaps between diesel generator building footing and mud mat	B		CE		800407	2	Grouting requirement in Dwg C-1147
S-6	Continue involvement of CPCo/Bechtel consultants for reviewing remedial actions	B					5	
S-7	Monitor service water pump structure and pile displacement during jacking operation to verify pile dynamic stiffness used in seismic analysis	B		GT CE	C. Chuang		5	
S-8	Envelope pile stiffness for the seismic analysis of service water pump structure	B		CE	C. Chuang		2	Completed seismic model. See Item 13-11.
S-9	Check the limited clearance between the service water pipe at the building penetration	B		PD CE		800731	3	

[1]Bechtel verification of this item is not required

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Notes: ① Commitment dates for action items indicated by asterisks (*) have been transmitted to NRC. These dates will not be changed without formal transmittal to NRC.

② Status codes are ~~as follows~~ : 1 complete, verified
2 complete, not yet verified
3 Due, but not complete
4 Insufficient evidence or documentation to establish or verify status.

③ Commitments ~~correspondence~~ with NRC has been referred as Ref A :- Letter from G.S. Keeley to J.A. Rutgers, Serial # 8548, 3/27/80

Ref B :- Commitments made in 4/80 meeting with NRC at Midland.

MIDLAND UNITS 1 AND 2

MASTER LIST OF COMMITMENTS TO NRC OR 10 CFR 50.54(f) RESPONSES

Item	Description	Page	Rev	Resp Org	Responsible Engineer	Due Date	Status	Status Remarks
1-1	Perform a final review and update of FSAR commitment list	1-3		LS		800101	1	
1-2	Review sections of the FSAR determined to be inactive	1-4		LS		800901	4 2	See 21-44
1-3	Review EDP 4.22	1-4		QE		790629	1	
1-4	Audit action items 1-3	1-4		QA	[illegible] →	791026	2 4	
1-5	Review specifications not included in the specificity study initially	1-5 I-8		QE		790629	4 4	
1-6	Complete review of the Dames and Moore report	I-6		CT		790629	1	
1-7	Complete review of pertinent portions of FSAR Sections 2.5 and 3.8	I-6		CT,CE		790629	1	
1-8	Correct settlement calculations and update FSAR	I-6		CT		791101	1	
1-9	Schedule audits of the geotech sections on a 6-month basis	I-7		QA		790504	1	
1-10	Review drawings for possible effect of vertical duct bank restrictions	I-7		CE		790106	1	
1-11	Complete actions in response to DBVCL audit	I-7/8		QE		790518	1	
1-12	Revise EDP 4-49 to incorporate clarifications and instructions for use of SCR	I-8		QE		790504	1	
1-13	Schedule audits of each design discipline calculations on a yearly basis	I-8/9		QA		790504	1	
1-14	Reevaluate construction equipment used for compaction	I-11		FE			1	
1-15	Assign field soils engineer and soils engineer from design section	I-11		FE		790501	1	See 21-2] 9
1-16	Review construction specifications and procedures to identify equipment requiring qualification	I-11		FE		790629	1	See 21-4]

MASTER LIST OF COMMITMENTS TO NRC ON 10 CFR 50.54(f) RESPONSES (Continued)

Item	Description	Page	Rev	Resp Org	Responsible Engineer	Due Date	Status	Status Remarks
1-17	Review field procedure FPC-3.00 to ensure clarity and completeness	I-11	A	FE		790531	1	
1-18	Revise PQCI C-1.02 to provide inspection rather than surveillance and to record inspections	I-16		QC		800801	1	
1-19	Complete in-depth review of soil test results	I-17	Q-1	CT		790731	1	
1-20	Perform in-depth audit of B.S. Testing	I-18		QA		790531	1	
1-21	Review all active QCI's for surveillance callouts	I-18		QC		790621	1	Completed
added 1-21a	Modify QCIs based on 1-21	N/A		QC		800901	1	See 21-41
1-22	Evaluate documentation callouts on QCIs (revision)	I-18		QC		790621	2	See 22-19
1-23	Incorporate scientific sampling plans for inspection	I-20		QC		791019	0	
1-24	Complete in-depth review of the Bechtel trend program	I-22		QA		790601	1	
1-25	Conduct QA training	I-22		QA		790601	1	
2.0	No action items							
3-1*	Clarify the Response to Question 362.12 in FSAR Revision 18	3-1	0	LS		790531	1	
4-1*	Provide criteria for permissible residual settlement	4-1	3	GT CE		791231	1	
4-2*	Provide details of treatment of loose sands	4-2	0	GT CE		790831	1	Closed by Rev 3
4-3	Take dynamic modular measurements upon removal of preloads for diesel generator building and other buildings	4-3	3	GT		791031	1	
4-4	Use data of Item 4-3 to evaluate the seismic response of the structures	4-3	3	CE		791130	1	Partial Requirement of Items 13-4, 13-6, 13-11, 13-14, 13-16
added 4-5	Prepare additional response to NRC for Items 4-1 and 4-2	N/A				790831	1	

MASTER LIST OF COMMITMENTS TO NRC OR 10 CFR 50.54(f) RESPONSES (Continued)

Item	Description	Page	Rev	Resp Org	Responsible Engineer	Due Date	Status	Status Remarks
4-6	Monitor the non-Seismic Category I condensate storage tanks	4-4	5	GT CE		801130	A	Load test is on going results will be evaluated by Geotech and Civil.
4-7	Remove unsuitable material in the tank farm and replace by compacted fill	4-3	3	GT		791130	~~A~~ C	
4-8	Fill the BWST with water to perform a full-scale test of subsurface material	4-3	3	GT CE		801130	A	Load test may be delayed due to modification of electrical hardware.
4-9	Fill the diesel fuel oil tank with water to perform a full-scale test of the foundation soil	4-2	0	GT			~~A~~ C	Closed by Rev 3
5-1	Monitor the settlement of the structures (which were subjected to preload) during the life of the plant to provide a record of performance	5-1	0	GT			A	Ongoing activity, requirements in Dwg C-994, Spec C-76
6-1	Construct and fill the borated water tank to make a full-scale test of the foundation soils	6-1	0	GT CE			~~A~~ C	Tracked by Item 4-7
~~6-2~~	~~Deleted~~						~~A~~	
6-3	~~Deleted~~ Use settlement data then exist to allow conservative piping connection design		0				A	
6-~~2~~	Delay the piping connections to the BWST until most of the settlement has taken place under the test load	6-1	0				A	Superseded in Rev 1
6-~~3~~4	Evaluate the load test result of the diesel fuel oil tank and provide precise corrective measures if required	6-2	0	GT			~~A~~ C	Closed by Response to Question 33, Rev 5
6-~~4~~5	Monitor the piping between the BWST and the auxiliary building	6-1	1	CE		800407	A	
6-~~5~~6	Evaluate the settlement from Item 6-~~4~~5 in accordance with the procedure described in Question 17	6-1	1	PS			A	
6-~~6~~7	Remove all unsuitable material in the tank farm area and replace with suitable compacted fill	6-1	3	GT			~~A~~ C	Tracked by Item 4-~~8~~7
6-~~7~~8	Monitor the non-Seismic Category I condensate storage tanks	6-2	3	GT			~~A~~ C	Tracked by Item 4-~~7~~6

MASTER LIST OF COMMITMENTS TO NRC ON 10 CFR 50.54(f) RESPONSES (Continued)

Item	Description	Page	Rev	Resp Org	Responsible Engineer	Due Date	Status	Status Remarks
6-3 4-8	Determine long-term settlement based on the measured settlement of the loaded tanks	6-2	3	GT			4	~~Reached by Items 4-6, 4-8 & 4-9~~ Geotech to review tank test and predict long term settlement based on 4-6, 4-8, 4-9
7-1*	Perform continuity check on duct banks after completion of preload program	7-3	3	FE		751130	x 2	
7-2	~~Included in Action Item 1~~ Make results of continuity checks and settlement surveys available						x 1	Included in Action Item 7-1
7-3	~~Included in Action Item 1~~ If further corrective action is required, determine corrective measures						x 1	Included in Action Item 7-1
8-1	Establish a requirement to realign diesel generators if manufacturer's tolerance for pitch and roll are exceeded	8-2	0	CE		800304	x 3	Requirement is shown in drawing C-1011, note 4
8-2	Monitor the diesel generator pedestal markers on a 60-day cycle throughout the construction phase.	8-2	0	CE		NA	4	Ongoing activity. Requirements in Dwg C-994, Spec C-76
8-3	Review and modify the monitoring frequency for the diesel generator pedestal markers after 1 year of operation	8-2	0	CPCo		Open	4	
12-1	Complete one additional boring in the middle of diesel fuel oil tank area	12-1	0	GT		790413	1	Closed by Rev 1
12-2	Complete three additional borings in the auxiliary building control tower area	12-1	0	GT		790511	1	Closed by Rev 1
12-3	Complete Table 12-1 for soils investigation and planned remedial measures; respond to NRC	Tbl 12-1	1	GT		790531	1	
12-4	Provide supporting soil condition for Seismic Category I utilities	Tbl 12-1	0	CE		790531	x 1	Closed by Rev 1
12-5	Pressure grouting of void below the mud mat of the control tower as required	Tbl 12-1	0	CE		801231	4	
12-6	Provide a detailed description of planned corrective actions in Interim Report 6 of MCAR 24	Tbl 12-1	1	CE		790630	x 2	Closed by Rev 2
12-7	Perform a continuity check on one conduit in each duct bank made with a hard-fiber rabbit prior to cable pulling	Tbl 12-1 Pg 4	1	FE		800630	4	on going activity see field procedure

9 — 10 — (same)

9-0 no action item NA
10-0 no action item NA
11-0 no action item NA

Sheet 4
6/16/80

MASTER LIST OF COMMITMENTS TO NRC OR 10 CFR 50.54(f) RESPONSES (Continued)

Item	Description	Page	Par	Resp Org	Responsible Engineer	Due Date	Status	Status Remarks
13-8	Measure the gaps between embedded sleeves and pipes entering the service water valve pits when the surcharge is removed	Tbl 13-1 Pg 5	3	CE			C-2	Closed by Response to Question 19, Rev 5
13-1	Complete seismic reanalysis of diesel generator building to account for current lack of compaction	13-1	a	CE		791031	C-1	Superseded by Items 13-6 and 13-7
13-2	Review diesel generator building design and Seismic Category I equipment piping, and electrical systems to the enveloped seismic responses			CE		791231	C-1	Superseded by Items 13-8 through ~~13-10~~ 13-19
13-3A	Conduct a seismic reanalysis to account for revised soil structure interaction of service water pump structures	13-1	a	CE		791031 ~~791031~~	A ~~C-1~~	Superseded by Items 13-11 through ~~13-15~~ 13-16
13-3B	Review structural design and Seismic Category I equipment, piping, and electrical systems and incorporate the seismic responses of the reanalysis for service water pump structures	13-1	a	CE		791231	C-1	" " "
13-4A	If significant change of foundation properties of the auxiliary building result, conduct a seismic reanalysis			CE		791231	C-1	Superseded by Items 13-16 through ~~13-20~~ 13-20
13-4B	Review structural design and Seismic Category I equipment, piping, and electrical systems and incorporate the seismic response of the reanalysis for auxiliary building			CE		791231	C-1	" " "
13-5	Underground utilities - Investigate the change in differential displacement separately for buildings founded on fill pending results of seismic reanalysis					791231	C-1	Superseded by Item 13-21
13-6	Conduct a seismic reanalysis for the diesel generator building	13-2	C	CE	(Task Class I)	801015	C-4	~~C-1~~ 13-1
13-7	Review structural design for seismic response from Item 13-6	13-2	B	CE		801031	A	" " "
13-8	Review Seismic Category I equipment for seismic response from Item 13-6	13-2	B	CE		801031 ~~811231~~	A	13-1
13-9	Review piping system for seismic response from Item 13-6	13-2	B	PD		( )	A	To be combined with 0.2 B review

MASTER LIST OF COMMITMENTS TO NRC OR 10 CFR 50.54(f) RESPONSES (Continued)

Item	Description	Page	Rev	Resp Org	Responsible Engineer	Due Date	Status	Status Remarks
13-10	Review electrical system for seismic response from Item 13-6	13-2	0	CE		12/31/80	A	~~See above~~
13-11	Conduct a seismic reanalysis for the service water pump structure	13-2	0	CE		10/31/80	A	~~" " "~~
13-12	Review structural design for seismic response from Item 13-[illegible]	13-2	0	CE		800831	A	~~" " 13-3~~
13-13	Review Seismic Category I equipment for seismic response from Item 13-[illegible]	13-2	0	CE		12/ 800831	A	~~" " 13-3~~
13-14	Review piping system for seismic response from Item 13-[illegible]	13-2	0	PD			A	To be combined with 0.2 g review
13-15	Review electrical system for seismic response from Item 13-[illegible]	13-2	0	CE		12/ 800831	A	~~See above~~
13-16	Conduct a seismic reanalysis for the auxiliary building	13-3	0	CE		800815	A	~~" " 13-3~~
13-17 ~~443-47~~	Review structural design for seismic response from Item 13-16	13-3	0	CE		800930	A	~~"~~
13-18 ~~443-47~~	Review Seismic Category I equipment for seismic response from Item 13-16	13-3	0	CE		801231	A	~~"~~
13-19 ~~443-47~~	Review piping system for seismic response from Item 13-16	13-3	0	PD			A	To be combined with 0.2 g review
13-20 ~~443-47~~	Review electrical system for seismic response from Item 13-16	13-3	0	CE		801231	A	
13-21 ~~443-47~~	Investigate the effect on underground utilities for differential building displacement resulting from Items 13-6, 13-[illegible], 13-16	13-5	0	CE PS		810131	A	
14-1	Review the estimated settlement upon completion of the load test program of the RWST	14-1	5	CT		810131	A	See remarks for item 4-8
14-2	Analyze flexible buildings for differential settlement based on stiffness at the time of distortion. Evaluate forces due to arching or distortion according to Question 15	14-2	0	CE			A I	Superseded by Item 14-[illegible]6

MASTER LIST OF COMMITMENTS TO NRC ON 10 CFR 50.54(f) RESPONSES (Continued)

Item	Description	Page	Rev	Resp Org	Responsible Engineer	Due Date	Status	Status Remarks
14-3	Map significant cracks in auxiliary building, feedwater isolation valve pits, and ring foundation for the BWSTs	14-3	0	CE		790630	1	Closed by Rev 3
14-4	Analyze buildings affected by differential settlement for observed differential settlement plus predicted differential settlement	14-4	0	CE		790831	~~2~~ 1	~~Deleted in Rev 3~~ Requirement deleted. See rationale in page 14-8 rev 5
14-5	Prepare additional response to the NRC					790831	~~4~~	
14-6	Analyze the diesel generator building for variable foundation properties by finite element model	14-2	3	CE		791231	~~2~~	Closed by Rev 5
14-7	Analyze the BWST foundation for variable foundation properties	14-2	5	CE		800831	4	
14-8	Compare allowable versus calculated forces and moments at critical sections for auxiliary building electrical penetration area and service water pump structure	14-5	5	CE		800831	2	
15-1	Evaluate the differential settlements in accordance with provisions of ACI 318-71 for Seismic Category I structures founded partially upon natural soil and partially upon fill material	15-1	0	CE		791231	~~2~~ 1	Rev 3 identified diesel generator building is the only affected structure, this item is same as Item 14-6
15-2	Expand the Midland project structural design criteria for Seismic Category I structures to include the differential settlement effect.	15-2	0	CE		800831	4	
15-3	Prepare additional response to the NRC					7912	4	
16-1	Perform soil borings in areas of buried pipes	16-1	0	CT		790831	1	~~Deleted in Rev 3~~ Requirement to perform borings is given in Fig. C-? [illegible] Commitment not deleted in rev 5
17-1	Evaluate impact of the failure of buried non-Seismic Category I piping on safety-related structures, foundations, and equipment	17-1	0	CE		790630	1	~~Deleted in Rev 3~~ Evaluation was not requested by NRC. Commitment was deleted in rev 2

MASTER LIST OF COMMITMENTS TO NRC (10 CFR 50.54(f) RESPONSES (Continued)

Item	Description	Page	Rev	Resp Org	Responsible Engineer	Due Date	Status	Status Remarks
17-2	If future profiles show any extreme conditions, analyze the piping system and note necessary repairs	17-3	0	CE			A	Superseded by Item 17-NEW 5
17-3	Prepare additional response to the NRC					790629	1	
17-4	Profile the buried water lines by optical means	17-1	2	CE			A	Tracked by Item 6-NEW 5
17-5	Analyze buried piping considering the probable ultimate settlement. Provide unique resolution for any unacceptable stress conditions for the portion of the system	17-3	5	PS		800801	A	
17-5	Investigate the excess rounding of profile data	Tbl 17-2	2	PS		800801	A	
18-1	Perform reexamination of the stresses in all Seismic Category I connecting piping between buildings as a normal iteration of design. Consider stresses induced by differential settlement after connecting pipe and anticipated future settlement	18-1	0	PS		800801	A	
18-2	Perform final analyses to demonstrate the margin of acceptability for additional differential settlement beyond that expected for the life of the plant	18-2	5	PS		800801	A	
18-3	Design piping connecting from the diesel generator building to the pedestals which will accommodate the expected future settlement	18-2	5	PS		800801	A	
19-1	Profile pipes in the vicinity of diesel generator building after removal of preload and evaluate as described in the Response to Question 17	19-1	0	PS		800801	A	
19-2	Take additional gap measurements between embedded sleeves and pipes when surcharge is removed. Coordinate this information with the profile data	19-2	0	CE			A-L	Closed by Rev 5

MASTER LIST OF COMMITMENTS TO NRC CR 10 CFR 50.54(f) RESPONSES (Continued)

Item	Description	Rev.	Rev	Resp Org	Responsible Engineer	Due Date	Status	Status Remarks
19-3*	Perform a complete evaluation of safety-related piping after completion of the preload program	19-3	5	PS		800801	OPEN	
20-1	Analytically check the Seismic Category I systems affected by settlement for pump and nozzle loadings and verify that they are within specified or vendor-accepted limits	20-1	5	PS		800801	OPEN	
20-2	Verify piping support loads for systems subjected to settlement-induced loads	20-1	5	PS		800801	OPEN	
20-3	Prepare additional response to the NCR					800801	OPEN	
20-4	Evaluate active valves affected by settlement for imposed loads and reactions; compare to the allowable for operability	20-1	5	PS		800801	OPEN	
23-1	Consultant reports that the Bechtel & Bouse were considered in accordance with the guidelines provided in NRC Regulatory Guide 1.70, Revision 2. Consultant reports were not attached to the FSAR, but portions of consultant reports were extracted and incorporated into the FSAR text itself. Those portions incorporated into the FSAR become consultants. Therefore, disposition of recommendations in consulting reports has been adequately accounted for in the preparation of the FSAR.	23-1	5	PE		790518	1	
	Verification that those portions of consultant reports determined to be consultants and incorporated into the FSAR have been adequately reflected in project design documents is being accomplished via the FSAR rereview program described in the response to Question 23, Part 2.							
	The two Bechtel QA audit findings reported in our April 24, 1979, response (Paragraph 2.1, Page 1-8) have been closed out.							

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MASTER LIST OF COMMITMENTS TO NRC ON 10 CFR 50.54(f) RESPONSES (Continued)

Item	Description	Page	Ref	Resp Org	Responsible Engineer	Due Date	Status	Status Remarks
23-2	On April 3, 1979, Midland project engineering group supervisors in all disciplines were reinstructed that the only procedurally correct methods of implementing specification changes are through the use of specification revisions or specification change notices. This was followed by an interoffice memorandum from the project engineer to all engineering group supervisors on April 12, 1979.	Q23, p8, & 9K 11-27		PE		790312	1	
23-3	Engineering Department Project Instruction 4.49.1 was revised in Revision 2 to state, "Under no circumstances will interoffice memoranda, memoranda, telexes, TWIs, etc be used to change the requirements of a specification."	Q4, p1-8 & Q23, p9 p24 11-7 11-14		PE			1	
23-4	A review of interoffice memoranda, memoranda, telexes, TWIs, and other correspondence relating to specifications for construction and selected procurements of Q-listed items will be initiated.	Q23, p9 & 11-4, 5		PE			1	

no split here

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MASTER LIST OF COMMITMENTS TO NRC ON 10 C ~ 50.54(f) RESPONSES (Continued)

Item	Description	Page	Rev	Resp Org	Responsible Engineer	Due Date	Status	Status Remarks
	The purpose of the review will be to identify any clarifications which might reasonably have been interpreted as modifying a specification requirement and for which the specification itself was not formally changed. An evaluation will be made to determine the effect on the technical acceptability, safety implications of the potential specification modification, and any work that has been or may be affected. If it is determined that the interpretation may have affected any completed work or future work, a formal change will be issued and remedial action necessary for product quality will be taken in accordance with approved procedures.							
	The foregoing procedure will be followed for all specifications applying to construction of Q-listed items.							
	For specifications concerning the procurement of Q-listed items, the foregoing procedure will be implemented on a random sampling basis. The sample size has been established and the specification selection has been made.							
(21)	Review and acceptance criteria for the specifications will be defined by March 14, 1980.	~~[illegible]~~				800314		
(47)	The review of construction and selected procurement specifications is scheduled to be completed by October 1980.	~~[illegible]~~		DE		8010		

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MASTER LIST OF COMMITMENTS TO NRC ON 10 CFR 50.54(f) RESPONSES (Continued)

Item	Description	Page	Rev	Resp Org	Responsible Engineer	Due Date	Status	Status Remarks
	If the acceptance criteria are not met, the review will be expanded to include other specifications for Q-listed items. At that time, a revised completion date will be established.	[illegible]						
23-5	A study was completed which examined current procedures and practices for the preparation and control of the FSAR in view of these experiences. Procedural changes will be initiated by the revision of or addition to the engineering department procedures. This action is scheduled to be completed by January 31, 1980.	23-11 ~~Q23-p11~~	5			800131	1	
23-6	An interoffice memorandum dated April 12, 1979, was issued by geotechnical services to alert personnel of the need to revise or annotate calculations to reflect current design status.	23-13 ~~Q23-p13~~	4	GT		790312	1	
23-7	Field Instruction FIC 1.100, Q-listed Soils Placement Job Responsibilities Matrix, has been prepared and establishes responsibilities for performing soils placement and compaction.	~~Q1-p~~I-11 ~~Q23-p~~10, 15-18, 20, 30 ~~20, 30~~		FE			1	
23-8	Construction specifications, instructions, and procedures were reviewed to identify any other equipment requiring qualification which had not yet been qualified. No such equipment was identified.	~~Q1-p~~I-11 ~~Q23-p18~~ 23-18	5	FE			1	

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MASTER LIST OF COMMITMENTS TO NRC OR 10 CFR 50.54(f) RESPONSES (Continued)

Item	Description	Page	Rev	Resp Org	Responsible Engineer	Due Date	Status	Status Remarks
23-9	A dimensional tolerance study was completed using the reactor building spray pump and ancillary system as the study mechanism.	A4,pI-8	A	PE			1	
23-10	Engineering reviewed specifications not previously reviewed for the specificity or tolerance studies.	Q4,pI-8					1	
23-11	A specific review of the FSAR and specification requirements for the qualification of electrical and mechanical components has been made as part of the corrective action relating to CPCo's 50.55(e) report on component qualification.	Q4,rI-8					1	
23-12	Quality assurance will schedule yearly audits of the design calculational process for techniques and actual analysis in each of the design disciplines.	Q1,pI-8					1	
23-13	Audits of ITT Grinnell hanger design and CPCo relay setting calculation have been conducted.	Q1,pI-8		QA			1	
23-14	Bechtel project engineering will review design drawings for cases where ducts penetrate vertically through foundations. The possibility of the duct being enlarged over the design requirements and the effect this enlargement may have upon the structure's behavior will be evaluated by June 1, 1979. Proper remedial measures will be taken if the investigation shows potential problems.	Q1,pI-7					1	

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MASTER LIST OF COMMITMENTS TO NRC ON 10 CFR 50.54(f) RESPONSES (Continued)

Item	Description	Page	Rev	Resp Org	Responsible Engineer	Due Date	Status	Status Remarks
23-15	An in-depth audit of U.S. Testing operations, covering testing and implementation of its QA program, will be conducted in late April or early May 1979, by Bechtel project QA and engineering.	~~Q17~~ I-18		QA			1	
23-16	An in-depth training session will be given to Midland QA engineers covering the settlement problem and methods to identify similar conditions in the future.	~~Q17~~ I-22	A	QA		7911	1	
23-17	An in-depth training session will be given to all CPCo and Bechtel QA engineers and auditors to increase their awareness of the settlement problem and discuss auditing and monitoring techniques to increase audit effectiveness.	~~Q17~~ I-22	A	QA		8002	1	
23-18	An in-depth review of the Bechtel trend program data will be undertaken by Bechtel QA management to assure the identification of any other similar areas that were not analyzed in sufficient depth in the past reviews.	~~Q17~~ I-22	A	QA			1	
23-19	Quality control instructions will be evaluated to ensure that the documentation characteristics which are to be inspected (i.e., review callouts) are clearly specified.	~~Q17~~ I-18	A	QC			2-1	
23-19A								
23-20	Field Instruction 1.100 will be supplemented by establishing requirements for demonstrating equipment capability, including responsibility for equipment approval, and providing records identifying this capability.	~~Q17, Q18~~ 21-17	5	FE		791204	4	

23-19A Modify to include necessary revision to QCI resulting from review of surveillance and review call out

To be completed when 23-41 is corrected

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MASTER LIST OF COMMITMENTS TO NRC OR 10 CFR 50.54(f) RESPONSES (Continued)

Item	Description	Page	Rev	Resp Org	Responsible Engineer	Due Date	Status	Status Remarks
23-21	See Action Item 4		5	PE			1	
23-22	Guidelines for surveillance of testing operations will be developed and included in field instructions for the onsite soils engineer. Engineering/geotechnical services will develop the guidelines ~~by November 30, 1979.~~	~~Q23,p27~~ 23-17	5	CT		800130	1	
23-23	Engineering will revise Engineering Department Procedure 4.22 by December 1, 1979, to clarify that engineering personnel preparing the FSAR will follow the requirements of Regulatory Guide 1.70, Revision 2, Standard Format and Content of Safety Analysis Reports for Nuclear Power Plants (September 1975). Specifically, Regulatory Guide 1.70 (Pages iv and v of the Introduction) requires that such consultant reports only be referenced with the applicable commitments and supporting information included in the text (third paragraph, Page v). Such a requirement would preclude repetition of this circumstance.	~~Q23,p27~~ 23-7	5	PE		791130	1	
23-24	To preclude any future inconsistencies between the FSAR and specifications, Engineering Department Project Instruction 4.1.1 will be revised to state that all specification changes, rather than just "major changes," will be reviewed for consistency with the FSAR.	~~Q23,p44~~ 23-11	5	PE		791130	1	

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MASTER LIST OF COMMITMENTS TO NRC ON 10 CFR 50.54(f) RESPONSES (Continued)

Item	Description	Page	Rev	Resp Org	Responsible Engineer	Due Date	Status	Status Remarks
23-25	Quality assurance will issue a nuclear quality assurance manual amendment to clarify the requirement that procedures include measures for qualifying equipment under specified conditions.	~~Q23,p10~~ 23-18		QA		800715	~~1~~	
23-26	In view of Action Item 6, geotechnical services will revise Procedure FP-6437 by December 31, 1979, to require that calculations be annotated to reflect current design status.	~~Q23,p13~~ 23-13	5	GT			1	
23-27	Engineering Department Procedure 8.37 will also be revised by December 31, 1979, to require that calculations be annotated to reflect current design status.	~~Q23,p13~~ 23-13	5	QA		791227	1	
23-28	Civil/structural Design Criteria 7220-C-501 will be modified to contain the requirements that a duct bank penetration shall be designed to eliminate the possibility of the nonspecific size duct interacting with the structures.	~~Q23,p15~~ 23-15	5	CE		800800	~~1~~	
23-29	The civil standard detail drawings will be revised to include a detail showing horizontal and vertical clearance requirements for duct bank penetrations. The detail will address any mud mat restrictions.	~~Q23,p15~~ 23-15	5	CE		791231	1	Complete
23-30 (39)	Engineering will clarify specifications and construction will prepare procedures governing the soils compaction equipment to implement the requirements of the Nuclear Quality Assurance Manual as stated in Action Item 25	~~Q23,p18~~ 23-17	5	CE/FE		800912	~~1~~	

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MASTER LIST OF COMMITMENTS TO NRC ON 10 CFR 50.54(f) RESPONSES (Continued)

Item	Description	Page	Rev	Resp Org	Responsible Engineer	Due Date	Status	Status Remarks
23-31	Design documents, instructions, and procedures for those activities requiring inprocess controls will be reviewed to assess the adequacy of existing procedural controls and technical direction. Engineering review is scheduled for completion by October 24, 1980.	Q1, p1-11 Q23, p20, 30 13-14, 30	5	FE		801024	5 4	
23-32	Guidelines for surveillance of testing operations will be developed and included in field instructions for the onsite soils engineer. Engineering/geotechnical services will develop the guidelines by November 30, 1979, and field engineering will prepare the instructions by February 29, 1980.	Q23, p27 23-17	5	FE		[illegible]	1	
23-33	The quality assurance audit and monitoring program will be revised to emphasize and increase attention to the need for evaluating policy and procedural adequacy and assessment of product quality. A specialized audit training program will be developed and implemented to ensure guidance for this revised approach.	Q23, p35 23-35	5	QA		800912	4	action completed except for developing audit training program.
23-36	Control Document SF/PSP G-6.1 will be revised to provide requirements for inspection planning specificity and for the utilization of scientific sampling rather then percentage sampling.	Q1, p1-20 Q23, p22, 24 21-22, 24	5	QC	New date from QC	800701	4	

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MASTER LIST OF COMMITMENTS TO NRC OR 10 CFR 50.54(f) RESPONSES (Continued)

Item	Description	Page	Rev	Resp Org	Responsible Engineer	Due Date	Status	Status Remarks
23-35	Control Documents ~~9 stet~~			5	QC	800701	3	
23-36	~~SF/pSP C-3.2 Control of Nonconforming Items~~	~~023,p33~~ 23-31	5	~~QAQC~~ QA		791121	1	
23-36	QADP C-301, Project Quality Assurance Trend Analysis			QA				
	are in the process of being revised to provide an improved definition of implementing requirements for identifying repetitive nonconforming conditions.							
23-37*	Consistent with the intent of Action Item Numbers 35 and 36, quality assurance will revise nonconformance reports which ~~are~~ will become open between this time and ~~January 03, 1980~~. ~~This action will be to identify any repetitive nonconforming conditions pertaining to product type or activity, or pertaining to nonconformance reports.~~	023,p33 23-31	5	QA		8110	3	
23-38	A study was completed by October 31, 1979, to examine current procedures and practices for the preparation and control of the FSAR in view of these experiences. Procedural changes will be initiated by the revision of ~~or~~ addition to the engineering department procedures.	~~023,p34~~ 23-11	5	LS		791130	1	
23-39 (30)	Engineering will clarify specifications and construction will prepare procedures (governing the soils compaction equipment) to implement the requirements of the Nuclear Quality Assurance Manual as stated in Action Item 25.	~~023,p46~~ 23-18	5	FE		801017	3	

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Prior to implementation of the improved project quality assurance trend program as stated in action item 23-36

MASTER LIST OF COMMITMENTS TO NRC ON 10 CFR 50.54(f) RESPONSES (Continued)

Item	Description	Page	Rev	Resp Org	Responsible Engineer	Due Date	Status	Status Remarks
23-40 (31)	Design documents, instructions, and procedures for those activities requiring inprocess controls will be reviewed to assess the adequacy of existing procedural controls and technical direction. Engineering review is scheduled for completion by October 24, 1980, and field engineering and quality control review is scheduled for completion by November 28, 1980.	Q31 WI-11 ~~Q23, p26,~~ 30 23-10, 30	4	FE, QC		801128	3/4	Project Engineering to provide list of design documents to field engineering and QC to start this item.
23-41	QCIs in use will be reviewed to ascertain that provisions have been included consistent with the revised control document, SF/PSP G-6.1, Quality Control Inspection Plans.	Q1, I18, 5 Q23, P22		QE		800901	4	
23-42 (31) (40)	Design documents, instructions, and procedures for those activities requiring inprocess controls will be reviewed to assess the adequacy of existing procedural controls and technical direction. Engineering review is scheduled for completion by October 24, 1980, and field engineering and quality control review is scheduled for completion by November 28, 1980. Any revisions required will be completed by January 23, 1981.	Q1, WI-11 ~~Q23, p20, 30~~ 23-10, 30	4	PE, FE, QC		810123	4	
23-43	The impact of Action Item 41 on completed work will be evaluated, and appropriate actions will be taken as necessary.	~~Q23, p22, 25~~ 23-12, 16	4	QC		801101	4	
23-44	FSAR sections are being rereviewed as discussed in the Response to Question 23, Part (2).	~~Q23, p7, 11~~ 23-7, 11	4	PE		8009	4	

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MASTER LIST OF COMMITMENTS TO NRC CR 10 CFR 50.54(f) RESPONSES (Continued)

Item	Description	Page	Rev	Resp Org	Responsible Engineer	Due Date	Status	Status Remarks
23-3	U.S. Testing will be required to demonstrate to the cognizant engineering representative that testing procedures, equipment, and personnel used for quality verification testing (for other than RDE and soils) were, and are, capable of providing accurate test results in accordance with the requirements of applicable design documents.	~~Q4~~, pI-18 Q23, ~~P27~~, ~~24~~ 25-27, 31	5	CE		801001	Y	
23-4	A sampling of U.S. Testing's test reports (for other than RDE and soils) will be reviewed by the cognizant engineering representative to ascertain that results evidence conformance to testing requirements and design document limits.	Q23, ~~P28~~ ~~31~~ 25-27, 31	5	CE		801001	Y	
23-5	See Action Item 4	~~Q4~~, 11-9, 25 Q23, ~~P19~~ ~~26~~	4	PE		801000		
23-6	CPCo will implement overinspection for soils placement, utilizing a specific overinspection plan.	~~Q4~~, pI-11, 1-16	4	CPCo-QA			~~Complete~~ 4 on going activity.	
23-7	CPCo will perform overinspection of the U.S. Testing soils testing activities and reports, utilizing a specific overinspection plan.	~~Q4~~, pI-17	4	CPCo-QA		NA	Y " "	
23-~~8~~ 56	CPCo project management and QA review field procedures (new and revised) and CPCo QA reviews QCIs (new and revised) in line with Pechtel before release.	~~Q4~~, pI-19	4	QC		NA	Y " "	

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MASTER LIST OF COMMITMENTS TO NRC ON 10 CFR 50.54(f) RESPONSES (Continued)

Item	Description	Page	Key	Resp Org	Responsible Engineer	Due Date	Status	Status Remarks
23-5 51	In 1978, CPCo implemented an overinspection plan to independently verify the adequacy of construction and the Bechtel inspection process, with the exception of civil activities. Reinforcing steel and embeds were covered in the overinspection.	QT, II-19	4	CPCo-QA		NA	4	Ongoing activity.
23-5 52	CPCo reviews onsite subcontractor QA manuals and covers their work in the audit process.	QT, II-19	4	CPCo-QA		NA	4	
23-5 53	An ongoing effort is improving the "surveillance" mode called for in the QCIs by causing more specific accountability as to what characteristics are inspected on what specific hardware and in some cases changing "surveillance" to "inspection."	QT, II-19	4	CC		NA	4	
24-1	Determine final number of observation wells	24-21	5	CT		811031	4	
24-2	Develop frequency for monitoring the observation wells	24-21	5	CT		810131	4	
24-3	Develop system and schedule for monitoring sand removal	24-22	5	CT		810131	4	
24-4	Evaluate results of temporary dewatering system to verify design bases	24-[illegible]	5	CT		801031	4	
25-1	Revise seismic analysis for diesel generator building using the soil properties determined by the recent investigation and any foundation modifications	25-3	5	CE			1	Tracked by Item 13-6

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MASTER LIST OF COMMITMENTS TO NRC OR 10 CFR 50.54(f) RESPONSES (Continued)

Item	Description	Page	Rev	Resp Org	Responsible Engineer	Due Date	Status	Status Remarks
25-2	Revise seismic analysis for auxiliary building using the soil properties determined by the recent investigation and any foundation modifications	25-3	5	CE			1	Tracked by Item 13-11
25-3	Revise seismic analysis for service water pump structure using soil properties determined by the recent investigation and any foundation modification	25-5	5	CE			1	Tracked by Item 13-6
26-1	Analyze the effect of differential settlement of the diesel generator building in accordance with ACI 349 as supplemented by Regulatory Guide 1.142	26-2	5	CE		800930	4	
26-2	Incorporate in the Midland project standard design criteria the effect of differential settlement of structures which are founded partially or totally on fill	26-1	5	CE			1	Tracked by Item 15-2
27-1	Prohibit final piping connection to the diesel generator building before 12/31/81	Fig 27-9	5	PD		8007	4	
31-1	Perform full-scale load test by filling the BWST with water	31-2	5	GT CE		801130		Tracked by Item 4-28
33-1	Fill the diesel fuel oil tanks with oil prior to preoperational testing	33-2	5	CE		8008	4	Will be accomplished just prior to preoperational testing
S-1	Advise Pechtel to commence dewatering and underpinning activities	A		CPCo			4	After favorable SER
S-2	Develop settlement time rate criteria for all Seismic Category I structures	A		GT		810331	4	

TITLE

NEXT PAGE. LIST OF COMMITMENTS AS QUESTIONS

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tory Guide 1.70, Revision 2. Consultant reports were not attached to the FSAR, but portions of consultant reports were extracted and incorporated into the FSAR text itself. Those portions incorporated into the FSAR become commitments. Therefore, disposition of recommendations in consulting reports has been adequately accounted for in the preparation of the FSAR.

MASTER LIST OF COMMITMENTS TO NRC ON 10 CFR 50.54(f) RESPONSES (Continued)

Item	Description	REF Page	Rev	Dept Org	Responsible Engineer	Due Date	Status	Status Remarks
S-3	Monitor concrete cracks for service water pump structure and auxiliary building electrical penetration areas and the feedwater isolation valve pits before and after installation of piles and caissons	B		CE		801031	Y	Due date is for incorporation of requirement into drawing
S-4	Monitor concrete cracks in the RWST valve pits and repair any observed crack exceeding the ACI code limits	B		CE		800630	Y	"
S-5	Grout the local gaps between diesel generator building footing and mud mat	B		CE		800807	Y	Grouting requirement is given in drawing # C-1147
S-6	Continue involvement of CPCo/Pechtel consultants for reviewing remedial actions	B					Y	
S-7	Monitor service water pump structure and pile displacement during jacking operation to verify pile dynamic stiffness used in seismic analysis	B		CE			Y	
S-8	Envelope pile stiffness for the seismic analysis of service water pump structure	B		CE			Y	Enveloping is completed in seismic model. See Item 13-11
S-9	Check the limited clearance between the service water pipe at the building penetration	B		FD CE		800731	Y	

REF
A. Letter from G.S. Keeley to J.W. Rutgers, Serial 8548, 3/27/80
B. Commitments made in 2/80 meeting with NRC at Midland site

Sheet 23
6/16/80

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Bechtel Corporation
Engineers—Constructors

Fifty Beale Street
San Francisco, California 94119

August 22, 1969

Dames & Moore
309 West Jackson Blvd.
Chicago Illinois 60606

Attention: Mr. George D. Leal

Subject: Consumers Power Company
Midland Plant Units 1 & 2
Job No. 7220
Soils Investigation
File: 0120, 1700, C-1Y

Gentlemen:

Referring to your letter of July 8, 1969, on the subject of plant excavation slopes, we have the following comments on which we would appreciate your response:

It is our opinion that in accordance with normal practice, the minimum factor of safety during construction should not be less than 1.25 for conditions where failure could endanger life or cause considerable financial losses. However, stability analysis should be based on realistic, rather than on excessively conservative assumptions.

For the case 2a, "western soil profile", the reported factor of safety of only 1.1 is less than the minimum 1.25 which we consider acceptable, particularly as the slope may be standing for as long as a year. However, the assumption of phreatic surface extending to the surface of fill at elevation 634 is ultraconservative, and we see no reason for this to be higher than the existing water table assumed at elevation 604. On the other hand, a tension crack along which there is no contribution to the shearing resistance should be assumed in the cohesive fill. These two factors will have opposite effects on the stability.

Please comment on whether more realistic assumptions for stability analysis for the "western soil profile", may justify a lower phreatic surface (el. 604 instead of 634), but inclusion of a tension crack extending to a depth consistent with the assumed properties of the fill. If you agree with this, then please recalculate the factor of safety for these adjusted assumptions.

The text appended to your letter (Part 1 -"General Description") is a general method of stability analysis based on published literature. No indication is given of how the method was applied to the present problem. It would be useful for our review and for record purposes if you would submit an illustration showing the location of the slip circles analysed and the corresponding factors of safety, together with the assumptions made

in the analysis. This would assist us in forming a judgement on the significance of "minor sloughing" which, as you indicated, may take place.

Regarding the stability at the "eastern soil profile", you indicated that the factor of safety is dependent on the location of the phreatic surface. Please provide a description, more precise than that given in paragraph D-4 of your letter, of the minimum distances from the soil surfaces to the phreatic line. This is required in order that these distances can be included in the dewatering specification.

It may be assumed that the maximum rate of excavation could be about 500 cy/day applied to either of the reactor buildings or the auxiliary building.

In addition, as a separate subject, please advise your approximate charges and schedule for the following:

1. Furnishing to us complete details of calculations of total and differential settlements of the major plant structures. The maximum and minimum settlements should be stated. The estimated settlements should be given for the centers of the reactor and auxiliary buildings, such as required to determine the maximum and minimum differential settlements. The relatively small differential settlements were queried by the AEC. Information is required as to whether single or double drainage was assumed in the settlement analysis, details of rate of settlements, and whether artesian condition in underlying aquifer was allowed for.

   As you are aware, these analyses should be thorough and by methods which would be acceptable to AEC personnel and their consultants. It is important that the short term elastic and the long term consolidation type of settlement should be given separately and that the effects of the deep excavations and the area load to El. 634 be taken into account. The timing of these phases of unloading and loading should also be considered.

   We note that consolidation test results contained in the reports submitted to date do not include data on the time rate of consolidation such as coefficient of consolidations which normally are a part of consolidation test results. Will you please furnish this missing information as part of our original agreement.

2. Recommendations as to the criteria such as relative density of sand and strength of clay, or glacial till, which would determine what materials can be retained in foundations and what materials must be removed for stability under seismic conditions of Class I structures. (The operating Basis Earthquake is 0.05 g and the Design Basis Earthquake is 0.10 g).

3. Recommendations or comments on seismic stability of the dense clay till type soil which will be supporting the reactor and auxiliary buildings and in particular of silt and sand inclusions of this soil as indicated on the borehole logs.

4. The overconsolidation ratio of the soils supporting the reactor and auxiliary buildings.

5. Providing us full design, including plan, illustration, description, and specification, for the installation of the piezometer monitoring system around the plant excavation which you recommend in your July 17 letter.

We would appreciate receiving your initial response to this letter outlining anticipated charges for points 1, 2, 3, 4 and 5 by August 29, 1969.

Very truly yours,

J. H. Blasingame
Project Engineer
Bechtel Company

PAM:ea
(In dup.)
cc: Consumers Power Company (3)