AGENDA FOR CASE LOAD FORECAST PANEL
SITE VISIT

September 18 Through September 20, 1979

September 18

1. Briefing for site tour (GSK). 9:1.
2. Construction scheduling tools (WGJ).
3. Consumers Power scheduling tools for testing (DDJ).
4. Site tour (DBM).

September 19

1. Staff presentation of Forecast Panel's current model and application or results for Midland.
2. General discussion on bases for May schedule revision of 6/81 and 11/81 fuel load dates and bases for following presentations (GSK).
3. Presentation of installation curves for separate unit startups and relation to new startup philosophy, productivity rates, etc (WGJ).
4. New Testing logic (DBM).
5. Status of Preop Program (DBM).
6. Status of problems and corrective action on site fill (TCC).
7. F/C #6 developments (GSK).
8. Discussion on CP Co recent actions on SER open items and TMI-2 issues (GSK).
9. Staff caucus.
10. Staff Exit.

GSKeeley/cg
9/14/79

B/14

Unit 1 54%
Unit 2 61%

DISCUSSION OUTLINE FOR NRC SITE VISIT
September 18-20, 1979 (GSK Items)

1. Briefing for Site Tour

1. Current Project Status @ 9/1/79

A. Composite Project % Complete - 62% (Based on trends over 50% probability and latest physical quantities estimate)

B. Staffing Levels:

(1) Engr and HO - 575 (Engr @ 366)

(2) Site Personnel:

Manual	- 2,238	(no problem with availability)
Nonmanual	- 705	
Subcontractors	- 652	
CP Co	- 359	(includes ~ 200 Operating personnel)
Total	- 3,954	

C. Expenditures @ $1,150 million as of 9/1/79. Procurement 95% completed based on dollars.

D. Dow Chemical MAPCC ok'd to 12/82. EPA is still evaluating.

2. Principal Work Activities (Cable, Small Pipe most completed in turbine building, civil (hangers and restraints)

A. Reactor Building #1 - Closing construction opening, NSSS erection and main steam line installation.

B. Reactor Building #2 - Post-tensioning tendon installation, NSSS erection (RCP's) and mainsteam line installation.

C. Turbine Building - T/G erection for both units and HVAC installation. Rotor and stator shipment (ship from storage and on-site 9/23/79).

D. Auxiliary Building - Main steam lines installed at 704', restraints, decon, coating for walls and floor, HVAC, fuel pool (hydro at lower level in preparation for installing racks).

E. Yard and Miscellaneous Structures - Finalizing Administrative Building work for T/O to CP Co, removal of surcharge for D/G Building, erecting storage tanks and service water cooling tower. Piping and equipment insulation work in Evaporator Building, ductbanks for security.

F. Bulk Materials Installation (Total Plant) -

(1)	Large Pipe	- 88% complete)	
(2)	Small Pipe	- 46% complete)	
(3)	Cable Tray	- 95% complete)	Based on Preliminary F/C #5b
(4)	Conduit	- 66% complete)	Total Quantities
(5)	Wire & Cable	- 38% complete)	
(6)	Connections	- 26% complete)	

G. Systems have started to be turned over to CP Co and will be discussed in more detail in Item 5.

3. Our understanding of their visit is for them to look at completion of construction so the NRC can set priorities on use of NRC Technical Staff to review FSAR. We want to be reviewed on an equivalent basis to other plants. We show % completion to include licensing items that are > 50% chance of being implemented.

2. General Discussion & Basis For May 1979 Schedule Revision

1. Developments since last NRC visit in March 1978

A. F/C #5 development (Issued in June 1978) and laborers strike 5/1/78 to 6/15/78.

B. F/C #5a developed in July 1978 (Target F/L Study) to factor in effects of strike. Results: No change in Fuel Load Dates (utilized 3 months contingency).

C. F/C #5b development in March 1979 (Target F/L Study). Why: Obtain better definition of 1978 work stoppage effects, evaluate latest known Project requirements (licensing, experience on electrical and small pipe installation, diesel generator studies) and schedule uncertainties, reevaluate achievability of Target F/L Dates.

Results: Contractor recommendation of interim change in Unit 2 F/L from November 1980 to February 1981 with no change in Unit 1 F/L. Final adjustment may be necessary in Fuel Load Target Dates pending resolution of licensing issues and soils problem (August removal of preload).

D. Revised CP Co Testing Concept (May 1979)

Results: Changed Unit 2 F/L Target to June 1981. No change in Unit 1 (excludes TMI-2 effects) and major open licensing issues and use this concept for F/C #6 preparation.

Basis - Revised logic of completing all construction, preoperational testing and HFT for both units. DBM will cover in more detail.

E. F/C #6 Developments

(1) Preliminary finding in July indicated an increase in electrical quantities of 10 to 20% due to revised lengths of average circuits, more circuits due to later information from vendors and refinement of design is being looked at more closely for F/C #6 as to location of circuits and not using an average pulling rate. Most of increase in circuits is in yard for security. This resulted in future unachievable installation rates and Target Fuel Load Dates which probably could not be met.

(2) CP Co Policy discussion to factor in F/C #6, the TMI-2 issues and Open Licensing Issues.

(3) Because of Items 1 and 2 above, the revised Project Schedule and F/C #6 finalization will be delayed until January 1980.

Riddle 1 & 2 9-1[illegible]

Forecast	#5	TEI Study Aug 78 (SP)	TEI Study 4-79 (SE)	Current	6
SW Schedule Rev	4	6	5	7	?
Unit 2 F. load	11-80	11-80	11-80	6-81	To be determined
Unit 1	11-81	11-81	11-81	11-81	

Unit 1 & 2

L.P.	2[illegible],[illegible]00	265,200	269,000	268,800
S.P.	2[illegible]7,300	277,300	2[illegible]7,300	304,200
Tray	64,[illegible]30	64,430	70,700	72,700
Conduit	267,700	2[illegible]7,700	336,000	364,200
Circuits	25,000	27,000	30,100	34,100
Cable	4.0	5.2	6.3	7.6

Circuits

34,000 ~~total~~

28,000 identified

26,800 cable assigned

25,500 routed with exceptions

23,600 Completed routed

13,[illegible] [illegible]

1,400 issued [illegible] ([illegible])

16,100 total [illegible]

88% designed (issued for fab)

83% received

65% installed complete

Consumers Power Company
Report #26, June 29, 1979

Pursuant to conditions 2 F.B. and 2 F.C. of Construction Permits CPPR-81 and CPPR-82, the following report covers the period July 1 - September 30, 1979.

A. Construction work to be performed during the period:

✓Complete Unit 1 electrical penetration in the Auxiliary Building

• Continue ~~Complete~~ the blockwork and shielding in the Auxiliary Building ~ 75% complete.

• Continue ~~Complete~~ HVAC equipment in the Auxiliary Building ~ 85% complete.

✓Complete installation of primary LP RC piping in the Reactor Building No 2

→ Continue ~~Complete fluid~~ heads in the Reactor Building No 2 75% complete

✓Complete moving in Unit 1 internal heads and CRDM

→ Continue ~~Complete~~ fluid heads in the Reactor Building No 1 75% complete

Continue ~~Complete~~ HVAC ductwork and equipment in the Turbine Building No 2 Near Compl

Continue ~~Complete~~ setting Unit 1 lower shell and hoods PSI behind

Continue ~~Complete~~ erection of condensate Done and miscellaneous tanks

Continue ~~Complete~~ electrical in tunnel

Continue ~~Complete~~ the evaporator roof and siding – Done except for small misc plates –

Yes Continue installation of ductwork in the Auxiliary Building

Yes Continue installation of restraints and equipment barriers in the Auxiliary Building

Yes Continue installation of tendons and post-tensioning in Reactor Building No 2

Yes Continue installation of internals and assemble CRDM in Reactor Building No 2

Yes Continue installation of Unit 1 primary loop reactor coolant piping in Reactor Building No 1

Yes Continue installation of restraints and barriers in Reactor Building No 1

Yes Continue installation of miscellaneous equipment in Turbine Building No's 1 & 2

Yes Continue installation of large and small piping in the Turbine Building No's 1 & 2

Yes Continue installation of wire and cable in the Turbine Building No's 1 & 2

Yes Continue installation of chemical and oily waste

B. Supervisors and engineers of the applicant and architect-engineer who are expected to be onsite during the period July 1 - September 30, 1979:

1. Consumers Power Company

RMKoltuniak - Engineering Assistant, QA Engineering

CPCo REVISION 7 SCHEDULE PHILOSOPHY

I. Our present schedule (Rev. 6) interfaces Unit 1 and Unit 2 preoperational testing through Event 200. Event 200 are those Unit 1 systems that were selected for startup and/or operationally required to support licensing and fuel load requirements for Unit 2.

Additional information and interface points between Unit 2 operation and Unit 1 preoperational testing may cause us to change from our present Event 200 philosophy. The most notable new information is the apparent and unavoidable prospect for delaying the start of the Unit 2 and common test schedule, movement of the Unit 2 Fuel Load date closer to the Unit 1 date, and additional manpower strain especially upon the Operations Staff (a fairly inflexible resource). The proposed Bechtel Schedule (see attachment 1) will force the Midland Project into a startup mode wherein major integrated plant testing on both Units 1 and 2 could occur simultaneously, e.g., Unit 1 HFT and ILRT during Unit 2 Fuel Load, Zero Power Testing and/or Power Escalation Testing. This coupled with increased manpower strain and Unit 2 technical specification restraints imposed on the Unit 1 Preoperational Test Program will cause certain delays with the Unit 1 schedule and also reduce availability of Unit 2 power production.

To alleviate the potential for an excessively long Unit 1 Preoperational Test Program and maximize the potential for sustained Unit 2 power production, Scheduling recommends that the Unit 1 and Unit 2 Preoperational Test Programs be merged as shown on Attachment 2 and Revision 7 curve on Attachment 1.

II. Major points to note with the merged Preoperational Test Program (Rev. 7) are listed on Attachment 3. The following notes also apply to Rev. 7:

1. Unit 1 Fuel Load occurs as previously planned, i.e., November 1981.

2. Unit 2 Fuel Load occurs in July 1981 as compared to the previous date of November, 1980.

III. Several advantages are inherent with the proposed merged Preoperational Test Programs:

1. <u>The majority (95%) of Unit 1 preoperational testing will be performed prior to Unit 2 Fuel Load.</u>

This will relieve Unit 1 preoperational testing of restraints and delays due to Unit 2 license operating restrictions (technical specifications and surveillance testing). This will increase Unit 2 availability for power production owing to fewer interferences from Unit 1 preoperational testing.

2. Inherent timeframes are built into the merged schedule to absorb corrective design and/or maintenance following major periods of integrated initial plant operation and preoperational testing.

Historically, nuclear plant test programs have suffered lengthy delays immediately following the Cold Hydro Test Phase and the Hot Functional Test Phase due to equipment or other operational failures. These failures have in the past slowed and in many cases stopped critical path progression onto the next succeeding scheduled event(s) until repairs and/or design problems were resolved. These timeframes are shown on Attachment 1 as "Resolve Punchlist Items---".

3. No two (2) Unit 1 and Unit 2 milestone events are required to be performed simultaneously.

It is impractical and in many cases impossible to focus site activities on more than one (1) major Unit 1 and Unit 2 milestone activity at the same time.

The Midland Site is currently being staffed to permit simultaneous component testing with each Unit but not for simultaneous integrated milestone testing. To do so would require 2 of every resource including the Testing Group, Operations Group, Bechtel, B&W, and CPCo Management support.

4. Separation of Fuel Loads

Unit 1 and Unit 2 Fuel Loads are separated in time to support the Dow contract with regard to process steam availability.

5. LLRT/ILRT/SIT are performed nearly piggy-back during the same timeframes.

Containment leak rate and structural integrity testing would benefit by capitalizing on the commonality of equipment, personnel, and vendor support required to perform these tests as opposed to the inefficiencies due to duplication of effort if the two programs were handled separately and spaced one year apart as presently planned.

6. The integrated ESFAS Test would be a common test phase.

The safeguards system for the Midland Project is essentially a common system in that each plant is designed to respond to the others safeguards actions. As such, this particular milestone test for each plant will include the other plant to the extent that neither could provide substained power during conduct of the test. Thus, ESFAS testing should be performed for each plant during the same timeframe to avoid duplication of effort and interruption of power production from the "on-line" plant.

7. Some potential delay items to the Unit 2 schedule could gain additional time for resolution.

   The reactor coolant pump snubbers and the diesel generators are restraints to the Unit 2 Hot Functional Testing Program. As such, both of these items could receive up to 14 weeks additonal time for resolution.

8. Smoother and lower resource leveling will be realized.

   Resource loading for the merged Preoperational Test Program will be both smoother and lower (especially operators) as compared to the resource leveling that results from imposing the proposed construction delays on the present Preoperational Test Program schedule (see major point discussion item 3 above).

9. The potential problem of spent Fuel Pool area work interfering with fuel receipt would be less significant.

   Receipt and storage of new fuel on site imposes a number of restrictions on the fuel storage facilities (spent fuel pool area). Typically, this means all activities are limited to either fuel handling itself or to routine maintenance of fuel handling related equipment. Usually, the license for receipt and storage of "special nuclear materials" (fuel) specifically prohibits construction activity or any other dirt generating or heavy maintenance work which could potentially affect cleanliness or structural integrity of the new fuel.

   The equipment access openings for both containments open directly into the Spent Fuel Storage Area. The potential problem of receiving and storing Unit 2 fuel conflicting with construction of Unit 1 (construction access to the inside of the containment) and tendon tensioning on the Unit 1 Containmnet Building could be significantly reduced with the merged Preoperational Test Program.

IV. There are some disadvantages with the proposed merged Preoperational Test Program:

1. Construction may not be able to meet turnover dates for some Unit 1 items. Rev. 7 curve.

2. The feedwater and condensate systems will have to be layed up for approximately 14 weeks between chemical cleaning and the start of HFT.

3. The intensity of the testing period will permit little, if any, resource availability for preparation of procedures after 1979.

4. The Operator License examination should be administered within 3 months of the expected date for Fuel Load. With the compression of the two Hot Functionals the scheduling of these examinations may be difficult. The examinations must be docketed well in advance and dates are usually inflexible for the NRC examiners.

5. Due to anticipated examination failures and attriition of operators, a Hot Reactor Operators Training Program was planned between Unit 2 and Unit 1 startup. This program is normally a 9 month program. This schedule will not permit this second license class to be complete in time for startup of Unit 1.

6. Items 1 and 2 above will lead to a problem with availability of trained Auxiliary Operators available for testing, and may require overstaffing early in the test phase to assure availability of <u>trained</u> personnel for Hot Functional and startup testing.

THE MIDLAND STARTUP SEQUENCE

WHY CPCO PHILOSOPHY CHANGE?

1. TRY TO MAINTAIN PROJECT COMPLETION BY NOVEMBER 1981.

2. HOW TO MOST EFFICIENTLY ACCOMPLISH GIVEN AMOUNT OF WORK:

   A. TESTING

   B. CONSTRUCTION

3. HOW TO COPE WITH CONCURRENT MILESTONE TESTING

4. DOW CONTRACT RESTRICTIONS

   A. UNIT 2 - 70% FOR 6 MONTHS

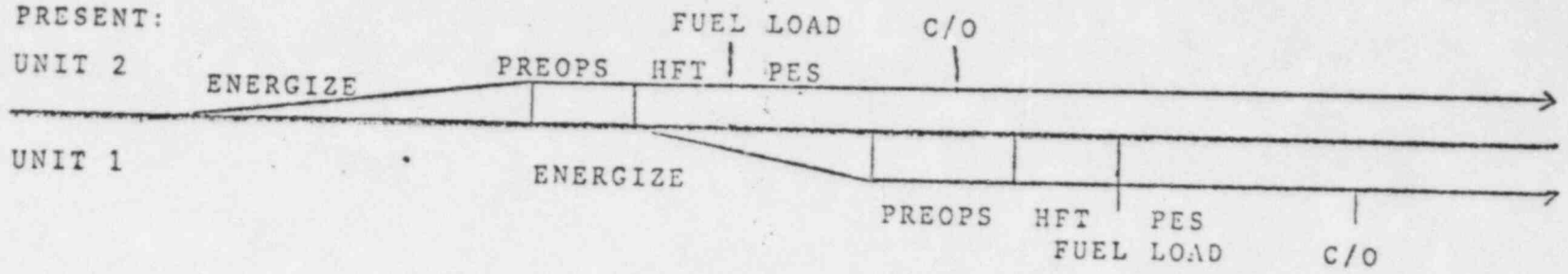
   B. UNIT 1 - 100 HOURS

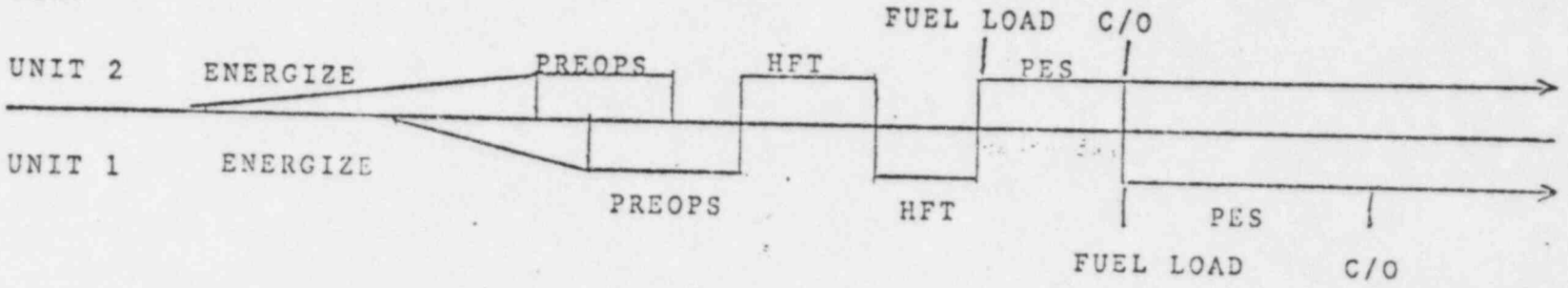
5. Security Reqt.

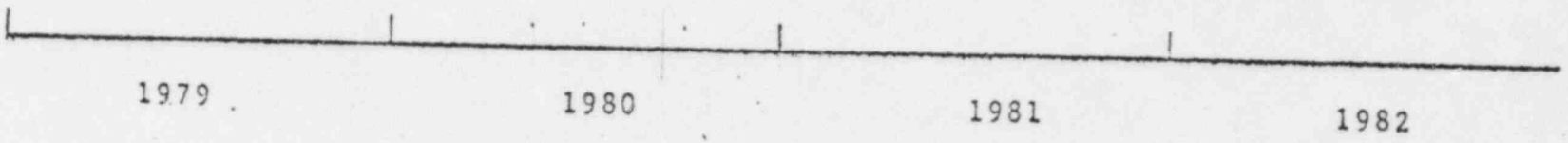
   A Area

   B System

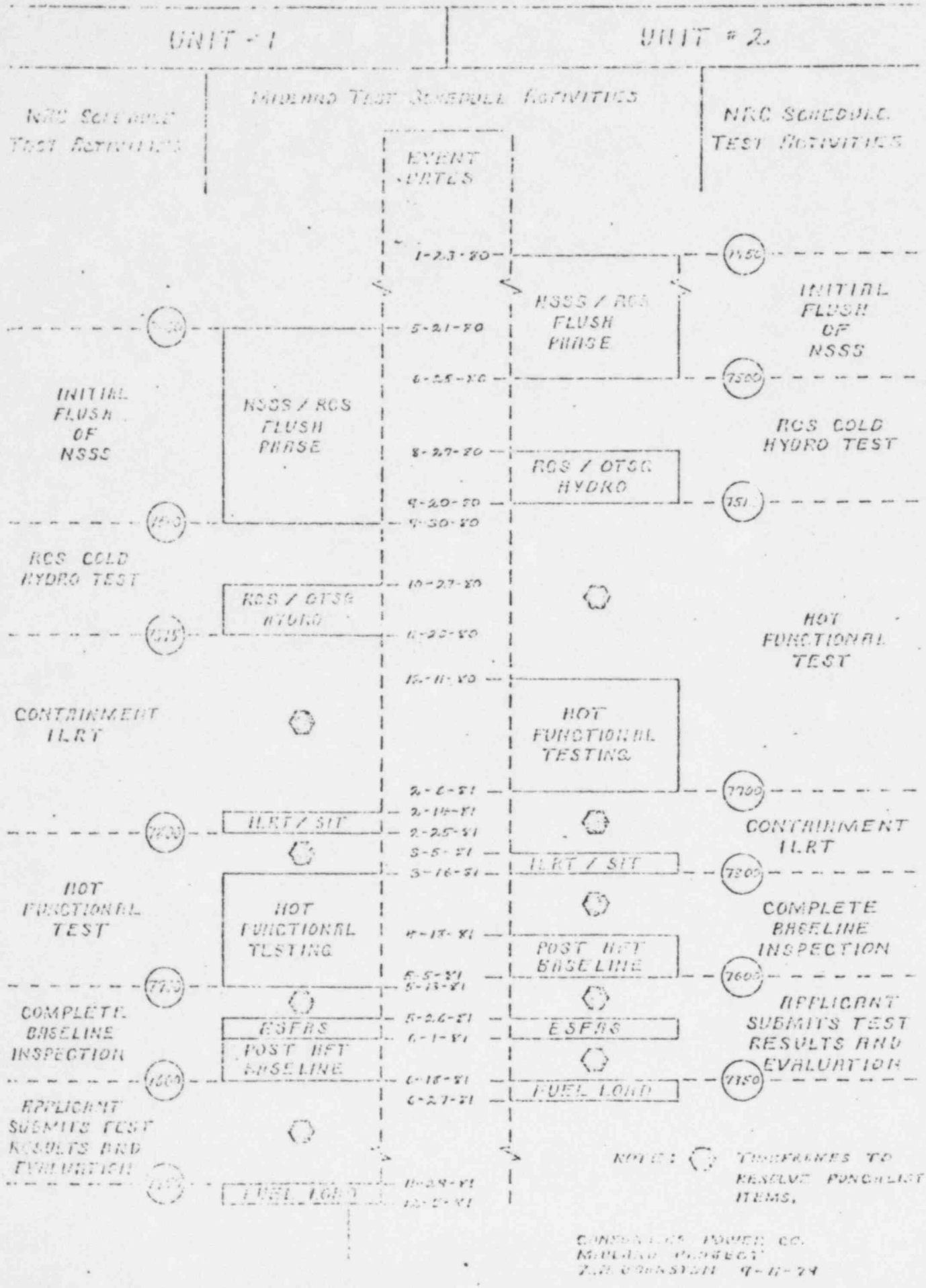
COMPARISON OF PHILOSOPHIES







MIDLAND PROJECT PRELICENSING TEST SEQUENCE



CONSUMERS POWER CO.
MIDLAND PROJECT
J.W. CROUSTON 9-11-79

ADVANTAGES

1. ALL CONSTRUCTION AND TESTING COMPLETED PRIOR TO FUEL LOAD

2. NO MODE TESTING

3. PUNCHLIST CORRECTION TIME

4. NO SIMULTANEOUS MILESTONE TESTING

5. MORE TIME TO RESOLVE PRESENT PROBLEMS

6. NO SECURITY/HP RESTRAINTS ON CONSTRUCTION

7. LEVELS RESOURCES

8. FLEXIBILITY IN SCHEDULE

D I S A D V A N T A G E S

1. TESTING RESOURCES

2. UNIT 1 TURNOVER DATES MOVED FORWARD

3. OPERATOR RESOURCES:

   A. NO BREAKS DUE TO LEVELING

   B. EARLIER REQUIREMENTS

   C. OPERATOR LICENSING

THE MIDLAND TEST PROGRAM

- TEST STAFF LOCATED ON SITE

- 65 PEOPLE ASSIGNED IN '79 55 engineers 10 clerical
  INCREASE TO 75 in '80

- TEST MANUAL WRITTEN & APPROVED
  REV 1 ISSUED THIS YEAR TO TUNE UP.

- HEAVY INVOLVEMENT IN CONST TYPE TESTS
  - HYDROSTATIC TESTS (APPROVAL & WITNESSING)
  - DUCTWORK TEST PROGRAM
  - FLUSHING PROGRAM (PROCEDURE REVIEW & WITNESS

- JTG (TWG) FORMED & MEETING

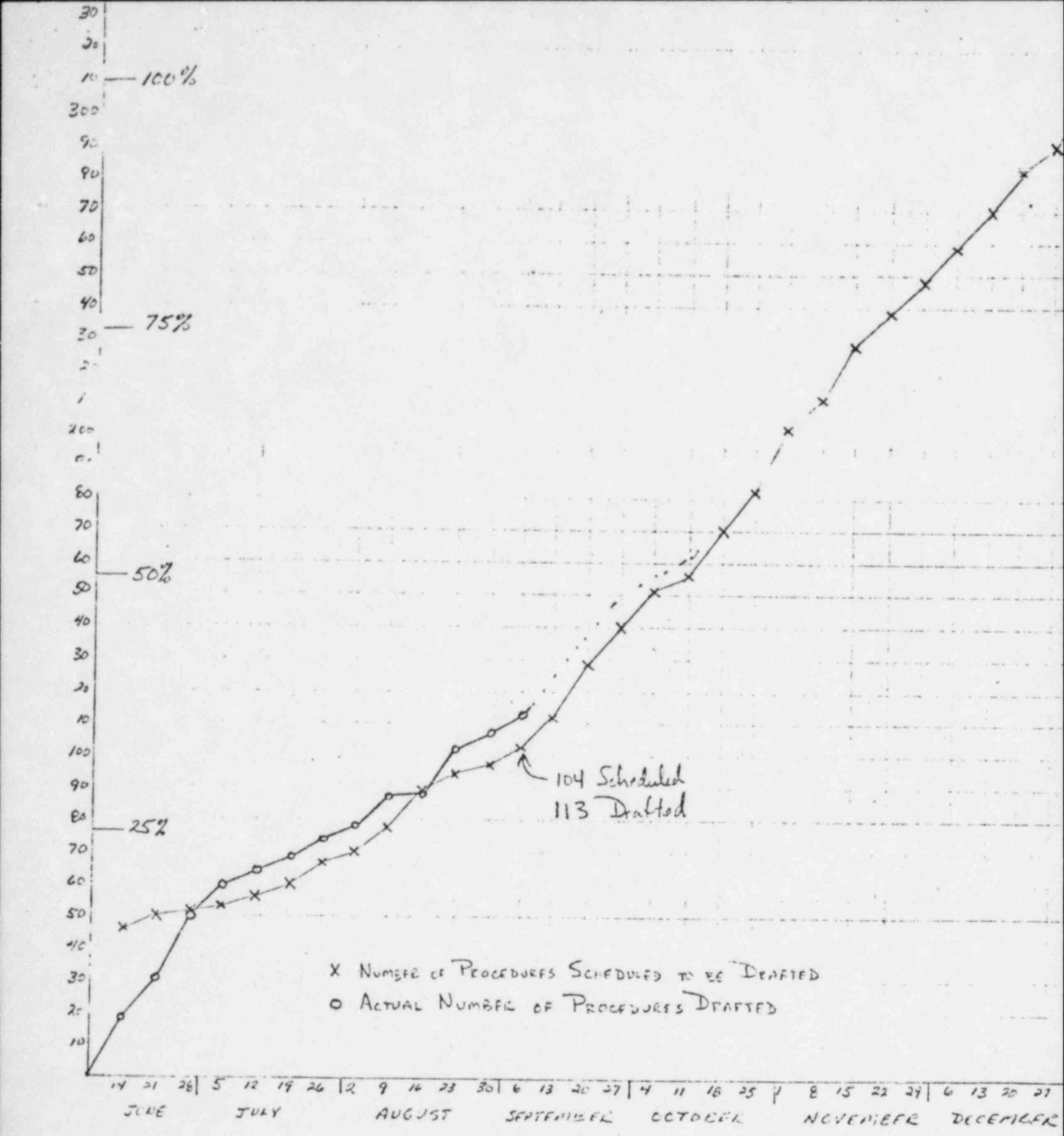
DBM

MIDLAND PROJECT TEST PROCEDURE INDEX STATUS

As of 6 September 1979

	TOTAL	NUMBER SCHEDULED TO BE DRAFTED	NUMBER DRAFTED	INTERNAL REVIEW COMPLETED	APPROVED
PREOPS					
MECH (P)	114	32 (28%)	32 (28%)	19 (16.6%)	0
MECH (S)	106	31 (29.2%)	42 (39.6%)	19 (17.9%)	1 (~1%
I&C	47	19 (40.4%)	18 (38.3%)	11 (23.4%)	4 (8.5
ELEC	23	8 (34.7%)	10 (43.7%)	10 (43.7%)	2 (8.5
SPECIFICS					
MECH (P)	1	1	1	1	0
MECH (S)	10	4 (40%)	2 (20%)	2 (20%)	1 (10%
I&C	10	9 (90%)	8 (80%)	6 (60%)	3 (30%
ELEC	0	0	0	0	0
GENERICS					
MECH	9	5 (55.5%)	4 (44.4%)	3 (33.3%)	3 (33.3
I&C	5	5	5	5	5
ELEC	21	18 (85.7%)	18 (85.7%)	18 (85.7%)	17 (80.9

TOTAL SCHEDULED - 104 (33.4%)
TOTAL DRAFTED - 113 (36.3%)
TOTAL INTERNAL REVIEW - 68 (21.8%)
TOTAL APPROVED - 11 (3.5%)



This Graph Reflects Only Specific & Preoperational Test Procedures
These Procedures are Scheduled to be Drafted by the End of 1979

MIDLAND PROJECT TEST PROCEDURE INDEX-DRAFT DUE DATE & PROC NO SORT

	PROCEDURE NUMBER & REV	RESP DISC	DRAFT DUE	REVIEW DUE	STATUS SCOPE	STATUS DRAFT	IMPLEMENT DATE	TITLE
8-30-79 96	2TP-NIS.02.0	I	08-30-79			0	03-05-81	Incore Monitoring Sys Tests
	0TP-CME.03.0	P	08-31-79		2-B	0		Aux Bldg Crane Pre-Op
	1TP-RCS.02.0	P	08-31-79			1-A ~~0~~	03-27-81	Reactor Coolant Pump Initial Run, Flow & NPSH Test
	2TP-MSS.04.0	S	08-31-79			0		MS & TS Drains
	2SP-CDS.01.0	S	09-01-79		2-A*	0		Cond Pump IPR & Recirc
	1TP-AXT.01.0	S	09-03-79			1-A	01-01-81	Main Feed Pump Turbines No Load Test & Pre-Op
	2TP-PES.01.0	P	11-05-79 ~~09-08-79~~		2-B	0	03-24-80	Emergency Diesel Generator Pre-Op Test
9-6-79 103	1TP-GSS.01.0	S	09-04-79			0	09-23-80	Steam Sealing Sys Pre-Op Test
	0TP-SHV.01.0	S	09-07-79			1-A	06-23-80	Office & Service Bldg HVAC Pre-Op Test
	1TP-LOS.01.0	S	09-07-79			0	09-03-77	Lube Oil Storage Purif & Transfer Pre-Op Test
	1TP-TEH.02.0	S	09-07-79			0		Feedwater Heater Level Control/Turbine Extraction Isolation Pre-Op
	2TP-CFS.01.0	P	09-07-79		2-B	0	09-07-80	Core Flooding System Check Vlv Operability Test
	2TP-RCS-14.0	P	09-07-79			1-A ~~0~~		RCS Initial Fill Pre-Op Test

MIDLAND PROJECT TEST PROCEDURE INDEX-DRAFT DUE DATE & PROC NO SORT

PROCEDURE NUMBER & REV	RESP DISC	DRAFT DUE	REVIEW DUE	STATUS SCOPE	STATUS DRAFT	IMPLEMENT DATE	TITLE
1TP-ESA.01.0	I	09-10-79			0		ESFAS Logic Sys Pre-Op Test
1TP-ESA.02.0	I	09-10-79			0		ECCAS Logic Sys Pre-Op Test
0TP-AHV.04.0	S	09-11-79			1-A 0	05-08-81	Access Control & Computer Area HVAC Pre-Op
2TP-MUP.04.0	P	09-11-79		1-C	0		High Pressure Injection Engr Safety Features Test
0TP-MGH.01.0	S	09-14-79		2-B	0	04-25-80	Miscellaneous Gas Supply (H2) System Test
0TP-MSS.05.0	S	09-14-79			0		MS Cross Connect Valves
0TP-RWS.01.0	P	09-14-79		2-B	0	03-27-80	Resin Storage & Transfer Pre-Op
1TP-EKD.01.0	E	09-14-79			0	04-02-80	Class 1-E DC Sys Pre-Op Test
2TP-EKD.01.0	E	09-14-79		1-C	0	03-21-80	Class 1-E DC Sys Pre-Op Test
0SP-PRC.01.0	I	09-15-79		1-C	0		Programmable Controllers Checkout
1TP-CRD.01.0	I	09-15-79			0		Control Rod Drive Pre-Op Test
1TP-ICS.01.0	I	09-15-79			0	04-13-81	Open Loop Test
1TP-NIS.01.0	I	09-15-79			0		In-Core Neutron Detector Elect Test
2TP-CRD.02.0	I	09-15-79		2-B	0	08-27-80	Control Rod Drive System Integrated Test

9-13-79
112

OTHER TEST ACTIVITIES

- POND T/O & FILLED
- UNIT 2/1 PLANT COMPUTER T/O & TESTING
- 78/79 WINTER HEAT ON PERM POWER
- ELEC T/O & TESTING (See marked-up charts)
- PRE T/O TESTING
  - ELEC
  - I&C
- VIBRATION MON. PROGRAM (ALSO THERMAL EXPANSION)
- CONTAINMENT TESTING PROGRAM
- SITE SCHEDULE

STATUS AS OF: 9-10-79

MIDLAND PROJECT
PRELIMINARY ENGINEERING/PROCUREMENT
STARTUP SYSTEM PUNCHLIST

(1)

STARTUP SYSTEM: OFA - AUXILIARY BOILER

SCHEDULED TURNOVER DATE: _____

REV.: 8

Item	Description	Comments and/or Forecasted Completion Date
	MATERIAL	
1.	J-233, ITEM 7A, OTE-3061 OTE-3028A,B OTE-3008	due to ship 10-12-79
2.	J-251, ITEM 65, OPCV-3078 ITEM 66, OPC-3078 OPC-3078	due to ship 11-15-79
3.	M-119B, ITEM 94.5, 3-3" HBD-GT	due to ship 10-12-79
4.	M-152, OC-137, OC-138	due to ship 9-15-79
5.	M-348, ITEM 51, OTV-3090A,B ITEM 79, OXV-3077A,B	due to ship 12-7-79
	ENGINEERING	
1.	UNDESIGNED HANGERS (REPT. DATE 6-29-79) 2 HANGERS ON ISO 630-1 1 HANGER ON ISO 630-5 5 ESTIMATED HANGERS ON ISO 630-11	8-20-79 F 8-20-79 F 9-10-79 F

STATUS AS OF 1-10-1

MIDLAND PROJECT
PRELIMINARY ENGINEERING/PROCUREMENT
STARTUP SYSTEM PUNCHLIST

STARTUP SYSTEM: OFA

SCHEDULED TURNOVER DATE: _____

REV.: 8

Item	Description	Comments and/or Forecasted Completion Date
2.	ENGINEERING - CONT'D CABLES (REPORT DATE 8-3-79). UNSCHEDULED ONA0707A ONA0707B ONA0707C ONA0805A ONA0805B ONA0805C ONB7125A ONB7125B ONI500A ONI500C ONI501A ONI501C ONI501D ONI502A ONI502C ONI502D ONS079A-A ONS079A-B ONS079A-C ONS079A-D	

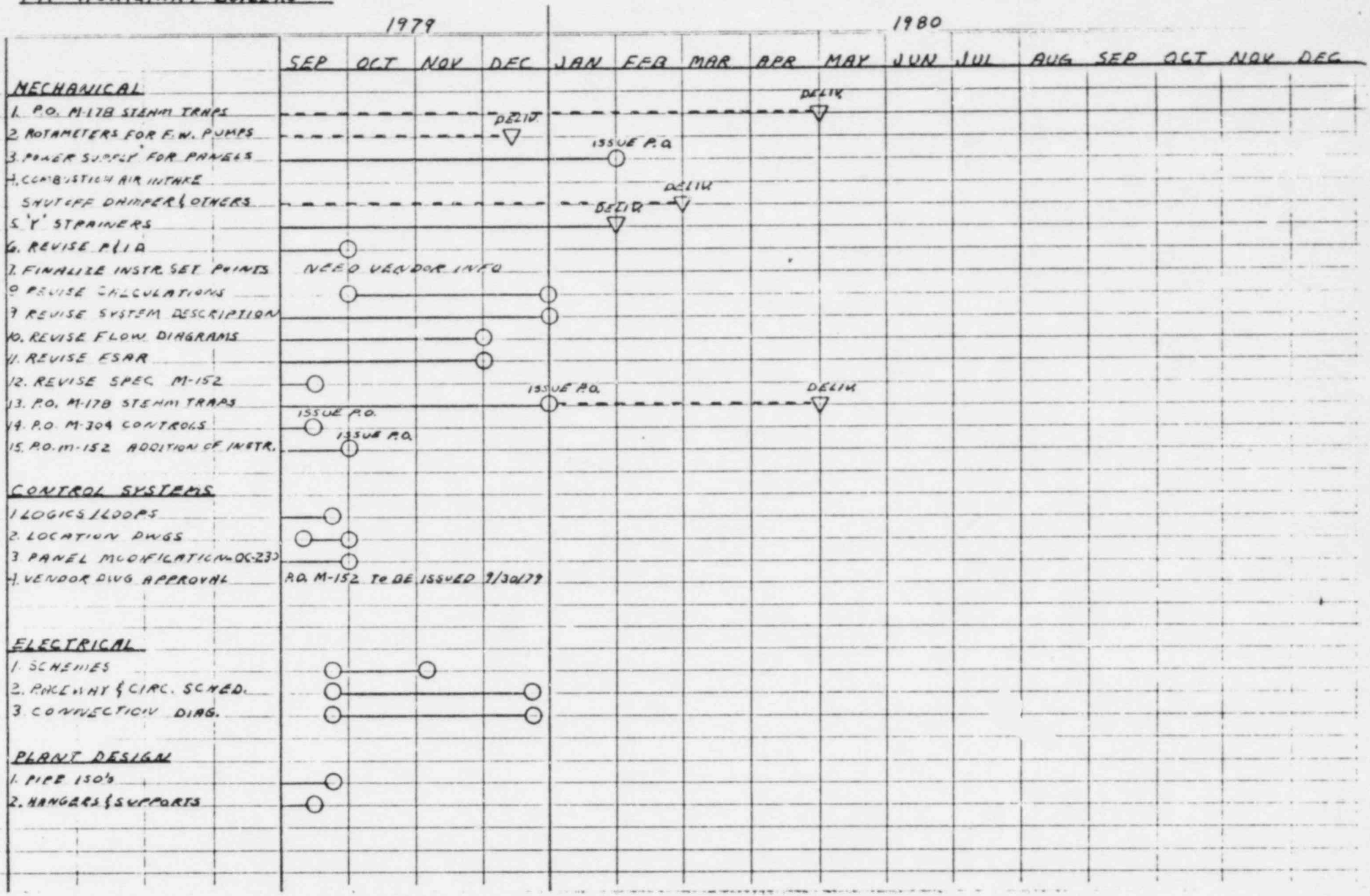
SYSTEM COMPLETION SCHEDULES

ACTIVITY	TARGET COMPLETION DURATION PRIOR TO THE SCHEDULED SYSTEM TURNOVER
ENGINEERING	
Complete electrical equipment location & issue fdn. details	35 wks
Complete schemes, layout drawings, & raceway schedule	26 wks
Complete routing of Cables & Cables schedule	22 wks
Complete connection list	17 wks
Complete instrumentation installation details	26 wk
Complete mechanical equipment location & issue fdn. details	52 wks
Complete system P&ID and isos	78 wks
Complete design of HVAC duct and supports	22 wks
Complete HVAC equipment location & issue fdn. details	35 wks
PROCUREMENT	
Delivery of equipment	40 wks
Delivery of valves	26 wks
Delivery of instruments	16 wks
CONSTRUCTION	
Complete installation of electrical equipment	17 wks
Complete installation of raceway	15 wks
Complete pulling of wire & cable	11 wks
Complete installation of connections	7 wks
Complete installation of local instruments & tubing -	11 wks

ACTIVITY	TARGET COMPLETION DURATION PRIOR TO THE SCHEDULED SYSTEM TURNOVER
CONSTRUCTION-CONTINUE	
Complete installation of mechanical equipment	17 wks
Complete installation of large	
pipe	15 wks
valves	16 wks
hangers	6 wks
Complete installation of small	
pipe	12 wks
valves	12 wks
hangers	12 wks
Complete hydrotests and proof flushing	7 wks
Complete fabrication & installation of HVAC duct supports	8 wks
Complete fabrication & installation of HVAC duct, diffusers, grills, dampers, etc.	8 wks
Complete installation of HVAC valves & major equipment	8 wks

SUMMARY - ENGINEERING PUNCHLIST

FA AUXILIARY BOILERS



BECHTEL
MIDLAND UNITS 1 & 2
CONSUMERS POWER COMPANY
SYSTEM COMPLETION SCHEDULE STATUS

UNIT NO	SUB-SYSTEM	SCHEDULE NUMBER	ACTIVITY CODE	ACTIVITY DESCRIPTION	TARGET DATE	FORECAST DATE	*R	REMARKS
0	FAA	FA-1		TURNOVER DATE	12- 7-79	12-7-79		AUXILIARY BOILERS
0	FAA	FA-1	C001	CONS ELEC EQUIP	8-10-79	9-28-79	*	
0	FAA	FA-1	D001	ENGR RACEWAY SCH	6- 8-79	12-21-79	*	
0	FAA	FA-1	E001	CONS RACEWAY	8-24-79	10-5-79	*	
0	FAA	FA-1	F001	ENGR CIRCUIT SCH	7- 6-79	12-21-79	*	
0	FAA	FA-1	G001	CONS WIRE & CABLE	9-21-79	11-5-79	*	
0	FAA	FA-1	H001	ENGR CONN LIST	8-10-79	12-21-79	*	
0	FAA	FA-1	I001	CONS CONNECTIONS	10-19-79	11-30-79	*	
0	FAA	FA-1	J001	ENGR INSTR LOCATE	6- 8-79	10-1-79	*	
0	FAA	FA-1	K001	CONS INSTRUMENTS	9-21-79	11-30-79	*	
0	FAA	FA-1	M001	CONS MECH EQUIP	8-10-79	10-26-79	*	
0	FAA	FA-1	N001	ENGR SYST P&ID/ISO	6- 9-78	9-21-79	*	
0	FAA	FA-1	O001	CONS LPPG,VLV,HGRS	8-24-79	10-12-79	*	
0	FAA	FA-1	O002	CONS LPPG,VLV,HGRS	8-17-79	10-26-79	*	
0	FAA	FA-1	P001	CONS SPPG,VLV,HGRS	9-14-79	10-26-79	*	
0	FAA	FA-1	P002	CONS SPPG,VLV,HGRS	9-14-79	10-26-79	*	
0	FAA	FA-1	Q001	CONS HYDRO/FLUSH	10-19-79	11-5-79	*	
0	FAA	FA-1	R001	CONS INSULATION	11-30-79	11-30-79		
0	FAA	FA-1	S001	M-152	3- 7-79	9-15-79	*	PIPE RACKS & OC-137,OC-138
0	FAA	FA-1	S002	J-251 ITEM 65	6- 7-79	11-15-79	*	PRESSURE CONTROL VALVE
0	FAA	FA-1	S003	J-251 ITEM 66	6- 7-79	11-15-79	*	PRESSURE CONTROL VALVE
0	FAA	FA-1	S004	M-1198 ITEM 94.5	6- 7-79	10-12-79	*	3"HBD-CK'S

BECHTEL
MIDLAND UNITS 1 & 2
CONSUMERS POWER COMPANY
SYSTEM COMPLETION SCHEDULE STATUS

UNIT NO	SUB-SYSTEM	SCHEDULE NUMBER	ACTIVITY CODE	ACTIVITY DESCRIPTION	TARGET DATE	FORECAST DATE	*R	REMARKS
0	FAA	FA-1	S005	M-348 ITEM 51,79	3- 7-79	12- 7-79	*	HVAC CONTROL DAMPERS

PROJECT
ENGINEERING/PROCUREMENT
START UP SYSTEM
PUNCH LIST #6

NO. 1

PAGE ____ OF ____

SYSTEM 0-FAA Auxiliary Boiler

TURNOVER DATE: REV 8 7 Dec. 1979 FORECASTED 7 Dec. 1979

ITEM	DESCRIPTION	COMMENTS
	Engineering	
	(0-FAA - M-430 Sh. 2)	
1.	Need pipe design for the following line numbers.	
	2½"-OHBD-651 2½"-OHBD-652 3"-OHBD-654 3"-OHBD-656 2½"-OJBD-580 4"-OHBD-654 4"-OJBD-392	
2.	Need hanger design for the following line numbers.	
	6"-OJBD-151 6"-OJBD-157 4"-OGBD-223 10"-OGBD-223 8"-OGBD-371 14"-OJBD-516 8"-OJBD-520 2½"-OJBD-580 3"-OGBD-249 4"-OHBD-654 3"-OHBD-654 2½"-OHBD-490 2½"-OHBD-651 2½"-OHBD-652 2½"-OHBD-491 4"-OJBD-392 3"-OHBD-656 2½"-OJBD-173 4"-OHBD-180	

PROJECT
ENGINEERING/PROCUREMENT
START UP SYSTEM
PUNCH LIST #6

NO. 1

SYSTEM O-FAA Auxiliary Boiler TURNOVER DATE: REV 8 7 Dec. 1979 FORECASTED 7 Dec. 1979

ITEM	DESCRIPTION	COMMENTS
	Engineering - M-430 Sh. 1&3	
1.	Need pipe design for the following line numbers. 3"-OHBD-654 — IN DESIGN — ~~7/20~~ 7/26 8/10 3"-OHBD-656 — " " — ~~7/20~~ 7/26 8/10	ISOS F/C 8/14
2.	Need hanger design for the following line numbers. 3"-OHBD-656 — 8/1/79 8/10 14"-OJBD-516 — 8/10/79 8"-OJBD-520 - 8/10/79 OHBD-654 - 8/1/79 8/10	HANGERS F/C 8/10
3	NEED DESIGN OF DUCTWK & SUPPORT FOR BOILER AIR INTAKE. DESIGNED BY ZACK	

PROJECT
ENGINEERING/PROCUREMENT
START UP SYSTEM
PUNCH LIST #6

NO. ________

SYSTEM OFAA Auxiliary Boiler   TURNOVER DATE: REV 8 7 Dec 79 FORECASTED 7 Dec 79

ITEM	DESCRIPTION	COMMENTS
	ENGINEERING	
7	AUX BOILER SYSTEM CABLES DCN F/C 8/31 Out this month Revit by DCN	1. Foxborough Dwg - Recvd 2. Elect Issue Schemes 3. Issue Rev 32 Cut off 8-20-79 OR DCN
8	MCC Mod's - OB71 OB72 Mods Issued 6/7/79 E 869 E 870	
	PROCUREMENT	
2	Panel deliveries:	Insp [illegible] out next wk.
	0C137 / 0C138 P.O. M 152 / M 152 ETA 8-1 / 8-1	
	0C219A P.O. M-152 ETA 7-19 — Shipped	
	0C219B P.O. M-152 ETA 7-19 — Shipped	
	0C250 Ship 9-1 tentative — Shipped	Problem - [illegible] instruments

[illegible]

SUB-SYSTEM DETAIL SCHEDULE
JOB 7220 MIDLAND PROJECT

AS OF 9-17-79
REV 1A F/C
CNSTR CMPT 11-30-79
WLKDWN 11-2-79
TURNOVER 12-7-79 (REV 1)

START-UP SUB-SYST NO 0FAA TITLE AUXILIARY-BOILER

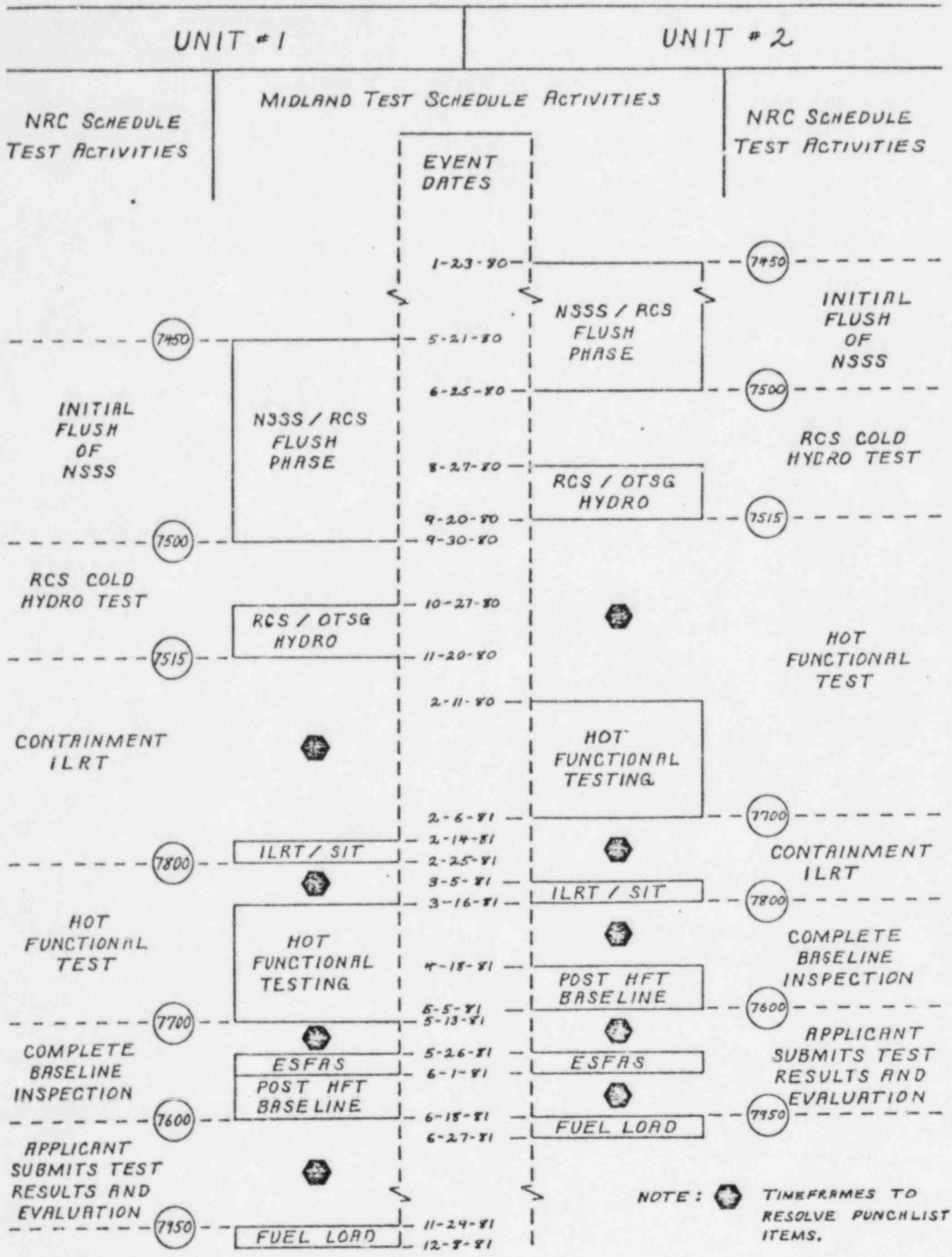
DESCRIPTION	QUANT TO GO	AUG	SEPT	OCT	NOV	DEC	JAN	NOTES
MECH EQUIPMENT		BOILER MOD.	→ (28)	(26)	SET + ALIGN	REMAINING EQUIP		
LARGE PIPE	13			(12)				
LRG HANGERS	23			(26)				
LARGE VALVES				(12)				
SML PIPE/HNGR	925			(26)				
CONSTRUCTION TESTS + HYDRO		CT-1, 2, 4 + 5	CT-1 FC-1, CT2 FC1,	CT3 FC1,	(5) →			
INSTRUMENTS			▽27	▽8	▽15 (30)			
INSTR TUBING					(16)			
INSTR TEST								
ELECT EQUIPMENT			(28)					
RACEWAY				(5)				
WIRE & CABLE	125				(5)			
CONNECTIONS	458				(30)			
CHECKOUT					(7) →			
WALKDOWN								
CIVIL, S/C, OTHERS					CNSTR CMPT (30)	FIELD ENG CK-OUT (4); S/U FCPD CK-OUT (6); TURN-OVER (7)		
QC DOCUMENTION								

REMARKS AND RESTRAINTS:
SEE ATTACHMENTS

LATE MATERIAL ITEM	ETA

RESPONSIBLE ENGR.
MECH - G. BUTLER
ELEC - RAM
INSTR - W. TAYLOR
S/C -
SCHED - D. SCHIGODA
QC -
OTHER -

MIDLAND PROJECT PREOPERATIONAL TEST SEQUENCE



NOTE: ⬢ TIMEFRAMES TO RESOLVE PUNCHLIST ITEMS.

CONSUMERS POWER CO.
MIDLAND PROJECT
Z.A. JOHNSTON 9-11-79

ATTACHMENT 3

COMPARISON OF TEST PROGRAM BASIS

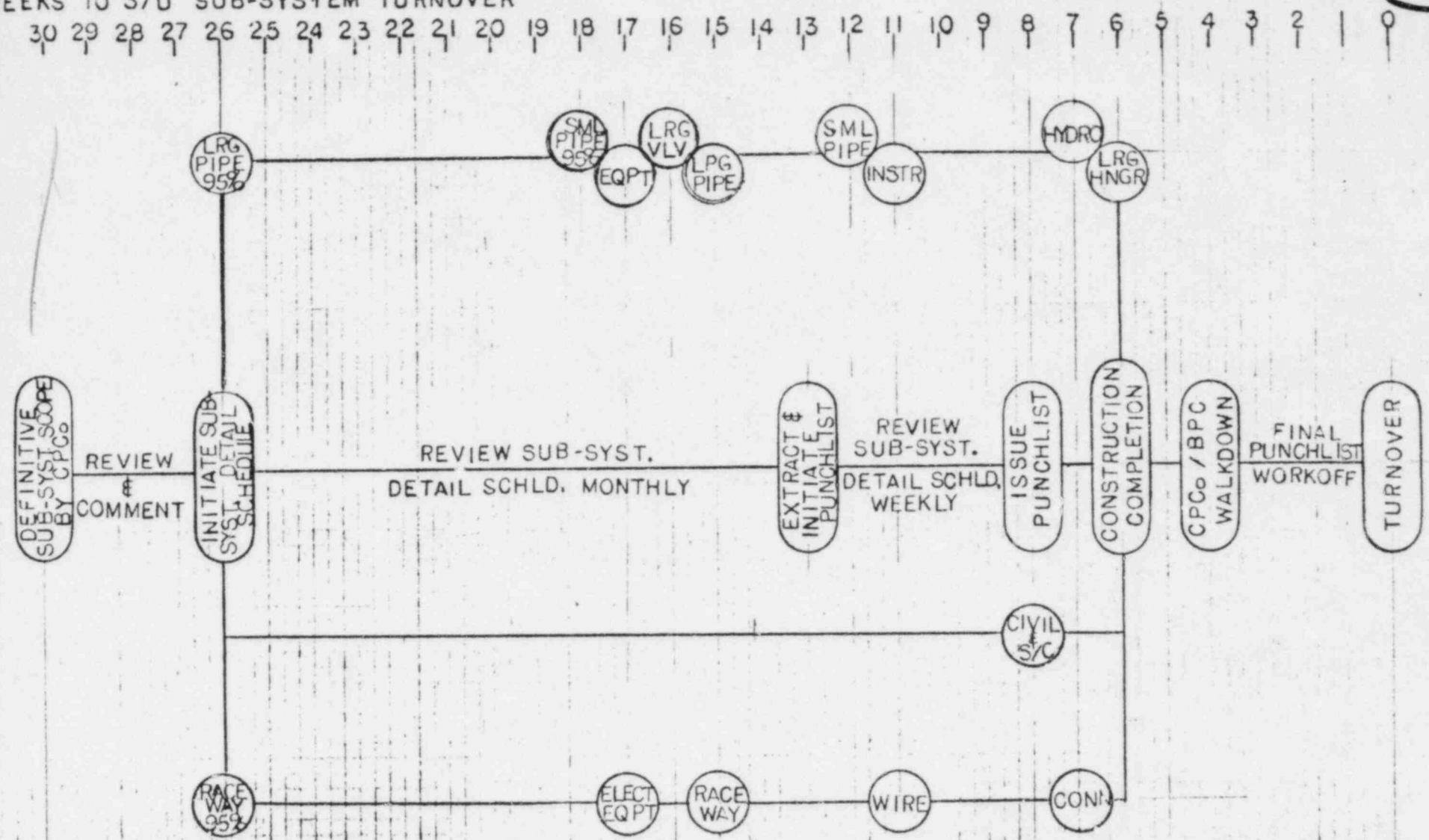
	1	2	3	4	5
ev 6	Original test schedule sequence	Test program commences early May, 1979	Total testing duration-30 months	Unit 2 Fuel Load-Nov. 1980	Unit 1 Fuel Load-Nov. 1981
echtel roposal	Original test schedule sequence	Test program commences early Aug., 1979	Total testing duration-27 months	Unit 2 Fuel Load-Feb., 1981	Unit 1 Fuel Load-Nov., 1981
ev 7	Proposed merged test program	Test program commences early Aug., 1979	Total testing duration-27 months	Unit 2 Fuel Load-July, 1981	Unit 1 Fuel Load-Nov., 1981

JOB 7220 MIDLAND PROJECT

TYPICAL START-UP SUB-SYSTEM SCHEDULE

9 MAY 79 REV 1 DWJ
FORECAST & SCHEDULE CRITERIA

(2)



MIDLAND 1 & 2

- BORATED WATER STORAGE TANKS
- PERMANENT PLANT DEWATERING SYSTEM
- REVISED PREOPERATIONAL TESTING PROGRAM
- REVISED QUANTITY FORECAST (SMALL PIPING & ELECTRICAL)
- WORK TO BE (STARTED) COMPLETED AS OF 9-30-79
- PLANS TO ATTRACT & RETAIN THE MANPOWER LEVELS REQUIRED
- TARGET SCHEDULE BASIS
- SCHEDULE EXPOSURE
- SCHEDULE CONTINGENCY
- AREAS OF CONCERN (STATUS REPORT)
- AREAS OF CONCERN (ENGINEERING STATUS REPORT)
- AREAS OF CONCERN (EXPEDITING - PURCHASES)
- MANPOWER LEVELS
- MSS EXCEPTION REPORT - FEB., 1978

9-27-79

AGENDA

1. Applicant's Specific Design Decisions for Midland
   a. Incorporating TMI-2 Effects
   b. Resulting from NRC's Open Items[1/] from Midland Review
   c. Applicant's Need for Staff Feedback Prior to Documentation of Design Changes

2. Impact of Short and Long-Term "Lessons Learned" for Midland

3. Other Matters Impacting Midland
   a. Status of Staff's Safety Review for Midland
      (1) Critical Path Areas (RSB & ICSB)
      (2) Areas in Need of Early Resolution
      (3) Assignment of Staff Reviewers and Use of Contractors
      (4) Applicant's View Regarding Documentation of Deviations from SRP Acceptance Criteria
   b. Seismic Issue and Soils Settlement Issue
   c. Caseload Forecast Panel Meeting Results
   d. Status of Draft Environmental Statement

1/ Listed in Staff's letter of March 31, 1979

B/15

9 27 79

MIDLAND PLANT

Status of NRC Open Items
(NRC Letter of March 31, 1979)

Total Open Items	126
Submitted by CPCo - Awaiting staff review	57
Submitted by CPCo - Accepted by staff	9
Major design decisions made - Submittals contingent upon finalization of design	12
Analytical programs in process - Submittals upon completion of programs	6
Remaining items to be submitted - Presently under review by CPCo	
a. Involving documentation	26
b. Involving potential issues	16

JJZ
9/26/79

MIDLAND NUCLEAR SAFETY TASK FORCE (NSTF) ACTIVITIES

I. INTRODUCTION

A. NSTF formed April 27, 1979.

B. To consolidate ongoing safety review of the Midland Plant and to assure that we determine and properly take into account the implications of the TMI-2 accident.

C. Consists of eleven engineers from Engineering Services, Quality Assurance, Midland Project and Midland Operating Staff. Multidiscipline group including nuclear, mechanical, electrical, I & C and chemical.

D. B&W and Bechtel personnel specifically assigned to this effort as well as other outside consultants.

II. PRIMARY TASKS

A. Technical Evaluation and Recommendations on Safety-Related Items:

1. Undertaken studies on approximately thirty-five items identified after reviewing the TMI-2 accident.

2. Spans prevention, detection and mitigation of accidents as well as plant response after accident mitigation.

3. Efforts also include selected open items previously identified during the Midland licensing review.

B. Plant Systems Analyses:

1. Expanded ongoing analysis of operating events.

2. Safety and operational sequence analyses.

3. Reliability assessment of AFW.

4. Participating in analytical efforts on 177 B&W plants including small breaks, inadequate core cooling, abnormal transients, FMEA of ICS.

5. Conducting other analyses as determined necessary.

C. Technical Assessment of Design Documentation:

1. Safety-related equipment qualification review.

2. Interface criteria review.

D. Assessment of Impact of These Efforts on Testing and Operation:

1. Performance testing of equipment.

2. Liaison and input to testing and operating staffs.

3. Operating Department has initiated efforts to improve emergency response plans, operation and training at our nuclear plants.

E. Participate in Industry Efforts Related to TMI-2:

1. CP Co is participating actively in EEI, AIF and EPRI efforts.

2. NSTF is participating in B&W Owners Groups.

3. TJSullivan is a member of AIF Subcommittee on Plant Recovery and assisted at the TMI site following the accident. DASommers is participating in NRC-ANS-AIF effort on post-accident monitoring.

III. SUMMARY

A. NRC Items:

1. NUREG-0578 contains short-term recommendations for approximately 13 design changes and 4 categories of analyses or tests. Of the design changes, five are part of the Midland pre-TMI design, six are being implemented and two are under investigation. Analytical and testing efforts are underway.

2. We are proceeding with detailed design of RCS vents and procurement of higher-range containment pressure and water level monitors. Containment hydrogen monitoring was provided in the pre-TMI design.

3. Other Bulletins and Orders contained analytical and design requirements for operating B&W 177 plants. We are participating in analytical efforts. We are proceeding with safety grade detailed design of Anticipatory Reactor Trips and automatic RC pump trip for required events. Most required AFW modifications were already part of or not applicable to Midland except flow indication which is being upgraded to 1E.

B. Other Items - CP Co has decided to proceed with modifications associated with:

1. Safety-grade cold shutdown capability
2. Unitization of AFW suction piping
3. Overpressure protection at low temperatures
4. ESF pump room filtration
5. DHR letdown valve operators qualified for submerged operation
6. Upgrade CCW to RCP seals

TJS - 9/24/79

8. Recent CP Co Actions and SER Open Items and TMI-2 Issues

1. CP Co Management has decided to factor into F/C #6 the following changes in the Project scope:

   A. Safety Grade Cold Shutdown Capability
   B. Upgrade Pressurizer Heaters
   C. Modifications to Aux Feedwater Suction and Discharge Configuration
   D. Overpressure Protection at Low Temperature
   E. Upgrade of CCW to RCP Seals
   F. PORV Position Indication
   G. Aux Feedwater Autostart and Flow Indication
   H. Venting Capability of Primary Loop
   I. ESF Pump Room Filtration
   J. DHR Letdown Valves - Submersible Operators

Bill -

I got these numbers from Don Miller by telephone on 10/22/79 to go along with the reply to Commissioner Abrams about spread B&W sensitivity.

Thought you might like a copy for background info. They are just estimates.

Paul

B/16

10/22/..

Information Request for B&W Plants Under Construction

Midland Unit 1

System/Component	Design Completed (%) [1] [2]	Component Procurement (%) [1]	Component Fabrication (%) [1]	Construction Completed ( )
HPI System	100	95-100	90-95	7[illegible]
EFW System	100			8[illegible]
DHR System	100			55
CFT System	100			20
RCS Pressure Control System	90			6[illegible]
Makeup/Letdown System	100			7[illegible]
SG Pressure Control System	100			6[illegible]
Steam Generator	100			50
Pressurizer	100			40
Quench Tank	100			50
Control Room Layout	100	90	80	70[3]
RCS Piping	100	95-100	90-95	50

Notes:

[1] Units 1 & 2 show same percents due to parallel design and procurement for both units.

[2] all of these values are based upon the present design and do not include "[illegible]" resulting from TMI

[3] this is for panel installation only. It does not include field cable terminations, HVAC and lighting. With all included, a value of about 3[illegible]50

10/22/79

Information Request for B&W Plants Under Construction

Midland Unit 2

System/Component	Design Completed (%) [1] [2]	Component Procurement (%) [1]	Component Fabrication (%) [1]	Construction Completed (%)
HPI System	100	95-100	90-95	80
EFW System	100			80
DHR System	100			70
CFT System	100			50
RCS Pressure Control System	90			60
Makeup/Letdown System	100			70
SG Pressure Control System	100			60
Steam Generator	100			60
Pressurizer	100			50
Quench Tank	100			75
Control Room Layout	100	90	80	70 [3]
RCS Piping	100	95-100	90-95	85

Notes:

[1] Unit 1 & Unit 2 show same percentages due to parallel design and procurement for both units.

[2] All these are based upon the general design and does not include "lessons learned" changes resulting from TMI-2.

[3] This is for general installation only. It does not include field cable terminations, HVAC and lighting. With all these items complete, about 30-35%.

W. Forlace

THE WALL STREET JOURNAL
Tuesday, Jan. 29, 1980

Consumers Power Jumps Estimated Cost Of Nuclear Plant to Serve Dow Chemical

By a WALL STREET JOURNAL *Staff Reporter*

MIDLAND, Mich.—Consumers Power Co. reported a near-doubling in estimated costs of its troubled nuclear power project here and projected new delays that jeopardize the venture's survival.

The much-delayed, much-disputed 13-year-old project, into which Consumers Power already has pumped $1.3 billion, was intended both to power generators for Consumers Power and to produce steam for use by Dow Chemical Co. in its huge chemical manufacturing complex here. Dow was to be the plant's biggest customer, and its agreement to buy the steam was a key reason for building the plant.

While Dow didn't have any immediate comment on Consumers Power's new projections, it was clear that the plant won't be able to deliver the steam to Dow before Dec. 31, 1984, the date after which Dow can pull out of its contract to buy steam from the plant.

A Dow spokesman said company officials, surprised when Consumers disclosed the new estimates yesterday, were meeting to decide what to do. A spokesman for Consumers acknowledged that the utility didn't give Dow any advance warning and said it had dispatched officials to discuss the new report.

For its part, Consumers said it received a revised cost estimate and construction schedule last week from Bechtel Power Corp., its prime contractor. Consumers said Bechtel estimated its contracting costs would rise to $1.59 billion from a 1976 estimate of $947 million. Consumers said this would raise the total price for the power plant to $3.1 billion from a previously estimated $1.67 billion.

When the project was announced in December 1967, the estimated price was $349 million, and the plant was to be completed in 1975.

Consumers added that Bechtel's current projection is for nuclear fuel to be loaded into the first of two units in April 1984, nearly three years later than the previously forecast June 1981. The second unit, which was intended to produce steam for Dow, won't be loaded until September 1984. After they are loaded, the reactors are scheduled for some eight months of testing before they go into production, Consumers said.

In San Francisco, Bechtel said Consumers Power is the "victim of an ever-changing regulatory process" that has required changes and delays in the project. "The uncertainty of federal regulatory requirements, particularly since the accident at Three Mile Island, has made it very difficult and sometimes impossible to accurately forecast their impact upon the final cost or completion date of the project," Bechtel said.

In a statement, Consumers Power acknowledged that the new estimates were based on a preliminary projection of what to produce a definitive estimate of costs and production schedules by March.

The new delays and cost increases represent just the latest in a lengthy series of construction delays and cost increases for the plant. The project has been plagued by problems: environmentalists have fought it; federal permits came slowly; and, for a time, Consumers Power even ran short of money to build it.

All of this created a substantial amount of discord between Consumers and Dow, which has been counting on the nuclear project to replace the aging fossil-fuel generators at its Midland complex. Dow has estimated that those plants can't be run past 1984.

With the nuclear project under way, Dow has been trying to avoid major outlays at the old plants. This has led to a lengthy dispute between Dow and the Environmental Protection Agency, which has been pressuring Dow to clean up allegedly dirty emissions from its old units. Just last week, the EPA filed suit in federal district court in Michigan seeking more than $2[illegible] million in fines and an order for Dow to comply with state clean-air rules.

In 1974 Dow began pressing Consumers for additional guarantees and sought a firm date (which became known as the "drop dead" date) after which it could pull out of the project if the nuclear plant wasn't finished. As the dispute turned bitter, Consumers threatened to sue for hundreds of millions of dollars if Dow did pull out of the project.

In a bid to avoid a complete break, the two companies in 1978 renegotiated their contracts. Under the revision, Dow can pull out of the project if the plant can't deliver steam by Dec. 31, 1984, or five months before the plant currently is projected to have that capability. If Dow does withdraw from the project, though, it will be liable to Consumers for $50 million to more than $200 million in penalties, depending on how much of the plant is completed.

Spanish Air[illegible] $72 Million In Suit Aga[illegible]

By a WALL STREET J[illegible]

WASHINGTON — [illegible] charging Boeing Co. [illegible]tions of U.S. antitrust [illegible] million in damages.

In Seattle, a spoke[illegible] the company hasn't y[illegible] to thoroughly review [illegible] added, however, that [illegible] "good defenses" for a[illegible] company believes th[illegible] "misunderstanding o[illegible] question."

The suit, filed in[illegible] here, also names t[illegible] Bank. The airline sa[illegible] agency was include[illegible] nearly $99 million in[illegible] ish national carrier [illegible] 29 Boeing 727-200 a[illegible] about $231.1 million.

At the heart of th[illegible] missions" Boeing is[illegible] gencio Amador Mor[illegible] filiates.

Iberia charged th[illegible] of the first 16 aircra[illegible] that it wouldn't pay [illegible] Mr. Amador, his fa[illegible] another Spanish com[illegible] S.A., which Mr. Ama[illegible]

But Iberia said [illegible] Boeing had paid m[illegible] Mr. Amador in com[illegible] purchases of the

Of Nuclear P

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In a statement, Consumers Power acknowledged that the new estimates were based on a preliminary projection of what the Nuclear Regulatory Commission's licensing requirements for the plant are expected to be on completion. "NRC requirements are in a complete state of flux" in the aftermath of the nuclear accident at Three Mile Island last year, a Consumers Power official said.

A company spokesman said in response to questions that Consumers Power expects to produce a definitive estimate of [illegible] production schedules by March.

The new delays and cost increases represent just the latest in a lengthy series of construction delays and cost increases for the plant. The project has been plagued problems: environmentalists have fought it, federal permits came slowly; and, for a time, Consumers Power even ran short of money to build it.

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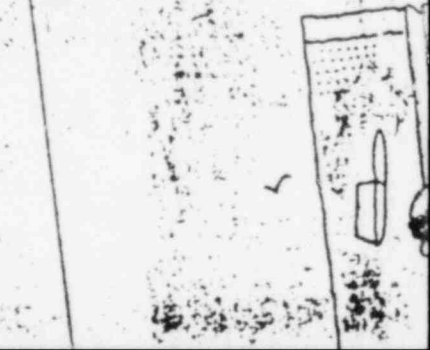
At the heart of the [illegible] missions" Boeing is [illegible] gencio Amador More[illegible] filiates.

Iberia charged th[illegible] of the first 16 aircra[illegible] that it wouldn't pay [illegible] Mr. Amador, his fa[illegible] another Spanish co[illegible] S.A., which Mr. Am[illegible]

But Iberia said [illegible] Boeing had paid [illegible] Mr. Amador in c[illegible] purchases of the

Bristol Brass Discloses



MEETING WITH NRC STAFF

JUNE 13, 1980

OBJECTIVE

To Review Background, New Organization and Current Cost/Schedule Reconciliation and to Gain Input for Assessment of Licensing Schedule

AGENDA

I. Midland Plant Status and Background
   A. General Description and History
   B. Finance Hearings (MPSC) and Plans
   C. State and Local Activities
   D. Midland Response to TMI

II. Midland Cost and Schedule
   A. Status of Engineering and Construction
   B. Scope/Schedule Analysis Process
   C. Scope Definition
   D. Reconciliation with Previous Estimates
   E. Action Plan to Complete Construction

III. Licensing Schedule Assessment and Resumption of Midland Docket Review
   A. Bases for Midland Priority
   B. CP Co Schedule Assessment
   C. Midland Review Plan Elements
   D. NRC Input
   E. Determine Follow-up Actions

IV. Midland Licensing Issues
   A. Soils
   B. Resolution of Separate Task Force and 50.54f Items
   C. Emergency Planning
   D. Transfer of Technical Issues from Region III to NRR

V, Midland Project Reorganization
   A. CP Co - General Office and Site
   B. Bechtel - Ann Arbor
   C. QA

TJS - 6/10/80

B/18

6-13-80

MIDLAND REVIEW PLAN

OBJECTIVE: TO FACILITATE COMPLETION OF NRC REVIEW OF THE MIDLAND ER AND FSAR LEADING TO TIMELY ISSUANCE OF THE DES/FES AND SER/SSER.

POLICY ELEMENTS

- UTILIZE THE STRENGTHENED NRC PROJECT MANAGEMENT CONCEPT AND REORGANIZED CP CO MIDLAND PROJECT TO FACILITATE COMPLETION OF THE OVERALL ENVIRONMENTAL AND SAFETY REVIEW
- ESTABLISH MIDLAND-SPECIFIC BACKFIT CRITERIA
- MAINTAIN AND UTILIZE SER OPEN ITEMS LIST
- MAKE MAXIMUM USE OF NRC REVIEW ALREADY COMPLETED
- SCHEDULE REGULAR MANAGEMENT-LEVEL MEETINGS FOR PLANNING, PROGRESS REVIEW AND DECISION MAKING
- CONDUCT SEPERATE HEARINGS AS NECESSARY ON THE ENVIRONMENTAL AREA AND OTHER MAJOR SEPARABLE ISSUES SUCH AS SOILS TO ALLOW EARLY RESOLUTION

MIDLAND REVIEW PLAN

PROCEDURAL ELEMENTS

ONGOING LICENSING ACTIVITIES

- ITEMIZE AND RESOLVE SCHEDULE CRITICAL HARDWARE ITEMS EARLY TO ALLOW OPTIMAL DESIGN AND TO MINIMIZE APPEALS

- DETERMINE AND IMPLEMENT MIDLAND SPECIFIC RESOLUTION OF B&W - GENERIC POST - TMI ISSUES SUCH AS SENSITIVITY AND NUREG-0667

- CP CO CONTINUE TO RESPOND TO REQUESTS FOR INFORMATION AND UPDATE FSAR

- NRC CONTINUE TO IDENTIFY ORGANIZATIONS AND INDIVIDUALS REVIEWING FSAR SECTIONS OR SPECIFIC ISSUES

MIDLAND REVIEW PLAN

PROCEDURAL ELEMENTS

RESUMPTION OF FORMAL DOCKET REVIEW

- NRC FORM REVIEW TEAM AND ASSIGN REVIEWERS UTILIZING THOSE FAMILIAR WITH MIDLAND DESIGN TO THE GREATEST POSSIBLE EXTENT

- NRC INCORPORATE SUBMITTED FSAR REVISIONS AND PROVIDE BACKGROUND INFORMATION TO ASSIGNED REVIEWERS

- CP CO ASSIST IN FAMILIARIZING REVIEWERS WITH MIDLAND DESIGN

- DEFINE SCOPE AND PRIORITY OF REVIEW TO BE COMPLETED, MAINTAINING CONTINUITY WITH PREVIOUS EFFORTS

- CP CO SUBMIT REPORT PROVIDING STATUS OF OPEN ITEMS AND APPLICABLE NUREG-0660 ITEMS AS WELL AS CROSS-REFERENCE TO APPROPRIATE FSAR SECTIONS

- EXPEDITE COMMUNICATIONS

MINUTES - Meeting between NRC and Consumers Power Company
relative to NRC review of Midland OL Application

The Meeting was called to order at 9:00 a.m. on June 13, 1980, by D.S. Hood, NRC Midland Project Manager. Present from the NRC were R. Purple (Deputy Director Division of Licensing), R. Tedesco (Assistant Director Division of Licensing), A. Schwencer (Acting Chief Licensing Branch 3), L. Mattson, W. Lovelace, D. Scaletti, W. Haass, J. Kimball, W. Olmstead, and W. Paton. Present from Consumers Power Company were S. Howell, J. Cook, G. Keeley, T. Sullivan, D. Budzik, M. Miller, and J. Brunner.

After introducing the Consumers people, Mr. Howell briefly reviewed the history of the Midland project, noting that it is the oldest plant in the review chain. Howell explained the reason for Consumers Power Company's decision to site the plant at Midland, namely - the supply of process steam to Dow Chemical, and pointed out that the siting choice was in line with government policies encouraging cogeneration and pollution reduction. Howell further stated that the Midland project has the apparent support of the state, Dow Chemical, the MPSC, and the governor. He noted that the overt opposition of the Attorney General is consistent with the AG's political opposition to all moves on the part of Consumers Power Company. Howell assured those present that Consumers Power Company is having no financial difficulties with Midland construction at the present time, but that securities hearings - as opposed to rate hearings - at the MPSC are complicated by interventions by anti-nuke interests.

With regard to licensing, Howell stated that Consumers does not blame all delays which have occurred on the accident at TMI-2. Rather, a multiplicity of factors including pre-and-post TMI-2 regulatory changes have delayed Midland. Howell mentioned that based on actual experience with other projects of similar vintage, initial projections of Midland lag times had been reasonable at the time they were made. Finally, Howell pointed to Consumers record in conscientiously applying the NRC's post Crystal River and TMI-2 experience, including a decision to commit to NUREG 0578, an aggressive response to 50.54f questions on B & W sensitivity, and continued monitoring of other TMI-2 requirements. Leading to the matter to be discussed by the next Consumers speaker, Howell stated that Consumers Power Company had reviewed its schedule and cost projections in a detailed manner.

Following his introduction, Mr. Cook demonstrated graphically the increase in regulations to which Midland is subject. This prompted a question from Mr. Tedesco of the NRC staff concerning the extent to which scheduling delays could be attributed to TMI-2. Cook, Howell, Keeley, and Sullivan repeated Howell's earlier point that Consumers Power Company did not regard TMI-2 as the only delay factor. All pointed to the watershed effect of increased regulatory requirements on plant design and construction.

In apparent response to Howell's and Cook's responses to Tedesco's question, Mr. Mattson of the staff mentioned an earlier agreement between the NRC and Consumers Power Company relating to Consumers' review of Regulatory Guides. Mattson also specifically stated that the NRC policy on implementation dates was to avoid placing construction requirements beyond those for operating plants if delayed start-up would result. (NUREG 0660).

Mr. Cook, after acknowledging Mattson's comments, continued to explain the factors involved in increased cost projections. He emphasized the large overhead factor - a direct consequence of delays - and explained that the end date in Forecast 6 was not the result of a detailed analysis, but rather the result of the need to choose an end date for cost projections.

Cook went on to explain detailed schedule analyses which had been undertaken after Forecast 6, including a scope analysis of long lead-time items and a bulk analysis. A third scheduling path, that of licensing, was also examined. Cook stated that the scope analysis shows favorable lead times relative to an 11/83 target date in areas which received specific attention. Further, the schedule as a whole evidences a good chance of improvement into the summer of 1983. The bulk analysis identified a bottleneck in the auxiliary building. Nevertheless, it was felt that this analysis also promises a good chance of improvement over an 11/83 target date. Cook stated that detailed job schedules would be available by the end of July or in August. With regard to licensing, Cook mentioned that the analysis indicates that licensing is presently on the critical path.

Following Cook's lead, Mr. Sullivan introduced documentary information which demonstrated licensing as being critical path. The licensing schedule produced by Sullivan was generated by working backwards from an 11/83 construction target date. Licensing intervals were based on Consumers Power Company's best expert judgment and represented an amalgam of judgments from attorneys and project leaders. The schedule supported Consumers Power Company's conclusion that licensing became critical path in May of 1981.

Mr. Tedesco took mild issue with some of Consumers Power Company's licensing intervals, noting specifically that the four months for ACRS review could run parallel with other activities. Sullivan argued that the dropping of a few months from the schedule would not change the basic need for immediate NRC action. Mr. Olmstead, an NRC staff lawyer, admitted that Consumers Power Company had apparent conservatisms in its schedule. Olmstead thought that the one year allotted for a hearing was unrealistically short, supporting the thrust of Consumers Power Company's argument.

In response, Tedesco voiced the opinion that licensing could be expedited if necessary, and he further asserted that the NRC would make full use of prior reviews so as not to have to re-do pre-moratorium work.

Tedesco instructed Daryl Hood to establish a review plan and to work on a list of open items relating to the Midland project. Tedesco stated that such a battle plan would reduce uncertainties in the review process. However, Tedesco indicated that at the present time the NRC could not put Midland at high priority except with respect to the soils issue.

Mr. Keeley then addressed the soils question, giving a brief overview of historical events, ending with Consumers response to the December, 1979 Show Cause Order. In response to inquiries from Consumers Power Company, Mr. Hood indicated that no staff SER on soils would be issued prior to the pre-hearing conference. Mr. Miller pointed out that most of the issues for the SER were clearly identified and need not depend on the pre-hearing conference for definition. Miller stated that licensing would lag at least 6 months from ACRS review. Since the fix would take 24 months, Mr. Howell stated that the SER must be issued by this summer to prevent start-up delays. Consumers Power Company also voiced the hope that the NRC would, in the future, avoid inconvenience and delay similar to that caused when jurisdiction of the soils issue was shifted from the region to Washington.

Mr. Sullivan then addressed the question of B & W sensitivity. Hood stated that a letter had been sent regarding Consumers Power Company's proposed fix in this respect. However, preliminary indications were that the letter would be inconclusive as to the adequacy of the proposed solution.

Sullivan ended his presentation by pointing out certain recent NRC publications which had erroneously placed Midland at an unrealistically high position on lists of stations with respect to surrounding population densities or population growth rates. Sullivan specifically mentioned the ACRS letter on ATWS as an example of an incorrect placement of Midland in comparison with other reactor sites. With regard to this problem, Mr. Schwencer suggested that the parties arrange a conference call with Mr. Grimes of the NRC to apprise Grimes of Consumers Power Company's objections.

Mr. Cook then ended his part of the presentation with a brief review of Midland project reorganization, further evidencing Consumers Power Company's renewed commitment to a prompt completion of the Midland plant.

Schwencer ended the meeting with a review of NRC action items on Midland. In an earlier exchange Schwencer had promised to schedule a date for a visit to the site by the caseload forecast panel. He repeated this commitment at the end of meeting as an action item. Other NRC action items mentioned by Schwencer include: (1) the Grimes phone call to be arranged, (2) DES dates on Midland to be shortly issued, (3) review plan to be established, (4) a letter to be sent to CPCo on the anchor bolts question, and (5) another meeting on Midland scheduling to be held within the next three to four weeks.

The meeting was adjourned at approximately 12:00 o'clock A.M.

Issued by James E. Brunner
Attorney for Consumers Power Company

CC: SSHowell, P26-336B
JWCook, P14-113
GSKeeley, P14-408B
TJSullivan, P24-624
DMBudzik, P14-617
JLBacon, M-1085A
MIMiller, (Isham, Lincoln & Beale)

NRC panel to check schedule

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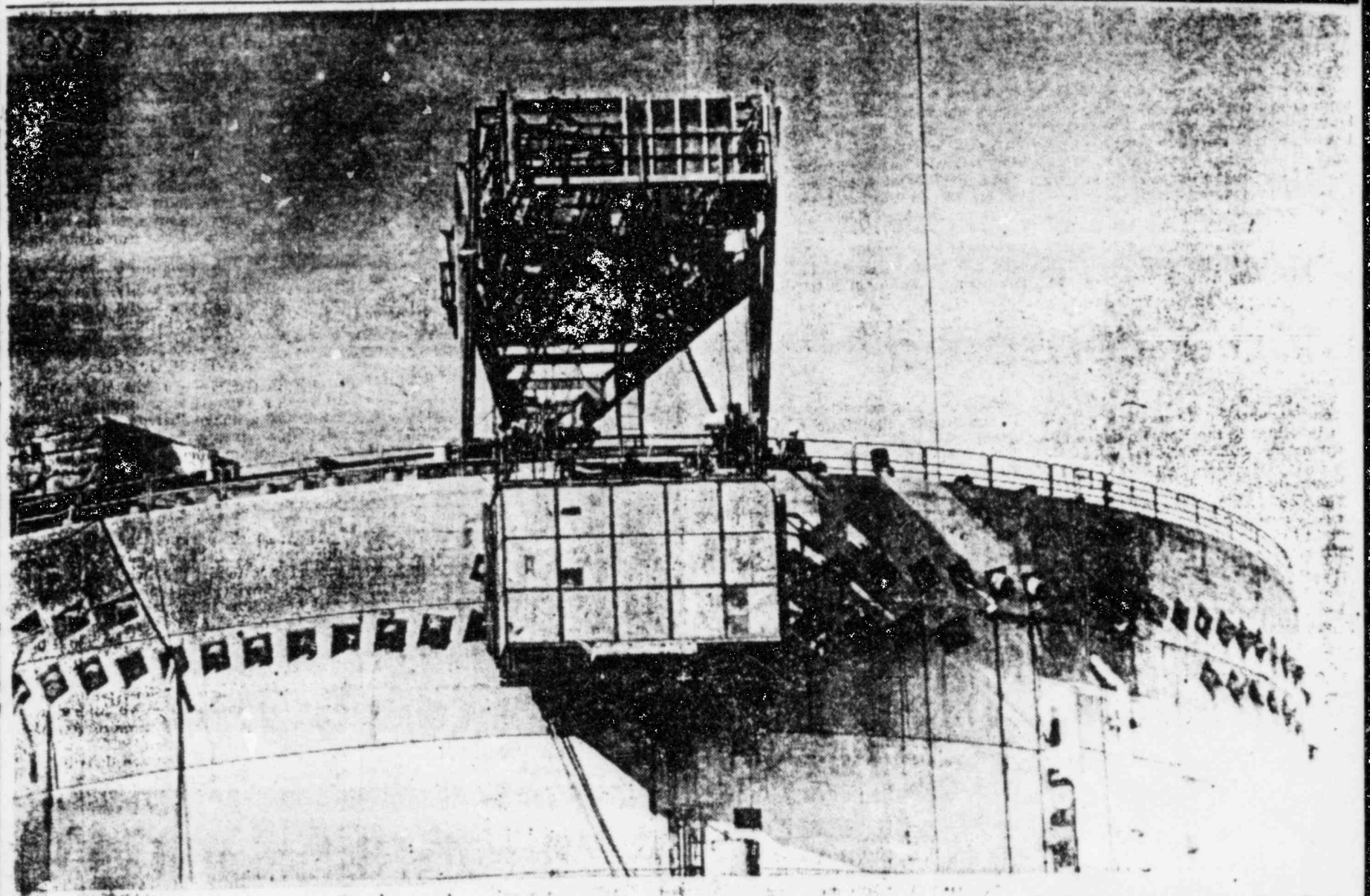

HIGH TENSION — Purchad... plant Thursday operate a post ten... and attaches steel cables to give... building greater strength. (Dai...