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Docket Nos. 50-329/330 OM, OL

DRAFT

Mr. J. W. Cook
Vice President
Consumers Power Company
1945 West Parnall Road
Jackson, Michigan 49201

Dear Mr. Cook:

Subject: Caseload Forecast Panel Estimate of Construction Completion Schedule

On April 19-21, 1983, the NRC Caseload Forecast Panel visited the Midland Plant to evaluate construction completion schedules. The meeting discussed in detail the basis for Consumer's revised estimates of October 1984 (Unit 2) and February 1985 (Unit 1). On April 20, 1983 the Panel conducted an extensive tour of both units to observe construction progress. The Panel has now completed its own evaluation of construction completion schedules for Midland Plant, Units 1 & 2.

The Panel concludes that some months beyond the second quarter of 1986 is the earliest date that completion of Unit 2 can reasonably be expected. Unit 1 is expected to be completed about 6 to 9 months thereafter. The critical pathway involves reinspection and rework of pipe supports, followed by execution of preoperational and acceptance testing.

The Panel believes that Consumer's estimate of 14 months to complete preoperational and acceptance testing for both units is unduly optimistic. The record for a recent single unit to date has been about 24 months. Using a more realistic, but slightly optimistic, duration for two units and Consumer's present status results in a completion date in the second quarter of 1986. However, the Panel also believes that Consumer's forecast does not realistically account for large uncertainties in the work which must precede start of critical path testing, and that this can be expected to add some months to Consumer's schedule. The Panel believes that completion of reinspections of large and small bore pipe hangers and the amount of rework resulting from this effort is a notable example of the items expected to delay start of critical path testing by some months.

OFFICE							
SURNAME							
DATE							

The Panel's estimate includes no provision for delay associated with future plant financing.

Sincerely,

Thomas M. Novak, Assistant Director
for Licensing
Division of Licensing
Office of Nuclear Reactor Regulation

cc: See next page

DRAFT

J Harrison &
R Hoefling
concurred by
phone DSH 5/25/83

OFFICE	LB#4 DSH	LB#4	RM	RIII	AD/L		
SURNAME	DHood:ms	EAdensam	WLovelace	JHarrison	TMNovak		
DATE	5/25/83	5/ /83	5/25/83	5/25/83	5/ /83		

OFFICIAL RECORD COPY

CONSUMERS POWER COMPANY

SELECTED EXAMPLES OF TEST SCHEDULE EXPERIENCE

PLANT	COLD HYDRO TO FUEL LOAD	PERCENT CONSTRUCTION	PERCENT TURNOVER	PERCENT CHECKOUT	PERCENT PREOP TEST
MIDLAND 1*	11	95	85	70	40
MIDLAND 2*	9 ½	93	80	65	35
SONGS 2 (ACT)	17	N/A	85	40	17
SONGS 3 (ACT)	8	N/A	85	40	20
McGUIRE 2 (ACT)	10	N/A	75	HIGH	LOW
CALLAWAY	10	91	78	45	23
ST. LUCIE (ACT)	11	86	46	N/A	N/A
DAVIS BESSE (ACT)	8	N/A	70	65	17
SEQUOYAH (ACT)	9	N/A	70	70	30-35
TMI-II (ACT)	9	92	70	N/A	N/A
WOLF CREEK	10	88	56	53	30

* ALL DATA EXPRESSED IN TERMS OF TOTAL PLANT PERCENTAGES

REPORT ON REVISION 12 SCHEDULE

CONSUMERS POWER COMPANY

MIDLAND ENERGY CENTER

WHY CONSUMERS POWER COMPANY BELIEVES
THAT REV. 12 SCHEDULE IS ACHIEVABLE

I. COMPARISON OF NRC CASELOAD FORECAST PANEL VISITS

(See Transparency #1)

The results of the August 1981 Caseload Forecast Panel visit agreed reasonably well with CPCo's own estimate (3 month's difference). At that time, 164 System Turnover's (T/O's) had been accepted (or 19%), less than 7% of systems had been checked out, and no flushes, preoperational, acceptance, specific tests were completed. The time span between the 1st Test Milestone (2A-Fuel Handling Dry Index Test) and Unit 1 Fuel Load was 22 months.

When compared to the recent Caseload Forecast meeting (April 1983), it is apparent that CPCo has made considerable progress in the Test Program with 64% of System T/O's accepted, 45% of system checkouts completed, 4% of Preoperational/Acceptance/Flush/Specific Tests completed, and 17 Flushes and 23 Specific Tests in progress. Despite these achievements, we maintained the same time span (22 months) of the Test Program Schedule through Unit 1 Fuel Load. This indicates that the Rev 12 workload will be considerably less compared to Rev 11 within the same time frame of 22 months. Based upon the NRC Caseload Forecast Panel's conclusion in August 1981, we see no reason why the schedules that we projected then, cannot be reaffirmed by the NRC for Rev 12 of the Project Schedule.

Further breakdown of Test Program Status - Turnovers, Checkout, and Testing is shown on Transparency #2

II. TEST PROGRAM - PROCEDURE DEVELOPMENT STATUS

(See Transparency #3)

Procedure Development to support the Test Program is at least two months ahead of the Rev 12 Test scheduled start dates. Considerable progress has been made in Procedure Development (50% complete). This implies that, in terms of Procedure Development, we foresee no problem that could impact the Test Schedule. Note that progress in Procedure Development was recognized as a problem in support of the earlier schedule (Rev 11); but this is no longer the case with Rev 12.

III. PRE-OPERATIONAL & ACCEPTANCE TEST SCHEDULED START DATES

(See Transparency #4)

The graph shows the Preop and Acceptance Tests for Revision 12 of the Test Program. Four ~~Two~~ curves are shown:

(1) The first curve depicts scheduled Early Test Start. This curve represents the earliest time that tests can start based upon Rev 12 Forecast T/O dates. Therefore, the number of Test Starts are front-end loaded, i.e. it is an optimistic curve.

(2) The second curve depicts LATE TEST START - i.e., the latest time that Tests can start without impacting the fuel load date. This curve is just the opposite of early starts. The number of Test Starts is very small in the front end, gradually slopes up, then becomes progressively steep as we conduct HFT and approach Fuel Load.

(3) The ideal case is a curve that falls between the EARLY and LATE start curves. Our target @ Midland is to fall on this "middle" curve (#3 graph), since it will insure that prerequisites to Tests are met before starting the Test; will allow resource leveling; and will allow leeway (or slack) before the Tests will start to impact the Fuel Load date.

This goal is achievable, we believe, since plants that utilized this concept (ex. Davis-Besse), were able to achieve a time span of under 8 months between Cold Hydro and Fuel Load.

(continued)

III. PRE-OPERATIONAL & ACCEPTANCE TEST SCHEDULED START DATES (continued)

(4) The Fourth curve on the graph shows the Davis-Besse actual Test Completions. At Cold Hydro, 19% of Tests were completed; at HFT, 33% and prior to Fuel Load 75%. By scheduling RCS Cold Hydro at a later date, this will allow as much Turnovers as possible, Checkout, and Testing as possible, thus shortening the time span between Cold Hydro and Fuel Load. Midland's goal is on curve #3, which has a projected Test Schedule above the Davis-Besse Curve.

IV. SYSTEM TURNOVER (REV. 12)
(See Transparency #5, 6, 7)

1. There are 322 remaining System T/O's spread out over 15 months. Twenty Four (24) of these have already been accepted (shown in green, Transparency #5) vs two (2) required in May of 1983, and Fourteen (14) required in June of 1983.

2. Bechtel's performance in 1982 was 320 System T/O's in a 12 month period. Therefore, it is conceivable that Bechtel can meet Rev 12 T/O dates for the same number in 1982, but this time, spread over a 15 month period vs 12 month. For the Month of May-1983, alone, the number of required T/O's Two (2) was surpassed (13 T/O's). Therefore, we already have a good head start.

3. The Rev 12 T/O dates are levelized. The maximum number of T/O's in one month is 32, with an average of 22 T/O's per month. This is definitely achievable, considering that in 1982, Bechtel turned over an average of 27 T/O's per month; one month alone, there were 46 System T/O's (May 1982). In addition the levelized approach ensures that no more than 13 System T/O's per month is required for any Discipline (see Transparency #6). Levelization of T/O's have the affect of minimizing resource peaks and valleys, maintaining steady work load, and eliminating "crashing" of System T/O's close to the Milestone.

TURNOVER SCHEDULE CONCERNS:

4. Transparency #7 shows the Q Systems (highlighted in Red) for the months of May, June, July, and August. Since Q work was not released in accordance with our original projections, these turnovers are in jeopardy. We have attempted to relieve any possible schedule impact by partialing some of these systems. Additional steps can be taken when the full impact of this delay is determined. The critical concern however is still release of Q work to allow construction to finish these systems.

Curves are being updated

I. MASTER PUNCHLIST ITEMS.

At the time the NRC Caseload Forecast Panel met with CPCo (April 1983), the total open items in the Punchlist was 9500. Since then, the number of open items has dropped to 8676 (end of May 1983) indicating significant progress towards reducing the punchlist items to support the Test Program.

~~As you are aware~~ Note that the count of total open items in the Punchlist contains double and sometimes triple accounting of some items. This can occur when one type of item (ie a Turnover Exception) is being worked off using another type of document to authorize the work (ie a Contractor Work Request). Since both documents are tracked on the Punchlist they both get counted into the total open items number. ~~In an effort~~ To eliminate ~~this inaccuracy we~~ double-accounting the following approach has been implemented. ~~the following plan.~~ Total open items will be comprised of Turnover Exception items (TOE's), Design Change Packages (DCP's), and Corrective Action Report (CAR's). This then would reduce the total open items count to only those items which must be worked off and the item should be counted only once. Using this method Total Open Items at the end of June are _____. Attachment _____ shows the status of the above open punchlist items by type using the new method for the Total Open Item curve.

Reasons for ~~excepting~~ EXPECTING significant Punchlist reduction

A. Turnover Exceptions (TOE's) - This represents the largest number of open items. Attachment 5 shows a downward trend ~~starting at the beginning of the year~~ primarily due to lack of system T/O's pending implementation of the CCP.

We have reason to believe that despite the 322 remaining T/O's, the number of open TOE's will continue to decline because we predict that more items will be closed out than items being added (as more T/O's occur). We have seen the effect of this recently based upon 19 T/O's in 1983 - the average number of TOE's per System was 3, compared to 1982 System T/O's in which the average number was 29 TOE's per System.

"Cleaner" System T/O's can be directly attributed to the CCP and the basic premise that System T/O's will be free of major construction deficiencies as much as possible.

GSO's performance over the past 5 months has been 237 TOE close-outs per month on the average, despite the "hold" on Q-work. When the Q-work is fully released, we project that the number of TOE closeouts will increase. GSO is manned to support this work effort.

Significant number of TOE's on Mechanical Systems are due to insulation installation and adjustment of hangers during initial fill and vent or System Heatup. As the tempo of the Test Program increase, the number of TOE's that can be closed out will subsequently increase.

B. CWR's - CWR's are not included in the count for total open items in Punchlist, these items represent double accounting of items since these are work related to TOE's, CAR's, DCP's, or NCR's.

C. DCP's - Based upon the Hardware Configuration Task Force recommendations, DCP's on non-turned over Systems will be worked off prior to Turnover with minor exceptions. What this means is that there will be fewer DCP's issued in the future against Turned-over Systems.

D. CAR's/NCR's - These types are projected to increase because of the nature of the Test Program. As more checkouts and Testing occur, deficiencies (if any) will be written and resolved. The Rev 12 Schedule has helped in providing more time to respond to CAR's/NCR's. Management attention on non-conformances has been increased. This increased awareness will lead to an effective control by Management in dealing with timely response of non-conformances by the respective action organization.

PLANT NAME	RCS HYDRO START DATE	FUEL LOAD START DATE	Δ(MO.)	COMMENTS (SEE ATTACH.)
BEAVER VALLEY 2	1-28-85	12-31-85	11	✓
BELLEFONTE 1	3-84	5-85	14	
BELLEFONTE 2	4-85	5-86	14	
BRAIDWOOD 1	9-82	4-85	31	✓
BRAIDWOOD 2	6-83	4-86	34	✓
BYRON 1	7-81 A	4-83	21	✓
BYRON 2	3-83	4-84	13	
CALLAWAY 1	~~6-13~~-81 A	~~6-84~~ 4-84	10	✓
CATAWBA 1	2-84	10-84	8	✓
CATAWBA 2	1-86	10-86	9	✓
CHEROKEE 1	NOT GIVEN	NOT GIVEN	—	
CHEROKEE 2	" "	" "	—	
CHEROKEE 3	" "	" "	—	
COMANCHE PEAK 1	6-82	6-83	12	
COMANCHE PEAK 2	NOT GIVEN	NOT GIVEN	—	
DIABLO CANYON 1	6-75 A	" "	—	✓
DIABLO CANYON 2	NOT GIVEN	NOT GIVEN	—	
HARRIS 1	5-1-84	12-84	7	✓
HARRIS 2	11-1-87	6-1-88	7	✓
MARBLE HILL 1	8-85	6-86	13	
MARBLE HILL 2	2-87	12-87	10	
MCGUIRE 2	5-24-82 A	4-1-83	10	✓
MILLSTONE 3	3-85	12-85	9	✓
NORTH ANNA 3	9-24-88	4-89	6	✓
PALO VERDE 1	7-82 A	8-83	11	✓
PALO VERDE 2	7-83	8-84	13	✓
PALO VERDE 3	2-85	11-85	9	
SAN ONOFRE 3	3-10-82	11-1-82	8	✓
SEABROOK 1	7-83	11-30-83	5	✓
SEABROOK 2	.. 85	2-28-86	5	✓
SOUTH TEXAS 1	6-86	12-86	6	✓
SOUTH TEXAS 2	6-88	12-88	6	✓
ST LUCIE 2	5-19-82 A	10-28-82		✓
SUMMER 1	11-1-79 A	8-82 A	33	✓
VOGTLE 1	3-1-86	9-1-86	6	✓
VOGTLE 2	9-1-87	3-1-88	6	✓
WASHINGTON NUCLEAR 1	6-85	NOT GIVEN	—	✓
WASHINGTON NUCLEAR 3	10-84	6-85	8	✓
WATERFORD 3	6-15-82	1-83	7	✓

WATTS BAR 1	10-15-81	8-83	22	✓
WATTS BAR 2	10-83	8-84	10	✓
WOLF CREEK 1	17-30-83	8-16-84	8	
YELLOW CREEK 1	11-30-87	7-1-89	19	
YELLOW CREEK 2	NOT GIVEN	NOT GIVEN	—	
FARLEY	7-79 A	3-81 A	21	✓

data source.
NRC [illegible] 6-30-[illegible]

FUEL LOAD DATE CHANGES – REASONS

PLANT NAME	REASONS
BEAVER VALLEY 2	1. FINANCING PROBLEMS 2. SOIL FOUNDATION PROBLEMS 3. FINANCIAL PROBLEMS AND REDUCED LOAD FORECASTS 4. " " CAUSED REDUCED CONSTR. LEVEL
BRAIDWOOD 1	1. FINANCIAL CONSIDERATIONS
BRAIDWOOD 2	1. " "
BYRON 1	1. REVISED LOAD DEMAND FORECAST
CALLAWAY 1	1. FINANCING IMPACT OF PROPOSITION 1 PASSAGE BY STATE OF MISSOURI VOTERS. 2. UNABLE TO MEET CONSTR. SCHEDULES. REAPPRAISAL OF WORK LEFT TO BE COMPLETED.
CATAWBA 1 CATAWBA 2	1. FINANCIAL PROBLEMS 2. REVISED LOAD FORECASTS. 3. REASSESSMENT OF REMAINING WORK.
DIABLO CANYON 1	1. STRIKES BY UNIONS 2. RETUBING OF MAIN CONDENSER 3. REBLADING OF LOW PRESSURE TURBINES.
DIABLO CANYON 2	1. REASONS 1 AND 2 FROM ABOVE 2 ELECTRICAL INSTALLATION PROBLEMS
HARRIS 1	1. REVISED DEMAND FORECASTS.
HARRIS 2	1. " " " 2. EXPANDED CONSERVATION AND LOAD MANAGEMEN PROGRAM.
MCGUIRE 2	1. INITIAL CONSTR DELAY BY MATERIAL DELIVER 2. FINANCIAL PROBLEMS 3 REGULATORY REQUIREMENTS CHANGED. 4 DESIGN MODS.

MILLSTONE 3	1. UNCERTAIN FUEL SUPPLY 2. CHANGES IN LOAD DEMAND. 3. INCREASE IN PROJECT COST 4. MODS. IN LONG RANGE PLANNING.
NORTH ANNA 3	1. ECONOMIC FACTORS 2. EFFORTS AT CONSERVATION AND LOAD MANAGEMEI
PALO VERDE 1	1. AUGMENTATION OF PLANTS EMERGENCY RESPONSE SYST. BECAUSE OF TMI.
PALO VERDE 2	1. DELAYS IN UNIT 1.
SAN ONOFRE 3	1. ISSUANCE OF PERMIT 2. LABOR PROBLEMS
SEABROOK 1 SEABROOK 2	1. EPA REVERSED APPROVAL OF ONCE TROUGH CIRC. WATER SYS. & SUBSEQ. NRC WITHDRAWL OF CONSTR. PERMIT, & TIME TO REMOBILIZE
SOUTH TEXAS 1 SOUTH TEXAS 2	1. SCHEDULE REEVALUATION 2. CHANGE IN A/E AND CONSTRUCTOR
ST. LUCIE 2	1. LWA HALTED BY COURT ORDER 2. PROJECT AUTHORIZED TO USE TWO SHIFTS
SUMMER 1	1 POWER NEEDS DEFERRED; FINANCIAL PROBL.
VOGTLE 1 VOGTLE 2	1. FINANCIAL REASONS 2. OVERESTIMATED POWER NEEDS
WASHINGTON NUCLEAR 1	1. ENG. COMPL. DELAYED. LABOR PROBLEMS 2. POOR LABOR--PRODUCTIVITY. 3. INCREASE IN PLANNED DURATIONS FOR PREOP. TESTING TO COMMERCIAL OPER.
SHINGTON NUCLEAR 3	1. LATE PIPING START. 2. REVISED PRODUCTIVITY AND QUANTITY ESTIMA 3. 4 MO. SCHEDULE RECOVERY BASED ON REASSESSMENT OF PROJECT CAPABILITY AN CONTRACT INCENTIVES FOR PRIME

ATERFORD 3

1. INORDINATELY LENGTHLY LISCENSING PROCEEDING, CURRENTLY BEING PROLONGED BY ANTI-TRUST ISSUE.
2. REEVALUATION OF CONSTR. SCHEDULE.

WATTS BAR 1
WATTS BAR 2

1. INABILITY TO OBTAIN STEEL ANCHOR BOLTS AND REINFORCING RODS.
2. REDISIGN OF CONTAINMENT TO ACCOMODATE HIGHER TRANSIENT PRESSURES. INCREASE IN TIME TO ERECT STEEL PLATE THICKER THAN ORIGINAL DESIGN.
3. LATE DELIVERY OF PRINCIPAL PIPING, VALVES, AND HANGERS WHICH FORCED IMPOSSIBLE PEAKS IN STEAMFITTER MANPOWER.
4. LATE DELIVERY OF ICE CONDENSER EMBEDMENTS.
5. STEAM GENERATOR PROBLEMS AND PIPING.

St Lucie II - Bob Dawson - Asst SU Supt

Steve Marshall - 305-464-7990 x 258

St Lucie II schedule logic is similar to our plans at Midland. Cold Hydro was performed after RCS support systems were checked out, shaken down, & in most cases preoped. Checkout & preops on systems not required to support Cold Hydro were completed prior to HFT (HVAC, piping supports, snubbers).

RV internals were inspected & installed prior to hydro, head installed & not removed until after HFT (our plan).

Hydro Complete 5/25/82 } → 5 month Δ - complete HFT support preops

HFT Start 10/21/82 Finish 11/15/82

Fuel Load 4/6/83 (5 months from finish of HFT)

Chuck Tomashek - Byron I

introduced conversation giving history. In '81 they were in the middle of licensing process & TMI mods were going to bite them. They made a Mgmt decision to reduce work force & slow down the job until that got sorted out. However, they had an RCS that would support hydro, so they did it. Probably equivalent to us doing hydro on Dec 5, Item stopping Q work on 12/1

RCS Hydro — HFT

7/81 — 4/4/83 - began valve lineups

4/25/83 - began procedure - heatup

Presently still in it -

- 3 week outage - RCP bearings
- 1 week " MSIV problems
- must complete 28 day soak for corrosion layer.
- Complete HFT ~ 7/10

Fuel Load → Nov '83

→ ILRT / Int ESFAS Testing - Between HFT & Fuel Load

→ Structural Steel Mods - delaying Fuel Load

For Hydro, they used normal systems, but their own procedures. Systems were not prepped.

Summer

Hydro 1/79 } 33 month Δ
Fuel Load 8/82 }

1/79 1st Hydro - Political - they knew this prior to performing it. They had some more work to do which would require another RCS Hydro.

HFT - Summer 1980 - lasted 100 days (complete in Aug '80)
They had major problems with Rx Bldg Cooling - 150°F in containment - 120°F limit - required major fully rigs to complete.

2nd Hydro - 8/81 -

mini HFT - complete on 11/81 - complete left over items & to complete checkout of RB Cooling mod work.

Major delays were due to seismic reanalysis hanger problems Required mods & additions to 1 of 4000 hangers. This occurred from 8/81 -- 8/82.

Fuel Load 8/82.

TEST PROGRAM STATUS SUMMARY

	AUGUST 1981*	APRIL 1983*
SYSTEM TURNOVERS	164 (19%)	543 (64%)
SYSTEM CHECKOUT	LESS THAN 7%	45%
TESTS COMPLETE (PREOP, ACCEPTANCE, FLUSH, SPECIFIC)	0	28 (4%) DOES NOT INCLUDE: 17 FLUSHES STARTED 23 SPECIFIC TESTS STARTED
TEST MILESTONES COMPLETED	0	4
TIME SPAN BETWEEN 1ST MILESTONE (UNIT 2 DRY INDEX TEST) AND UNIT 1 FUEL LOAD	22 MONTHS	22 MONTHS

* DATES REPRESENT NRC CASELOAD FORECAST PANEL VISITS.

TRANSPARENCY #1

BREAKDOWN OF TEST PROGRAM STATUS

	AUGUST 1981	APRIL 1983
ELECTRICAL SYSTEMS	-145 SYSTEM T/O's (39%)	-321 T/O's (87%)
	-30% ELECTRICAL SYSTEMS ENERGIZED	-83% ENERGIZED
I & C	-3 SYSTEM T/O's (4%)	-36 T/O's (52%)
	-2% SYSTEM C/O COMPLETE	-37% SYSTEM C/O COMPLETE
		-9 SPECIFIC TEST PROCEDURES COMPLETE
NSSS	-0 SYSTEM T/O's	-14 T/O's (25%)
	-0 SYSTEM C/O	-4% C/O COMPLETE
		-1 SPECIFIC TEST PROCEDURE COMPLETE
AUXILIARY	-0 T/O	-26 T/O's (31%)
	-0 C/O	-8% C/O COMPLETE
		-2 FLUSHES COMPLETE
		-1 SPECIFIC TEST PROCEDURE COMPLETE
		-2 PREOP TESTS STARTED
FEEDWATER/CONDENSATE	-4 SYSTEM T/O (4%)	-55 T/O's (55%)
	-2% C/O COMPLETE	-25% C/O COMPLETE
		-6 FLUSHES COMPLETE
		-1 SPECIFIC TEST PROCEDURE COMPLETE
TURBINE/HVAC	-12 SYSTEM T/O (8%)	-76 T/O's (50%)
	-2% C/O COMPLETE	-24% C/O COMPLETE -7 FLUSHES COMPLETE -1 ACCEPTANCE TEST COMPLETE
PROCESS STEAM	-0	-12 T/O's (80%) -15% C/O COMPLETE -1 FLUSH COMPLETE

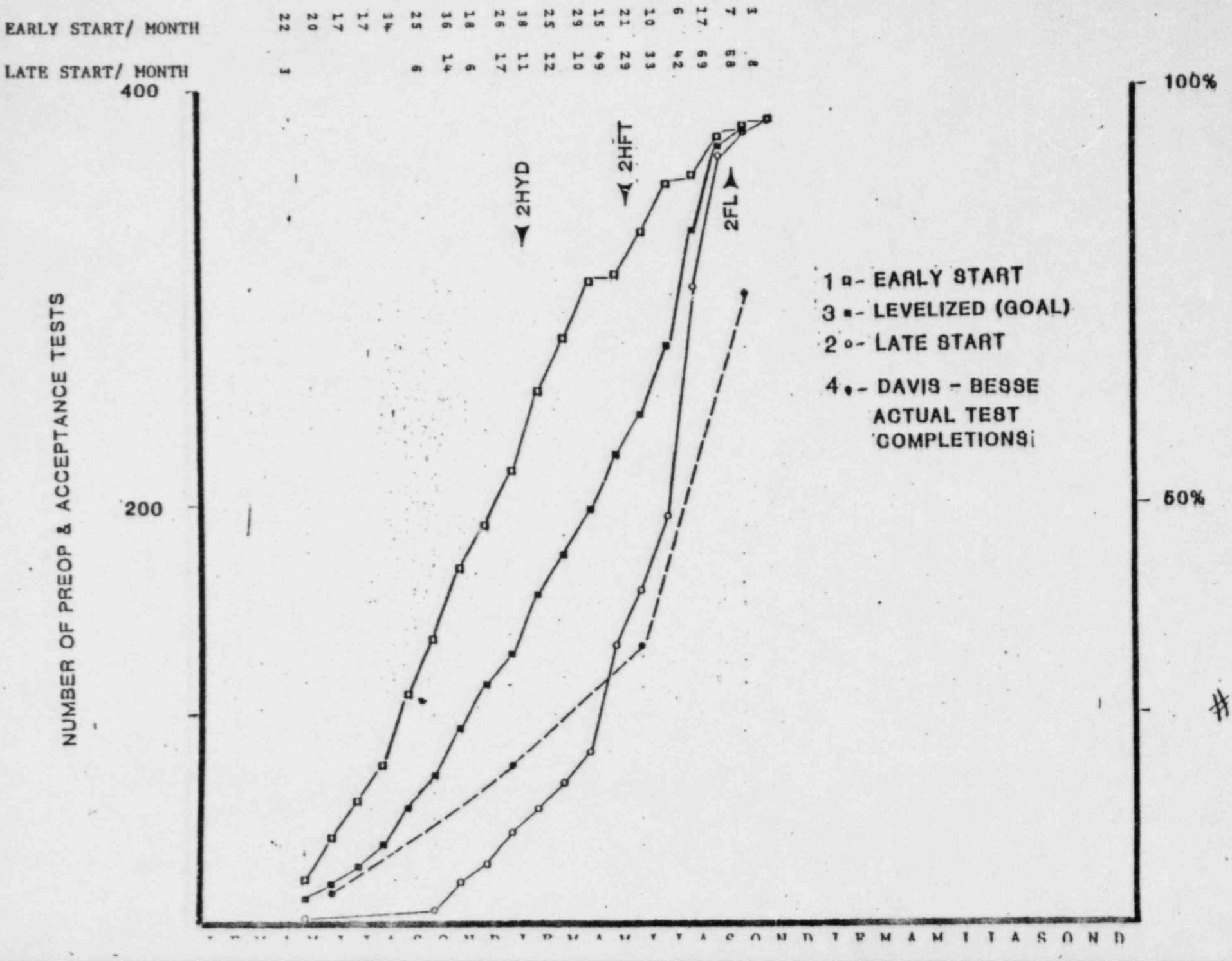
TRANSPARENCY #2

TEST PROGRAM

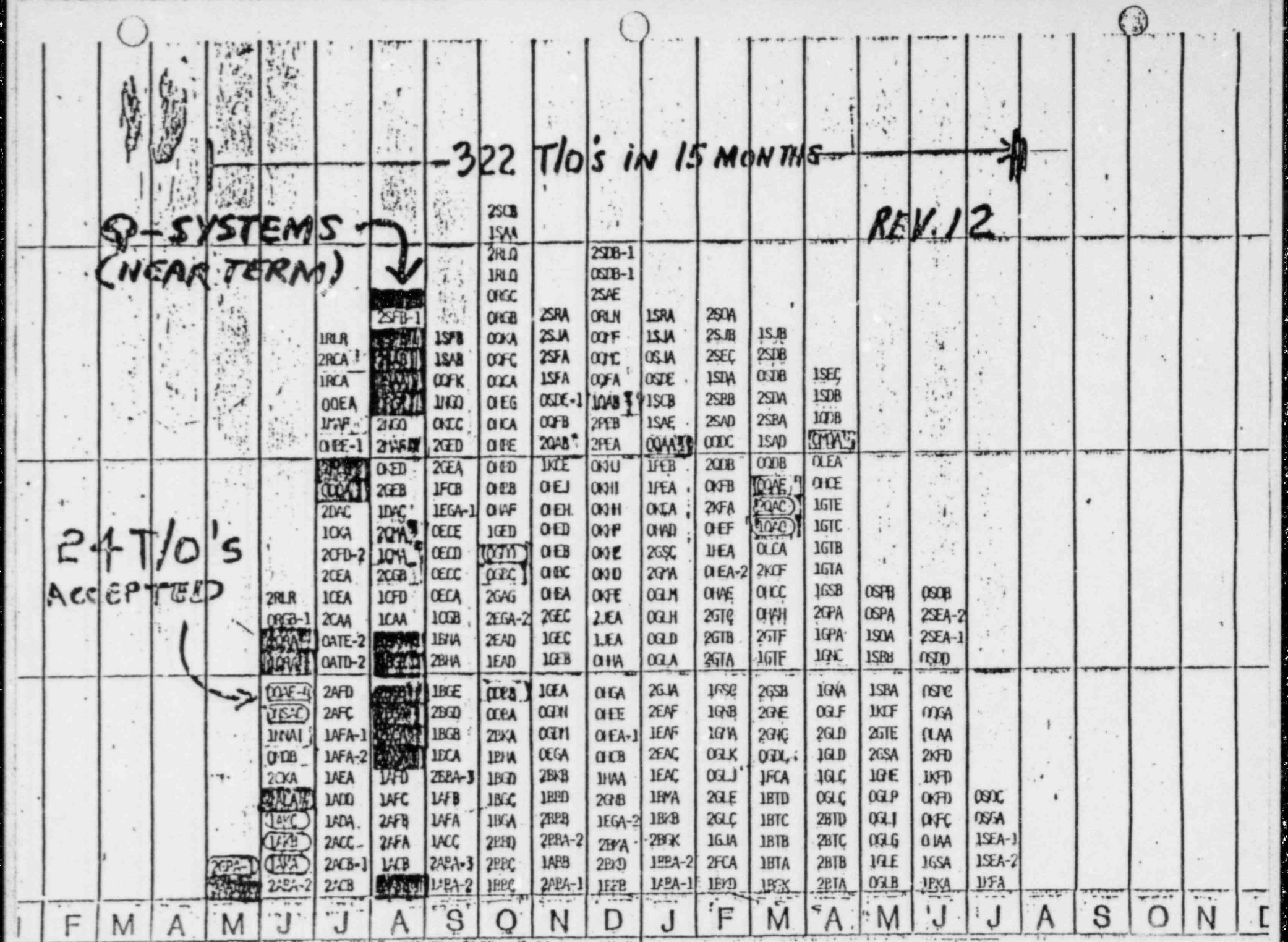
PROCEDURE DEVELOPMENT STATUS

PROCEDURE TYPE	CASELOAD F/C 8/81	CASELOAD F/C 4/83	PRESENTLY 5-30-83
PRE-OPERATIONAL	0	21%	24%
ACCEPTANCE	0	33%	50%
FLUSH	3%	69%	72%
SPECIFIC	6%	66%	70%
% TOTAL	2%	45%	50%

#3


EARLY START/ MONTH
22 20 17 17 14 25 16 18 26 38 25 29 15 21 10 6 17 7 3
LATE START/ MONTH
3 6 14 6 17 11 12 10 49 29 33 42 69 58 8
400
200
100%
50%
NUMBER OF PREOP & ACCEPTANCE TESTS
2HYD
2HFT
2FL
1 a- EARLY START
3 ▪- LEVELIZED (GOAL)
2 o- LATE START
4 •- DAVIS - BESSE ACTUAL TEST COMPLETIONS
J F M A M J J A S O N D J F M A M J J A S O N D

#4


-322 T/O's IN 15 MONTHS
REV. 12
P-SYSTEMS
(NEAR TERM)
24 T/O's
ACCEPTED
F M A M J J A S O N D J F M A M J J A S O N D

SYSTEM TURNOVER REV. 12 BY CPCo TECH DEPT DISCIPLINE

	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL
I & C	0	1	1	4	2	4	4	4	4	5	5	2	5	5	4
ELEC	0	7	2	4	2	5	2	4	1	2	4	2	0	1	0
AUX	0	0	1	1	5	11	8	11	9	5	7	5	0	0	0
PT/P	1	0	0	0	0	0	0	0	0	0	0	2	0	0	0
NSS	0	1	0	7	9	8	6	3	5	2	2	0	0	1	0
FW/CONT	1	3	11	7	5	0	1	7	1	2	2	0	1	6	1
PSS	0	1	4	0	0	0	0	0	0	0	0	0	0	0	0
TURB/HVAC	0	1	7	5	3	4	6	1	7	11	6	13	8	1	0
TOTAL	2	14	26	28	26	32	27	30	27	27	26	24	14	14	5

MAX. No. of T/O's /MONTH

REV. 12 AVERAGE T/O /MONTH = 22

IN 1982:

ACTUAL AVERAGE T/O's = 27

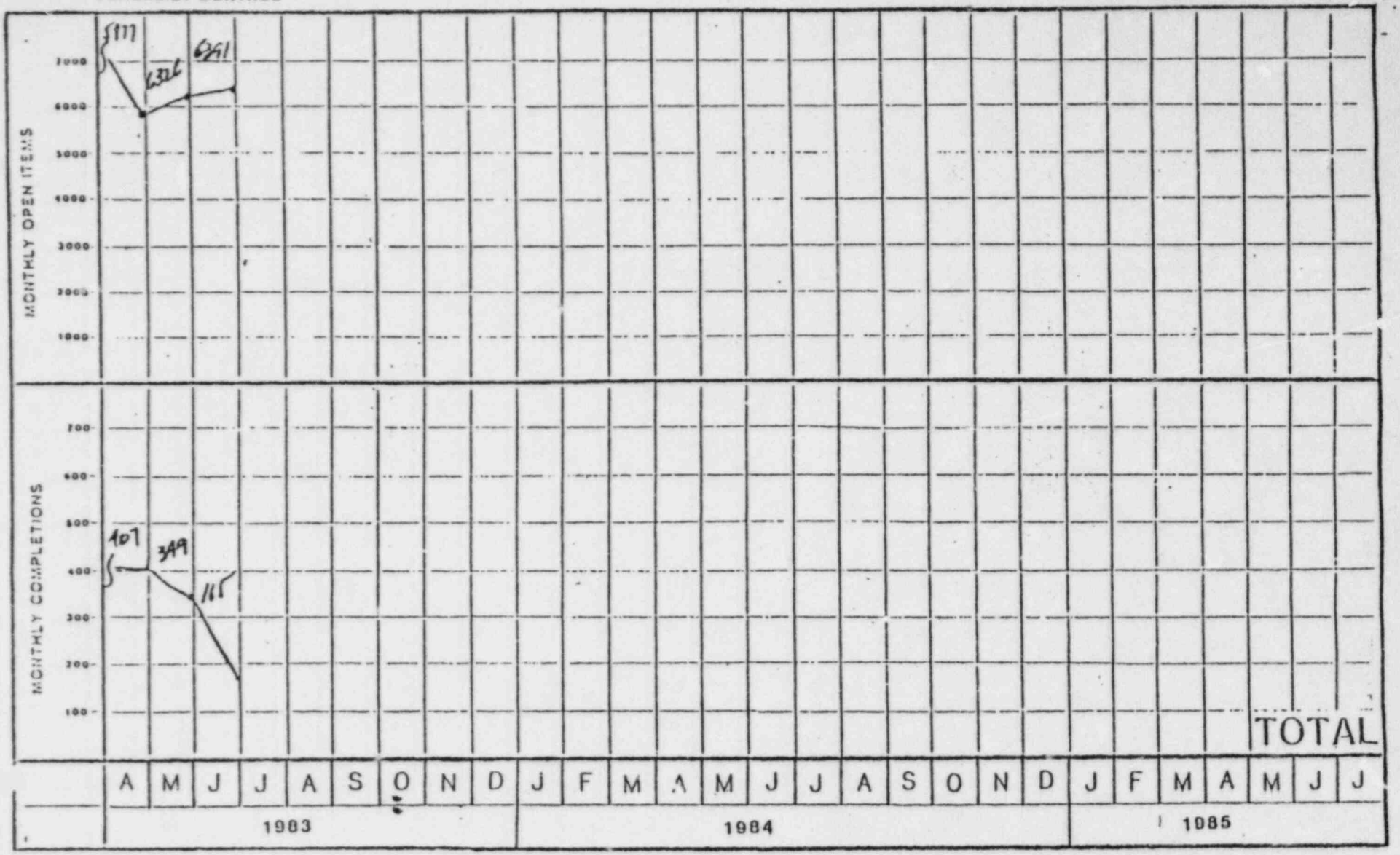
PEAK T/O (MAY '82) = 46

MIDLAND ENERGY CENTER
TECHNICAL DEPARTMENT
PUNCHLIST CONTROL

ALSO, THESE TOTALS ARE FOR INFORMATION ONLY - AN ITEM MAY BE COUNTED MORE THAN ONCE IN THE DIFFERENT TYPES.

PUNCHLIST OPEN ITEMS VS. COMPLETION

AS OF: 6-27-83



LIST OF Q-SYSTEMS TURNOVERS THROUGH AUGUST

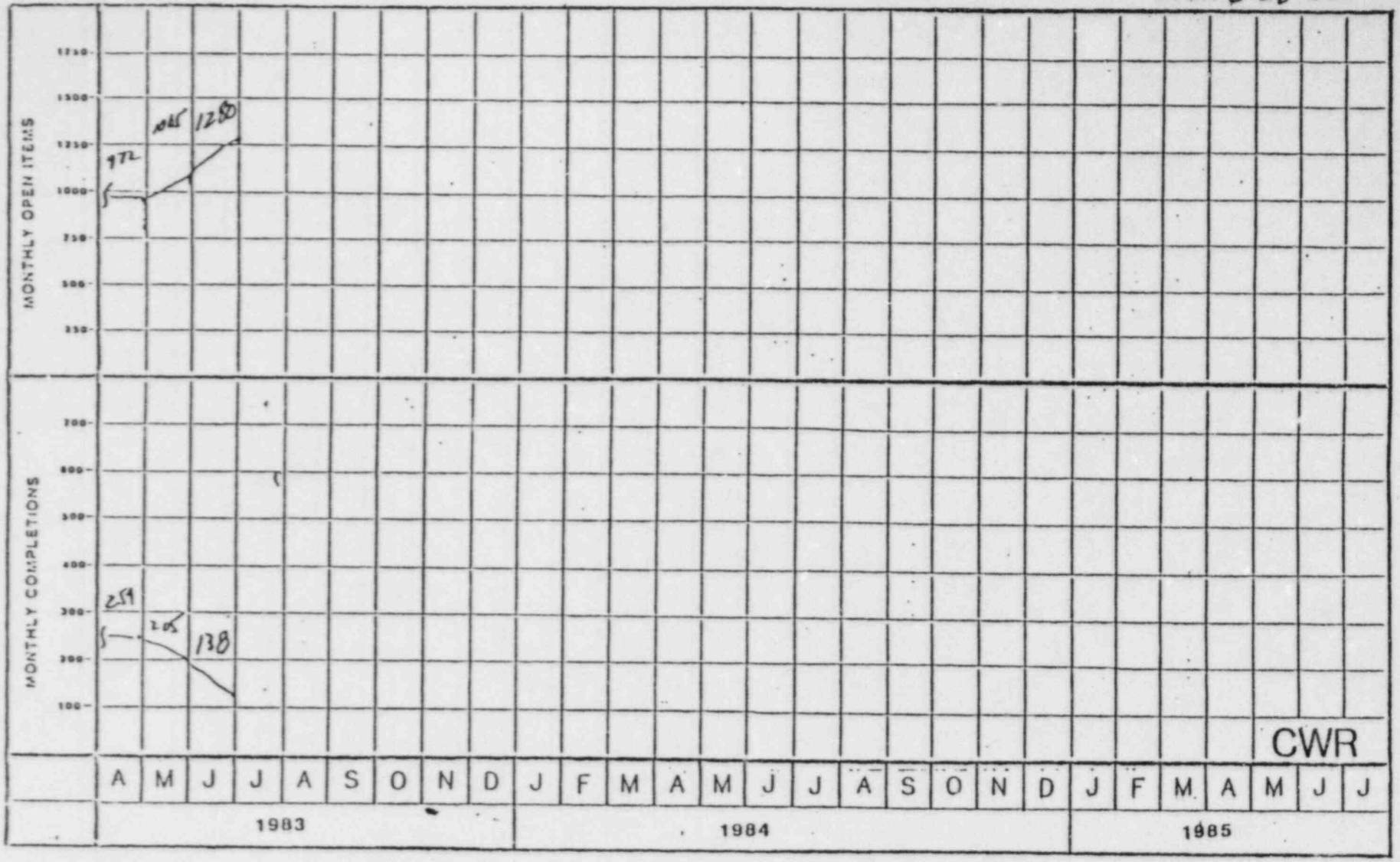
SYSTEM DESIGNATOR	SYSTEM DESCRIPTION	REV 12 T/O DATE
1-QRA	ELECTRICAL PENETRATIONS	30 JUNE 83
2-QRA	ELECTRICAL PENETRATIONS	30 JUNE 83
2-AEA-3	Q-PORTION OF FEEDWATER PIPING	15 JULY 83
2-FCB	MN. FEEDWATER PUMP TURBINE	26 JULY 83
2-ALA-2	AUX. FEEDWATER PUMP & LINE	14 AUG. 83
2-BGB	LETDOWN PURIFICATION SYSTEM	15 AUG. 83
2-SAB	ESFAS CABINET & CONTROLS	15 AUG. 83
0-SSA	MULTIPLE SYSTEM CONTROL PANELS	15 AUG. 83
0-DDA-1	HYPOCHLORATE STORAGE TANK	15 AUG. 83
1-AEA-2	Q PORTION OF FEEDWATER PIPING	21 AUG. 83
2-ABB-2	BALANCE OF MAIN STEAM ISOLATION	21 AUG. 83
2-BGA	LETDOWN	28 AUG. 83
2-BGE	HIGH PRES SAFETY INJECTION	31 AUG. 83
2-SFB-2	CRDC CABINETS/CNTLS/ MG SET	31 AUG. 83
2-BCA-3	BALANCE OF DECAY HEAT REMOVAL	31 AUG. 83
2-SAA	ECCAS CAB & CNTLS	31 AUG. 83
1-ALA-4	AFW PUMP & LINE	31 AUG. 83
1-BKA-1	R B SPRAY SYSTEM TO RING HEADER	31 AUG. 83
0-RGE	FIRE PROTECTION SUPERVISORY INST.	31 AUG. 83

MIDLAND ENERGY CENTER
TECHNICAL DEPARTMENT
PUNCHLIST CONTROL

CONTRACTORS WORK REQUESTS (CWR)

PUNCHLIST OPEN ITEMS VS. COMPLETION

AS OF: 6-27-83

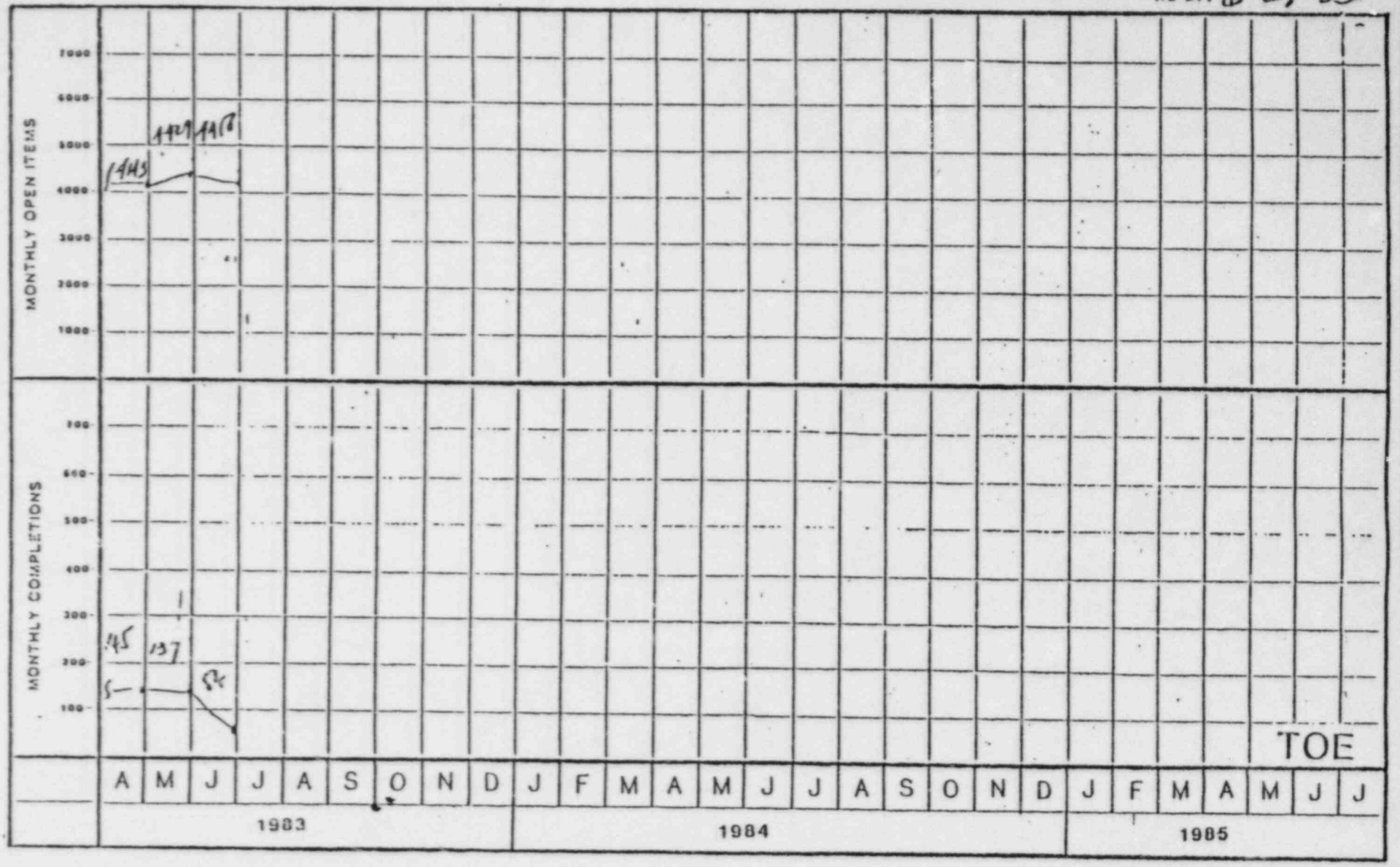


MIDLAND ENERGY CENTER
TECHNICAL DEPARTMENT
PUNCHLIST CONTROL

TURNOVER EXCEPTIONS (TOE)

PUNCHLIST OPEN ITEMS VS. COMPLETION

AS OF: 6-27-83

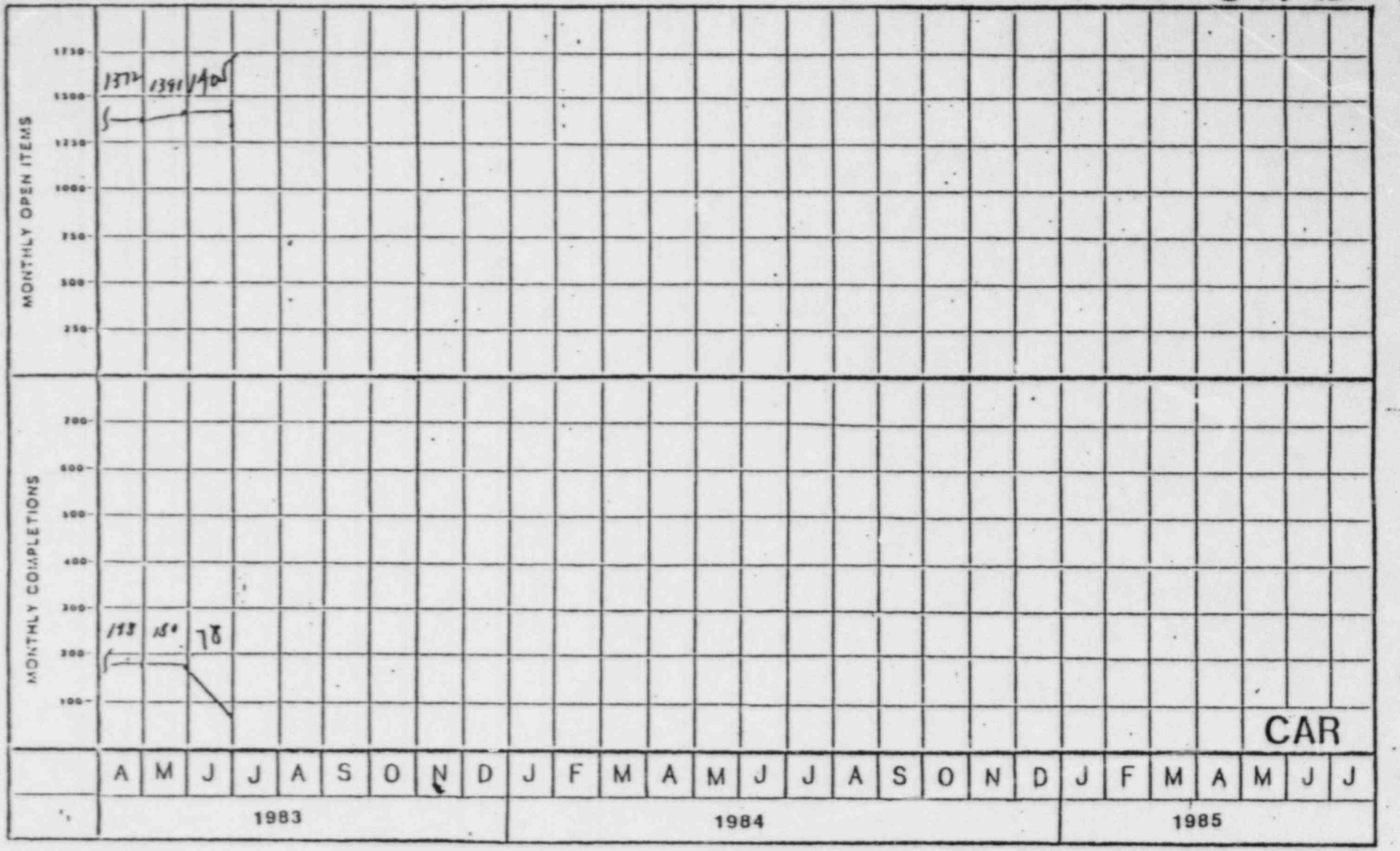


MIDLAND ENERGY CENTER
TECHNICAL DEPARTMENT
PUNCHLIST CONTROL

CORRECTIVE ACTION REPORTS (CAR)

PUNCHLIST OPEN ITEMS VS. COMPLETION

AS OF: 6-27-83

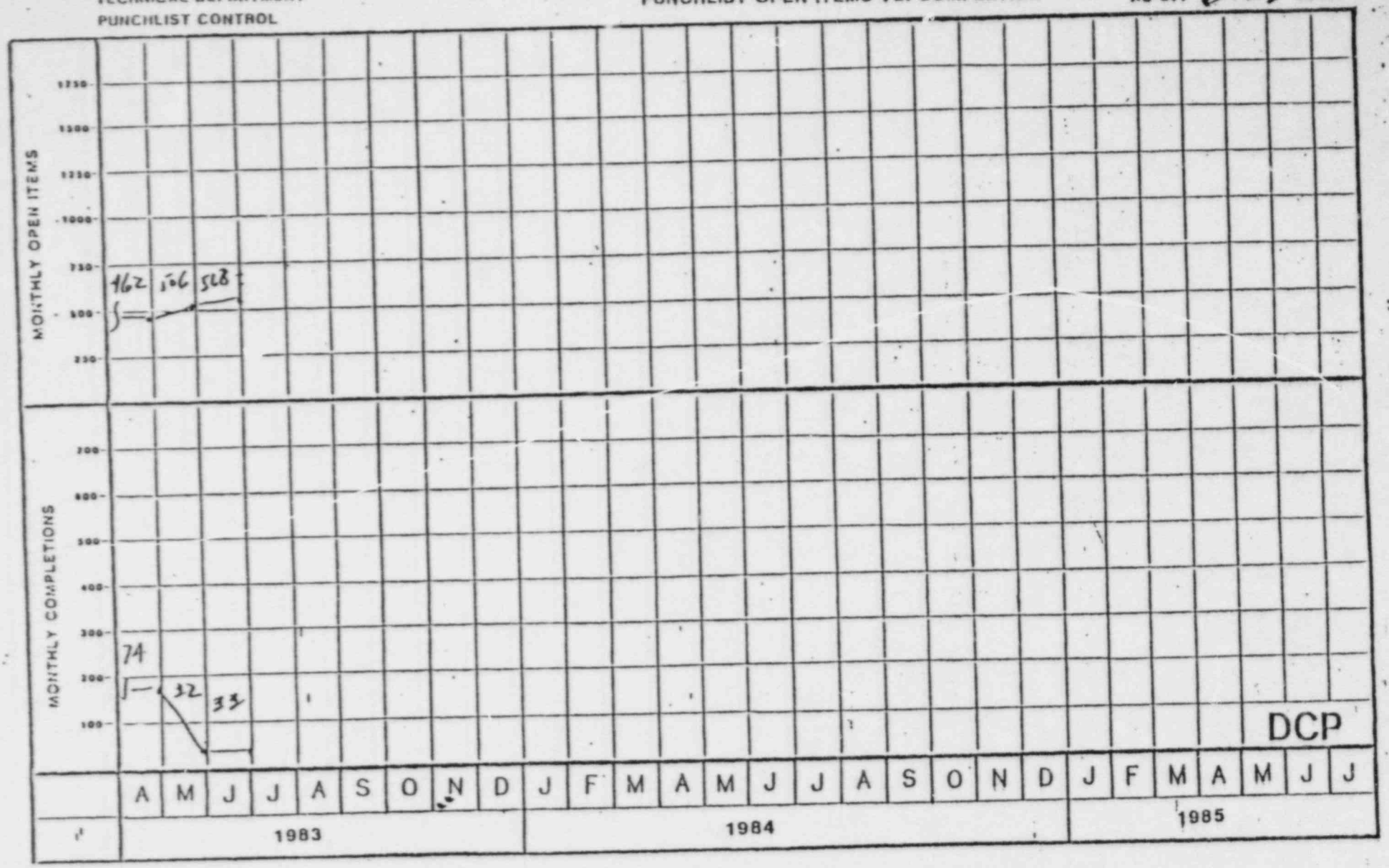


MIDLAND ENERGY CENTER
TECHNICAL DEPARTMENT
PUNCHLIST CONTROL

DESIGN CHANGE PACKAGES (DCP)

PUNCHLIST OPEN ITEMS VS. COMPLETION

AS OF: 6-27-83



TURNOVERS 573/870 = 66%

SYSTEM CHECKOUT BY DISCIPLINE

ELEC	91% T/O	85% Initially C/O Systems
I&C	52% T/O	37% Initially C/O Systems
NSSS	25% T/O	4% Initially C/O Systems
AUX	32% T/O	10% Initially C/O Systems
Feed/Cond	61% T/O	27% Initially C/O Systems
Turb/HVAC	59% T/O	28% Initially C/O Systems
Process Stm	80% T/O	15% Initially C/O Systems

PROCEDURES 51% Approved 87% In Review Cycle
Procedure Tests Complete 4%

MILESTONES

Unit 2

Process Stm 5 Partials to Go Expect to maintain 9-1 Heat-up

Turbine Roll Unit 2 [82% ECO, 50% I&C, 40% Mech C/O, 30% Flushed]

Condensate Pump Runs	T/O's Complete	Complete Commencing Flush Preparations
Feedwater/Condensate Flushs thru Demins	1 System (AEA)	
Condenser Vacuum	2 Systems (AFD,ALA)	AFD FCST 8-4
Turbine Roll	13 Systems to go (2-Q)	Expect by 9-30 Non-Q

Auxiliary Flushes Unit 2 7 System to go
[90% ECO, 50% I&C, 40% Mech C/O, 10% Flushed]

RCS Hydo Unit 2 27 Systems to go

Unit 1

Unit 1 Turbine Roll

Condensate Pump Runs	1 System (1ADA)	FCST 7-22
Feed/Cond Flush Thru Demin	2 Systems (1ADD,1AEA)	1ADD FCST 7-29
Condenser Vacuum	6 Systems (Non-Q, ALA)	Non-Q by 8-31
Turbine Roll	15 Systems (2-Q)	Expect Non-Q by 10-15

Auxiliary Flushes Unit 1 10 Systems to go
RCS Hydro Unit 1 21 Systems to go

MANPOWER

GSO (current)	60 Non Manual
	78 Mechanical
	32 Electrical

Operations

TEST PROGRAM STATUS
AND
REVISION 12 - TEST SCHEDULE

PREPARED BY: TECHNICAL DEPARTMENT
MIDLAND ENERGY CENTER
CONSUMERS POWER COMPANY
April 12, 1983

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9. Integrated Leak Rate Test
10. Integrated Safeguards Features Actuation System Test
11. Fuel Load

C. Manpower for Rev 12

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INTRO.

[redacted]

CASE LOAD FORECAST REPORT - APRIL 1983

TEST PROGRAM

I. INTRODUCTION

This report contains;

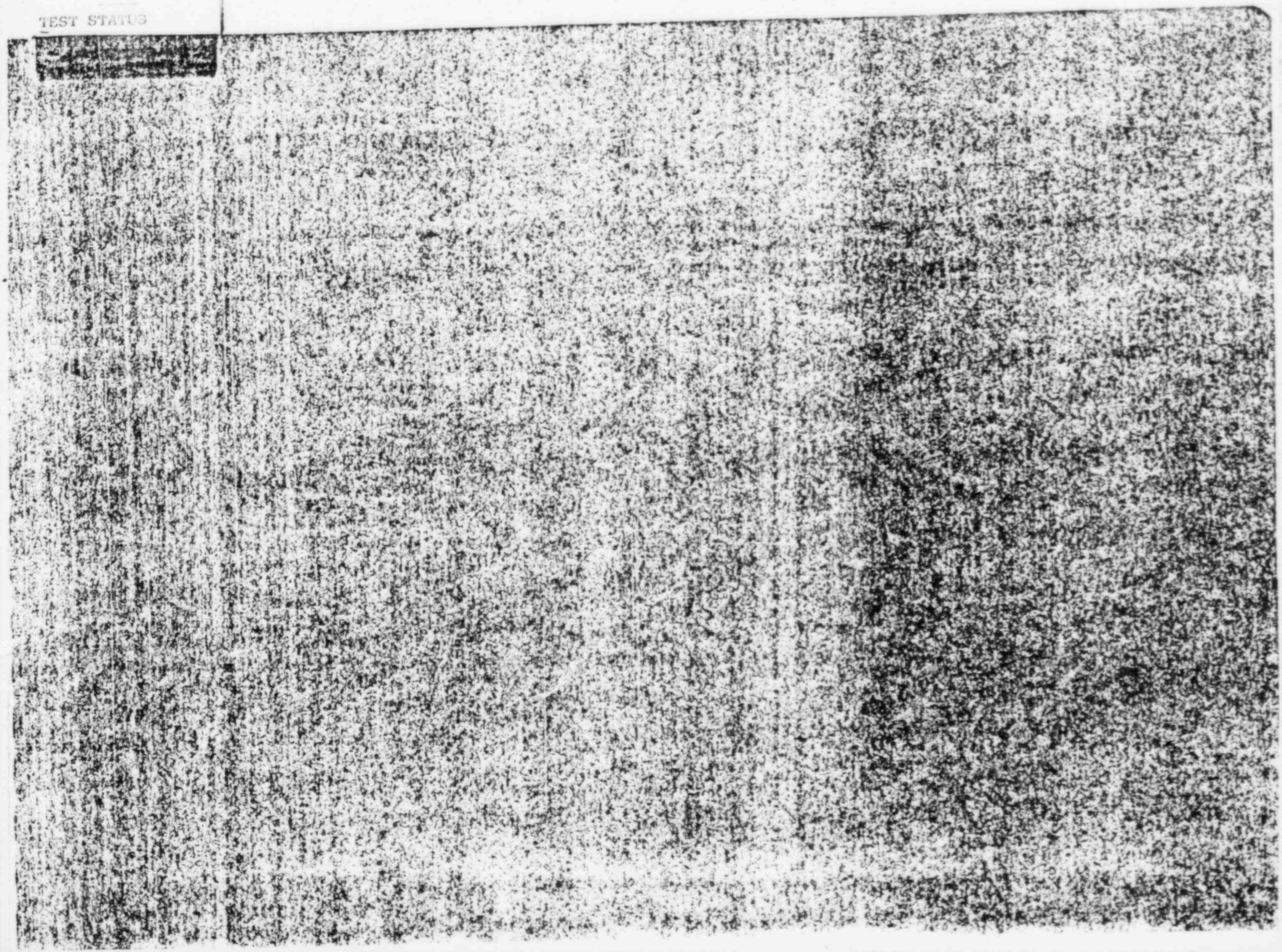
1. The status of the Test Program Schedule as of March 31, 1983, and

2. Revision 12 of the Test Schedule based upon the Two-Unit startup concept.

The basic premise in the development of this schedule is to establish a safe, organized, and logical approach to meeting the Project Objectives in a timely manner without sacrificing quality.

TEST STATUS

[redacted]



II. TEST PROGRAM SCHEDULE STATUS

The status of the Test Program Schedule as of March 31, 1983 is presented in this section in terms of System Turnovers, what we have accomplished so far in the Test Program, and where we are relative to Test Program Milestones leading to initial fuel load.

1. System Turnovers - Summary

Total scoped Systems (approximate) - ~~850~~ 870

Total System Turnovers Accepted - 543 573

Remaining System Turnovers - 307 297

% complete = 543/850 = 64% 66%

Figure 1 shows a graph of actual number of systems accepted thru March 31, 1983. It also shows the remaining system turnovers based upon Revision 12 Turnover demand dates. The numbers in parenthesis show ACTUAL % complete.

2. TESTING ACTIVITIES SUMMARY

The status of the Test Program Network as of 3-31-83 is presented below. It should be noted that "checkout complete" as reported in this Section may not be necessarily 100% complete due to remaining punchlist open items such as design changes, corrective actions, and turnover exceptions requiring checkout and/or retest.

a. ELECTRICAL SYSTEMS

321 of 371 Electrical Systems have been turned over to CPCo. (87 %).

83 % have been initially checked out and energized. No

Preoperational tests or Acceptance Tests have started.

Significant activities completed and/or in progress include:

- BOTH UNITS' MAIN POWER XFMRS and STATION POWER XFMRS have been turned over and checked out. The Common Startup Power XFMRS are energized and in operation. Final "Pre-energize" testing will be performed in 1983. Backfeed from 345 KV System is dependent on Turnover of Main Generator Protection and Microwave Systems.

- all 6.9 KV BUSSES, 4.16 KV Busses, have been energized; major portions of 480 VAC Load Control Centers, 460 VAC Motor Control Centers, 250 VDC Motor Control Centers, 125 VDC Control Power Panels, 120 VAC Instrument Power Panels, and 480 VAC Distribution Panels have also been energized and are in operation.

- QA overinspection of class 1E cable routing is 91% complete.

- Electrical Reactor Building penetration repairs and replacement resulting from rodent damage and faulty Bunker-RAYMO modules is 95% complete.

b. Instrumentation and Control (I&C) Systems

36 of 69 I&C Systems have been turned over to CPCo (52 %).

37% of I&C Systems have been checked out.

No Pre-operations/Acceptance Tests have started. Six specific procedures have been completed.

Significant Activities completed and/or in progress include:

- Plant computer installation, checkout, energization, and vendor acceptance test are complete. Computer points input verification is in progress and will continue throughout the Preoperational Test Program.

- Unit Control Room Annunciator Cabinets (both Units), Evaporator Building Annunciator Logic cabinets, and Radwaste annunciator logic cabinet, have been energized and logic verification completed. The HVAC Annunciator logic cabinet has been energized.

- Non-Nuclear Instrumentation (NNI Cabinets and Modules both units) - The electrical checkout and initial energization of NNI cabinets are complete.

- Incore Monitor Remote Analog Peripherals (both units) - partial I&C checkout is complete. The Incore Guide Tube Clearance checks have been completed.

- CRD Stator Preinstallation check was completed on both Units.

- ICS cabinets and Modules (both units) - The electrical checkout is complete, the pre-turnover calibration of modules is complete; initial energization of ICS cabinets is in progress including the Evaporator System Development Demand (ESDD) Cabinets.

- Instrument Racks - (Note: Each instrument rack represents one system) - Electrical checkout and energization, of the following instrument racks are complete:

Balance of Plant Instr. Rack	1C-49, 2C-49
	1C-53, 2C-53
	1C-166, 2C-166
	OC-180 2C-146
	OC-343
Radwaste Instrument Rack	OC-167
Evaporator Instrument Rack	OC-168
	OC-281

- Analog Isolation Cabinets 1C46, 2C46 - Electrical and I&C check-out are complete.

- Digital Isolation Cabinets 1C47, 2C47 - Electrical and I&C checkout are complete.

- Process Steam Transfer Instrument Rack, including power supply and peripheral - electrical checkout, I&C checkout of power supply, and energization of Instrument Racks 0C391 and 0C386 are complete.

- Boron Recovery and Liquid Waste Programmatic Controller System including remote I/O Cabinets - Prepower checks, and electrical checkout of I/O cabinets are complete, ladder checks are essentially complete except for design changes requiring retest.

- Radwaste Gas System Programmatic Controller System including remote I/O cabinets - prepower checks, Part 1 - Power ON preliminary checks, and Part 2 Ladder checks are complete.

C. Nuclear Steam Supply Systems (NSSS)

14 of 56 systems have been turned over to CPCo (or 25 %.)

No Preop or Acceptance Tests have been started. One specific procedure (Unit 2 Decay Heat Removal Initial Pump Run) has been completed.

Significant Activities completed or in progress include:

- Turbine Bypass Valves - Unit 1 Electrical and I&C checkout complete; Unit 2 electrical checkout complete.

- Unit 1 Reactor Vessel Internals Modification is in progress

- Unit 2 Reactor Vessel Internals Modification complete; the HFT Flow screen is installed/attached to the PLENUM; the CRD dummy guide assemblies being installed in the PLENUM.

- Unit 2 Reactor Coolant Pump Motors - partial electrical checkout complete; all 4 RCPM's have been bumped for proper rotation and anti-rotation devices have been installed. Preparations are underway for initial motor runs.

- Unit 2 Decay Heat Removal System (portions in the Auxiliary Building) - Electrical and I&C checkout are essentially complete; Initial Pump Runs-Recirc Mode, complete; Gravity flush to suction of DH Pumps and Velocity Flush of lines from pump discharge to BWST recirc lines complete.

- Unit 2 Makeup System (High Pressure Injection Pumps) - Gravity flush to MU pump suction complete; two of the 3 HPI pump motors have been run and preparations are underway to run the third HPI pump motor.

- Unit 1 & 2 Boronometer - Electrical checkout complete.

- Unit 2 - Boric Acid Addition - The mix tank has been cleaned; electrical and I&C checkout in progress

- Unit 1 & 2 Hydrazine and Lithium hydroxide - Electrical I&C, and mechanical checkouts complete. Nitrogen blow to hydrazine drums complete. Unit 2 flush to suction of LIOH and Hydrazine Pumps complete.

- Unit 2 RB Spray suction piping - partial flush complete.

- Unit 2 Borated Water Storage Tank Outlet Piping - Flush to suction of DH pumps complete. The BWST Circulation pump initial run complete.

d. AUXILIARY SYSTEMS

26 of 84 Auxiliary systems have been turned over to CPCo (31 %).

Preformance of two flush procedures (Unit 1 & 2 FH Bridge Air System Flush) and one Specific Procedure (Receipt of Dummy Fuel Assemblies and Control Rods) have been completed.

Significant Activities completed and/or in progress include:

- Service Water Sluice Gates - I&C checkout complete; electrical checkout in progress.

- component cooling water - Portions of the system (B-Loop) required to provide cooling water to the RCP motors have been checked out and flushed; this includes piping to the CCW and Decay Heat Coolers and DH Pump Seal Coolers.

- Reactor Building Vent Header - Electrical checkout of valves complete.

- Radwaste pump seal water/headers - electrical checkout complete.

- Filter Handling - Electrical checkout complete.

- Primary Mixed Bed demineralizer - Electrical checkout complete.

- New Fuel Elevator - electrical checkout complete.

- Spent Fuel Pool Handling Bridge - electrical checkout complete

- Unit 1 Reactor Building Fuel Handling (FH) - electrical and I&C checkout complete, portions associated with Dry Indexing Preoperational Test (Milestone 1A) complete

- Unit 2 Reactor Building Fuel Handling - Electrical and I&C checkout complete, portions associated with Dry Indexing Preoperational Test (MILESTONE 2A) complete

- Unit 1 FH Transfer Mechanism - I&C checkout complete; Fuel Transfer Hydraulic System Flush in progress

- Unit 2 FH Transfer Mechanism - Electrical and I&C checkout complete, FH Transfer Hydraulic System Flush in progress.

- Service Water System - electrical c/o Main Header valves in progress, I&C checkout of common Header to the Turbine Building Service Water complete; electrical checkout Unit 1 & 2 Turbine Building Service water complete; electrical checkout Unit 2 Turbine Building service water complete.

- Initial Pump and/or motor runs completed to date include: Primary Water Storage Transfer and Vacuum Pumps (Motor only), service water Travelling screens, four of the five service water pump motors, four of the five service water strainers, and one of the CCW pumps.

e. Feedwater/Condensate Systems

55 of 100 systems have been turned over to CPCo (55%).

Performance of one Specific Procedure (Aux Boiler Initial Operation and Boilout) and 6 Flush Procedures, described below, have been completed.

Significant Activities completed and/or in progress include:

- Unit 2 Condensate supply and Low Pressure Feedwater Heating - Electrical, I&C, and mechanical checkouts complete; condensate pumps initial run complete.

- Unit 1 & 2 Hotwell makeup and Rejection - Electrical and I&C checkout complete except for Unit 2 I&C checkout which is in progress.

- Unit 1 & 2 Main Condenser - I&C checkout complete.

- Unit 1 & 2 Condenser Hotwell sampling - Electrical checkout complete.

- Common Feedwater crossconnect - electrical C/O complete.

- Unit 2 Condensate Demineralizers and Associated Systems - Electrical and I&C C/O in progress.

- Makeup Demineralizers - all checkouts complete, system is functional.

- Demineralized Water Storage and Transfer - all checkout essentially complete; system is functional and providing primary source of Flush Water; Flushes associated with the storage and transfer header branch lines to all hose stations, and Unit 1 & 2 Reactor Building piping, complete.

- Makeup Demineralizer Chemical Storage and Transfer - all system checkout and flushes complete; system is functional.

- Condensate storage (common system) - partial electrical and I&C checkout complete, flush to Unit 1 &2 Auxiliary Feedwater Pump recirc lines complete.

- Unit 1 Condensate Storage - Tank has been cleaned; I&C C/O complete.

- Unit 2 Condensate Storage - all system C/O complete except for electrical C/O; tank has been cleaned; flush from tank to Hotwell complete (Milestone 2E).

- Condensate Transfer - For the common system, all electrical and I&C C/O complete; condensate jockey and transfer pumps have been run; flush of the system is complete.

  Unit 1 system electrical and I&C C/O complete.

- Ammonium Hydroxide Storage and Transfer - The common unit electrical and I&C C/O complete; chemical addition pumps have been coupled. The Unit 1 & 2 systems electrical and I&C C/O complete.

- Hydrazine Addition System - Unit 1 & 2 Electrical and I&C C/O complete.

- Hogging/Exhaust Piping Vacuum Relief - Unit 1 & 2 I&C C/O complete.

- Circulating Water Supply - Unit 1 & 2 initial motor run of circulating water pump motors complete.

- Water Box Scavenging - Unit 1 & 2 Electrical and I&C C/O complete.

- Acid Storage, Supply, Distribution - Electrical checkout complete; pumps have been coupled.

- Auxiliary Boiler - all system C/O complete; both boilers have been fired and Auxiliary System flushes completed; boiler tuning and load test is in progress.

- Auxiliary Boiler Steam Distribution - all system C/O complete steam blow of main headers complete.

- Air Compressors/Instrument Air Dryer - all system C/O complete; compressors are functional; presently clearing punchlist open items; air blows main header complete.

- Service Air Distribution - all system C/O of the Unit 1, 2 and common headers complete; air blows to subheaders and branch lines in progress.

- Instrument Air Distribution - All system C/O complete; Instrument air is available to Evap Bldg, Miscellaneous Buildings, Dow pump house, Turbine Building (both units), and portions of the Auxiliary Building.

- Fire Water Supply/Distribution - System C/O complete; Diesel Fire and electric pump initial runs is complete. System is supplying site fire water protection.

- Transformer Deluge - I&C C/O complete.

- Carbon Dioxide Fire Protection - I&C and Electrical C/O in progress on those portions that are turned over.

- Building Deluge Protection - Electrical and I&C C/O for portions of the system turned over is complete.

- Hose Station Protection - Checkout of Hose Stations complete (to Warehouse 2, Turbine Building, Reactor Building, and Miscellaneous Buildings.

- Nitrogen System - System C/O complete; N_2 blow/purge of system complete; the distribution system is undergoing redesign work and therefore flushing will have to be done over.

- Natural Gas Evap Bldg Lab - System C/O complete; flush of system complete.

- Vacuum Fume Hood (Evap Bldg Lab) - Elect C/O and piping flush complete.

- Acid and Caustic Waste - Unit 2 sumps have been cleaned; I&C and electrical C/O complete; initial pump run of Neutralizing sump pump complete.

f. Turbine/HVAC Systems

76 of 150 systems have been turned over to CPCo (50%).

Performance of one Acceptance Test (D G Electric Heat Test) and 6 Flush Procedures as described below have been completed.

Significant activities completed or in progess include:

- Unit 1 & 2 Turbines - System C/O complete; Turbine has been placed on turning gear.

- Unit 1 & 2 Turbine Generator Bearing Lube Oil Supply - System C/O complete; Oil flush complete; system functional.

- Generator H_2 and CO_2 - Unit 1 & 2 I&C C/O complete; preparations under way to perform Generator Air Drop Test.

- Unit 1 & 2 Hydrogen Seal Oil - System C/O complete except for I&C C/O. Oil flush complete.

- Turbine Lube Oil Storage, Transfer, and Purification (Unit 1, 2, and Common) - All system C/O complete; oil flush complete; system functional.

- Cooling Pond Makeup Screens/Screen Wash - System C/O complete: system is functional.

- Cooling Pond Makeup, traveling screens, sluice gates, trash racks - Cooling Pond has been filled with water, checkout of screen wash pumps, screens, makeup pumps, sluice gate, valves complete. Cooling Pond blowdown system checkout is in progress.

- Hot Water Supply/Chemical Treatment - Electrical C/C complete; initial motor run of hot water pumps complete.

- Plant Hot Water Heat Systems - Unit 1 & 2 Turbine Building electrical C/O and initial motor runs complete; electrical C/O Auxiliary Bldg Hot Water heat complete; Unit 2 electrical, I&C C/O and initial motor runs complete; office, Service Building electrical, I&C C/O complete including initial motor runs; Intake, Hypochlorination, Service Water Building electric heat-system C/O complete; Unit 1 & 2 Diesel Generator Building electric heat - system C/O complete - <u>The Diesel Generator Building Electric Heat Acceptance Test is complete.</u>

  Reactor Buidling Hot Water Heat (Unit 1, common) electrical C/O complete; Process Evaporator Hot Water Heat electrical C/O including initial motor runs complete; Auxiliary Building Safeguard Room Electric Heat - electrical and I&C C/O complete (common Unit; Unit 1 - electrical C/O in progress); Guard House electric Heat - I&C and electrical C/O complete.

- Turbine Building Chilled Water - Unit 1 & 2 I&C C/O complete; chilled water pump motors were run and coupled; the system flushes are in progress.

- Office/Service Building Chilled Water - Electrical and I&C C/O complete; startup of chillers and pumps complete; proof flush is complete.

- Office/Service Building HVAC - System C/O complete, air balancing and setting of dampers complete.

- Chlorination Building HVAC, Cooling Pond MU Building HVAC, Cooling Pond Intake Building HVAC, Guard House HVAC, and Pond Blowdown Building HVAC - System C/O is complete.

- Evaporator Building HVAC, Circulating Water Intake Building HVAC, Oily Waste Treatment Building HVAC, and Dow Condensate Return Pump House HVAC - electrical C/O in progress.

- Refuel Pool Air Supply (Unit 1) - electrical c/o in progress.

- Domestic Water Storage, Transfer, and Heating - System c/o complete and system is functional.

- Hydrogen Supply - Electrical and I&C C/O complete; purging H_2 system with nitrogen complete (common system); Unit 1 & 2 H_2 system is functional up to the Main Generator and to the RCS MU Tank.

- Oily Waste System - Common Unit electrical and I&C c/o complete. Unit 1 electrical and I&C c/o complete and flush is complete; Unit 2 electrical and I&C c/o complete.

- Turbine Bolt Heater Panels - Both Unit 1 heater panels have been turned over; one of the panels have been checked out. Four of the Unit 2 Heater panels have been turned over; of these 1 heater panel has been checked out.

g. Process Steam

12 of 15 Process Steam Systems have been turned over to CPCo (80%). Performance of one Flush Procedure (Demineralized Water Supply) has been completed.

Significant Activities completed and/or in progress include:

- Steam to HP Evaporator - I&C C/O complete, electrical C/O in progress.

- condensate Return/Unit 2 Condenser, HP steam to Dow Isolation Valves - I&C C/O complete

- LP Steam to Dow Isolation Valve - I&C C/O in progress.

- Process Steam Blowdown to Dow - Electrical and I&C C/O complete; motor run has been performed and coupling of pump to motors complete.

- condensate return from Dow - Electrical, mechanical and I&C C/O complete (for CPCo equipment only).

- Condensate Chemical addition - electrical c/o complete; HP chemical Feed flush, sodium sulfite chemical feed flush and associated pump runs complete.

- condensate Supply/Vacuum Deaerator - system c/o complete; Dow Demineralized Water Tank (2.5 million gal) is filled with water for flushes; initial demin pump run and flush complete, evap dearator feed pump initial run complete.

- Feedwater Supply - Electrical, Mechanical, and I&C C/O is near completion; initial motor run of HP Feed Pump motor is complete.

- Iron removal (Condensate Return) - Mechanical and I&C c/o complete.

- Iron Removal sump - system c/o and iron removal sump pump run complete.

- HT Boilers - Initial checkout, start up, and testing complete, all 3 boilers have been fired up.

- Process steam plant sample - I&C c/o complete.

h. Programmatic Testing

3 of 5 systems were accepted by CPCo (60%)

Significant activities completed and/or in progress include:

- The Unit 1 & 2 Reactor Building Tendon Test Facility has been turned over as well as the Unit 2 RB Structural Integrity Test Facility.

3. Procedure Development

a. The status of Procedure Development and Approval required for the Test Program is summarized below and detailed breakdown of each Procedure type and Discipline is shown on Table 1.

Procedure Type		STATUS - PERCENT OF TOTAL		
	Total	Drafts Not Written	In Review & Approval Cycle	Approved
Preoperational Test Procedure	268	23%	56%	21%
Acceptance Test Procedures	128	29%	38%	33%

Flush Procedures	168	2%	20%	69%
Specific Procedures	119	13%	21%	66%
Generic Procedures	46	4	22%	74%
	729	16%	33%	45%
	(Total)	(Not Written)	(in Review)	(Approved)

Our goal is to have all Procedures approved by March 1984. Figure 2 shows a curve of Procedure Development - Actual vs Scheduled. Based upon Rev 12 Test Schedule, we project that procedures required to support Testing Activities will be developed and approved at least 2 months before the scheduled test start date.

b. The status of Test Program Procedure Performance completions is summarized below and shown in detail in TABLE 2 and Figure 3.

PROCEDURES COMPLETED

Preoperational Tests completed -	None
Preoperational Tests started/not complete -	2
Acceptance Tests completed -	1
Acceptance Tests started (not complete)	0
Flushes completed -	16

Flushes started (not complete) - 17

Specific Tests completed - 9

Specific Test started (not complete) - 23

Generic Tests/Checkout - Checkout procedures are performed for all components, subsystems, controls, and similar items to ensure that they function properly and are installed correctly prior to the start of system Preoperational or Acceptance Testing. Due to the nature of checkout (i.e. required for electrical, mechanical, and I&C), the status of checkout is presented below only as an approximate. The "completion" status is assumed that the checkout activity in itself is complete but there may be punchlist items that are still open and require checkout testing. In addition, the following guidelines were assumed in reporting checkout complete:

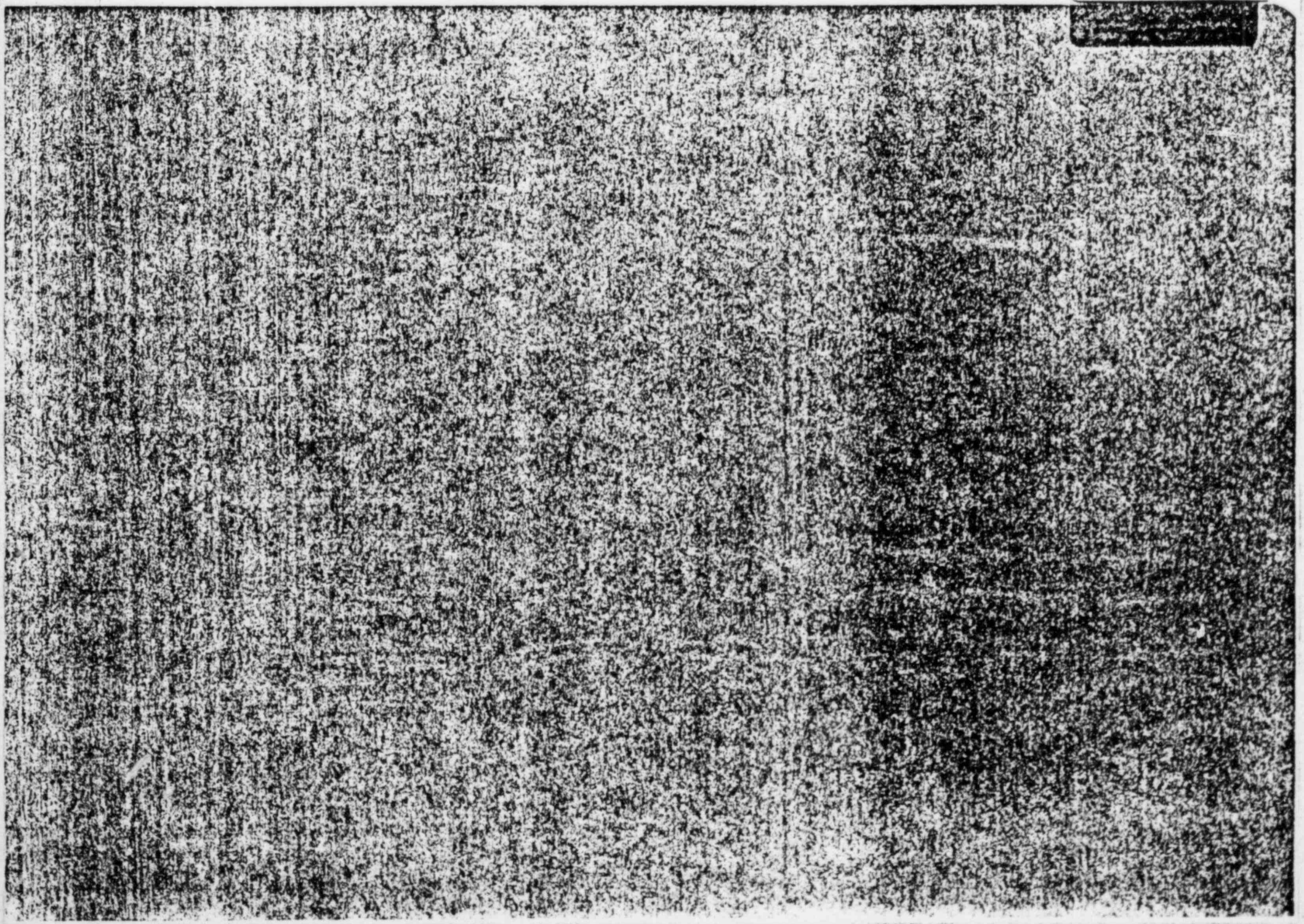
Electrical - system is checked out and energized

Mechanical System - electrical, I&C, and mechanical C/O are complete

I&C - electrical and I&C C/O are complete

DISCIPLINE	Generic Checkout Percent Complete
Electrical	83
I & C	37
Turbine/HVAC	24
Feedwater/Condensate	25
NSSS	4
Auxiliary System	8
Process Steam	15
Total	45%

In summary, 45% of the Systems (850) in the Plant have been initially checked out, and 4% of required Tests (Preop, Acceptance, Flush, and Specific) have been performed.



III. Project Test Schedule - Rev 12

A. Rev 12 Test Schedule Philosophy

The Rev 12 Test Schedule Philosophy is basically the same as Rev 11 relative to the dual Unit startup concept and is summarized in this section. Figure 4 shows Rev 12 Test sequence through commercial operation for both Units.

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

   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 Figure 2 as "Resolve Punchlist Items---".

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

It is impractical 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 two of every resource including the Testing Group, Operations Group, Bechtel, B&W, and CPCo Management support.

However, one major change in this philosophy is that, on Rev 12 the ILRT on one Unit is now scheduled to be performed simultaneously with HFT on the other unit. Since Testing manpower required to perform ILRT is different from HFT, and since there is no system nor technical relationship between ILRT on one unit and HFT on the other unit, we believe that these two events can occur in parallel.

4. Separation of Fuel Loads

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

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

Containment leak rate and structrual integrity testing would benefit by capitalizing on the commonality of equipment, personnel, and vendor support required to perform these tests.

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 action. As such, this particular milestone test for each plant will include the other plant to the extent that neither could provide sustained power during conduct of the test. Thus, ESFAS testing will be performed for each plant at approximately the same timeframe to avoid duplication of effort and interruption of power production from the "on-line" plant.

7. Several disadvantages with the Rev 11 schedule at the time it was developed have become less significant in terms of the Rev 12 schedule. These are:

a. <u>The potential problem of Spent Fuel Pool area work interferring with fuel receipt would be less significant.</u>

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.

Based upon Rev 12, only 7 systems remain to be turned-over to support fuel receipt. The potential problem of receiving and storing Unit 2 fuel conflicting with construction of Unit 1 (construction access to the inside of the containment) is now much less significant due to large amount of construction work completed. There is no longer the problem associated with Tendon tensioning on the Unit 1 RB interferring with fuel receipt because the Tendon tensioning is complete.

b. Construction has a better chance of achieving the turnover demand dates since there are only 307 of 850 turnovers remaining. In addition, the CCP concept is predicated on quality work which would result in a more complete system at the time of turnover, i.e. less construction deficiencies.

c. The feedwater and condensate system will not have to be laid up for a long time between chemical cleaning and the start of HFT.

d. We have more time to reduce backlog punchlist open items.

8. Initial Turbine Roll - Three temporary high pressure boilers were installed in 1982 and fully tested to primarily allow early testing of the Process Steam Systems which will result in considerable schedule gains during power escalation testing of Unit 1. The Temporary High Pressure Boilers will also be capable of supplying steam to support Secondary Plant Testing including Initial Turbine Roll. Early Testing of the Secondary Steam Side of the plant and the Main Turbine will result in overall test schedule gains in the secondary side of the Plant. A Turbine Roll Milestone (TR) has been added to the Test Sequence which is required to be accomplished approximately 1 to 2 months prior to HFT. The Pre HFT Schedule Gains is expected from being able to perform early testing of relief valves, initial steam leak tests, steam blows and flushes of Secondary Side Systems.

B. REV 12 TEST PROGRAM PLAN

This section describes the Test Program Plan Revision 12, both in narrative form discussing the Testing highlights and Tabular/Chart forms showing details of the Test Program.

Figure 4 shows the Rev 12 Test Program Schedule Sequence showing the major milestones leading to initial fuel load and commercial operation. Figure 5 shows the full-blown Test Schedule in Tabular form listing the projected start dates for Preoperational, Acceptance, and Specific tests as well as system flushes.

The narrative presented below pertain to Unit 2; however, due to similarities between the two units, it is applicable also to Unit 1.

1. Planned Activities Leading to the Next Target Milestones (B-Auxiliary System Flushes and G-Feedwater System Flushes)

The major thrust during this period is to complete system check-outs and flushes for the 543 systems now in the hands of CPCo (as of 3-31-83). In addition, approximately 60 System Turnovers and subsequent checkout and flushing activities are projected to occur during this time frame.

In the electrical area, turnover of the remaining electrical power systems and subsequent energization are scheduled to provide permanent power to run the mechanical systems. Backfeed from the 345 KV lines through the Station Transformers will be a major event to ensure that sufficient power is available to support major test events and their power load requirements, and allow testing of the electrical systems.

In the I&C area, the major effort will be devoted to completing I&C checkout of instrument racks, cabinets, modules, and annunciators that have been turned over to CPCo. The majority of the remaining I&C system turnovers are scheduled during this time frame to allow as much checkout as possible in support of Mechanical systems checkout and startup. Verification of input/output

signals to the plant computer, annunciators, indicators, and controls will be an on-going process.

In the primary systems area, seven (7) systems remain to be turned over to support Milestone B-Auxiliary System Flushes into the Reactor Vessel. The major objective during this period is to checkout and flush the individual auxiliary systems which support the Reactor Coolant System (RCS). These include the DH Removal, High Pressure Injection, RCP seal injection, RC makeup, Core Flood, RCS letdown, and portions of the Reactor Coolant System Cold leg piping.

In the secondary side of the plant, the major testing activities involve checkout and flushing of the entire Condensate system and the Deaerators. Seven (7) Systems remain to be turned over to allow the next target Milestone (G) to start, which is the Main Feedwater Flush.

In the Evaporator Building, major activities in 1983 will include complete checkout and flush of Secondary and Tertiary Systems; complete flushing after remaining five (5) systems are turned over to CPCo; complete Tunnel modifications, and initial piping heatup using the HP Boilers.

2. Milestone B-Auxiliary System Flushes into Reactor Vessel

This Milestone involves flushing of the low and high pressure injection, and Core Flooding lines into the Reactor Vessel. Other activities scheduled to be performed/completed during this period include:

- Reactor Vessel internals modification and final clean up

- Reactor Vessel internals pre-HFT baseline inspection

- Reactor Cooling Pump Motor initial runs, seal installation, alignment and coupling to pumps,

- After flushes to the RV, setting the Core Support Assembly and filling the RV up to the flange level.

- Conducting the Reactor internals Vent Valve Test, and surveillance specimen holder tube test.

3. Milestone C - Refueling Canal Hydro and Wet Fuel Handling Test

The Milestone will verify tne integrity of the Refueling Canal and the seal plate, and the FH equipment and fuel index test with refueling canal water at its full level (simulating refueling operations).

Following CANAL Hydro, several key events take place in preparation for RCS COLD Hydro. Some of the activities include the following:

- Set Plenum in Reactor Vessel

- Install RV Head and Tension Studs

- Couple Control Rod Drive Mechanism lead screws and install closures.

- Fill and Vent Reactor Coolant System

- Draw Pressurizer Bubble, and Run Reactor Coolant Pumps.

4. Milestone D - RCS COLD HYDRO

During this test, the RCS is pressurized to 125% of design pressure to verify system integrity. During the Hydro phase, miscellaneous tests will be conducted such as:

- RCP Flow Tests

- MU/HPI/LPI/CF System Tests

- Secondary Side, Steam Generator Hydro Test

Following Unit 2 RCS depressurization, test and manpower emphasis will be shifted to Unit 1. At this point, resolution of punchlist open items will be vigorously pursued and remaining RCS insulation will be installed in preparation for Unit 2 HFT.

5. Milestone G - Feedwater System Flush

Following the Condensate System flushes and Turnover of the Feedwater System, the Deaerator will be filled and the Feedwater Booster Pumps will be used to flush the feedwater system including piping through the condensate demineralizers. Other activities during this time period include:

- Turnovers, checkout, and flush of remaining systems required for drawing vacuum in Condenser and initial Turbine roll.

6. Milestone H - Condenser Vacuum

Drawing a vacuum in the condenser involves the checkout and operation of the air ejectors, vacuum pumps, and the Circulating Water System. Any air inleakage to the condenser will be identified and required at this time prior to HFT. The permanent Auxiliary Boilers or temporary HP Boilers will be operated to provide steam to the gland seal steam system and blanketing steam on the Moisture Separator reheater, tube side. The HP Heater

Vents, drains and level control sytem will be in operation. The Turbine will be placed on turning gear with support systems such as Seal and Lube oil, and cooling water, in operation.

7. Milestone TR - Initial Turbine Roll

Due to the availability of the HP Boilers, the Main Turbine initial roll can be accomplished independent of the Reactor Coolant System and Steam Generators. To support initial Turbine roll the Condensate and portions of the Feedwater System have to be in operation and the Condenser in a vacuum. In addition, the following systems have to be functional:

- Main Turbine Steam Supply and drains.
- Moisture Separator Reheater supply and drains
- Stator Cooling
- Turbine EHC System
- Main Turbine Supervisory Instrumentation
- Main Generator Protection
- Microwave System

8. Milestone J - Hot Functional Testing

During HFT, operation of the NSSS and secondary systems is integrated for the first time: The test will be conducted at ambient conditions, heatup, hot shutdown conditions (2,155 psig and 532F), and cooldown. A significant number of Preoperational and Acceptance Tests will be conducted during this time.

9. Milestone K - Integrated Leak Rate Test

The ILRT involves pressurizing the Containment above the Design Bases Accident Pressure and conducting a leak integrity check to ensure that the building and penetrations are air tight and capable of isolating the structure in the unlikely event of an accident involving release of radioactivity. Prior to this test, the Local Leak Rate Test of all containment penetrations will be conducted. Based upon the two-Unit startup concept, the ILRT for Unit 1 will precede Unit 2 ILRT.

10. Milestone L - Integrated Safeguards Features Activation System Test

Upon completion of HFT and ILRT, the next major milestone is the SFAS Test. The prerequisites for this test involve:

- Reactor Vessel Head Removal

- RV internals removal

- Turnover, checkout, and testing of all system/components that receive a signal from the SFAS cabinets.

During the SFAS test, operation of all emergency core cooling systems is checked. An emergency condition will be simulated which will cause the plant's automatic safeguard systems to start in response to the signal. The Diesel Generators, HPI and LPI pumps, and containment spray pumps will be actuated. Required flow conditions will be verified as well as the order in which systems respond and the length of time elapsed before the response is initiated.

11. Milestone M thru O - Fuel Load and Post Fuel Load Activities

This phase of the Test Program is called the Startup phase and will not be described in this report. For planning purposes, Figure 2 shows the Major Milestone Target dates beyond Fuel Load, and shows a duration of approximately 4.5 months from Fuel Load to Commercial Operation (UNIT 2) and approximately 6 months for Unit 1.

C. Manpower Requirements - Revision 12

Figure 5 shows manpower resource curves for Test Engineers, operators, electrical checkout (ECO) personnel, I&C Technicians, Maintenance Mechanics, Maintenance electricians, and Chemistry and Health Physics Technicians required to support Revision 12 of the Test Schedule.

The Midland Plant has been staffed to support the Dual Unit Startup Plan. The resource availability for each of the above resources has been superimposed on the appropriate curves. It is also worth noting that a separate organization, Construction General Service Organization (CGSO), will perform the majority of work associated with Post Turnover Punchlist items. The present load of CGSO personnel is:

Non-Manual - 55

Manual (Crafts) 100

Breakdown of Manual:

Pipefitters and Welders - 55
Electricians - 35
Laborers - 10

In terms of shift work, the estimated durations in the Test Schedule were assumed as follows:

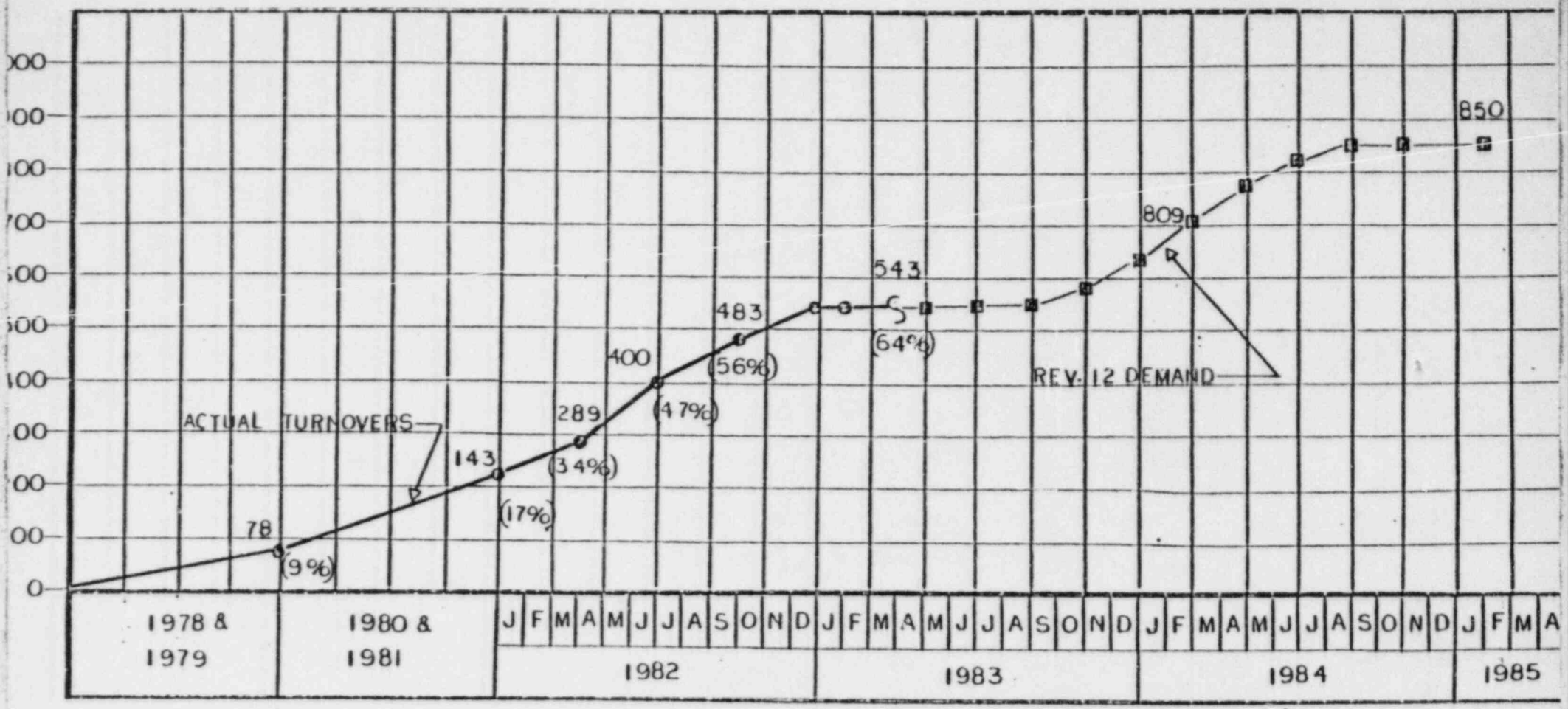
1. The majority of Post Turned-over activities were assigned a 5-day work week, 8 hrs/day.

2. Mainline Activities and Milestones (such as RCS initial fill and vent, RCS Hydro, HFT, etc.) AND key systems (such as Auxiliary Systems required to support RCS Hydro) were assigned a 7 day work week, 24 hrs/day.

3. The majority of System Flushes and initial fill and vent operations requiring Operations support were assigned a 7 day work week, 24 hours/day.

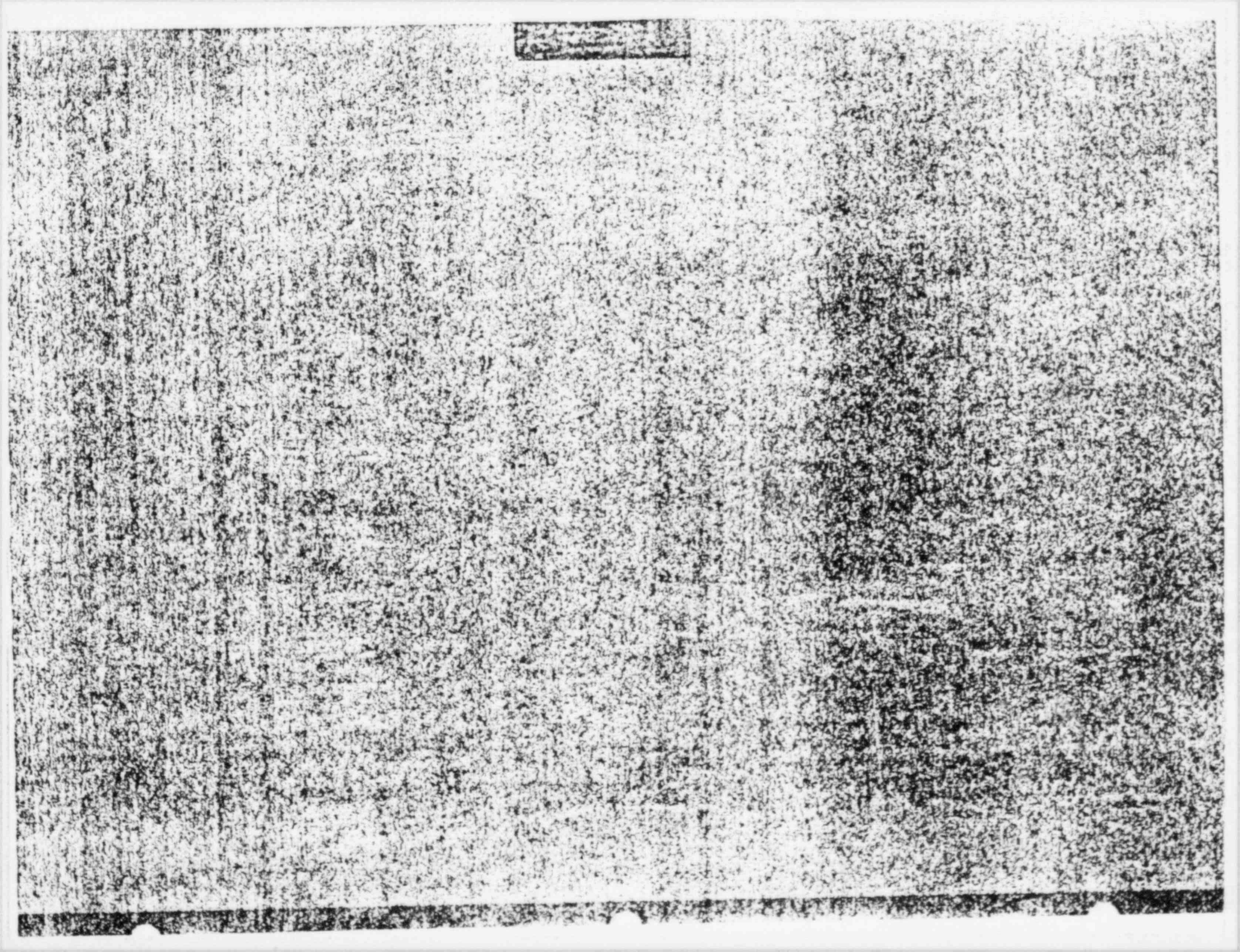
SYS. T/O

[redacted]



ACTUAL TURNOVERS AND REV. 12 DEMAND TURNOVER CURVE

FIGURE 1



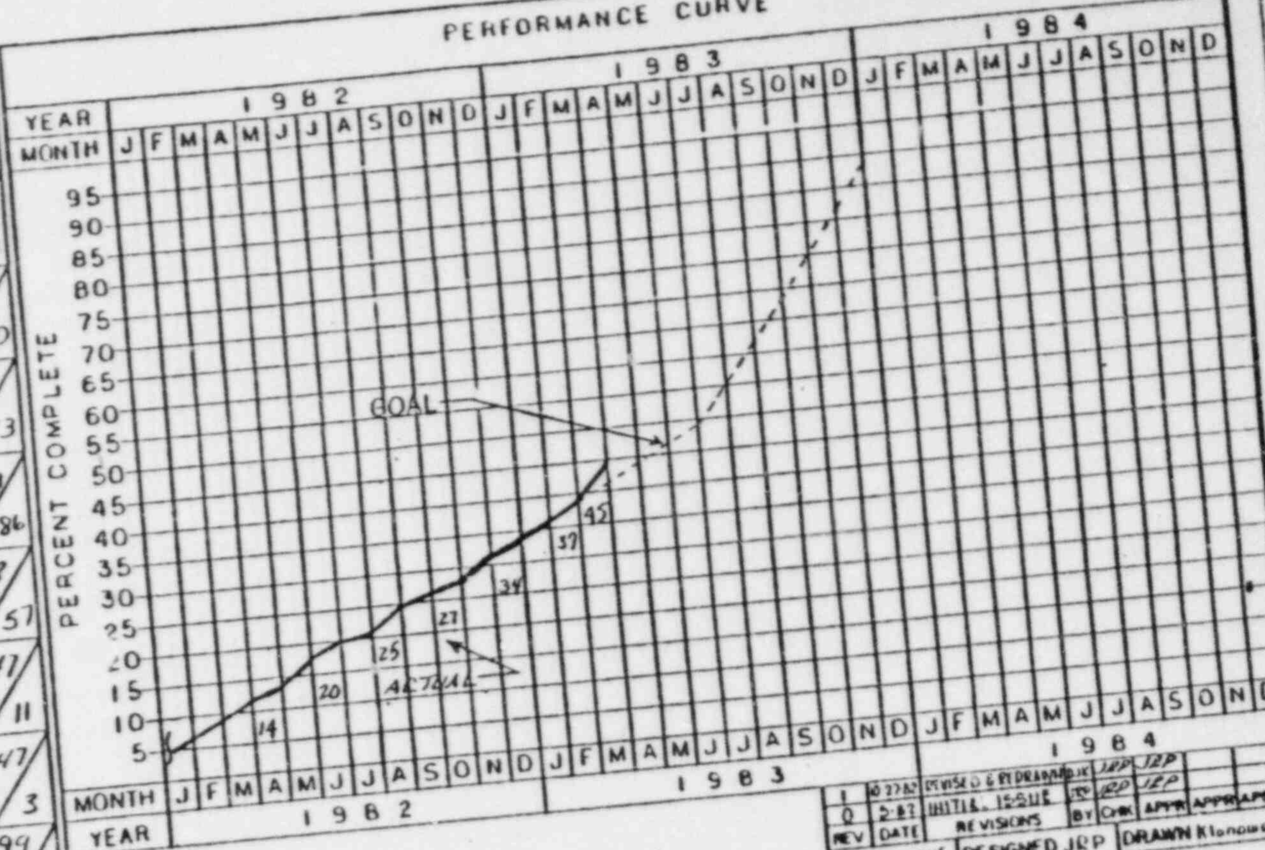
MIDLAND POWER PLANT
TECHNICAL DEPARTMENT

PROCEDURE DEVELOPMENT-ACTUAL VS SCHEDULED

PROGRESS SUMMARY APPROVED

DISCIPLINE	% COMPLETE (10 20 30 40 50 60 70 80 90)	WT FACT	EST / ACT
		154	112
AUXILIARY	39	.060	44
		118	86
ELECTRICAL	35	.041	30
		146	107
FEEDWATER / CONDENSATE	50	.073	53
		182	133
INSTRUMENT / CONTROL	65	.118	86
		134	98
NUCLEAR STEAM SUPPLY SYSTEM	58	.078	57
		064	47
PROCESS STEAM	23	.015	11
		.064	47
PROGRAMATIC TESTING & PERFORMANCE	6	.004	3
		136	99
TURBINE / HVAC	44	.060	44
		1.0	729
		371	328

AS OF 3-31-83



REV	DATE	REVISIONS	BY	CHK	APPR	APPR	APPR
1	10-27-82	REVISED & REDRAWN	JK	JRP	JRP		
0	2-82	INITIAL ISSUE	JRP	JRP	JRP		

SCALE NONE | DESIGNED JRP | DRAWN Klonowski

MIDLAND PLANT

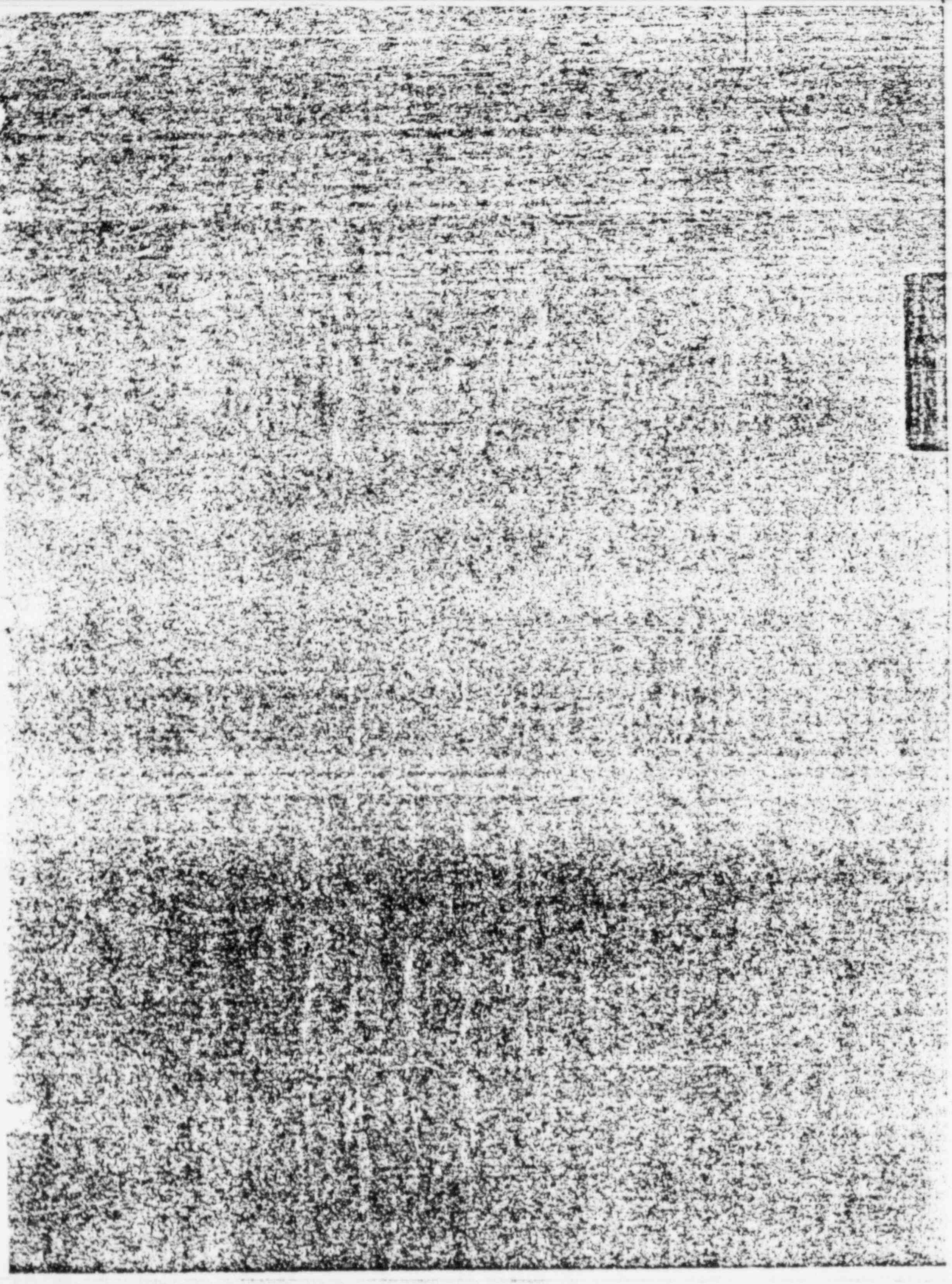
PROCEDURE DEVELOPMENT

Consumers Power Company

DRAWING NO TPS-5 | REV 2

2 | 1-1-83 | DESIGN/OBJECT | KAB | KAB | KAB

FIGURE 2



MIDLAND POWER PLANT
TECHNICAL DEPARTMENT

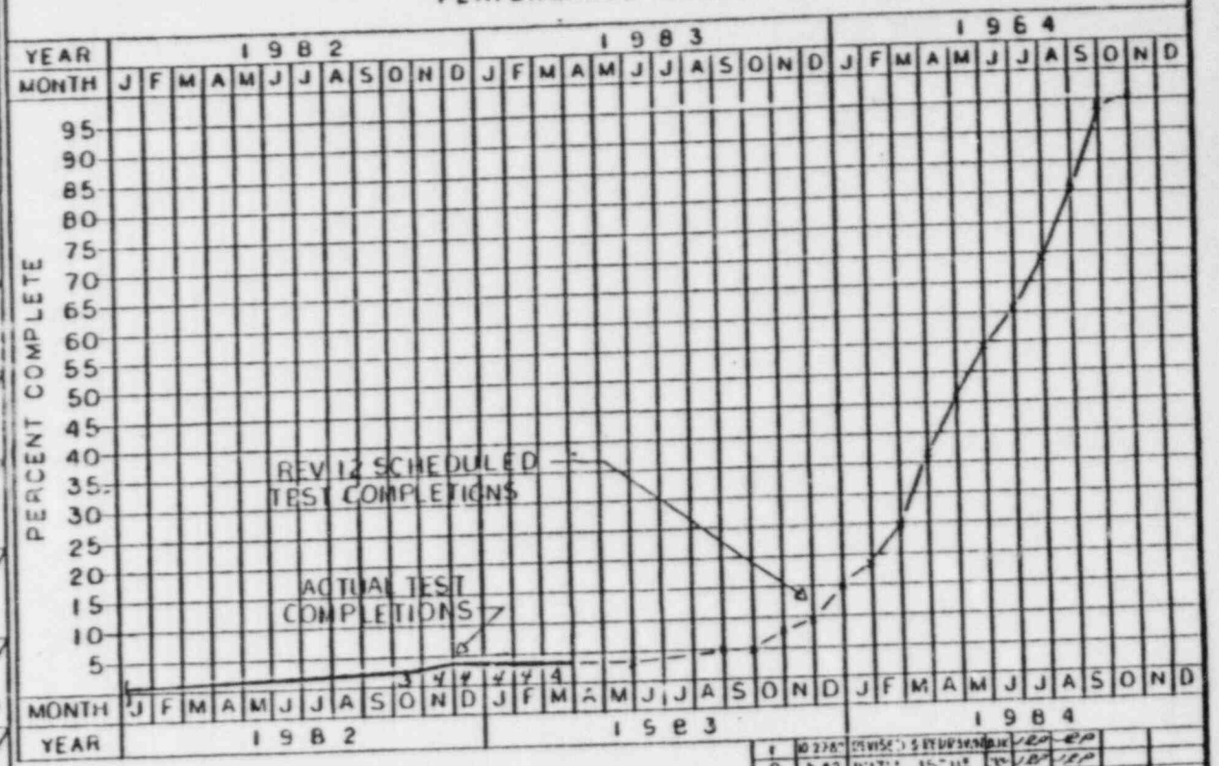
PROCEDURE PERFORMANCE (LESS GP) – ACTUAL VS SCHEDULED

PROGRESS SUMMARY

DISCIPLINE	% COMPLETE 10 20 30 40 50 60 70 80 90	WT FACT	ES/AC
AUXILIARY	5	.169	112
		.004	3
ELECTRICAL	0	.095	65
		0	0
FEEDWATER / CONDENSATE	7	.150	103
		.010	7
INSTRUMENT / CONTROL	5	.185	126
		.009	6
NUCLEAR STEAM SUPPLY SYSTEM	1	.143	98
		.001	1
PROCESS STEAM	2	.067	46
		.001	1
PROGRAMATIC TESTING & PERFORMANCE	0	.059	40
		0	0
TURBINE / HVAC	8	.136	93
		.010	7
		1.0	683
		.037	25

AS OF 3-31-83

PERFORMANCE CURVE



REV	DATE	REVISIONS	BY	CHK	APPR	APPR	APPR
1	10-27-82	REVISED SCHEDULE	JK	RP	RP		
0	2-83	INITIAL ISSUE	JK	RP	RP		

SCALE NONE | DESIGNED JKP | DRAWN K Konowski

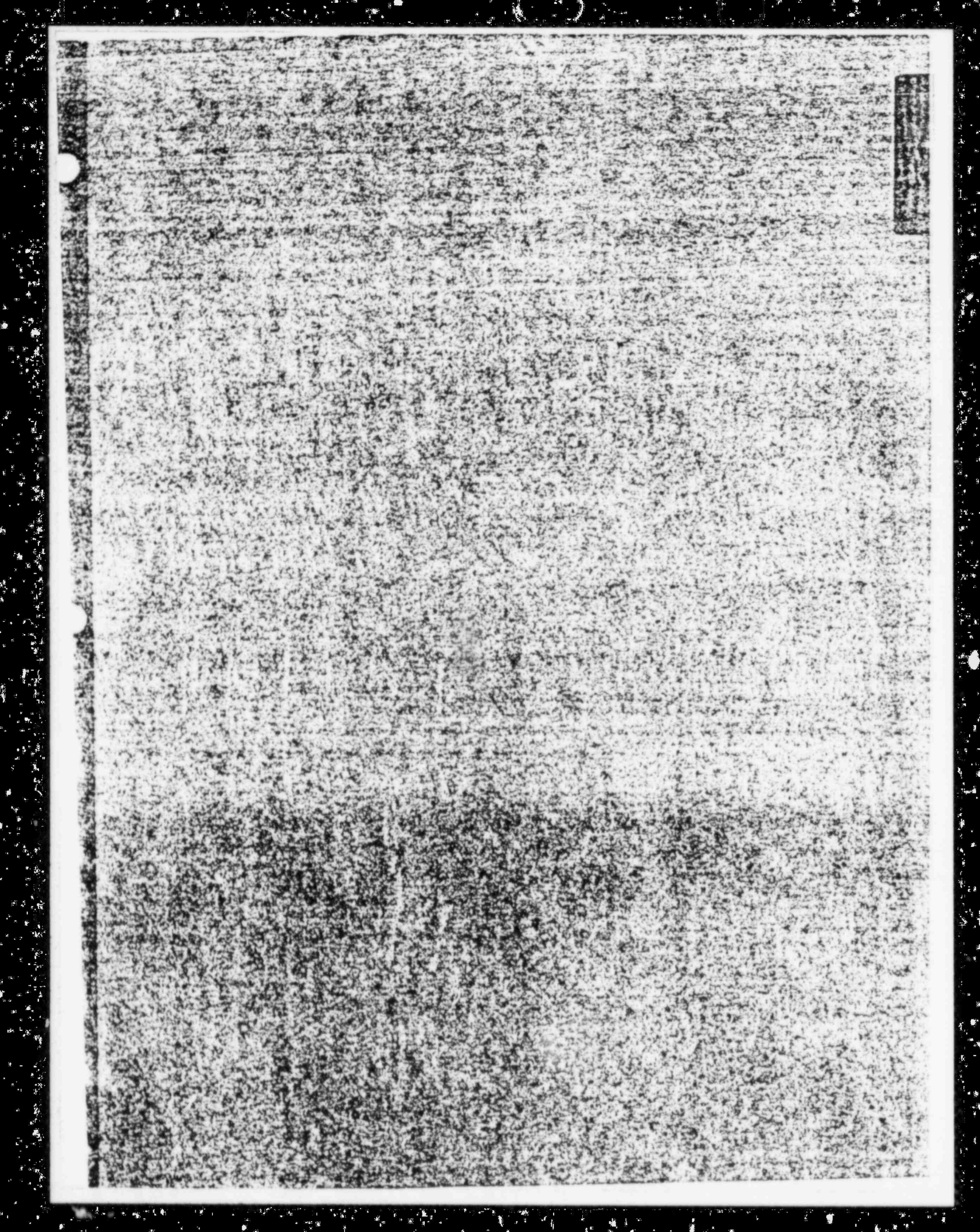
MIDLAND PLANT

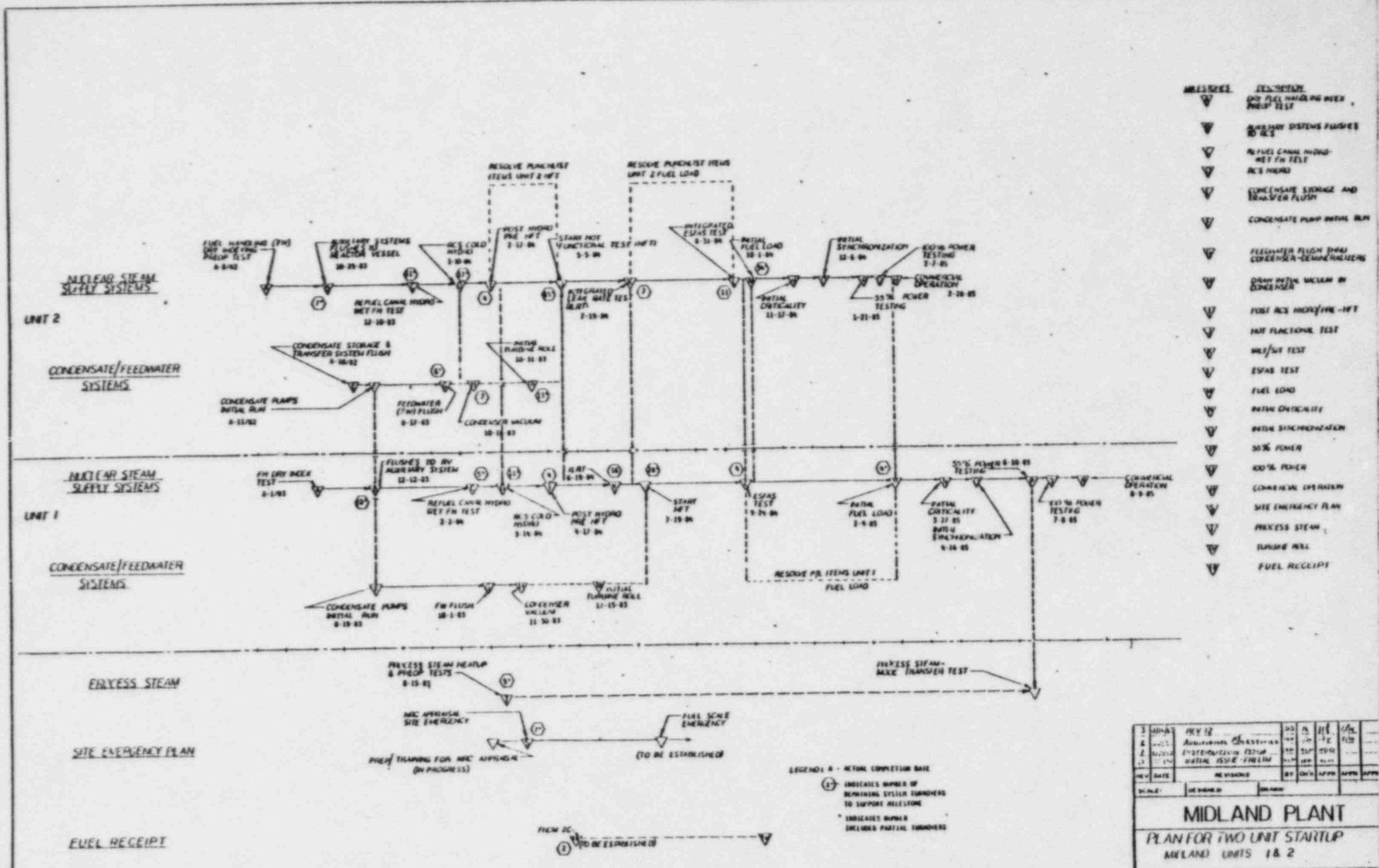
PROCEDURE PERFORMANCE

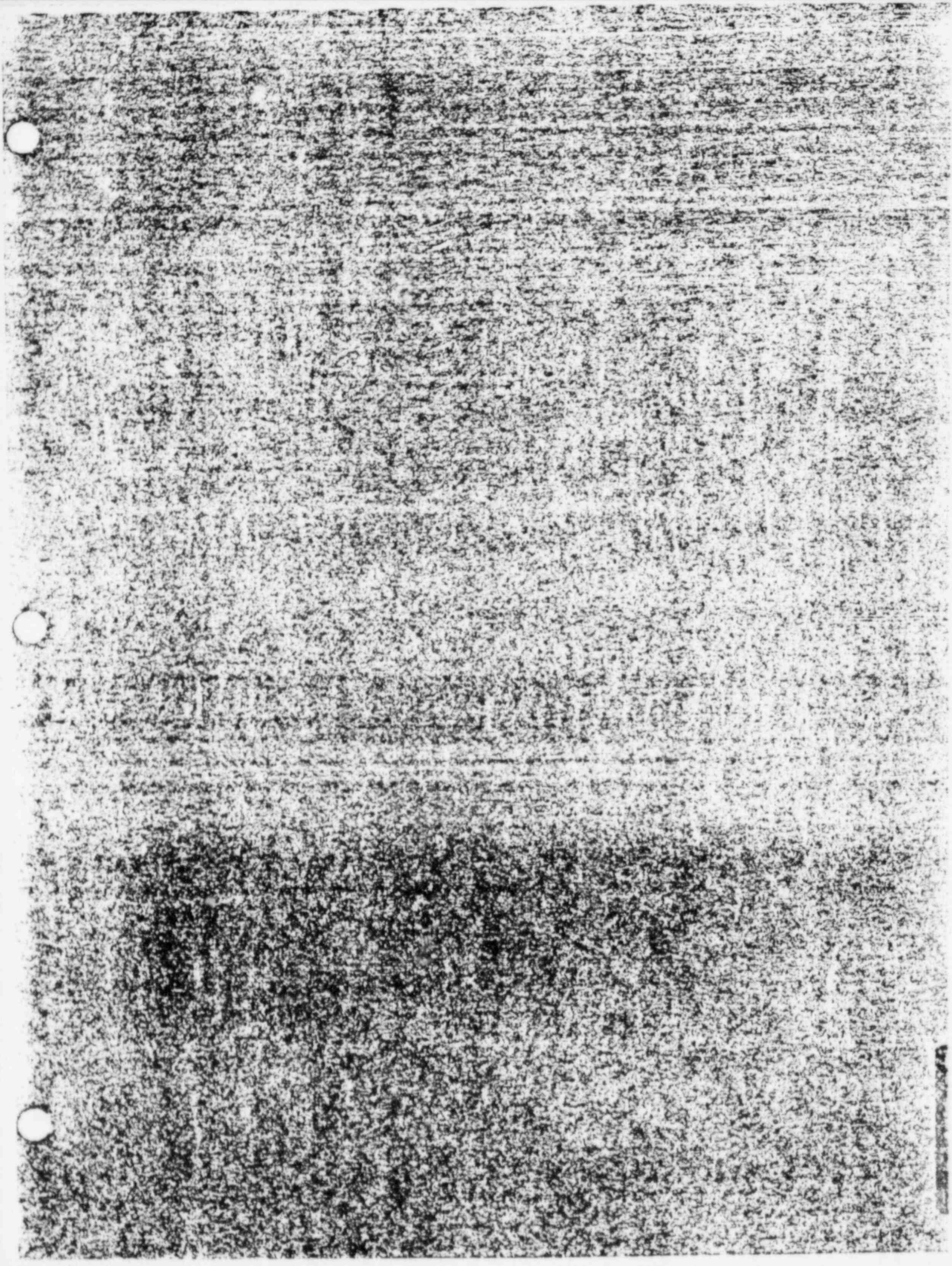
Consumers Power Company

DRAWING NO TPS-6 | REV 2

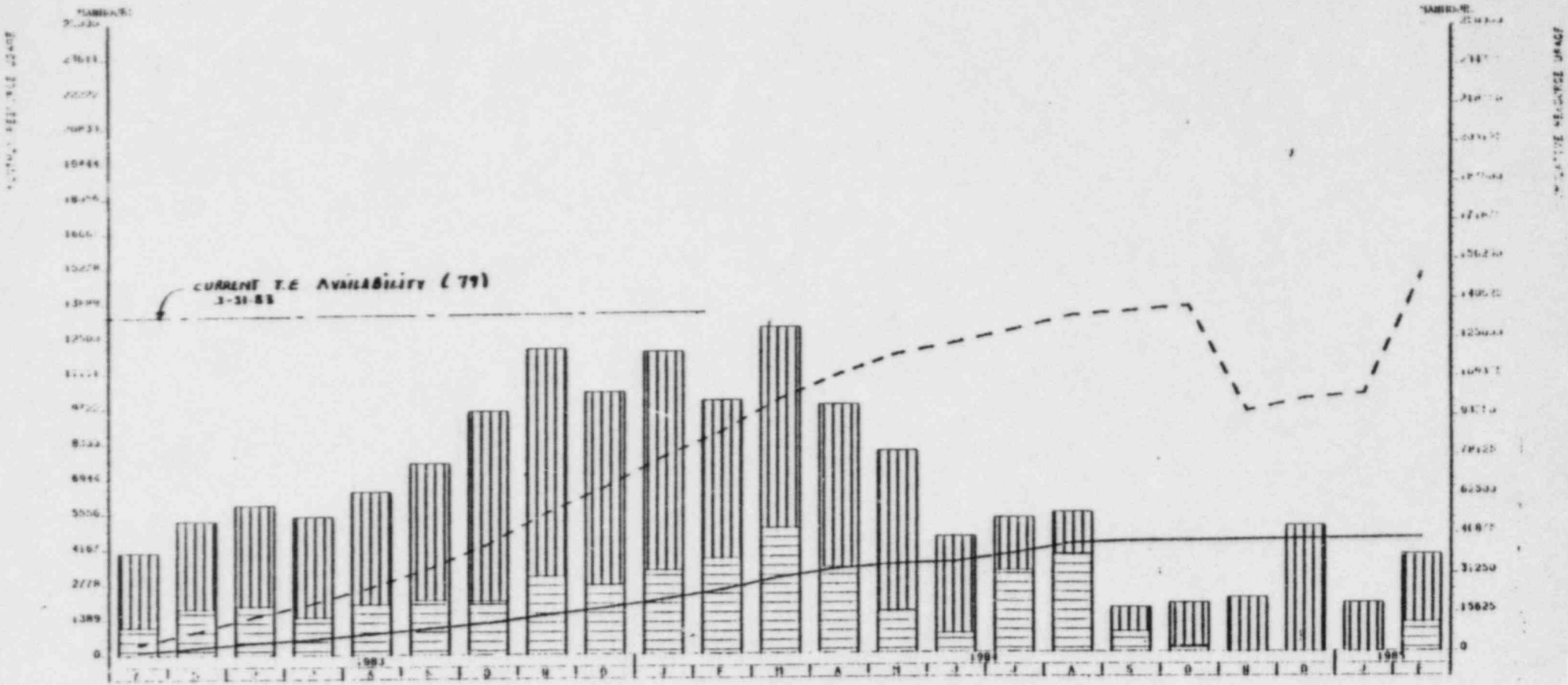
FIGURE 3 – TEST COMPLETIONS




RESOLVE PUNCHLIST ITEMS UNIT 2 HFT
RESOLVE PUNCHLIST ITEMS UNIT 2 FUEL LOAD
NUCLEAR STEAM SUPPLY SYSTEMS
UNIT 2
CONDENSATE/FEEDWATER SYSTEMS
NUCLEAR STEAM SUPPLY SYSTEMS
UNIT 1
CONDENSATE/FEEDWATER SYSTEMS
RESOLVE PR ITEMS UNIT 1 FUEL LOAD
PROCESS STEAM
SITE EMERGENCY PLAN
FUEL RECEIPT
MILESTONES
DESCRIPTION
MIDLAND PLANT
PLAN FOR TWO UNIT STARTUP
MIDLAND UNITS 1 & 2
CPCo - TDC - 7



MIDLAND PROJECT RESOURCE CURVE - REVISION 12
TESTING ENGINEERS
LEVELIZED MANPOWER PROJECTIONS
TOTAL SYSTEMS - 41 T.E. /DAY AVERAGE



MONTHLY RESOURCE USAGE
MANHOURS INCREASING RATE

UNIT 2&0 TE FORCASTED MONTHLY MANHOURS
MANHRS RESOURCE 21000
TARG SCH 32 ES

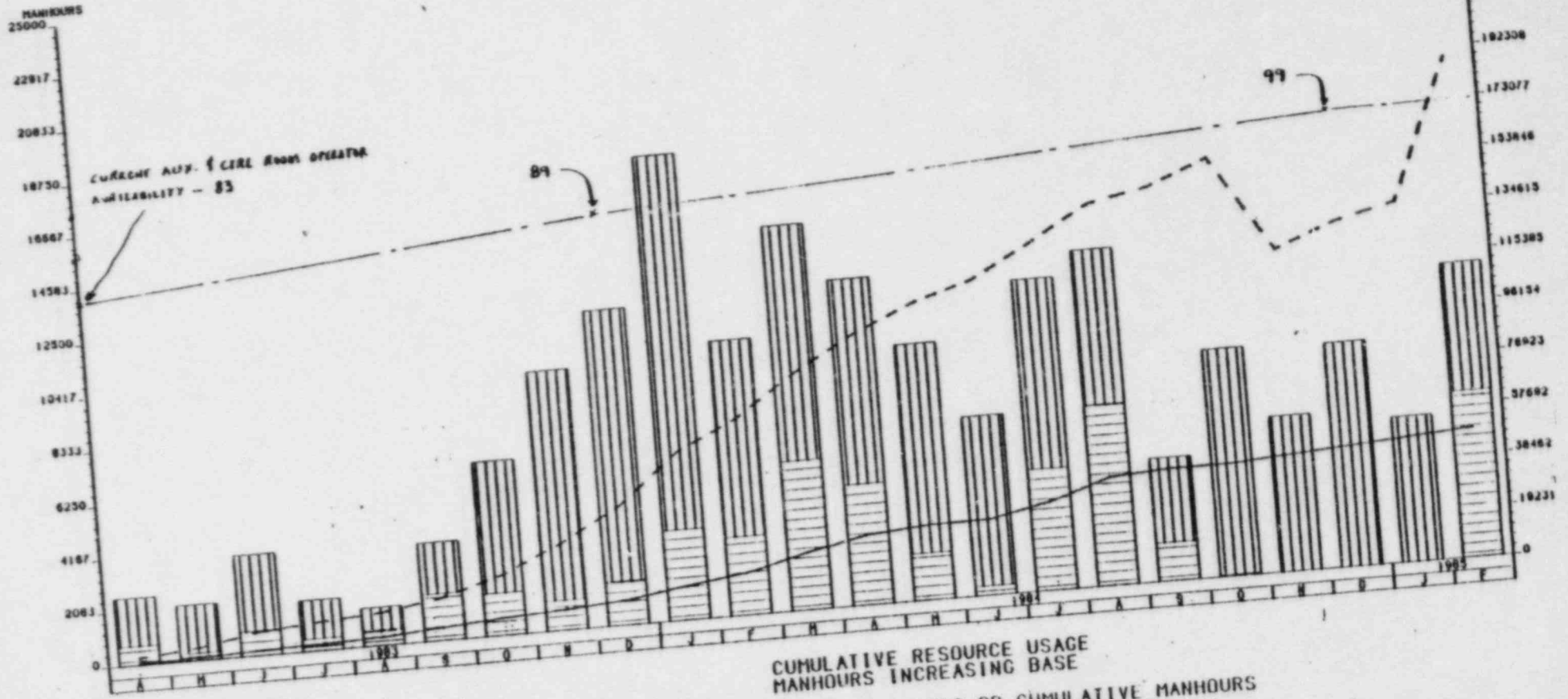
UNIT 1 TE FORCASTED MONTHLY MANHOURS
MANHRS RESOURCE 21000
TARG SCH 31 ES

CUMULATIVE RESOURCE USAGE
MANHOURS INCREASING RATE

UNIT 2&0 TE CUMULATIVE MANHOURS
MANHRS RESOURCE 21000
TARG SCH 32 ES CUM

UNIT 1 TE CUMULATIVE MANHOURS
MANHRS RESOURCE 21000
TARG SCH 31 ES CUM

MIDLAND PROJECT RESOURCE CURVE - REVISION 12
OPERATORS
LEVELIZED MANPOWER PROJECTIONS
TOTAL SYSTEMS - 50 IOPS /DAY AVERAGE



MONTHLY RESOURCE USAGE
MANHOURS INCREASING BASE

UNIT 2&0 OP FORCASTED MONTHLY MANHOURS
MANHRS RESOURCE 31100
TARG SCH 32 ES

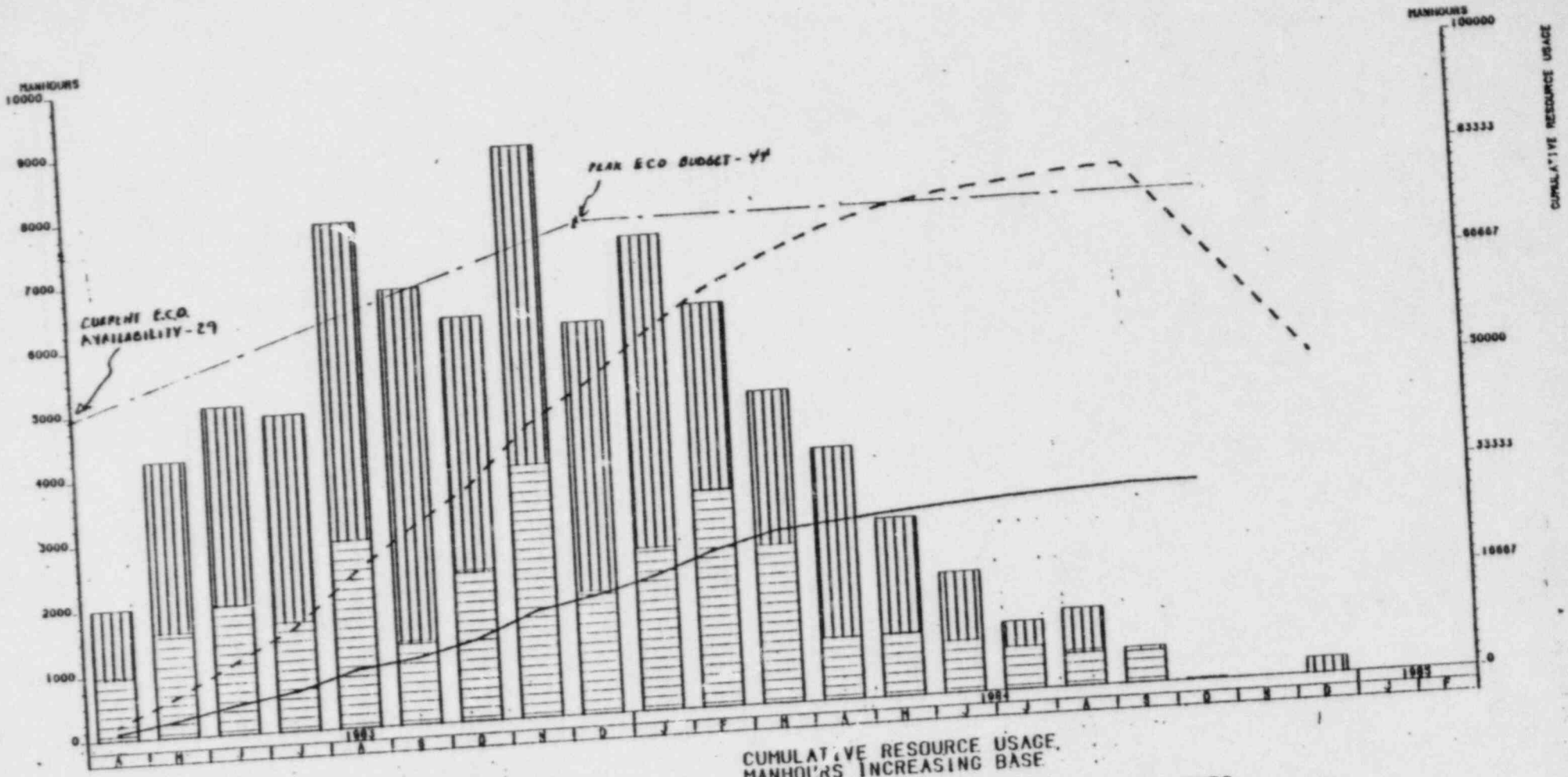
UNIT 1 OP FORCASTED MONTHLY MANHOURS
MANHRS RESOURCE 31100
TARG SCH 31 ES

CUMULATIVE RESOURCE USAGE
MANHOURS INCREASING BASE

UNIT 2&0 OP CUMULATIVE MANHOURS
MANHRS RESOURCE 31100
TARG SCH 32 ES CUM

UNIT 1 OP CUMULATIVE MANHOURS
MANHRS RESOURCE 31100
TARG SCH 31 ES CUM

MIDLAND PROJECT RESOURCE CURVE - REVISION 12
ELECTRICAL CHECKOUT TECHNICIANS
LEVELIZED MANPOWER PROJECTIONS
TOTAL SYSTEMS - 301 E.C.O./DAY AVERAGE



MONTHLY RESOURCE USAGE
MANHOURS INCREASING BASE.

UNIT 2&0 ECO FORCASTED MONTHLY MANHOURS
MANHRS RESOURCE 21200
TARG SCH 32 ES

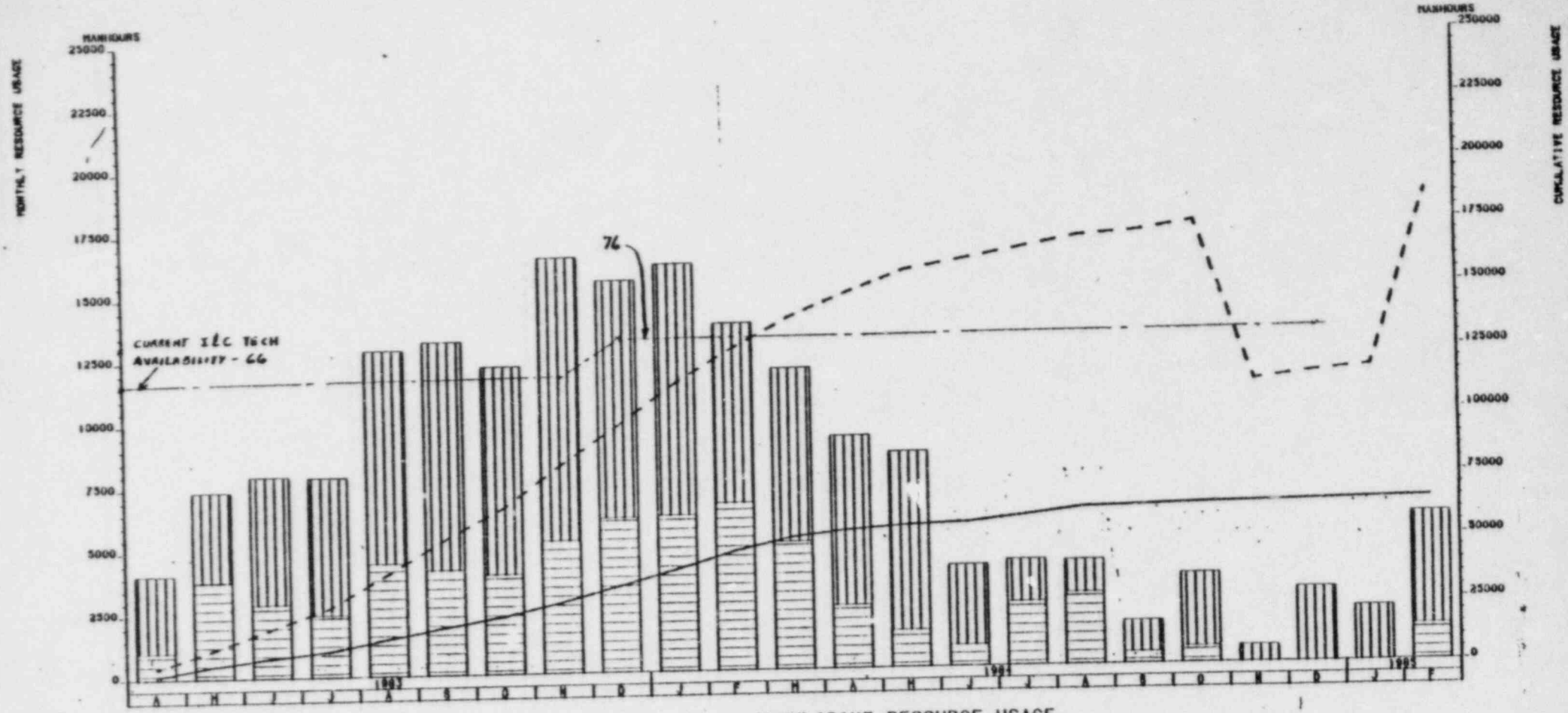
UNIT 1 ECO FORCASTED MONTHLY MANHOURS
MANHRS RESOURCE 21200
TARG SCH 31 ES

CUMULATIVE RESOURCE USAGE.
MANHOURS INCREASING BASE

UNIT 2&0 ECO CUMULATIVE MANHOURS
MANHRS RESOURCE 21200
TARG SCH 32 ES CUM

UNIT 1 ECO CUMULATIVE MANHOURS
MANHRS RESOURCE 21200
TARG SCH 31 ES CUM

MIDLAND PROJECT RESOURCE CURVE - REVISION 12
INSTRUMENTATION AND CONTROL TECHNICIANS
LEVELIZED MANPOWER PROJECTIONS
TOTAL SYSTEMS - 50 I&C /DAY AVERAGE



MONTHLY RESOURCE USAGE
MANHOURS INCREASING BASE

UNIT 2&0 I&C FORCASTED MONTHLY MANHOURS
MANHRS RESOURCE 31300
TARG SCH 32 ES

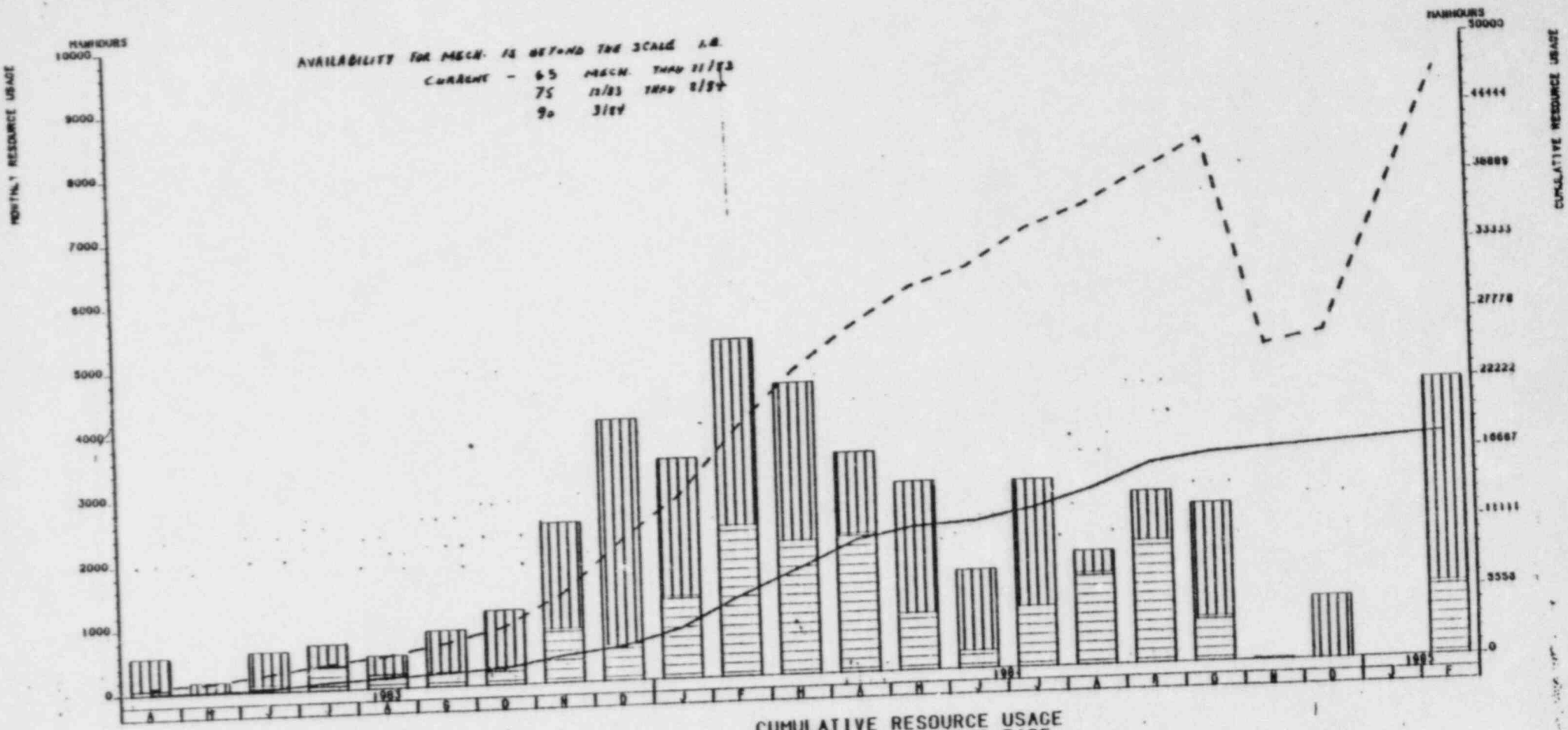
UNIT 1 I&C FORCASTED MONTHLY MANHOURS
MANHRS RESOURCE 31300
TARG SCH 31 ES

CUMULATIVE RESOURCE USAGE
MANHOURS INCREASING BASE

UNIT 2&0 I&C CUMULATIVE MANHOURS
MANHRS RESOURCE 31300
TARG SCH 32 ES CUM

UNIT 1 I&C CUMULATIVE MANHOURS
MANHRS RESOURCE 31300
TARG SCH 31 ES CUM

MIDLAND PROJECT RESOURCE CURVE - REVISION 12
MAINTENANCE MECHANICS
LEVELIZED MANPOWER PROJECTIONS
TOTAL * SYSTEMS - 13 MANHR/DAY



MONTHLY RESOURCE USAGE
MANHOURS INCREASING BASE

UNIT 2&0 MM FORCASTED MONTHLY MANHOURS
MANHRS RESOURCE 31500
TARG SCH 32 ES

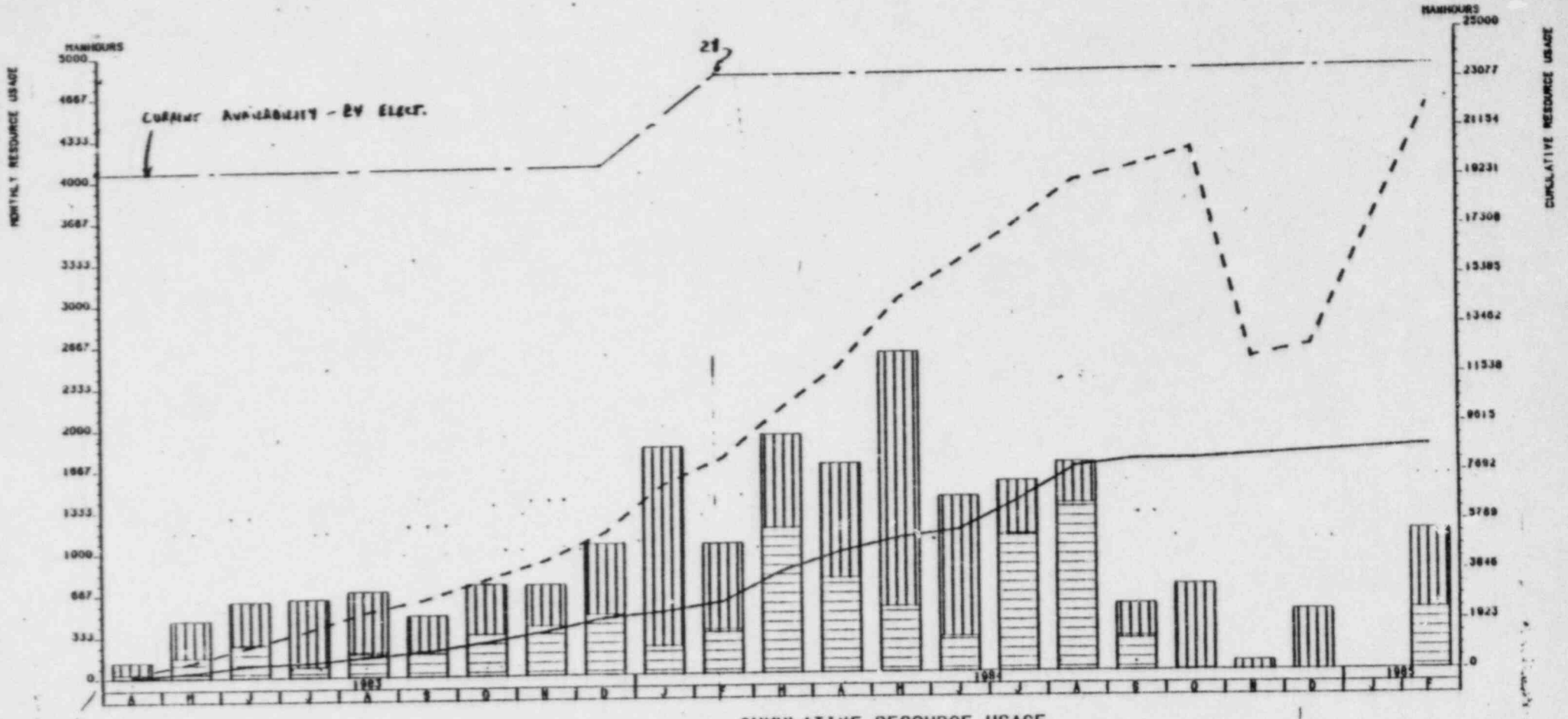
UNIT 1 MM FORCASTED MONTHLY MANHOURS
MANHRS RESOURCE 31500
TARG SCH 31 ES

CUMULATIVE RESOURCE USAGE
MANHOURS INCREASING BASE

UNIT 2&0 MM CUMULATIVE MANHOURS
MANHRS RESOURCE 31500
TARG SCH 32 ES CUM

UNIT 1 MM CUMULATIVE MANHOURS
MANHRS RESOURCE 31500
TARG SCH 31 ES CUM

MIDLAND PROJECT RESOURCE CURVE - REVISION 12
MAINTENANCE ELECTRICIANS
LEVELIZED MANPOWER PROJECTIONS
TOTAL SYSTEMS - 6 ELECT /DAY



MONTHLY RESOURCE USAGE
MANHOURS INCREASING BASE

UNIT 2&0 ME FORCASTED MONTHLY MANHOURS
MANHRS RESOURCE 31400
TARG SCH 32 ES

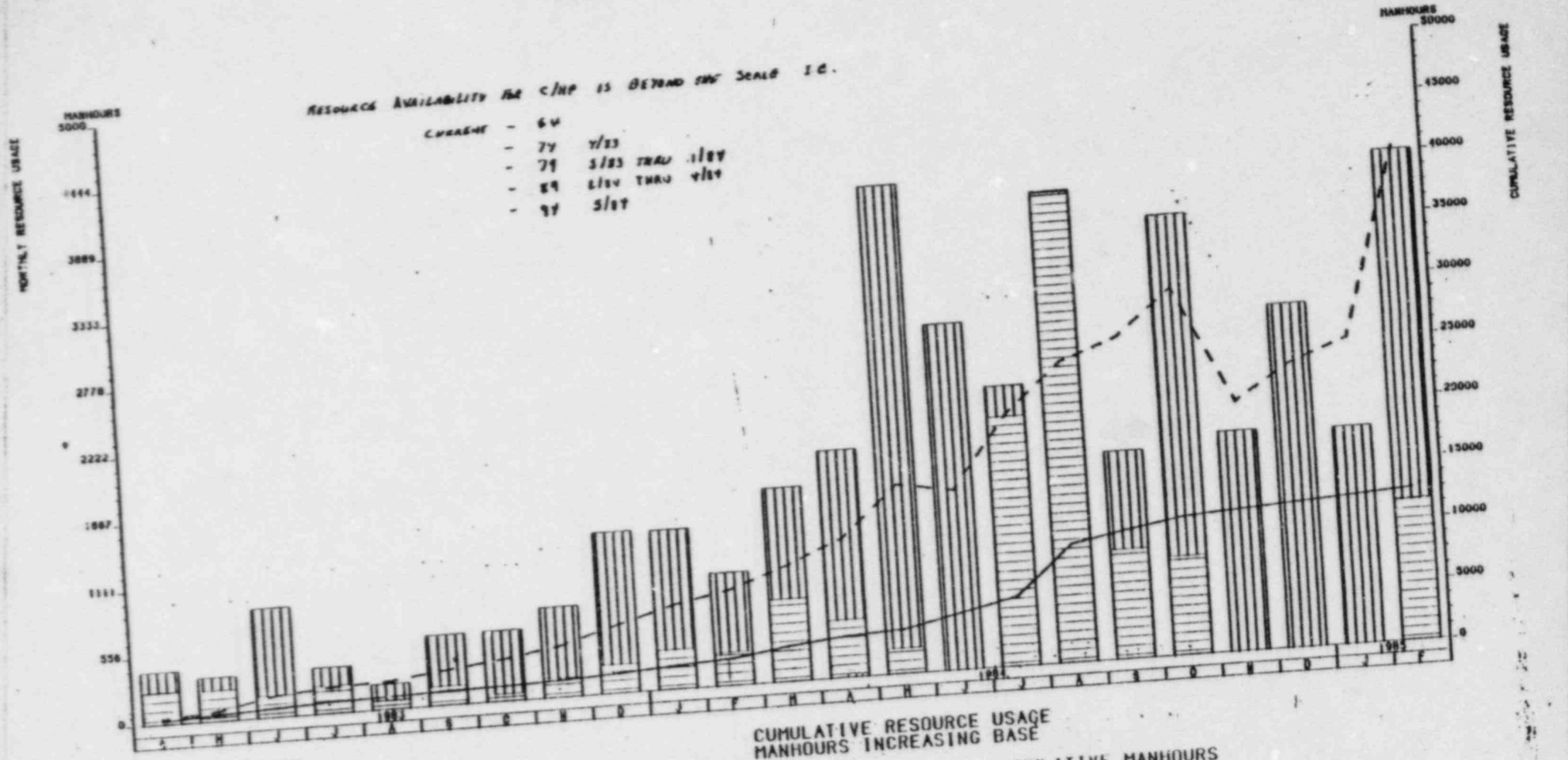
UNIT 1 ME FORCASTED MONTHLY MANHOURS
MANHRS RESOURCE 31400
TARG SCH 31 ES

CUMULATIVE RESOURCE USAGE
MANHOURS INCREASING BASE

UNIT 2&0 ME CUMULATIVE MANHOURS
MANHRS RESOURCE 31400
TARG SCH 32 ES CUM

UNIT 1 ME CUMULATIVE MANHOURS
MANHRS RESOURCE 31400
TARG SCH 31 ES CUM

MIDLAND PROJECT RESOURCE CURVE - REVISION 12
CHEMICAL AND HEALTH PHYSICS TECHNICIANS
LEVELIZED MANPOWER PROJECTIONS
TOTAL SYSTEMS - 10 1CHP /DAY



MONTHLY RESOURCE USAGE
MANHOURS INCREASING BASE

UNIT 2&0 C&H FORCASTED MONTHLY MANHOURS
MANHRS RESOURCE 31900
TARG SCH 32 ES

UNIT 1 C&H FORCASTED MONTHLY MANHOURS
MANHRS RESOURCE 31900
TARG SCH 31 ES

CUMULATIVE RESOURCE USAGE
MANHOURS INCREASING BASE

UNIT 2&0 C&H CUMULATIVE MANHOURS
MANHRS RESOURCE 31900
TARG SCH 32 ES CUM

UNIT 1 C&H CUMULATIVE MANHOURS
MANHRS RESOURCE 31900
TARG SCH 31 ES CUM

PROC. STATUS

MIDLAND ENERGY CENTER
TECHNICAL DEPT.

PROCEDURE DEVELOPMENT & APPROVAL STATUS REPORT

AS OF 3131183

		PROG	NSSS	AUX	TURB HVAC	FEED COND	ELEC	I & C	PS	TOTAL	REMARKS
ESTIMATED TO BE DEVELOPED	TP	20	66	43	29	11	44	55	0	268	725 LAST REPORT
	AP	1	0	5	37	34	10	1	40	128	
	FP	0	26	52	26	54	2	2	6	168	
	SP	19	6	12	1	4	9	68	—	119	
	GP	7	0	0	6	4	21	7	1	46	
TOTAL 729	SUB-TOTAL	47	98	112	99	107	86	133	47	729	
DRAFTS NOT SUBMITTED BY DISCIPLINES	TP	3	3	9	4	7	26	9	—	61	129 LAST REPORT
	AP	0	—	2	2	13	10	1	9	37	
	FP	—	0	0	0	1	0	2	1	4	
	SP	11	0	0	1	0	3	0	—	15	
	GP	0	—	—	0	1	0	0	1	2	
TOTAL 119	SUB-TOTAL	14	3	11	7	22	39	12	11	119	
PROCEDURES IN REVIEW & APPROVAL CYCLE	TP	14	9	21	14	4	5	5	—	72	217 LAST REPORT
	AP	0	—	2	11	13	0	0	23	49	
	FP	—	3	21	8	13	1	0	2	48	
	SP	6	0	5	0	2	4	1	—	18	
	GP	3	—	—	4	0	0	1	0	8	
TOTAL 195	SUB-TOTAL	23	12	49	37	32	10	7	25	195	
PROCEDURES IN TWG REVIEW CYCLE	TP	3	26	7	11	0	7	24	—	78	86 LAST REPORT
	AP	—	—	—	—	0	—	—	—	0	
	FP	—	—	—	—	—	—	—	—	—	
	SP	2	0	1	0		0	4	—	7	
	GP	2	—	—	0	0	0	0	0	2	
TOTAL 87	SUB-TOTAL	7	26	8	11	0	7	28	0	87	
APPROVED TEST PROCEDURES	TP	0	28	6	0	0	6	17	—	57	293 LAST REPORT
	AP	1	—	1	24	8	0	0	8	42	
	FP	—	23	31	18	40	1	0	3	116	
	SP	0	6	6	0	2	2	63	—	79	
	GP	2	—	—	2	3	21	6	0	34	
TOTAL 328	SUB-TOTAL	3	57	44	44	53	30	86	11	328	
PERCENT COMPLETE (APPROVED Vs EST. TOTAL)	TOTAL	6	58	39	44	50	35	65	23	45	40 LAST REPO.
TOTAL 45%											

TABLE 1

TESTS COMPL

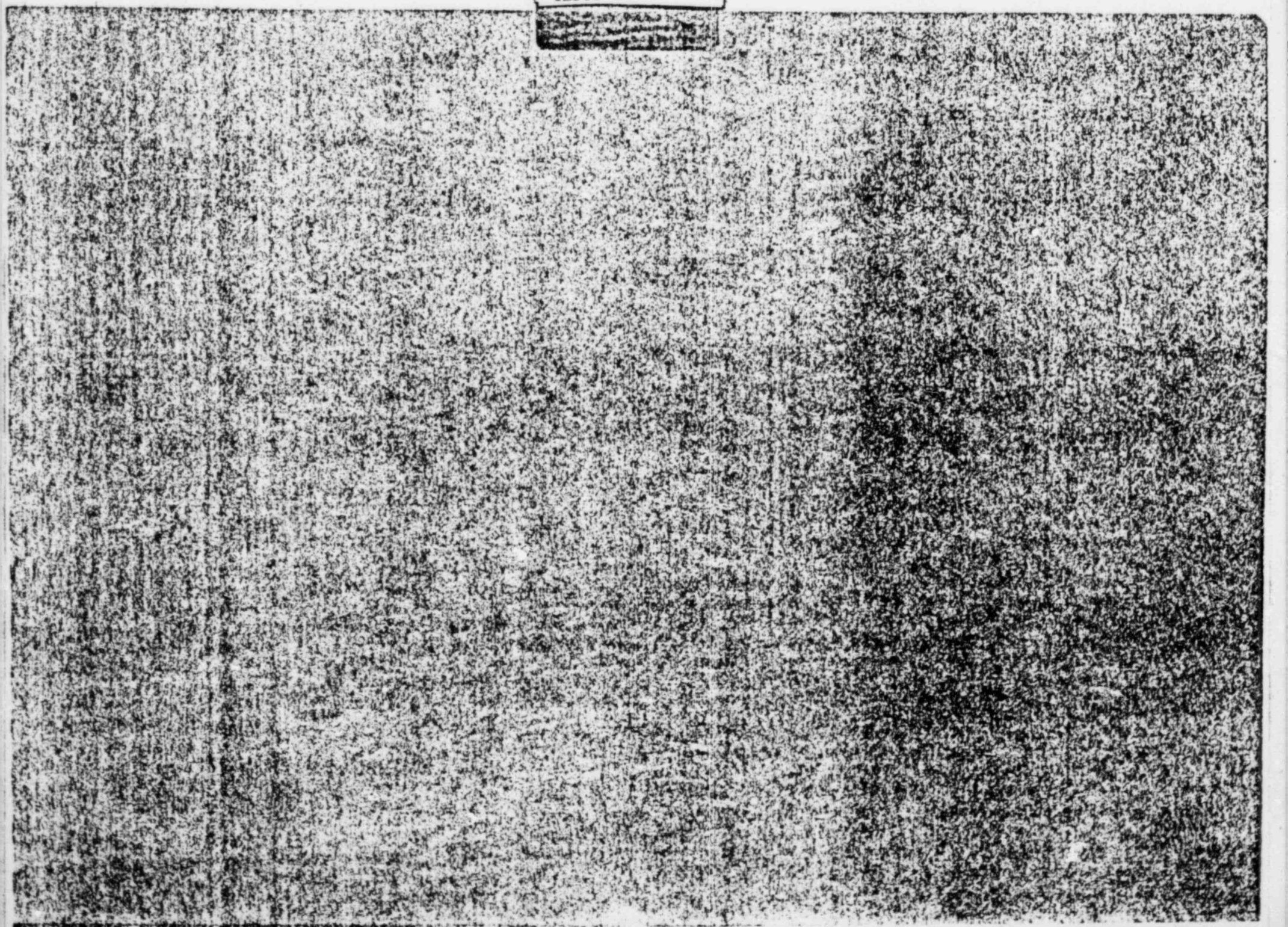


TABLE 2 - TEST PROCEDURE PERFORMANCE COMPLETIONS

PROCEDURE NO	TEST	RESULTS REVIEW STATUS
PREOPERATIONAL TESTS		
NONE		
ACCEPTANCE TESTS		
OAP-PTH.03	Diesel Bldg Electric Heating Acceptance Test	DS/TE Review
FLUSHES		
OFP-AN.01	Demineralized Water Storage and Transfer Header Flush	Approval Cycle
OFP-AN.02	Demineralized Water Hose Station Flush	Approval Cycle
OFP-AN.04	Demineralized Water Flush of Containment Piping	Approval Cycle
OFP-AT.02	Demineralized Water Supply Flush	Approval Cycle
1FP-CB.01	Turbine Generator Lube Oil And Hydrogen Seal Oil Flush	Approval Cycle
2FP-CB.01	Turbine Generator Lube Oil And Hydrogen Seal Oil Flush	DS/TE Review
OFP-CF.01	Lube Oil Storage Purification And Transfer System	DS/TE Review
1FP-CF.01	Unit 1 Lube Oil Purification System Flush	Approval Cycle
2FP-CF.01	Unit 2 Lube Oil Purification System Flush	DS/TE Review

TABLE 2 - TEST PROCEDURE PERFORMANCE COMPLETIONS

PROCEDURE NO	TEST	RESULTS REVIEW STATUS
OFP-FA.01	Aux Steam Boiler System	Approval Cycle
OFP-GB.02	Admin Bldg Cooling Tower System	Approved
1FP-KE.02	Fuel Handling Bridge Air System Flush	Approved
2FP-KE.02	Fuel Handling Bridge Air System Flush	Approved
OFP-KH.02	Hydrogen Supply System Flush	Approval Cycle
OFP-KH.06	Evaporator Building Lab Natural Gas	Approval Cycle
OFP-KH.07	Evaporator Building Lab Vacuum System Flush	Approved
SPECIFIC TESTS		
OSP-ANN.02	OC173 Annunciator Cab Energization	Approval Cycle
OSP-ANN.03	OC155 Annunciator Cab Energization	Approval Cycle
OSP-AXB.01	Aux Boiler Initial Operation And Boilout	Approval Cycle
1SP-CRD.03	Control Rod Drive Tech Stator Pre-Inst Check	Approval Cycle
2SP-CRD.03	Control Rod Drive Tech Stator Pre-Inst Check	Approval Cycle
2SP-DHR.01	Decay Heat Removal Initial Pump Run	Approval Cycle

TABLE 2 - TEST PROCEDURE PERFORMANCE COMPLETIONS

PROCEDURE NO	TEST	RESULTS REVIEW STATUS
OSP-FHS.06	Receipt of Dummy Fuel Assemblies and Control Rods	Approved
ISP-NNI.01	Non-Nuclear Instrumentation (NNI) Initial Energization	Approval Cycle
OSP-PIN.05	BOP Rack Power Supply Checkout	Approved

Rev 17

JAN	FEB	MAR
[illegible] UNIT 2/COMMON	[illegible] UNIT 2/COMMON	[illegible] UNIT 2/COMMON

1983

APR

MAY

2RLC 2SP-FIN.36 BCP RACK C/O 2C-166 (FIN)2F
2RLL 2SF-PIN.24 PT 2 LADDER CHECKS (FIN)2J

UNIT 2/COMMON

UNIT 1

1RLA 1SF-FIN.38 PS RACK C/O 1C-49 (PIN)1F

JUN

2ACA 2FP-AC.31 CNC PMP IFR/FLSH VIA "I" (FSS)2F
2ATP 2FP-AT.35 INST TEMP MODS (FSS)2T
2ATP 3FP-AT.31 EVAP FD FLSH TO DA (PSS)2T
2ATK 2FP-AT.51 FLUSH DA (PSS)2T

UNIT 2/COMMON

1983

JUL

UNIT 2/COMMON

- PKC 2SP-AEC.04 LOGIC VERIF (AFHD)2T
- 2PL2 2FF-PL.31 SYSTEM FLUSH (FPVD)2I
- 2ATE 2FF-AT.33 FLUSH LOOP 1 (FSS)2T
- 2ATL 2FP-AT.31 LP FD HDR FLUSH (FPS)2T
- 2ATE 0FF-AT.33 FLSH LOOP 2 (FSS)2T
- 2ATL 2FP-AT.31 LP FD PMP SUCTION FLSH (FFS)2T

AUG

UNIT 2/COMMON

- 2FEI 2SF-FHS.05 FUEL XFER EQ C/O&ADJ (FHS)2C
- 2AFA-2 0FF-AT.35 OPEN 3-F VLV F/LINE INS(FSS)2T
- 2EKD 2SP-AFE.06 LOGIC VERIFICATION (FEN)2J
- 2ATA 0FP-AT.35 HP STM FLSH LINE IN TUNNEL(FSS)2T
- 2ATE 0FP-AT.33 FLSH LOOP 3 (FSS)2T
- 2ATE 0FP-AT.33 FLSH LOOP 4 (PSS)2T
- 2ATL 2FP-AT.31 HP FD PMP SUCTION FLSH (FFS)2T
- 2ATL 0FF-AT.31 MISC FLUSH LP FD (FSS)2T
- 2ATA 0FP-AT.35 HP STM FLSH TO TUNNEL (FSS)2T

UNIT 1

- 1KEI 1SF-FHS.05 FUEL XFER C/O & ADJ (FHS)1C
- 1KST 1FF-KC.31 FUEL XFER MECH FLUSH (FHS)1C
- 1KAC 0FP-KA.31 BLOW DOWN (IAS)1F

SEP

UNIT 2/COMMON

- 2SAB 2SP-ESA.31 I&C C/O (ESA)2C
- 2ECA 2FP-EC.31 TO PZR/MUFP PMPS/FX CANF (CPR)2B
- 2ECC 2FF-EC.32 VELOCITY FLUSH (MAF)2L
- 2FEC 2TF-FHS.02 ABFH BRIDGE (DRY INC) (FHS)2C
- 2ATA 2AP-PSS.33 &.34 HANGER CHECK COLD (FPS)2T
- 2ATA 0FF-AT.33 EVAP TUBE SIDE CLEANING)2T
- 2ATA 2FP-AT.35 HP STM FLSH FR PRV (FSS)2T
- 2ATA 0FF-AT.35 HP STM INSP & CLOSE (FPS)2T
- 2ATE 0FP-AT.33 FLSH LOOP 5 (FSS)2T
- 2ATE 0FP-AT.33 FLSH LOOP 6 (FSS)2T
- 2ATA 0FP-AT.35 LP STM OPEN HCR EXTRACTION(FSS)2T
- 2ATP 0FP-AT.33 FLUSH LOOP 7 (PSS)2T

UNIT 1

- 1PLA 0FP-PL.31 FLSH UNIT 1 PRIM WTR SYS (PPW)1F
- 1BNA 1FF-BN.31 FLUSH BWST LINES (RES)1E
- 1AFA-2 0FF-AT.35 OPEN BTVS F/INSP)2T

1983

OCT

UNIT 2/COMMON

UNIT 1

NOV

UNIT 2/COMMON

UNIT 1

DEC

UNIT 2/COMMON

UNIT 1

1983

OCT	NOV	DEC
	UNIT 2/COMMON	UNIT 2/COMMON

1983 (CONT.)

OCT	NOV	DEC
		UNIT 2/COMMON 2BHA 2TP-CFS.31 CF CHK VLVE VV/SSPT (CFS)2C 2BEA 2TP-FHS.3E CANAL HYDRC/WET FH (HCS)2C 2BBA 2TP-FFC.01+ FILL REF CANAL (FCS)2C 2BBA 2TP-RCS.XX SET CSA/INCCR AG POLAR (RCS)2C

1983 (CONT.)

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1EMA 2FP-HK.31 FLSH SUCT PIPE TO RB SPRA (RFS)2I
1EKM 2FP-EK.31 FLUSH HYDRAZINE (RBS)2I
1EKD 2FP-EK.31 CLN 2T-44/FSH HYG PMP SLC (RFS)2I
1ENA 2FP-RN.31 IPR & FLSH TO COOLG POND (SCR)2I
1EMA 2FP-BM.31 FSH TO VLV UPS OF LWS DPN (SGR)2I
1EKE 2FP-RN.31 EMER SUMP FLUSH (RIS)2I
2ABA 2FP-AB.01 STM BLOW MN STEAM LINES (MSS2TR
2CAA 2FP-CA.31 STEAM BLOW SEAL LINES (GIS)2M
2AKE 2FP-AK.34 COND DEM INST PRG AIR BLD (CLD)2C
2KHE 2FP-HD.02 AIR FLOW PIPING (FCD)2H
1EFB 0AP-HAS.35 HF AUX BLR COMMSTN LD TST(HAS2TR
ATE 0AP-PSS.13 HANGER CHECK COLD (PSS2TR
ATA 0AP-PSS.26 RELIEF VALVE TESTING (PSS2TR
ATA 0AP-PSS.33 SET LP STM HDR HANGERS (PSS2TR
0ATE 0AP-PSS.18 LP EVAP TUBE INTEG CHECK (PSS2TR
ATA 0AP-PSS.25 PRV PHS 1 TE-9320.0 (PSS2TR
0ATE 0AP-PSS.12 LP EVAP & HEATUP (PSS2TR
PCH 0AP-PSS.32 STM PLANT SAMPLE ACCEPT (EPX2TR
1SGA 0SP-ICS.31 INITIAL ESGD ENERGIZATION(ICS)2J
ATE 0FP-AT.36 CLN,INSP,FLSE LP HDR-DGW (PSS2TF
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UNIT 2/COMMON

UNIT 1

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1PHA 1TP-CFS.01 CF CHK VLVE VV/SSHT (CFS)1C
1ECA 1TP-CFR.31 DHR PREVV/SSHT (CFR)1C
1DEA 1TP-FFC.31+ FILL RIF CANAL/IC TK (FCS)1C
1EEA 1TP-RCS.34 PH PRE-HFT INTERNALS INSP(FCS)1C
1HHA 1TP-RCS.16 VENT VLV/SSHT/CH TESTS (FCS)1C
1HBA 1TP-RCS.XX SET CSA/INDEX FD CRANE (FCS)1C
1CFP 1TP-CRC.31 CRC PRE OP (CFD)1J
1CEA 1SP-ICS.31 INIT ICS ENER (ICS)1J
1EGA 0FP-EC.31 FLSH/CLN/FILL SECS IN LF (CCW)1C
1CCA 0FP-EG.31 GRAVITY FLSH TO PMP SUCT (CCW)1C
1AE 1FP-AE.31 REC FL FE THRU COND DEMIN (FWS)1C
1AE 1FP-AE.31 REC FLSH COND THRU DEMIN (CFS)1G
1AKA 1FP-AK.31 COND DEMIN FL SMALL PIPE (CCD)1C
1AKA 1FP-AK.21 IPR & COMPLETE FLUSH (CCD)1G
1ALA 1FP-AL.31 FL AFW/CYC CLEANUP TO D (AFW)1C
1ALA 1FP-AL.01 FLUSH TO OTSGS (AFW)1C
1ALA 1FP-AL.31 FLUSH TO PCRD (AFW)1G
1AFG 1FP-AF.31 FLUSH CONDENSATE XFER SYS (CSS)1G
1EMA 1FP-EM.31 FLSH-PMP DISCH FP AUX FW (ECR)1C
1AKB 1FP-AK.34 COND DEMIN INST AIR FLOW (CCD)1C
1AKC 1FP-AK.34 COND DEMIN INST AIR FLOW (CCD)1C
1KAP 0FP-KA.02 BLOW DOWN (SAS)1C
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JAN

UNIT 1

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1DEA 1TP-FHS.36 CANAL HYDRO/WET FH (FCS)1C
1PED 1TP-CHP.02 OTSG PREBLR CHM FILL (FCS)1C
1EEA 1TP-CHP.31 RCS CHEM TEST RCS FILL (FCS)1C
1FGA 1TP-MUF.01 PUMP ARX CHEM ADDVV/SSHT (MUP)1C
1EEA 1TP-PST.31 PRECFE THERM EXP RCS FIL (FCS)1C
1DDA 1TP-RCS.1?+ SET HEAD & TENSION (FCS)1C
1EEA 1TP-RCS.1P RX VESSEL STUD HONL TEST (FCS)1C
1EGA 1TP-RCS.15 SET PLENUM IN RV (FCS)1C
1EDD 1TP-RCS.36+ OTSG FILL/LEVEL VERIFY (FCS)1C
1HHA 1TP-RCS.14+ PH RCS INITIAL FILL (FCS)1D
1EDE 1TP-RCS.35 PZR LEVEL VERIF RCS FILL (FCS)1L
1SAA 1TP-ESA.02 ECCAS LOGIC PREOP (ESA)1I
1EGC 1TP-MUF.01 MU SYS PRE-OP (PARTIAL) (MUP)1I
1SFA 1SP-CRD.34 PI C/O (CRD)1C
1SCF 1SP-NNI.36 POWER SUPPLY CALIB. (NNI)1L
1SCD 1SP-NNI.35 PROB PROXIMETER CALIB. (NNI)1P
1SCE 1SP-NNI.07 DUAL RAD VIB MON CALIB (NNI)1F
1AE 1SP-CHP.01 COND/FW ALKALINE CLEAN (FWS)1M
1CEA 1FP-CE.31 COMPLETE SYS FLUSH (CCS)1F
1CEA 1FP-CE.31 IPR & EXTERNAL FLSH (CCS)1F
1CKA 1FP-CK.31 FILL IPR & FLUSH (CHC)1F
1AKA 1FP-AK.31 FILL & FLUSH (CCD)1E
1AKC 1FP-AK.31 IPR & COMPLETE FLUSH (CCD)1F
1AKC 1FP-AK.15 COND DEMIN CHEM AND FLUSH (CCD)1D
1AKC 1FP-AK.31 PARTIAL FLUSH FROM 1AKA (CLD)1F
1AKA 1FP-AK.32 COND DEMIN FL LARGE PIPE (CCD)1D
1HBA 1FP-HB.31 INSPECT & CLEAN RCS (FCS)1D
1DCB 1FP-DC.01 FLSH SG VENTS,DRNS W/1 (MUP)1F
1DGC 1FP-EG.31 FLSH-SEAL RTN CLR & MU TK (MUP)1F
1EGA 0FP-EC.31 FLSH SSTR PMP SUC/LYR CPD (CCW)1D
1ECA 0FP-EC.31 SPR PMP SEAL CLRS 1P-64 (CCW)1D
1ECA 0FP-EC.31 FLSH LTDWN CLRS 1E-57 AFR (CCW)1D
1ECA 0FP-EC.31 IFP CRD SSTR PMP/FLSH CRF (CCW)1L
1ECA 0FP-EC.31 RC PMP SEAL CLRS 1P-51AHC (CCW)1D
1ECA 0FP-EC.31 IPR/FSH CCWRDR HT EX LP (CCW)1D
CA 0FP-EC.31 FUEL POOL HT EXCHS 9E-76 (CCW)1D
1SJA 1FP-SJ.31 IPR & FLUSH (RSX)1D
1AGC 0FP-AG.01 FL/PMP HEAD CAPACITY C/O (FWC)1H
1AGE 0FP-AG.31 FLUSH & PMP CAPACITY CK (FWC)1H
1AGH 0FP-AG.01 DRAIN TK & REFILL W/HHAGH (FWC)1H
1AGC 0FP-AG.01 DRAINS TKS & REFILL W/N2H2 (FWC)1H
1BGA 1FP-BG.01 FLSH L/D TO RCS W/DH PUMP (MUP)1I
1HAA 0FP-HA.31 BLOW/TIE HDR-AP VT 3HAB (FWG)1D
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FEB

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3HFA 0FP-HE.32 FL CHEM WST RLC PMP SUCT (LWS)2J
3HHB 0FP-HE.02 FL W/UTILITY WTR TO HBC (LWS)2J
3HLA 0FP-HE.32 FL CHEM WST DRNS TO REC TK(LWS)2J
3HDA 0FP-HE.92 GRAVITY FLUSH PUMP SUCTION(LWS)2J
3HEC 0FP-HE.92 FL LIQ WST SYS W/UTIL WTR (LWS)2J
3HLB 0FP-HE.02 IPR/FLSH PMP DIS-MIX BED (RFS)2J
3HED 0FP-HE.04 DEGAS INLET USING HEE PMP (RFS)2J
3HFE 0FP-HE.32 GRAV DRN EDT PMP SUC LINE (RFS)2J
3HEE 0FP-HE.34 GRAV FLSH PUMP SUCT LINE (RFS)2J
3HFP 0FP-HE.34 FIL DEGAS-FLA IFR FSH-SKS (RRS)2J
3HAC 0FP-HA.01 BHAD/HAR GAS FLOWS (FWG)2J
3HAG 0FP-HA.32 N2 BLOW RRS VENT HDR (FWG)2J
3HAI 0FP-HA.31 N2 BLOW RESIN VENT HDR (FWG)2J
CSJA 2FP-SJ.31 N2 BLO FM WST GAS DEC TK (FWX)2J
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UNIT 2/COMMON

UNIT 1

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1PED 1TP-MUP.33 MU SYS LTDWN CTL TROPHUS (FCS)1L
1LPA 1TP-RCS.05 DRAW PZR BUBBLE (FCS)1G
1HDA 1TP-RCS.31+ PH RCS HYDRO TEST (FCS)1F
1PFA 1TP-RCS.02 RCP INIT RUN (FCS)1I
1ALA 1TP-AFW.01 (PART) AUX FW PRE-OP (AFW)1I
1FCA 1TP-DHR.01 RCS RECIRC & FLOW ALARMS (DHR)1I
1DCA 1TP-CFF.01 BWST RECIRC DEMONSTRATION(CFR)1I
1AEP 1TP-MSS.01 MS ISOLATION VALVES (FST)1I
1BEA 1TP-MUP.34 PH HPI ESFAS TEST (FCS)1I
1EEA 1TP-RCS.13 SH OTSG HYDRO 1I
1EEA 1TP-RCS.12 PH RCP FLOW TEST (FCS)1I
1DDD 1TP-RCS.05 PZR LEVL VERIF RCS HYDRO (FCS)1I
1SEC 1SP-EDA.01 RCP START VOLT DRC TEST (FCS)1C
1SCA 1SP-NNI.09 BENT NEW 90GA SERIES C/O (NNI)1C
1AE 1SP-CHP.01 COND/FW SYS RINSE (FWS)1M
1EAE 0FP-EA.31 PRELIM FLUSH & BAL LOOP A (SWS)1R
1EKE 1FP-EK.31 HYDRAZINE SYS FLUSH (RBS)1I
1EKF 1FP-EK.31 CLN 1T-45/FLSH HYD PMP SU (RFS)1I
1EKA 1FP-EK.31 FLSH SUCT PPG TO RP SPRAY (RFS)1I
1EMA 1FP-EM.31 FLSH-VLV UPSTRM OF LWS (R (SFR)1I
1EMA 1FP-EM.01 IPR AND FLSH TO COOLG PND (SFR)1I
1EHB 1FP-RN.31 EMER SUMP FLUSH (RIS)1I
1EAC 0FP-EA.01 PRELIM FLUSH & BAL LOOP A (SWS)2J
1EAC 0FP-EA.01 PRELIM FLUSH & BAL LOOP A (SWS)2J
1EAC 0FP-EA.01 PRELIM FLUSH & BAL LOOP B (SWS)2J
1ABA 1FP-AB.31 STM BLOW MN STEAM LINES (MSS)1I
1BGB 1FP-BG.31 BLOW SERVICE AIR TO 1-HAT (MUP)2J
1EGG 1FP-BC.32 BLOW N2 TO 3HAG (MUP)2J
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MAR

1984

JAN

UNIT 2/COMMON

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.FHA 2TP-RHF.03 HC LTOWN CENTL RCP RUN      (PCS)2L
.FEA 2TP-RCS.01* PR RCS HYDRO               (FLS)2E
.HEA 2TP-RCS.3* DRAW PZR PUN (PZR LVL V)    (PCS)2D
.DEA 2TP-RCS.02 INIT RC PUMP RUNS SEC .2    (FCS)2E
.ALA 2TP-AFW.01 (PART) AUX FW PRE-OP        (AFW)21
.FCA 2TP-FFF.01 DUMP TO SUMP FLOW TEST      (CHR)21
.BCA 2TP-DHR.01 RCS RECIRC & FLOW ALARMS    (CMP)21
.ECA 2TP-DHR.01 BWST RECIRC DEMONSTRATION   (CHR)21
.PCA 2TP-LPI.01 COMMON REPAIR MODE RECHG    (DHR)21
.FCA 2TP-DHR.01 COMMON REPAIR MODE RECHG    (MSS)21
.ALL 2TP-MSS.01 (MS ISOLATION VALVE)        (RCS)21
.LEA 2TP-MUF.04 PR ESFAS TEST               (MUP)21
.FGC 2TP-MUF.01 MU SYSTEM PREOP             (FCS)21
.EDC 2TP-RCS.05 PZR LEVEL VENT RCS HYDR     (FCS)21
.ELA 2TP-ICS.12 PR RCP FLOW TEST            (PCS)21
.EEA 2TP-RCS.1? SM OTSG HYDRO               (PCS2TP
.AAA-2 2AP-MSS.03 HEATUP MS LINE TO XFER    (PCS2TF
.ABA-2 2AP-XXX C/O OPER VLV/LPEF COLD       (GGS)2H
.CCA 2AP-CGS.02 GEN AIR DRCP TEST           (GSO)2P
.CGA 2AP-GSO.01 HYDROGEN SEAL OIL ACCEPT    (FWS)2M
.AE  2SP-CPR.01 COND/FW SYS RINSE           (CHR)21
.FCA 2SP-CHR.02 BWST LINE LOSS TEST         (ICS)2J
.SGA 2SP-ICS.01 INIT ICS EMER
.ABA-3 2FP-AB.01 CRAWL STM LINE BET MSIV & TURB (FWC)2M
.ACP 0FP-AC.01 DRAIN TK & REFILL            (MUP)21
.PGA 2FP-PG.01 FLSH L/O TO RCS W/DN PMF     (FIS)21
.FKA 2FP-IK.01 * INITIAL PMP RUN
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FEB

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.FHA 2TP-CFS.01 PM CF CK VLV OPEN TEST      (FCS)21
.ECA 2TP-DHR.03 PM LPI ESFAS TESTS          (PCS)21
.ECA 2TP-DHR.03 DHR ESAF TEST               (DHR)21
.ECA 2TP-CHR.01 BACKUP SF COOLING DEMO      (CHR)21
.JLA 2TP-CFC.01 OPER DFO STOR               (LFO)2J
.SGA 2TP-ICS.01 ICS OPEN LOOP PREOP         (ICS)2J
.CCA 2AP-GGS.01 GENERATOR GAS SYS ACCEPT    (GGS)2M
.CAA 2AP-GSS.01 STEAM SEAL SYS ACCEPT       (GSS)2M
.CH  2AP-TGS.03 CBA/CFC MN TUR L.O.         (MLO)2M
.EAS 0FP-EA.01 PRELIM FLUSH & PAL LOOP A    (SWS2TR
.LCA 2FP-SC.01 FLUSH LINES TO SF POOL       (DHR)21
.CFC 2FP-CJ.01 FILL FW PMP L/O SYS          (LCS)2J
.GPA 2FP-CP.01 IPR & PROOF FLUSH            (CFW)2J
.JFA 2FP-JF.01 IPR & FLUSH                  (EFC)2J
.JLA 2FP-JE.01 DRAIN & CLEAN DAY TANKS      (DFO)2J
.PFF 2FP-PE.01 FLUSH F/C SYS                (PFS)2J
.PEA 2FP-PE.01 FLUSH F/C SYS                (PES)2J
.HAA 0FP-HA.05 N2 FLOW PX & AUX BLDG VENT   (RWG)10
.KAC 0FP-KA.01 BLOWDOWN SEC 7.7             (IAS)2J
.ECA 1TP-FFC.01 PREOP TEST                  (FFC)1C
.HSF 0TP-LWS.02 SEAL WATER SYS PREOP        (LWS)2J
.HCA 0TP-RWS.01 RESIN STOR & HDNL PREOP     (RWS)2J
.HCA 0TP-RWS.02 FILL/VNT SPENT RESIN SYS    (FWS)2J
.ATE 0AP-PSS.13 LP STM HDR SET HGRS HOT     (PSS)2M
.ATE 0AP-PSS.15 LEAK TEST THA STEAM LINES   (PSS)2M
.DCA 0FP-DC.01 FLUSH                        (CWI)2M
.HAF 0FP-HE.01 IPR/FL T/PMP FLANGES/FILL    (LWS)2J
.HBF 0FP-HE.01 FL PMP SUCT LINE TO CN21     (LWS)2J
.HCF 0FP-HC.01 FILL & FLUSH                 (RWS)2J
.HCA 0FP-HC.01 IPR & FLUSH                  (RWS)2J
.HCP 0FP-HC.01 IPP & FLUSH                   RWS)2J
.GCD 0FP-GC.02 FUEL OIL LINE FLUSH          (YRL)2S
TCS.04 DOMESTIC WATER FLUSH                 (TSC)2S
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UNIT 2/COMMON

MAR

UNIT 2/COMMON

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.FCB 2AP-AXT.01 FWF TURB NO LOAD TEST       (AXT)2J
2AE  2AP-CAR.01 SM CNDSR EVAC ACCEPT        (FWS)2J
.CFD 2AP-FLO.01 FWPT LUBE OIL ACCEPT        (LCS)2J
.GAC 2SP-CWS.01 FUNCTIONAL TEST               )2M
.PEB 2SP-FES.01 C/O AIR START SYS           (PCS)2J
.PEA 2SP-FES.01 C/O AIR START SYS           (FES)2J
.KCA 2FP-KC.01 FLUSH SAMPLE LINES           (SFS)2M
.CFC 2FP-CJ.01 FLUSH FWPT L/O SYSTEM        (LCS)2J
.EAC 0FP-EA.01 PRELIM FLUSH & PAL LOOP B    (SWS)2J
.EAD 0FP-EA.01 PRELIM FLUSH & PAL LOOP A    (SWS)2J
.EAC 0FP-EA.01 PRELIM FLUSH & PAL LOOP A    (SWS)2J
.GJA 2FP-GJ.01 SFGRD CHILL WTR TRN 2A       (SCH)2J
.GJA 2FP-GJ.02 SFGRD CHILL WTR TRN 2B       (SCH)2J
.PEA 2FP-PE.03 FLUSH J/W SYS                (FES)2J
.PEA 2FP-PE.02 FLUSH S/A SYS                (FES)2J
.PEA 2FP-PE.04 FLUSH L/O SYS                (FES)2J
.PEB 2FP-PE.04 FLUSH L/O SYS                (FES)2J
.PEB 2FP-PE.02 FLUSH S/A SYS                (FES)2J
.PEB 2FP-PE.03 FLUSH J/W SYS                (FES)2J
.CGB 0FP-FB.01 STM BLOW AIR EJECTOR RPG     (CAR)2M
.CGA 0FP-FF.01 STM BLOW AIR HOGGER PIPING   (CAR)2M
.GGG 2FF-GG.02    BLOW AIR TO DHAG          (FLP)2J
.GCB 2FP-GG.01 BLOW SERVICE AIR TO B-HAT    (FLP)2J
.HEB 0TP-BFS.02 FILL CDT W/DEMIN WTR        (FFS)2J
.HEA 0TP-LWS.01 FILL RCVR TK FR HGA & RCH   (LWS)2J
.HEC 0TP-LSS.01 LIQUID WASTE SYS PREOP      (LWS)2J
.FAD 0TP-FST.03 EV/F SLEC PIPE THERM EXP    (FSS)2M
.GAE 0AP-FTH.02 MISC LLRG ELECTRIC ACCEPT   (FTH)2J
.ATE 0AP-PSS.26 LP EVAP B REL VLVE TEST     (PSS)2M
.ATE 0AP-PSS.12 LP EVAP B HEATUP            (PSS)2M
.ATE 0AP-PSS.14 "C" EVAP BOILOUT            (PSS)2M
.ATE 0AP-PSS.12  P EVAP C HEATUP            (PSS)2M
.ATE 0AP-PSS.26 LP EVAP C REL VLVE TEST     (PSS)2M
.ATE 0AP-PSS.12 LP EVAP C POWER RUN UP      (PSS)2M
.ATE 0AP-PSS.12 LP EVAP D HEATUP            (PSS)2M
.ATE 0AP-PSS.12 LP EVAP B POWER RUN UP      (PSS)2M
.ATE 0AP-PSS.12 LP EVAP D POWER RUN UP      (PSS)2M
.ATE 0AP-PSS.14 "B" EVAP BOILOUT            (PSS)2M
.ATE 0AP-PSS.14 "C" EVAP BOILOUT            (PSS)2M
.ATE 0AP-PSS.12 LP EVAP L POWER RUN UP      (PSS)2M
.ATE 0AP-PSS.12 LP EVAP D REL VLVE TEST     (PSS)2M
.ATE 0AP-PSS.26 LP EVAP D REL VLVE TEST     (LWS)2J
.EAA 0SP-SWS.02 INIT RUN A,C,& E PUMPS      (CWI)2J
.GCB 0FP-GG.02 FLOW VERIF & FLUSH           (CHW)2J
.GBC 0FF-GF.02 AU CHILL WTR CLNG TWR        (CHW)2J
.GEC 0FP-GE.01 IPP & PROOF FLUSH
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1984 (CONT.)

JAN	FEB	MAR
		UNIT 2/COMMON :CKA 2TP-EMC.02 EMC ELECTRICAL PRE-OP (EMC2TP .ACA 2TP-TGS.02 INIT TURB ROLL (TCS2TP :MHA 2TP-EEP.02 480 VAC MCC PRE-OP (EPS2CJ :SGA 2TP-ICS.01 ICS INPUT VERIF (ICS2CJ :MAD 2AP-MCS.03 MN & STA AFMPS ACCEPT (MCS2TP :MAA 2AP-MCS.01 MN GENER/EXCIT (MCS2TP .MAb 2AP-MCS.02 ISO-PHASE BUS COOL ACCEPT (MCS2TP

1984 (CONT.)

2HEA	0FP-HE.01	OTHER SYS FLSH TO RHCH	(EFS)2J
2HEF	0FP-HE.06	GRAVITY FLUSH EVAP	(EFS)2J
2HEE	0FP-HE.05	IPR FLSH TO DEBOR DEMINS	(FAS)2J
2HGA	2FP-HG.01	LWS CRN SYS DMSTM PMPS TO	(RLD)2J
0HGA	0FF-HG.01	LWS GR TK INPUT LINE TO F	(RLD)2J
2HGA	2FP-HG.01	GRAV FLSH CP TK PMP SUCT	(RLC)2J
0KCA	0FP-KC.01	HYDRA PRECP FLOW VERIF	(FFS)2J
0KLC	0FP-KC.04	GUARDHOUSE FLUSH	(CWS)2J
0KC1	0FP-KC.02	FLUSH	(C.S)2J
2LCA	2FP-LC.01	FLSH ACID & CAUSTIC VST	)2J
2HEA-2	2FF-HE.01	FLSH DRNS TO AH COLL HDR	)2J
0HEF	0FP-HE.06	AIR FLOW TUBE SIDE OF EVAP	(LFS)2J
2KHE	0FP-KP.04	OXY(TURB LAB) AB/FUNCT	(LSC)2J
0KHE	0FP-KH.12	OXY(AUX 616) AB/FUNCT	(LSG)2J
0KHD	0FF-KH.03	PROP(TURB LAB) AB/FUNC	(LSG)2J
0KHF	0FP-KH.17	ACET(AUX 632) AB/FUNCT	(LSG)2J
0KHH	0FF-KH.05	ACET(TURB LAB) AB/FUNC	(LSG)2J
0KHI	0FP-KH.15	P-10 (AUX 632) AB/FUNC	(LSC)2J
0KHJ	0FF-KH.19	HEL (AUX 616) AB/FUNCT	(LSC)2J
0KHC	0FP-KP.11	PROF(AUX 616) AB/FUNCT	(LSG)2J
0KHD	0FP-KH.16	PROF(AUX 632) AB/FUNCT	(LSG)2J
0KHF	0FP-KH-13	ACET(AUX 616) AB/FUNCT	(LSG)2J

UNIT 2/COMMON

UNIT 1

1BHA	1TP-CFS.01	PM CF CK VLV OPER TEST	(RCS)1I
1BFA	1TP-CHF.05	PM LPI ESFAS TEST	(RCS)1I
1PCA	1TP-CHS.01	COMP. REPAIR MODE PECHC	(CHR)1I
1BCA	1TP-CHF.01	BACKUP SF COOLING DEMO	(CHR)1I
1BCA	1TP-CHF.01	RUNOUT ELEC ADD DEMO	(CHR)1I
1BCA	1TP-CHR.03	DHR ESAF TEST	(CHR)1I
1JEA	1TP-CFO.01	FIL DGFC TK&C/O LVL INST	(CFC)1J
1CCA	1AP-CGS.02	GEN AIR PRCP TEST	(GCS)1K
1BCA	1FF-KC.01	FLUSH LINES TO SF POOL	(CHR)1I
1CFD	1FP-CJ.01	FILL FW PMP L/O SYS	(LCS)1J
1GPA	1FP-GP.01	IPR & PROOF FLUSH	(CHW)1J
1GJA	1FP-GJ.02	SAFGRD CHILL WTR TRAIN 1B	(SCH)1J
1GJA	1FP-GJ.01	SAFGRD CHILL WTR TRAIN 1A	(SCH)1J
1JEA	1FP-JE.01	DRAIN & CLEAN DAY TANKS	(CFO)1J
1JEA	1FP-JE.01	IPR & FLUSH	(CFO)1J
1EAF	0FP-EA.01	PRELIM FLUSH & BAL	(SWS)2J
1KLC	0FP-KC.02	DOMESTIC WATER FLUSH	(CWS)2J
1KHC	0FP-KH.01	AIR BLOW PIPING	(MCC)1K
1SCA	0FP-SL.01	AIR FLOW SAMPLE LINES	(FAM)1K

APR

UNIT 1

1BTA	1TP-RPP.01	RX PENT PRESS (INST AIR)	(RFP)1K
1BTC	1TP-RPF.01	LK CHASE SYS LK TEST	(RFP)1K
1BGC	1TP-RTF.03	(F) 1217/61/25/65/66	(MUP)1K
1HGA	1TP-RTF.03	(F) 1246-MU	(FLP)1K
1EKD	1TP-RTF.03	(F) 1213	(RCS)1K
1ELA	1TP-RTF.03	(F) 1241	(PWL)1K
1EEA	1TP-RTF.03	12-19ABC20AB/35/45C-PZR	(FCS)1K
1GTC	1TP-RTF.03	(F) 12-33	(REV)1K
1GSA	1TP-RTF.03	(F) 12-63/86	(RCC)1K
1GSC	1TP-RTF.03	(F) 12-15RC/16RC	(RCC)1K
1HHA	1TP-RTF.03	(F) 1244AB/45AB	(CFS)1K
1EKA	1TP-RTF.03	(F) 1229/30/53/56	(PFS)1K
1GTE	1TP-RTF.03	(F) 12-34	(FCV)1K
1SDA	1TP-RTF.03	12-49A/B/52A/B/15A/16A	(FAP)1K
1EGA	1TP-RTF.03	(F) 123/7/9/10/68	(CCW)1K
1EGE	1TP-RTF.03	(F) 121/47/60/67	(HCF)1K
1HEA	1TP-RTF.03	(F) 12-22	(PHS)1K
1ECB	1TP-RTF.03	(F) 12-72/78	(FCC)1K
1GTS	1TP-RTF.03	(F) 12-60/21	(FCV)1K
1CHA	1AP-EHC.01	MN TURB EHC ACCEPT	(EHC)1R
1CCA	1AP-GGS.01	GENERATOR GAS SYS ACCEPT	(GCS)1R
1MAP	1AP-PGS.02	ISO-PHASE BUS COOL ACCEPT	(PGS)1R
1MAA	1AP-PCS.01	MN GEN & EXCITER	(PGS)1R
1FCH	1AP-AXT.01	FWP TURB MG LOAD TEST	(AXT)1J
1CFS	1AP-FLC.01	FWPT LUBE OIL ACCEPT	(LCS)1J
1GAC	1SP-CWS.01	FUNCTIONAL TEST	)1P
1PEB	1SP-PES.01	C/O AIR START SYS	(PES)1J
1PEA	1SP-PES.01	C/O AIR START SYS	(PES)1J
1HCA	1FP-SC.01	FLUSH SAMPLE LINES	(SFS)1I
1CFD	1FP-CJ.01	FLUSH FWPT L/O SYSTEM	(LCS)1J
1PCA	1FP-PE.03	FLUSH J/W SYS	(PES)1J
1PEB	1FP-PE.01	FLUSH F/O SYS	(PES)1J
1PEC	1FP-PL.03	FLUSH J/W COOL SYS	(PES)1J
1PEA	1FP-PE.01	FLUSH F/O SYS	(PES)1J
1PEA	1FP-PE.02	FLUSH S/A SYS	(PES)1J
1PEC	1FP-PE.02	FLUSH S/A SYS	(PES)1J
1BTB	1FP-BT.01	FLSH WTR LNES TO ISO VLVE	(RFP)1K
1HEA	0FP-HE.01	FINAL FLUSH	(EFS)1K
1HEA	0FP-HE.01	INIT FLSH RHCH WITH PMW	(EFS)1K
1HEA	0FP-HE.01	OTHER SYS FLSH TO RCCH	(EFS)1K
1CAA	1FP-CA.01	STEAM BLOW SEL LINES	(CSS)1H
1CGB	1FP-FC.01	STM BLOW AIR EJECT PPG	(CAR)1H
1CGA	1FP-FF.01	STM BLOW AIR HOGGER PIPING	(CAR)1H
1BTA	1FP-BT.01	BLOWDOWN PENET AIR LINES	(RFP)1K
1BTC	1FP-BT.01	BLOW LINES TO PENETRATIONS	(RFP)1K
1BTC		RUN COMPRESSORS & AIR BLOW	(RFP)1K

MAY

UNIT 1

1SFA	1TP-CFC.03	CFLP FUNCTIONAL TEST	(CFC)1J
1GHA	1TP-CEH.07	4KV VAC MCC PRE-OP	(CFB)1J
1CJA	1TP-SCH.01	SAFGRD LG CHIL -TF	(SCH)1J
1BTB	1TP-RPF.01	VERIFY/FILL WTR TKS	(RFP)1K
1BTF	1TP-RFP.01	VERIFY/FILL H2 SUPPLY	(RFP)1K
1BTA	1TP-RTF.01	RX PENT PRESS (H2)	(RFP)1K
1EAD	1TP-RTF.03	(F) 12-R,11	(SWS)1K
1GAG	1TP-RTF.03	(F) 12-42/43	(PTH)1K
1GBA	1TP-RTF.01	& RTF.02 PM RB SIT/ILRT	(RCS)1K
1BCA	1TP-RTF.03	(F) 12-78	(CHR)1K
1FFA	1TP-RTF.03	(F) 1271	(PSS)1K
1ETA	1TP-RTF.03	(F) 1251B	(RFP)1K
1EAD	1TP-RTF.03	(F) 12-6,4	(SWS)1K
1SJA	1TP-RTF.03	(F) 12-44	(FSR)1K
1HAA	1TP-RTF.03	(F) 12-76	(PWS)1K
1KAE	1TP-RTF.03	(F) 12-88	(S/S)1K
1KAC	1TP-RTF.03	(F) 12-51A	(1/S)1K
1AC	1AP-CAF.01	SP CNDSR EVAC ACCEPT	(FWS)1J
1AKA	1AP-CDC.01	CONDENSATE DEMIN ACCEPT	(CDC)1J
1GEA	1AP-CHW.01	TURB BLDG CHILL WTR TEST	(CHW)1J
1APB	1AP-CSS.01	CND XFER ACCEPT	(CSS)1J
1CAA	1AP-CWS.01	CIRC WATER SYS ACCEPT	(CWS)1J
1AE	1AP-FWS.01	CNDSATE/FW RECIRC ACCEPT	(FWS)1J
1CDA	1AP-GSC.01	HYDROGEN SEAL OIL ACCEPT	(GSC)1J
1CEA	1AP-SCS.01	STATOR COOLING ACCEPT	(SCS)1J
1HCA	1AP-SPS.01	STM PLANT SMPLNG TEST	(SPS)1J
1SCF	1SP-NNI.13	DUAL PULSE SHAPER CALIB	)1J
1SCD	1SP-NNI.02	PCC NMA-1X SIG COND CALB	(NNI)1J
1SCF	1SP-NNI.08	TS-4 TAPE RECORDER C/O	(NNI)1J
1SCH	1SP-NNI.04	NEUTRON NOISE MOD CALIB	(NNI)1J
1PEA	1SP-PES.02	INITIAL RUN DIESEL ONLY	)1J
1PEA	1SP-PES.03	1C-11 ENG ELEC C/O	)1J
1PEB	1SP-PES.02	INITIAL RUN DIESEL ONLY	)1J
1PEB	1SP-PES.04	1C-12 ENG ELEC C/O	)1J
1SDA	1SP-RIS.01	INIT RPS ENER/MOD CALIB	(RPS)1L
1APA	1FP-AF.02	GRAVITY FL TURB AFWP SUCT	(CSS)1J
1PEA	1FP-PE.05	FLUSH INTAKE DUCTS	(PES)1J
1PEB	1FP-PE.05	FLUSH INTAKE DUCTS	(PES)1J
1PEA	1FP-PE.04	FLUSH L/O SYS	(PES)1J

JUN

1984

APR

UNIT 2/COMMON

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CATE OAP-PSS.26 LP EVAP G REL VLVE TEST (PSS)2M
DATE DAP-PSS.14 "G"EVAP BOILOUT (PSS)2M
CATE DAP-PSS.14 "F" EVAP BOILOUT (PSS)2M
CATE DAP-PSS.12 LP EVAP G HEATUP (PSS)2M
CATE DAP-PSS.12 LP EVAP F HEATUP (PSS)2M
2HLJ 0SP-FIN.07 BOF RACK C/O 0C-166 (FIN)2F
CHEE 0SP-CFS.01 VALVE LOGIC LOOP CHECK )2J
EGA 2SP-CCW.01 COMP CLG INIT PMP RUNS (CCW)2J
ACA 0SP-FFS.01 DIESEL FIRE PMP INIT RUN (FFS)2J
2AFF 0FP-AM.05 FLUSH (DPW)2J
CFLP 0FP-PL.07 CLN OT-15/FSH-AUX COLL (DPW)2J
SELA 0FP-EL.01 OT-14-AUX BLDG COLL HDR (PPW)2J
0EAA 0FP-EA.01 FINAL FLUSH & BAL LOOP E (SWS)2J
EAA 0FF-EA.01 FINAL FLUSH & BAL LOOP A (SWS)2J
ECA 0FF-EG.01 GRAV FLSH TO PMP SUCT (CCW)2J
HAH 0FP-HA.04 LIQUID WASTE FLUSH (ALG)2J
CHEE 0FP-HP.02 GRAVITY FL PMP SUCTION (LWS)2J
HEA 0FP-HB.02 FILL/IPR FL T/CHM WST DRN (LWS)2
HEE 0FP-HB.02 FLUSH SYSTEM (LWS)2J
HEA 0FP-HU.02 FLUSH CHEM WASTE (LWS)2J
HEC 0FP-HH.02 FLUSH LWS FILTERS/DEMINS (LWS)2J
HEE 0FP-HE.05 GRAV-REC TK PMP SUCT LINE (BRS)2J
HEH 0FP-HE.08 FLUSH TO HEC (BRS)2J
HEG 0FP-HE.07 FLUSH TO HEA-HCP (BRS)2J
CHEH 0FP-HE.08 GRAVITY FLSH PUMP SUCTS (BRS)2J
HEC 0FP-HE.05 FLSH W/SHEB PMPS TO DEGAS (BRS)2J
HEF 0FP-HE.06 GRAV FLSH ABS TWR TO FLR (BRS)2J
HEF 0FP-HE.06 FILL COND W/PPW (BRS)2J
HEH 0FP-HE.08 FILL COND TK IPR & FLUSH (BRS)2J
HEH 0FP-HE.08 INLET COND TK W/DEMIN WTR (BRS)2J
HEE 0FP-HE.04 DRN R.TK/FIL W/PPW FR DEG (BRS)2J
HEF 0FP-HE.06 FILL CONDENSER W/PPW (BRS)2J
HED 0FP-HE.04 AUX STM LINE TO REC TK (BRS)2J
HEE 0FP-HE.05 FLUSH BRS REC TANK INLET (BRS)2J
HEF 0FP-HE.06 IPR DIST PMP TO POLISH TK (BRS)2J
HEF 0FP-HE.06 FILL ABS TWR W/PPW (BRS)2J
HED 0FP-HE.03 TO MIX REC TK (HEC) & FLG (BRS)2J
HEG 0FP-HF.04 COND PMP IPR/FLSH TO COND (BRS)2J
HEF 0FP-HE.06 GRAVITY FLSH COND TO FLR (BRS)2J
HEF 0FP-HE.06 IPR FSH TO REC/BRS HCR TK (BRS)2J
HEF 0FP-HE.06 TUBE SIDE OF EVAP W/CCW (BRS)2J
HEF 0FP-HE.06 FILL EVAP W/PPW (BRS)2J
HEE 0FP-HE.05 COMPLETE SYS FLUSH (BRS)2J
HEE 0FP-HE.05 FILL REC TK-PPW FM HED (BRS)2J
HEG 0FP-HE.07 FSH FM/R.TK PMP THRU HEJ (BRS)2J
HEJ 0FP-HE.09 FM REC TK PMPS THRU HEC (BRS)2J
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MAY

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2DAS 0SP-DAS.15 LANYARD XDUCER CALIB )2J
HEC 2SP-RCP.20 RCP MTR BRG PERF RCS532F (RCS)2J
SDA 2SP-RIS.01 INIT RPS EXER/MOD CALIB (RPS)2L
ADE 2FP-AC.02 FLUSH SAMP SYS (CCS)2J
FCA 2FP-RC.01 STEAM BLOW PIPING (ANT)2J
SCA 2FP-SC.01 AIR BLOW SAMPLE LINES (RAM)2K
SDB 0FP-SF.01 AIR BLOW SAMPLE LINES (RAM)2M
HEG 2TP-FFS.06 WET FH TEST (SFP SIDE) (FFS)FP
HEA 0TP-BRS.02 BRS PRE-OP (BRS)2J
HEJ 0TP-BRS.02 PRE-OP (POST RESW LOAD) (BRS)2J
HEE 0TP-BRS.02 PRE-OP (BRS)2J
HEG 0TP-BRS.02 PRE-OP (POST RESIN LOAD) (BRS)2J
HEA 0TP-BRS.03 BORON CTRL TEST RCS532F (BRS)2J
KCD 0TP-FFS.02 FIRE PROT PRE-OP (FFS)2J
LCA 0AP-ACW.01 EV BLD AC/CAUS WST SUMP (ACW)2J
KGC 0AP-DWS.01 DOMESTIC WATER ACCEPT (DWS)2J
KHA 0AP-PGP.01 MISC GAS/N2 SUPPLY ACCEPT(MGN)2J
ATE 0AP-PSS.12 LP EVAP H POWER RUN UP (PSS)2M
ATE 0AP-PSS.26 LP EVAP K REL VLVE TEST (PSS)2M
ATE 0AP-PSS.14 "J" EVAP BOILOUT (PSS)2M
ATE 0AP-PSS.14 "K" EVAP BOILOUT (PSS)2M
ATE 0AP-PSS.12 LP EVAP J HEATUP (PSS)2M
ATE 0AP-PSS.26 LP EVAP J REL VLVE TEST (PSS)2M
DATE 0AP-PSS.12 LP EVAP J POWER RUN UP (PSS)2M
CATE 0AP-PSS.12 LP EVAP K HEATUP (PSS)2M
CATE 0AP-PSS.12 LP EVAP K POWER RUN UP (PSS)2M
ATE 0AP-PSS.14 "H" EVAP BOILOUT (PSS)2M
ATE 0AP-PSS.26 LP EVAP H REL VLVE TEST (PSS)2M
KEP 0SP-FHS.03 NEW FUEL RACK INSPECTION (FHS)FP
AME 0FP-AM.03 FLUSH AUX INSTR & EQUIP (DPW)2J
HEH 0FP-HE.08 FLUSH COMPLETE (BRS)2J
HEA 0FP-HE.01 FINAL FLUSH (BRS)2J
KHF 0FP-KF.09 VAC (AUX-161)/FUNC TEST (LSS)2J
KFF 0FP-KF.10 VAC (AUX-132)/FUNC TEST (LSS)2J
ATE 0FP-AT.01 FLUSH PROC STEAM BLOWDOWN (PSS)2M
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UNIT 2/COMMON

UNIT 1

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1CMA 1TP-EHC.02 EHC ELECTRICAL PREOP (EHC)1P
1ACA 1TP-TGS.02 INIT TURB ROLL (TGS)1K
1JEA 1TP-CFC.01 EMER DSL FUEL STORAGE (DFO)1J
1SQA 1TP-ICS.01 ICS OPEN LOOP PREOP (ICS)1J
1SQA 1TP-ICS.01 ICS INPUT VERIF (ICS)1J
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JUN

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2BTR 2FP-BT.01 FSH WTR LNES TO ISO VLVS (RFP)2K
2BTC 2FP-BT.01 BLOW LINES TO PENETRATIONS(RFP)2K
2BTA 2FP-BT.01 BLOW PENETRATION AIR LINES(RFP)2K
2BTD RUN COMPRESSORS & AIR BLOW (RFP)2K
ANE 0TP-RTF.05 162 (F) 12-2 & 22-2 (DPW)1K
ECE 0TP-RTF.05 162 (F) 12-18 & 22-18 (FFC)1K
ELA 2TP-RTF.05 2241 11
HEA 0TP-RTF.05 (F) 22-32 (EFS)2K
HCC 0TP-RWS.03 FILL EXTR LUBE OIL SYS (RWS)2M
HCC 0TP-RWS.02 SPNT RES DECNT & RECRC P (RWS)2M
DATE 0AP-PSS.23 LP THX STM QUAL"L" EVAP (PSS)2M
ATE 0AP-PSS.17 LP SUBCOOL/2 PHASE FLOW (PSS)2M
DATE 0AP-PSS.20 "C" EVAP QUALITY CHECK (PSS)2M
ATE 0AP-PSS.12 LP EVAP A POWER RUN UP (PSS)2M
ATE 0AP-PSS.20 LP STM QUALITY "E" EVAP (PSS)2M
DATE 0AP-PSS.20 "F" EVAP QUALITY CHECK (PSS)2M
DATE 0AP-PSS.20 "F" EVAP QUALITY CHECK (PSS)2M
ATE 0AP-PSS.20 "D" EVAP QUALITY CHECK (PSS)2M
ATE 0AP-PSS.29 LP EVAP FH V/R1/02 COMPT (PSS)2M
DATE 0AP-PSS.36 LP DEPR/RECOV PHASE 1 )2M
DATE 0AP-PSS.34 LP EVAP A REL VLVE TEST (PSS)2M
DATE 0AP-PSS.26 LP EVAP PRESS OFF NORMAL (PSS)2M
DATE 0AP-PSS.26 LP EVAP QUALITY CHECK (PSS)2M
DATE 0AP-PSS.20 "B" EVAP QUALITY CHECK (PSS)2M
DATE 0AP-PSS.14 "A" EVAP BOILOUT )2M
DATE 0AP-SPS.02 BLD & SAMP ACCEPT C EVAP )2M
ATE 0AP-SPS.02 BLD & SAMP ACCEPT H EVAP )2M
DATE 0AP-SPS.02 BLD & SAMP ACCEPT E EVAP )2M
DATE 0AP-SPS.02 BLD & SAMP ACCEPT D EVAP )2M
DATE 0AP-SPS.02 BLD & SAMP ACCEPT G EVAP )2M
DATE 0AP-SPS.02 BLD & SAMP ACCEPT F EVAP )2M
DATE 0AP-SPS.02 BLD & SAMP ACCEPT L EVAP )2M
ATE 0AP-SPS.02 BLD & SAMP ACCEPT L EVAP (PSS)2M
HCC 0FP-HC.02 FLUSH & IPR RESIN DET (RWS)2M
HCC 0FP-HC.02 IPR/FSH DF-152,153,121823 (RWS)2M
HCC 0FP-HC.02 FILL RES DET TANK (RWS)2M
HCC 0FP-HC.02 CLEAN ASPHALT TANK & FLUSH(RWS)2M
HCC 0FP-HC.02 FIL BLRS,CWIS,DLC STA,ACI (RWS)2M
HCC 0FP-HC.02 CLEAN/FLSH LUBE OIL TANK (RWS)2M
DATE 0FP-AT.06 "G" EVAP STEAM BLOW (PSS)2M
DATE 0FP-AT.06 "C" EVAP STEAM BLOW (PSS)2M
DATE 0FP-AT.06 "F" EVAP STEAM BLOW (PSS)2M
DATE 0FP-AT.06 "D" EVAP STEAM BLOW (PSS)2M
DATE 0FP-AT.06 "E" EVAP STEAM BLOW (PSS)2M
DATE 0FP-AT.06 "B" EVAP STEAM BLOW (PSS)2M
DATE 0FP-AT.06 "L" EVAP STEAM BLOW
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UNIT 2/COMMON

1984 (CONT.)

UNIT 2/COMMON

APR

UNIT 2/COMMON

MAY

UNIT 2/COMMON

JUN

1984 (CONT.)

UNIT2/COMMON

APR	MAY	JUN	

1984 (CONT.)

UNIT2/COMMON

[illegible]	[illegible]	[illegible]
[illegible]	CREW FUNCTIONAL TEST	[illegible]
[illegible]	CRC SYS INTEGRATED TEST	[illegible]
[illegible]	MI MOD VOLT [illegible]	[illegible]
[illegible]	NOR 1-E PEE VOLT[illegible]	[illegible]
[illegible]	480 VAC LCC PRE-OP	[illegible]
[illegible]	1-E LOW VOLT [illegible]	[illegible]
[illegible]	1-E LOW VLT [illegible]	[illegible]
[illegible]	120V AC NOR 1-E	[illegible]
[illegible]	120VAC-INPT PREF PWR	[illegible]
[illegible]	120VAC 1-E PREF PWR	[illegible]
[illegible]	NON 1-E DC SYS	[illegible]

APR | MAY | JUN

1984 (CONT.)

UNIT 1

JUL

UNIT 1

AUG

UNIT 2/COMMON

UNIT 1

SEP

1984

JUL

CATE JAP-PSS.18 TUBE INTEG EXPER LKR ID (PSS)2M
CATE JAP-PSS-29 LOS OF FEEDWTR LP EVAPS)2M
GATE JAP-PSS.13 HP EVAP B HEATUP (PSS)2M
CATE CAP-SPS.32 BLD & SAMP ACCEPT K EVAP)2M
CATE 0AP-SPS.32 BLD & SAMP ACCEPT J EVAP)2M
CATE 0AP-SPS.32 BLD & SAMP ACCEPT A EVAP)2M
CATE CAP-SPS.32 BLD & SAMP ACCEPT H EVAP)2M
CATE 0FP-AT.36 OPEN MON MOV (PSS)2M
CATE 0FP-AT.36 CLN.INSP.FSH HP STM-LGW (PSS)2M
GATE 0FP-AT.36 INSPECT LLP & CLEAN (PSS)2M
JATE 0FP-AT.36 OPEN MOV HP STEAM TO LOW (PSS)2M
0ATE-2 0FP-AT.36 CLSE HP STM TO DGW MOV (PSS)2M
CATE 0FP-AT.06 "K" EVAP STEAM BLOW (PSS)2M
CATE 0FP-AT.36 "A" EVAP STEAM FLOW (PSS)2M
CATE 0FP-AT.36 "H" EVAP STEAM BLOW (PSS)2M
CATE 0FP-AT.36 "J" EVAP STEAM BLOW (PSS)2M
SPR 0FP-SF-31 AIR BLOW SAMPLE LINES (PSR)2M

UNIT 2/COMMON

UNIT 1

1ALA 1TP-AFW.01 1F-USA MP MR ERGUP FUN (AFW)1J
1MEA 1TP-PPS.32 PPS PRE-OP (PPS)1J
1EGA 1TP-CCL.31 CCL FLOW BALANCE (CCW)1J
1MEA 1TP-CHF.31 RCS CHEM TEST RCS<1F0 (RCS)1J
1SFA 1TP-CFC.32 CFLT CRCM INTEG 1PS-532 (CHD)1J
1SFA 1TP-CFL.32 SYS INTEGRATED TEST (CHF)1J
1SFA 1TP-CHL.32 CRP TRIP & OPER 160-532 (CHF)1J
1SFA 1TP-CFC.32 CFLT CRIM FUNC RCSSING (CFL)1J
1FEA 1TP-ECA.31 HI MOD VOLT (6.9KV) (ECA)1J
1FEA 1TP-ELA.31 NON 1E MED VOLT(4.16KV) (EFA)1J
1FGA 1TP-EFL.31 1-E MED VLT(4.16KV) (EEB)1J
1HEA 1TP-EEL.31 480 VAC LCC PRE-OP (EEC)1J
1FGA 1TP-EEL.31 1-E LOW VLT 480VAC (EEC)1J
1PHA 1TP-ELC.31 1-E LOW VLT(480VAC) (EFC)1J
1NLA 1TP-EGA.01 120VAC NON 1E (EFA)1J
1NFA 1TP-EHA.31 120VAC CN-INPT PREF FWP (EFA)1J
1PNA 1TP-EHB.31 120 VAC 1E PREFRD PWR (EHB)1J
1GMA 1TP-EKC.31 NON 1E DC SYS (EKC)1J
1PKA 1TP-EKL.32 CLASS 1E MIN VOLTAGE PRE-OP)1J
1PKA 1TP-EKD.31 CLASS 1E DC SYS PRE-OP (EKD)1J
1GDB 1TP-EPL.32 STATN EMER DC CIT (EPL)1J
1PBA 1TP-HFT.31+ PM RCS <1E)F (RCS)1J
1PBA 1TP-HFT.31+ PP HEAT-UP RCS 180-537F (RCS)1J

AUG

CGLA 0TP-AHV.32 AUX BLDG HVAC PRE-OP (AHV)2L
CEAA 0TP-SWS.31 SW PREOP (SWS)2L
0DCA 0TP-SWS.33 SER WATER TRAV SCRN PREOP(SWS)2L
0GLF 0TP-AHV.31 FH AREA HVAC PRE-OP (AHV)2M
0GLF 0TP-AHV.34 ACCESS CNTL/CMPTR AREA (AHV)2M
0DCC 0TP-CPF.31 EMER COOL POND PRE-OP (CPF)2M
0SOF 0TP-ESA.06 HAZ GAS MONT SYS PREOP (HCM)2M
0KCC 0TP-FPS.33 FIRE PROTECTION PREOP (FPS)2M
0KCC 0TP-FPS.31 CO2 FIRE PROT PRE-OP (FPS)2M
0GLL 0TP-HHV.33 SER WTR STRUCT HVAC PREOP(HHV)2M
0OFC 0TP-PAS.31 SOUND POWERED PHONES (PAS)2M
0QEA 0TP-PEX.31 EXTERNAL COMMUNICATIONS (PEX)2M
0RLN 0TP-PIN.31 ROOM WATER LVL MON SYS (PIN)2M
0SPB 0TP-PSP.31 PROCS STM RAD MON (PSR)2M
0SDC 0TP-RAM.31 AREA RAD MON (NSR) (RAM)2M
0SCC 0TP-RAM.31 AREA RAD MON (USR) (RAM)2M
0SGB 0TP-RAM.36 AIR RAD RAD MON ( ) (RAM)2M
0SCC 0TP-RAM.35 LIQUID RAD MONT PRE-OP (RAM)2M
0HCC 0TP-RWS.34 RAD WST DRUM HDNL PREOP (RWS)2M
0EAA 0TP-SWS.05 SW VORTEX PREOP (SWS)2M
0GEB 0AP-CHW.32 OFF BLDG CHILL WTR (CHW)2M
0GCA 0AP-HHV.32 PROCS EVAP BLDG HVAC (HHV)2M
0ATD 0AP-PSS.24 HP EVAP A REL VLV TST (PSS)2M
0ATE 0AP-PSS.35 HP EVAP FM VAN1/O2 CONT (PSS)2M
0ATE 0AP-PSS.37 HP EVAP RECRC SYS C/O (PSS)2M
0ATG 0AP-PSS.16 SUM COOLING TEST (PSS)2M
0ATD 0AP-PSS.27 HP EVAP PRESS OF NORMAL (PSS)2M
0ATG 0AP-PSS.38 HP DEPR/RECOV PHASE 1)2M
0ATF 0AP-PSS.13 HP EVAP A HEAT-UP (PSS)2M
0ATE 0AP-PSS.24 HP VNT STA/DUMP VLV ACC (PSS)2M
0GA 0AP-PTH.31 1A/2GAJ AE ELEC HEAT (PTH)2M
0HCC 0AP-RWS.31 DRY WASTE COMPACTOR)2M
0LCA 0AP-SEW.31 DEWATERING SYS ACCEPT (SEW)2M
0FAM-HAS.34 GAS SUPPLY AIR TEST)2M
0AFH 0SP-AHR.35.11 CMPLT C/O)2L
0PHH 0SP-AHR.32 CMPLT C/O)2L
0SOF 0SP-ESA.06 INIT EACH HAZ GAS MON (HCM)2M
0HCD 0SP-RWS.35 FILTER HDNL C/O (RWS)2M
0DGW 0FP-AT.14 SUCT PIPE TIES & CONNECT (PSS)2M
0ATP 0FP-AT.36 STM BLOW A TRAIN (PSS)2M
0HHA 0FP-HH.31 FLUSH TK SUCT & GRAV FL (LEW)2M
0SGB 0FP-SL.31 AIR BLOW SAMPLE LINES (RAM)2M
0SGC 0FP-SL.31 AIR BLOW SAMPLE LINES (RAM)2M

UNIT 2/COMMON

SEP

UNIT2/ COMMON

2HGK 2FP-HG.33 FLUSH RECIRC FLOW PATH (EHS)2M
2BGK 2FP-BG.33 FLUSH OUT CUT PIPE (EHS)2M
2BGK 2FP-BG.33 FLUSH TO EGC (EHS)2M
0KFP 0TP-CHE.31 AUX BLDG CRANE PREOP (CHE)2M
0GDC 0TP-EPL.31 CNTL ROOM EMER LIGHTS (EPL)2M
0GKA 0TP-FDA.31 FIRE DET & ALARM PREOP (FDA)2M
0KCP 0TP-FPS.34 XFMR DELUGE PREOP (FPS)2M
0KCA 0TP-FPS.31 FIRE WTR SUPPLY & DIST (FPS)2M
0GAA 0TP-NLS.31 NORM & LSS LITING PRE-OP (LLS)2M
0QFA 0TP-PAS.32 INTERNAL COMMUNICATIONS (PAS)2M
0GFE 0TP-PAS.34 RADIO COMM PRE-OP (PAS)2M
0SDB 0TP-RAM.33 CTRT HI RANGE RAD MONT (RAM)2M
0SDE 0TP-RAM.35 LIQUID RAD MONT PRE-OP (RAM)2M
0HCC 0TP-RWS.06 INTEG SOLID RAD WST PREOP(RWS)2M
0SGA 0TP-SIS.31 SEISMIC INST SYS PRE-OP (SIS)2M
0DEA 0AP-CPF.31 POND BLDWN/MAKLUP ACCEPT (CPF)2J
0FAA 0AP-AXB.31 AUX BLR ACCEPT F/OE-16A (AXB)2M
0FAA 0AP-AXB.32 AUX BLR ACCEPT F/OE-16B (AXB)2M
0KFC 0AP-CHE.01 TURBINE BLDG CRANE ACCEPT(CHE)2M
0FAP 0AP-HAF.31 GAS LEAK DETECT ACCEPT (HAS)2M
0FAM 0AP-HAS.36 LEAK TEST CONDENSATE (HAS)2M
0FAP 0AP-HAS.06 SERV LEAK TEST FEEDWTR (HAS)2M
0FAM 0AP-HAS.11 MUD DRUM HTC SYS TEST (HAS)2M
0FAM 0AP-HAS.39 LEAK TEST HP CONDENSATE (HAS)2M
0FAM 0AP-HAS.14 COND TO DA SER LEAK TEST)2M
0FAC 0AP-HAS.07 LEAK TEST MAIN STEAM (HAS)2M
0FAC 0AP-HAS.12 N2 SUPPLY TEST (HAS)2M
0HHA 0AP-LEW.31 LAUNDRY WASTE ACCEPT (LEW)2M
0GDX 0AP-MHV.33 MISC BLDGS HVAC ACCEPT (MHV)2M
0ATD-2 0AP-PSS.11 SERV LP TST TO VALVE (PSS)2M
0ATD 0AP-PSS.11 LEAK TEST (PSS)2M
0ATE 0AP-PSS.22 LP PMP HEAD CURVE (PSS)2M
0ATG 0AP-PSS.13 HP EVAP B POWER RUNUP (PSS)2M
0ATE 0AP-PSS.38 HP DEPR/RECOV PHASE 2)2M
0ATD 0AP-PSS.26 RELIEF VALVE TESTING (PSS)2M
0ATN 0AP-PSS.23 VACUUM PUMP PERFORMANCE (PSS)2M
0ATD 0AP-PSS.07 HP EVAP 1 COOLDOWN & INSP(PSS)2M
0ATP 0AP-PSS.32 HP & LP RAD FILTER ACCEPT(PSS)2M
0ATE 0AP-PSS.18 TUBE INTEG EXPERLEAKER IC(PSS)2M
0ATE 0AP-PSS.11 DOW HP STM HTUP TO VALVE (PSS)2M
0ATD 0AP-PSS.19 HP THX STM QUAL "A EVAP" (PSS)2M
0ATL 0AP-PSS.21 HP FD PMP HEAD CURVE (PSS)2M
0ATD 0AP-PSS.13 THERMAL PERFORM BASELINE (PSS)2M
0ATD 0AP-PSS.29 LOS OF FEEDWTR HP EVAPS)2M
0FAM 0AP-PST.01 HP BLR TEMP PPG EXAM (HAS)2M
0CAA 0AP-PTH.34 HOT WATER HEATING ACCEPT (PTH)2M

1984 (CONT.)

JUL

UNIT2/ COMMON

2STE 2TP-RFF.01 VERIFY/FILL N2 SUPPLY (RFP)2P
2PTA 2TP-RFF.01 RX PENT PRESS (N2) (RFP)2K
2HTG 2TP-RFF.01 VERIFY/FILL WTR TKS (RFP)2K
2GAG 2TP-RTF.03 (F) 2Z-42/43 (FTH)2K
2EAC 2TP-RTF.03 (F) 2Z-P.11 (SWS)2K
2KAC 2TP-RTF.03 (F) 2Z-51A (IAS)2P
2HAA 2TP-RTF.03 (F) 2Z-76 (RWG)2K
2EAC 2TP-RTF.03 (F) 2Z-4.6 (SWS)2P
2ALA 2TP-RTF.03 (F) 2Z-71 (PSS)2K
2BBA 2TP-RTF.01 & RTF.02 RM FO SIT/TLRT (FCS)2P
2BCA 2TP-RTF.03 (F) 2Z-2B (FFR)2P
2PAL 2TP-RTF.03 (F) 2Z-85 (S/S)2K
2PTA 2TP-RTF.03 (F) 2Z-16 (FFP)2P
2SJG 2TP-RTF.03 (F) 2Z-44 (RCW)2K
2SFA 2TP-NIS.08 NI PRE-OP CALIB TEST (RFS)2L
2SEA 2TP-RPS.02 RPS PRE-OP CALB (RPS)2L
2SFA 2TP-NIS.01 ICM ELECT TEST (NIS)2K
2SJ4 2TP-RAF.05 LIGUID RAD MONT PRE-OP (RAF)2P
2ECA 1TP-FPC.01 DRAIN SPENT FUEL POOL FPC)FP
2PLA 2TP-PPW.01 PRIM WTR STOP/TRANSF (PPW)2L
2SLE 2TP-RAF.02 1-E AREA RAD MONT PRE-OP (RAP)2L
2SEL 2TP-RAF.01 AREA RAD MONT (MSR) (R/M)2P
2HCC 0TP-RWS.03 FILL ASPHALT TANK (RWS)2P
2HCC 0TP-RWS.03 RAD WST SOLIDIFICATION (RWS)2P
2HCC 0TP-RSS.05 FILL STEAM DOME BOILOUT (RSS)2P
2ATE 2AP-PSS.2? "K" EVAP QUALITY CHECK (PSS)2P
2ATE 2AP-PSS.2? "J" EVAP QUALITY CHECK (PSS)2P
2ATD 2AP-PSS.11 HP TEST STM HGR SET HOT (PSS)2P
2ATD 2AP-PSS.12 THERMAL PERFORM BASELINE (PSS)2P
2ATE 2AP-PSS.07 RECIRC SYS LP COOLDOWN (PSS)2M
2ATE 0AP-PSS.01 PSS INTERLCK & CTRL CHK (PSS)2P
2ATE 2AP-PSS.2? "H" EVAP QUALITY CHECK (PSS)2P
2ATE 2AP-PSS.20 "A" EVAP QUALITY CHECK (PSS)2M
2ATD 0AP-PSS.19 HP THX STM QUAL"B EVAP" (PSS)2P
2ATE 2AP-PSS.09 LP DEPR/RECOV PHASE 2)2P
2ATE 2AP-PSS.11 HANGER CHECK COLD (PSS)2M

AUG

UNIT2/ COMMON

2HAA 2TP-BWS.01 BORATED WATER STOR PREOP (BWS)2L
2SAC 2TP-ESA.04 ESFAS RESPONSE TIME TEST (ESA)2L
2SAC 2TP-ESA.07 TOT SFAS RESPONSE TIME (ESA)2L
2SBA 2TP-ESA.05 INTEGRATED ESFAS LP (FCS)2L
2SAI 2TP-ESA.03 ECCAS LOP SEG PREOP (ESA)2L
2SLE 0TP-RAF.02 1-E AREA RAD MONT PRE-OP (RAM)2L
2SDA 0TP-RAF.04 1-E AIR RAD MONT (RAM)2L
2GTA 2TP-HCV.01 RB AIR PUR/CLNUP/VENT (RCV)2L
2CSC 2TP-RGC.03 H2 MONITORING PRE-OP (RGC)2L
2GSD 2TP-RCC.02 H2 VENT SUPPLY/EXH PRE-OP(RCC)2L
2GSA 2TP-RGC.01 H2 RECOMBR PRE-OP (RCC)2L
2SBA 2TP-RPS.01 RPS TIME RESPONSE (RPS)2L
2GPA 2TP-CHV.01 DG BLDG HVAC PRE-OP (CHV)2M
2SEA 2TP-RAF.01 AREA RAD MONT (MSR) (RAM)2P
2GPA 2TP-HCV.03 CTMT HEAT REMOVAL PREOP (HCV)2M
2RKA 2SP-ANN.08 CMPLT C/O)2L
2RKA 2SP-ANN.07 CMPLT C/O)2L
2SCA 2SP-NAI.01.01 CMPLT C/O)2L
2RLE 2SP-PIT.04 CMPLT C/O)2L
2SLA 2SP-RPS.01 RCP PWR MON RESPONS TIME (RPS)2L
2SBB 2SP-RPS.02 INITIAL ENERGIZATION (RPS)2P
2BGK 2PP-EC.03 FLSH PRIM WTR INTO EPS TK (EPS)2M
2AGD 0PP-AC.01 INST AIR BLOW (PAC)2M
2GLH 2TP-AHV.03 CNTL RM HVAC PRE-OP (AHV)2L

SEP

UNIT2/ COMMON

2NFA 2TP-CHF.04 POLAR CRANE PRE-OP (CHF)2M
2KCF 2TP-FPS.03 HALON FIRE PROTECTION PRE-OP)2M
2BGA 2TP-MUF.01 MU SYS PRE-OP (LES) (CES)2P
2SFE 2TP-NIS.04 NI DETECTOR PRE-OP (NIS)2P
2SEA 2TP-NIS.06 SR/IR INITIAL SETTINGS (RPS)2M
2SEA 2TP-NIS.02 ICM SYSTEM PRE-OP (NIS)2P
2SEH 2TP-NIS.03 NI DETECTOR CABLING TEST (NIS)2P
2SDB 0TP-RAF.03 CTMT HI RANGE RAD MON (RAM)2M
2SDB 0TP-RAM.07 STACK HI RANGE RAD MON (RAM)2M
2DMA 2TP-RCS.01 RC SPRAY HDR AIR TEST (RCS)2P
2BBA 2TP-RCS.19 RST HFT INTER INSP(RVIC) (RCS)2M
2SFE 2TP-RPS.03 ARTS SYS PREOP (RPS)2M
2GLE 2AP-AHV.01 TENDON GALLERY HVAC (AHV)2M
2QHA 2AP-CPS.01 CATHODIC PRPT ACCEPT (CPS)2M
2RLO 2SP-PIT.02 CMPLT C/O)2P
2RLP 2SP-PIT.03 CMPLT C/O)2M

1984 (CONT.)

UNIT 1

1SEA 1TP-NIS.01 ICM ELECT TEST (NIS)1M
1SEP 1TP-NIS.04 NI DETECTOR PRE-OP (NIS)1M

OCT	NOV	DEC

1984

JAN	FEB	MAR
2DAS 3SP-DAS.?? DATA ACQ SETUP F/UNIT 2 TES)2F UNIT 2/COMMON UNIT 1 DOW 0FP-AT.XX DRAIN LINE TO DOW POND (PSS)1C DOW 0FP-AT.XX COND LINE FLUSH TO POND (PSS)1C 1HFA 1TP-CHR.34 POLAR CRANE PRE-OP (CRE)1P 1GMA 1TP-CHV.31 DG BLDG HVAC PRE-OP (CHV)1P 1GKA 1TP-FDA.31 FIRE DET & ALARM PREOP (FDA)1P 1KCC 1TP-FPS.31 CO2 FIRE PROT PRE-OP (FPS)1P 1KCF 1TP-FPS.03 HALON FIRE PROTECTION PRE-OP)1P 1SEB 1TP-NIS.3? NI DETECTOR CABLING TEST (NIS)1P 1SEA 1TP-NIS.02 ICM SYS PRE-OP (NIS)1P 1SDA 1TP-NIS.0? SR/IR INITIAL SETTINGS (FFS)1P 1EKA 1TP-RCS.01 RH SPRAY HDR AIR TEST (RCS)1P 1GNA 1TP-REV.3? CTMT HEAT REMOVAL PREOP (REV)1P 1BBA 1TP-RCS.19 RH FLOW SENS/INTERN INSP (RCS)1P 1GLE 1AP-AHV.31 TEID GALLERY HVAC (RHV)1P 1GHA 1AP-CPS.31 CATHODIC PROTECTION (CPS)1P 1PKA 1SP-ANN.08 CHFLT C/O)1P 1EGK 1FP-EG.05 FILL EDS TK COMPLETELY (EPS)1P 1EGK 1FP-EG.03 FLUSH OUT CUT PIPE (EFS)1P 1EGK 1FP-EG.02 BACK FLUSH FM/1EGC FES)1P	2DAS 3SP-DAS.14 LOAD SENSING TRAIN CALIB)2F 2DAS 3SP-DAS.13 ACCELR TRAIN CALIB)2F 2DAS 3SP-DAS.06 INSTALL LANYARD XDUCERS)2F 2DAS 3SP-DAS.15 LANYARD XDUCER CALIB)2P UNIT 2/COMMON	
JAN	FEB	MAR

1985

APR	MAY	JUN
UNIT 1 [illegible] RAP-PSS.34 INIT HTUP EXT LINE TO TUR[illegible]		DATE ATP-FSS.XX MODE 1 INTEG. CPS 9 FCX [illegible] DATE TE-9020.14 HP DOW LINE STEAM FLOW [illegible] DATE TE-9020.14 LP DOW WEST STEAM FLOW [illegible] DATE TE-9020.14 LP DOW EAST STEAM FLOW [illegible] DATE TE-9021.14 LP DOW TUR LNE STM FLOW [illegible] UNIT 2/COMMON

1985

UNIT 1

1DAS	DSP-DAS.04	DATA ACQ SETUP F/UNIT 1 FEB
1DAS	DSP-DAS.14	LOAD CELL CALIB
1DAS	DSP-DAS.06	INSTALL ACCELR IN UNIT 1
1DAS	DSP-DAS.1*	ACCEL TRAIN CALIB
1DAS	DSP-DAS.08	INSTALL LANYARD XDUCERS IN UN
1DAS	DSP-DAS.15	LANYARD XDUCER CALIB

JUL	AUG	SEP

1985

OCT	NOV	DEC

1985

VIEW GRAPHS

UNIT 1

IDAS	DSP-DAS.04	DATA ACQ SETUP F/UNIT 1 FEE
IDAS	DSP-DAS.14	LOAD CELL CALIB
IDAS	DSP-DAS.06	INSTALL ACCELR IN UNIT 1
IDAS	DSP-DAS.1?	ACCEL TRAIN CALIB
IDAS	DSP-DAS.3?	INSTALL LANYARD XDUCERS IN UNIT
IDAS	DSP-DAS.1?	LANYARD XDUCER CALIB

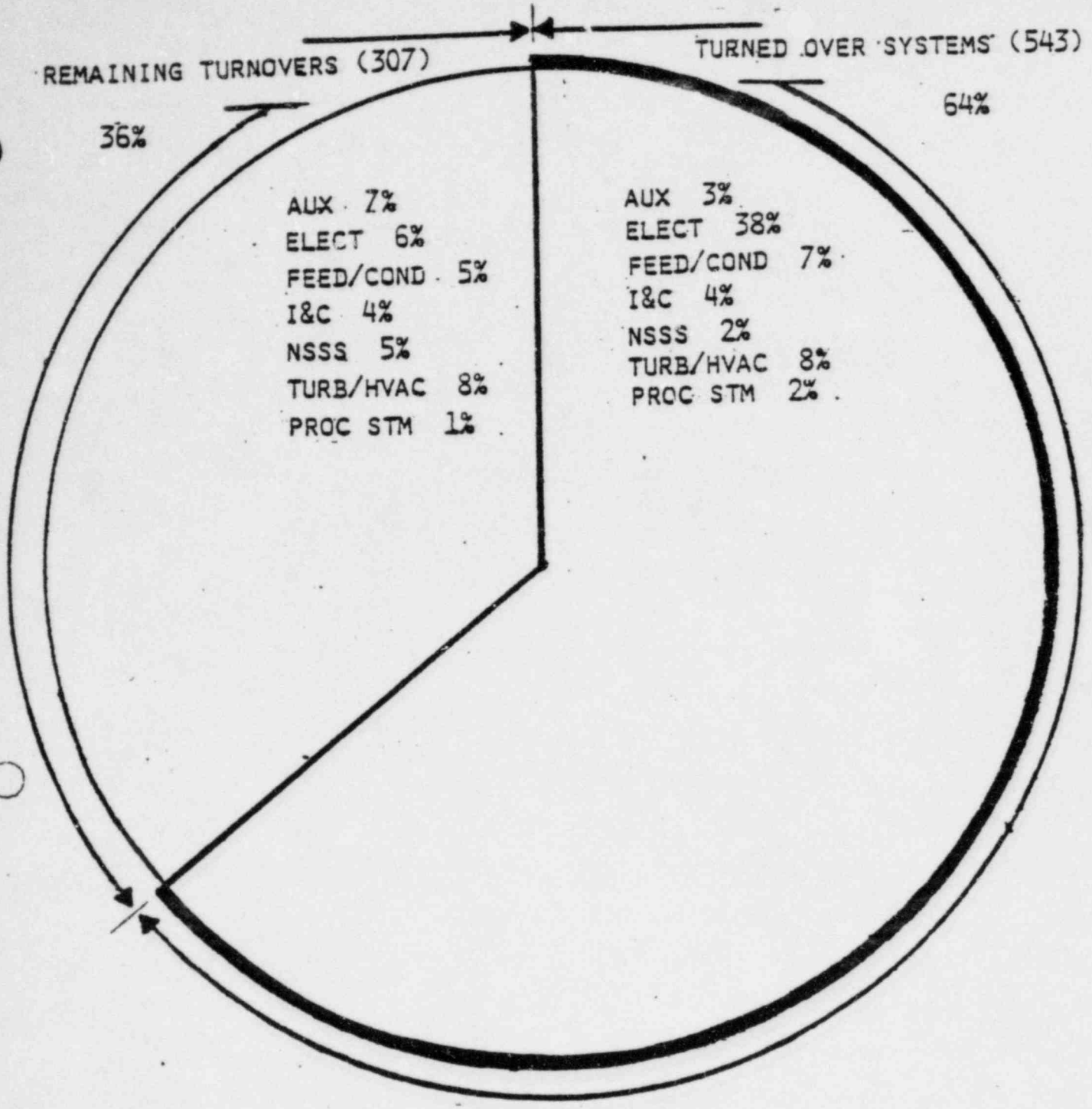
JUL | AUG | SEP

1985

SYSTEM

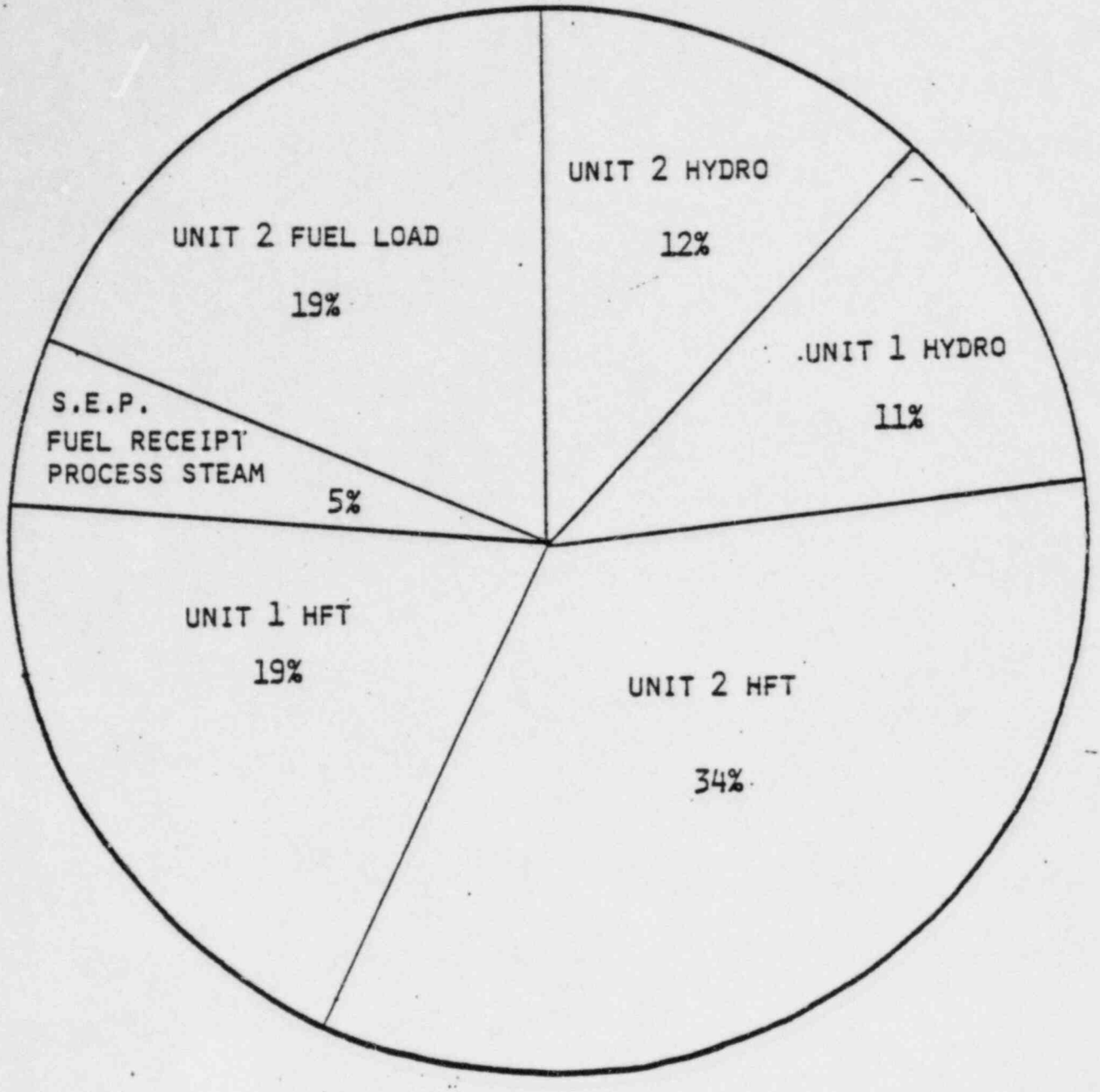
TURNOVER

STATUS



TOTAL SYSTEMS = 850
TURNED OVER = 543
REMAINING = 307
% COMPLETE = 64

SYSTEM TURNOVERS BY DISCIPLINE - (3-31-83)

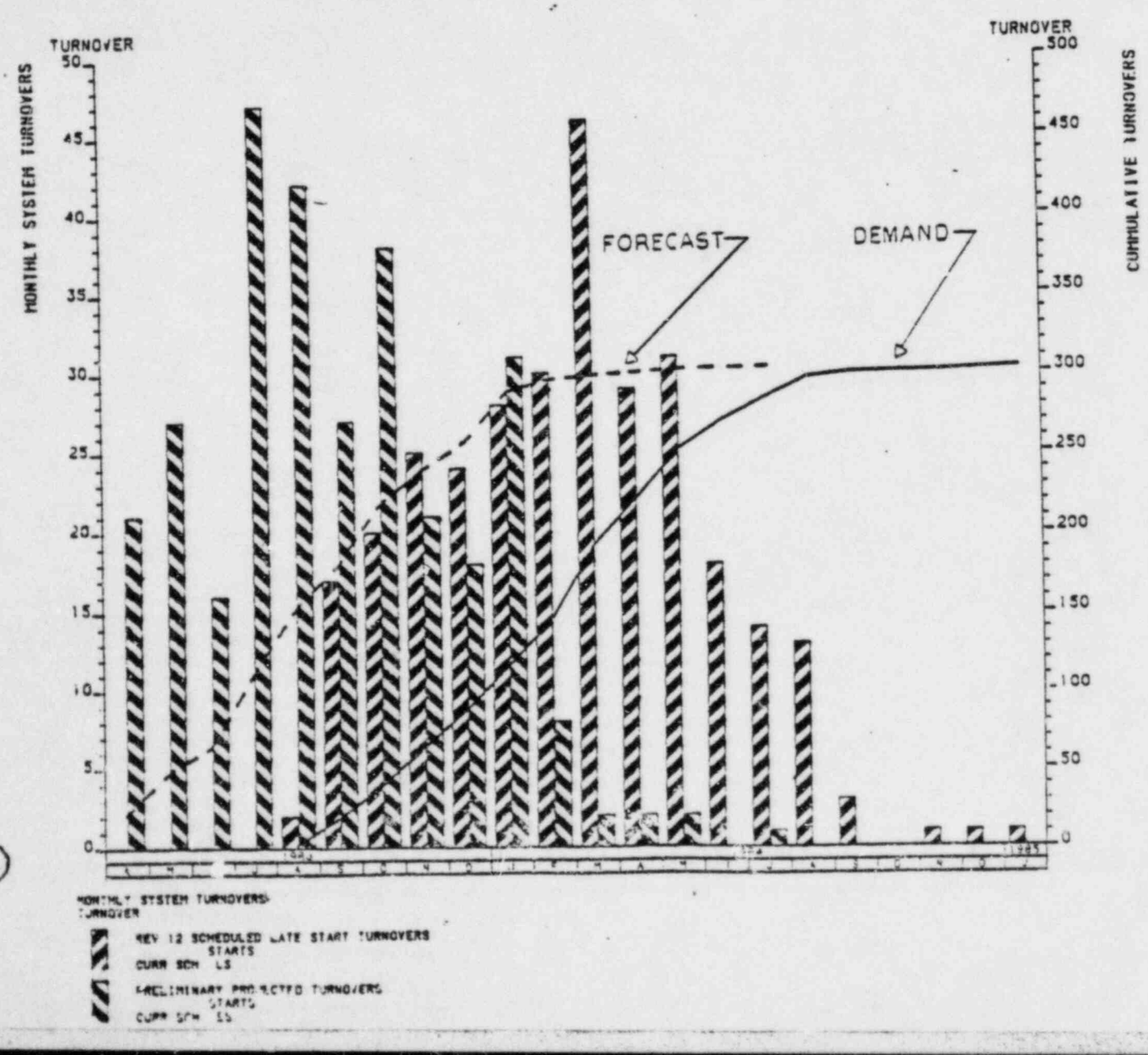


REMAINING SYSTEMS = 307

REMAINING SYSTEMS BY MILESTONES - (3-31-83)

••• REVISION 12 •••

SYSTEMS ACCEPTED= 544 OF 850 TOTAL



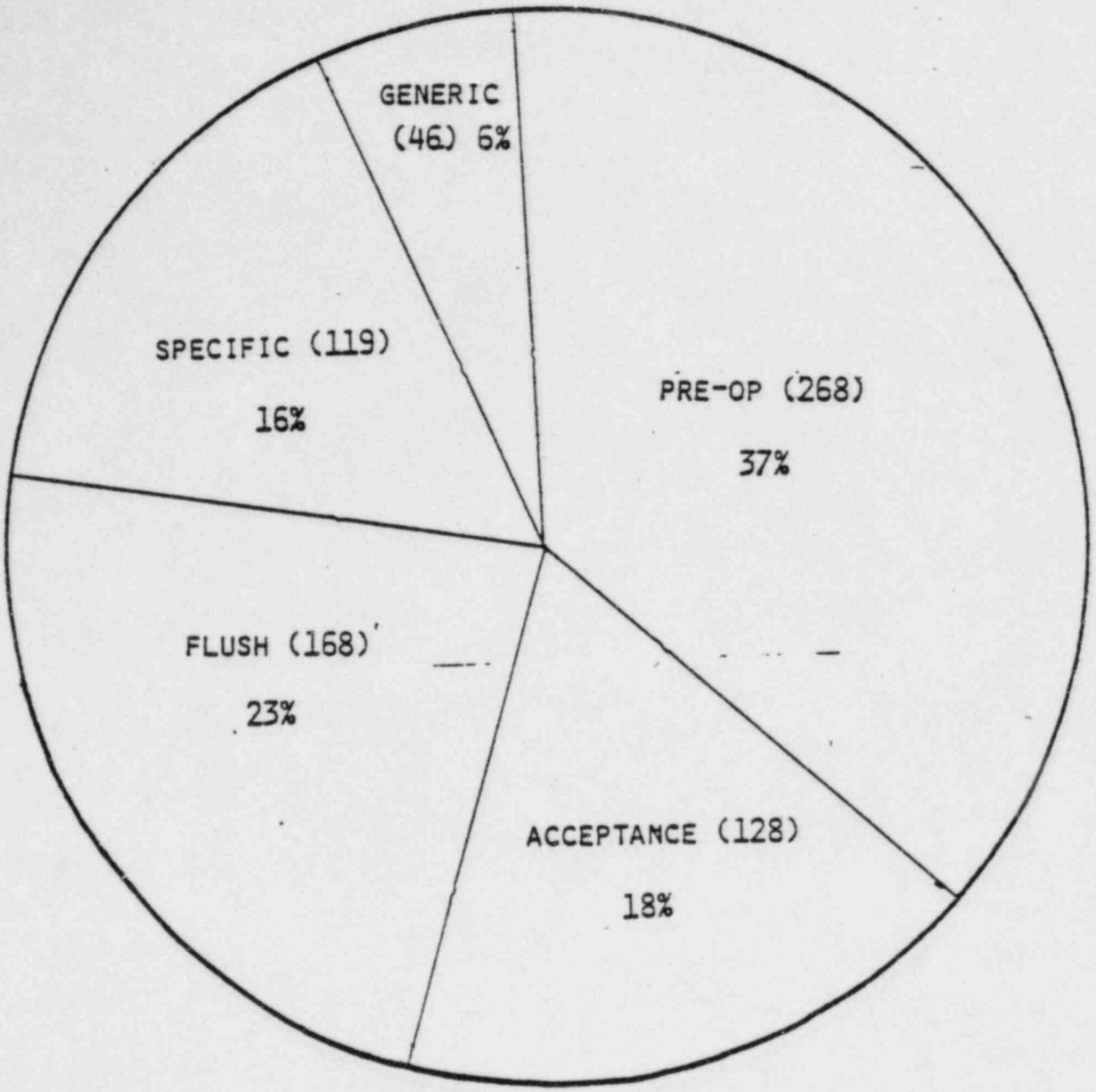
TEST STATUS

(REFER TO HANDOUT MATERIAL)

PROCEDURE DEVELOPMENT

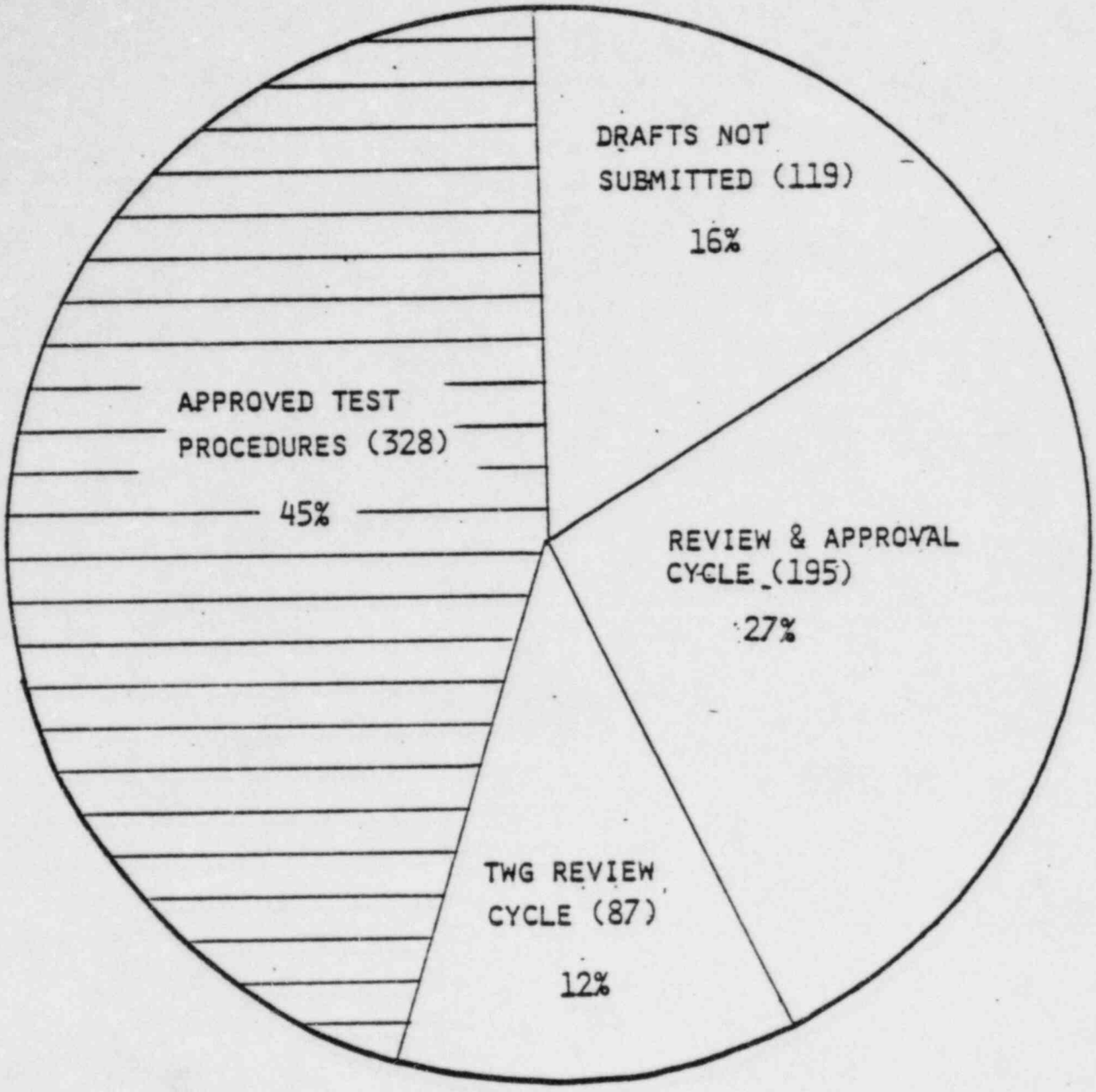
AND

PERFORMANCE STATUS

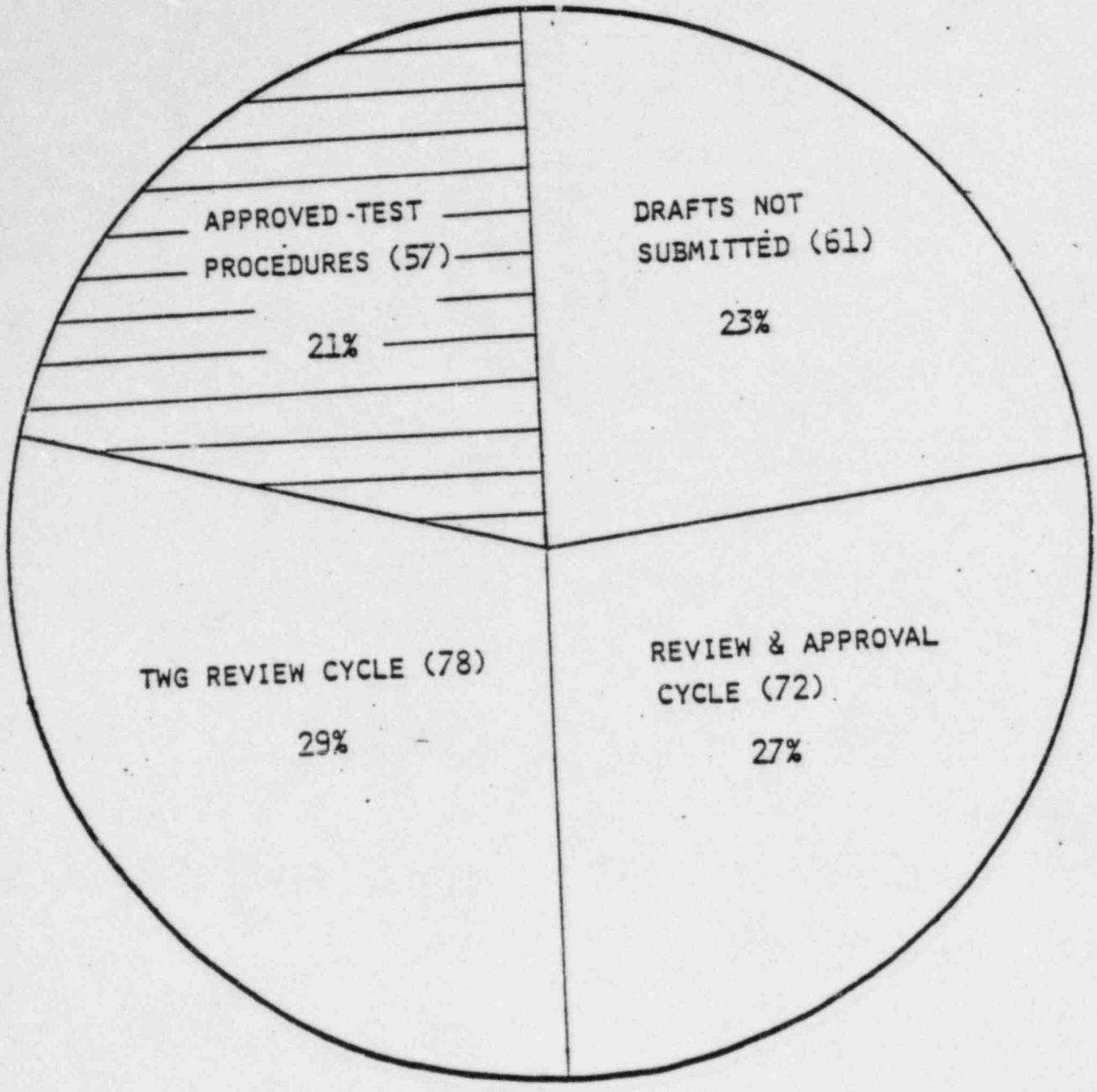


TEST PROCEDURES - PROCEDURE TYPES

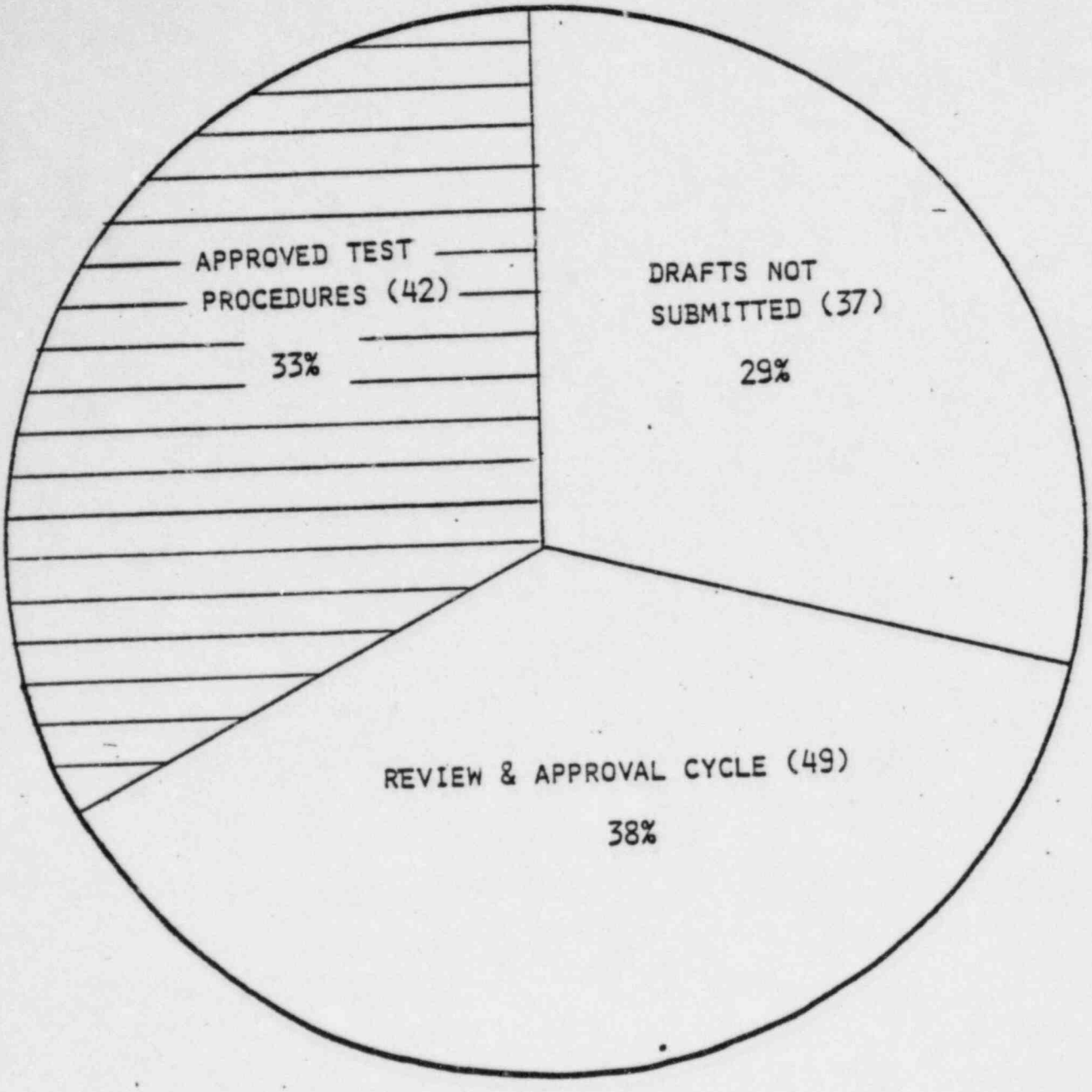
(729) (5)



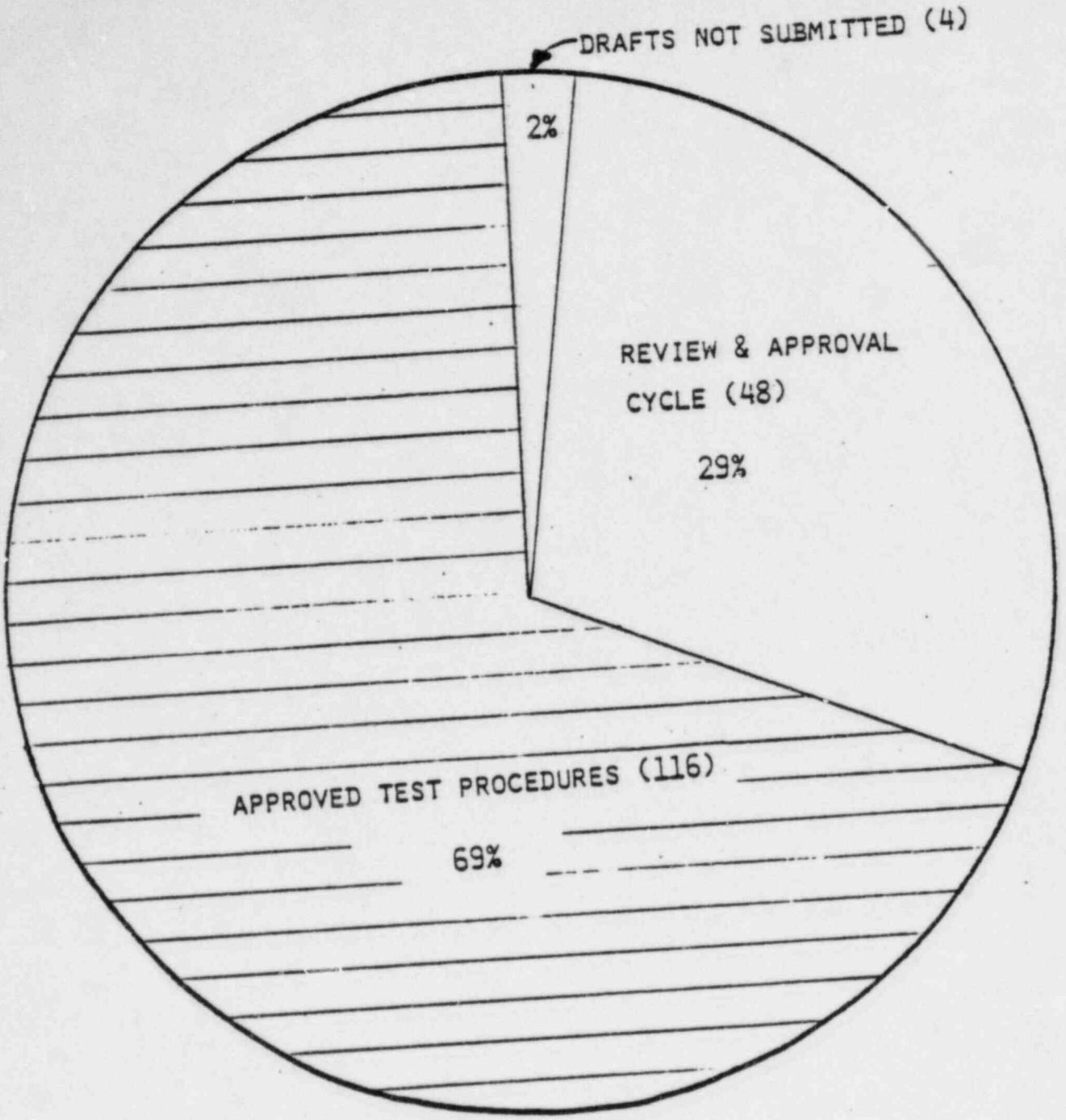
TEST PROCEDURE - STATUS 3-31-83 (729)



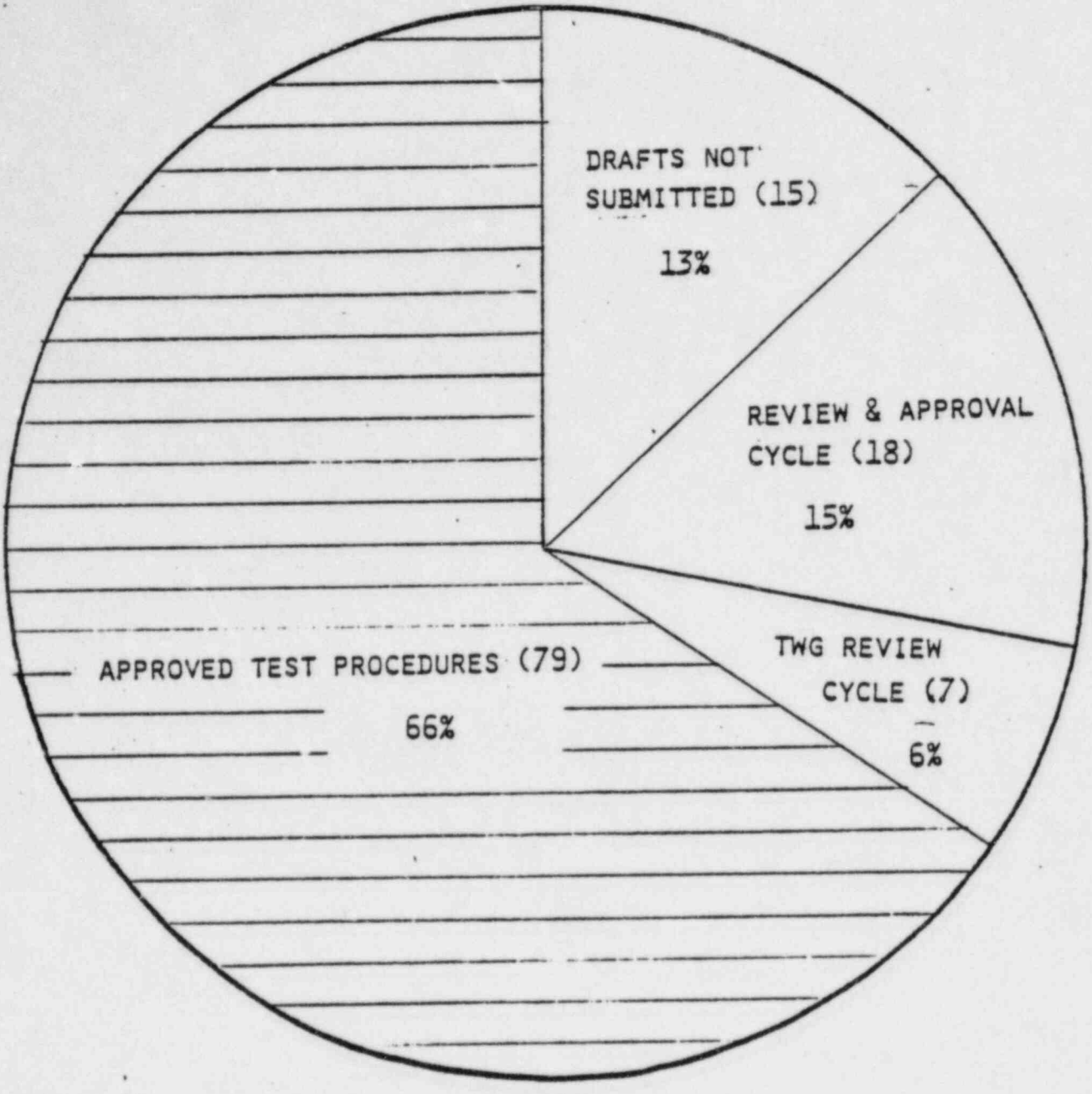
PREOPERATIONAL TEST PROCEDURES (268)



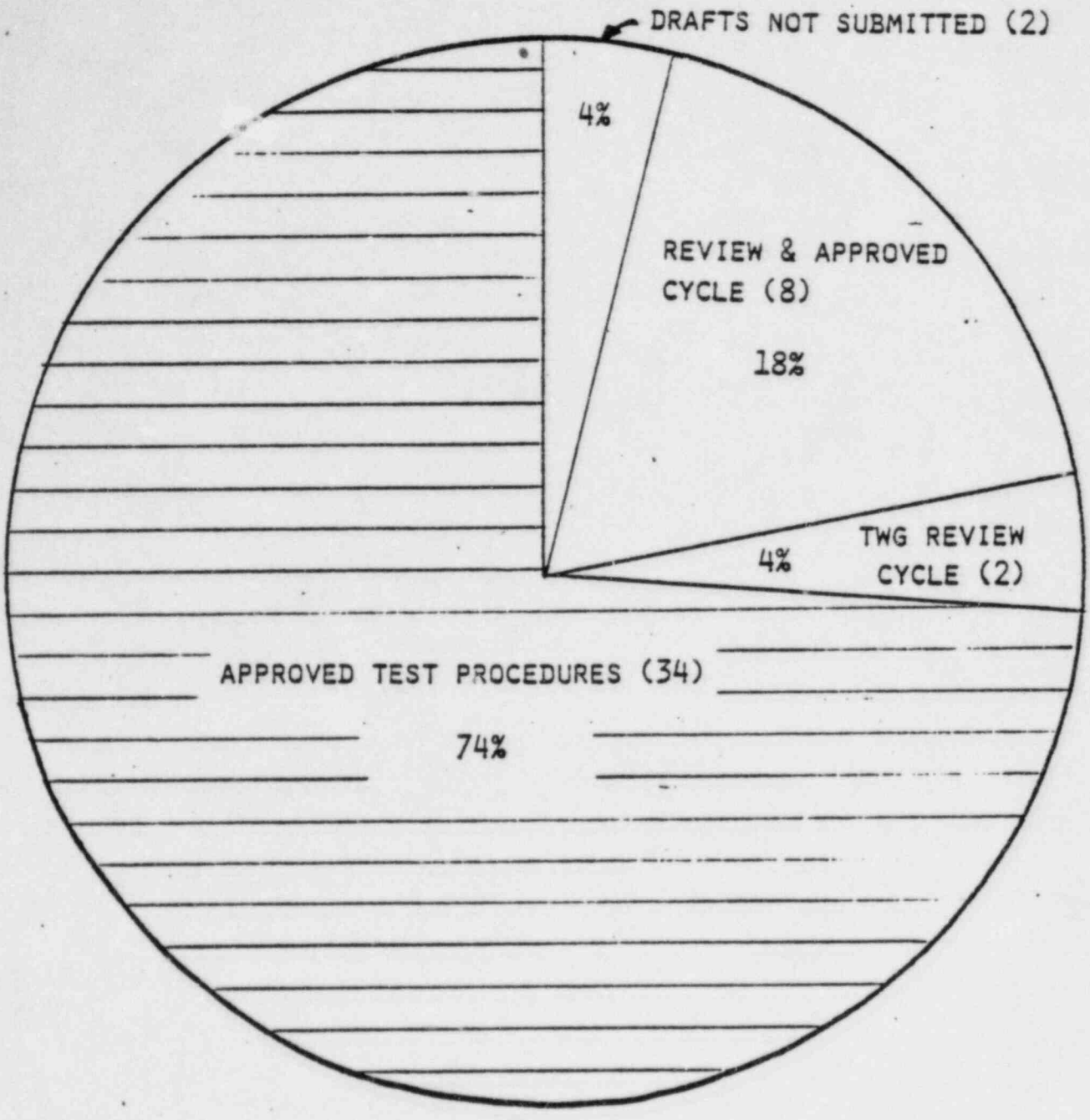
ACCEPTANCE PROCEDURES (128)



FLUSHING PROCEDURES (168)



SPECIFIC PROCEDURES (119)



GENERIC PROCEDURES (46)

	COMPLETED	STARTED/NOT COMPLETE
PRE-OPERATIONAL TESTS	0	2
ACCEPTANCE TESTS	1	0
SYSTEM FLUSHES	16	17
SPECIFIC TESTS	9	23
TOTAL	26	42

TOTAL TESTS REQUIRED

(EXCLUDING GENERIC TESTS) 683

% TEST COMPLETE = 4

TESTS COMPLETED - (3-31-83)

DISCIPLINE	GENERIC CHECKOUT PERCENT COMPLETE
ELECTRICAL	83
I & C	37
TURBINE/HVAC	24
FEEDWATER/CONDENSATE	25
NSSS	4
AUXILIARY SYSTEM	8
PROCESS STEAM	15
TOTAL SYSTEM CHECKOUT COMPLETE	45%

SYSTEM CHECKOUT STATUS - (3-31-83)

TEST SCHEDULE REV 12

(REFER TO BIG CHART - PLAN FOR

TWO UNIT STARTUP OR FIGURE 4

OF HANDOUT)

MANPOWER CURVES

REFER TO HANDOUT MATERIAL, FIGURE 5

POST TURNOVER EXCEPTION WORK

CONSTRUCTION GENERAL SERVICES ORGANIZATION MANPOWER

NON-MANUAL	55
MANUAL	
PIPEFITTERS & WELDERS	- 55
ELECTRICIANS	- 35
LABORERS	- 10
	100

DAT
Send to
JAY Harrison
Dan

Midland Plant – Field Test Program

Some Statistical Considerations

1. We plan to perform some 401 Preoperational and Acceptance Tests for Unit 1 until Fuel Load. (Includes Unit 1, 2, and common)

a) Of these

- 6% (26 of 401) are planned for completion prior to Unit 2 Hot Func. Tests
- ~~15%~~ 4% (15 of 401) " " " " " " Unit 1 "
- 22% (89 of 401) " " " " " " Unit 2 HFT
- 4% (17 of 401) " " " " during Unit 2 HFT
- 17% (67 of 401) " " " " prior to Unit 1 HFT
- 5% (21 of 401) " " " " during Unit 1 HFT
- 32% (127 of 401) " " " " prior to Unit 2 FL
- 10% (39 of 401) " " " " " " Unit 1 FL

The above numbers are tabulated on Table 1.

JUL 27 1983

TABLE 1

Babcock & Wilcox

NUMBER AND PERCENTAGE OF PREOP AND ACCEPTANCE TEST COMPLETIONS

ALM 7-14-8

MILESTONE		2 COLD HYDRO	1 COLD HYDRO	2 HFT	1 HFT	2 F.L.	1 F.L.	= 259 TOTAL No. OF TESTS - % OF TOTAL - CUMULATIVE %	= 142 TOTAL No. OF TESTS - % OF TOTAL - CUMULATIVE %	% OF 401 TOTAL	COMBINED CUMULATIVE
UNIT 2 & 0		26	89	17	127						
		10%	34%	7%	49%						
		10%	44%	51%	100%						
UNIT 1		15	67	21		39					
		11%	47%	15%		27%					
		11%	58%	73%		100%					
% OF 401 TOTAL =	UNIT 2/0 -	6%	22%	4%	32%						
	UNIT 1 -		4%	17%	5%	10%					
COMBINED CUMULATIVE		6%	10%	32%	36%	58%	96%	100%			
				53%							

2. The Preops (TP) and Acceptance (AP) Tests at Midland are written (51% completed) such that there are multiple TP's ~~and~~ or AP's for a system. For example, the RCS has 16 TP's per Unit, Process Steam has 2 TP's and 25 AP's, Radiation Monitoring has 6 to 7 TP's per Unit, etc.

Table 2 shows a list of Systems that have more than 1 TP/AP.

The point here is that the Midland Test Program is unique and different from other sites in that the total number of Tests (TP & AP) are generally <u>much</u> more than the typical Test Program; however the content or extent of the Test Program is not significantly different.

Therefore if the NRC Caseload Forecast panel is basing their schedule evaluation of the Midland Project from the number of Tests, the result would be an exaggeration or elongation of the Test Program duration. This is an <u>unfair</u> evaluation because the number of ~~the~~ planned Tests per month ~~is based upon multiple, short duration Tests~~ would obviously be much larger and therefore misleading.

To put this number (Total Tests and/or Tests planned per month) in proper perspective, one must re-evaluate the schedule (duration) estimate as follows:

[Refer to Table 2 for data]

		Unit 2 & 0	Unit 1
Number of Multiple TP's and AP's (i.e more than 1 per System)	—	94	176
# of Systems with multiple TP's or AP's	—	24	43
		70	133
Total Number of TP's + AP's	-	142	259
Adjusted totals	—	72	126 = 198

Babcock & Wilcox

Therefore instead of 401 total, the adjusted total should be 198, say 200.

NRC's estimate of 2 years beyond our Rev. 12 Fuel Load dates (i.e. 2nd quarter of 1986 for Unit 2) should be cut down by at least 1/2 OR 1st to 2nd quarter of 1985

TO: DBH

FROM REM

CASELOAD FORECAST PANEL - PROOF TEST SCHED.

Don: the bottom line of all the attached is if we wrote totally combined prerqs - i.e. rather than totally function we would have #'s as follows

	UNIT 2+0	Unit 1
Presently	259	142
Combined	126	72

TOTAL 198 vice 401

This is almost 1/2 if you use Std NRC model for # to per month bring NRC date to summer '85 vice summer '86 much more in line with our estimates. Also for our Unit 1 delay study we remove a major workload from before Unit 2 fuel load by delaying ~ 35%.

Table 1A

PRIOR TO RCS COLD HYDRO	POST RCS COLD HYDRO PRE HFT	HFT	POST HFT PRE FUEL LOAD
2. Aux. FW – 3 TIs			
3 CCW – 2 TIs			
4 Chemistry Tests – 3 TIs			
5. CRA – 3 TIs			
6. DHRS – 3 TIs			
7 – 2 TIs			
8 – 2 TIs			
– 4 TIs			
– 2 TIs			
– 2 TIs			
– 6 TIs			
– 3 TIs			
– 2 TIs			
– 4 TIs			
– 6 TIs			
– 3 TIs			
– 3 TIs			
– 3 TIs			
– 2 TIs			
– 2 TIs			
– 2 TIs			
– 2 TIs			
– 2 TIs			
– 3 TIs			
– 3 TIs			
– 2 TIs			
– 2 TIs			

Table 2

PRIOR TO RCS COLD HYDRO	POST RCS COLD HYDRO PRE HFT	HFT	POST HFT PRE FUEL LOAD
	Unit 1		
multiple [illegible] for system			
1. [illegible] Air monitoring	6 [illegible]		
2. Aux Feed	6 TP's		
3. ~~[illegible]~~ Chemistry	3 TP's		
4. Control Rod	3 TP's		
5. Emergency Diesel	2 TP's		
6. Decay Heat	3 [illegible]		
7. 4KV AC	4 TP's		
8. [illegible] AC	4 TP's		
9. DC System	3 TP's		
10. ESFAS	6 TP's	[illegible]	[illegible]
11. FW	3 TP's		
12. Fuel [illegible]	2 TP's		
13. [illegible]	2		
[illegible] Main [illegible]	4 TP's		
[illegible] I.I	6 TP's		
16. D.G.	3 TP's		
17. RPS	2 TP's		
18. [illegible] Cooling	3 TP's		
19. RCS	15 TP's		
20. H_2 [illegible]	3 TP's		
[illegible] RPS	3 TP's		
22. Reactor plant Sampling	2 TP's		
23. Post [illegible] Sampling	2 TP's		
24. Communication System	7 [illegible]		
25.			

**** REVISION 12 ****   CONSUMERS POWER CO

RUN DATE [illegible]   PLANNING SCHEDULE   PROJECT START [illegible]

PROJECT [illegible] MIDLAND PLANT UNITS 1 AND 2

CODE I UNIT I ACTIVITY

ACTIVITY	DESCRIPTION	NOTE=C	Prior to RCS Cold Hydro	Post RCS Cold Hydro Pre HFT	HFT	Post HFT Pre Fuel Load (Unit ?)
1535[illegible] CAL	[illegible] ERS PRE-OP PREDECESSORS 11[illegible] 19410263	(BPS		X		
11[illegible] CAL	[illegible] STOR/TRANS PREDECESSORS 11[illegible] 1[illegible]410263	(PMW		X		
1[illegible]	[illegible] AIRBORN RAD MON (NSR) PREDECESSORS [illegible] 3[illegible]105	(RAM				X
19[illegible]	[illegible] AREA RAD MON (NSR) PREDECESSORS 3[illegible] 395[illegible]105	(RAM				X
19[illegible]	[illegible] AREA RAD MON (NSR) PREDECESSORS 3[illegible] 3[illegible]0105	(RAM				
195[illegible] CAL	[illegible] 1-E AREA RAD MONT PRE-OP PREDECESSORS 19410[illegible] [illegible]502 395[illegible]10[illegible]	(RAM				X
19[illegible]157 CAL	[illegible] CTMT HI-RANGE RAD MON PREDECESSORS [illegible] [illegible]0105	(RAM				X
195[illegible]	[illegible] 1-E AIR RAD MON PREDECESSORS 1941[illegible] 3956[illegible]304 3555[illegible]	(RAM				X
19[illegible]	[illegible] LIQUID RAD MONT PRE-OP PREDECESSORS [illegible] 3[illegible]105	(RAM				X
19[illegible]110 CAL	[illegible] STACK HI RANGE RAD MON PREDECESSORS 3[illegible]7, [illegible]105	(RAM				X
C 10[illegible]107	[illegible] (PART) AUX FW PRE-OP PREDECESSORS 1[illegible] 1[illegible]350 10[illegible]410 1[illegible]107 11[illegible]127 15410[illegible]	(AFW [illegible]306	X (P)	X (P)		
10[illegible]	[illegible] 1 [illegible] AF [illegible] RUN PREDECESSORS 1[illegible]107 11[illegible]127	(AFW				
C 10[illegible]	[illegible] AUX F/W SYS TEST APU PREDECESSORS 1[illegible] 11[illegible]130 11[illegible]1	(AFW				
C 10[illegible]	[illegible] AUX F/W SYS TEST RCS532[illegible] PREDECESSORS 1[illegible] 11[illegible]130	(AFW				
C 10[illegible]	[illegible] HFT [illegible] TEST PREDECESSORS 10[illegible] 11[illegible]130	(AFW			X (?)	

DATE [illegible] UNIT 1 ACTIVITY						
ACTIVITY	DESCRIPTION	RESPONS	Prior to RCS Cold Hydro	Post RCS Cold Hydro Pre HFT	HFT	Post HFT Pre Fuel Load
C 14180127 CAL [illegible]	1EEA ITP-AXT. [illegible] AFWP TURBINE [illegible] LOAD TEST(AXT PRECEDES 1[illegible] 14180127 19410203 ** [illegible] COMPLETE SYSTEM ** * 4 HOUR VIBRATION CHECK ** [illegible]			X		
C 15[illegible]	1EEA ITP-RC. 2 BORON CIRL RCS532F PRECEDES 11[illegible]0136 1[illegible]301	(PRS		X		
114[illegible]0202 CAL [illegible]	1EEA ITP-EKS.[illegible]1 BORATED WATER STOR PREOP PRECEDES 11[illegible]0177 11450167 114[illegible]0202 11459 19410203	(BBS				X
13500110	1EEA ITP-CCW.[illegible]1 CCW FLOW BALANCE PRECEDES 1[illegible]0202 13500110 19410202	(CCW		X		
C 135[illegible]	1EEA ITP-CCW. 2 [illegible] FLOW BAL CCW RCS532F PRECEDES 11[illegible]0126 13500401	(CCW			X	
C 11600124	1EEA ITP-RCS.[illegible]1 [illegible] CK VLV OPER TEST PRECEDES 11[illegible]0125 11600124 15410203	(RCS		X		
11250203	1EEA ITP-RCS. 1 [illegible] CHK VLVE VV/SSPT PRECEDES 11[illegible]0115 11600124	(CFS				
164[illegible]0104 CAL [illegible]	1EEA ITP-CHE. 4 POLAR CRANE PRE-OP PRECEDES 11[illegible]0202 1[illegible]459104	(CHE				X (IM)
C 11600424	1EEA ITP-CHM.[illegible]1 RCS CHEM TEST TO AMP PRECEDES 11[illegible]0126 11600131 11[illegible]0501	([illegible]S	X (P)	X (P)	X (P)	
C 11600415	1EEA ITP-CHM. 1 RCS CHEM TEST RCS<180 PRECEDES 11[illegible]0126 11600501	(RCS				
C 11600419	1EEA ITP-CHM.[illegible]1 RCS CHEM TEST RCS532F PRECEDES 11[illegible]0126 11600501	(RCS				
C 11600420	1EEA ITP-CHM. 1 RCS CHEM TEST RCS FILL PRECEDES 11[illegible]0117 11600501	(RCS				
C 11640201	1EEA ITP-CHM.[illegible]2 [illegible] PREFLR CHM FILL PRECEDES 11[illegible]0218 11609412	(RCS	X			
C 11660423	1EEA ITP-CHM.[illegible]3 RAD CHEM MON RCS532F PRECEDES 11[illegible]0130 11660202	(RCS			X	
19660103 CAL [illegible]	1EEA ITP-CRD.[illegible]1 CRD [illegible] OP PRECEDES 19[illegible]0176 19[illegible]0103	(CRD		X		

Redundant

CPS 1 UNIT 1 ACTIVITY

ACTIVITY	DESCRIPTION	NOTE=C	PRIOR TO RCS COLD HYDRO	POST RCS COLD HYDRO PRE HFT	HFT	POST HFT PRE FUEL LOAD
C 19650304	1SFA ITP CRD.02 CRD SYS INTEG RCS532F PRECEDES 11010129 19669108	CRD		X(P)	X(P)	
C 19650303	1SFA ITP-CRD.02 CRD TRIP & OPER 1RC-532 PRECEDES 11020125 19669108	CRD				
19660108 CAL 5	1SFP ITP-CRD.12 SYS INTEGRATED TEST PRECEDES 11020225 19669103	CRD				
C 19650306	1SFA ITP-CRD.02 CPLT CRDM INTEG 1RD-532 PRECEDES 11010129 19665108	CRD				
C 19650302	1SFA ITP-CRD.02 CRDM FUNCTIONAL TEST PRECEDES 19655202 19660106	CRD		X(P)	X(P)	
C 19650208	1SFA ITP-CRD.02 CPLT CRDM FUNC RCS<189 PRECEDES 11020128 19659202	CRD				
16050104 CAL 5	1SFA ITP-DFO.01 UPER DSL FUEL STORAGE PRECEDES 16056104 16059104	DFO		X		
16050103 CAL 5	1SFA ITP DFO.01 FIL DGFO TK&C/O LVL INST PRECEDES 16056601 16059104	DFO				
C 11100111	1RCA ITP DHR.01 RCS RECIRC & FLOW ALARMS PRECEDES 11150112 11109110 -DPF.02 -DPF.06 FULL FLOW PUMP VIBRATION CHECKS GFP.06 AND DHR COOLER BYPASS LINE VIBRATION CHECKS (COLD - 3000GPM) STEADY STATE FLOW VIBRATION TESTING OF DHR/CF LINES TO RV	DHR				
11100119	1RCA ITP-DHR.01 DUMP TO SUMP FLOW TEST PRECEDES 11160127 11109110	DHR	X(P)	X(P)		X(P)
C 11100113 CAL 5	1RCA ITP-DHR.01 RUNOUT ELEC ARG DEMO PRECEDES 11190116 11150316 11130731	DHR 11109				
C 11100107	1RCA ITP-DHR.01 POST RECIRC DEMONSTRATION PRECEDES 11160111 11109110	DHR				
C 11100513 CAL 5	1RCA ITP-DHR.01 BACKUP OF COOLING DEMO PRECEDES 11100725 11109119 PIPE SUPPORT INSTALLATION C/O NOTE THIS TEST IS ALSO TO BE DONE WITH THE UNIT 2 RCA (DHR) SYSTEM. HENCE 2RCA MUST BE AVAILABLE AT THE SAME TIME.	DHR				

CODE   [illegible] UNIT 1 ACTIVITY

ACTIVITY	DESCRIPTION	MODE=C	PRIOR TO RCS COLD HYDRO	POST RCS COLD HYDRO PRE HFT	HFT	POST HFT PRE FUEL LOAD
C 11100120	1ECA 1TP DHR.21 [illegible] DEVV/SSHT PRECEDES 11[illegible]0111 11100110	(DHR				
C 11100112	1ECA 1TP DHR.21 COMP. REPAIR MODE RECRC PRECEDES 11100112 11100110 REPLACE SUCTION GUAGES (4) WITH LOWER RANGE GUAGES.	(DHR				
C 11100119	1ECA 1TP-DHR.2* HFT RCS C/D & PZR SPRAY PRECEDES 11[illegible]0136 11100123 11109119 4[illegible] PSIG < RCS PRESS < 41[illegible] PSIG [illegible] DEG F < RCS TEMP < 2[illegible] DEG F [illegible] - 100 IN PZR LEVEL CF TANKS ISOLATED AND TAGGED PREPARE TO MONITOR DHR LINES FOR GROWTH AND VIBRATION DHR IN PROGRESS VIA DISG*S AND BYPASS/[illegible] VALVES TWO RCP OPERATING MU PUMPS RACKED OUT & TAGGE TWO RCP*S OPERATING (ONE MUST BE 2P-51C) TEMPORARY INSTRUMENTATION AVAILABLE [illegible] THERMOMETERS AND P PRESSURE GUAGES HOT [illegible] VIBRATION CHECKS DHR COOLER BYPASS LINE VIBRATION THERMAL EXPANSION (HOT = 2000 GPM) -DPM.[illegible] -DPM.13 1TP-PST.[illegible] 1TP-PST.[illegible] PERFORM ABOVE TESTING DURING HFT COOLDOWN	(DHR			X	
C 11150121	1ECA 1TP-DHR.-2 DHR (RCS C/D TO AMB) PRECEDES 11[illegible]0132 11[illegible]0131 11109119	(DHR				
C 11100116	1ECA 1TP-DHR.[illegible]3 DHR [illegible] TEST PRECEDES 11[illegible]0124 11100119 11159905	(DHR 15410		X		
C 11000125	1ECA 1TP DHR.[illegible]3 DH LPI ESFAS TEST PRECEDES 11[illegible]0124 11159905	(RCS				
14750105 CAL [illegible]	1ECA 1TP CHV.[illegible]1 DG BLDG HVAC PRE-OP PRECEDES 147[illegible]	(DHV		[illegible]		X
17010127 CAL [illegible]	1BAA 1TP-ECA.[illegible]1 [illegible] VOLT (6.9KV) PRECEDES 11[illegible]0325 17019167	(ECA		X		
C 17010202	1BAA 1TP-ECA.[illegible]2 CLASS 1E VOLT VARIATION PRECEDES 11[illegible]0170 11[illegible]0230 17[illegible]9108	(ECA		X		

ECEI 1 UNIT 1 ACTIVITY

ACTIVITY	DESCRIPTION	NOTE=C	PRIOR TO RCS COLD HYDRO	POST RCS COLD HYDRO PRE HFT	HFT	POST HFT PRE FUEL LOAD
17050107 CAL 5	1EEA 1TP-EDA.01 1E MED VOLT(4.16KV) PRECEDES 11560225 17059107	(EDA		X		
18010107 CAL 5	1EEA 1TP-EDB.01 1-E MED VLT(4.16KV) PRECEDES 11560225 18019107 6-30 ELAP PROCEDURE APPVL & REL ITEMS	(EDB		X		
17150107 CAL 5	1EEA 1TP-EEA.01 480 VAC LCC PRE-OP PRECEDES 11560225 17159107	(EEA		X		
17250106 CAL 5	1EEA 1TP-EEB.02 480 VAC MCC PRE-OP PRECEDES 11560225 17259106	(EEB		X		
18100107 CAL 5	1EEA 1TP-EED.01 1-E LOW VLT 480VAC PRECEDES 11560225 18109107	(EED		X		
18150106 CAL 5	1EEA 1TP-EEC.01 1-E LOW VLT(480VAC) PRECEDES 11560225 18159106	(EEC		X		
17580104 CAL 5	1EEA 1TP-EGA.01 120VAC NON 1E PRECEDES 11560225 17589104	(EGA		X		
17590104 CAL 5	1EEA 1TP-EHA.01 120VAC UN-INPT PREF PWR PRECEDES 11560225 17599104	(EHA		X		
18350104 CAL 5	1EEA 1TP-EHB.01 120 VAC 1E PREFRD PWR PRECEDES 11560225 18359104	(EHB		X		
12450105 CAL 5	1EEA 1TP-EHC.02 EHC ELECTRICAL PREOP PRECEDES 12560226 12459105	(EHC		X		
17560106 CAL 5	1EEA 1TP-EKC.01 NON 1E DC SYS PRECEDES 11560225 17569106	(EKC		X		
18300106	1EEA 1TP-EKD.01 CLASS 1E DC SYS PRE-OP PRECEDES 11560225 18300197 18309106	(EKD		X		
18300107	1EEA 1TP-EKD.02 CLASS 1E PIN VOLTAGE PRE-OP PRECEDES 11560225 18309107			X		
18710103 CAL 5	1GDE 1TP-EML.02 STATN EMER DC CIT PRECEDES 11560225 18719103	(EML		X		
19410102 CAL 5	1SAP 1TP-ESA.01 ESFAS LOGIC PRE-OP PRECEDES 10510722 17160707 18300107 11960 11170108 11550105 11550102 11450 11530104 13560113 14100107 14500 14960106 14170104 14960106 15350 18600108 18060108 19410201 15419 19710102 32350111 33430122 35840	(ESA	X			

CEDI [illegible] ACTIVITY

MODE=C

ACTIVITY	DESCRIPTION	PRIOR TO RCS COLD HYDRO	POST RCS COLD HYDRO PRE HFT	HFT	POST HFT PRE FUEL LOAD
19410102	1SZA ITP-ESA.12 ECCAS LOGIC PREOP (ESA PRECEDES 11000103 11120111 19400102 19410 19410103		X		
19410201 CAL 5	1SAP ITP-ESA.13 ECCAS LOP SEQ PREOP (ESA PRECEDES 19410104 19410301				X
19410104 CAL 5	1SAL ITP-ESA.14 ESFAS RESPONSE TIME TEST (ESA PRECEDES 19410203 19410203				X
C 11000127	1SSA ITP-ESA.15 INTEGRATED ESFAS (RCS PRECEDES 11000128 11000127 19410137 21601 21600242				X
C 19410203 CAL 5	1SAE ITP-ESA.17 TOT SFAS RESP TIME (ESA PRECEDES 11000137 19410104				X
16920107 CAL 5	1CFA ITP-FDA.01 FIRE DET & ALARM PREOP (FDA PRECEDES 16920104				X
16380103 CAL 5	1KFI ITP-FHS.04 FUEL XFER PRE-OP (FHS PRECEDES 11000111 13810104 16380102 1710 23600119	X			
C 16380105 CAL 5	1KFH ITP-FHS.05 CHILT RP FH PREOP (FH PRECEDES 11000110 11007342 11005108	X			
C 11000112	1CFA ITP-FHS.06 CANAL HYDRO/WET FH (RC PRECEDES 11009114 11005112 11009112 REMOVE UNIT 1 TILT PIT AND CASK LOADING PIT GATES. INSTALL GATES AFTER WET FUEL HANDLING TEST IS COMPLETE.	X			
C 11000111	1CFA ITP-FPC.01 FILL REF CANAL/IC TK (RC PRECEDES 11000112 37409122 36390107 ITP-FPC.01 [illegible]	X			
16190105 CAL 5	1KCF ITP-FPS.01 CO2 FIRE PROT PRE-OP (FP PRECEDES 16190104 16190105				X
16200105 CAL 5	1KCF ITP-FPS.02 HALON FIRE PROTECTION PRE-OP SINK ACTIVITY				X

PRIOR TO RCS COLD HYDRO	POST RCS COLD HYDRO PRE HFT	HFT	POST HFT PRE FUEL LOAD
		A	
	A		
		A	
		A	

PRIOR TO RCS COLD HYDRO	POST RCS COLD HYDRO PRE HFT	HFT	POST HFT PRE FUEL LOAD
	X		
X(1)	X(1)	X(1)	
		X	
X			
	X		

CODE | UNIT 1 ACTIVITY

ACTIVITY	DESCRIPTION (RULE=C)		Prior to RCS Cold Hydro	Post RCS Cold Hydro Pre HFT	HFT	Post HFT Pre Fuel Load
19F001 2 CAL 5	1SEA 1TP-NIS.01 ICM ELECT TEST PRECEDES 19F0114 19609102	(NIS				X
19F0013 CAL 5	1SEA 1TP-NIS.02 ICM SYS PRE-OP PRECEDES 19F15105	(NIS				X
C 1961014 CAL 5	1SEE 1TP-NIS.03 NI DETECTOR CABLING TEST PRECEDES 19450106 19619104	(NIS				X
C 1961010 CAL 5	1SEE 1TP-NIS.04 NI DETECTOR PRE-OP PRECEDES 19610103 19619102	(NIS				X
19459103 CAL 5	1SEA 1TP-NIS.05 NI PRE-OP CALIB TEST PRECEDES 19450103 19459103	(RPS				X
C 1945010 CAL 5	1SEA 1TP-NIS.06 SE/TTR INITIAL SETTINGS PRECEDES 1945P106	(RPS				X
1851010A CAL 5	1EAF 1TP-ELS.01 NORM & ESS LITING PRE-OP PRECEDES 11160225 18515108	(NLS		X		
19510109 CAL 5	1SCP 1TP-ENI.01 LOOSE PART MON SYS PART PRECEDES 11110225 19519109	(NNI		X (P)	X (P)	
C 1951020+	1SCE 1TP-ENI.01 L.P.M. RCS532F PRECEDES 11050130 19519109	(NNI				
18050108 CAL 5	1EEA 1TP-EES.01 STDBY DIESEL GEN PRE-OP PRECEDES 11000137 18950803 18059108	(EES 15410		X		
18060108 CAL 5	1EEF 1TP-EES.01 STDBY DIESEL GEN PRE-OP PRECEDES 11000137 18050803 18059108	(EES 15410				
18058822 CAL 5	1EEA 1TP-EES.02 1G-11/12 ELEC PRE-OP PRECEDES 18050803 18059802			X		
18050843 CAL 5	1EEA 1TP-EES.02 1G-11/12 AUTO START PRE-OP PRECEDES 11000136 11000137 18059853			X		
C 11900416	1PEA 1TP-FST.01 EWR CONV SYS EXP RCS<180 PRECEDES 11000128 11009303	(RCS	X (P)		X (P)	
C 11000427	1PEA 1TP-FST.01 PRECRF THERM EXP RCS FIL PRECEDES 11000117 11009703	(RCS				
C 11000425	1PEA 1TP-FST.01 PRECRF THERM EXP TO AMP PRECEDES 11000136 11000131 11009303	(RCS				
C 11000418	1PEA 1TP-FST.01 EWR CONV SYS EXP 180-132 PRECEDES 11000128 11009703	(RCS				

CCDI   UNIT 1 ACTIVITY

ACTIVITY	DESCRIPTION	MODULE	PRIOR TO RCS COLD HYDRO	POST RCS COLD HYDRO PRE HFT	HFT	POST HFT PRE FUEL LOAD
C 11100470	1CFA 1TP-TST.01 PRECOP THERM EXP RCS532F PRECEDES 11[illegible]5130 1100[illegible]704	(RCS				
C 11120401	1PLP 1TP-TST.02 PZR REL DISC LIN RCS532F PRECEDES 11[illegible]0120 110[illegible]9404	(RCS			X	
C 11100135	1CCA 1TP-TST.12 RCS C/D PRECEDES 11020130 110[illegible]9304	(DHP				
11300202 CAL 5	1CFA 1TP-RBS.01 RB SPRAY HDR AIR TEST PRECEDES 11309202 11313104	(RBS				X
11300135 CAL 5	1CFA 1TP-RBS.02 RB SPRAY SYS PRE-OP PRECEDES 11[illegible]0225 11309202 11309105 1[illegible]410	(RBS		X		
14[illegible]00166 CAL 5	1CFA 1TP-RBV.01 RB AIR PUR/CLNUP/VNT PRECEDES 14[illegible]0166 19410203	(RBV				X
C 147[illegible]0230	1C[illegible] 1TP-RBV.02 RX BLDG COOLING RCS532F PRECEDES 11[illegible]9120 14779108	(RBV			X	
14750165 CAL 5	1CFA 1TP-RBV.03 CTMT HEAT REMOVAL PREOP PRECEDES 147[illegible]0165	(RBV				X
C 11[illegible]96107 CAL 5	1CFA 1TP-RCS.XX SET CSA/INDEX RB CRANE PRECEDES 11[illegible]09204 16380105 16459104	(RCS				
C 11000119	1CFA 1TP-RCS.01* FM RCS HYDRO TEST PRECEDES 11[illegible]0125 11030801 11[illegible]95119 11009 11[illegible]99[illegible]03 11029300 11100109 11100 1TP-RCS.[illegible] PRESSURIZER LEVEL VERIF	(RCS	X			
C 11000118	1CFA 1TP-RCS.02 RCP INIT RUN PRECEDES 11[illegible]0119 11039701 11069118 11030 19[illegible]10207 19740110 ** CEP.0[illegible] COUPLED SYSTEM ** * 4 HOUR VIBRATION CHECK **	(RCS	X			
C 11020132	1CFC 1TP-RCS.03 RCP IN[illegible] F LOGIC C/O PRECEDES 11[illegible]30405 11029103 ** CEP.0[illegible] MOTOR ONLY ** ** 30 MINUTE VIBRATION CHECK ** ** CEP.17 COUPLED SYSTEM ** 1RC-[illegible]1A-[illegible].64 1[illegible]-[illegible]7A-D,1P-[illegible]3A-D	(RCS	X			
C 11500117	1CFA 1TP-RCS.0[illegible] DRAW PZR BUBBLE PRECEDES 11[illegible]011[illegible] 11509117	(RCS				

CIEI 3 UNIT 1 ACTIVITY

ACTIVITY	DESCRIPTION	MODE=C.	Prior to RCS Cold Hydro	Post RCS Cold Hydro Pre HFT	HFT	Post HFT Pre Fuel Load
C 11020413	1EBF 1TP-RCS.5 PZR LEVEL VERIF RCS FILL PRECEDES 11000117 11069117	(RCS	X			
C 11026303	1EEF 1TP-RCS.5 PZR LEVEL VERIF RCS HYDRO PRECEDES 11000120 11055117	(RCS				
C 11090410 CAL	1EEF 1TP-RCS.06 OTSG FILL/LEVEL VERIFY PRECEDES 11000218 11000202 11069410 11040. 11490104 1TP-CHM.02 OTSG PRE BOILER CHEM TEST	(RCS	X			
C 11020302	1EEF 1TP-RCS.07 PZR OPER & SPRAY RCS522F PRECEDES 11000120 11000705	(RCS			X	
C 11000411	1EBA 1TP-RCS.08 RCS HOT LEAK/VIS RCS532F PRECEDES 11000130 11000306	(RCS			X	
C 11020301	1EEE 1TP-RCS.11 PZR PWR VLV/QUE 1PB-532 PRECEDES 11000128 11000307	(RCS			X	
C 11020205	1EBF 1TP-RCS.11 PZR PWR VLV/QUE RCS532F PRECEDES 11000121 11019707	(RCS				
C 11000121	1EBA 1TP-RCS.12 PM RCP FLOW TEST PRECEDES 11000122 11000123 11009121	(RCS		X (P)	X (P)	
C 11000412	1EBA 1TP-RCS.12 RC PMP FLOW MEAS RCS532F PRECEDES 11000130 11095121	(RCS				
C 11000122	1EEA 1TP-RCS.12 SF OTSG HYDRO PRECEDES 10010124 11000123 11001001 11009 11049501 11190116			X		
C 11000218	1EBA 1TP-RCS.14+ PM RCS INITIAL FILL PRECEDES 11000117 11000414 11000426 11000 11005218 11020413 1TP-RCS.08 PRESSURIZER LEVEL VERIF 1TP-CHM.01 RCS CHEM TEST 7.1TP-FST.01 PRECORE THERMAL EXPANSION & VIBR	(RCS	X			
C 11000135	1EEA 1TP-RCS.15 REMOVE PLENUM & CSA PRECEDES 11000137 11040342 11091531	RCS	X (P)			X (P)
C 11000217	1EBA 1TP-RCS.15+ SET HEAD & TENSION PRECEDES 11000218 11000218 11000612 11009 11009209 14760104 19650102 19650 1TP-RCS.18 RX VESSEL STUD MODL TEST	(RCS				
C 11000115	1EBA 1TP-RCS.15 SET PLENUM IN RV PRECEDES 11000217 11000104	(RCS				

CODE 1 UNIT 1 ACTIVITY

ACTIVITY	DESCRIPTION	MODE=C	Prior to RCS Cold Hydro	Post RCS Cold Hydro Pre HFT	HFT	Post HFT Pre Fuel Load
C 11100111	1SHA ITP-RCS.16 VENT VLV/SSHT/DN TESTS PRECEDES 11100111 11600113 11609208 11100 11106128 11150206 36290106 ITP-DHR.01 DECAY HT REMOVAL PREOP ITP-CCF.1 MU FILTIF & RX CHEM ADD PREOP ITP-CFS.01 CORE FLOOD CHECK VALVE OPER	(RCS	X			
11600112	1SHA ITP-RCS.12 RX VESSEL STUD HDNL TEST PRECEDES 11100218 11609108	(RCS	X			
C 11601301	1SHA ITP-RCS.19 RX FLOW SENS/INTERN INSP PRECEDES 11600146 11609261	(RCS				X
14850104 CAL 5	1CSA ITP-RGC.01 H2 RECMBNR PRE-OP PRECEDES 11100127 14859104	(RGC				X
14860104 CAL 5	1CSP ITP-RGC.02 H2 VENT SUPPLY/EXH PRE-OP PRECEDES 14869104 19410203	(RGC				X
14870104 CAL 5	1CSC ITP-RGC.03 H2 MONITORING PRE-OP PRECEDES 14879104 19410203	(RGC				X
C 11500104 CAL 5	1ETA ITP-RPP.01 RX PENT PRESS (N2) PRECEDES 11201101 11529103	(RPP				X
11520103 CAL 5	1ETC ITP-RPP.01 LK CHASE SYS LK TEST PRECEDES 11520104 11529103	(RPP				
11510105 CAL 5	1ETE ITP-RPP.01 VERIFY/FILL WTR TKS PRECEDES 11500104 11529103	(RPP				
11510104 CAL 5	1ETP ITP-RPP.01 VERIFY/FILL N2 SUPPLY PRECEDES 11500106 11529103	(RPP				
C 11500104 CAL 5	1ETA ITP-RPP.01 RX PENT PRESS (INST AIR) PRECEDES 11500106 11509302 11529103 19410	(RPP				
C 19450203	1SHA ITP-RPS.01 CPLT RPS PRE TME RCS532F PRECEDES 11100130 19459105	(RPS			x (r)	x (r)
19450105 CAL 5	1SHA ITP-RPS.01 RPS PREOP/TIME RESP PRECEDES 11100137 19450106 19459105	(RPS				
19452104 CAL 5	1SEA ITP-RPS.02 RPS PRE-OP CALIB PRECEDES 19450105 19459104	(RPS				x
19460105 CAL 5	1SPP ITP-RPS.03 ARTS SYS PREOP PRECEDES 11900137 19469105	(RPS				x

CODE 1 UNIT 1 ACTIVITY

ACTIVITY	DESCRIPTION	MODE=C	PRIOR TO RCS COLD HYDRO	POST RCS COLD HYDRO PRE HFT	HFT	POST HFT PRE FUEL LOAD
19750106 CAL 5	13JA ITP-RSX.01 EX PLANT SMPL PRE-OP PRECEDES 11060128 19759106	(RSX		X		
C 19750208	13JA ITP-RSX.02 EX PLANT SAMP RCS532F PRECEDES 11060129 19759108	(RSX		X(P)	X(P)	
C 19750213	13JA ITP-RSX.02 EX PLANT SAMP RCS<1P6 PRECEDES 11060128 19759108	(RSX				
19740112 CAL 5	15JF ITP-RSX.03 POST ACCIDENT SAMPLE PRECEDES 11060126 19740114 19749112	(RSX		X		
C 19740114 CAL 5	15JF ITP-RSX.04 POST ACCIDENT SAMP (HFT) PRECEDES 11060129 19749114	(RSX			X	
C 11060102	1PEA ITP-RTF.01 & RTF.02 RM RE SIT/ILRT PRECEDES 11065133 11069123 11069213 14750 14770402 14780402 14850112 14800 14800202 14980294 24809104	(RCS				X
11100763 CAL 5	1ECA ITP-RTF.13 (F) 12-2P PRECEDES 11061101 11069512	(DHR	X(P)	X(P)		X(P)
15550215 CAL 5	1EEA ITP-RTF.02 12-45A/B/52A/B/15A/16A PRECEDES 11061101 11069312	(RAM				
11190111 CAL 5	1EGE ITP-RTF.03 (F) 121/47/CC/67 PRECEDES 11061101 11069312	(MUP				
15016203 CAL 5	1EAE ITP-RTF.13 (F) 12-7F PRECEDES 11061101 11009312	(RWG				
11320302 CAL 5	1EKA ITP-RTF.03 (F) 1259/29/53/56 PRECEDES 11061101 11989312	(RHS				
14862205 CAL 5	1ESB ITP-RTF.02 (F) 12-63/86 PRECEDES 12C2F 11061101 11099312	(RGC				
11250302 CAL 5	1EHA ITP-RTF.02 (F) 1244AE/45AE PRECEDES 11061101 11069312	(CFS				
11180115 CAL 5	1EEE ITP-RTF.03 (F) 1217/61/25/61/61 PRECEDES 12C2F 11061101 11099312	(HUP				
11270303 CAL 5	1EKD ITP-RTF.13 (F) 1213 PRECEDES 12C2F 11061101 11009312	(PBS				
19740202 CAL 5	15JF ITP-RTF.03 (F) 17-44 PRECEDES 11061101 11969512	(RSX				

MODE=C/6

ACTIVITY	DESCRIPTION		CODE	DURATION	START EARLY	START LATE	FINISH EARLY	FINISH LATE	TF	FF
10510402 CAL 5	1AFA 1TP-RTF.03 (F) 1271 PRECEDES 11001101 11009312	(MSS)1K	100100120	3	21JUN84 1662	8JUN84 1653	25JUN84 1664	12JUN84 1655	6	[illegible]
11500367 CAL 5	1BTA 1TP-RTF.03 (F) 1751B PRECEDES 11001101 11009212	(RPP)1K	115002020	3	4JUL84 1671	8JUN84 1653	6JUL84 1673	12JUN84 1655	0	18
11150117 CAL 5	1ECA 1TP-RTF.03 (F) 1746-RU PRECEDES 12028 11001101 11009312	(MUP)1K	111501420	3	28NOV83 1514	28MAY84 1644	30NOV83 1516	30MAY84 1646	130	130
13500403 CAL 5	1ECA 1TP-RTF.03 (F) 1/3/7/9/10/E8 PRECEDES 12028 11001101 11009312	(CCW)1K	135003920	15	1MAR84 1582	16MAY84 1632	21MAR84 1596	30MAY84 1646	50	50
11000367 CAL 5	1EEA 1TP-RTF.03 17-19ABC20AB/35/45C-F2R PRECEDES 12028 11001101 11009312	(RCS)1K	110001220	18	31MAY84 1647	7MAY84 1629	25JUN84 1664	30MAY84 1646	0	18
11350503 CAL 5	1BEA 1TP-RTF.03 (F) 1741 PRECEDES 12028 11001101 11009312 6-36 REQD. PROCEDURE APPROVAL	(PMW)1K	113501720	3	1AUG83 1429	28MAY84 E 1644	3AUG83 1431	30MAY84 1646	215	215
14920205 CAL 5	1CTC 1TP-RTF.03 (F) 12-33 PRECEDES 12028 11001101 11009312	(RBV)1K	149205420	3	2MAY84 1626	28MAY84 1644	4MAY84 1628	30MAY84 1646	18	18
14910205 CAL 5	1CTE 1TP-RTF.03 (F) 12-66/81 PRECEDES 12028 11001101 11009312	(RBV)1K	149105420	6	18APR84 1616	23MAY84 1641	25APR84 1621	30MAY84 1646	25	25
15350303 CAL 5	1ETA 1TP-RTF.03 (F) 12-72 PRECEDES 12028 11001101 11009312	(DRS)1K	153505920	3	9MAR84 1588	28MAY84 1644	12MAR84 1590	30MAY84 1646	56	56
14940303 CAL 5	1CTE 1TP-RTF.03 (F) 12-34 PRECEDES 12028 11001101 11009312	(RBV)1K	149405420	3	24APR84 1620	28MAY84 1644	26APR84 1622	30MAY84 1646	24	24
13330402 CAL 5	1EAE 1TP-RTF.03 (F) 12-8,11 PRECEDES 11001101 11009312	(SWS)1K	133303720	6	23NOV83 1511	5JUN84 1650	30NOV83 1516	12JUN84 1655	139	139
13410403 CAL 5	1ECF 1TP-RTF.03 (F) 12-72/78 PRECEDES 11001101 11009312	(FPC)1K	134103820	11	26DEC83 1534	29MAY84 1645	9JAN84 1544	12JUN84 1655	111	111
16129303 CAL 5	1KAC 1TP-RTF.03 (F) 17-51A PRECEDES 11001101 11009312 6-21 REQD. PROCEDURE APPROVAL & COMPLT. PRELIM T	(IAS)1K	161206420	7	1AUG83 1429	8JUN84 E 1653	3AUG83 1431	12JUN84 1655	224	224
14870304 CAL 5	1ESC 1TP-RTF.03 (F) 12-15BC/16BC PRECEDES 11001101 11009312	(RCC)1K	148705320	18	3APR84 1605	18MAY84 1638	26APR84 1622	12JUN84 1655	33	33
13330362 CAL 5	1EAE 1TP-RTF.03 (F) 12-6,4 PRECEDES 11001101 11009312	(SWS)1K	133303720	6	7DEC83 1521	5JUN84 1650	14DEC83 1526	12JUN84 1655	129	129
16110303 CAL 5	1KAF 1TP-RTF.03 (F) 17-55 PRECEDES 11001101 11009312 6-30 REQD PROCEDURE APPVL & PRELIM TEST	(SAS)1K	161106420	3	1AUG83 1429	8JUN84 E 1653	3AUG83 1431	12JUN84 1655	224	224

CODE 1 UNIT 1 ACTIVITY

ACTIVITY	DESCRIPTION	CODE=	PRIOR TO RCS COLD HYDRO	POST RCS COLD HYDRO PRE HFT	HFT	POST HFT PRE FUEL LOAD
14210303 CAL 5	1CAC 1TP-PTH. 3 (F) 12-42/43 PRECEDES 11011101 11169312	(PTH				
14500108 CAL 5	1SJA 1TP-SCH. 1 SAFGRD FC CHIL WTR PRECEDES 110 0225 14505108 15410203	(SCH		X		
C 10903204	1ACA 1TP-TGS. 2 INIT TURB ROLL PRECEDES 10060206 10065204 11165225 10080 12116115	(TGS		X		
10472208 CAL 5	1ADC AP-FWC. 1 FW CHEM ADD TEST PRECEDES 10469106 11060225	(FWC		X		
10460109 CAL 5	1ACB 1AP-FWC. 1 FW CHEM ADD ACCEPT PRECEDES 10469206 11000225 6-16 PERM. IF AVAILABILITY	(FWC				
16700203 CAL 5	1LCA 1AP-ACW. 1 TUR 1-ACID/CAUS WST STO PRECEDES 11060225 16709203	(ACW		X		
14595105 CAL 5	1CLF 1AP-PHV. 1 TEND GALLERY HVAC PRECEDES 14595105	(PHV				X
C 14110105	1FCB 1AP-AXT. 1 FWP TURB NO LOAD TEST PRECEDES 16160254 14119106 14119105	(AXT		X		
12310104 CAL 5	1CG 1AP-CAR. 1 1CGA/B CNDSR EVAC ACCEPT PRECEDES 11060225 12319104	(CAR		X		
10259413 CAL 5	1AKA 1AP-CDD. 1 CONDENSATE DEMIN ACCEPT PRECEDES 10259413 11000225	(CDD		X		
15110128 CAL 5	1ADA 1AP-CDS. 1 CONDENSATE SYS ACCEPT PRECEDES 13119108 11000225	(CDS		X		
10150104 CAL 5	1ADE 1AP-CDS. 2 HOTWELL SAMP ACCEPT PRECEDES 10159104 11000225 6-16 PERM. IF AVAILABILITY	(CDS		X		
14300108 CAL 5	1CLA 1AP-CHW. 1 TURB BLDG CHILL WTR TEST PRECEDES 11000225 14309108	(CHW		X		
18900105 CAL 5	1GHA 1AP-CPS. 1 CATHODIC PROTECTION PRECEDES 18909105	(CPS				X
10410106 CAL 5	1FPP 1AP-CSS. 1 CND XFER ACCEPT PRECEDES 10160114 10419106	(CSS		X		
C 13010404 CAL 5	1CAA 1AP-CWS. 1 CIRC WATER SYSTEM ACCEPT PRECEDES 13010410			X		

CODE I ACTIVITY

ACTIVITY	DESCRIPTION	MODE=C	PRIOR TO RCS COLD HYDRO	POST RCS COLD HYDRO PRE HFT	HFT	POST HFT PRE FUEL LOAD
C 12450108 CAL 5	1CKA 1AP-EHC.01 MN TURB EHC ACCEPT PRECEDES 12452109 12459108	(EHC		X		
12280111 CAL 5	1CFB 1AP-FLO.01 FWPT LUBE OIL ACCEPT PRECEDES 12289111 13119163	(LOS		X		
13102207	1AE 1AP-FWS.01 CNDSATE/FW RECIRC ACCEPT PRECEDES 13109207 11990126 19410213	(FWS		X		
12190139 CAL 5	2CCA 1AP-GGS.01 GENERATOR GAS SYS ACCEPT PRECEDES 12180204 11000225 12199104	(GGS		X		
12100153 CAL 5	1CCA 1AP-GGS.02 GEN AIR DROP TEST PRECEDES 12170104 12105103	(GGS		X		
12150119 CAL 5	1CPA 1AP-GSO.01 HYDROGEN SEAL OIL ACCEPT PRECEDES 11000225 12159119	(GSO		X		
12010108 CAL 5	1CAA 1AP-GSS.01 STEAM SEAL SYS ACCEPT PRECEDES 11000225 12019108	(GSS		X		
15210104 CAL 5	1AFE 1AP-HVD.02 LP HT DRN/VNT/LVL CTL PRECEDES 12019104 11030127	(HVD		X		
14450105 CAL 5	1CEA 1AP-HVT.01 TURB BLDG HVAC TEST PRECEDES 11000225 14459105	(HVT		X		
16800107	1RAA 1AP-MGS.01 MN GENER & EXCITER PRECEDES 16800108 16809107	(MGS		X		
16810104 CAL 5	1RAP 1AP-MGS.02 ISO-PHASE BUS COOL ACCEPT PRECEDES 14080216 11000225 16819104	(MGS		X		
16830106	1RAF 1AP-MGS.03 MN.& STA XFMRS ACCEPT PRECEDES 11000225 16839106	(MGS		X		
12200109 CAL 5	1CEA 1AP-SCS.01 STATOR COOLING ACCEPT PRECEDES 11000225 12209109	(SCS		X		
15010104 CAL 5	1CCA 1AP-SPS.01 STM PLANT SMPLNG TEST PRECEDES 11000225 15019104	(SPS		X		
10080105	1ACC 1AP-TGS.01 RSR MTR TEST PRECEDES 10089105 11900129	(TGS		X		
12650119 CAL 5	1CI 1AP-TGS.02 CPA/CLC FF TUR LUB OIL PRECEDES 11000225 12659119 ** GEP.17 COUPLED SYSTEM ** 1F-TPA-0	(MLC		X		

CODE 1 UNIT 1 ACTIVITY

NOTE=C

ACTIVITY	DESCRIPTION	PRIOR TO RCS COLD HYDRO	POST RCS COLD HYDRO PRE HFT	HFT	POST HFT PRE FUEL LOAD	[illegible]
1B2(B31)	1(FA-1A2 CAP TST. 4 INIT HTUP EXT LINE TO TUR PRECEDES 1: [illegible] 19230512 30519222					
C 1(3(0B 7	1AFA CAP CAP. 1 VALVE LINEUP PRE: TES 1910GE63		X			
C 1B1(0F(6	1AFA CAP CAP.01 PREP F/VACUUM TEST PRECEDES 1316G517					

**** REVISION 12 **** CONSUMERS POWER CO

RUN DATE 7JUN8? PLANNING SCHEDULE PROJECT START ??FEB78

PROJECT ??TAL? MIDLAND PLANT UNITS 1 AND 2 CURRENT COMPL. 24JUN8?

CODE 2 UNIT 2 ACTIVITY

ACTIVITY	DESCRIPTION	MODE=C	PRIOR TO RCS COLD HYDRO	POST RCS COLD HYDRO PRE HFT	HFT	POST HFT PRE FUEL LOAD
21000205	2XXX 2TP-FAS.01 FPI FIELD DEMO TEST PRECEDES 21000128 21000125			X		
2955C105	2SDB 2TP-RAM.01 AREA RAD MONT (NSR) PRECEDES 39569201 35550105	(RAM				X
29550105	2SEA 2TP-RAM.01 AREA RAD MONT (NSR) PRECEDES 39569201 39590105	(RAM				
29560106	2SEB 2TP-RAM.02 1-E AREA RAD MONT PRE-OP PRECEDES 29410203 39569302 39590105	(RAM				X
29560107	2SEB 2TP-RAM.03 CTMT HI RANGE RAD MON PRECEDES 39569303 39590105	(RAM				X
29560106	2SDA 2TP-RAM.04 1-E AIR RAD MONT PRECEDES 29410203 39569304 39590105	(RAM				X
29560108	2SEB 2TP-RAM.05 LIQUID RAD MONT PRE-OP PRECEDES 19560108 39569305 39570106 39590	(RAM				X
29560109	2SEE 2TP-RAM.06 AIR RAD MONT (NSR) PRECEDES 39569306 39590105	(RAM				X
29560111	2SEE 2TP-RAM.07 STACK HI RANGE RAD MON PRECEDES 39569217 39590105	(RAM				X
20300150	2ALA 2TP-AFW.01 2P-05A 48HR ENDUR RUN PRECEDES 20309107 21000127	(AFW		X		
C 20300107	2ALA 2TP-AFW.01 (PART) AUX FW PRE-OP PRECEDES 20300116 20300150 20300410 21300 20309107 21000122 29410203	(AFW				
C 20300413	2ALA 2TP-AFW.02 AFW SYS TEST TO AMB PRECEDES 20309108 21000130 21000131	(AFW			X	
C 20300110	2ALA 2TP-AFW.02 HFT FLOOR TEST PRECEDES 20309108 21000130	(AFW				
C 24100107 CAL 5	2ECA 2TP-AXT.02 AFWP TURB NO LOAD TEST PRECEDES 20300108 24100107 29410203 ** CPL.06 COUPLED SYSTEM ** ** 4 HOUR VIBRATION CHECK ** 20-0?	(AXT		X		

CEDE ? UNIT : ACTIVITY

MOLE=C

ACTIVITY	DESCRIPTION	PRIOR TO RCS COLD HYDRO	POST RCS COLD HYDRO PRE HFT	HFT	POST HFT PRE FUEL LOAD
21450195	2EEA 2TP RPS. 1 BORATED WATER STOR PREOP (RES PRECEDES 21000127 21450107 21450202 21459 29410207				X
23500110	2ECA 2TP CCW.21 CCW FLOW BALANCE (CCW PRECEDES 23570235 23509110 29410203		X		
C 23500235	2ECA 2TP CCW.23 FPL FLOW BAL CCW 532F (CCW PRECEDES 21000139 23509401			X	
C 21000124	2EHA 2TP RCS.11 PM CF CK VLV OPEN TEST (RCS PRECEDES 21000125 21009124 29410203	X	X		
C 21200292	2EEA 2TP CFS.21 CF CHK VLVE VV/SSHT (CFS PRECEDES 21350311 21009124				
26450104 CAL 5	2EEA 2TP CHE.04 POLAR CRANE PRE-OP (CHE PRECEDES 21310202 26455104				X
C 21000418	2EEA 2TP CHM.11 RCS CHEM TEST RCS532F (RCS PRECEDES 21000136 21009501	X (P)	X (P)	X (P)	
C 21000414	2EEA 2TP CHM.01 RCS CHEM TEST RCS<180 (RCS PRECEDES 21000128 21009501				
C 21000425	2EBA 2TP CHM.01 RCS CHEM TEST RCS FILL (RCS PRECEDES 21300117 21009501				
C 21000416	2EBA 2TP CHM.01 RCS CHEM TEST 180-532 (RCS PRECEDES 21000129 21009501				
C 21000423	2EEA 2TP CHM.01 RCS CHEM TEST TO AMP (RCS PRECEDES 21000130 21000131 21009501				
C 21040241	2EEC 2TP CHM.12 OTSG PRECR CHEM/OTSG FIL (RCS PRECEDES 21000216 21009412	X			
C 21000422	2EBA 2TP CHM.13 RAD CHEM MONI RCS532F (RCS PRECEDES 21000130 21009302			X	
29660103	2EEE 2TP CRD.11 CRD PRE-OP (CRD PRECEDES 23660103 29660106 29669103		X		
C 29650404	2EEA 2TP CRD.22 CELT CREM INTEG 180-532 (CRD PRECEDES 21000129 2966510P		X (P)	X (P)	
C 29650406	2EEA 2TP CRD.22 CRDM SYS INTEG RCS532F (CRD PRECEDES 21000130 29660108				

CODE	? UNIT ? ACTIVITY	
ACTIVITY	DESCRIPTION	NOTE=C
29[illegible]	?SEA ?TP-CRD.?2 CRD SYS INTEGRATED TEST PRECEDES 21[illegible] 29[illegible]	(CRD
C 29[illegible]	?SEA ?TP-CRD.?3 CRDM TRIP/OPER 100-550 PRECEDES 21[illegible] 29[illegible]	(CRD
29[illegible]	?SEA ?TP-CRD.?4 CRDM FUNCTIONAL TEST CAL ? PRECEDES 29[illegible] 29[illegible]	(CRD
C 29[illegible]	?SEA ?TP-CRD.?5 CELT CRDM FUNC RCS<100 PRECEDES 21[illegible] 29[illegible]	(CRD
2[illegible]	?SEA ?TP-EFD.?1 PREP EFD STOR CAL ? PRECEDES 2[illegible] 2[illegible]	(EFD
C 21[illegible]	?SEA ?TP-EHR.?1 COMPON REPAIR MODE RECIRC CAL ? PRECEDES 21[illegible] 21[illegible] REPLACE SECTION GUAGES (*) WITH LOWER RANGE GUAGES.	(EHR
C 21[illegible]	?SEA ?TP-EHR.?1 RCS RECIRC & FLOW ALARMS CAL ? PRECEDES 21[illegible] 21[illegible] 21[illegible] -CPT.?2 -CPM.?6 FULL FLOW PUMP VIBRATION CHECKS GPM.?6 AND EBR COOLER BYPASS LINE VIBRATION CHECKS (COLD - 3600GPM) STEADY STATE FLOW VIBRATION TESTING OF DHR/CF LINES TO RV	(EHR
C 21[illegible]	?SEA ?TP-EHR.?1 FAST RECIRC DEMONSTRATION CAL ? PRECEDES 21[illegible] 21[illegible]	(EHR
21[illegible]	?SEA ?TP-EHR.?1 DUMP TO SUMP FLOW TEST CAL ? PRECEDES 21[illegible] 21[illegible]	(EHR
C 21[illegible]	?SEA ?TP-EHR.?1 BACKUP SF COOLING DEMO CAL ? PRECEDES 21[illegible] 21[illegible] NOTE: THIS TEST IS ALSO TO BE DONE WITH THE UNIT 1 BCA (DHR) SYSTEM, HENCE 1BCA MUST BE AVAILABLE AT THE SAME TIME.	(EHR
C 21[illegible]	?SEA ?TP-EHR.?2 HFT RCS C/D & PZR SPRAY PRECEDES 21[illegible] 21[illegible] 21[illegible] 400 PSIG < RCS PRESS < 410 PSIG 325 DEG F < RCS TEMP < 335 DEG F 85 < ICC IN PRESSURIZER LEVEL CF TANKS ISOLATED AND TAGGED PREPARED TO MONITOR DHR LINES FOR CREVICE AND VIBRATION	(EHR

PRIOR TO RCS COLD HYDRO	POST RCS COLD HYDRO PRE HFT	HFT	POST HFT PRE FUEL LOAD
	X(1)	X(1)	
	X		
	X		
		X	

MODE=C

ACTIVITY	DESCRIPTION		PRIOR TO RCS COLD HYDRO	POST RCS COLD HYDRO PRE HFT	HFT	POST HFT PRE FUEL LOAD
	DHR IS PROCESS VIA DISCH AND BYPASS/COAD VALVES TWO ECA OPERATING MU PUMPS RACKED OUT & TAGGED TEMPORARY INSTRUMENTATION AVAILABLE THERMOCOUPLES AND 8 PRESSURE GUAGES HOT VIBRATION CHECKS DHR COOLER BYPASS LINE VIBRATION THERMAL EXPANSION (HOT - 3000GPM) -CPM.16 -CPM.13 2TP-PST.02 2TP-PST.02 PERFORM ABOVE TESTING DURING HFT COOLDOWN					
C 211002?8	2ECA 2TP-EHP. 2 DHR (RCS COOLDWN TO AMB) PRECEDES 21?10120 21000131 21109119	(DHP			X	
C 21090123	2ECA 2TP-EHP.03 DH LPI ESFAS TESTS PRECEDES 21?66124 21109905	(RCS		X		
C 21130116	2ECA 2TP EHP.03 DHR ESAF TEST CAL ? PRECEDES 21?0124 21103119 21109905	(DHP 2?410				
24700105	2EHA 2TP EHV.01 DG BLDG HVAC PRE-OP CAL ? PRECEDES 247?9105	(DHV				X
27?10107	2EAA 2TP-ECA.01 HI MOD VOLT (6.9KV) CAL ? PRECEDES 21?0225 27619107	(ECA		X		
C 27010202	2AAA 2TP ECA.02 IE VOLT VAR RCS532F PRECEDES 21?0170 21000230 27059108	(ECA			X	
27550157	2ABA 2TP-EDA.01 NON 1-E MED VOLT(4.16KV) CAL 5 PRECEDES 21006225 27059107	(EDA		X		
28010107	2EBA 2TP-EDB.01 1-E MED VOLT(4.16KV) CAL ? PRECEDES 21?0225 28319107	(EDB		X		
27150107	2AGA 2TP-EEB.01 480 VAC LCC PRE-OP CAL 5 PRECEDES 21?0225 27159107	(EEB		X		
C 27250156	2EFA 2TP-EEB.02 480 VAC MCC PRE-OP CAL ? PRECEDES 21?00225 27259106	(EEB		X		
28100107	2EGA 2TP EED.01 1-E LOW VOLT 480VAC CAL 5 PRECEDES 21?60225 281?9107 6-22 PEND. PROCEDURE APPROVAL	(EEC		X		
28150106	2EBA 2TP EEC.01 1-E LOW VLT (460VAC) CAL 5 PRECEDES 21?0225 28159106	(EEC				

CODE 2 [illegible] ACTIVITY

ACTIVITY	DESCRIPTION	MODE=C	PRIOR TO RCS COLD HYDRO	POST RCS COLD HYDRO PRE HFT	HFT	POST HFT PRE FUEL LOAD
27580104 CAL [illegible]	2RPA 2TP-ESA.01 120V AC NON1-E PRECEDES 21[illegible]0225 27589104	(ECA		X		
275[illegible]01[illegible] CAL [illegible]	2RPA 2TP-[illegible]DA.[illegible]1 120VAC-INT1 PREF PWR PRECEDES 21[illegible]0225 27599104	(EHA		X		
283[illegible]0104 CAL [illegible]	2EKA 2TP-EHB.01 120VAC 1-E PREF PWR PRECEDES 21[illegible]0225 28359104	(EHB		X		
2245010[illegible]	2EKA 2TP-EHC.[illegible] EHC ELECTRICAL PRE-OP PRECEDES 29[illegible]0[illegible] 22459109	(EHC		X		
27560106 CAL [illegible]	2EKA 2TP-EKC.01 NON 1-E DC SYS PRECEDES 21[illegible]0225 27569106	(EKC		X		
28300106	2EKA 2TP-EKD.01 CLASS 1E DC SYS PRE-OP PRECEDES 21[illegible]0225 28300107 28309106	(EKD		X		
28300107	2EKA 2TP-EKD.02 CLASS 1E MIN VOLTAGE PRE-OP PRECEDES 21[illegible]0225 28309107			X		
28710103 CAL 5	2EDP 2TP-EML.02 STATION EMER DC CKT PRECEDES 21[illegible]0225 28719103	(EML		X		
29410102 CAL 5	2SAE 2TP-ESA.01 LOGIC PRE-OP PRECEDES 2[illegible]10292 2[illegible]169508 29[illegible]29107 21000 21100116 21170109 21[illegible]0105 21450 21[illegible]06104 23[illegible]0[illegible]110 24100107 24500 24[illegible]01[illegible] 24873104 24[illegible]0106 28[illegible]50 28[illegible]6108 29416301 29419102 25710 33[illegible]0111 33400121 35040106 3[illegible]350	(ESA	X			
29450102	2SAA 2TP ESA.02 ECCAS LOGIC PRE-OP PRECEDES 21[illegible]0127 294[illegible]9102 29416104 25460	(ESA		X		
29410301 CAL [illegible]	2SAP 2TP-ESA.03 ECCAS LCP SEQ PREOP PRECEDES 29410104 29419301	(ESA				X
29410104 CAL [illegible]	2SAE 2TP-ESA.04 ESFAS RESPONSE TIME TEST PRECEDES 29410202 29415203	(ESA				X
C 21[illegible]00137	2ELA 2TP-ESA.05 INTEGRATED ESFAS LP PRECEDES 11[illegible]0127 11[illegible]0137 21[illegible]0138 21005 2941[illegible]1[illegible]7	(RCS				X
C 29410293 CAL [illegible]	2SAE 2TP ESA.07 TOT SFAS RESPONSE TIME PRECEDES 21[illegible]0127 29419198	(ESA				X

ACTIVITY	DESCRIPTION	RESP CODE	PRIOR TO RCS COLD HYDRO	POST RCS COLD HYDRO PRE HFT	HFT	POST HFT PRE FUEL LOAD
26280124 CAL 5	2EEE 2TP FHS.04 FUEL XFER PRE-OP PRECEDE 21030111 23810134 26289133 27105 33430119 33846134	(FHS	X			
C 26280165 CAL 5	2KEE 2TP FHS.05 COMPLT FH EQ PREOP PRECEDES 21000316 21000742 21009108	(FHS	X			
C 21090112	2EEA 2TP-FHS.06 CANAL HYDRO/WET FH PRECEDES 21030114 21005112 21029112 REMOVE UNIT 2 TILT PIT AND CASK LOADING PIT GATES. INSTALL GATES AFTER WET FUEL HANDLING TEST IS COMPLETE.	(RCS	X			
C 21096111	2EEA 2TP-RPC.01* FILL REF CANAL PRECEDES 21090112 33409121 2TP-RPC. 1 %.2.6	(RCS	X			
26200195 CAL 5	2KCF 2TP-FPS.03 HALON FIRE PROTECTION PRE-OP SINK ACTIVITY					X
C 21600220	2EEA 2TP-HFT.01 COOL DOWN TO 200F PRECEDES 21030130 21059127 21160119	(RCS			X	
C 21600126	2EEA 2TP-HFT. 1 RH COOL DOWN TO AMBIENT PRECEDES 11020124 14849101 21600131 21001 21059127 --TESTS TO BE CONDUCTED DURING COOLDOWN-- 1.TP AFW.02 AUX FEED SYS TEST 2.TP-CHM.01 RCS CHEM TEST 3.TP-CRP.02 DRP SYS (RCS COOLDOWN VERIF) 4.TP-FWC.1 FW CHEM ADD & CHEM PREOP 5.TP-ICS.02 ICS TUNING 6.TP-MUP.02 MUPE SYS OPERATIONAL TEST 7.TP-MSI.06 FW STM ISOL BLOCK VLV TEST 8.2TP-FST.01 PRECORE THERMAL EXPANSION & VIBR	(RCS				
C 21160129	2EPA 2TP-HFT.01* RM RCS @ 532F PRECEDES 7905 20020108 20370115 21300 21000220 21000412 21000416 21000 21030422 21009423 21059127 21020 21020104 21020420 21030392 21030 21160119 21150208 21160210 21150 21150267 21159208 23560235 24450 24750201 27415203 29450203 29510 29650406 29750109 29650198 29853 35850264	(RCS				

CIDE 2 UNIT 2 ACTIVITY SORT EJECT CODES PH REPORTS DATA DATE 7JUL?? PAGE 7

ACTIVITY	DESCRIPTION	MOFF-C	Prior to RCS Cold Hydro	Post RCS Cold Hydro Pre HFT	HFT	Post HFT Pre Fuel Load
C 21000128	2?? ?IP PET. 1+ PH HEAT-UP RCS 180-532F PRECEDES 210?0125 21000416 21000417 21009 21?50202 21150205 241?0105 29656 297?040? 29740114 29750138 29850	(RCS				
C 21?00127	2?BA ?IP PET.?1+ PH RCS <180F PRECEDES 21000128 21000414 21000415 21005 21??0127 211?0203 21150204 24509 29??0403 29750107	(RCS				
29850106	25CA ?IP ICS. 1 ICS INPUT VERIF CAL 5 PRECEDES 29??0104 29859105	(ICS		X		
298?01??	25GA ?IP ICS.?1 ICS OPEN LOOP PRECP CAL 5 PRECEDES 29850106 29859105 4-23 TEST. PROCEDURE REVISION ECL-9/83 C/S TRC REVIEW	(ICS				
C 298?0107	25CA ?IP ICS.?? ICS TUNING 180-532 PRECEDES 21??0129 29859108	(ICS			X	
C 298?01??	25OA ?IP ICS.?2 ICS TUNING TO AMB PRECEDES 21000120 21000131 29859108	(ICS				
C 29??010?	25CA ?IP ICS.?? ICS TUNING RCS532F PRECEDES 21??0130 298??108	(ICS				
C 28?20104	2?H? ?IP MSS.?1 MS ISOLATION VALVE) CAL ? PRECEDES 28?10103 28010508 28019202	(MSS		X		
C 280?0158	2?EE ?IP MSS. 1 MS STM ISO VLV RCS532F PRECEDES 28019202 21?60130	(MSS				
28?10202	2?BA ?IP MSS. 1 (MS X-CON VALVE) CAL 5 PRECEDES 28019202 21?06225 29410203	(MSS				
21240102	?ECM ?IP PUP.?1 PU SYS PRE-OP (EBS) CAL 5 PRECEDES 21?49115 21249108	(EBS				
C 21150206	2?GA ?IP PUP.?1 FX CHEM ADD(PRT RCS532F) PRECEDES 21?93133 2124?108	(PUP				
C 211701??	2?GC ?IP PUP. 1 PU SYSTEM PREOP CAL 5 PRECEDES 21?00120 210?0126 21249108 ??419	(PUP				
21219362	2?CC ?IP PUP.?1 PU&PURIF CHEM ADD PRE-OP CAL 5 PRECEDES 21?13114 21249108	(PUP				
21220115	2?GE ?IP PUP.?1 PU SYS PRE-OP CAL 5 PRECEDES 21??0116 21249108	(PUP				

CODE 2 UNIT 2 ACTIVITY

ACTIVITY	DESCRIPTION	PROC=C.	PRIOR TO RCS COLD HYDRO	POST RCS COLD HYDRO PRE HFT	HFT	POST HFT PRE FUEL LOAD
C 21150212	2EEA 2TP MUP. 1 MU/P/PX CLEAN AD VV/SSET PRECEDES 21 5116 21249108	(MUP	X(P)	X(P)	X(P)	X(P)
C 21150211	2ECA 2TP MUP. 2 MU/P SYS OPER TO AMB PRECEDES 21640178 21590131 21159104	(MUP		X(P)	X(P)	
C 21150203	2ECA 2TP MUP. 2 MU/P OPER TEST RCS<180 PRECEDES 21350128 21159104	(MUP				
C 21150207	2ECA 2TP MUP. 2 MU/P SYS OPER RCS532F PRECEDES 21 0120 21159104	(MUP				
C 21150205	2ECA 2TP MUP. 2 MU/P SYS OPER 180-532 PRECEDES 21 0125 21159104	(MUP				
C 21150204	2ECA 2TP MUP. 2 MU/P SYS OPER RCS<180 PRECEDES 21300128 21159104	(MUP				
C 21600701	2EEA 2TP MUP. 3 MU LTDWN CENTL RCP PUR PRECEDES 21 0115 21609701	(RCS	X			
C 21600126	2EEA 2TP MUP. 4 FP ESTAS TEST PRECEDES 21 0121 21609120	(RCS		X		
29600102 CAL 5	2SEA 2TP NIS. 1 ICM ELECT TEST PRECEDES 29 0104 29609102	(NIS				X
29600105 CAL 5	2SEA 2TP NIS. 2 ICM SYSTEM PRE-OP PRECEDES 29629105	(NIS				X
C 29610104 CAL 5	2SEP 2TP NIS. 3 FI DETECTOR CABLING TEST PRECEDES 29450106 29619104	(NIS				X
C 29619102 CAL 5	2SEP 2TP NIS. 4 FI DETECTOR PRE-OP PRECEDES 29619102	(NIS				X
29450102 CAL 5	2SEA 2TP NIS. 5 FI PRE-OP CALIB TEST PRECEDES 29450105 29459103	(RPS				X
C 29450156 CAL 5	2SEA 2TP NIS. 6 SR/IR INITIAL SETTINGS PRECEDES 29459106	(RPS				X
29510169 CAL 5	2SCP 2TP NNI. 1 LSE PRIS MONIT SYS PART PRECEDES 21 00 29519109	(NNI		X(P)	X(P)	
C 29510266	2SCP 2TP NNI. 1 LSE PRIS MONIT RCS532F PRECEDES 21600125 29519109	(NNI				
28000108 CAL 5	2SEP 2TP EES. 1 STDBY DIESEL GEN PRE-OP PRECEDES 21 00137 28059803 28059108	(EES (RAIL		X		

CELF   C LP EE ACTIVITY

MOLE=C

ACTIVITY	DESCRIPTION		Prior to RCS Cold Hydro	Post RCS Cold Hydro Pre HFT	HFT	Post HFT Pre Fuel Load
28 01EE CAL	2EEA CTP RES.21 STDBY DIESEL GEN PRE-OP PRECEDES 21006137 28552853 2805919 28410	(RES				
28056812 CAL	2EEA CTP RES.22 26-11/12 ELEC PRE-OP PRECEDES 2806CE25 28055802			X		
2808088	2EEA CTP RES.23 26-11/1, AUTO START PRE-OP PRECEDES 2100(130 21000127 28055803			X		
C 21000415	2EEA CTP-TST.01 PER CONV SYS EXP RCS<186 PRECEDES 21000128 21000303	(RCS			X	
C 21000417	2EEA CTP-TST.01 PRECP THER EXPAN 186-532 PRECEDES 21 00129 21009303	(RCS				
C 21009419	2EEA CTP-TST.01 PRECP THER EXPAN RCS532F PRECEDES 21000129 21005303	(RCS				
C 21020423	2EEP CTP TST.02 PZR RLF DISCH LNE 532F PRECEDES 21006120 21009304	(RCS			X	
C 21100219	2ECA CTP TST.02 RCS C/D PRECEDES 21006120 21009304	(DHR				
21300290 CAL	2EEA CTP RBS.01 RP SPRAY HDR AIR TEST PRECEDES 21300202 21310104	(RBS				
21310105 CAL	2EKA CTP RBS.02 RX BLDG SPRAY PREOP PRECEDES 21306225 21300202 21309105 29410	(RBS		X		
C 24900116 CAL	2EEA CTP-RBV.01 RP AIR PUR/CLNUP/VENT PRECEDES 24905116 29410203	(RBV				X
C 24750216	2EP CTP-RBV.02 RB COOLC OPER RCS532F PRECEDES 21 00120 24779108	(RBV			X	
C 24700165 CAL	2EEA CTP RBV.03 CTMT HEAT REMOVAL PREOP PRECEDES 24759135	(RBV				X
C 21300117	2EEA CTP-RCS.XX SET CSA/INDEX RB POLAR PRECEDES 21300216 21380165 26455104	(RCS				
C 21000119	2EEA CTP RCS.01* PM RCS HYDRO PRECEDES 21010120 21000801 21005119 21009 21005503 21020201 21100139 21109 21450169 CTP-RCS.07 PRESSURIZER LEVEL VERIF	(RCS	X			

CCPE [illegible] UNIT 2 ACTIVITY

MODE=C.

ACTIVITY	DESCRIPTION	PRIOR TO RCS COLD HYDRO	POST RCS COLD HYDRO PRE HFT	HFT	POST HFT PRE FUEL LOAD
C 21[illegible]0118	[illegible] TP RCS.[illegible] INIT RC PUMP RUNS SEC .[illegible] (RCS PRECEDES 21[illegible] 21[illegible]701 21[illegible]9118 21[illegible] 2[illegible]1[illegible]107 2974[illegible]119 ** [illegible] COUPLED SYSTEM ** ** 4 HOUR VIBRATION CHECK **	X			
21[illegible]301 [illegible]	[illegible] TP RCS.[illegible] RCP IPR & LOGIC (RCS PRECEDES 21[illegible]2020[illegible] 21039103 ** [illegible].0[illegible] MOTOR ONLY ** * 3[illegible] MIN VIBRATION CHECK * ** [illegible].17 COUPLED SYSTEM ** 2[illegible]-[illegible]1A-D 2P-[illegible]-D.2P-5[illegible]A-D 2P-[illegible]-D COMPLETE 12 [illegible] 12 [illegible] [illegible]. RESOLUTION LUBE OIL PROBLEMS 2P-[illegible] COMPLETE 1/4/8[illegible] 2[illegible]-[illegible] CELT [illegible]/22/83 (CAR OUTSTANDING) 2[illegible] [illegible] COMPLETE (A,B-4/11/83) (C,D-5/9/83) 2[illegible] [illegible] COMPLETE (A,B-4/11/83) (C,D-5/5/83)	X			
C 21[illegible]02[illegible]	[illegible] TP-RCS.[illegible]4 PRE-HFT INTERN INSP (RV) (RCS PRECEDES 21[illegible]01[illegible]7 21009206	X			
21[illegible]063[illegible]	[illegible] TP RCS.[illegible]4 PRE-HFT INTER INSP(PLEN) (RCS PRECEDES 21[illegible]01[illegible] 21009206 3-30 [illegible] [illegible] OF CWR #4469-ECD 11/83				
C 21[illegible]0207	[illegible] TP-RCS.[illegible]4 PRE-HFT INTERN INSP(CSA) (RCS PRECEDES 21[illegible]0167 21009206 3-16 [illegible] CWR #4469-ECD 11/83 3-16 CWR #2[illegible]-2[illegible]11 ECD-5/83 3-3[illegible] [illegible] CWR #1949,1[illegible]50-ECD 11/83				
C 21[illegible]0117	[illegible] TP-RCS.[illegible]5 DRAW PZR BUB (PZR LVL V) (RCS PRECEDES 21[illegible]0118 21009117	X (r)	X(r)		
C 21[illegible]0261	[illegible] TP RCS.[illegible] PZR LEVEL VERI RCS FYER (RCS PRECEDES 21[illegible]0120 21009117				
C 21[illegible]0205	[illegible] TP-RCS.[illegible] PZR LVL VERIFY RCS FILL (RCS PRECEDES 21[illegible]0117 21009117				
C 21[illegible]0419 C/L [illegible]	[illegible] TP-RCS.[illegible]6 OTSG FILL & LVL VERIF (RCS PRECEDES 21[illegible]0218 21006302 21[illegible]419 2104[illegible] 21[illegible]0164 2TP-CHM.[illegible]2 OTSG PRE BOILER CHEM TEST	X			
C 21[illegible]0203	[illegible] TP-RCS.07 PZR [illegible] & [illegible] RCS[illegible]PR (RCS PRECEDES 21[illegible]0120 210092[illegible]5			X	

ACTIVITY	DESCRIPTION	MODE=C/R	CODE	DURATION	START EARLY	START LATE	FINISH EARLY	FINISH LATE	TF	FF
C 21000412	2EPA STP-RCS.[illegible] RCS HOT LKGE/VIS RCSS32F PRECEDES 21 [illegible] 21009236 21009412	(RCS)2J	210001220	26	22SEP84 2419	31MAY84 2205	17OCT84 2444	25JUL84 2330	0	-114
C 21020204	2EPA STP-RCS.11 B26 PWR OP VLV/GUE 532F PRECEDES 21050130 21009307	(RCS)2J	210201220	26	22SEP84 2419	31MAY84 2205	17OCT84 2444	25JUL84 2330	0	-114
C 21020202	2EPA STP-RCS.11 E2R PSR-VLV/GUE 1P?-532 PRECEDES 21[illegible]125 21009307	(RCS)2J	210201220	4	15SEP84 2412	15MAY84 2289	18SEP84 2415	18MAY84 2292	0	-122
21030302	2EPC STP-RCS.12 RCP FLOW MEASURE RCSS32F PRECEDES 21-00120 21000121 I 21 [illegible] FURTHER T/D'S-FED _____	(RCS)2J	210301220	26	8JUL83 1977	31MAY84 E 2205	2AUG83 2002	25JUN84 2330	272	328
C 21000121	2EPA STP-RCS.12 RR RCP FLOW TEST PRECEDES 21000122 21000123 21009121	(RCS)2I	210001220	5	18MAR84 2231	21JAN84 2174	22MAR84 2235	25JAN84 2178	0	-57
C 21000122	2EPA STP-RCS.13 SM DISC HYDRO PRECEDES 20210105 21000123 21001001 21009122 21049961 21100116	(RCS)2I	210001220	8	23MAR84 2236	26JAN84 2179	30MAR84 2243	2FEB84 2186	0	-57
C 21000218	2EPA STP-RCS.14* RR RCS INITIAL FILL PRECEDES 21000117 21000413 21000425 21009218 21?0F205 STP-RCS.0? PRESSURIZER LEVEL VERIF STP-CHM.[illegible] RCS CHEM TEST	(RCS)2D	210001220	7	20FEB84 2204	25DEC83 2147	26FEB84 2210	31DEC83 2153	0	-57
C 21005175	2EPA STP-RCS.15 REMOVE PLENUM & CSA PRECEDES 21000127 21000342 21001201	RCS)2L	210001220	1	2DEC84 2490	30AUG84 2396	2DEC84 2490	30AUG84 2396	0	-54
C 21000217	2EPA STP-RCS.15* SET HEAD & TENSION PRECEDES 21000218 21000317 21000318 21000411 21009184 21009305 24760204 25650102 29650202 STP-RCS.18 RX VESSEL STUD HDNL TEST	(RCS)2D	210001220	5	30DEC83 2152	19DEC83 2141	3JAN84 2156	23DEC83 2145	0	-11
C 21005114	2EPA STP-RCS.15 SET PLENUM IN PV PRECEDES 21000217 21005104 21009205	(RCS)2D	210001220	2	29DEC83 2150	17DEC83 2139	29DEC83 2151	18DEC83 2140	0	11
C 21000110	2EPA STP-RCS 16* VENT VLV, SSHT & DH TEST PRECEDES 21000111 21009113 21009208 21100111 21120117 21150202 21250202 31390105 STP-DHR.01 DECAY HT REMOVAL PREOP STP-MUP.11 MU PURIF & RX CHEM ADD PREOP STP-CFS.01 CORE FLOOD CHECK VALVE OPER	(RCS)2C	210001220	3	16DEC83 2138	5DEC83 2127	18DEC83 2140	7DEC83 2129	0	11
C 21000411	2EPA STP-RCS.18 RX VESSEL STUD HDNL TEST PRECEDES 21009218 21009305	(RCS)2D	210001220	5	30DEC83 2152	20DEC83 2142	3JAN84 2156	24DEC83 2146	0	-10
C 21001301	2EPA STP-RCS.19 EST HET INTER INSL(PVACC) PRECEDES 21006140 21009301	(RCS)2M	210001220	10	3DEC84 2491	4SEP84 2401	12DEC84 2500	13SEP84 2410	0	-58

CODE [illegible] ACTIVITY

MULT=C

ACTIVITY / DESCRIPTION	PRIOR TO RCS COLD HYDRO	POST RCS COLD HYDRO PRE HFT	HFT	POST HFT PRE FUEL LOAD
24[illegible] 2[illegible] [illegible] RGC. 1 H2 RECOMB[illegible] PRE-OP (RGC CAL [illegible] PRECEDES 21[illegible]0137 24[illegible]104				x
24[illegible] 2[illegible] [illegible]-RGC. 2 H2 VENT SUPPLY/EXH PRE-OP(RGC CAL [illegible] PRECEDES 24[illegible]5116 29410203				x
2417[illegible] 2[illegible] [illegible]-RGC. 2 H2 MONITORING PRE-OP (RGC CAL [illegible] PRECEDES 24[illegible]79164 2[illegible]410203				x
21[illegible] [illegible] [illegible] RPP.[illegible] VERIFY/FILL WTR TKS (RPP CAL [illegible] PRECEDES 21[illegible]0104 21520103				x
21[illegible] 2[illegible] [illegible] RPP.[illegible]1 VERIFY/FILL N2 SUPPLY (RPP CAL [illegible] PRECEDES 21[illegible]01[illegible] 21529103				
215001[illegible] 2[illegible]A [illegible]-RPP.[illegible]1 RX PENT PRESS (N2) (RPP CAL [illegible] PRECEDES 21[illegible]1101 21520103				
2152010[illegible] 2[illegible]C [illegible]-RPP. 1 LK CHASE SYS LK TEST (RPP CAL [illegible] PRECEDES 21[illegible]0104 21520133				
21500[illegible] 2[illegible]A [illegible]-RPP.[illegible]1 RX PENT PRESS (INST AIR) (RPP CAL [illegible] PRECEDES 21[illegible]610[illegible] 21500302 2152910[illegible] 2[illegible]410				
2945010[illegible] 2[illegible] [illegible] RPS.21 RPS TIME RESPONSE (RPS CAL [illegible] PRECEDES 21[illegible]0137 29450106 294[illegible]910[illegible]			x(P)	x(P)
C 294[illegible]02[illegible] 2[illegible] [illegible]-RPS.[illegible]1 CELT RPS TME RSP RCS532F (RPS PRECEDES 21[illegible]0170 2945[illegible]105				
[illegible]945010[illegible] 2[illegible] [illegible]-RPS.[illegible] RPS PRE-OP CALB (RPS CAL [illegible] PRECEDES 294[illegible]105 2[illegible]459104				x
2[illegible]4[illegible]010[illegible] 2[illegible]P [illegible]-RPS.[illegible]2 ATS SYS PREOP (RPS CAL [illegible] PRECEDES 294[illegible]510[illegible]				x
2975010[illegible] 2[illegible]JA [illegible] RSX.31 RX PLANT SMPL PRE-OP (RSX CAL [illegible] PRECEDES 21[illegible]02[illegible] 29759106		x		
C 2975010[illegible] 2[illegible]JA 21[illegible]-RSX.[illegible] RX PLANT SAMPLG RCS532F (RSX PRECEDES 21[illegible]0136 29759108			x	
C 297[illegible]01[illegible]7 2[illegible]JA 21[illegible]-RSX.[illegible] RX PLANT SAMPLG RCS[illegible]100 (RSX PRECEDES 21[illegible]0128 29759108				
C 2975010[illegible] 2[illegible]JA [illegible]-RSX.[illegible] RX PLANT SAMPLG 1[illegible]0-532 (RSX PRECEDES 21[illegible]0129 2[illegible]75[illegible]10[illegible]				
2[illegible]74[illegible]112 2[illegible]JP [illegible]-RSX.[illegible]3 POST ACC SAMPLE (RSX CAL [illegible] PRECEDES 21[illegible]0126 29741114 2[illegible]749112		x		

CCPI 5 UNIT 2 ACTIVITY

ACTIVITY	DESCRIPTION	MODE=C	Prior to RCS Cold Hydro	Post RCS Cold Hydro Pre HFT	HFT	Post HFT Pre Fuel Load
C 25743114	2[illegible] STP-TSX.4 POST ACCIDENT SAMP (HFT) PRECEDES 2[illegible] 25743114	(RSX			X	
C 21[illegible]122	2[illegible]A STP-RTF.01 & RTF.02 PR HP FIT/FLET PRECEDES 21[illegible] 21805133 21809133 21C0[illegible] 247[illegible] 2477[illegible] 24765402 24802 247[illegible] 2459[illegible]04 POST FIT LINER PLATE INSPECTION	(RCS				x
21[illegible]	2[illegible] STP-RTF.02 (F) 2744AE/45AE PRECEDES 2190113[illegible] 21[illegible]312	(CFS				
24[illegible] CAL 5	2[illegible] STP-RTF.03 (F) 22-34 PRECEDES 22028 21891101 21[illegible]9312	(FDV				
24[illegible]202[illegible] CAL 5	2[illegible] STP-RTF.03 (F) 2733 PRECEDES 22028 21001101 2180[illegible]312	(FDV				
25530357 CAL 5	2EAB STP-RTF.02 (F) 27-4,6 PRECEDES 21[illegible]1101 21809312	(SWS				
21[illegible] CAL 5	2[illegible] STP-RTF.03 27-15[illegible]C 20AB/35/45C-PZR PRECEDES [illegible]028 21881131 21309312	(RCS				
24[illegible]52[illegible] CAL 5	2[illegible] STP-RTF.02 (F) 27-62/66 PRECEDES [illegible]028 21001101 21009312	(RGC				
2[illegible]580265 CAL 5	2[illegible] STP-RTF.03 27-49A,B/52A,B/15A/16A PRECEDES 21[illegible]1101 21909312	(RAM				
24[illegible]753[illegible]4 CAL 5	2[illegible]C STP-RTF.03 (F) 27-15BC/16BC PRECEDES 21[illegible]1101 21809312	(RGC				
21[illegible]0397 CAL 5	2[illegible] STP-RTF.03 (F) 2715 PRECEDES 22028 21001101 21809312	(RBS				
21180115 CAL 5	2[illegible] STP-RTF.03 (F) 2717/61/2[illegible]/65/66 PRECEDES 22028 21001101 21009312	(MUP				
2612031[illegible] CAL 5	2[illegible]AC STP-RTF.02 (F) 27-51A PRECEDES 21[illegible]1101 21809312 [illegible]-21 ELEC. PROCEDURE APPROVAL & COMPLT.	(IAS PRELI				
26110[illegible] CAL 5	2EAB STP-RTF.03 (F) 27-55 PRECEDES 21[illegible]1101 21809312	(SAS				
2530[illegible]402 CAL 5	2EAE STP-RTF.03 (F) 27-4,11 PRECEDES 21001101 21509312	(SWS				

CCCE   TILE C ACTIVITY

ACTIVITY	DESCRIPTION	NOTE=C	PRIOR TO RCS COLD HYDRO	POST RCS COLD HYDRO PRE HFT	HFT	POST HFT PRE FUEL LOAD
22410407 CAL 5	2FCE STP-FTF.02 (F) 27-72/78 PRECEDES 21001101 21009312	(FPC	X(r)	X(r)		X(r)
20810407 CAL 5	2ALA STP-RTF.02 (F) 27-71 PRECEDES 21001101 21009312	(MSS				
21150117 CAL 5	2BCA STP-FTF.05 (F) 2746-MU PRECEDES 22028 21001101 21009312	(MUF				
21190111 CAL 5	2BCF STP-RTF.03 (F) 271/47/60/67 PRECEDES 21001101 21009312	(MUF				
21500263 CAL 5	2ETA STP-RTF.02 (F) 2751F PRECEDES 21001101 21009312	(RPF				
29740202 CAL 5	25JE STP-FTF.03 (F) 27-44 PRECEDES 21001101 21009312	(RSX				
24010205 CAL 5	3EIE STP-FTF.02 (F) 22-89/81 PRECEDES 22028 21001101 21009212	(RRV				
25010217 CAL 5	2EAA STP-RTF.02 (F) 27276 PRECEDES 21001101 21009312	(RWG				
21160912 CAL 5	2BCA STP-FTF.03 (F) 27-28 PRECEDES 21001101 21059312 C-21 PEND. PROCEDURE APPROVAL & COMPLT.	(DHR PRELI				
23500413	2CCA STP-FTF.03 (F) 2737/19/62/68 PRECEDES 22028 21001101 21009312	(CCW				
24210355 CAL 5	2CAE STP-FTF.07 (F) 27-42/43 PRECEDES 21001101 21009312	(PTH				
21590723 CAL 5	2EFA STP-FTF.05 (F) 2729/30/53/56 PRECEDES 21001101 21009312	(RPS				
24500158 CAL 5	2CJA STP-SCH.01 SAFGRD EQ CHILL WTR PRECEDES 21060225 24509106 29410283	(SCH		X		
C 20060205	2ACA STP-TCS.02 INIT TURB ROLL PRECEDES 29060256 2 365205 23069225	(TGS 2CURB		X		
20460208 CAL 5	2ACF SAF-FWC.01 FW CHEM AND ACCEPT TEST PRECEDES 21060225 F-16 PEND. LOGIC CHANGE	(FWC		X		
20470208 CAL 5	2ACC SAF-FWC.01 FW CHEM AND ACCEPT TEST PRECEDES 21060225	(FWC				

CODE	DATE ACTIVITY	MODE=C	Prior to RCS Cold Hydro	Post RCS Cold Hydro Pre HFT	HFT	Post HFT Pre Fuel Load
ACTIVITY	**DESCRIPTION**					
26700213 CAL 5	2ECA CAP-ACW.01 TK2 ACID/CAUS WST ST PRECEDES 21600225 26700203	(ACW		X		
24550106 CAL 5	2ALE CAP-AHV.01 TENDON GALLERY HVAC PRECEDES 24559106	(AHV				X
C 24110105	2ECB CAP-AXT.01 FWP TURB NO LOAD TEST PRECEDES 20560205 24110106 24119105	(AXT		X		
22510105	2CG CAP-CAR.01 2CGA/B CNDSR EVAC ACCEPT PRECEDES 20169210 21000225 6-16 REDE. LOGIC CHANGE	(CAR		X		
C 20160817	2AEA CAP-CAR.01 VALVE LINEUP PRECEDES 20160813					
C 20160816	2AEA CAP-CAR.01 KEEP F/VACUUM TEST PRECEDES 20160817					
22250314 CAL 5	2AKA CAP-CDD.01 CONDENSATE DEMIN ACCEPT PRECEDES 20259204 21000225	(CDD		X		
20110116	2ALA CAP-CDS.01 CONDENSATE SYS ACCEPT PRECEDES 20119106 21000225	(CDS		X		
22150104 CAL 5	2ADE CAP-CDS.02 HOTWELL SAMP ACCEPT PRECEDES 20159104 21000225 6-16 REDE. TP AVAILABILITY	(CDS		X		
24200101 CAL 5	2EPA CAP-CHW.01 TURB BLDG CHILL WTR TEST PRECEDES 21000225 24369108	(CHW		X		
28890105 CAL 5	2CHA CAP-CPS.01 CATHODIC PROT ACCEPT PRECEDES 28809105	(CPS		X		X
C 23010408 CAL 5	2LAA CAP-CWS.01 CIRC WATER SYSTEM ACCEPT PRECEDES 23013418			X		
22450108	2CKA CAP-EHC.01 MN TURB EHC ACCEPT PRECEDES 22450108 22459108	(EHC		X		
C 22180111 CAL 5	2CFF CAP-FLO.01 FWPT LUBE OIL ACCEPT PRECEDES 22189111 24110103	(LOS		X		
20160208 CAL 5	2AE CAP-FWS.01 CNDSATE/FW RECIRC ACCEPT PRECEDES 20169208 21050126 29410293	(FWS		X		
22100154 CAL 5	2CCA CAP-GGS.01 GENERATOR GAS SYS ACCEPT PRECEDES 20260106 21000225 22109104	(GGS	X			

CODE 2 UNIT 2 ACTIVITY

ACTIVITY	DESCRIPTION	NOTE=C	PRIOR TO RCS COLD HYDRO	POST RCS COLD HYDRO PRE HFT	HFT	POST HFT PRE FUEL LOAD
22106107 CAL 5	2CCA 2AP-CGS.01 GEN AIR DROP TEST PRECEDES 22100104 22105103 6-16 PRELIMINARY AIR TEST IN PROGRESS	(GGS	X			
22150119 CAL 5	2CDA 2AP-CSO.01 HYDROGEN SEAL OIL ACCEPT PRECEDES 21000225 22100103 22159119 6-16 TEMP. TE AVAILABILITY	(GSO	X			
C 22010108 CAL 5	2CAA 2AP-GSS.01 STEAM SEAL SYS ACCEPT PRECEDES 22000106 21000225 22019108	(GSS	X			
20210104 CAL 5	2AF2 2AP-HVD.02 LP HTR DRAS/VNTS/LVL CTL PRECEDES 20219104 21000127	(HVD		X		
C 24450210 CAL 5	2CE 2AP-HVT.01 TURB BLDG HVAC ACCEPT PRECEDES 7025 21000130 21000230 24459	(HVT		X		
24450105 CAL 5	2CEA 2AP-HVT.01 TURB BLD HVAC TEST PRECEDES 21000225 24459105	(HVT				
C 26000107	2EAA 2AP-MGS.01 MN GENER/EXCIT PRECEDES 26000106 26809107	(MGS		X		
26010104 CAL 5	2MAF 2AP-MGS.02 ISO-PHASE BUS COOL ACCEPT PRECEDES 20000206 21000225 26019104	(MGS		X		
C 26030108	2MAL 2AP-MGS.03 MN & STA XFMRS ACCEPT PRECEDES 26000206 21000225 26039108	(MGS		X		
C 20010508	2ALA-2 2AP-FCS.03 HEATUP MS LINE TO XFER PRECEDES 21010500 20519221	(MSS		X		
22290109 CAL 5	2CEA 2AP-SCS.01 STATOR COOLING ACCEPT PRECEDES 21000225, 22299109	(SCS		X		
25010104 CAL 5	2RCA 2AP-SPS.01 STM PLANT SMPLNG TEST PRECEDES 21000225 25019104	(SPS		X		
20080105	2ACC 2AP-TGS.01 MSR HTR TEST PRECEDES 20089105 21000129	(TGS		X		
22050119 CAL 5	2CB 2AP-TGS.03 CEA/CEC MN TUR L.O. PRECEDES 20000106 21000225 22059119 ** CFF.17 COUPLED SYSTEM ** 6-22 TEMP. TE AVAILABILITY	(MLO	X			

**** REVISION 1? **** CONSUMERS POWER CO

REP DATE [illegible] PLANNING SCHEDULE PROJECT START [illegible]

PROJECT TOTAL1 MIDLAND PLANT UNITS 1 AND 2

CODE 2 [illegible] ACTIVITY

ACTIVITY	DESCRIPTION	MODE=C	PRIOR TO RCS COLD HYDRO	POST RCS COLD HYDRO PRE HFT	HFT	POST HFT PRE FUEL LOAD
34[illegible]0112 CAL 5	[illegible] STP AHV.?1 FH AREA HVAC PRE-OP PRECEDES 34[illegible]112	(AHV				X
35170104	[illegible] STP LWS.?1 LIQ WST SYS PRE-OP PRECEDES 21[illegible]012P 35170104			X		
33200112 CAL 5	[illegible] STP SWS.?? [illegible] VORTEX PREOP PRECEDES 33[illegible]112	(SWS				X
34559108 CAL 5	[illegible] STP AHV. 2 AUX BLDG HVAC PRE-OP PRECEDES 21[illegible]0127 34559108	(AHV				X
34620109 CAL 5	[illegible] STP AHV.?3 CNTL RM HVAC PRE-OP PRECEDES 21[illegible]0127 34620109	(AHV				X
34[illegible]0127 CAL 5	[illegible] STP AHV.?4 ACCESS CNTL/CMPTR AREA PRECEDES 34[illegible]0127	(AHV				X
35?60110 CAL 5	[illegible] STP BRS.?2 PRE-OP PRECEDES 21[illegible]0225 35419105	(BRS				
35470109 CAL 5	[illegible] STP BRS.?2 PRE-OP (POST RESV LOAD) PRECEDES 11[illegible]0225 21[illegible]0225 35419105	(BRS				
35?60105 CAL 5	[illegible] STP BRS.?2 FILL [illegible] W/DEMIN WTR PRECEDES 35?60104 35419105	(BRS				
35419105 CAL 5	[illegible] STP BRS. 2 PRE-OP PRECEDES 35410106, 35419105	(BRS				
C 35350106 CAL 5	[illegible] STP BRS.?2 BRS PRE-OP PRECEDES 21[illegible]0225 294[illegible]03 35419105	(BRS				
35430105 CAL 5	[illegible] STP BRS. 2 PRE-OP PRECEDES 35419105 35430106	(BRS				
C 35380105 CAL 5	[illegible] STP BRS.?2 PRE-OP (DEGASIFIERS) PRECEDES 11[illegible]0225 21[illegible]0225 35419105	(BRS				
35?0[illegible]104 CAL 5	[illegible] STP BRS.?2 PRE-OP PRECEDES 11[illegible]0225 21[illegible]0225 35419105	(BRS				
35460114 CAL 5	[illegible] STP BRS.?2 EVAPORATOR PRECEDES 21[illegible]0225 35419105	(BRS				

CODE 2 - COMPLETE ACTIVITY / ACTIVITY DESCRIPTION	PRIOR TO RCS COLD HYDRO	POST RCS COLD HYDRO PRE HFT	HFT	POST HFT PRE FUEL LOAD
25410155 [illegible] STP-ERS.02 PRE-OP (LOSS RESID LOAD) (ERS CAL 5 PRECEDES 11900225 21900225 25419105		X		
25420107 [illegible] STP ERS.02 PRE-OP (ERS CAL 5 PRECEDES 25419105 25420108				
25379105 [illegible] STP ERS.02 PRE-OP (ERS CAL 5 PRECEDES 35370106 35380109 35419105				
C 35350306 [illegible] STP-ERS.03 BORON CIRL TEST RCS532F (ERS PRECEDES 21 [illegible]			X	
36460105 [illegible] STP-CHE.01 AUX BLDG CRANE PREOP (CHE CAL 5 PRECEDES 36469105				X
23220153 [illegible] STP-EPE.01 EMER COOL POND PRE-OP (EPE CAL 5 PRECEDES 23229103 10-8 FINAL PROCEDURE COMPLETED 10/83				X
38720104 [illegible] STP-EML.01 CNTL ROOM EMER LIGHTS (EML CAL 5 PRECEDES 38729104				X
29720106 [illegible] STP-FSA.16 HAZ GAS MONT SYS PREOP (HGM CAL 5 PRECEDES 39729106				X
36320103 [illegible] STP-FHS.01 NEW FUEL ELEVATOR PRE-OP (FHS CAL 5 PRECEDES 33460119 36329103 1. [illegible] - AUX BLDG CRANE AVAILABLE PART TIME	X			
36340295 [illegible] STP-FHS.02 AFEH BRIDGE (DRY IND) (FHS CAL 5 PRECEDES 33460119 22830104 36341001 36369	X			
36150157 [illegible] STP-FPS.01 FIRE WTR SUPPLY & DIST (FPS CAL 5 PRECEDES 36159107				X
36180104 [illegible] STP-FPS.02 FIRE PROT PRE-OP (FPS CAL 5 PRECEDES 21900225 36169104 3-2 FINE PROCEDURE APPROVAL ECD-6/83		X		
36170106 [illegible] STP-FPS.03 FIRE PROTECTION PREOP (FPS CAL 5 PRECEDES 36179106				X
36160106 [illegible] STP-FPS.04 XFMR DELUGE PREOP (FPS CAL 5 PRECEDES 36169106				X
35200105 [illegible] STP-LWS.02 SEAL WATER SYS PREOP (LWS CAL 5 PRECEDES 35170104 35209105		X		X
32700107 [illegible] STP-HHV.03 SER WTR STRUCT HVAC PREOP (HHV CAL 5 PRECEDES 327[illegible]107				X

CODE [illegible] ACTIVITY

ACTIVITY	DESCRIPTION	HOLE=C	PRIOR TO RCS COLD HYDRO	POST RCS COLD HYDRO PRE HFT	HFT	POST HFT PRE FUEL LOAD
38850104 CAL 5	3CEA CIP-FAS.02 INTERNAL COMMUNICATIONS PRECEDES 38839104	(FAS				X
38820163 CAL 5	3GEC CIP-FAS.03 SOUND POWERED PHONES PRECEDES 38819163	(FAS				X
38810104 CAL 5	3GEC CIP-FAS.04 RADIO COMM PRE-OP PRECEDES 38815104	(FAS				X
38750104 CAL 5	3CEA CIP-PBX.01 EXTERNAL COMMUNICATIONS PRECEDES 38759104	(PBX				X
39560104 CAL 5	3GEA CIP-FIP.01 ROOM WATER LVL MON SYS PRECEDES 39559104	(FIP				X
31250109	3GEA CIP-PMW.01 PRIM WTR STOR/TRANSF PRECEDES 29410203 31359109 3.0 FINAL CPLT OF FLUSH-FCC 15/87	(PMW				X
39810105 CAL 5	3SEE CIP-PSR.01 PROCS STM RAD MON PRECEDES 39820155 39819105	(PSR				X
C 30550156	CATE CIP-FSS.XX MODE 1 INTEG. OPS & 50% PRECEDES 30550157	(FSS				> Fuel Load
C 34630145	3TAE CIP-FST.03 EVAP FLDG PIPE THERM EXP PRECEDES 34670219 34039219	(HAS	X			
39560138	3SGB CIP-RAM.01 AREA RAD MONT (NSR) PRECEDES 39569201 39599105	(RAM				X
39570155	3SEC CIP-RAM.01 AREA RAD MON (NSR) PRECEDES 39569201 39593105	(RAM				
39580164	3SEC CIP-RAM.01 AREA RAD MON (NSR) PRECEDES 39569201 39593105	(RAM				
39560109	3SBE CIP-RAM.02 1-E AREA RAD MONT PRE-OP PRECEDES 19410203 29410233 39569302 39590	(RAM				X
39560115 CAL 5	3SGE CIP-RAM.03 CTMT HI RANGE RAD MONT PRECEDES 29569223 39590105	(RAM				X
39570106	3SEC CIP-RAM.04 LIQUID RAD MONT PRE-OP PRECEDES 39569305 39590105	(RAM				X
39560111 CAL 5	3SEE CIP-RAM.05 LIQUID RAD MONT PRE-OP PRECEDES 39569305 39593105	(RAM				

PRIOR TO RCS COLD HYDRO	POST RCS COLD HYDRO PRE HFT	HFT	POST HFT PRE FUEL LOAD
X (P)	X (P)		X (P)
	X		
	X		
	X (P)		X (P)
			X
			X
			X
			X

CCDE ... ACTIVITY

ACTIVITY	DESCRIPTION	PROCESC.	PRIOR TO RCS COLD HYDRO	POST RCS COLD HYDRO PRE HFT	HFT	POST HFT PRE FUEL LOAD
C 39150107	PKGG STP-SEC.01 SECURITY SYS PRE-OP PRECEDES 21050142 39109106 39199107	SEC				X
39730104 CAL 5	OSCA STP-SIS.01 SEISMIC TEST SYS PRE-OP PRECEDES 35700114	SIS				X
C 33270111 CAL 5	CEAA STP-SWS.01 SW PREOP PRECEDES 19410203 21000137 29410203 33300 33316111	SWS				X
33120106 CAL 5	CFCA STP-SWS.02 SCR WATER TRAV SCRN PREOP	SWS				X
	PRECEDES 21000127 33120106					
37450124 CAL 5	CECA STP-FPC.01 DRAIN SPENT FUEL POOL PRECEDES 21000401 27410122	FPC				
33430122 CAL 5	CECA STP-FPC.01 PREOP TEST PRECEDES 11000112 11100113 19410203 33409122	FPC 32400	X (P)			X (P)
28520107 CAL 5	CGKA STP-FDA.01 FIRE DET & ALARM PREOP PRECEDES 28529107	FDA				X
26360102 CAL 5	CHEC STP-FHS.0 WET FH TEST (SEE SIDE) PRECEDES 21000112 36361102	FHS	X			
C 33400121 CAL 5	CECA STP-FPC.01 PREOP TEST PRECEDES 21000112 21100110 29410203 33400 334 9121	FPC	X			
36150105 CAL 5	GKCC STP-FPS.01 CO2 FIRE P T PRE-OP PRECEDES 26159104	FPS				X
28570104 CAL 5	CGKA STP-ALS.01 NORM & ESS LITING PRE-OP PRECEDES 28509104	ALS				X
31390503	HPLA STP-RTP.03 2241 (See p. 10) ... PRECEDES 22028 11001101 21001101 21009 6-21 PLFF. PROCEDURE APPROVAL & COMPLT. PRELT					
36700103 CAL 5	CECA CAL-ACW.01 FV PLL AC/CAUS WST SUMP PRECEDES 21000025 36709103	ACW		X		
34010125 CAL 5	CFAA CAP-AXB.01 AUX BLR ACCEPT F/DE-16A PRECEDES 34010124 34019125	AXB				X
34010126 CAL 5	CFAA CAP-AXB.02 AUX BLR ACCEPT F/DE-16B PRECEDES 34010127	AXB				

CODE 2 CRITICAL ACTIVITY

ACTIVITY	DESCRIPTION (NOTE=C)	PRIOR TO RCS COLD HYDRO	POST RCS COLD HYDRO PRE. HFT	HFT	POST HFT PRE FUEL LOAD
34010127 CAL 5	WEAA CAP-AXL.2 AUX FLR INTEG ACCEPT TEST PRECEDES 34010128 34019126		X		X
26470104 CAL 5	PREC CAP-CHE.01 TURBINE BLDG CRANE ACCEPT (CHL SINK ACTIVITY				X
34312109 CAL 5	OGPP CAP-CHC.2 OFF BLDG CHILL WTR (CHW PRECEDES 34319109				X
34326108 CAL 5	GCEC CAP-CHW.2 AUX BLDG CHILL WTR ACCEPT (CHW PRECEDES 21000225 34329108		X		
33210105 CAL 5	PCCE CAP-CPB.01 POND BLWDN/MAKEUP ACCEPT (CPB PRECEDES 21000225 33219105		X		
33290110 CAL 5	DEEA CAP-CPB.1 POND BLPDN/MAKEUP ACCEPT (CPB PRECEDES 33290117 33219105				
39310213 CAL 5	PRJA CAP-CPT.2 COMPUTER PREOP TEST (CPT PRECEDES 21000225 39309213		X		
33150267 CAL 5	CEPA CAP-CWI.1 CIRC WTR CHEM INJECT TEST (CWI PRECEDES 33159267				X
33160266 CAL 5	PEDE CAP-CWI.01 CIRC WTR CHEM INJECT TEST (CWI PRECEDES 33159267		X		
30250110 CAL 5	GENA CAP-DMD.01 MAKEUP DEMIN SYS ACCEPT (MUD PRECEDES 21000225 30259119 1-25 FIELD CERT OF TOE*3(CSO)-ECD _____ 1-25 FEND DOCUMENTATION REVIEW-ECD _____		X		
30360109	SAAP CAP-DMS.02 DEMIN WTR STO/XFER ACCEPT (DMW PRECEDES 21000225 30369109		X		
36270104 CAL 5	GNDE CAP-DWS.01 DOMESTIC WATER ACCEPT (DWS PRECEDES 21000225 36279104 51410001 52200 52200002 54210001		X		
36330103 CAL 5	UKEE CAP-FHS.03 FUEL INSP SYS DRY ACCEPT (FHS PRECEDES 33490119 36321402 36339103	X			
32450119 CAL 5	GAEA CAP-FWC.1 FW CHEM ADD ACCEPT (FWC PRECEDES 21006225		X		
34630505 CAL 5	PEAP CAP-HAF.01 GAS LEAK DETECT ACCEPT (HAS PRECEDES 34630506 34639505				X
34030140 CAL 5	PEAB CAP-HAS.03 HP AUX BLR INIT STARTUP (HAS PRECEDES 24030212 24039140		X		

CODE 5 CUSTOM ACTIVITY

ACTIVITY	DESCRIPTION (FOLE=C)	PRIOR TO RCS COLD HYDRO	POST RCS COLD HYDRO PRE HFT	HFT	POST HFT PRE FUEL LOAD
34030207 CAL 5	0EAE CAP-FAS.04 GAS SUPPLY AIR TEST PRECEDES 34039207				X
34020142 CAL 5	0EAE CAP-FAS.05 HP AUX BLR COMPSTN LP TST(HAS PRECEDES 34020143 34030145 34020214 34030. 34030217 34030218 34035221 3403?	X			
34020213 CAL 5	0EAE CAP-FAS.06 SLEV LEAK TEST FEEDWTR (HAS PRECEDES 34020143 34039213				X
34020217 CAL 5	0EAE CAP-FAS.07 LEAK TEST MAIN STEAM (HAS PRECEDES 34030143 34039217				X
34030222	0EAE CAP-FAS.06 LEAK TEST LP/HP STM HDR PRECEDES 21010242 34035219 34039223 6-5 REQD. BOILER AVAILABLE	X			
34020221 CAL 5	0EAE CAP-FAS.09 INVENTORY CNTL LEAK TEST HAS PRECEDES 34030143 34039221				X
34030703 CAL 5	0EAE CAP-FAS.11 FWD DRUM HTG SYS TEST (HAS PRECEDES 34030143 34039703 5-5 REQD. STEAM SUPPLY				X
34030803 CAL 5	0EAE CAP-FAS.12 E? SUPPLY TEST (HAS PRECEDES 34020143 34039803 6-14 REQD. COMPLETION OF CONSTRUCTION				X
34030214 CAL 5	0EAE CAP-FAS.14 LEAK TEST CONDENSATE (HAS PRECEDES 34030143 34039214				X
34030222 CAL 5	0EAE CAP-FAS.14 COND TO DA SER LEAK TEST PRECEDES 34030143				X
35501034 CAL 5	0EEA CAP-LDW.01 LAUNDRY WASTE ACCEPT (LDW PRECEDES 35509134				X
36550108 CAL 5	0EEA CAP-MGN.01 MISC GAS/N2 SUPPLY ACCEPT(MGN PRECEDES 21050128 36559108 2-10 REQD CERT OF DCP'S,TOE'S & C/O-ECD _____ *** NEED RESTRAINT INFO ***		X		
34410187 CAL 5	0ED CAP-MHV.01 CPR-L MISC BLDG HVAC (MHV PRECEDES 21050225 34419187		X		
34420105 CAL 5	0EDA CAP-MHV.02 PROCS EVAP BLDG HVAC (MHV PRECEDES 34429105				X
32710107 CAL 5	0EDP CAP-MHV.02 HP CALIB FAC HVAC ACCEPT(MHV PRECEDES 32719107				X

CODE 2 CREDIT ACTIVITY

ACTIVITY	DESCRIPTION	MODE=C	PRIOR TO RCS COLD HYDRO	POST RCS COLD HYDRO PRE HFT	HFT	POST HFT PRE FUEL LOAD
22732105 CAL 5	CODE CAP-HHV. 6 FLAP CSL STOR HVAC PRECEDES 21460225 22729105 5-16 PEND PROCEDURE APPROVAL-ECN 7293	(HHV		X		
22729108 CAL 5	CODE CAP-HHV. 5 LOAD CEN TURB ROOF HVAC PRECEDES 21460225 22729108			X		
C 30556105 CAL 5	DATE CAP-ESS. 1 INTERLOCK & CONT. TEST PRECEDES 30555105 30552193	(ESS	X (P)			X (P)
31540711 CAL 5	DATE CAP ESS.-1 ESS INTERLCK & CTRL CHK PRECEDES 30540212 30519103	(ESS				X
30620201 CAL 5	DATE CAP ESS. 2 HP & LP MAG FILTER ACCEPT	(ESS PRECEDES 30626105 30629201					X
C 30510420	DATA CAP-ESS.-2 SET LP STM HDR HANGERS PRECEDES 30510409 30519-21 3-8 ENGG. HANGER REDESIGN 5-15 PEND. T/C 2ABA,2AFA (ECB-8783)	(ESS	X (P)	X (P)		
20510221 CAL 5	DATA CAP-ESS.-3 F.04 HANGER CHECK COLD PRECEDES 20515111 21519221 30519222 6-22 ENG. TE SUPPORT & PROCEDURE APPROVAL	(ESS				
C 30510415	DATA CAP ESS.13 HTUP MN STM-XFER VLVS PRECEDES 30510416 20519221 3-8 ENG. HANGER REDESIGN 5-15 PENDING T/D 2ABA	(ESS				
30520406	DATE CAP ESS. 3 HP/LP LINE INIT HEATUP PRECEDES 30515221 30520105	(ESS				
C 30510417	DATA CAP-ESS.-3 SET MN STM HANGERS PRECEDES 30510416 30519221 3-8 ENG. HANGER REDESIGN 5-15 PENDING T/C 2ABA & 2AFA	(ESS				
C 30510418	DATA CAP ESS. 3 HTUP LP STEAM TO TURB PRECEDES 30510419 30519221 3-8 ENG. HANGER REDESIGN 5-15 PENDING T/C 2ABA & 2AFA	(ESS				
C 30510111	DATA CAP ESS.-3 HTUP HP STM LINE TO ISO PRECEDES 30510210 30519405 30519221	(ESS				
30550177	DATE CAP-ESS.-7 RECIRC SYS LP COOLDOWN PRECEDES 30550179 30550177	(ESS				

CODE ... ACTIVITY

NOTE=C

ACTIVITY	DESCRIPTION	NOTE=C	PRIOR TO RCS COLD HYDRO	POST RCS COLD HYDRO PRE HFT	HFT	POST HFT PRE FUEL LOAD
30540714	DATE CAP-ESS.7 HP EVAP RECRC SYS C/D PRECEDES 30540717 30559177	(PSS				X
30542113	DATE CAP-ESS.7 HP EVAP 1 COOLDOWN & INS PRECEDES 30546114 30559177	(PSS				
30540217	DATE CAP-ESS.8 HP DEPR/RECOV PHASE 1 PRECEDES 30540218 30540217					X
30540218	DATE CAP-ESS.8 HP DEPR/RECOV PHASE 2 PRECEDES 30540418 30540217					
30550170	DATE CAP-ESS.9 LP DEPR/RECOV PHASE 1 PRECEDES 30550103 30559176					X
30550103	DATE CAP-ESS.9 LP DEPR/RECOV PHASE 2 PRECEDES 30550418 30559176					
30550572	DATE CAP-ESS.10 LP STM HDR SET HGRS HOT PRECEDES 30550139 30559169	(PSS				X
30550169 CAL 5	DATE CAP-ESS.10 HANGER CHECK COLD PRECEDES 30550105 30559169 6-16 REQD. TE AVAILABILITY 6-30 REND PROCEDURE APPVL-ECD 7/82	(PSS				
30550127	DATE CAP-ESS.10 LEAK TEST THY STEAM LINES PRECEDES 30550108 30559169	(PSS				
30540116 CAL 5	DATE CAP-ESS.11 HANGER CHECK COLD PRECEDES 30540202 30549116	(PSS:				X
30540701	DATE CAP-ESS.11 LEW HP STM HTUP TO VALVE PRECEDES 30540705, 30549116	(PSS:				
30540108	DATE CAP-ESS.11 LEAK TEST PRECEDES 30546139 30549116	(PSS:				
30540715	DATE CAP-ESS.11 HP TEST STM HGR SET COT PRECEDES 30540717 30549116	(PSS:				
30550112	DATE CAP-ESS.12 LP EVAP B POWER RUN UP PRECEDES 30550113 30550212 30550412	(PSS1 3:559:				
30550129	DATE CAP-ESS.12 LP EVAP A POWER RUN UP PRECEDES 30550130 30559105	(PSS1				
30550113	DATE CAP-ESS.12 LP EVAP C HEATUP PRECEDES 30550114 30551507 30510598 30510862 30559105	(PSS1 3:5505				

CALC [illegible] CALCULATION ACTIVITY

ACTIVITY	DESCRIPTION	NOTE=C
30550114	DATE CAL-ESS.12 LP EVAP D HEATUP	CESS
	PRECEDES 30550117 30550510 30550511	30550
	30550514 30559105	
30550120	DATE CAL-ESS.12 LP EVAP A POWER PLN UP	CESS
	PRECEDES 30550127 30550228 30550430	30559
30550122	DATE CAL-ESS.12 LP EVAP A HEATUP	CESS
	PRECEDES 30550123 30550516 30550517	30550
	30550604 30559105	
30550126	DATE CAL-ESS.12 LP EVAP B POWER PLN UP	CESS
	PRECEDES 30550121 30550224 30550430	30559
30550134	DATE CAL-ESS.12 LP EVAP J POWER PLN UP	CESS
	PRECEDES 30550134 30550224 30550435	30559
30550111	DATE CAL-ESS.12 LP EVAP B HEATUP	CESS
	PRECEDES 30550111 30550504 30550505	30550
	30550602 30559105	
30550124	DATE CAL-ESS.12 LP EVAP B POWER PLN UP	CESS
	PRECEDES 30550125 30550220 30550424	30559
30550121	DATE CAL-ESS.12 LP EVAP C POWER PLN UP	CESS
	PRECEDES 30550122 30550218 30550421	30559
C 30550135	DATE CAL-ESS.12 LP EVAP L HEATUP	CESS
	PRECEDES 30550104 30550170 30550171	30550
	30550601 30559105 30630142	30630
30550131	DATE CAL-ESS.12 LP EVAP J HEATUP	CESS
	PRECEDES 30550132 30550525 30550526	30550
	30550629 30559105	
30550118	DATE CAL-ESS.12 LP EVAP I POWER PLN UP	CESS
	PRECEDES 30550119 30550216 30550418	30559
30550115	DATE CAL-ESS.12 LP EVAP C POWER PLN UP	CESS
	PRECEDES 30550116 30550214 30550415	30559
30550127	DATE CAL-ESS.12 LP EVAP G POWER PLN UP	CESS
	PRECEDES 30550127 30550222 30550427	30559
30550128	DATE CAL-ESS.12 LP EVAP H HEATUP	CESS
	PRECEDES 30550129 30550522 30550523	30550
	30559105	
30550119	DATE CAL-ESS.12 LP EVAP I POWER PLN UP	CESS
	PRECEDES 30550117 30550210 30550409	30559

PRIOR TO RCS COLD HYDRO	POST RCS COLD HYDRO PRE HFT	HFT	POST HFT PRE FUEL LOAD

CODE [illegible] ACTIVITY

ACTIVITY	DESCRIPTION	RESP	PRIOR TO RCS COLD HYDRO	POST RCS COLD HYDRO PRE HFT	HFT	POST HFT PRE FUEL LOAD
305501[illegible]	DATE CAP-ESS.12 EF EVAP F HEATUP PRECEDES 3[illegible] 305[illegible]12 30[illegible]0514 30550 3055[illegible] 3055915[illegible]	CPSS				
3055[illegible]	DATE CAP-ESS.12 EF EVAP G HEATUP PRECEDES 3[illegible]0126 30550519 30550521 31550 3[illegible]0807 3055[illegible]155	CPSS				
30549[illegible]	DATE CAP-ESS.13 EF EVAP D HEATUP PRECEDES 305401[illegible]7 30540503 30540701 31540 305491[illegible]	CPSS				
3054071[illegible]	DATE CAP-ESS.13 THERMAL PERFORM BASELNE PRECEDES 3054071[illegible] 30549106	CPSS				
3054071[illegible]	DATE CAP-ESS.13 THERMAL PERFORM BASELNE PRECEDES 3054071[illegible] 30549106	CPSS				
3054011[illegible]	DATE CAP-ESS.13 EF EVAP A HEAT-UP PRECEDES 305401[illegible]1 30540504 3054915[illegible]	CPSS				
305401[illegible]	DATE CAP-ESS.13 EF EVAP B POWER RUNUP PRECEDES 305402[illegible]1 30540313 30549106	CPSS				
3055052[illegible]	DATE CAP-ESS.14 "K" EVAP BOILOUT PRECEDES 3055013[illegible] 30559171	CPSS				
3055051[illegible]	DATE CAP-ESS.14 "L" EVAP BOILOUT PRECEDES 3055011[illegible] 30559171	CPSS				
3055052[illegible]	DATE CAP-ESS.14 "J" EVAP BOILOUT PRECEDES 30550132 30559171	CPSS				
30550514	DATE CAP-ESS.14 "F" EVAP BOILOUT PRECEDES 305501[illegible]1 30559171	CPSS				
3055050[illegible]	DATE CAP-ESS.14 "C" EVAP BOILOUT PRECEDES 30550115 30559171	CPSS				
305505[illegible]	DATE CAP-ESS.14 "G" EVAP BOILOUT PRECEDES 305501[illegible]7 30559171	CPSS				
3055052[illegible]	DATE CAP-ESS.14 "H" EVAP BOILOUT PRECEDES 305501[illegible] 30559171	CPSS				
3055051[illegible]	DATE CAP-ESS.14 "D" EVAP BOILOUT PRECEDES 30550112 30559171	CPSS				
30559171	DATE CAP-ESS.14 "I" EVAP BOILOUT PRECEDES 305501[illegible] 30559171	CPSS				

CODE X CHECKED ACTIVITY

ACTIVITY	DESCRIPTION	ROLE=C	PRIOR TO RCS COLD HYDRO	POST RCS COLD HYDRO PRE HFT	HFT	POST HFT PRE FUEL LOAD
30550516	GATE CAP-FSS.14 "F" EVAP BOILOUT PRECEDES 30550124 30559171	CPSS				
30550532	GATE CAP-FSS.14 "A" EVAP BOILOUT PRECEDES 30550130 30559171	CPS.				
30540215	GATE CAP-FSS.16 SPP COOLING TEST PRECEDES 30540217 30549215	CPSS				X
30550172	GATE CAP-FSS.17 LF SUBCOOL/2 PHASE FLOW PRECEDES 30550174 30559173	CPSS				X
30540710	GATE CAP-FSS.18 TUBE INTEG EXPER LEAKER ID PRECEDES 30540113	CPSS	X (1)			X (1)
30550178	GATE CAP-FSS.18 TUBE INTEG EXPER LKR ID PRECEDES 30540702 30550143 30559178	CPSS				
C 30550178 C/L	GATE CAP-FSS.1F LF EVAP TUBE INTEG CHECK PRECEDES [illegible] 30559178	CPSS				
30540715	GATE CAP-FSS.19 HF THX STM QUAL "A" EVAP PRECEDES 30540115 30549119	CPSS				X
30540119	GATE CAP-FSS.19 HF THX STM QUAL "B" EVAP PRECEDES 30540201 30540703 30549119	CPSS				X
30550515	GATE CAP-FSS.20 "E" EVAP QUALITY CHECK PRECEDES 30550218 30559179	CPSS				
30550519	GATE CAP-FSS.20 "F" EVAP QUALITY CHECK PRECEDES 30550220 30559170	CPSS				
30550522	GATE CAP-FSS.20 "H" EVAP QUALITY CHECK PRECEDES 30550224 30559170	CPSS				
30550509	GATE CAP-FSS.20 "C" EVAP QUALITY CHECK PRECEDES 30550214 30559170	CPSS				
30550507	GATE CAP-FSS.20 "J" EVAP QUALITY CHECK PRECEDES 30550226 30559170	CPSS				
30550517	GATE CAP-FSS.20 "I" EVAP QUALITY CHECK PRECEDES 30550228 30559170	CPSS				
30550505	GATE CAP-FSS.20 LF STM QUALITY "E" EVAP PRECEDES 30550212 30559179	CPSS				
30550511	GATE CAP-FSS.20 "E" EVAP QUALITY CHECK PRECEDES 30550216 30559170	CPSS				

CODE ACTIVITY	DESCRIPTION	ROLL=C	PRIOR TO RCS COLD HYDRO	POST RCS COLD HYDRO PRE HFT	HFT	POST HFT PRE FUEL LOAD
30[illegible]	DATE CAP-ESS.[illegible] "E" EVAP QUALITY CHECK PRECEDES 30[illegible] 30559170	(PSS				
30[illegible]05[illegible]	DATE CAP-ESS.[illegible] "A" EVAP QUALITY CHECK PRECEDES 30[illegible]0140 30559170	(PSS				
30[illegible]017	DATE CAP-ESS.[illegible] LP IDX STM QUAL"L" EVAP PRECEDES 30[illegible]0210 30559170	(PSS				
30610218 CAL	DATE CAP-ESS.[illegible] HP FD PMP HEAD CURVE PRECEDES 30[illegible]10111 30619208 [illegible] HP FEEDPUMP [illegible]	(PSS				
30610219 CAL	DATE CAP-ESS.[illegible] LP PMP HEAD CURVE PRECEDES 30610111 30619209 [illegible] REPAIR 45A FEEDPUMP (ECD 6/83)	(PSS				X
C 30[illegible] CAL	DATE CAP-ESS.[illegible] VACUUM PUMP PERFORMANCE PRECEDES 30[illegible] 30[illegible] [illegible] RECEIPT OF PARTS (ETA 9/83)	(PSS				X
30540[illegible]	DATE CAP-ESS.[illegible] HP VNT STA/DUMP VLV ACC PRECEDES 30540213 30549105	(PSS				X
C 30[illegible]101[illegible]7	DATA CAP-ESS.[illegible] EFW PMP 1 TE-2029.0 PRECEDES 30[illegible]105[illegible] 30519107	(PSS	X			
30550123	DATE CAP-ESS.[illegible] LP EVAP F REL VLVE TEST PRECEDES 30[illegible]910[illegible] 30550129	(PSS				
30550124	DATE CAP-ESS.[illegible] LP EVAP H REL VLVE TEST PRECEDES 30[illegible]9108 30550130	(PSS				
30550122	DATE CAP-ESS.[illegible] LP EVAP J REL VLVE TEST PRECEDES 30519108 30550133	(PSS				
30550126	DATE CAP-ESS.[illegible] LP EVAP A REL VLVE TEST PRECEDES 30519108 30550139	(PSS				
30550125	DATE CAP-ESS.[illegible] LP EVAP K REL VLVE TEST PRECEDES 30[illegible]910[illegible] 30550136	(PSS				
30550114	DATE CAP-ESS.[illegible] LP EVAP C REL VLVE TEST PRECEDES 30519108 30550115	(PSS				
C 30510[illegible]	DATA CAP-ESS.[illegible] RELIEF VALVE TESTING PRECEDES 30510107 30519108	(PSS				
30550108	DATE CAP-ESS.[illegible] RELIEF VALVE TEST PRECEDES 30519108 30550109	(PSS				

CEDE * CRTICN ACTIVITY

MORE=C

ACTIVITY	DESCRIPTION		Prior to RCS Cold Hydro	Post RCS Cold Hydro Pre HFT	HFT	Post HFT Pre Fuel Load
30550111	DATE CAP-FSS.26 LP EVAP H REL VLVE TEST PRECEDES 30519108 30550112	(PSS	X (P)			X (P)
30550125	DATE CAP-FSS.26 LP EVAP F REL VLVE TEST PRECEDES 30519114 30559121	(PSS				
30550117	DATE CAP-FSS.26 LP EVAP D REL VLVE TEST PRECEDES 30519108 30559118	(PSS				
30549107	DATE CAP-FSS.26 RELIEF VALVE TESTING PRECEDES 30519120 30540108	(PSS				
30540111	DATE CAP-FSS.26 HP EVAP A REL VLV TST PRECEDES 30519108 30540112	(PSS				
30550124	DATE CAP-FSS.26 LP EVAP G REL VLVE TEST PRECEDES 30519108 30559127	(PSS				
30540214	DATE CAP-FSS.27 HP EVAP PRESS OF NORMAL PRECEDES 30540215 30549214	(PSS				X
30550174	DATE CAP-FSS.28 LP EVAP PRESS OFF NORMAL PRECEDES 30559176 30559174	(PSS				X
30540411	DATE CAP-FSS.29 LOS OF FEEDWTR HP EVAPS PRECEDES 30540117 30559419					X
30550419	DATE CAP-FSS.29 LOS OF FEEDWTR LP EVAPS PRECEDES 30550177 30559410					
34120144	DEAE CAP-FST.01 HP BLR TEMP PPG EXAM CAL 5 PRECEDES 34129144	(HAS				X
34230104	DGA CAP-FTH.01 182GAJ AB ELEC HEAT CAL * PRECEDES 34239104 *** NEED DISCIPLINE RESTRAINT AND ECD ***	(PTH				X
34185113	DEAE CAP-FTH.02 MISC BLDG ELECTRIC ACCEPT CAL 5 PRECEDES 34150212 34189103 2-23 REMO CPLT OF PREF FOR CAP-PTH.02-ECD ___	(FTH		X		
34186111	DEAE CAP-FTH.04 HOT WATER HEATING ACCEPT CAL 5 PRECEDES 34189108	(FTH				\
35450111	GFCA CAP-RWD.01 AUX BLDG SUMPS ACCEPT CAL 5 PRECEDES 21 GP025 35459111	(RWD		X		
35270121	DECC CAP-RWS.01 DRY WASTE COMPACTOR CAL * PRECEDES 35270116 35279131					›

CODE [illegible] ACTIVITY

MODE=C

ACTIVITY	DESCRIPTION	PRIOR TO RCS COLD HYDRO	POST RCS COLD HYDRO PRE HFT	HFT	POST HFT PRE FUEL LOAD
3610611[illegible] CAL [illegible]	[illegible] AP-SAS.[illegible]1 TEST [illegible] SERVICE AIR ACCEPT(SAS PRECEDES 21[illegible]0225 36105116		X		
3435021[illegible] CAL [illegible]	PCCA [illegible]AP-SHV.[illegible]1 [illegible]/SERV BLDG HVAC TEST (SHV PRECEDES 21[illegible]0225 3435[illegible]202		X		
3655DP11	DATE CAP-SPS.02 BLD & SAMP ACCEPT A EVAP PRECEDES 30[illegible]0241 39029104				X
30[illegible]	DATE [illegible]AP-SPS.[illegible] BLD & SAMP ACCEPT C EVAP PRECEDES 30[illegible]0214 39029104				
3055DP[illegible]	DATE [illegible]AP-SPS.[illegible] BLD & SAMP ACCEPT J EVAP PRECEDES 3055022[illegible] 39029104				
30[illegible]0B[illegible]	DATE CAP-SPS.[illegible] BLD & SAMP ACCEPT H EVAP PRECEDES 30550224 39029104				
3055DB[illegible]7	DATE CAP-SPS.[illegible] BLD & SAMP ACCEPT G EVAP PRECEDES 3055022[illegible] 39029104				
305[illegible]DP[illegible]1 CAL [illegible]	DATE CAP-SPS.[illegible] BLD & SAMP ACCEPT L EVAP PRECEDES 3[illegible]0219 39029104				
39[illegible]29164 CAL [illegible]	[illegible] CAP-SPS.[illegible] STM PLANT SAMPLE ACCEPT (ESX PRECEDES [illegible] 39029104				
3055DB[illegible]2	DATE [illegible]AP-SPS.[illegible]2 BLD & SAMP ACCEPT B EVAP PRECEDES 30550212 39029104				
3055D8[illegible]4	DATE [illegible]AP-SPS.[illegible]2 BLD & SAMP ACCEPT D EVAP PRECEDES 30550216 39029104				
30[illegible]DB[illegible]6	DATE [illegible]AP-SPS.[illegible]2 BLD & SAMP ACCEPT F EVAP PRECEDES 30550220 39029104				
30[illegible]DB[illegible]5	DATE CAP-SPS.[illegible] BLD & SAMP ACCEPT E EVAP PRECEDES 30550218 39029104				
305[illegible]DB1[illegible]	DATE [illegible]AP-SPS.[illegible]2 BLD & SAMP ACCEPT K EVAP PRECEDES 3055022[illegible] 39029104				
3054D5[illegible]	DATE CAP-SPS.[illegible]2 BLDN&SAMP SYS B HP EVAP ACCEP PRECEDES 305402[illegible]1 39029104				
3654D5[illegible]	DATE CAP-SPS.02 BLWDN&SAMP SYS A HP EVAP ACCE PRECEDES 3[illegible]40113 39029104				
3[illegible]791[illegible] CAL [illegible]	[illegible] CAP-SUT.01 XFMR 0X03A ACCEPT PRECEDES 21[illegible]0225 3[illegible]79108		X		

FILE [illegible] ACTIVITY

ACTIVITY / DESCRIPTION (ROLE=C)	PRIOR TO RCS COLD HYDRO	POST RCS COLD HYDRO PRE HFT	HFT	POST HFT PRE FUEL LOAD
2[illegible]P [illegible] AF-[illegible] XENR [illegible] ACCEPT CAL [illegible] PRECEDES 21[illegible] 3[illegible]P0108 PERD. JACKSON RESPONSE		X		
3[illegible] [illegible] AF-[illegible] FILL [illegible] (UPW CAL [illegible] PRECEDES 31[illegible] 31[illegible]108 [illegible] 10 [illegible] [illegible]*S [illegible] IF CLP/INSUL)-ECD 10/83	X (P)	X (P)		
31[illegible] [illegible] AF-[illegible] UTIL [illegible] STOR/XFR (UPW CAL [illegible] PRECEDES 21[illegible] 31367108				
36756[illegible] [illegible] AF-WOS.[illegible] OILY WASTE ACCEPT (WOS CAL [illegible] PRECEDES 21[illegible] 3675[illegible]105 5870[illegible]001		X		
3[illegible] [illegible] AF-CSS.[illegible] [illegible] XFR (DAPA/BX2AR) (CSS CAL [illegible] PRECEDES 2[illegible] 3[illegible]419105 2-1[illegible] [illegible] CPLT OF C/O AND TOE*S-ECD _____		X		
3[illegible] [illegible] AF-PSS.11 SERV LK TST TO VALVE (PSS CAL [illegible] PRECEDES 3[illegible]1[illegible] 3[illegible]105				X

**** REVISION 17 **** CONSUMERS POWER CO

RPT DATE 17JUN82 1517HRS PLANNING SCHEDULE PROJECT START 1FEB78

PROJECT TOTAL1 MIDLAND PLANT UNITS 1 AND 2

CODE 4 TECHNICAL SUPPORT CENTER

ACTIVITY	DESCRIPTION	MOLE=C	PRIOR TO RCS COLD HYDRO	POST RCS COLD HYDRO PRE HFT	HFT	POST HFT PRE FUEL LOAD
45P2016H CAL 5	TSC.02 HVAC PRE-OP PRECEDES 21?C624? 45P29106	#TSC				

JJM

4/20&21/83

- MASTER Punch List Item effect on Schedule - CCP ~~to~~ Hopefully reduce turnover ~~total~~ items.

- Oct, 1984 Date - "Comprehensive Plan"

- Rework as dictated by CCP.

- T/O relation to actual:
  - Pre-op Test
  - Fuel Load

1. ENG/:

CONST:

2. Testing:
   Walkdown
   Turnover
   Pre-op Test
3. CCP - Inspect / Review / Verification

   Team - final Walkdown w/ QA - turnover "Test pro
4. IDCVP

5. Soils

6. Hanger - 45 days prior to HFT
   22 critical systems
   6 Large Bore to HFT

   MAR - 84 target Completed

added - <u>1 Month</u> - for Late start / Hold-up, etc

· Hangers - (CCP)-

- Rework -

· Previous inspection 82. 45% Nonconforming (NC

· NCR - 25% required rework. (800 Hangers)

· ~ 7300 Inspected MP040 (B&W may Insp some)
closed IR Hangers

· 54 people required to inspect

· CCP to pick-up remainer

· CCP- Closed IR's

·~139,000 - Closed IR's

· 20,000 - Previously Inspected (~~total~~ for rebuild

· ~ 9,000 - Cables

· ~ 7,300 Hangers
~ 13,000 PQCI combined to total

· ~ 8,500 - IRINS

30,000

· 110,000 balance
- 30,000 RT

- ~110,000

100 % basis to begin

- Acceptable Quality Level 95/95 by PQCI basis.
- ~ 25,000 Inspection to reach 95/95
- ~ 85,000 - 20 % failure = ~ 17,000
- 25,000
  17,000
  42,000 2.0 = 45,000 +
- 180,000 man-hours (5 hours/day) 250 inspector
- 139,000 total I.R.

* 75,000 - Total to be Inspected

- ~ 16,000 open IR's

** • Rework - CCD Total ?? (Time _____)

Cables

- 99% completed 9000 complete
  500 to-go

CCP- Approval

- S&W Approval
- Mgt. Review (audit)
- Pilot Team - QA/QC - field Eng. - Test Eng.
- Training
- Verification (status assessment) by Area (module)
  incomplete work
  Nonconforming
- To - Go work (area size 23)
  Nonconforming work
- Inspect
- WalkDown
  Turn-over
- Test / Pre-op Test
-

"D" System Turned over

- Decay (Partial) Heat Removal (Suction ONLY)
- Make-up - (H.P.I.) Purification (Partial) (Suction only)
- CCW - 1/2 (Partial)

- MASTER Punch List -
  contains:
  - Turn-over Exception (TOE - average 29 / sys.)
  - NRC
  - FCR
  - CAR

AFW - 7% Complete
95 Mech
75-80 Elect

IDCVP - walk-down Turn-over [II/I] *

BGC- Make-up

BGA- Decay Heat Removal -

EGA- CCW