Consumers Power Company

James W Cook
Vice President - Projects, Engineering and Construction

General Offices: 1945 West Parnall Road, Jackson, MI 49201 • (517) 788-0453

September 7, 1982

Harold R Denton, Director
Office of Nuclear Reactor Regulation
Division of Licensing
US Nuclear Regulatory Commission
Washington, DC 20555

MIDLAND NUCLEAR COGENERATION PLANT
MIDLAND DOCKET NOS 50-329, 50-330
RESPONSE TO OPEN ITEMS OF DRAFT SER
FILE 0485.16 SERIAL 19158

DRAFT

This letter summarizes Consumers Power Company's discussions with the NRC management regarding our mutual desire to implement a successful quality program for the Midland soils remedial work.

The 1980/1981 SALP Report, presented to Consumers in late April of this year, indicated that activities in the soils area should receive more inspection effort on the part of both the NRC and CP Co. Follow-up discussions with the NRR staff and Region III Inspectors led to the conclusion that the Quality Program and its definition was adequate; however, there was concern that certain aspects were not being or might not be satisfactorily implemented. This was corroborated by the fact that the majority of the NRCs recent inspection findings at the Midland Site were in the soils area.

oc0982-2607a102

Consumers Power has performed an in-depth review of all aspects of the implementation plans for the Midland Soils work activities. This review included the areas of design and construction requirements and plans, organization and personnel, project controls and management involvement. The results of this review and the proposed steps for the successful implementation of the Quality Program were discussed with the NRC management in a meeting held in Chicago on September 2, 1982. In addition, because of the expanded underpinning activities scheduled to begin shortly, Consumers proposes to retain a qualified third party for an assessment ~~of the initial phase~~ of the implementation of these work activities. The highlights of the September 2 discussions are presented in the following paragraphs.

The design for the required remedial activities is in an advanced state; design details and adequacy have been reviewed by numerous organizations. A special ACRS Subcommittee reviewed the soils activities and ~~concluded that there were~~ no open items, while commenting favorably on the thoroughness and conservatism of the review and remedial approaches. Numerous submittals to the NRC have been presented to clarify the design intent. ~~The~~ We believe the NRC Staff ~~has subsequently completed its~~ is at a point of completing their detailed review of all design aspects, has reached the conclusion that no open issues remain, and is in the process of issuing an SSER. Following-up on design activities, Bechtel has assigned to the site a design team comprised of experienced structural and geotechnical engineers under the Resident Engineer. This team will monitor and review the field implementation, resolve on a timely basis routine construction questions requiring engineering response and immediately administer contingency plans ~~immediately~~ if any problem should arise during the underpinning work.

oc0982-2607a102

Following, coupled with an effective design process, the next step in quality performance of the soils remedial work involves a system to assure that all design requirements and commitments are properly reflected in the final product. To this end, all soils activites covered by the ASLB Order of April 30, 1982 are "Q-listed" and are covered under soils-specific QA plans. These require that appropriate procedures are in place to accomplish the work in a quality manner successfully and that detailed inspection plans and over-inspection plans have been developed and are utilized. Additionally, the Work Authorization Procedure and Work Permit System insure the NRC and CP Co have specifically approved and released the work. ?

To assure that all commitments made to the NRC are properly accounted for in design documents, Consumers reviews written records of commitments and incorporates them in design detail. The Project is also undertaking a review of past correspondence to create a computer listing of all commitments not already placed in construction documents. This computer list will be periodically reviewed to insure that commitments are incorporated in design or construction documents in a timely fashion.

Another aspect of the Company's quality implementation program calls for an efficient, integrated quality organization staffed by qualified, experienced personnel. The present project organization provides single-point accountability, dedicated personnel, minimum interfaces - particularly at the working level, and a quality organization integrating quality assurance and quality control. This organization is staffed by personnel with the experence necessary to successfully accomplish the work. (The qualifications of key personnel were discussed in more detail in our recent meeting.)

To enhance the performance of key project organizations, the Company will maintain day-to-day control over scheduling, both through the construction approval process and by frequent meetings with the involved contractors and subcontractors. Each week, underpinning subcontractors will present proposed construction work to the Company. In addition, to reduce schedule pressures on involved subcontractors, all subcontracts were entered into on a time-material basis. This should improve subcontractor attention to detail in performance of specific construction activities.

Another important element of the proposed soils implementation plan involves employee training. The training program, which includes all organization and personnel, covers both general training in quality and specific training relative to the construction procedures. More specifically, all personnel associated with Remedial Soils work have attended a special Quality Assurance Indoctrination Session. This includes Bechtel Remedial Soils Group, Bechtel QC, MPQAD, Mergentime and Spencer, White and Prentis (SW&P) personnel down to the craft foreman level. This training consists of one three-hour session covering Federal Nuclear Regulations, the NRC, Quality Programs in general, and the Remedial Soils Quality Plan in detail. In addition to the forementioned training, both Mergentime and SW&P Procedures for Quality Related Training require specific training prior to initiating any quality related construction activity. The extent of this training, and identification of individuals to receive it, are spelled out in are each separate procedures governing quality-related activities. Training requirements are listed in the prerequisites section of each procedure, and are QC and QA Hold Points, which must be signed by a QC and QA representative prior to the beginning of relevant activities.

Beyond training, an additional measure to improve performance involves the creation of a new Quality Improvement Program (QIP) for the soils project. To launch their effort, an indoctrination program will be presented to all individuals, stressing the absolutes of Quality and the concept of "Doing it right the first time." Measures specific to soils will be developed for those critical areas which are indicative of a "quality product". Tracking these activities will provide an indication of the effectiveness of the program. The QIP will provide mechanisms for individual "feedback" and will enhance existing QIP programs.

In addition to embracing well-defined design and implementation requirements, a qualified organization and strict performance standards, the soils remedial work will include a high level of senior management involvement. Towards this end, project senior management will conduct weekly in-depth reviews on site of all aspects of the work including quality and implementation of commitments. The Company's CEO is briefed on a regular basis and schedules bi-monthly briefings on all aspects of the project including soils. During the bi-monthly briefings the CEO tours the Midland site.

Complementing the enhanced CP Co management role, NRC Region Management overview of the construction process will be assured by monthly meeting, agreed upon by the Region, to overview the results of the quality program and the progress of the soils project. These meetings will cover any or all aspects of the project of general or special interest to the NRC management.

A final element of the Company's of quality implementation effort is the establishing of an independent appraisal program. This program is independent of the design and construction effort and will assess implementation during the initial three months of the underpinning of the auxiliary building or longer if circumstance warrant. This independent appraisal program implementation will be in place prior to starting Phase 3, which is defined as starting with the removal of soil for the grillage beams at Piers East and West #8 (Piers E/W8 are installed as Phase 2).

The independent appraisal will be conducted by a team of nuclear plant construction and quality assurance experts. This team will be supplemented by the addition of an underpinning consultant who will review the design documents, construction plans and construction itself to assure not only that the design intent is being implemented but also that the construction is consistent with industry standards. The assesment will further assure that the QC program is being implemented satisfactorily and that the construction itself is being implemented in accordance with the construction documents. Contract negotiations are in process with Stone and Webster to assume the lead role in this appraisal. They will be assisted by Parsons, Brinkerhoff, Quade and Douglas, Inc who will provide technical expertise.

Based on the discussion outlined above, CP Co believes that the soils program has been thoroughly and critically evaluated, and that all prerequisites for successful implementation have been or are being accomplished. The Company's program, with the initial overview from the independent implementation assessment, and the continuing overview by the NRC staff and management should provide proper assurance that the remedial soils activities will be successfully completed.

JWC/JAM/cl

CC Atomic Safety and Licensing Appeal Board
CBechhoefer, ASLB, w/o
MMCherry, Esq, w/o
FPCowan, ASLB, w/o
RJCook, Midland Resident Inspector, w/o
SGadler, w/o
JHarbour, ASLB, w/o
GHarstead, Harstead Engineering, w/a
DSHood, NRC, w/a (2)
DFJudd, B&W, w/o
JDKane, NRC, w/a
FJKelley, Ewq, w/o
RBLandsman, NRC Region III, w/a
WHMarshall, w/o
JPMatra, Naval Surface Weapons Center, w/a
WOtto, Army Corps of Engineers, w/o
WDPaton, Esq, w/o
SJPoulos, Geotechnical Engineers, w/a
FRinaldi, NRC, w/a
HSingh, Army Corps of Engineers, w/a
BStamiris, w/o

oc0982-2607a102

CONSUMERS POWER COMPANY

Midland Units 1 and 2
Docket No 50-329, 50-330

Letter Serial Dated

At the request of the Commission and pursuant to the Atomic Energy Act of 1954, and the Energy Reorganization Act of 1974, as amended and the Commission's Rules and Regulations thereunder, Consumers Power Company submits

CONSUMERS POWER COMPANY

By

____
J W Cook, Vice President
Projects, Engineering and Construction

Sworn and subscribed before me this ____ day of ____________.

____
Notary Public
Jackson County, Michigan

My Commission Expires ______________

oc0982-2607a102

CONSUMERS POWER COMPANY

Midland Units 1 and 2
Docket No 50-329, 50-330

Letter Serial Dated

At the request of the Commission and pursuant to the Atomic Energy Act of 1954, and the Energy Reorganization Act of 1974, as amended and the Commission's Rules and Regulations thereunder, Consumers Power Company submits

CONSUMERS POWER COMPANY

By /s/ J W Cook

J W Cook, Vice President
Projects, Engineering and Construction

Sworn and subscribed before me this ____ day of ____________.

/s/ Barbara P Townsend

Notary Public
Jackson County, Michigan

My Commission Expires ________________

oc0982-2607a102

MIDLAND PROJECT

SAFETY & LICENSING DEPARTMENT

TELECON RECORD - DATE Oct 5, 1982

9/131

Participants	Company	Copies to:
T J Sullivan	CP Co	UFI:
D Hood	NRC	JWCook
		MIMiller, IL&B
		PSteptoe, IL&B
		JEBrunner
		DBMiller BWMarguglio
		RAWells RWHuston
		JAMooney ARMollenkopf
		GSKeeley

Route to: DMBudzik/LSGibson/BLHarshe/DASommers

File: 0505.18/0650

SUBJECT: Independent Review Program - Caseload Forecast Panel Visit

DISCUSSION:

I called Darl Hood to discuss the scheduling of meetings on the subject topics. I informed him that our Independent Review Program Plan submittal would be to NRC by Oct 5. He said that he had discussed the need for a meeting within the Staff but would await our submittal to schedule a meeting. I emphasized the importance of an early meeting to allow us timely initiation of the program, particularly industry's commitment to complete INPO-type evaluations this year.

In response to D Hood's earlier proposal of a Caseload Forecast Panel visit on Nov 16 - 19, 1982, I pointed out a number of reasons why CP Co feels this is inappropriate:

(a) CP Co needs to receive and review the forthcoming soils SSER.

(b) The soils work is controlling however CP Co has not been released to initiate the work and this activity should take precedence for both CP Co and NRC.

(c) It would be beneficial to get into the soils work to better assess production rates, construction sequences, etc.

(d) The current situation is not amenable to normal Caseload Forecast Panel assessment and requires more preparation on the part of both NRC and CP Co and the key people who need to do this work are currently fully occupied trying to remove remaining constraints to initiate the soils remedial activities.

As an alternative I indicated that CP Co intends to notify the ASLB this month that the 7/83 fuel load date will not be met due to our inability to initiate the soils work and that the precise date is indeterminate pending issuance of the SSER, NRC release of the soils work, and CP Co's detailed review of production rates, construction sequences, etc, based on the above. CP Co would be prepared to support a Caseload Forecast Panel visit approximately three months following initiation of soils remedial measures (auxiliary building) and a more definite target fuel load date could be provided to the ASLB at that time.

Hood felt the Board might want a more definitive schedule but agreed that the proposed approach seems reasonable and that he should discuss it within the Staff. He indicated the soils SSER should issue this week.

10/131

10/4/83

Schedule - CPCo desires to achieve some experience with CCP prior to developing schedule for Unit 2. Therefore will not be able to have following Case load until the the CPCo Board of Directors meeting (normally 2nd Tuesday of each month) in January 1984. This is for Unit 2 only.

CPCo + Bechtel staff → A. Decoupling Task Force is reviewing Unit 1 schedule. Bruce Peck is chairman. Reviewing what parts of Unit 1 needs to be completed to start up Unit 2. The schedule for Unit 1 will be developed after January 1984 ~~Early~~ (most of the Unit 1 planning effort will be done after the Unit 2 schedule development has been completed)

11/81

50-329/330 OM, OL

MAY 17 1983

J Cooke

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 meetings discussed in detail the bases for Consumers 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 12 months thereafter.] The critical pathway involves reinspection and rework of pipe supports, followed by execution of [illegible] preoperational and acceptance testing.

The Panel believes that Consumers estimate of 14 months to complete preoperational and acceptance testing for both units is unduly optimistic. The recent record for a single unit to date has been about 24 months. Using a more realistic, but slightly optimistic, duration for two units and Consumers present status results in a completion date in the second quarter of 1986. However, the Panel also believes that Consumers forecast does not realistically account for large uncertainties in the [illegible] work which must precede start of critical path testing, and that this can be expected to add some months to ~~the~~ Consumers schedule. ~~A notable example affecting the start of testing is~~ The Panel believes that ~~the~~ 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.

The Panel's estimate includes no provision for delay ~~[illegible] delay in its projected date [illegible]~~ associated with future ~~[illegible]~~ plant financing.

J Vorck

Concurrence:

W. Lovelace

J. Harrison RIII

D Hood

E Adensam

NRC FORM 384 (11-81) NRCM 0270

U.S. NUCLEAR REGULATORY COMMISSION

FACSIMILE TRANSMITTAL REQUEST

REQUESTER'S MAILING ADDRESS	
STREET 12/181	
CITY	STATE
DATE	RETURN ORIGINAL TO SENDER: ☐ YES ☐ NO

MESSAGE TO

NAME AND ORGANIZATION		FACSIMILE PHONE NUMBER	VERIFICATION PHONE NUMBER
J. Harrison		RIII	
CITY RIII	STATE	AUTOMATIC ☐ YES ☐ NO	NUMBER OF PAGES (INCLUDING TRANSMITTAL INSTRUCTIONS) 3

MESSAGE FROM

NAME	TELEPHONE NO.	FACSIMILE PHONE NUMBER HIGH-SPEED (UP TO 3 MIN.)	FACSIMILE PHONE NUMBER LOW-SPEED (4-6 MIN.)	VERIFICATION TELEPHONE NUMBER
Paul A Hood	492-8474			301-492-7371
BUILDING: Phillips Annex	MAIL STOP: 116	AUTOMATIC ☐ YES ☐ NO	AUTOMATIC ☐ YES ☐ NO	

PRECEDENCE

☐ OVERNIGHT	☒ FOUR HOURS	☐ TWO HOURS	☐ ONE HOUR	☐ IMMEDIATE

SPECIAL INSTRUCTIONS

Return to sender

TIME/DATE (Stamp)

RECEIVED	TRANSMITTED

J. Harrison, RIII

Distribution:
Document Control
NRC PDR
L PDR
NSIC
PRC System
LB#4 Rdg
MDuncan
DHood
OELD
ACRS (16)
ELJordan, IE
JMTaylor, IE

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 [illegible]
concurred by
phone DSH 5/23/83

OFFICE	LB#4 DSH	LB#4	RM	RIII	AD/L		
SURNAME	DHood:ms	EAdensam	WLovelace	JHarrison	TMNovak		
DATE	5/ /83	5/ /83	5/ /83	5/23/83	5/ /83		

UNITED STATES
NUCLEAR REGULATORY COMMISSION
WASHINGTON, D. C. 20555

13/13 1

Docket Nos. 50-329/330

APPLICANT: Consumers Power Company

FACILITY: Midland Plant, Units 1 & 2

SUBJECT: Summary of April 19-21, 1983 Caseload Forecast Panel Meeting

On April 19 and 21, 1983, members of the NRC Caseload Forecast Panel met with Consumers Power Company (CPCo) and Bechtel to review construction completion schedules which CPCo completed February 18, 1983 and announced April 12, 1983 for Midland Plant, Units 1 & 2. On April 20, 1983 the Panel toured the plant to observe construction progress. The purpose of the meeting and tour is to provide for an assessment by the Panel of construction completion. Meeting attendees are listed by Enclosure 1. Enclosure 2 is the meeting and tour agenda. Enclosure 3 shows some of the slides used during CPCo's presentations.

CPCo's previous and revised estimates are:

	7/80 Estimate	4/83 Estimate	Difference (Mos.)
Unit 2	7/83	10/84	14
Unit 1	12/83	2/85	13

Overall plant completion is estimated by CPCo to be about 83% complete; engineering is about 76% complete; design 94%; and underpinning 4%.

CPCo finds there are three separate critical paths for construction completion: (1) a so called "aboveground" pathway, (2) auxiliary building underpinning, and (3) the licensing/hearing pathway.

Aboveground Pathway

This pathway is primarily based upon rework of large and small bore pipe supports. However, installation of three HVAC systems, penetration sealing, and installation of mirror type pipe insulation also presently have zero or negative schedule float.

A letter of March 29, 1983, notes CPCo's intent to reinspect all installed safety related supports without regard to the time of its installation or turnover. CPCo estimated the new support reinspection procedure, training and certification of inspection personnel, QA program revisions, and other support activities would be in place in time to commence reinspections during the week of April 11, 1983. CPCo plans to use three inspection teams (about 50 inspectors) and complete hanger reinspections in June 1983. Only two inspectors had been certified as of April 15, 1983 and had started hanger inspections. The hanger reinspection pathway is the critical path for the "Construction Completion Plan" (CCP)" described in CPCo's letters of January 10 and April 6, 1983 (and subsequently on April 22, 1983).

At least seven 50.55(e) reports are considered by CPCo to have some potential for schedule impact in that reviews and tests are not complete and can not be fully assessed at this time. These seven are:

	50.55(e) Report No.	Management Corrective Action Report (MCAR) No.	Subject
1.	80-04	40	High-energy line break analysis (HELBA) pipe whip restraints
2.	80-09	45B	Low alloy guenched and tempered bolting
3.	82-12	63	Design of steel embedments that use tension bars and shear lugs
4.	81-01	46	Deficiencies in limitorque valve operators
5.	82-01	55	Deficiencies in electrial components associated with main steam isolation valve actuators, and non-safety related equipment wired as Class IE
6.	82-07	59	Safety related equipment cooled by non-safety related HVAC system
7.	83-02	67	Clearances between electrical control cabinets and panels

1

CPCo plans to complete 95% of the — Of these 683 tests, 1268 preoperational tests and 128 acceptance tests prior to the Unit 2 fuel load. Currently, no preoperational tests have been completed (two are in progress); one acceptance test has been completed and more are in progress.

CPCo noted that 543 of 850 total systems (64%) have been turned over and accepted. Some systems were accepted with multiple "exceptions" (punchlist open items such as design changes, and corrective actions). CPCo's schedule for preoperational testing, acceptance testing, flushing and specific tests for both units provides a total duration of 14 months. Fourty-five percent of the systems have been initially checked out. About 4% of the total of 683 tests have been completed as of March 31, 1983. The testing program for about 134 systems were noted to be constrained by the CCP. The present schedule assumes little rework of hanger (about 850 out of 7000) will be needed for both units.

Auxiliary Building Underpinning Pathway

Six of the 57 underpinning piers have been installed since December 13, 1983, and a pier load test (pier W-11) was in progress. The construction sequence will utilize an existing Utility Access Tunnel (UAT) to gain early access beneath the southern corners of the Control Tower. The revised construction scheme utilizing the UAT is reflected in ~~the~~ CPCo's current completion forecasts.

CPCo's schedule assumes NRC will approve loading of fuel immediately after transfer of the EPA load to the permanent wall (i.e. in advance of EPA and FIVP soil consolidation beneath the wall; pier lockoff and grouting; replacing of backfill beneath EPA and FIVP; and strtuctural stiffening at critical elevation 659 feet). CPCo estimates that These latter activities will be completed by late January, 1985.

Licensing/Hearing Pathway

CPCo considers that completion of the present soils "OM" hearing and "OL" hearing is also critical to the new Unit 2 fuel load estimate. CPCo's estimated need dates for the hearing are:

Complete "OM" hearing session	August 1, 1983
Initial Decision on "OM" matters	Mid October, 1983
Completion of "OL" hearing session	Mid May, 1984
Initial Decision on "OL" matters	Early July, 1984

Staff Conclusions

The Caseload Panel noted that the information provided during the meeting and observations made during the site tour would be further reviewed before the Panel's completion estimates are reached.

Darl Hood, Project Manager
Licensing Branch No. 4
Division of Licensing

Enclosures:
As stated

cc: See next page

ENCLOSURE 1

CASELOAD FORECAST PANEL VISIT

April 19, 1983

NAME	ORGANIZATION
D. Hood	LB4/DL/NRR
R. Gardner	Region III, NRC, IE
B. Harshe	CPCo - Safety & Licensing
J. Mooney	Exec. Mgr. - CPCo
R. McCue	CPCo - Technical Supt.
D. Miller, Jr.	CPCo - SHE Manager
J. DeMeest	Public
N. Saari	CPCo - Pub. Affairs
L. Shane	Midland Daily News
J. Leech	CPCo - Safety & Licensing
W. Bird	CPCo - Mgr. Quality Assurance
J. Schaub	Asst. Proj. Mgr. - Midland CPCo
J. Post	CPCo - Purchasing Dept.
D. Fredlund	BPC - Project Planning
D. Perry	CPCo - Design Production
G. Keeley	CPCo Project Manager
J. Cook	CPCo, V.P. Proj. Eng. & Const.
D. Ronk	CPCo, Section Head, Midland Project Mgr.
F. Buckman	CPCo - Exec. Mgr.
W. Lovelace	NRC/Ron
D. Sedgwick	Saginaw News
G. Slade	CPCo - SMO
A. Mollenkopf	Mgr. - Sch. & Cost - CPCo
R. Wells	Exec. Mgr. - QA

ENCLOSURE 1 (continued)

ATTENDEES

April 21, 1983

NAME	ORGANIZATION
D. Hood	LB4/DL/NRR
J. Harrison	USNRC/RIII/OSC
R. Gardner	RIII/OSC/IE
B. McCue	CPCo - Technical Dept.
A. Mercado	CPCo - Technical Dept.
D. Miller, JR	CPCo - SMD
D. Fredlund	BPC - Project Plng.
A. Mollenkopf	CPCo - Sch. & Cost
R. Wells	CPCo - MPQADF
F. Buckman	CPCo - Project Office
N. Saari	CPCo - Public Affairs
L. Spane	Midland Daily News
M. Clayton	DOW

ENCLOSURE 1 (continued)

CASELOAD FORECAST VISIT

April 27, 1983

SITE SESSION

NAME	ORGANIZATION
D. Hood	LB4/DL/NRR
R. Ricc	CPCo - Tech. Dept. - Primary Mech.
R. Orosz	CPCo -Tech.
R. McCue	CPCo - Tech. Dept. Supt.
D. Miller, JR.	CPCo
A. Mercado	CPCo Tech. Dept. - Scheduling
A. Mollenkopf	CPCo - Schedule & Cost
W. Lovelace	NRC/RM
J. Harrison	USNRC/RIII
R. Gardener	USNRC/RIII

Midland 1&2

DH 83% complete

Consultant Visit Meeting Notes 14/131

April 17, 1983

Opening remarks – Elliot – last visit August 1981 – didn't include ... action ... Agenda

J. Cook – ... commitment

... changes ... management ... quality ...

... engineering ... management ...

3. Schedule Construction ... (...) ... field engineering

Organization (...)

4. Schedule Engineering Effort ... Bechtel ...

(...)

* ... by ... of hangers – ... inspection

... critical paths: (1) ... hangers reinspection & ...

(2) ...

(3) ...

... with ...

... for installation of ... plant –

... safety related ...

... 1984 ...

6. ... (...) ...

... by hanger ...

7. Hanger ... Bechtel ... commitment ...

... of new hangers

i.d. [illegible]

7. seismic interaction of panels - because there may have to be relocated. [illegible] may not have to relocate

new to be added
8. RC coolers, ESW [illegible] pipe supports. The piping is [illegible]

Limitorque valve motors
9. [illegible] (40) valve operators have to be replaced [because of qualification] may have more than 4 mo. for — repair

10. ESW pipe [illegible] restraint (6 month [illegible])
design complete by end of June 83

— Items which may potentially be critical - still need (engineering) evaluation
~~[illegible]~~ [illegible] Board will cover this as part of 50.55(e) presentation

Unit 1 - may be up to 850 hanger modification

Assumed all hanger [illegible] & additions, completed before Turner - conservative assumption

Hanger installation [illegible]

Problem - Class 1E panels in control room being reevaluated for seismic interaction - being based on FSAR earthquake, not seismic margin earthquake. These panels are needed for safe shutdown. I said they should talk to me about this.

Design & Engineering

To Complete Project — Fred [illegible]

engineering [illegible] issues

[illegible] engineering support is not a critical item
[illegible] large [illegible]
effort & 89 people to complete engineering of [illegible]
[illegible] early. [illegible]

Procurement — [illegible]

66 [illegible] can [illegible]
[illegible] for [illegible]

Construction [illegible] D Miller

[illegible] Construction Status [illegible]

3 [illegible] team [illegible] formed

[illegible]
[illegible] — [illegible]
([illegible])

CCP [illegible]
[illegible] early June

CCP status check

16 [illegible] –
some (most) systems
same [illegible]

Bring RCP [illegible] in [illegible] ball park

CCP Quality Activities – R Walls
NRC [illegible] not yet approved CCP – [illegible] 28 7 April 6 letter [illegible]
128,000 [illegible] inspection reports
[illegible] effort based on these inspection reports [illegible]

[illegible] inspection [illegible] over 27 month period
7000 [illegible], 5 [illegible], [illegible]

[30,000 reinspections [illegible] – [illegible] 100%
[reinspection not needed [illegible] sampling plan

225 people in QC area (~ 210 inspectors) [illegible] of the
250 to 350 inspectors needed for the CCP reinspection effort

Independent 3rd Party Reviews - Bill Kelly

Tera EDCV Program

Construction Implementation Overview (ICCP) - S&W Program

Site Review Activities - S&W

Tera - [illegible] of 5 prepared by CPCo
[illegible] [illegible] expansion

Dec [illegible] - proposed expansion to [illegible] + 3 systems
March 26 - selected Aux Feedwater system + HVAC for CR

Tera is about 66% complete with their design verification effort
Presently drafting their plans for 2 new systems

(was originally to be a [illegible] month effort before 2 systems added)

S&W CIO to be [illegible] (not [illegible] by [illegible]) before management review of CCP [illegible]

August 6, 1983 letter [illegible] CIO proposal

Scheduled for 6 mos - [illegible] will report whether effort should be continued or not

March 31, 1983

Test & Program Status — P Mills

Slides (in brown binder)

Mr. Emmerson

Using HP Bowers to 800 turbine — significantly reduce the number of systems to be tested as part of hot functionals.

Systems accepted = 500 of 850 total

forecast are ahead of demand — therefore no problem

Test procedures — (fig. 2)

45% of the 850 systems in the plant have been initially checked out, and 4% of required tests (preops, acceptance, flush & specific) have been performed.

Built-in ammend start preops & acceptance tests

preoperational tests & acceptance tests — how can this be done in 18 months?

Test engineers — 86 preferred testers

134 systems are controlled by the CCP & getting them into the test program.

Plans for turnout startup

No present date for bringing fuel on site — underpinning dependent

Jim [illegible] –

Status for soils schedules –

BWST – construction of [illegible] – NRC approval request [illegible]

AB – 57 piers total – Started Dec 13, 1982.
6 [illegible] (poured)

CPCo proposes to load fuel after load transfer to the permanent wall and prior to completion of soils consolidation, [illegible] & grouting [illegible] stiffening [illegible]

Piers 12, 11 # 4 completed & poured – [illegible]
Presently drilling for [illegible] 8.

Int. TMI 2 Changes – B [illegible]

No schedule impacts [illegible] to date from any of these 22 [illegible] items

[illegible] – 4 [illegible] issues have potential for impacting schedule

II D.1 Item 16 – CR design review – recently submitted (March 31, 1983)
[illegible]

II. 13.1 [illegible] 8-26-82 / NRC [illegible] 12-7-82 / CPCo [illegible] 1-[illegible]-83

II F 2 [illegible] – Rev 4)
[illegible] FSAR [illegible] (may have been [illegible] [illegible])

III A.1.1 [illegible] – [illegible] dates.

Suppl to NUREG-0737 — CPCo request April 15
II F 3   RG 1.97 — No schedule impact — Position not approved by NRC

II A 2 :   Weather / Emergency Planning

13 Plant Licensing Plan

I. The Hearings — Fred Buckman

A. Looking for operating license for both units

Schedule — (slide)

SER open item status (slides) — Marty Leach

14 50.55(e) Manpower — Walt Bird
7 may have schedule costs:
- HELBA break analysis (83-04) 83 requires verification
- LAAT Bolting (83-04) — schedule impact undetermined
- Embedments with Tension base & shear lugs (82-12) schedule impact — Test — CD — expect tests to substantiate design
- Penetration & valve operation (81-01) — component valve operator
- MSIV, actuators & Non-Class 1E components, Class 1E Cement Items in the control panels
- 6 Related Equipment cooled by Non-Q HVAC System (82-07) 1000 items affected 10 coolers to be added — long lead item. Unit II to be complete July 84, unit I DR 84

– Control Cabinet/panels clearance
[illegible] FSAR earthquake – not [illegible]

Plant Operations Problems   Jerry Mark

slides

April 21st

Preops + Acceptance Test (Standard)

Early starts & [illegible] for preops [illegible] Acceptance Tests (Standard)
FIE procedures   [illegible] of tests will be performed before U2 fuel load

LPCo [illegible] start [illegible] by [illegible] – June (Phase 2 of CCP
late start [illegible]

Safety Systems [illegible] (with exceptions)
+ [illegible] (Standard)
Safety [illegible] water supply (Bv [illegible]) (Palisad)
+ Recirc (In the stabling program) (Palisad)
[illegible] water system (Palisad)
+ [illegible] (material [illegible])
[illegible] pump station [illegible]
[illegible] (Dry [illegible])

[illegible]
[illegible]
[illegible]

, submitted by [illegible]

+ We also looked at the master punch lists for these systems. [illegible] exceptions (TOLE)
list for these were examined.

6 Miller Philosophy – no "protected" cold hydro – says not prudent –
Time between cold hydro to fuel load should recognize this philosophy of proving it back. Doing things to minimize time between cold hydro & fuel load so that little testing required during this period. Example – [illegible] at cold lines, [illegible] & [illegible] early shutdown

electrical systems about 95% turnover

Typically for a large systems may have about 250 exceptions to turnover. Some of these (like insulation & installation of [illegible]) have been decided by CPCo not to be completed until late & are carried on the TOC list for control purposes (deliberately want these to be accomplished at a later date)

New running changes, instrument tubing (may [illegible])

7. Comments on Bowman (expectation of CCP for added to go work) Turned at TOC PO date – Comprehensive test [illegible]

April 21

Also ground critical path - how Oct 84 was arrived at

[illegible] Mollenkopf -

I - [illegible] turnover of systems

[illegible] 82 - 200 turnover [illegible]

[illegible] task force [illegible]

[illegible] hangers (large, bore & small bore) are main critical path

[illegible] installation as controlling for turnover of systems (Mandatory hangers)

Assumes starting date for hanger reinspection - May 1, 83. Also added 1 month [illegible] and [illegible] got to Oct. 84

[illegible] March 84

Will be installing [illegible] hangers up until ~5 days prior to [illegible]

There are 22 systems that are critical (have some quantity of hangers). There are 6 system hangers [illegible]

7000
× 45
× 250

~ 850 hangers

Hanger & cable reinspection — R Wells

Hangers: Proj assumes a small amount of rework needed, based on a sampling of 123 sample — 45% rejects ~~[illegible]~~ had non conformances
(25%) 1/4 of the non conforming conditions required rework.

7000
× [illegible]

Proj feels they will have > 45% non-conformances but that these will not require much rework. Because previous sample was an area inspection to trace problems of a rework nature.

Need 50 people (will have 60) to do 7300 inspections
(closed IR hangers)

Total reinspection plan [illegible] population!
CCP effort — 134,000 closed IRs subject to reinspection
against latest closed IR
PC&C cable — 9000 of the 134,000 cable
7300 hangers

Commit to all IR with an SREV or DR

30,000 reinspections committed to

conclude on 100% inspection on PC&C cable. Will attempt to justify on 95-85% basis to go to sampling basis.
Out of 180,000 base will take about 25,000 to get to sampling 17,000 more based on reject rate
— will take 180,000 manhours of inspection 250-300 inspectors needed.

Will Mr. Levy \$75,000 inspection

7 month CCP in 5/83. 5 months later complete [illegible]

end product of Phase ~~II~~ I of CCP

(1) list of approved PC & Q

(2) ~~[illegible]~~ 5 month list of to-go work

(3) 7 month list of non-conformance items for PC & Q

[illegible]

17/81

Contents of folder maintained by Darl Hood's branch entitled "Test Program Status and Revision 12 Test Schedule".

15/131

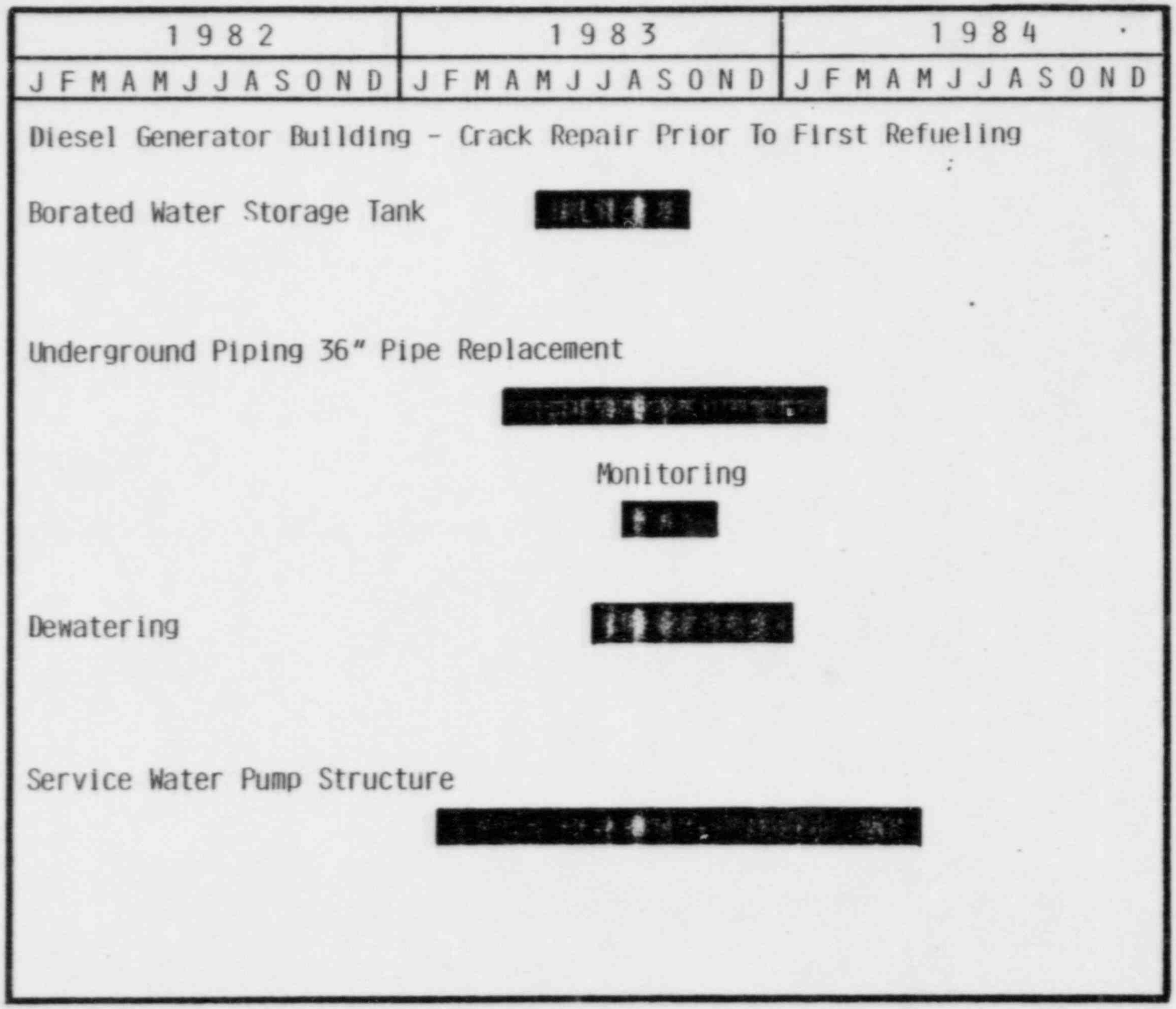
MIDLAND

CASE LOAD FORECAST

SCHEDULE REVIEW

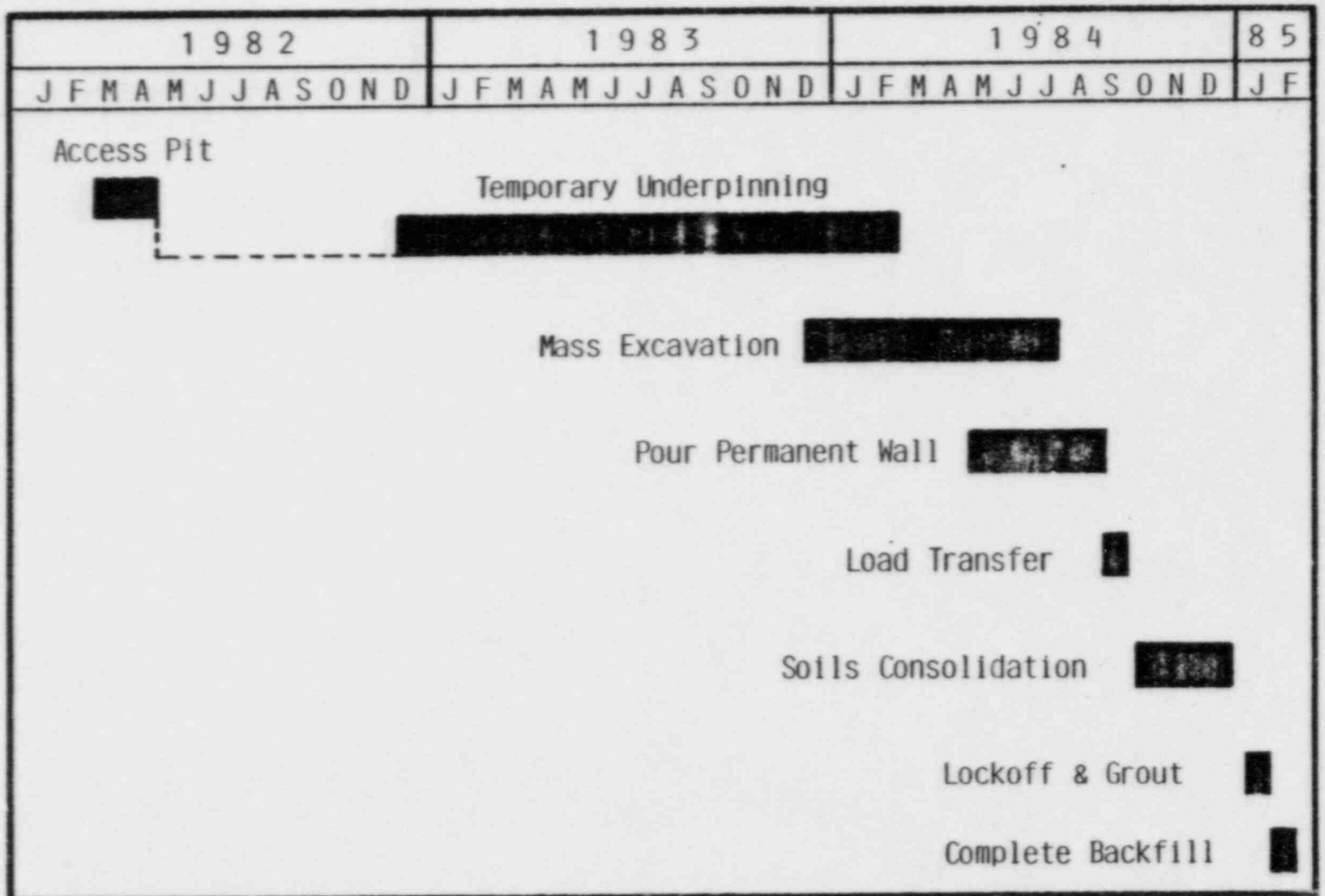
4/19/83

SOILS SCHEDULE



SOILS SCHEDULE

AUXILIARY BUILDING



MIDLAND PROJECT REPLANNING

SOILS (UNDERPINNING)

LINKAGE TO FUEL LOAD

EVENT:
- Start of Soils Consolidation

BASIS:
- Load Transferred To Permanent Wall
- Demonstrate Building Has Structural Capability To Fulfill Safety Function Required For Fuel Load & Low Power Physics Test
- Present Evaluation For NRC Approval

AUXILIARY BUILDING
UNDERPINNING

FACT SHEET

A. Dewatering

Vertical Freeze Holes	248	
Angled Freeze Holes	79	
Thermal Monitor Holes	39	
Ejectors	78	
Piezometers	13	
Total Holes Drilled	457	
Linear Feet Freeze Header	3,036	
Linear Feet Dewatering Header	3,410	

B. Access Shafts (East and West)

Depth Each Shaft	76	Feet
Excavated Material - Shafts	8,889	Cubic Yards

C. Temporary Underpinning

Length of Access Drifts	1,106	Horizontal Feet
Excavated Material - Drifts	1,474	Cubic Yards
Number Temporary Piers	57	
Excavated Material - Piers	3,550	Cubic Yards
Reinforcing Steel - Piers	295	Tons
Structural Steel - Piers	803	Tons
Concrete - Piers	3,550	Cubic Yards

D. Permanent Underpinning

Mass Excavation	7,957	Cubic Yards
Permanent Wall:		
Length:	600	Feet
Width:	6	Feet
Height:	35	Feet
Wall Concrete	4,287	Cubic Yards
Wall Reinforcing Steel	326	Tons
Slab Concrete	257	Cubic Yards
Slab Reinforcing Steel	30	Tons

E. Summary

Total Material Excavated	21,870	Cubic Yards
Total Reinforcing Steel	651	Tons
Total Concrete	8,095	Cubic Yards

FS/LET2

Scope:

The scope of the C-195 contract is to underpin the Control Tower and Electrical Penetration Areas (EPA) of the Auxiliary Building and a portion of the Turbine Building.

The project has been broken down into four phases of work which includes the installation of the East and West Access Shafts, 54 underpinning piers and six grillage beam support assemblies. The piers and grillage beam assemblies will temporarily support the Control Tower, EPA and Turbine Buildings until the permanent underpinning wall can be constructed and the building loads transferred to the wall.

General:

Mergentime, the prime contractor for the Auxiliary Building, will accomplish this work by excavating drifts (tunnels) from both the East and West Access Shafts. The drifts will only advance as far as the next scheduled pier location. At this point, the pier will be excavated, lagged, rebar installed, instrumentation and embedded items installed and concreted.

Once the concrete has achieved the specified strength, the pier will be jacked against the building and the load transferred to the pier. The drift will then procede to the next pier and the same process followed. This method will continue from both sides until all the piers and grillage systems have been installed and the load temporarily transferred.

Once the Control Tower, EPA and Turbine Building have been supported temporarily, Mergentime will begin mass excavating the area in stages to the final elevation of 571'±. During the mass excavation, the Contractor will install a strut system to brace the piers as the excavation procedes, since excavation is on only one side of most piers. Mass excavation of the Access Shafts will coincide with the mass excavation under the building.

After mass excavation is complete, the Contractor will construct a six foot wide, 35 feet high wall approximately 600 L.F. long, (4,287 cubic yards of concrete). This will serve as the new foundation for the building once the load has been transferred from the piers to the wall.

When the load has been transferred to the permanent wall, the "ballroom" will be backfilled on the way out, as well as the Access Shafts.

Pertinent Data:

Pier Concrete	3550 C.Y.
Wall Concrete	4287 C.Y.
Miscellaneous Concrete	600 C.Y.
Rebar (Total)	1,274,784 lbs.
Material Removed	21,870 C.Y.

By Kelleher 12/14

SERVICE WATER PUMP STRUCTURE
UNDERPINNING
Phase I

Agreed Quantities
as of 11/19/82

FACT SHEET

A. Dewatering

Ejectors (Inside)	33
Piezometers (Inside)	3
Ejectors (Outside)	47
Piezometers (Outside)	9
Total Holes	92
Linear Feet 8" Dewatering Header	1,375
Linear Feet 10" Dewatering Header	345

B. Access Shaft

1.	Soldier Piles	27 each
2.	Sheeted Pits for S.P.	3377 Sq. Ft.
3.	Excavation Sheeted Pits for S.P.	109 CYS.
4.	Concrete for S.P.	16.5 CYS.
5.	Lean Flyash Concrete for S.P.	65.3 CYS.
6.	Lagging	2700 Sq. Ft.
7.	Excavation	981 CYS.
8.	Structural Steel (Struts, wales, bracing)	95 Ton

C. Approach Pits, Underpinning Piers, & Tunnel

1.	Excavation	680 CYS.
2.	Pier Reinforcing	52 Ton
3.	Lagging	10,585 Sq. Ft.
4.	Concrete	670 CYS.
5.	Backfill and Tunnel Concrete	46 CYS.
6.	Anchor Bolts & Plates, Etc.	47 Ea.
7.	Hydraulic Jacks (Estimated)	50 Ea.

FS/LET2

Summary of Underpinning of Service Water Pump Structure

The scope of the work involves two Phases, I and II. Phase I entails work related to the actual underpinning of the Service Water Pump Structure. Phase II involves excavation and rebedding of piping.

Phase I work begins with the location of utilities within the work area, both for excavation and installation of dewatering wells. After all utilities are located, approximately 47 dewatering wells will be installed outside of the building. Concurrently with this operation, 33 dewatering wells will be placed in the Service Water Pump Structure and the Circulating Water Intake Structure. Also, a total of 12 piezometers are to be installed.

The installation of soldier piles will be the next activity. This will consist of 27 total soldier piles being installed; 20 will be placed in drilled holes, and the remaining seven will be placed in sheeted pits. Once the soldier piles have been installed, the Access Shaft excavation can begin. Lagging and bracing will be installed as the shaft is dug. An estimated 785 cubic yards of excavated material will be removed from ground elevation down to elevation 618.

From the Access Shaft, access pits will be dug to enable the pier excavations to proceed. A total of 20 piers are to be installed in a predetermined sequence. After pits 1, 1A, 2 and 2A are installed, a tunnel will begin being excavated under the Service Water Pump Structure, next to the Circulating Water Intake Structure. This tunnel will be approximately 6' x 6' x 30' in length upon completion. The above will entail, for all piers, 680 cubic yards of excavation, 670 cubic yards of pier concrete, and 102,425 pounds of rebar. The tunnel will have 50 cubic yards of excavation.

Once a pier is installed, jacking will take place to transfer the load to the pier. After the load is transferred, the pier will be wedged to maintain the applied load. Large anchor bolts, connecting the pier to the Service Water Pump Structure, will be tightened to maintain contact between the building and the pier. This process will be repeated for each individual pier.

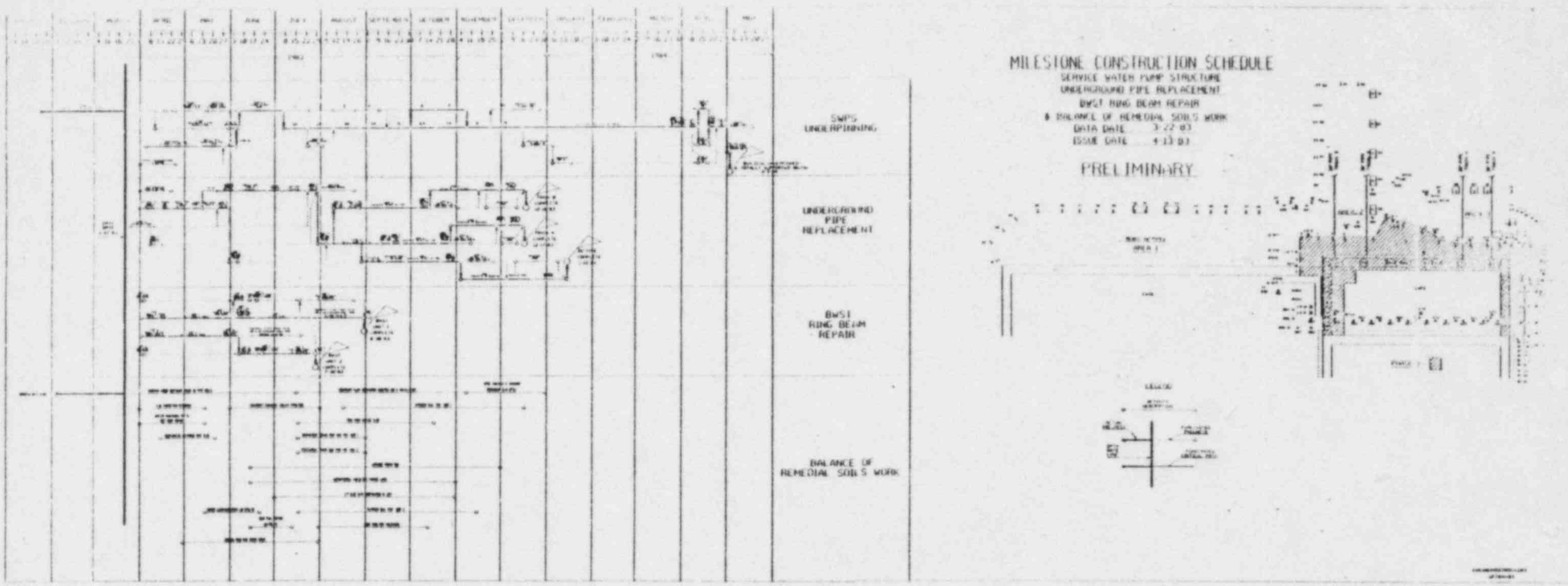
After all piers have been loaded, the access tunnel will be backfilled with a lean concrete mix.

Additional work for the Phase II operation will include probing for utilities, installation of dewatering wells, installation of soldier piles, excavation, lagging and bracing. This work is being done to uncover certain utilities which must be rebedded. The actual embedment will be performed by Bechtel forces. Quantities for this work have not been calculated by the Field.

AUXILIARY BUILDING

SCOPE

ITEM	QUANTITY	BUDGET RATE
Horizontal Drift	1,106 ft	3 lf/cs
Pier Excavating	3,550 cy	3 vf/cs
Pier Reinforcing Steel	295 T	500 lb/cs
Pier Concrete	3,550 cy	7 cy/cs
Mass Excavation	7,957 cy	10 cy/cs
Permanent Wall Concrete	4,287 cy	29 cy/cs



MILESTONE CONSTRUCTION SCHEDULE
SERVICE WATER PUMP STRUCTURE
UNDERGROUND PIPE REPLACEMENT
BWST RING BEAM REPAIR
& BALANCE OF REMEDIAL SOILS WORK
DATA DATE 3-22-83
ISSUE DATE 4-13-83
PRELIMINARY
SWPS UNDERPINNING
UNDERGROUND PIPE REPLACEMENT
BWST RING BEAM REPAIR
BALANCE OF REMEDIAL SOILS WORK

16/187

D Miller
4/19/83

TEST PROGRAM STATUS
AND
REVISION 12 - TEST SCHEDULE

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

TABLE OF CONTENTS

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

C. Manpower for Rev 12

List of Figures and Tables

INTRO.

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

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.

REVISION 12

1. System Turnovers - Summary

Total scoped Systems (approximate) - 850

Total System Turnovers Accepted - 543

Remaining System Turnovers - 307

% complete = $\frac{543}{850}$ = 64%

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-[illegible]6
	OC-343
Radwaste Instrument Rack	OC-167
Evaporator Instrument Rack	OC-168
	OC-281

- Analog Isolation Cabinets 1C46, 2C46 - Electrical and I&C checkout 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 OC391 and OC386 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 (co 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/O 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 - The Diesel Generator Building Electric Heat Acceptance Test is complete.

  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.

- HP 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.

		STATUS - PERCENT OF TOTAL		
Procedure Type	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. LLRT/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 checkouts 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 flusning 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 the 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

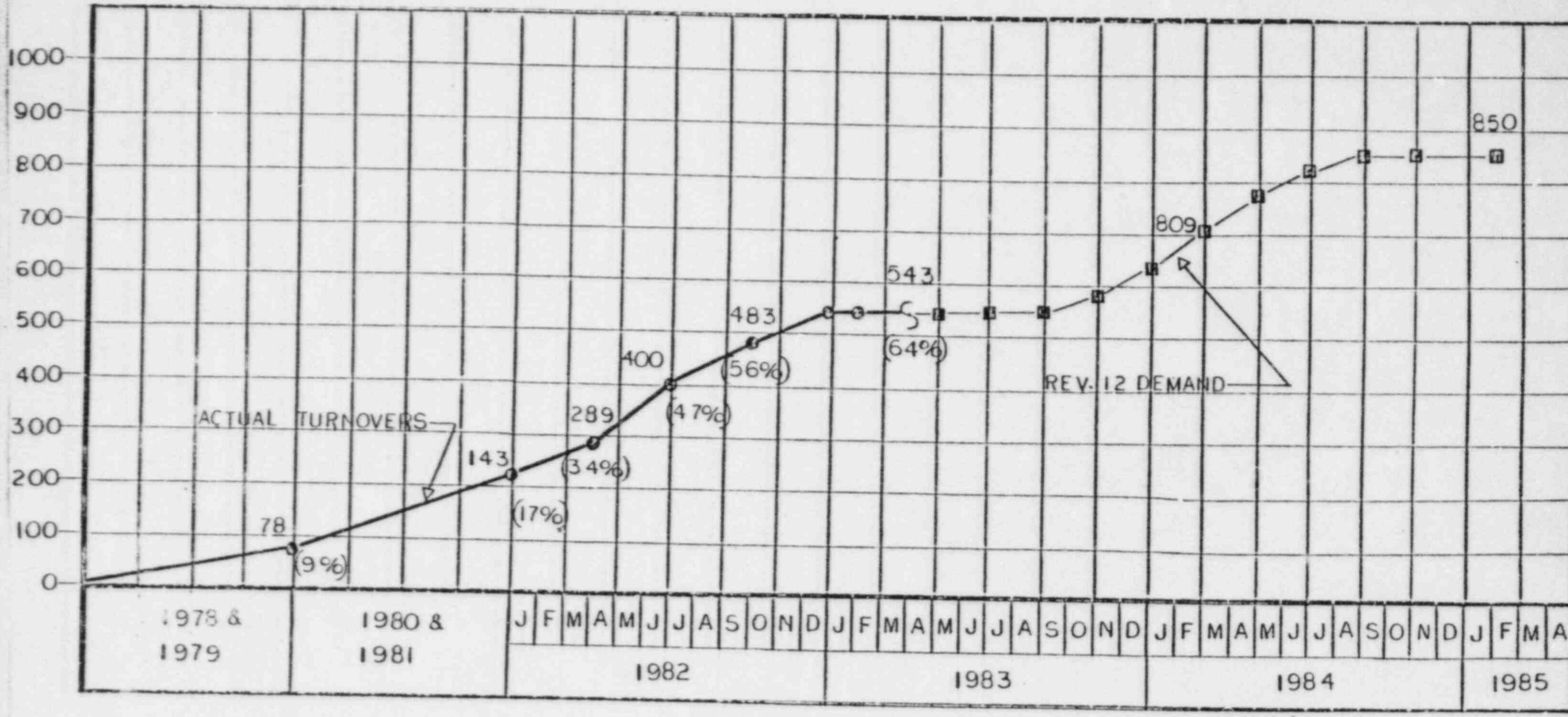
In terms of shift work, the estimated durations in the Test Schedule were assumed as follows:

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



ACTUAL TURNOVERS AND REV. 12 DEMAND TURNOVER CURVE

FIGURE 1

Fig. 2
PROC. Act. vs Goal

MIDLAND POWER PLANT
TECHNICAL DEPARTMENT

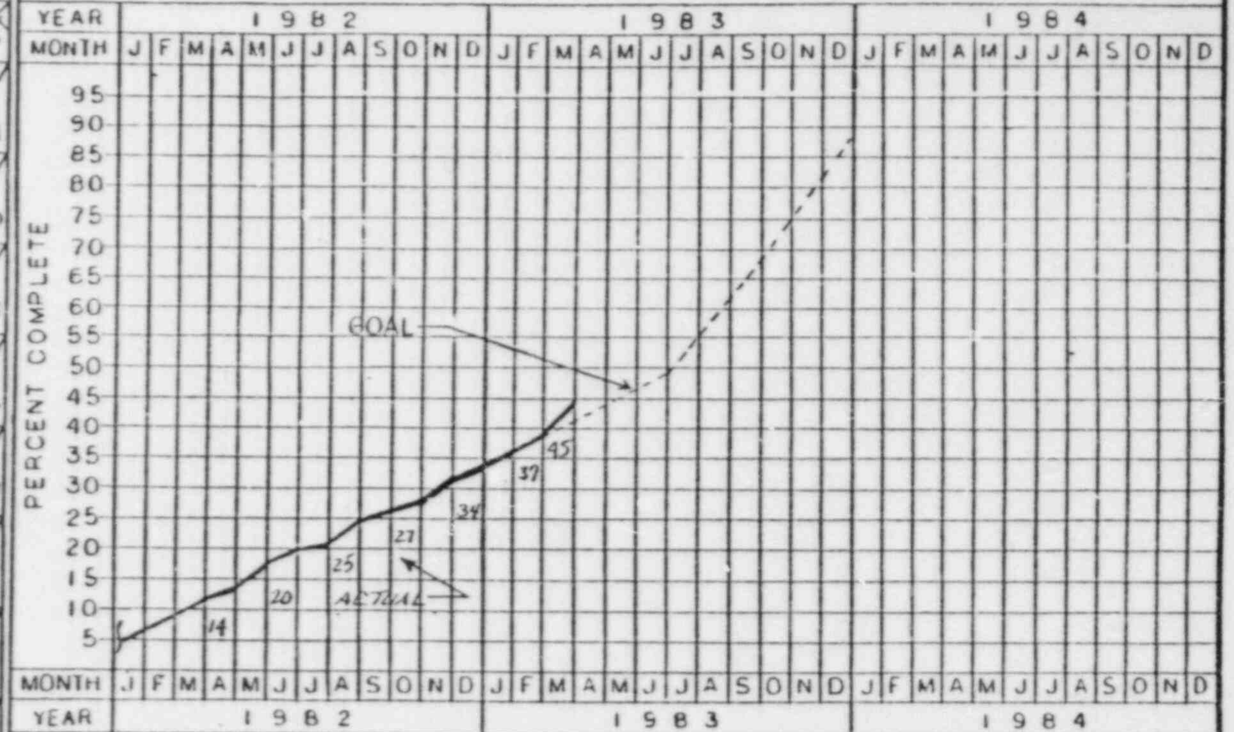
PROCEDURE DEVELOPMENT-ACTUAL VS SCHEDULED

PROGRESS SUMMARY

APPROVED ▽

DISCIPLINE	% COMPLETE	WT FACT	EST / ACT
AUXILIARY	39	.154 / .060	112 / 44
ELECTRICAL	35	.118 / .091	86 / 30
FEEDWATER / CONDENSATE	50	.146 / .073	107 / 53
INSTRUMENT / CONTROL	65	.182 / .118	133 / 86
NUCLEAR STEAM SUPPLY SYSTEM	58	.134 / .078	98 / 57
PROCESS STEAM	23	.064 / .015	47 / 11
PROGRAMATIC TESTING & PERFORMANCE	6	.064 / .004	47 / 3
TURBINE / HVAC	44	.136 / .060	99 / 44
		1.0 / .371	729 / 328

PERFORMANCE CURVE



AS OF 3-31-83

REV	DATE	REVISIONS	BY	CHK	APPR	APPR	APPR
2	3-1-83	83 GOALS/OBJECT	KRG	KRG	KRG		
1	10-27-82	REVISED & REDRAWN	DK	JRP	JRP		
0	2-82	INITIAL ISSUE		JRP	JRP		

SCALE NONE | DESIGNED JRP | DRAWN Klonowski

MIDLAND PLANT

PROCEDURE DEVELOPMENT

Consumers Power Company

DRAWING NO TPS-5 | REV 2

FIGURE 2

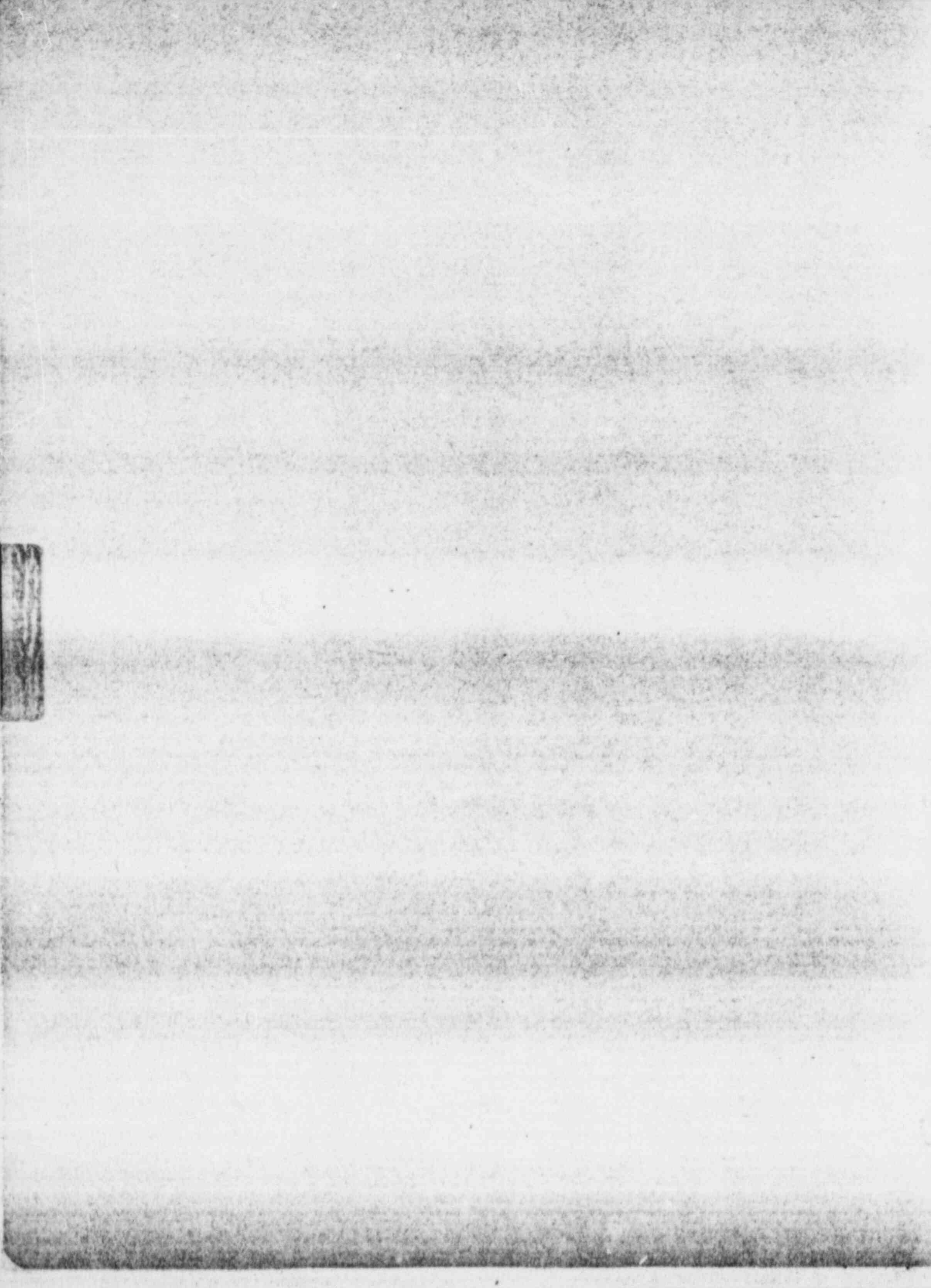


Fig. 3
Test Completions

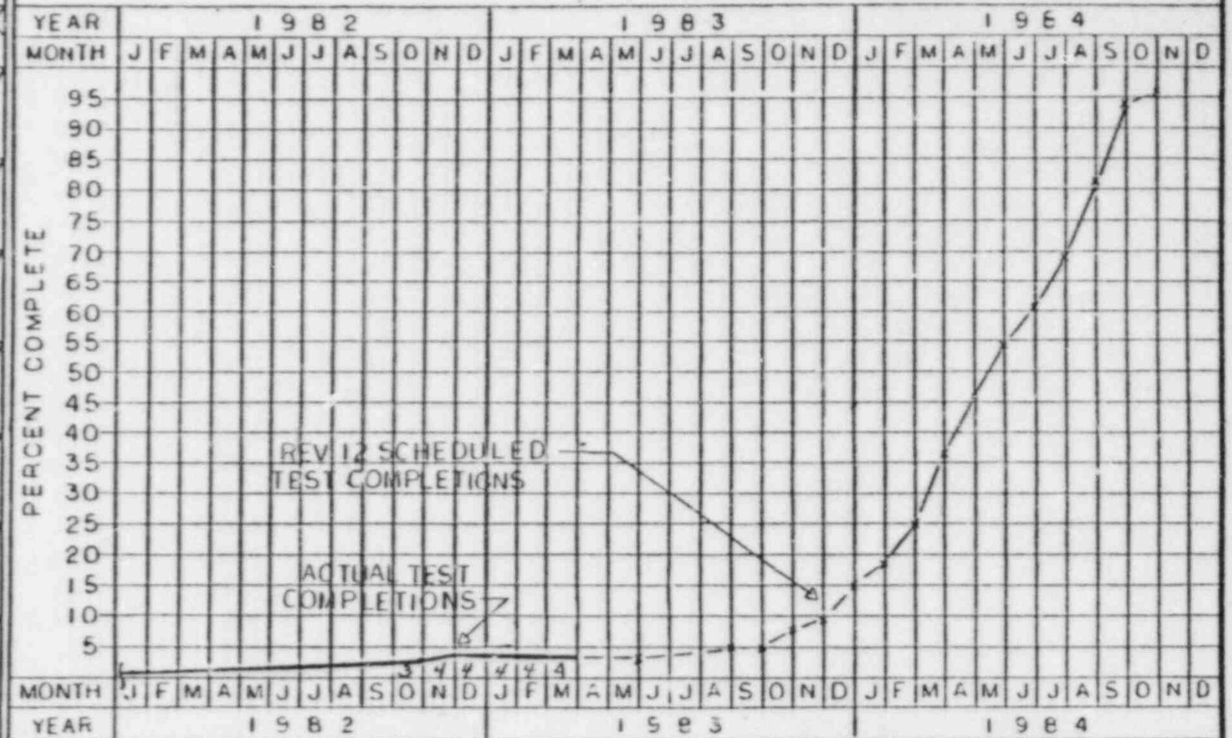
MIDLAND POWER PLANT
TECHNICAL DEPARTMENT

PROCEDURE PERFORMANCE (LESS GP) - ACTUAL VS SCHEDULED

PROGRESS SUMMARY

DISCIPLINE	% COMPLETE (10 20 30 40 50 60 70 80 90)	WT FACT	EST / ACT (COMPLETED)
AUXILIARY	3	.164 / .004	112 / 3
ELECTRICAL	0	.095 / 0	65 / 0
FEEDWATER / CONDENSATE	7	.150 / .010	103 / 7
INSTRUMENT / CONTROL	5	.185 / .009	126 / 6
NUCLEAR STEAM SUPPLY SYSTEM	1	.143 / .001	98 / 1
PROCESS STEAM	2	.067 / .001	46 / 1
PROGRAMATIC TESTING & PERFORMANCE	0	.059 / 0	40 / 0
TURBINE / HVAC	8	.136 / .010	93 / 7
		1.0 / .037	683 / 25

PERFORMANCE CURVE



AS OF 3-31-83

REV	DATE	REVISIONS	BY	CHK	APPR	APPR	APPR
1	10-27-82	REVISED [illegible]	[illegible]	[illegible]	[illegible]		
0	5-82	INITIAL ISSUE	[illegible]	[illegible]	[illegible]		

SCALE NONE | DESIGNED JRD | DRAWN Klonowski

MIDLAND PLANT

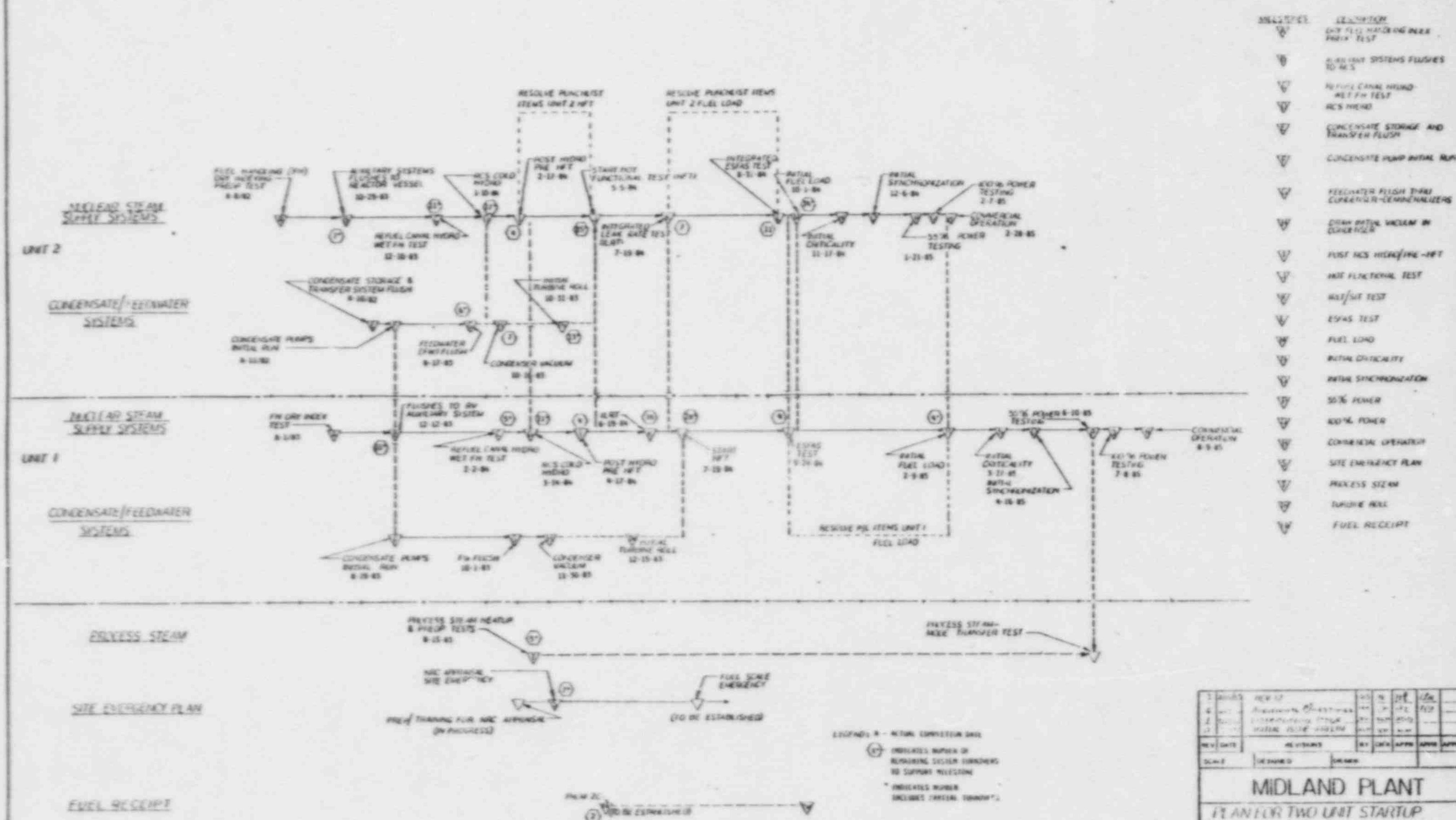
PROCEDURE PERFORMANCE

Consumers Power Company

DRAWING NO TPS-6 | REV 2

FIGURE 3- TEST COMPLETIONS

Fig. 4
PLAN Rev. 12



MIDLAND PLANT

PLAN FOR TWO UNIT STARTUP

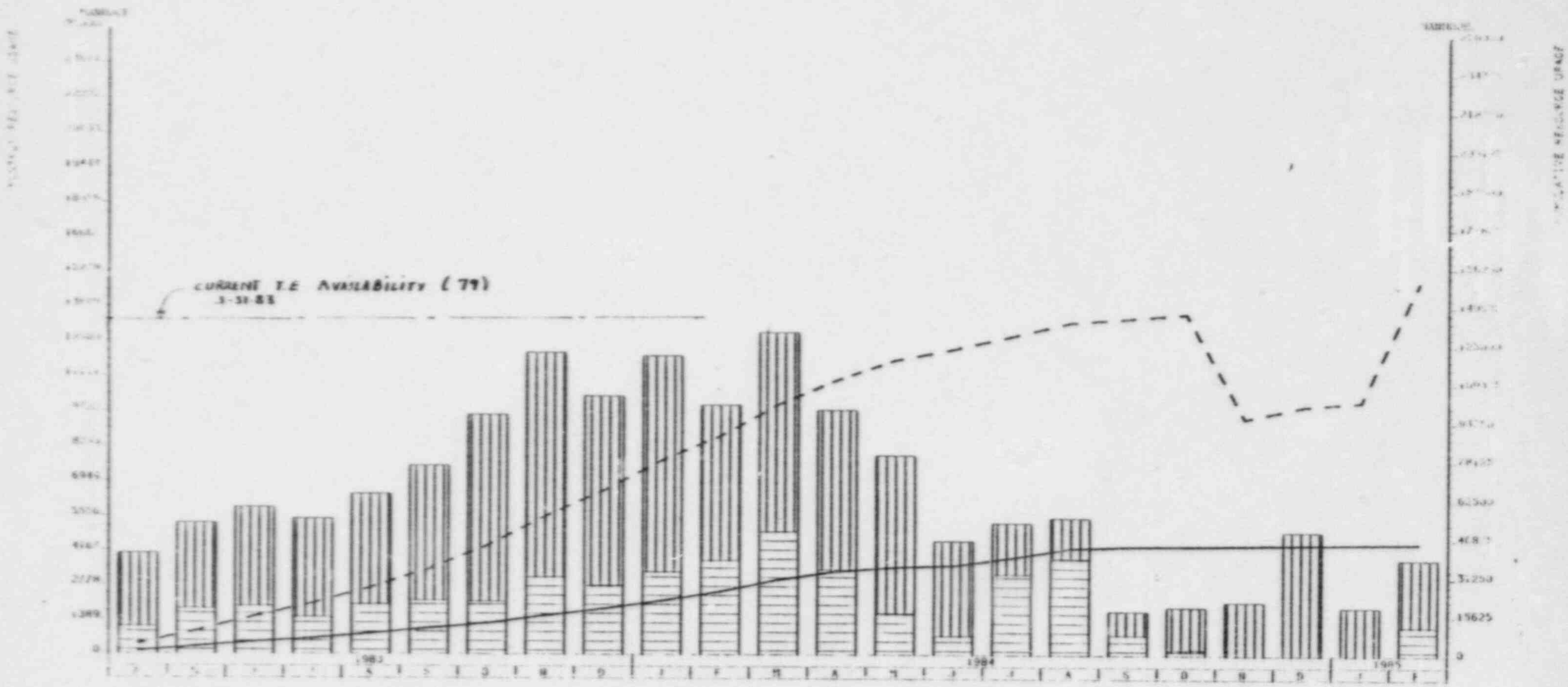
MIDLAND UNITS 1 & 2

CP -TPS-7

3

MANPOWER

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

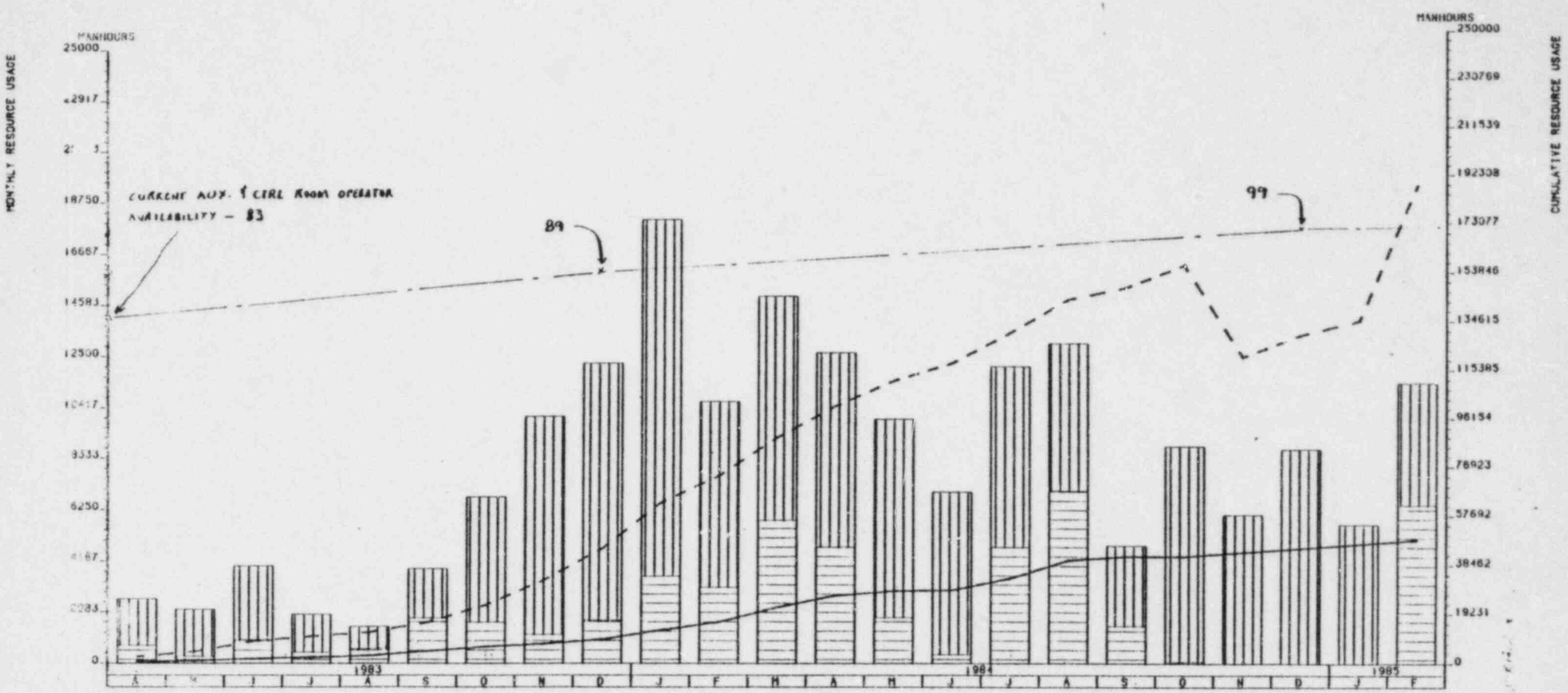
UNIT 1 TE FORCASTED MONTHLY MANHOURS
MANHRS RESOURCE 21000
TARG SCH 31 ES

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 OPS /DAY AVERAGE



MONTHLY RESOURCE USAGE
MANHOURS INCREASING BASE

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

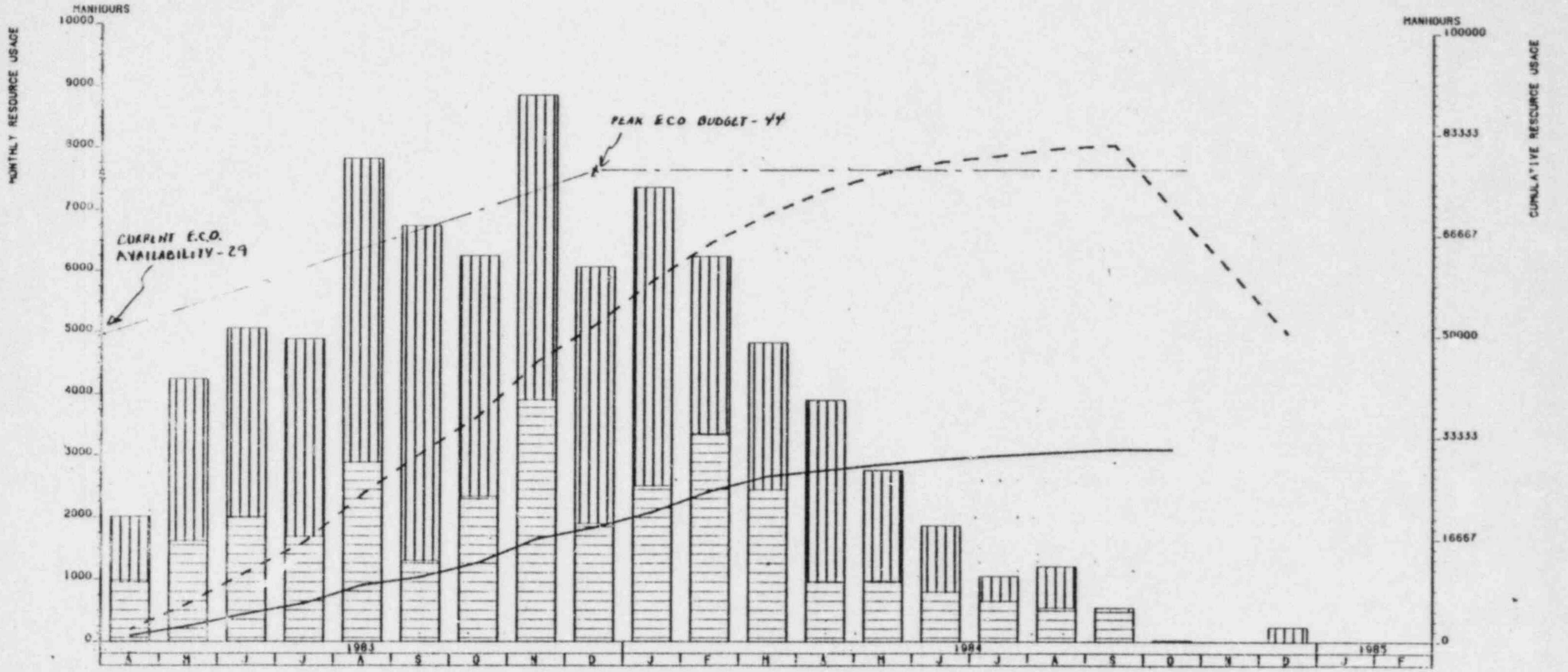
UNIT 1 OP FORCASTED MONTHLY MANHOURS
MANHRS RESOURCE 31100
TARG SCH 31 ES

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 - 30 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

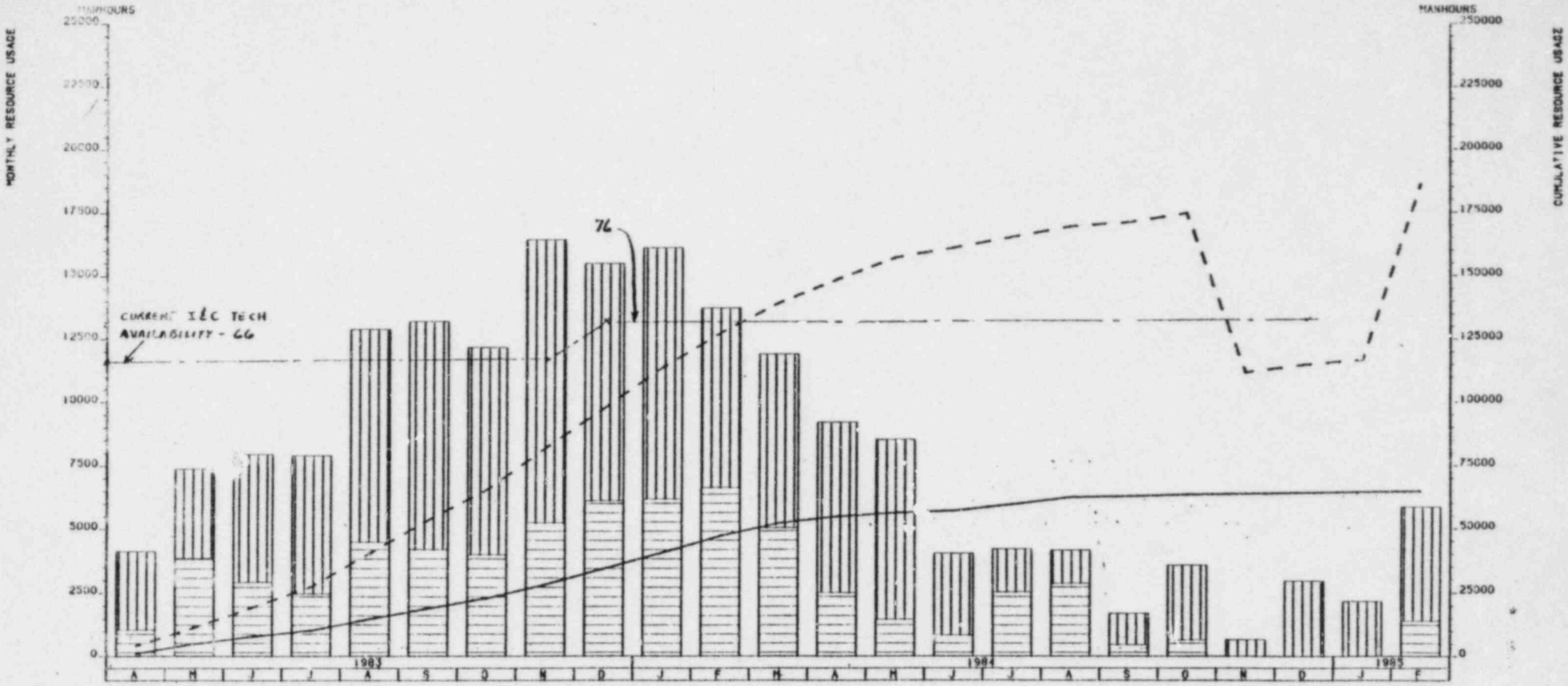
UNIT 1 ECO FORCASTED MONTHLY MANHOURS
MANHRS RESOURCE 21200
TARG SCH 31 ES

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

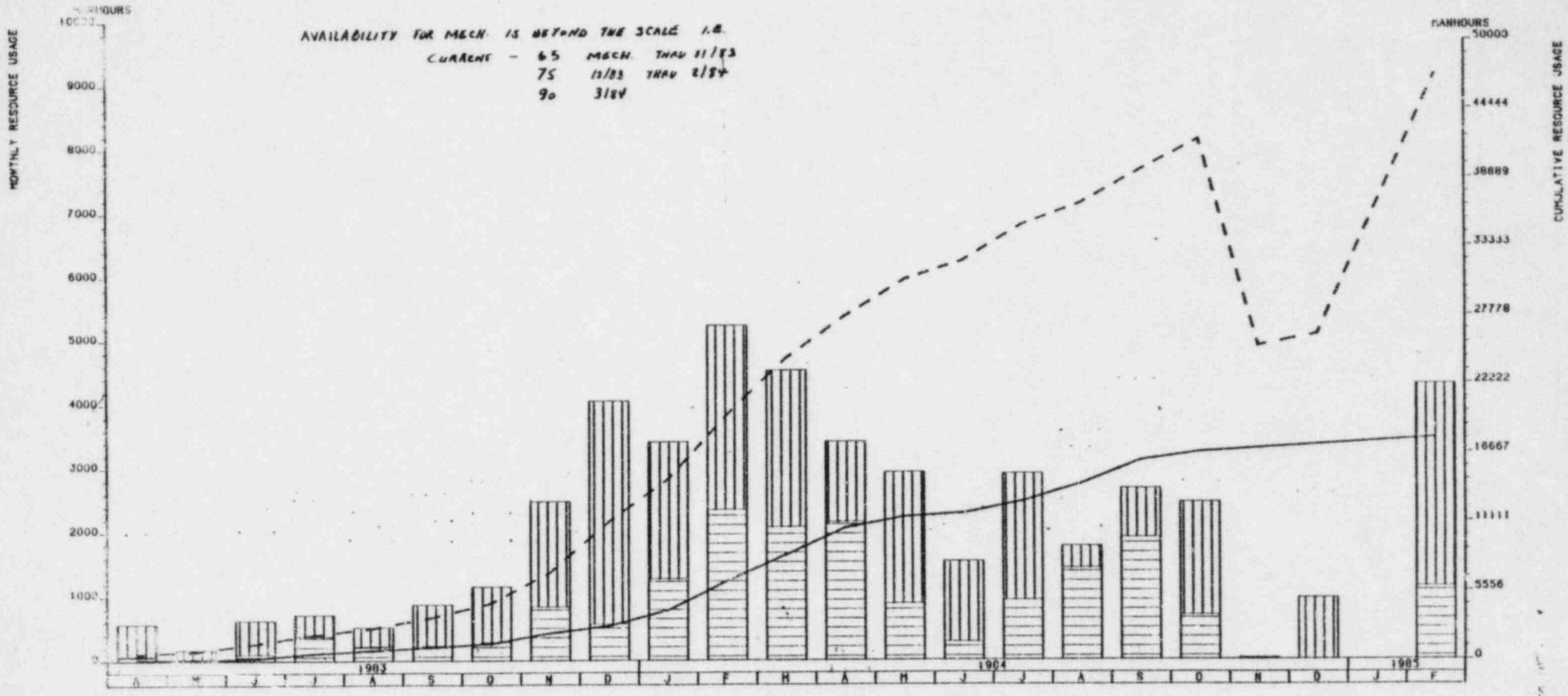
UNIT 1 I&C FORCASTED MONTHLY MANHOURS
MANHRS RESOURCE 31300
TARG SCH 31 ES

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 MNHR /DAY



MONTHLY RESOURCE USAGE
MANHOURS INCREASING BASE

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

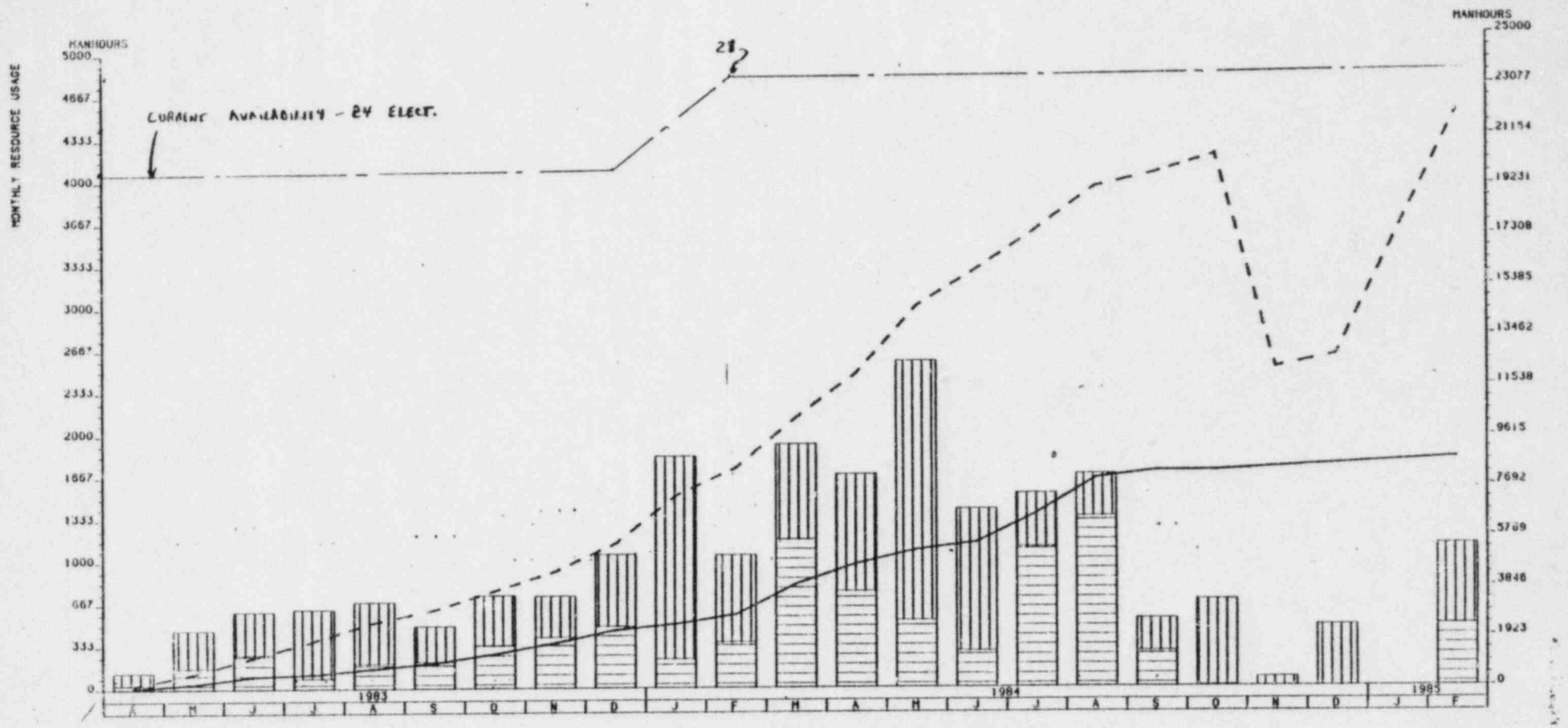
UNIT 1 MM FORCASTED MONTHLY MANHOURS
MANHRS RESOURCE 31500
TARG SCH 31 ES

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

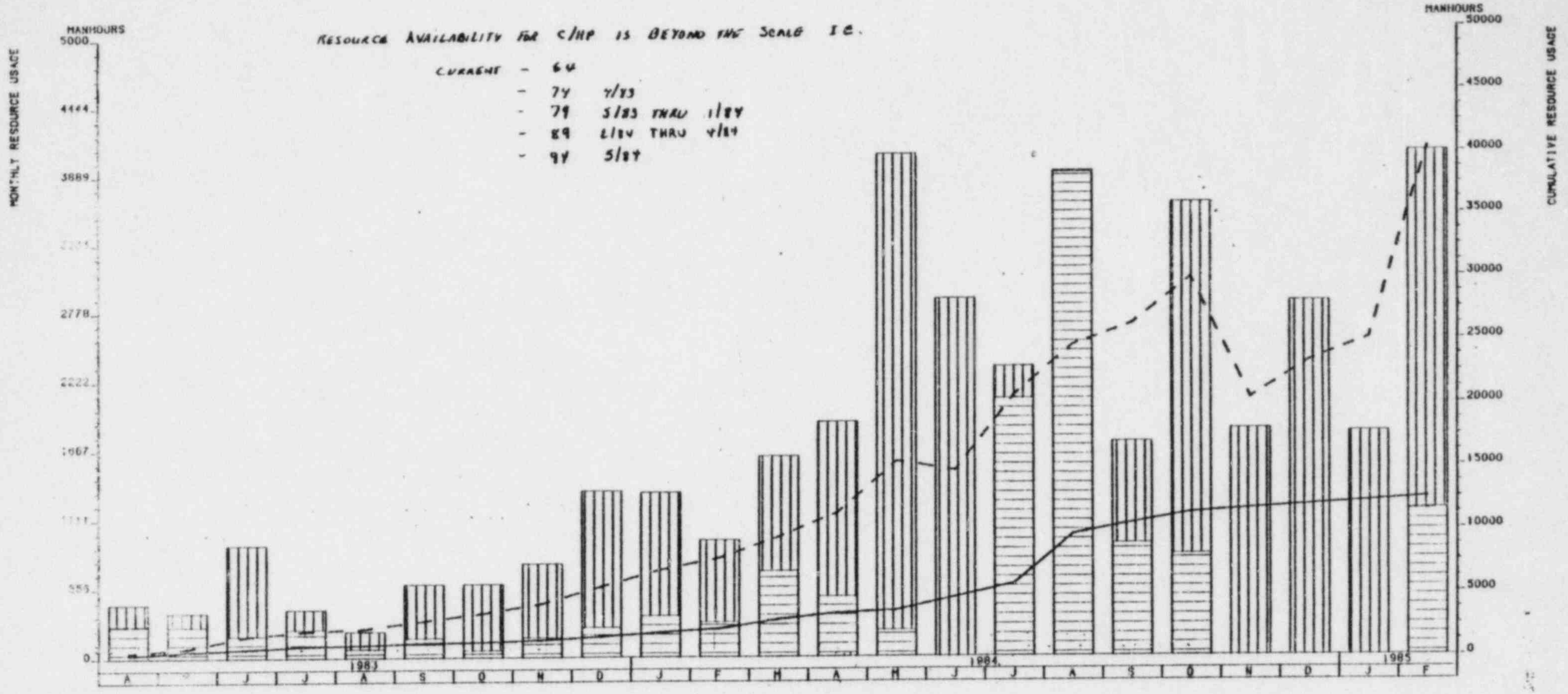
UNIT 1 ME FORCASTED MONTHLY MANHOURS
MANHRS RESOURCE 31400
TARG SCH 31 ES

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 ICHP /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

Table 1
PROC. STATUS

MIDLAND ENERGY CENTER
TECHNICAL DEPT.

PROCEDURE DEVELOPMENT & APPROVAL STATUS REPORT

AS OF 3/31/83

		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	
TOTAL	GP	7	0	0	6	4	21	7	1	46	
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	
TOTAL	GP	0	—	—	0	1	0	0	1	2	
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	
TOTAL	GP	3	—	—	4	0	0	1	0	8	
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	
TOTAL	GP	2	—	—	0	0	0	0	0	2	
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	
TOTAL	GP	2	—	—	2	3	21	6	0	34	
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 REPORT
TOTAL 45 %											

TABLE I

Table 2
TEST 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
1SP-NNI.01	Non-Nuclear Instrumentation (NNI) Initial Energization	Approval Cycle
OSP-PIN.05	BOP Rack Power Supply Checkout	Approved

Table 5
Rev 12 Tests

[illegible] 2FP-KA.1 PERF ON FP-KA.1 SEC 7.1 (175)2E [illegible]	.SLA 2SP-PIE.36 PS RACK C/C 2C-49 (FIN)2F	FLSH 2FP-LG.34 FLUSH DOWNSTREAM PIPING (2CP)2E
UNIT 2/COMMON	UNIT 2/COMMON	UNIT 2/COMMON
JAN	FEB	MAR

1983

APR	MAY	JUN
	2RLC 2SP-FIN.36 BCP RACK C/O 2C-166 (FIN)2F 2RLL 2SF-PIN.34 PT 2 LADDER CHECKS (FIN)2J UNIT 2/COMMON UNIT 1 1FLA 1SF-FIN.36 PS RACK C/O 1C-49 (PIN)1F	2ACA 2FP-AL.31 CNC PMP IFR/FLSH VIA "I" (CLS)2F 2ATF 2FP-AT.33 INST TEMP MODS (FSS)2T 2ATH 2FP-AT.31 EVAP FD FLSH TO DA (FSS)2T 2ATK 2FP-AT.31 FLUSH DA (PSS)2T UNIT 2/COMMON

1983

RKC 0SP-ANF.3* LOGIC VERIF (ATM)2T
2LF 2FF-FL.31 SYSTEM FLUSH (FPW)2I
ATL 0FP-AT.33 FLUSH LOOP 1 (FSS)2T
ATL 0FP-AT.31 LP FD HDR FLUSH (FSS)2T
ATE 0FP-AT.33 FLSH LOOP 2 (FSS)2T
ATL 0FP-AT.31 LP FD PMP SUCTION FLSH (FSS)2T

UNIT 2/COMMON

JUL

2KEI 2SF-FHS.05 FUEL XFER EQ C/O&ADJ (FHS)2C
AEA-2 0FF-AT.35 OPEN X-F VLV F/LINE INS(FSS)2T
RKU 0SP-ANN.06 LOGIC VERIFICATION (ANN)2J
ATA 0FP-AT.35 HP STM FLSH LINE IN TUNNEL(FSS)2T
ATP 0FP-AT.33 FLSH LOOP 3 (FSS)2T
ATP 0FP-AT.33 FLSH LOOP 4 (FSS)2T
ATL 0FP-AT.31 HP FD PMP SUCTION FLSH (FSS)2T
ATL 0FP-AT.31 MISC FLUSH LP FD (FSS)2T
ATA 0FP-AT.35 HP STM FLSH TO TUNNEL (FSS)2T

UNIT 2/COMMON

UNIT 1

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

AUG

2SAB 2SP-ESA.31 IAC C/O (ESA)2C
PCA 2FP-PC.31 TO PZR/SURF PMPS/PX TANK (CPR)2E
2PCC 2FP-PC.32 VELOCITY FLUSH (RLF)2E
KEC 0TF-FHS.03 AFFH BRIDGE (DRY IND) (FHS)2C
ATA 0AP-PSS.33 &.34 HANGER CHECK COLD (FSS)2T
ATA 0FF-AT.33 EVAP TUBE SIDE CLEANING)2T
ATA 0FP-AT.35 HP STM FLSH FM PRV (FSS)2T
ATA 0FF-AT.35 HP STM INSP & CLOSE (FSS)2T
ATE 0FP-AT.33 FLSH LOOP 5 (FSS)2T
ATF 0FP-AT.33 FLSH LOOP 6 (FSS)2T
ATA 0FF-AT.35 LP STM OPEN HCS EXTRACTION(FSS)2T
ATP 0FF-AT.33 FLUSH LOOP 7 (FSS)2T

UNIT 2/COMMON

UNIT 1

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

SEP

1983

2KEM 2TP-FHS.05 RPFM DRY PREOP & INDEX (FHS)2A
2SAE 2TP-ESA.01 LOGIC PRE-OP (ESA)2C
2KFI 2TP-FHS.04 FUEL XFER PRE-OP (FHS)2C
2BGC 2SP-MUP.05 MU PUMP INIT RUN (MUP)2F
2RLP 2SP-PIN.06 RCP PACK C/O 2C-445 A&B (PIN)2C
2SAA 2SP-ESA.02 ECCAS LOGIC TEST (ESA)2I
2SFF 2SP-CRD.01 C/O CRD MG SET (CRD)2J
2CCA 2FP-CE.01 IPR & EXTERNAL FLUSH (SCS)2F
2BGA 2FP-BG.01 FLSH W/CH PMP TO MU TANK (MUP)2E
2BGC 2FP-BG.01 FLSH-MU TK TO MU PMP (MUP)2B
2BGC 2FP-BG.01 FLSH TO SUCT-CF FILL PMP (MUP)2B
2BGE 2FP-BG.01 FLUSH HPI LINES (MUP)2F
2BGC 2FP-BG.01 FLUSH MAKEUP SYS (MUP)2F
2ENA 2FP-EN.01 FLUSH BWST LINES (RCS)2F
2EGA 0FP-EG.01 FLUSH SEAL RETURN COOLERS (CCW)2B
2EGA 0FP-EG.01 MU PMP L/O CLRS 2B5PA.P (CCW)2F
2EAE 0FP-EA.01 PRELIM FLUSH & BAL LOOP E (SWS)2F
2AE 2FP-AE.01 CPLT IPR/CCND SYS FLUSH (CDS)2G
2AEA 2FP-AE.01 IPR FWBP/RECRC FSH FM DEA (FWS)2G
2AFA 0FP-AP.02 GRAV FLSH ELEC AFWP SUCT (CSS)2G
2KEC 2TP-FHS.01 NEW FUEL ELEVATOR PRE-OP (FHS)2C
2KEE 0AP-FHS.01 FUEL INSP SYS DRY ACCEPT (FHS)2C
2PL 0AP-FHS.01 FILL OT-1P (UPW)2C
2FAE 0AP-FAS.03 HP AUX BLR INIT STARTUP (HAS)2I
2EAA 0SP-SWS.02 INIT RUN B & D PUMPS (SWS)2F
2PLB 0FP-PL.02 FLUSH TO OT-15 THRU X-OVER(UPW)2C
2PLC 0FP-PL.01 SYSTEM FLUSH (UPW)2C
2ECA 0FP-EC.01 VEL FLSH ENTIRE SYSTEM (FPC)2C
2ATA 0FP-AT.05 LP STM HDR INSPECT (PSS)2T

UNIT 2/COMMON

UNIT 1

1KEI 1TP-FHS.04 FUEL XFER PRE-OP (FHS)2C
1PCA 1FP-PC.01 GRAV FLSH TO DHP SUCT (DHR)1B
1ECA 0FP-EC.01 IPRFFSH COMPCM HT EX LP (CCW)1B
1EGA 0FP-EG.01 FLSH/CLN/FILL SRGE TK LF (CCW)1P
1EGA 0FP-EC.01 FLUSH DH PMP SEAL COOLERS (CCW)1H
1ECA 0FP-EC.01 GRAV FSH TO PMP SUCT LF (CCW)1B

OCT

2AKC 2FP-AK.01 PARTIAL FLUSH FM 2 PPA (CCD)2
2AKC 2FP-AK.01 IPR 2P&2P-15&29/CPLT FLSH (CCD)2C
2EGA 0FP-EG.01 2 FSH CLN/FIL SRGE TK LA (CCW)2I
2EGA 0FP-EG.01 GRAV FLUSH TO PMP SUCT (CCW)2F
2AD 2FP-AE.01 DRN/CLN/INSP HTWELL/MOD (CDS)2C
2AE 2FP-AE.01 REC FLSH FW THRU COND DEM (FWS)2G
2AD 2FP-AE.01 RECRC FLSH COND THRU C (CDS)2C
2AKA 2FP-AK.01 SM IPR & COMPLETE FLUSH (CCD)2C
2AKA 2FP-AK.01 COND DEMIN FLSH SP PIPE (CCD)2G
2ALA 2FP-AL.01 FLUSH TO POND (AFW)2C
2ALA 2FP-AL.01 FLUSH TO OTSG (AFW)2C
2ALA 2FP-AL.01 FLSH AFW&CYC CLNUP TO DA (AFW)2C
2LKA 2FP-AK.01 FSH TO PMP DISCH FM AFW (SCR)2C
2EHA 2FP-EH.01 BLOW N2 TO CF TKS (CFS)2F
2AKC 2FP-AK.04 COND DEM INST PPG AIR BLO (CCD)2C
2AKA 2FP-AK.04 COND DEM INST PPG AIR BLO (CCD)2G
2ATL 0FP-AT.01 HP-FD HDR FLUSH (PSS2TF
2KCC 0FP-KC.05 SYS FLUSH & C/O (CWS)25
2QCE 0FP-QC.01 JACKET WATER FLUSH (YFL)25
2KHH 0FP-KH-08 VAC (TURB LAB) AB/FURC (LSD)2G

UNIT 2/COMMON

UNIT 1

1RFA 1TP-RCS.15 REMOVE CORE SUPPORT ASSY (RCS)1P
1ECA 1SP-DHR.01 DH IPR & RECRC TO BWST (DHR)1F
1BGC 1SP-MUP-05 MU PUMP INIT RUN (MUP)1P
1SAF 1SP-ESA.01 ISC C/O (ESA)1C
1RLP 0SP-PIN.06 RCP PACK C/O 1C-445 A&B (PIN)16
1SFF 1SP-CRD.01 C/O CRD MG SET (CRD)1J
1BCA 1FP-BC.01 FLSH-PZR,MU/P PRESREF SAM (CPR)1P
1BGA 1FP-BG.01 FLSH W/CH PMP TO M/U TANK (MUP)1F
1BGH 1FP-BG.04 FLUSH DOWNSTREAM PIPING (MUP)1F
1BGG 1FP-BG.02 VELOCITY FLUSH (MUP)1B
1BGG 1FP-BG.02 FILL 1T-64 (MUP)1B
1BCC 1FP-BC.02 FLUSH TO & FILL 1T-7 A,B,C(MUP)1H
1BGC 1FP-BG.01 FLUSH (MUP)1E
1BGC 1FP-BG.01 PWST FLUSH MU PUMP SUCTION(MUP)1F
1BGC 1FP-BG.01 FLSH FR MU TNK TO MU PMP (MUP)1P
1BGC 1FP-BG.02 GRAV FLSH TO PA ADD PMP S (MUP)1B
1BCH 1FP-BG.04 FLUSH SUCTION OF 1P-6A (MUP)1F
1BCH 1FP-BG.04 FLUSH SUCTION OF 1P-6B)1P
1EGA 0FP-EG.01 MU PMP L/O CLRS 1P-5PA,P (CCW)1F
1EGA 0FP-EG.01 FLUSH SEAL RETURN COOLERS (CCW)1F
1EAE 0FP-EA.01 PRELIM FLUSH & BAL LOOP P (SWS)1F

NOV

2AGC 0FP-AG.01 PROOF FLUSH & CAP CHECK (FWC)2F
2AGC 0FP-AG.01 INST AIR BLOW (FWC)2F
2KAM 0FP-KA.02 BLOWDOWN SEC 7.1 (SAS)2J
2ECA 2TP-FPC.01 PREOP TEST (FPC)2C
2ATE 0AP-PSS.01 INTERLOCK & CONT. TEST (PSS2TF
2ATA 0AP-PSS.03 HTUP MN STM-XFER VLVS (PSS2TF
2ATA 0AP-PSS.03 HTUP MN STM LINE TO ISO (PSS2TF
2ATE 0AP-PSS.03 HP/LP LINE INIT HEATUP (PSS2TF
2ATA 0AP-PSS.03 HTUP LP STEAM TO TURB (PSS2TF
2ATA 0AP-PSS.03 SET MN STM HANGERS (PSS2TF
2ATE 0FP-AT.06 INSPECT & CLEAN HEADER (PSS2TF
2ATA 0FP-AT.05 COND/VENT FLSH FM PSS BLDG(PSS2TF
2ATL 0FP-AT.01 MISC FLUSH HP FS (PSS2TF
2ATA 0FP-AT.05 COND/VENT FLSH T/TURB BLDG(PSS2TF
2RCG 0FP-AT.01 FLUSH COOLING WATER LINES (ESX2TF
2ATA 0FP-AT.05 LP STM HDR CLOSE EXT (PSS2TF
2RCH 0FP-AT-01 FLUSH SAMPLE LINES 2TF
2AGA 0FP-AG.01 IPR & FLUSH (FWC)2F
2AGA 0FP-AG.01 FILL SYS W/CHM CH (FWC)2F
2AGA 0FP-AG.01 FILL & VENT SYSTEM (FWC)2F
2AGA 0FP-AG.01 DRAIN & BLOW DRY (FWC)2F

UNIT 2/COMMON

UNIT 1

1SAE 1TP-ESA.01 ESFAS LOGIC PRE-OP (ESA)1C
1BBC 1TP-RCS.28 RCP IMP & LOGIC C/O (RCS)1C
1SAA 1SP-ESA.02 ECCAS LOGIC TEST (ESA)1I
1SFF 1SP-CRD.02 INIT ENER/CALB CRD SYS (CRD)1J
1BGE 1FP-BG.01 FLUSH HPI LINES (MUP)1F
1BGC 1FP-BG.01 FLSH-SUCT OF CF FILL PMP (MUP)1F
1BCD 1FP-BC.01 FLUSH SEAL INJECTION LINES(MUP)1F
1BGC 1FP-BG.01 FLSH CF FILL PMP TO CF TK (MUP)1F
1BBA 1FP-BB.01 FM CF/DH/MU FLUSH TO RCS (RCS)1F
1BHA 1FP-BH.01 CF FLUSH TO RX VESSEL (CFS)1F
1BHA 1FP-BH.01 FLSH MU SUPPLY TO CF (CFS)1F
1EGA 0FP-EG.01 FLUSH RCP MOTOR COOLERS (CCW)1C
1ADA 1FP-AE.01 FLSH TO COND VIA MIN REC (CDS)1F
1AFA 0FP-AP.01 PARTIAL FLUSH TO HOTWELL (CSS)1F
1AEA 1FP-AE.01 FWBP IPR/FL FM DA TO COND (FWS)1C
1AD 1FP-AE.01 FILL DA/COND PMP ON MIN (CDS)1C
1AG 1FP-AE-01 COMPL CON SYS IPR/COND FL (CDS)1C
1AFA 0FP-AP.01 GRAVITY FL ELEC AFWP SUCT (CSS)1C
1EAG 0FP-EA.01 PRELIM FLUSH & BAL LOOP E (SWS)2C
1EHA 1FP-EH.01 BLOW N2 TO CF TKS (CFS)1E
1AKA 1FP-AK.04 COND DEMIN INST AIR BLOW (CCD)1C

DEC

1983

OCT	NOV	DEC

NOV

UNIT 2/COMMON

2DBA	2TP-RCS.34	PRE-HFT INTERN INSP(CSA)	(RCS)2C
2BBC	2TP-RCS.35	RCP IMS & LOGIC	(RCS)2C
2DBA	2TP-RCS.34	PRE-HFT INTERN INSP (RV)	(RCS)2C
2SFA	2SP-CRD.04	PI C/O	(CRD)2F
2BLC	3SF-RIT.06	BOP RACK C/O 2C-31	(RIM)2C
2SFF	2SP-CRD.02	INIT ENER/CALIB CRD SYS	(CRD)2J
2CCA	2FP-CS.01	COMPLETE SYS FLUSH	(SCS2TF
2BGC	2FP-BG.01	FLSH CF FILL PMP TO CF TK	(MUP)2C
2BGD	2FP-BG.01	FLUSH SEAL INJECTION LINES	(MUP)2F
2BHA	2FF-BH.01	FLSH MU SUPPLY TO CF	(CFS)2E
2BHA	2FF-BH.01	CF FLUSH TO RX VESSEL	(CFS)2P
2BBA	2FP-BB.01	PM CF/CH/MU FLUSH TO RCS	(RCS)2C

DEC

UNIT 2/COMMON

2BBA	2TP-RCS 16+	VENT VLV, SSHT & DH TEST	(RCS)2C
2BBA	2TP-CHM.01	RCS CHEM TEST RCS FILL	(RCS)2C
2SBD	2TP-CHM.02	OTSG PREOP CHEM/OTSG FIL	(RCS)2C
2BCA	2TP-MUP.01	MU/P/RX CHEM AD VV/FSHT	(MUP)2P
2BBA	2TP-RCS.18	RX VESSEL STUD HDNL TEST	(RCS)2C
2BBA	2TP-RCS.1	SET FLEXUP IN RV	(RCS)2C
2BBA	2TP-RCS.14+	PM RCS INITIAL FILL	(RCS)2P
2BBA	2TP-RCS.15+	SET HEAD & TENSION	(RCS)2F
2BBA	2TP-RCS.06+	OTSG FILL & LVL VERIF	(RCS)2D
2BBF	2TP-RCS.05	PZR LVL VERIFY RCS FILL	(RCS)2C
2BBA	2TP-RCS.04	PRE-HFT INTER INSP(FLEX)	(RCS)2C
2SAA	2TP-ESA.02	ECCAS LOGIC PRE-OP	(ESA)2I
2SFB	2TP-CRD.01	CRD PRE-OP	(CRD)2J
2SCP	2SP-NNI.06	POWER SUPPLY CALIB.	(NNI)2P
2SCD	2SP-NNI.05	PROB PROXIMETER CALIB.	(NNI)2D
2SCB	2SP-NNI.10	DUAL PULSE SHAPER CALIB	(NNI)2D
2SCB	2SP-NNI.07	DUAL RAD VIB MON CALIB	(NNI)2D
2SCB	2SP-NNI.08	T5-4 TAPE RECORDER C/O	(NNI)2C
2SCB	2SP-NNI.09	BENT NEV 9000 SERIES C/O	(NNI)2C
2AE	2SP-CHM.01	COND/FW ALKALINE CLEAN	(FWS)2H
2AD	2SP-CHM.01	CHEM CLEAN COND & FW SYS	(CFS)2H
2CKA	2FF-CK.01	FILL IPR & FLUSH	(ECC)2TF
2AEA-2	0FP-AE.05	CLOSE MS XFER VALVE	(MSS)2TF
2AB	0FP-AL.01	CRAWL DOWN STM LINE	)2C
2AKC	2FP-AK.03	COND DEMIN CHEM ADD FLUSH	(CDD)2D
2AKC	2FF-AK.01	FILL & FLUSH	(CDD)2C
2AKA	2FP-AK.02	COND DEMIN FLSH EG PIPE	(CDD)2D
2BBA	2FP-BB.01	INSPECT & CLEAN RCS	(RCS)2E
2BCC	2FF-BG.01	TO SEAL RTN CLR/MU TK	(MUP)2P
2BGB	2FF-BG.01	FLSH EG VENTS, DRNS W/ 2	(MUP)2F
2EAC	0FP-EA.01	PRELIM FLUSH & BAL LOOP B	(SWS)2E
2EGA	0FP-EG.01	IPR/FSH CCW/DH HT EXC LP	(CCW)2D
2EGA	0FF-EG.01	IPR CRD CSTR PMP/FSH CRD	(CCW)2C
2EGA	0FP-EG.01	FSH RSTR PMP SUC/BYP CRD	(CCW)2D
2EGA	0FF-EG.01	FLUSH GAS COMPRESSORS	(CCW)2C
2EGA	0FP-EG.01	RCP SEAL CLRS 2E51A,B	(CCW)2E
2EGA	0FP-EG.01	FUEL POOL HT EXCHS 0E-76	(CCW)2P
2EGA	0FP-EG.01	LETDOWN CLRS 2E-57 A&B	(CCW)2D
2EGA	0FP-EG.01	FLUSH RAD WST EVAP 0E-27	(CCW)2D
2EGA	0FP-EG.01	FLUSH RAD WST EVAP 0E-26	(CCW)2D
2EGA	0FF-EG.01	FLUSH DEGASIFIER 0M-A,B,C	(CCW)2C
2EGA	0FF-EG.01	SPR PMP SEAL CLRS 2P-64	(CCW)2D
2SJA	2FP-SJ.01	IPR & FLUSH	(RSX)2D
2AGC	0FP-AG.01	FLUSH & PUMP CAP CHECKS	(FWC)2H
2AGC	0FP-AG.01	DRN TKS & REFL W/N2H2 SOL	(FWC)2H

1983 (CONT.)

		UNIT 2/COMMON 2BHA 2TP-CFS.31 CF CHK VLVE VV/SSHT (CFS)2C 2BBA 2TP-FHS.06 CANAL HYDRO/WET FH (SCS)2C 2BBA 2TP-FFC.01+ FILL F&F CANAL (RCS)2C 2BBA 2TP-RCS.XX SET CSA/INDEX RB POLAR (RCS)2C
OCT	NOV	DEC

1983 (CONT.)

JAN

LEKA 2FP-HK.31 FLSH SUCT PIPE TO RB SPRA (FFS)21
LEKH 2FP-EK.31 FLUSH HYDRAZINE (RBS)21
LEKP 2FP-EK.31 CLN 2T-44/FSH HYD PMP SUC (RBS)21
2EHA 2FP-BM.31 IPR & FLSH TO COOLG POND (SCR)21
2EMA 2FP-BM.31 FSH TO VLV UPS OF LWS DPN (SCR)21
2ENG 2FP-BN.31 EMER SUMP FLUSH (RBS)21
2ADA 2FP-AD.31 STM BLOW MN STEAM LINES (MSS)2TF
2CAA 2FP-CA.31 STEAM BLOW SEAL LINES (GSS)2H
2AHG 2FP-AH.04 COND LEK TEST PRG AIR BLD (CLD)2F
2AHG 2FP-HP.02 AIR FLOW PIPING (FCC)2H
0ATE 0AP-HAI.35 HE AUX HLR COMBSTN LD TST (HAS)2TR
0ATE 0AP-PSS.13 HANGER CHECK COLD (PSS)2TR
0ATA 0AP-PSS.26 RELIEF VALVE TESTING (PSS)2TR
0ATA 0AP-PSS.35 SET LP STM HDR HANGERS (PSS)2TF
0ATE 0AP-PSS.18 LP EVAP TUBE INTEG CHECK (PSS)2TF
0ATA 0AP-PSS.25 PRV PHS 1 TE-4320.0 (PSS)2TR
0ATE 0AP-PSS.12 LP EVAP L HEATUP (PSS)2TF
0ATH 0AP-PSS.12 STM PLANT SAMPLE ACCEPT (ESS)2TH
1SGA 0SP-ICS.01 INITIAL ESGD ENERGIZATION (ICS)2J
0ATE 0FP-AT.36 CLN,INSP,CLSE LP HDR-DOW (PSS)2TF

UNIT 2/COMMON

UNIT 1

1BHA 1TP-CFT.01 CF CHK VLVE VV/SSHT (FCS)1C
1SCA 1TP-CFP.31 DHR PREVVV/SSHT (CFR)1C
1BDA 1TP-RCC.31+ FILL RBF CANAL/IC TK (FCS)1C
1BCA 1TP-RCS.04 PM PRE-HFT INTERNALS INSP (FCS)1C
1BHA 1TP-RCS.16 VENT VLV/SSHT/EH TESTS (FCS)1C
1BBA 1TP-RCS.XX SET CSA/INDEX FE CRANE (FCS)1C
1CFB 1TP-CFD.31 CFD PRE OP (CFD)1J
1CCA 1SP-ICS.31 INIT ICS CHER (ICS)1J
1SGA 1FP-EC.31 FLSH/CLN/FILL SRCS TK LF (CCW)1C
1ECA 1FP-EC.31 GRAVITY FLSH TO PMP SUCT (CCW)1C
1AS 1FP-AE.31 REC FL FL THRU COND DEMIN (FWS)1C
1AS 1FP-AL.31 REC FLSH COND THRU DEMIN (CFS)1G
1AKA 1FP-AK.31 COND DEMIN FL SMALL PIPE (CFD)1C
1AKA 1FP-AK.31 IPR & COMPLETE FLUSH (CFD)1G
1ALA 1FP-AL.31 FL AFW/CYC CLEANUP TO L (AFW)1C
1ALA 1FP-AL.01 FLUSH TO OTSGS (AFW)1C
1ALA 1FP-AL.31 FLUSH TO BEAD (AFW)1G
1AKS 1FP-AF.31 FLUSH CONDENSATE XFER SYS (CSS)1G
1EHA 1FP-EY.31 FLSH-PMP DISCH FR AUX FW (SCR)1G
1AKB 1FP-AK.34 COND DEMIN INST AIR FLOW (CFD)1G
1AKC 1FP-AK.34 COND DEMIN INST AIR FLOW (CFD)1G
1KSP 0FP-KA.02 BLOW DOWN (SAS)1G

FEB

UNIT 1

1BEA 1TP-FHS.06 CANAL HYDRO/WET FH (FCS)1C
1PEG 1TP-CHM.02 OTSG PREBLR CHM FILL (FCS)1H
1BEA 1TP-CHM.31 RCS CHEM TEST RCS FILL (FCS)1C
1FGA 1TP-MUF.01 MURP &RX CHEM ADDVV/SSHT (MUP)1C
1CFA 1TP-PST.31 PRECRE THERM EXP RCS FIL (FCS)1C
1BDA 1TP-RCS.15+ SET HEAD & TENSION (FCS)1C
1BEA 1TP-RCS.19 RX VESSEL STUD HONL TEST (FCS)1C
1BGA 1TP-RCS.15 SET PLENUM IN RV (FCS)1C
1ESD 1TP-RCS.26+ OTSG FILL/LEVEL VERIFY (FCS)1C
1BHA 1TP-RCS.14+ PM RCS INITIAL FILL (FCS)1D
1CBE 1TP-RCS.15 PZR LEVEL VERIF RCS FILL (FCS)1C
1SAA 1TP-ESA.02 ECCAS LOGIC PREOP (ESA)11
1EGC 1TP-MUF.01 MU SYS PRE-OP (PARTIAL) (MUP)11
1SFA 1SP-CRD.14 FI C/O (CFD)1C
1SCF 1SP-NNI.36 POWER SUPPLY CALIB. (NNI)1L
1SCP 1SP-NNI.25 PROB PROXIMETER CALIB. (NNI)1F
1SCE 1SP-NNI.07 DUAL RAD VIB MON CALIB (NNI)1L
1AE 1SP-CHM.01 COND/FW ALKALINE CLEAN (FWS)1H
1CEA 1FP-CE.31 COMPLETE SYS FLUSH (SCS)1TF
1CCA 1FP-CE.31 IPR & EXTERNAL FLSH (SCS)1TF
1CKA 1FP-CK.31 FILL IPR & FLUSH (EHC)1TF
1AKB 1FP-AK.01 FILL & FLUSH (CCD)1F
1AKC 1FP-AK.31 IPR & COMPLETE FLUSH (CFD)1C
1AKC 1FP-AK.33 COND DEMIN CHEM ADD FLUSH (CFD)1C
1AKC 1FP-AK.31 PARTIAL FLUSH FROM 1AKA (CLD)1F
1AKA 1FP-AK.32 COND DEMIN FL LARGE PIPE (CFD)1G
1BEA 1FP-BE.31 INSPECT & CLEAN RCS (FCS)1C
1BCF 1FP-GC.01 FLSH SG VENTS,DRNS W/1 (MUP)1C
1SGC 1FP-EG.31 FLSH-SEAL RTN CLR & MU TK (MUP)1C
1EGA 0FP-EC.31 FLSH SSTR PMP SUC/BYP CFD (CCW)1G
1ECA 0FP-EC.31 SPR PMP SEAL CLRS 1I-64 (CCW)1C
1ECA 0FP-EC.31 FLSH LTDWN CLRS 1E-67 AFF (CCW)1C
1ECA 0FP-EC.31 IFR CRD -STR PMP/FLSH CHR (CCW)1C
1ECA 0FP-EC.31 RC PMP SEAL CLRS 1P-51AHC (CCW)1C
1ECA 0FP-EC.31 IPR/FSH CCWRDN HT EX LP (CCW)1C
1ECA 0FP-EG.31 FUEL POOL HT EXCHS 0E-76 (CCW)1D
1SJA 1FP-SJ.31 IPR & FLUSH (RSX)1C
1AGC 0FP-AG.31 FL/PMP HEAD CAPACITY C/O (FWC)1H
1AGC 0FP-AG.31 FLUSH & PMP CAPACITY CK (FWC)1H
1AGP 0FP-AG.01 DRAIN TK & REFILL W/NH4OH (FWC)1H
1AGC 0FP-AG.01 DRAIN TKS & REFILL W/N2H2 (FWC)1H
1BGA 1FP-BC.31 FLSH L/D TO RCS W/DH PUMP (MUP)11
1HAA 0FP-HA.31 PLCW/TIS HDR-AP VT 3HAB (FWG)1D

MAR

0HFA 0FP-HF.02 FL CHEM WST REC PMP SUCT (LWS)2J
0HFB 0FP-HF.02 FL W/UTILITY WTR TO HWC (LWS)2J
0HLA 0FP-HE.32 FL CHEM WST DRNS TO REC TK (LWS)2J
0HFA 0FP-HE.02 GRAVITY FLUSH PUMP SUCTION (LWS)2J
0HFC 0FP-HP.02 FL LIQ WST SYS W/UTIL WTR (LWS)2J
0HEE 0FP-HE.02 IPR/FLSH FMP DEG-MIX BED (RRS)2J
0HEG 0FP-HE.04 DEGAS INLET USING HEE PMP (RRS)2J
0HEF 0FP-HE.02 GRAV DRN EDT PMP SUC LINE (RRS)2J
0HEE 0FP-HE.04 GRAV FLSH PUMP SUCT LINE (RRS)2J
0HEF 0FP-HF.04 FIL DEGAS-FLA IFR FSH-RRS (RRS)2J
0HAD 0FP-HA.01 3HAD/FAE GAS FLOWS (PWG)2J
0HAG 0FP-HA.02 N2 FLOW RRS VENT HDR (RWG)2J
0HAI 0FP-HA.03 N2 BLOW RESIN VENT HDR (RWG)2J
0SJA 2FP-SJ.31 N2 FLD FM WST GAS DEC TK (RSX)2J

UNIT 2/COMMON

UNIT 1

1PED 1TP-MUP.13 MU SYS LTDWN CTL TROPPLS (PCS)1L
1LFA 1TP-RCS.05 DRAW PZR BUBBLE (FCS)1D
1BDA 1TP-RCS.21+ PM RCS HYDRO TEST (FCS)1F
1PFA 1TP-RCS.02 RCP INIT RUN (FCS)1I
1ALA 1TP-AFW.01 (PART) AUX FW PRE-OP (AFW)11
1FCA 1TP-DHR.01 RCS RECIRC & FLOW ALARMS (DHR)11
1SCA 1TP-DHR.01 BWST RECIRC DEMONSTRATION (DHR)11
1ALF 1TP-MSS.01 (MS ISOLATION VALVE) (MSS)11
1PEA 1TP-MUP.04 PM HPI ESFAS TEST (FCS)11
1ErA 1TP-RCS.13 SM OTSG HYDRO)11
1EEA 1TP-RCS.12 PM RCP FLOW TEST (FCS)11
1DGB 1TP-RCS.05 PZR LEVL VERIF RCS HYDRO (FCS)11
1EEC 1SP-EPA.01 RCP START VOLT DOC TEST (FCS)1D
1SCA 1SP-NNI.09 BENT NEV 9000 SERIES C/O (NNI)1C
1AE 1SP-CHM.01 COND/FW SYS RINSE (FWS)1H
1EAC 0FP-EA.31 PRELIM FLUSH & CAL LOOP A (SWS)1TH
1EKH 1FP-EK.31 HYDRAZINE SYS FLUSH (RBS)11
1EKP 1FP-EK.31 CLN 1T-44/FLSH HYD PMP SU (RBS)11
1EKA 1FP-EK.31 FLSH SUCT PPG TO RB SPRAY (RBS)11
1EMA 1FP-EM.31 FLSH-VLV UPSTRM OF LWS DR (SCR)11
1EMA 1FP-EM.31 IPR AND FLSH TO COOLG PND (SCR)11
1ENG 1FP-EN.31 EMER SUMP FLUSH (RBS)11
1EAC 0FP-EA.31 PRELIM FLUSH & CAL LOOP A (SWS)2J
1EAC 0FP-EA.01 PRELIM FLUSH & CAL LOOP A (SWS)2J
1EAC 0FP-EA.01 PRELIM FLUSH & CAL LOOP B (SWS)2J
1ADA 1FP-AD.31 STM BLOW MN STEAM LINES (MSS)11
1BGB 1FP-BG.31 BLOW SERVICE AIR TO 3-HAI (MUP)2J
1BGG 1FP-BC.32 BLOW N2 TO 3HAG (MUP)2J

1984

JAN

UNIT 2/COMMON

.FFA 2TP-PHF.?? MU LTDWN CFNTL ?CP PUP (PCS)2L
.FFA 2TP-RCS.?1* PM RCS HYDRO (FCS)2F
?FCA 2TP-RCS.?5 DRAW PZR BUB (PZR LVL V) (RCS)2L
?BEA 2TP-RCS.?2 INIT RC PUMP RUNS SEC .? (FCS)2C
?ALA 2TP-AFW.?1 (PART) AUX FW PRE-OP (AFW)2I
?FCA 2TP-DHR.?1 DUMP TO SUMP FLOW TEST (DHR)2I
.FCA 2TP-DHR.?? RCS RECIRC & FLOW ALARMS (DHR)2I
?FCA 2TP-DHR.?1 BWST RECIRC DEMONSTRATION(DHR)2I
.FCA 2TP-DHR.?1 COMMON REPAIR MODE RECRC (DHR)2I
?ALL 2TP-MSS.?1 (MS ISOLATION VALVES) (MSS)2I
?FCA 2TP-SFF.?4 PM ESFAS TEST (RCS)2I
.FGC 2TP-MUI.?1 MU SYSTEM PREOP (MUP)2I
?GDE 2TP-RCS.?? PZR LEVEL VERI RCS HYDR (RCS)2I
?ELA 2TP-RCS.1? PM RCP FLOW TEST (RCS)2?
?BEA 2TP-RCS.1? SM CTSG HYDRO (RCS)2I
.ABA-2 ?AP-FSS.?3 HEATUP MS LINE TO XFER (MSS)2R
.ACA-2 ?AP-XXX C/O OPER VLV/OPER CKLD (MSS)2R
.CCA 2AP-GGS.?2 GEN AIR DROP TEST (GGS)2H
.CGA 2AP-GSO.?1 HYDROGEN SEAL OIL ACCEPT (GSO)2H
.AE 2SP-CPR.?1 COND/FW SYS RINSE (FWS)2H
?FCA 2SP-DHR.?2 RWST LINE LOSS TEST (DHR)2I
.SGA 2SP-ICS.?1 INIT ICS OPER (ICS)2J
?ACA-? ?FP-AB.?1 CRAWL STM LINE BET MSIV & TURTR
?ACE ?FP-AC.?1 DRAIN TK & REFILL (FWC)2H
.FGA 2FP-FG.?1 FLSH L/D TO RCS W/DW PMP (MUP)2I
?FFA ?FP-FF.?1 * INITIAL PMP RUN (F?S)2I

FEB

.FFA 2TP-CFS.?1 PM CF CK VLV OPER TEST (FCS)2I
?EFA 2TP-DHR.?5 PM LPI ESFAS TESTS (RCS)2I
?ECA 2TP-DHR.?3 DHR FSAF TEST (DHR)2I
.FCA 2TP-DHR.?1 BACKUP SF COOLING DEMO (DHR)2I
?JLA 2TP-EFG.?1 EMER DFO STOR (EFO)2J
.SGA 2TP-ICS.?1 ICS OPEN LOOP PREOP (ICS)2J
?CCA 2AP-GGS.?1 GENERATOR GAS SYS ACCEPT (GGS)2H
?CAA 2AP-GSS.?1 STEAM SEAL SYS ACCEPT (GSS)2H
?CB 2AP-TGL.?3 CBA/CFC MN TUR L.O. (MLO)2H
?EAE 2FP-EA.?1 PRELIM FLUSH & PAL LOOP A (SWS)2R
?ECA 2FP-EC.?1 FLUSH LINES TO SF POOL (DHR)2I
.CFF 2FP-CJ.?1 FILL FW PMP L/O SYS (LCS)2J
?GEA 2FP-CP.?1 IPR & PROOF FLUSH (CHW)2J
?JFA 2FP-JF.?1 IPR & FLUSH (SFC)2J
.JEA 2FP-JE.?1 DRAIN & CLEAN DAY TANKS (DFO)2J
.PFF 2FP-PE.?1 FLUSH F/O SYS (PFS)2J
.FEA 2FP-PE.?1 FLUSH F/O SYS (PFS)2J
?HAA 2FP-HA.?5 N2 BLOW RX & AUX BLDG VENT(RWG)1?
?KAC 2FP-KA.?1 BLOWDOWN SEC 7.? (IAS)2J
?ECA 1TP-FFC.?1 PREOP TEST (FFC)1C
.HSF 2TP-LWS.?2 SEAL WATER SYS PREOP (LWS)2J
.HCA 0TP-RWS.?1 RESIN STOR & HDNL PREOP (RWS)2J
.HCA 0TP-RWS.?2 FILL/VNT SPENT RESIN SYS (RWS)2J
.ATE ?AP-PSS.1? LP STM HDR SET HGRS HOT (PSS)2?
?ATE 0AP-PSS.1? LEAK TEST THX STEAM LINES(PSS)2?
.DDA 2FP-DD.?1 FLUSH (CWI)2H
?FAF ?FP-HL.?1 IPR/FL T/PMP FLANGES/FILL (LWS)2J
?HEF 2FP-HE.?1 FL PMP SUCT LINE TO CNDI (LWS)2J
?HC? 2FP-HC.?1 FILL & FLUSH (RWS)2J
?HCA 0FP-HC.?1 IPR & FLUSH (RWS)2J
?HCP 0FP-HC.?1 IPR & FLUSH RWS)2J
?CCD 2FP-GC.?2 FUEL OIL LINE FLUSH (YFL)2S
TCS.04 DOMESTIC WATER FLUSH (TSC)2S

UNIT 2/COMMON

MAR

UNIT 2/COMMON

?FCB 2AP-AXT.?1 FWP TURB NO LOAD TEST (AXT)2J
?AE 2AP-CAR.?1 SM CNDSR EVAC ACCEPT (FWS)2J
?CFD 2AP-FLO.?1 FWPT LUBE OIL ACCEPT (LCS)2J
?GAC 2SP-CWS.?1 FUNCTIONAL TEST)2H
?PEB 2SP-PES.?1 C/D AIR START SYS (PFS)2J
?PEA 2SP-PES.?1 C/D AIR START SYS (PFS)2J
.RCA 2FP-RC.?1 FLUSH SAMPLE LINES (SFS)2H
?CFD 2FP-CJ.?1 FLUSH FWPT L/O SYSTEM (LCS)2J
?EAC 0FP-EA.?1 PRELIM FLUSH & PAL LOOP B (SWS)2J
?EAD 0FP-EA.?1 PRELIM FLUSH & PAL LOOP A (SWS)2J
?EAC 0FP-EA.?1 PRELIM FLUSH & PAL LOOP A (SWS)2J
?GJA 2FP-GJ.?1 SFGRD CHILL WTR TRN 2A (SCH)2J
?GJA 2FP-GJ.?2 SFGRD CHILL WTR TRN 2B (SCH)2J
?PEA 2FP-PE.?3 FLUSH J/W SYS (PFS)2J
?PEA 2FP-PE.?2 FLUSH S/A SYS (PFS)2J
?PEA 2FP-PE.?4 FLUSH L/O SYS (PFS)2J
?PEB 2FP-PE.?4 FLUSH L/O SYS (PFS)2J
.PEB 2FP-PE.?2 FLUSH S/A SYS (PFS)2J
.PEB 2FP-PE.?3 FLUSH J/W SYS (PFS)2J
?CGB 0FP-FB.?1 STM BLOW AIR EJECTOR RPG (CAR)2H
?CGA 0FP-FF.?1 STM BLOW AIR HOGGER PIPING(CAR)2H
?GGG 2FP-GG.?2 BLOW AIR TO DRAG (MLP)2J
?GGB 2FP-GG.?1 BLOW SERVICE AIR TO D-HAT (MLP)2J
?HED ?TP-DFS.?? FILL ECT W/DEMIN WTR (FFS)2J
?HFA 0TP-LWS.?1 FILL RCVR TK FM HGA & HEH(LWS)2J
?HEL 0TP-LWS.?1 LIQUID WASTE SYS PREOP (LWS)2J
?FAE 0TP-FST.?3 EVAP BLDG PIPE THERM EXP (FFS)2?
?GAE 0AP-FTH.0? MISC BLDG ELECTRIC ACCEPT(FTH)2J
?ATE 0AP-PSS.26 LP EVAP ? REL VLVE TEST (PSS)2M
.ATE 0AP-PSS.12 LP EVAP ? HEATUP (PSS)2M
?ATE ?AP-PSS.14 "C" EVAP BOILOUT (PSS)2M
?ATE 0AP-PSS.12 LP 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)2?
?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.26 LP EVAP D REL VLVE TEST (PSS)2M
?EAA 0SP-SWS.?2 INIT RUN A,C,& E PUMPS (SWS)2J
?DDP 0FP-DD.?2 FLOW VERIF & FLUSH (CWI)2J
?GBC 0FP-GB.?2 AB CHILL WTR CLNG TWR (CHW)2J
?GBC 0FP-GB.?? IPR & PROOF FLUSH (CHW)2J

1984 (CONT.)'

UNIT 2/COMMON

CKA 2TP-EHC.02 EHC ELECTRICAL PRE-OP (EHC2TP
ACA 2TP-TGS.02 INIT TBRG ROLL (TGS2TP
MMA 2TP-EEP.02 480 VAC MCC PRE-OP (EEP)2J
SGA 2TP-ICS.01 ICS INPUT VERIF (ICS)2J
MAC 2AP-MGS.03 MN & STA XFMRS ACCEPT (MGS2TP
MAA 2AP-MGS.01 MN GENER/EXCIT (MGS2TP
MAB 2AP-MGS.02 ISO-PHASE BUS COOL ACCEPT(MGS2TP)

JAN	FEB	MAR

1984 (CONT.)

APR

[illegible]	0FP-HE.01	OTHER SYS FLSH TO RBCH	(EFS)2J
[illegible]	0FP-HE.06	GRAVITY FLUSH EVAP	(EFS)2J
0HEE	0FP-HE.05	IPR FLSH TO DEBOR DEMINS	(ERS)2J
0HGA	0FP-HG.01	LWS CRN SYS DNSTM PMPS TO	(RWD)2J
0HGA	0FP-HG.01	LWS DR TK INPUT LINE TO D	(PWD)2J
0HGA	0FP-HG.01	GRAV FLSH DR TK PMP SUCT	(FWD)2J
0KCA	0FP-KC.01	HYDRA PRECP FLOW VERIF	(FFS)2J
0KLC	0FP-KC.04	GUARDHOUSE FLUSH	(DWS)2J
0KDY	0FP-KE.02	FLUSH	(D.S)2J
0LCA	0FP-LC.01	FLSH ACID & CAUSTIC WST	)2J
0HEA-2	0FP-HE.01	FLSH DRNS TO AB COLL HDR	)2J
0HEF	0FP-HE.06	AIR FLOW TUBE SIDE OF EVAP	(EFS)2J
0KHE	0FP-KH.04	OXY(TURB LAB) AB/FUNCT	(LSG)2J
0KHE	0FP-KH.12	OXY(AUX 616) AB/FUNCT	(LSG)2J
0KHD	0FP-KH.03	PROP(TURB LAB) AB/FUNC	(LSG)2J
0KHF	0FP-KH.17	ACET(AUX 632) AB/FUNCT	(LSG)2J
0KHF	0FP-KH.05	ACET(TURB LAB) AB/FUNC	(LSG)2J
0KHI	0FP-KH.15	P-10 (AUX 632) AB/FUNC	(LSG)2J
0KHJ	0FP-KH.14	HEL (AUX 616) AB/FUNCT	(LSG)2J
0KHE	0FP-KH.11	PROP(AUX 616) AB/FUNCT	(LSG)2J
0KHD	0FP-KH.16	PROP(AUX 632) AB/FUNCT	(LSG)2J
0KHF	0FP-KH-13	ACET(AUX 616) AB/FUNCT	(LSG)2J

UNIT 2/COMMON

UNIT 1

1GHA	1TP-CFS.01	PM CF CK VLV OPER TEST	(RCS)1I
1GEA	1TP-CHR.05	PM LPI ESFAS TEST	(RCS)1I
1PCA	1TP-CHR.01	COMP. REPAIR MODE RECHC	(CHR)1I
1BCA	1TP-CHR.01	BACKUP SF COOLING DEMO	(CHR)1I
1BCA	1TP-CHR.01	RUNOUT ELEC ADD DEMO	(CHR)1I
1BCA	1TP-CHR.03	DHR ESAF TEST	(CHR)1I
1JEA	1TP-CFO.01	FIL DGFF TNKC/O LVL INST	(CFO)1J
1CCA	1AP-CGS.02	GEN AIR PREP TEST	(GCS)1R
1BCA	1FP-EC.01	FLUSH LINES TO SF POOL	(CHR)1I
1CFD	1FP-CJ.01	FILL FW PMP L/O SYS	(LCS)1J
1GHA	1FP-GH.01	IPF & 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-KL.02	DOMESTIC WATER FLUSH	(DWS)2J
1KHC	0FP-KH.01	AIR BLOW PIPING	(MCC)1R
1SCA	0FP-SL.01	AIR BLO. SAMPLE LINES	(FZM)1K

MAY

UNIT 1

1BTA	1TP-RPP.01	RX PENT PRESS (INST AIR)	(RFP)1K
1BTC	1TP-RPP.01	LK CHASE SYS LK TEST	(RFP)1K
1GGC	1TP-RTF.03	(F) 1Z17/61/25/65/66	(MLP)1K
1HGA	1TP-RTF.03	(F) 1Z46-MD	(FLP)1K
1EKD	1TP-RTF.03	(F) 1Z13	(RCS)1K
1ELA	1TP-RTF.03	(F) 1Z41	(PWW)1K
1EEA	1TP-RTF.03	1Z-19ABC20AB/35/45C-PZR	(RCS)1K
1GTC	1TP-RTF.03	(F) 1Z-33	(RIV)1K
1GSD	1TP-RTF.03	(F) 1Z-63/86	(RCC)1K
1GSC	1TP-RTF.03	(F) 1Z-15PC/16PC	(RCC)1K
1HHA	1TP-RTF.03	(F) 1Z44AB/45AB	(CFS)1K
1EKA	1TP-RTF.03	(F) 1Z29/30/53/56	(PFS)1K
1GTE	1TP-RTF.03	(F) 1Z-34	(FFV)1K
1SDA	1TP-RTF.03	1Z-49A/B/52A/B/15A/16A	(FAM)1K
1EGA	1TP-RTF.03	(F) 1Z3/7/9/10/[illegible]	(CCW)1K
1ECE	1TP-RTF.03	(F) 1Z1/47/60/67	(FLF)1K
1HEA	1TP-RTF.03	(F) 1Z-12	(FHS)1K
1ECB	1TP-RTF.03	(F) 1Z-72/78	(FFC)1K
1GTS	1TP-RTF.03	(F) 1Z-60/21	(FIV)1K
1CKA	1AP-EHC.01	MN TURB EHC ACCEPT	(FHC)1R
1CCA	1AP-GGS.01	GENERATOR GAS SYS ACCEPT	(GGS)1R
1MAB	1AP-MCS.02	ISO-PHASE BUS COOL ACCEPT	(MCS)1R
1MAA	1AP-MCS.01	MN GENER & EXCITER	(MCS)1R
1FCB	1AP-AXT.01	FWP TURB NO LOAD TEST	(AXT)1J
1CFC	1AP-FLC.01	FWPT LUBE OIL ACCEPT	(LCS)1J
1DAC	1SP-CWS.01	FUNCTIONAL TEST	)1K
1PEC	1SP-PES.01	C/O AIR START SYS	(FFS)1J
1PEA	1SP-PES.01	C/O AIR START SYS	(FFS)1J
1NCA	1FP-NC.01	FLUSH SAMPLE LINES	(SFS)1K
1CFD	1FP-CJ.01	FLUSH FWPT L/O SYSTEM	(LCS)1J
1PEA	1FP-PE.03	FLUSH J/W SYS	(PFS)1J
1PEB	1FP-PE.01	FLUSH F/O SYS	(FFS)1J
1PEC	1FP-PE.03	FLUSH J/W COOL SYS	(FES)1J
1PEA	1FP-PE.01	FLUSH F/O SYS	(PES)1J
1PEA	1FP-PE.02	FLUSH S/A SYS	(FES)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
1HIA	0FP-HE.01	INIT FLSH RBCH WITH PMW	(EFS)1K
1HEA	0FP-HE.01	OTHER SYS FLSH TO RBCH	(EFS)1K
1CAA	1FP-CA.01	STEAM BLOW SEL LINES	(CSS)1M
1CGB	0FP-FE.01	STM BLOW AIR EJECT PPG	(CAR)1M
1CGA	0FP-FF.01	STM BLOW AIR HOGGER PIPING	(CAR)1M
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

JUN

UNIT 1

1SFA	1TP-CFE.03	CFLM FUNCTIONAL TEST	(CFG)1J
1NHA	1TP-EEH.02	4KV VAC MCC PRE-OP	(EPD)1J
1GJA	1TP-SCH.01	SAFGRD EG CHIL WTR	(SCH)1J
1BTB	1TP-RPP.01	VERIFY/FILL WTR TKS	(RFP)1K
1BTF	1TP-RFP.01	VERIFY/FILL N2 SUPPLY	(RFP)1K
1BTA	1TP-RPP.01	RX PENT PRESS (N2)	(RFP)1K
1EAL	1TP-RTF.03	(F) 1Z-8,11	(SWS)1K
1GAG	1TP-RTF.03	(F) 1Z-42/43	(FTH)1K
1GGA	1TP-RTF.01	& RTF.02 PM RB SIT/ILRT	(RCS)1K
1BCA	1TP-RTF.03	(F) 1Z-58	(CHR)1K
1AEA	1TP-RTF.03	(F) 1Z71	(MSS)1K
1ETA	1TP-RTF.03	(F) 1Z51B	(RFP)1K
1EAD	1TP-RTF.03	(F) 1Z-6,4	(SWS)1K
1SJB	1TP-RTF.03	(F) 1Z-44	(RSX)1K
1HAA	1TP-RTF.03	(F) 1Z-76	(PWS)1K
1KAB	1TP-RTF.03	(F) 1Z-55	(SAS)1K
1KAC	1TP-RTF.03	(F) 1Z-51A	(IAS)1K
1AE	1AP-CAR.01	SM CNDSR EVAC ACCEPT	(FWS)1J
1AKA	1AP-CDE.01	CONDENSATE DEMIN ACCEPT	(CIC)1J
1GEA	1AP-CHW.01	TURB BLDG CHILL WTR TEST	(CHW)1J
1APE	1AP-CSS.01	CND XFER ACCEPT	(CSS)1J
1EAA	1AP-CWS.01	CIRC WATER SYS ACCEPT	(CWS)1J
1AE	1AP-FWS.01	CNDSATE/FW RECIRC ACCEPT	(FWS)1J
1CDA	1AP-GSO.01	HYDROGEN SEAL OIL ACCEPT	(GSO)1J
1CDA	1AP-SCS.01	STATOR COOLING ACCEPT	(SCS)1J
1NCA	1AP-SPS.01	STM PLANT SMPLNG TEST	(SPS)1J
1SCF	1SP-NNI.13	DUAL PULSE SHAPER CALIB	)1J
1SCD	1SP-NNI.02	PCD NMP-1X SIG COND CALB	(NNI)1J
1SCI	1SP-NNI.09	TS-4 TAPE RECORDER C/O	(NNI)1J
1SCF	1SP-NNI.04	NEUTRON NOISE MOD CALIB	(NNI)1J
1PEA	1SP-PES.02	INITIAL RUN DIESEL ONLY	)1J
1PEA	1SP-PES.03	1C-11 ESG ELEC C/O	)1J
1PEB	1SP-PES.02	INITIAL RUN DIESEL ONLY	)1J
1PEB	1SP-PES.04	1C-12 EIG ELEC C/O	)1J
1TDA	1SP-NIS.01	INIT RPS ENER/PGE CALIB	(RPS)1L
1APA	1FP-AP.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	(FES)1J

1984

APR

UNIT 2/COMMON

ATE	0AP-PSS.2?	LP EVAP G REL VLVE TEST	(PSS)2M
DATE	0AP-PSS.14	"G"EVAP BOILOUT	(PSS)2M
DATE	0AP-PSS.14	"F" EVAP BOILOUT	(PSS)2M
DATE	0AP-PSS.12	LP EVAP G HEATUP	(PSS)2M
DATE	0AP-PSS.12	LP EVAP F HEATUP	(PSS)2M
FLJ	0SP-RIN.?7	PDF RACK C/D DC-18?	(FIN)2F
HEL	0SP-CFS.?1	VALVE LOGIC LOOP CHECK	)2J
EGA	0SP-CCW.?1	COMP CLEC INIT PMP RUNS	(CCW)2J
KCA	0SP-FPS.01	DIESEL FIRE PMP INIT RUN	(FPS)2J
AFF	0FP-AM.05	FLUSH	(DMW)2J
ELP	0FP-EL.02	CLN OT-15/FSH-AUX COLL	(LRW)2J
ELA	0FP-EL.01	OT-14-AUX BLDG COLL RPR	(RRW)2J
EAA	0FP-EA.01	FINAL FLUSH & BAL LOOP E	(SWS)2J
EAA	0FP-EA.01	FINAL FLUSH & BAL LOOP A	(SWS)2J
ECA	0FP-EG.01	GRAV FLSH TO PMP SUCT	(CCW)2J
HAH	0FP-HA.09	LIQUID WASTE FLUSH	(RWD)2J
EFE	0FP-HP.02	GRAVITY FL PMP SUCTION	(LWS)2J
HEA	0FP-HP.02	FILL/IPR FL T/CHM WST DRN	(LWS)2J
HEE	0FP-HE.02	FLUSH SYSTEM	(LWS)2J
HEA	0FP-HP.02	FLUSH CHEM WASTE	(LWS)2J
HEF	0FP-HH.02	FLUSH LWS FILTERS/DEMINS	(LWS)2J
HEE	0FP-HE.05	GRAV-REC TK PMP SUCT LINE	(RFS)2J
HEP	0FP-HE.08	FLUSH TO HEC	(BRS)2J
HEG	0FP-HE.07	FLUSH TO HEA-HCP	(BRS)2J
HEH	0FP-HE.08	GRAVITY FLSH PUMP SUCTS	(BRS)2J
HEC	0FP-HE.03	FLSH W/SHEP PMPS TO DEGAS	(BPS)2J
HEF	0FP-HE.06	GRAV FLSH ABS TWR TO FLR	(BRS)2J
HEF	0FP-HE.06	FILL COND W/PMW	(BRS)2J
HEH	0FP-HE.08	FILL CONC TK IPR & FLUSH	(BRS)2J
HEH	0FP-HE.08	INLET CONC TK W/DEMIN WTR	(BRS)2J
HEE	0FP-HE.04	DRN R.TK/FIL W/PMW FM DEG	(BRS)2J
HEF	0FP-HE.06	FILL CONDENSER W/PMW	(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 IX	(BRS)2J
HEF	0FP-HE.06	FILL ABS TWR W/PMW	(BRS)2J
HEP	0FP-HE.07	TO MIX FED IX (RRC) & FLG	(BRS)2J
HEP	0FP-HE.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 RCR TK	(BRS)2J
HEF	0FP-HE.06	TUBE SIDE OF EVAP W/CCW	(BRS)2J
HEF	0FP-HE.06	FILL EVAP W/PMW	(BRS)2J
HEE	0FP-HE.05	COMPLETE SYS FLUSH	(BRS)2J
HEE	0FP-HE.05	FILL REC TK-PMW FM HED	(BRS)2J
HEG	0FP-HE.07	FSH PMP.TK PMP THRU HEJ	(BRS)2J
HEJ	0FP-HE.09	FM REC TK PMPS THRU HEL	(BRS)2J

MAY

DAS	0SP-DAS.15	LANYARD XDUCER CALIB	)2J
FEC	2SP-RCP.20	RCP MTR BRG PERF RCS532F	(RCS)2J
SPA	2SP-RIS.01	INIT RPS ENER/MOD CALIB	(RPS)2L
ALE	2FP-AL.02	FLUSH SAMP SYS	(CES)2J
FCA	2FP-FC.01	STEAM BLOW PIPING	(AXT)2J
SCA	0FP-SC.01	AIR BLOW SAMPLE LINES	(RAP)2K
SEB	0FP-SF.01	AIR BLOW SAMPLE LINES	(RAM)2M
KEG	2TP-FPS.06	WET FM TEST (SFP SIDE)	(FPS)FP
HEA	2TP-BRS.02	BRS PRE-OP	(BFS)2J
HEJ	0TP-BRS.02	PRE-OP (POST RESN LOAD)	(BFS)2J
HEE	2TP-FPS.02	PRE-OP	(EFS)2J
HEG	0TP-BRS.02	PRE-OP (POST RESIN LOAD)	(BFS)2J
HEA	0TP-BRS.03	BORON CTRL TEST RCS532F	(BFS)2J
KCD	0TP-FPS.02	FIRE PROT PRE-OP	(FPS)2J
LCA	0AP-ACW.01	EV BLD AC/CAUS WST SUMP	(ACW)2J
FGC	0AP-DWS.01	DOMESTIC WATER ACCEPT	(DWS)2J
KHA	0AP-MGP.01	MISC GAS/N2 SUPPLY ACCEPT	(MGA)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
DATE	0AP-PSS.14	"J" EVAP BOILOUT	(PSS)2M
DATE	0AP-PSS.14	"K" EVAP BOILOUT	(PSS)2M
DATE	0AP-PSS.12	LP EVAP J HEATUP	(PSS)2M
DATE	0AP-PSS.26	LP EVAP J REL VLVE TEST	(PSS)2M
DATE	0AP-PSS.12	LP EVAP J POWER RUN UP	(PSS)2M
DATE	0AP-PSS.12	LP EVAP H HEATUP	(PSS)2M
DATE	0AP-PSS.12	LP EVAP K POWER RUN UP	(PSS)2M
ATE	0AP-PSS.14	"H" EVAP BOILOUT	(PSS)2M
DATE	0AP-PSS.26	LP EVAP H REL VLVE TEST	(PSS)2M
KEF	0SP-FHS.03	NEW FUEL RACK INSPECTION	(FHS)FP
AMB	0FP-AM.03	FLUSH AUX INSTR & EQUIP	(DMW)2J
HEH	0FP-HE.08	FLUSH COMPLETE	(BRS)2J
HEA	0FP-HE.01	FINAL FLUSH	(BRS)2J
KHF	0FP-KF.09	VAC (AUX+16)/FUNC TEST	(LSS)2J
KHF	0FP-KF.10	VAC (AUX+22)/FUNC TEST	(LSS)2J
ATF	0FP-AT.01	FLUSH PROC STEAM BLOWDOWN	(PSS)2Y

UNIT 2/COMMON

UNIT 1

1CKA	1TP-EHC.02	EHC ELECTRICAL PREOP	(EHC)1P
1ACA	1TP-TCS.02	INIT TURB ROLL	(TCS)1K
1JEA	1TP-CFO.01	EMER DSL FUEL STORAGE	(CFO)1J
1SQA	1TP-ICS.01	ICS OPEN LOOP PREOP	(ICS)1J
1SQA	1TP-ICS.01	ICS INPUT VERIF	(ICS)1J

JUN

BTH	2FP-BT.01	FSH WTR LNES TO ISO VLVS	(RFP)2K
FTC	2FP-BT.01	BLOW LINES TO PENETRATIONS	(RFP)2K
BTA	2FP-BT.01	BLOW PENETRATION AIR LINES	(RFP)2K
BTD		RUN COMPRESSORS & AIR BLOW	(RFP)2K
ANE	0TP-RTF.05	1&2 (F) 1Z-2 & 2Z-2	(DMW)1K
ECE	0TP-RTF.03	1&2 (F) 1Z-1H & 2Z-1B	(FPC)1K
ELA	2TP-RTF.03	2Z41	)1K
HEA	0TP-RTF.03	(F) 2Z-??	(FFS)2M
HCC	0TP-RWS.03	FILL EXTR LUBE OIL SYS	(RWS)2M
HCC	0TF-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
DATE	0AP-PSS.12	LP EVAP A POWER RUN UP	(PSS)2M
DATE	0AP-PSS.20	LP STM QUALITY "B" EVAP	(PSS)2M
DATE	0AP-PSS.20	"E" EVAP QUALITY CHECK	(PSS)2M
DATE	0AP-PSS.20	"F" EVAP QUALITY CHECK	(PSS)2M
DATE	0AP-PSS.20	"D" EVAP QUALITY CHECK	(PSS)2M
DATE	0AP-PSS.16	LP EVAP FM V/P1/02 COMT	(PSS)2M
DATE	0AP-PSS.04	LP DEPR/RECOV PHASE 1	)2M
DATE	0AP-PSS.26	LP EVAP A REL VLVE TEST	(PSS)2M
DATE	0AP-PSS.26	LP EVAP PRESS OFF NORMAL	(PSS)2M
DATE	0AP-PSS.20	"G" EVAP QUALITY CHECK	(PSS)2M
DATE	0AP-PSS.14	"A" EVAP BOILOUT	(PSS)2M
DATE	0AP-SPS.02	BLD & SAMP ACCEPT C EVAP	)2M
DATE	0AP-SPS.02	BLD & SAMP ACCEPT B 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
HCC	0FP-HC.02	FLUSH & IPR RESIN DET	(RWS)2M
HCC	0FP-HC.02	IPR/FSH CF-152.153.1.1&2	(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 ELRS.CWIS.ELC STA.FL1	(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	(PSS)2M

UNIT 2/COMMON

1984 (CONT.)

UNIT 2/COMMON

.PFB 2FP-PE.15 FLUSH INTAKE DUCTS (FES)2J
.PEE 2FP-PE.15 FLUSH INTAKE DUCTS (PES)2J
2SJA 2FP-SS.02 IPR/FLSH POST ACC SAMP (PSX)2J
.KCF BLOWDOWN PIPING)2J
HEH 0TP-LWS.02 PRE-OP (FFS)2J
2HEF 0TP-EFS.02 EVAPORATOR (EFS)2J
2HEL 0TP-FFS.02 PRE-OP (DEGASIFIERS) (EFS)2J
.FEG 0TP-EFS.02 PRE-OP (EFS)2J
HEG TP-EFS.02 PRE-OP (EFS)2J
.HEF 0TP-EFS.02 PRE-OP (EFS)2J
.HEB 0TP-EFS.02 PRE-OP (EFS)2J
HED 0TP-LWS.01 LIQUED WASTE SYS PREOP (LWS)2J
HEF 0TP-LWS.01 LIQUED WASTE SYS PREOP (LWS)2J
HEC 0TP-LWS.01 LIQUED WASTE SYS PREOP (LWS)2J
2HSA 0TP-LWS.01 LIQUED WASTE SYS PREOP (LWS)2J
HEE 0TP-LWS.01 LIQUED WASTE SYS PREOP (LWS)2J
HBA 0TP-LWS.01 LIQUED WASTE SYS PREOP (LWS)2J
.HEA 0TP-LWS.01 FILL LWS DF TK FM SG DRN (FWD)2J
.HAE 0TP-RWG.01 RW GAS (FLFTH/H2 PUR) (RWG)2J
.HAF 0TP-RWG.01 RW GAS (SUR/DEC/COMP) (RWG)2J
.AGE 0TP-SEC.01 SECURITY SYS PRE-OP (SEC)2M
CGC 0AP-CLW.03 AUX BLDG CHILL WTR ACCEPT(CHW)2J
EEF 0AP-CPD.01 POND FLUSG/MAKEUP ACCEPT (CPD)2J
.FGA 0AP-CPT.02 COMPUTER PREOP TEST (CPT)2J
2AF 2AP-CSS.01 CND XFR (0APZ/12AP) (CSS)2J
EGJ 0AP-CWI.01 CIRC WTR CHEM INJECT TEST(CWI)2J
EEP 0AF-CWI.01 CIRC WTR CHEM INJECT TEST(CWI)2J
ANA 0AP-CMW.01 MAKEUP DEMIN SYS ACCEPT (MUD)2J
.ATH 0AP-CMW.02 DEMIN WTR STO/XFER ACCEPT(CMW)2J
ACA 0AP-FWC.01 FW CHEM ADD ACCEPT (FWC)2J
GED 0AP-MHV.04 FLAM GAL STOR HVAC (MHV)2J
GE 0AP-MHV.01 GEN-L MISC BLDG HVAC (MHV)2J
FEM 0AP-MHV.05 LOAD CTR TURB ROOF HVAC)2J
HGA 0AP-SWL.01 AUX BLDG SUMPS ACCEPT (SWC)2J
KAA 0AP-SAS.01 INST & SERVICE AIR ACCEPT(SAS)2J
ECA 0AP-SHV.01 OFF/SERV BLDG HVAC TEST (SHV)2J
.MCA 0AP-SUT.01 XFMR 0X03A ACCEPT)2J
.MCF 0AP-SUT.02 XFMR 0X03B ACCEPT)2J
.FLP 0AP-UWS.01 UTIL WTR STOR/XFR (UWS)2J
.LDA 0AP-WOS.01 OILY WASTE ACCEPT (WOS)2J
.ATE 0AP-PSS.16 *F* EVAP BOILOUT (PSS)2M
.ATE 0AP-PSS.12 LP EVAP E POWER RUN UP (PSS)2M
.ATF 0AP-PSS.26 LP EVAP E REL VLVE TEST (PSS)2M
.ATF 0AP-PSS.12 LP EVAP F POWER RUN UP (PSS)2M
.ATF 0AP-PSS.26 LP EVAP F REL VLVE TEST (PSS)2M
.ATE 0AP-PSS.12 LP EVAP F POWER RUN UP (PSS)2M
.ATE 0AP-PSS.12 LP EVAP E HEATUP (PSS)2M

APR

UNIT 2/COMMON

2EGA 2TP-CCW.03 FNL FLOW BAL CCW 532F (CCW)2J
2EGA 2TP-CCW.01 CCW FLOW BALANCE (CCW)2J
2BBA 2TP-CHM.03 RAD CHEM MONI RCS532F (RCS)2J
2BBA 2TP-CHM.01 RCS CHEM TEST RCS<180 (RCS)2J
2BBA 2TP-CHM.01 RCS CHEM TEST 180-532 (RCS)2J
2BBA 2TP-CHM.01 RCS CHEM TEST RCS532F (RCS)2J
2SFA 2TP-CRC.02 CRDM TRIP/OPER 180-532 (CRD)2J
2SFA 2TP-CRD.03 CPLT CRDM FUNC RCS<180 (CRD)2J
2SFA 2TP-CRC.02 CRDM SYS INTEG RCS532F (CRD)2J
2SFA 2TP-CRD.02 CPLT CRDM INTEG 180-532 (CRD)2J
2BBA 2TP-HFT.01* PM HEAT-UP RCS 180-532F (RCS)2J
2BBA 2TP-HFT.01* PM RCS & 532F (RCS)2J
2BBA 2TP-HFT.01* PM RCS <180F (RCS)2J
2SGA 2TP-ICS.02 ICS TUNING RCS532F (ICS)2J
2SGA 2TP-ICS.02 ICS TUNING 180-532 (ICS)2J
2ABM 2TP-MSS.01 MN STM ISO VLV RCS532F (MSS)2J
2BGA 2TP-MUF.01 RX CHEM ADD(PRT RCS532F) (MUP)2J
2BGA 2TP-MUP.02 MU/P SYS OPER RCS<180 (MUP)2J
2BCH 2TP-MUF.01 MU SYS PRE-OP (MUP)2J
2BGA 2TP-MUF.02 MU/P SYS OPER 180-532 (MUP)2J
2BGA 2TP-MUP.02 MU/P OPER TEST RCS<180 (MUP)2J
2BGA 2TP-MUP.02 MU/P SYS OPER RCS532F (MUP)2J
2SCP 2TP-NNI.01 LSE PRTS MONIT RCS532F (NNI)2J
2FFA 2TP-PFS.02 2G-11/12 ELEC PRE-OP)2J
2BBA 2TP-PST.01 PRECR THER EXPAN 180-532 (RCS)2J
2BBA 2TP-PST.01 PRECR THER EXPAN RCS532F (RCS)2J
2BBB 2TP-PST.02 PZR RLF DISCH LNE 532F (RCS)2J
2BBA 2TP-PST.01 PWR CONV SYS EXP RCS<180 (RCS)2J
2GM 2TP-RBV.02 RB COOLG OPER RCS532F (RBV)2J
2BBB 2TP-RCS.07 PZR OPERL & SPRA RCS532F (RCS)2J
2BEA 2TP-RCS.08 RCS HOT LKGE/VIS RCS532F (RCS)2J
2BBE 2TP-RCS.11 PZR PWR-VLV/GUE 180-532 (RCS)2J
2BBC 2TP-RCS.12 RCP FLOW MEASURE RCS532F (RCS)2J
2BBE 2TP-RCS.11 PZR PWR OP VLV/GUE 532F (RCS)2J
2SBA 2TP-RPS.01 CPLT RPS TME RSP RCS532F (RPS)2J
2SJA 2TP-RSX.04 POST ACCIDENT SAMP (PFT) (RSX)2J
2SJA 2TP-RSX.02 RX PLANT SAMPLG RCS532F (RSX)2J
2SJA 2TP-RSX.02 RX PLANT SAMPLG 180-532 (RSX)2J
2SJA 2TP-RSX.02 RX PLANT SAMPLG RCS<180 (RSX)2J
2SJA 2TP-RSX.01 RX PLANT SMPL PRE-OP (RSX)2J
2LCA 2AP-ACW.01 T62 ACID/CAUS WST ST (ACW)2J
2AEE 2AP-CCS.02 HOTWELL SAMP ACCEPT (CCS)2J
2AFC 2AP-HVD.02 HP HTR DRNS/VNTS/LVL CTL (HVD)2J
2GE 2AP-HVT.01 TURB BLDG HVAC ACCEPT (HVT)2J

MAY

UNIT 2/COMMON

2ALA 2TP-AFW.02 AFW SYS TEST TO AMB (AFW)2J
2ALA 2TP-AFW.01 TURB DRIVEN PUMP (AFW)2J
2ALA 2TP-AFW.02 HFT PREOP TEST (AFW)2J
2FCA 2TP-AXT.02 AFWP TURB NO LOAD TEST (AXT)2J
2SBA 2TP-CHM.01 RCS CHEM TEST TO AMB (RCS)2J
2BCA 2TP-DHR.02* HFT RCS C/D & PZR SPRAY (DHR)2J
2BCA 2TP-DHR.02 DHR (RCS COOLDOWN TO AMB) (DHR)2J
2NAA 2TP-ECA.02 1E VOLT VAR RCS532F (ECA)2J
2BBA 2TP-HFT.01 COOL DOWN TO 200F (RCS)2J
2BBA 2TP-HFT.01 PM COOL DOWN TO AMBIENT (RCS)2J
2SCA 2TP-ICS.02 ICS TUNING TO AMB (ICS)2J
2BGA 2TP-MUF.02 MU/P SYS OPER TO AMB (MUP)2J
2FFP 2TP-PFS.01 STDBY DIESEL GEN PRE-OP (PFS)2J
2PFA 2TP-PFS.01 STDBY DIESEL GEN PRE-OP (PFS)2J
2PEA 2TP-PFS.03 2G-11/12 AUTO START PRE-OP)2J
2FCA 2TF-PST.02 RCS C/D (DHR)2J
2BTC 2TP-RFP.01 LK CHASE SYS LK TEST (RFP)2K
2BTA 2TP-RFP.01 RX PERT PRESS (INST AIR) (RFP)2K
2GTP 2TP-RTF.03 (F) 2Z-80/81 (FFV)2K
2SCA 2TP-RTF.03 2Z-49A,E/53A,B/15A/16A (RPM)2K
2B9A 2TP-RTF.03 2Z-19A&C 20A&C/35/45C-PZR (RCS)2K
2GTC 2TP-RTF.03 (F) 2233 (FFV)2K
2BHA 2TP-RTF.03 (F) 2244AB/45AB (CFS)2K
2GSC 2TP-RTF.03 (F) 2Z-15BC/16BC (FSC)2K
2GGU 2TP-RTF.03 (F) 2217/61/25/65/66 (MUP)2K
2HGA 2TP-RTF.03 (F) 221/47/60/67 (MUP)2K
2BGA 2TP-RTF.03 (F) 224--MU (MUP)2K
2GKA 2TP-RTF.03 (F) 2229/30/53/56 (FIS)2K
2ECA 2TP-RTF.03 (F) 223/9/13/62/68 (CCW)2K
2ECF 2TP-RTF.03 (F) 2Z-72/78 (FPC)2K
2GSB 2TP-RTF.03 (F) 2Z-63/86 (RFC)2K
2BPB 2TP-RTF.02 (F) 2213 (FFS)2K
2GTE 2TP-RTF.03 (F) 2Z-24 (FLV)2K
2SDB 0TP-RAM.06 AIR RAD MONT (NSR) (RAM)2M
2SDB 0TP-RAM.01 AREA RAD MONT (NSR) (RAM)2M
2ACC 2AP-TCS.01 MSR HTR TEST (TCS)2J

JUN

1984 (CONT.)

UNIT 2/COMMON

FRKA 2TP-EHL.31 CLASS 1E DC SYS PRE-OP (EHD)2J
FKA 2TP-EHL.32 CLASS 1E MIN VOLTAGE PRE-OP)2J
GGE 2TP-EHL.32 STATION EMER DC CIT (EHL)2J
AHA 2TP-MSS.31 (MS X-CON VALVE) (MSS)2J
HGG 2TP-MHF.31 MU&PURIF CHEM ADD PRE-OP (MUP)2J
SCE 2TP-NAI.31 LSE PRTS MONIT SYS PART (NMI)2J
HKA 2TP-RES.32 RX BLDG SPRAY PREOP (RES)2J
SJH 2TP-SSX.37 POST ACC SAMPLE (PSX)2J
GJA 2TP-SCH.31 SAFGRD EQ CHILL WTR (SCH)2J
CG 2AP-CAR.31 2CCA/B CNDSR EVAC ACCEPT (CAR)2J
AKA 2AP-CCD.31 CONDENSATE DEMIN ACCEPT (CCD)2J
AGA 2AP-CCS.31 CONDENSATE SYS ACCEPT (CCS)2J
GCA 2AP-CHW.31 TURB BLDG CHILL WTR TEST (CHW)2J
CAA 2AP-CWS.31 CIRC WATER SYS ACCEPT (CWS)2J
AGE 0AP-FWC.31 FW CHEM ADD ACCEPT TEST (FWC)2J
AGC 2AP-FWC.31 FW CHEM ADD ACCEPT TEST (FWC)2J
AE 2AP-FWS.31 CNDSATE/FW RECIRC ACCEPT (FWS)2J
AFH 2AP-HVL.32 LP HTR DRNS/VNTS/LVL CTL (HVL)2J
CCA 2AP-HVT.31 TURB BLD HVAC TEST (HVT)2J
CEA 2AP-SCS.31 STATOR COOLING ACCEPT (SCS)2J
SCA 2AP-SPS.31 STM PLANT SMPLNG TEST (SPS)2J
DAS 0SP-DAS.12 ACCELR INST TRAIN CALIB)2J
DAS 0SP-DAS.14 LOAD SENSING TRAIN CALIB)2J
DAS 0SP-DAS.31 DATA ACQ SETUP F/UNIT 2 PFT)2J
DAS 0SP-DAS.35 INSTALL LANYARD XDUCERS UNIT)2J
DAS 0SP-DAS.36 INSTALL ACCELR IN UNIT 2)2J
DAS 0SP-DAS.37 INSTALL LOAD CELLS IN UNITS 1)2J
HHC 2SP-ECA.31 RCP START VOLT LOC TEST (RCS)2J
HAA 2SP-ECA.31 2A31 FAST BUS XFER)2J
SCE 2SP-NNI.32 P22 MHA-IX SIG COND CALB (NNI)2J
SCE 2SP-NNI.33 MASTER DUAL AUDIO C/O (NNI)2J
SCE 2SP-NNI.13 DUAL PULSE SHAPER CALIB)2J
SCE 2SP-NNI.34 NEUTRON NOISE NDC CALIB (NNI)2J
SCE 2SP-NNI.38 TF-4 TAPE RECORDER C/O (NNI)2J
SCE 2SP-NNI.12 DIGIT LPM LOC C/O (NNI)2J
PES 2SP-PES.32 INITIAL RUN DIESEL ONLY)2J
PES 2SP-PES.32 INITIAL RUN DIESEL ONLY)2J
PEA 2SP-PES.33 2G-11 EDG ELEC C/O)2J
PEB 2SP-PES.34 2G-12 EDG ELEC C/O)2J
PEH 2SP-PES.97 DIESEL GEN INIT RUN (PES)2J
PEA 2SP-PES.97 DIESEL GEN INIT RUN (PES)2J
APA 2FP-AF.32 GRAV FLSH TURB AFWP SUCT (CSS)2J
HGF 2FP-HC.31 FLUSH INLET & OUTLET PPG (MUP)2J
EAF 3FP-EA.01 PRELIM FLUSH & BAL (SWS)2J
KDC 0FP-KE.93 DOMESTIC WATER FLUSH (DWS)2J
LCA 2FP-LC.31 ACID & CAUSTIC WASTE (ACW)2J

APR	MAY	JUN

1984 (CONT.)

UNIT2/COMMON

[illegible] 2TP-AF[illegible].01 ZF-15A APRF [illegible] (AF[illegible])2J
[illegible] 2TP-CFL.[illegible] CRLM FUNCTIONAL TEST (CFL)2J
[illegible] 2TP-CFF.02 CRF SYS INTEGRATED TEST (CFD)2J
[illegible] 2TP-E[illegible].01 HI MED VOLT (6.9KV) (ECA)2J
[illegible] 2TP-ECA.01 NON 1-E MED VOLT(4.16KV) (ECA)2J
[illegible] 2TP-EEB.01 480 VAC LCC PRE-OP (EEB)2J
[illegible] 2TP-EEE.01 1-E LOW VOLT 480VAC (EED)2J
[illegible] 2TP-EFC.01 1-E LOW VLT (480VAC) (EFC)2J
[illegible] 2TP-ECA.01 120V AC NON1-E (ECA)2J
[illegible] 2TP-EHA.01 120VAC-INPT PREF PWR (EHA)2J
[illegible] 2TP-EHB.01 120VAC 1-E PRED PWR (EHB)2J
[illegible] 2TP-EKC.01 NON 1-E DC SYS (EKC)2J

APR	MAY	JUN

1984 (CONT.)

JUL

UNIT 1

1SGA 1TP-ICS.02 ICS TUNING 180-532 (ICS)1J
1ACA 1TP-MSS.01 (MS X-CON VALVE) (MSS)1J
1MGA 1TP-MUP.02 MUWP SYS OPER 180-532 (MUP)1J
1GGH 1TP-MUP.01 MU SYS PRE-OP (MUP)1J
1EGA 1TP-MUP.02 MUWP SYS OPER RCS<180 (MUP)1J
1GGA 1TP-MUP.02 MUWP SYS OPER TO AMB (MUP)1J
1GAP 1TP-NLS.01 NOSH & ESS LITING PRE-OP (NLS)1J
1SCE 1TP-LPI.01 LOOSE PART MON SYS PART (LPI)1J
1PEF 1TP-PES.01 STDBY DIESEL GEN PRE-OP (PES)1J
1FEA 1TP-PES.01 STDBY DIESEL GEN PRE-OP (PES)1J
1FLA 0TP-PMW.01 PRIM WTR STOR/TRANS (PMW)1J
1EFA 1TP-PST.01 PWR CONV SYS EXP 180-532 (RCS)1J
1HEA 1TP-PST.01 PWR CONV SYS EXP RCS<180 (RCS)1J
1EMA 1TP-RBS.02 RB SPRAY SYS PRE-OP (RBS)1J
1GBB 1TP-RCS.11 PZR PWR VLV/GUE 180-532 (RCS)1J
1SJA 1TP-RSX.01 RX PLANT SMPL PRE-OP (RSX)1J
1SJB 1TP-RSX.03 POST ACCIDENT SAMPLE (RSX)1J
1SJA 1TP-RSX.02 RX PLANT SAMP RCS<180 (RSX)1J
1LCA 1AP-ACW.01 TUR 1-ACID/CAUS WST STG (ACW)1J
1CG 1AP-CAR.01 1CGA/B CNDSR EVAC ACCEPT (C/R)1J
1ACE 1AP-CCS.02 HOTWELL SAMP ACCEPT (CCS)1J
1AJA 1AP-CDS.01 CONDENSATE SYS ACCEPT (CDS)1J
1AGC 1AP-FWC.01 FW CHEM ADD TEST (FWC)1J
1AGF 1AP-FWC.01 FW CHEM ADD ACCEPT (FWC)1J
1CAA 1AP-CSS.01 STEAM SEAL SYS ACCEPT (CSS)1J
1AFC 1AP-HVE.02 HP HT DRN/VNT/LVL CTL (HVE)1J
1AFE 1AP-HVE.02 LP HT DRN/VNT/LVL CTL (HVE)1J
1GEA 1AP-HVT.01 TURB BLDG HVAC TEST (HVT)1J
1PAD 1AP-MGS.03 MN & STA XFMRS ACCEPT (MGS)1J
1CP 1AP-TCS.03 CBA/CFC MA TUR LUB OIL (MLS)1J
1CAS 2SP-CAS.14 LOAD SENSING TRAIN CALIB)1J
1CAS 0SP-CAS.15 LANYARD XDUCER CALIB)1J
1CAS 0SP-CAS.02 SETUP DATA ACQ F/UNIT 1 HFT)1J
1CAS 1SP-CAS.06 INSTALL LANYARD XDUCERS UNIT)1J
1AAA 1SP-ECA.01 1ADI FAST BUS XFER)1J
1NCE 1SP-NNI.12 DIGIT LSC PART LOC C/O (NNI)1J
1SCE 1SP-NNI.03 RADIOR LOAL AUDIO C/O (NNI)1J
1FEB 1SP-PES.02 DIESEL GEN INIT RUN (PES)1J
1FEA 1SP-PES.02 DIESEL GEN INIT RUN (PES)1J
1AEE 1FP-AE.02 FLUSH SAMP SYS (CCS)1J
1CGF 1FP-CC.01 FLSH INLET & OUTLET PPG (MUP)1J
1LCA 1FP-LC.01 CLEAN & FILL NEUT SUMP (ACW)1J
1LCA 1FP-LC.01 CLEAN SYS FLUSH (ACW)1J
1LCA 1FP-LC.01 NEUT SYS FLUSH (ACW)1J
1MCF FLTWEDAN PIPING)1J
1SDR 2FP-IL.01 AIR BLD SAMPLE LINES (RAM)2M

AUG

UNIT 1

1ALA 1TP-AFW.02 AUX F/W SYS TEST RCS532F (AFW)1J
1FCA 1TP-AXT.02 AFWP TURBINE NO LOAD TEST(AXT)1J
1NEA 1TP-BRS.03 BORON CTRL RCS532F (BRS)1J
1EGA 1TP-CCW.03 FNL FLOW CAL CCW RCS532F (CCW)1J
1FFA 1TP-CHM.03 RAD CHEM MON RCS532F (RCS)1J
1EFA 1TP-CHM.01 RCS CHEM TEST RCS532F (RCS)1J
1SFA 1TP-CRD.02 CRD SYS INTEG RCS532F (CRD)1J
1AAA 1TP-ECA.02 CLASS 1E VOLT VARIATION (ECA)1J
1EEA 1TP-HFT.01* PM RCS & 532F (RCS)1J
1SGA 1TP-ICS.02 ICS TUNING RCS532F (ICS)1J
1ABE 1TP-MSS.01 M/STEAM ISO VLV RCS532F (MSS)1J
1EGA 1TP-MUP.02 MUWP OPER TEST RCS532F (MUP)1J
1EGA 1TP-MUP.01 RX CHEM ADD PART RCS532F (MUP)1J
1SCE 1TP-NNI.01 L.P.M. RCS532F (NNI)1J
1PEA 1TP-PES.02 1G-11/12 ELEC PRE-OP)1J
1FEA 1TP-PES.03 1G-11/12 AUTO START PRE-OP)1J
1HHA 1TP-PST.01 PRECPE THERM EXP RCS532F (RCS)1J
1EEE 1TP-PST.02 PZR REL DISC LIN RCS532F (RCS)1J
1GH 1TP-RIV.02 RX BLDG COOLING RCS532F (RIV)1J
1EPA 1TP-RCS.12 RC PMP FLOW MEAS RCS532F (RCS)1J
1HSA 1TP-RCS.08 RCS HOT LEAK/VIS RCS532F (RCS)1J
1EEE 1TP-RCS.11 PZR PWR VLV/GUE RCS532F (RCS)1J
1EEM 1TP-RCS.07 PZR CTRL & SPRAY RCS532F (RCS)1J
1SEA 1TP-RPS.01 CRLT RPS RSP TME RCS532F (RPS)1J
1SJA 1TP-RSX.02 RX PLANT SAMP RCS532F (RSX)1J
1SJS 1TP-RSX.04 POST ACCIDENT SAMP (HFT) (RSX)1J
1SEA 1TP-NIS.05 NI PRE-OP CALIB TEST (NIS)1L
1SCA 0TP-RAM.04 1-E AIR RAD MON (RAM)1L
1GSC 1TP-RGC.03 H2 MONITORING PRE-OP (RGC)1L
1GSR 1TP-RGC.02 H2 VENT SUPPLY/EXH PRE-OP(RGC)1L
1SEA 1TP-RPS.02 RPS PRE-OP CALIB (RPS)1L
1SGA 0TP-RAM.01 AREA RAD MON (NSR) (RAM)2M
1SCF 0TP-RAM.05 LIQUID RAD MONT PRE-OP (RAM)2M
1SCA 0TP-RAM.01 AREA RAD MON (NSR) (RAM)2M
1SCB 0TP-RAM.06 AIRBORN RAD MON (NSR) (RAM)2M
1GE 1AP-HVT.01 TURB BLDG HVAC ACCEPT (HVT)1J
1ACE 1AP-TGS.01 MSR HTR TEST (TGS)1J
1SGA 1SP-RPS.01 RCP PWR MON RESP TIME (RPS)1L
1LCA 1FP-LC.01 CLEAN & FILL CLEAN SUMP (ACW)1J
1FCA 1FP-FC.01 STEAM BLOW PIPING (AXT)1J
1AGE 0FP-AG.01 BLOWDOWN INST AIR LINES (RWC)1P
1AGC 0FP-AG.01 BLOW DOWN INST AIR LINES (RWC)1P

SEP

CATD 0AP-SFS.02 FLUSH&SAMP SYS P HP EVAP ACCEPT2M
CATE 0AP-SFS.02 SPS SYS ACCEPT SAMPLE SYS(SS)2M
CATD 0AP-SFS.02 BLWDN&SAMP SYS A HP EVAP ACCEPT2M
CGGA 0SP-GRI.01 GROUND GRID RESIST (GRD)2M
CATD 0FP-AT.16 STM BLCK B TRAIN (SS)2M
CATM 0FP-AT.05 FLUSH IRON REM COND RET (RSS)2M
CATN 0FP-AT.01 FLUSH IRON REMOVAL SUMP (RSS)2M
CDEA 0FP-EA.03 CLNG TWR M/U & FUNC C/O (CTM)2M
CHHE 0FP-HH.01 FLUSH SYSTEM EMR DISCH (LEW)2M
CHHH 0FP-HH.07 VAC (EVAP LAB) AL/FUNC (LSD)2M
1SC.03 HVAC PRE-OP (TSC)2M

UNIT 2/COMMON

UNIT 1

1KKA 1SP-ANN.07 CRLT C/O)1L
1ALA 1TP-AFW.02 HFT PREOP TEST (AFW)1J
1ALA 1TP-AFW.02 AUX F/W SYS TEST AMB (AFW)1J
1ALA 1TP-AFW.01 COMPL (TURB DRIVEN PUMP) (AFW)1J
1HHA 1TP-CHM.01 RCS CHEM TEST TO AMB (RCS)1J
1ECA 1TP-DHR.02 DHR (RCS C/D TO AMB) (DHR)1J
1ECA 1TP-DHR.02* HFT RCS C/D & PZR SPRAY (DHR)1J
1HHA 1TP-HFT.01 COOL DOWN TO 260 DEG (RCS)1J
1HHA 1TP-HFT.01 PM COOL DOWN TO AMBIENT (RCS)1J
1SGA 1TP-ICS.02 ICS TUNING TO AMB (ICS)1J
1BEA 1TP-MUP.02 MUWP SYS OPER TO AMB (MUP)1J
1BBA 1TP-PST.01 PRECRE THERM EXP TO AMB (RCS)1J
1BCA 1TP-PST.02 RCS C/D (RCS)1J
1BNA 1TP-BWS.01 BORATED WATER STOR PREOP (BWS)1L
1HCA 1TP-DMP.01 DUMP TO SUMP FLOW TEST (DMP)1J
1HHA 1TP-ESA.05 INTEGRATED ESFAS (RCS)1L
1SAD 1TP-ESA.04 ESFAS RESPONSE TIME TEST (ESA)1L
1SAE 1TP-ESA.07 TOT SFAS RESP TIME (ESA)1L
1SAE 1TP-ESA.03 ECCAS LOP SEQ PREOP (ESA)1L
1GGK 1TP-MUP.01 MU SYS PRE-OP (EPS) (EPS)1L
1SCF 0TP-RAM.02 1-E AREA RAD MONT PRE-OP (RAM)1L
1GTA 1TP-RBV.01 RB AIR PURG/CLNUP/VNT (RBV)1L
1GSA 1TP-RGC.01 H2 RECMBNR PRE-OP (RGC)1L
1SBB 1TP-RPS.03 ARTS SYS PREOP (RPS)1L
1SBA 1TP-RPS.01 RPS PREOP/TIME RESP (RPS)1L
1SFE 0TP-RAM.07 STACK HI RANGE RAD MON (RAM)2M
1SCB 0TP-RAM.08 CTMT HI-RANGE RAD MON (RAM)2M
1SEE 1SP-RPS.03 INITIAL ENERGIZATION (RPS)1L
1BGK 1FP-BG.03 FLUSH RECIRC FLOW PATH (EBS)1L
1BGK 1FP-BG.03 FLSH PRIM WTR TO EBS TK (EBS)1L
1BGK 1FP-BG.03 DRN EBS TK & PARTIAL FILL (EBS)1L
1KCE VENDOR BLOWDOWN PIPING)2M

1984

```
LATE JAP-PSS.18 TUBE INTEG EXPER LKR ID   (PSS)2M
CATF JAP-PSS-29 LOS OF FEEDWTR LP EVAPS       )2M
CATE JAP-PSS.15 HP EVAP B HEATUP           (PSS)2M
LATE CAP-SPS.32 BLD & SAMP ACCEPT K EVAP      )2M
CATE OAP-SPS.32 BLD & SAMP ACCEPT J EVAP      )2M
HATE OAP-SPS.32 BLD & SAMP ACCEPT A EVAP      )2M
CATE CAP-SPS.?? BLD & SAMP ACCEPT H EVAP      )2M
LATE  FP-AT.06 OPEN MOW MOV                 -?S)2M
LATE  FP-AT.06 CLN.INSP.FSH HP STM-DOW    (FSS)2M
CATE  FP-AT.06 INSPECT FLP & CLEAN        (FSS)2M
JATE  FP-AT.06 OPEN MOV HP STEAM TO DOW   (FSS)2M
JATE-2 OFP-AT.06 CLSE HP STM TO DOW MOV   (FSS)2M
JATE OFP-AT.06 "K" EVAP STEAM BLOW        (FSS)2M
     OFP-AT.06 "A" EVAP STEAM FLOW        (FSS)2M
CATE OFP-AT.06 "H" EVAP STEAM BLOW        (FSS)2M
CATE OFP-AT.06 "J" EVAP STEAM BLOW        (FSS)2M
JSPP  FP-SF-01 AIR FLOW SAMPLE LINES      (FSR)2M
```

UNIT 2/COMMON

UNIT 1

```
1ALA 1TP-AFW.01 IF-15A 48 HR ENDUR RUN      (AFW)1J
1HFA 1TP-CPS.02 PFS PRE-OP                  (FFS)1J
1LGA 1TP-CCW.01 CCW FLOW BALANCE            (CCW)1J
1BEA 1TP-CHM.01 RCS CHEM TEST     RCS<180   (RCS)1J
1SFA 1TP-CPF.02 CPLT CRCM INTEG 160-532     (  S)1J
1SFI 1TP-CPE.02 SYS INTEGRATED TEST         (C  )1J
1SFA 1TP-CPE.02 CFP TRIP & OPER 160-532       S)1J
1SFA 1TP-CPE.0? CPLT CRIM FUNC RCS<186      [illegible]
1FAA 1TP-ECA.01 HI MOD VOLT (  KV)          [illegible]
1FFA 1TP-ELA.01 NCP 1E FED  (4.16KV)        [illegible])1J
1PKA 1TP-EEL.01 1-E MED VL  .16KV)          [illegible]
1FFA 1TP-EEL.01 480 VAC LCC PRE-OP          [illegible]
     1TP-EEE.01 1-E LOW VLT 480VAC          [illegible]1J
1  A 1TP-ELC.01 1-E LOW VLT(480VAC)         (EFC)1J
1M A 1TP-ECA.01 120VAC NON 1E               (ECA)1J
1NFA 1TP-EMA.01 120VAC CN-INPT PREF FWP     (EMA)1J
1PNA 1TP-EPP.01 120 VAC 1E PREFRD PWR       (EPB)1J
1GKA 1TP-EPC.01 NON 1E DC SYS               (EPC)1J
1PKA 1TP- PL.02 CLASS 1E MIN VOLTAGE PRE-OP     )1J
1FKA 1TP-EAE.01 CLASS 1E DC SYS PRE-OP      (EAE)1J
1GDB 1TP-EPL.02 STATN EMER DC CIT           (EPL)1J
1BBA 1TP-HFT.01+ PH RCS <180F               (RCS)1J
1BBA 1TP-HFT.01+ PH HEAT-UP RCS 180-530F    (RCS)1J
```

JUL

```
JGLA OTP-AHV.02 AUX BLDG HVAC PRE-OP        (AHV)2L
CEAA OTP-SWS.01 SW PREOP                    (SWS)2L
JDCA OTP-SWS.03 SER WATER TRAV SCRN PREOP(SWS)2L
JGLF OTP-AHV.01 FH AREA HVAC PRE-OP         (AHV)2M
JGLH OTP-AHV.04 ACCESS CNTL/CMPTR AREA      (AHV)2M
JDEC OTP-CPE.01 EMER COOL POND PRE-OP       (CPE)2M
JSOP OTP-  -.06 HAZ GAS MONT SYS PREOP      (HGM)2M
JKCC OTP-FPS.03 FIRE PROTECTION PREOP       (FPS)2M
JKCC OTP-FPS.01 CO2 FIRE PROT PRE-OP        (FPS)2M
JGLL OTP-MHV.0? SER WTR STRUCT HVAC PREOP(MHV)2M
JGFC OTP-PAS.03 SOUND POWERED PHONES        (PAS)2M
JQFA OTP-PFX.01 EXTERNAL COMMUNICATIONS     (PEX)2M
JRLN OTP-PIN.01 ROOM WATER LVL MON SYS      (PIN)2M
JSPB OTP-FSP.01 PROCS STM RAD MON           (PSR)2M
JSDC OTP-RAM.01 AREA RAD MON (NSR)          (RAM)2M
JSDC OTP-RAM.01 AREA RAD MON (NSR)          (RAM)2M
JSDB OTP-RAM.06 AIR RAD RAG MON (    )      (RAM)2M
JSDC OTP-RAM.05 LIQUID RAD MONT PRE-OP      (RAM)2M
JHCC OTP-RWS.04 RAD WST DRUM HDML PREOP     (RWS)2M
JEAA OTP-SWS.05 SW VORTEX PREOP             (SWS)2M
JGEE OAP-CHW.02 OFF BLDG CHILL WTR          (CHW)2M
JGGA OAP-MHV.02 PROCS EVAP BLDG HVAC        (MHV)2M
JATD OAP-PSS.2? HP EVAP A REL VLV TST       (PSS)2M
JATC OAP-PSS.05 HP EVAP FM VARI/O2 CONT     (PSS)2M
JATC OAP-PSS.07 HP EVAP RECRC SYS C/O       (PSS)2M
JATG OAP-PSS.16 SUM COOLING TEST            (PSS)2M
JATD OAP-PSS.27 HP EVAP PRESS OF NORMAL     (PSS)2M
JATC OAP-PSS.08 HP DEPR/RECOV PHASE 1           )2M
JATF OAP-PSS.1? HP EVAP A HEAT-UP           (PSS)2M
JATE OAP-PSS.24 HP VNT STA/DUMP VLV ACC     (PSS)2M
JGA  OAP-PTH.01 IKPGAJ AE ELEC HEAT         (PTH)2M
JHCC OAP-RWS.01 DRY WASTE COMPACTOR             )2M
JLLA OAP-SLW.01 DEWATERING SYS ACCEPT       (SLW)2M
 TAP-HAS.04 GAS SUPPLY AIR TEST                 )2M
 APP OSP-AML.05.01 CMPLT C/O                    )2L
 ?   OSP-AIL.02 CMPLT C/O                       )2L
JSDC OSP-ES .05 UNIT EARLY HAZ GAS MON      (HGM)2M
 ?   OSP-RWS.01 FILTER REML C/O             (RWS)2M
 DCW OFP-AT.04 SUCT PIPE TIES & CONNECT     (PSS)2M
JATD OFP-AT.06 STM BLOW & DRAIN             (FSS)2M
JHHA OFP-HP.01 FLUSH TK SUCT & GRAV FL      (LIW)2M
JSDB OFP-SL.01 AIR BLOW SAMPLE LINES        (FAM)2M
JSDC OFP-SL.01 AIR BLOW SAMPLE LINES        (FAM)2M
```

UNIT 2/COMMON

AUG

UNIT2/ COMMON

```
?HGA 2FP-FG.03 FLUSH RECIRC FLOW PATH       (SBS)2M
?BGA 2FP-BG.03 FLUSH OUT CUT PIPE           (SBS)2M
29GA 2FP-BG.03 FLUSH TO BGC                 (BLS)2M
JKFP OTP-CHE.01 AUX BLDG CRANE PREOP        (CHE)2M
GGDC OTP-EML.01 CNTL ROOM EMER LIGHTS       (EML)2M
JGKA OTP-FDA.01 FIRE DET & ALARM PREOP      (FDA)2M
JKCP OTP-FPS.04 XFMR DELUGE PREOP           (FPS)2M
JKCA OTP-FPS.01 FIRE WTR SUPPLY & DIST      (FPS)2M
JGAA OTP-HLS.01 RCMR & ESS LITING PRE-OP    (HLS)2M
UGFA OTP-PAS.02 INTERNAL COMMUNICATIONS     (PAS)2M
JGFE OTP-PAS.04 RADIO COMM PRE-OP           (PAS)2M
JSDE OTP-RAM.03 CTMT HI RANGE RAD MONT      (RAM)2M
JSDE OTP-RAM.05 LIQUID RAD MONT PRE-OP      (RAM)2M
JHCC OTP-RWS.06 INTEG SOLID RAD WST PREOP(SWS)2M
CSGA OTP-STS.01 SEISMIC INST SYS PRE-OP     (STS)2M
JDEA OAP-CPP.01 POND BLOWDN/MAKEUP ACCEPT   (CPS)2J
JFAA OAP-AXB.01 AUX BLR ACCEPT F/OE-1GA     (AXB)2M
JFAA OAP-AXB.02 AUX BLR ACCEPT F/OE-1GB     (AXB)2M
JKEC OAP-CHE.01 TURBINE BLDG CRANE ACCEPT(CHE)2M
JFAC OAP-HAS.01 GAS LEAK DETECT ACCEPT      (HAS)2M
JFAE OAP-HAS.0? LEAK TEST CONDENSATE        (HAS)2M
JFFP OAP-HAS.06 SERV LEAK TEST FEEDWTR      (HAS)2M
JFAB OAP-HAS.11 MUD DRUM HTC SYS TEST       (HAS)2M
JFAB OAP-HAS.09 LEAK TEST HP CONDENSATE     (HAS)2M
JFAB OAP-HAS.14 COND TO DA SER LEAK TEST        )2M
JFAF OAP-HAS.07 LEAK TEST MAIN STEAM        (HAS)2M
JFAE OAP-HAS.12 N2 SUPPLY TEST              (HAS)2M
JHHA OAP-LLW.01 LAUNDRY WASTE ACCEPT        (LLW)2M
JGDA OAP-MHV.03 MISC BLDGS HVAC ACCEPT      (MHV)2M
JATD-2 OAP-PSS.11 SERV LK TST TO VALVE      (PSS)2M
JATD OAP-PSS.11 LEAK TEST                   (PSS)2M
JATL OAP-PSS.22 LP PMP HEAD CURVE           (PSS)2M
JATD OAP-PSS.13 HP EVAP 5 POWER RUNUP       (PSS)2M
JATE OAP-PSS.08 HP DEPR/RECOV PHASE 2           )2M
JATD OAP-PSS.26 RELIEF VALVE TESTING        (PSS)2M
JATH OAP-PSS.23 VACUUM PUMP PERFORMANCE     (PSS)2M
JATD OAP-PSS.07 HP EVAP 1 COOLDOWN & INSP(PSS)2M
JATE OAP-PSS.32 HP & LP MAG FILTER ACCEPT(PSS)2M
JATE OAP-PSS.18 TUBE INTEG EXPERLEAKER ID(PSS)2M
JATE OAP-PSS.11 DOW HP STM HTUP TO VALVE    (PSS)2M
JATD OAP-PSS.19 HP THX STM QUAL "A EVAP"    (PSS)2M
JATE OAP-PSS.21 HP FD PMP HEAD CURVE        (PSS)2M
JATC OAP-PSS.13 THERMAL PERFORM BASELINE    (PSS)2M
JATD OAP-PSS.29 LOS OF FEEDWTR HP EVAPS         )2M
JFAB OAP-PST.01 HP BLR TEMP PRG EXAM        (HAS)2M
JCAA OAP-PTH.04 HOT WATER HEATING ACCEPT    (PTH)2M
```

SEP

1984 (CONT.)

UNIT2/ COMMON

2STF 2TP-RFF.01 VERIFY/FILL N2 SUPPLY (RFP)2M
2FTA 2TP-RFF.01 RX VENT PRESS (N2) (RFP)2M
2BTG 2TP-RFF.01 VERIFY/FILL WTR TKS (RFP)2M
2GAG 2TP-RTF.03 (F) 2Z-42/45 (FTH)2M
2EAG 2TP-RTF.03 (F) 2Z-R.11 (SWS)2M
2KAC 2TP-RTF.03 (F) 2Z-61A (IAS)2M
2FAA 2TP-RTF.03 (F) 2Z-76 (RWG)2M
2EAG 2TP-RTF.03 (F) 2Z-4.6 (SWS)2M
2ALA 2TP-RTF.03 (F) 2Z-71 (MSS)2M
2CBA 2TP-RTF.01 & RTF.02 RX RB SIT/ILRT (RCS)2M
2PCA 2TP-RTF.03 (F) 2Z-9K (FFR)2M
2RAF 2TP-RTF.03 (F) 2Z-65 (SAS)2M
2FTA 2TP-RTF.03 (F) 2Z-1C (FFP)2M
2SJA 2TP-RTF.03 (F) 2Z-44 (RSY)2M
2SFA 2TP-NIS.05 NI PRE-OP CALIB TEST (RFS)2L
2SEA 2TP-RPS.02 RPS PRE-OP CALB (RPS)2L
2SFA 2TP-NIS.01 ICP ELECT TEST (NIS)2M
2SDA 2TP-RAM.05 LIQUID RAD MONT PRE-OP (RAM)2M
ECA 1TP-FPC.01 DRAIN SPENT FUEL POOL FPC)FP
2PLA 2TP-PMW.01 PRIM WTR STOR/TRANSF (PMW)2L
2SDA 2TP-RAM.02 1-E AREA RAD MONT PRE-OP (RAM)2L
2SEC 2TP-RAM.01 AREA RAD MONT (MSP) (RAM)2M
2HCC 2TP-RWS.03 FILL ASPHALT TANK (RWS)2M
2HCC 2TP-RWS.03 RAD WST SOLIDIFICATION (RWS)2M
2HCC 2TP-RWS.03 FILL STEAM DOME BOILOUT (RWS)2M
2ATE 2AP-PSS.03 "K" EVAP QUALITY CHECK (PSS)2M
2ATE 2AP-PSS.05 "J" EVAP QUALITY CHECK (PSS)2M
2ATE 2AP-PSS.11 HP TEST STM HGR SET HOT (PSS)2M
2ATE 2AP-PSS.13 THERMAL PERFORM BASELINE (PSS)2M
2ATE 2AP-PSS.07 RECIRC SYS LP COOLDOWN (PSS)2M
2ATE 2AP-PSS.01 PSS INTERLCK & CTRL CHK (PSS)2M
2ATE 2AP-PSS.22 "H" EVAP QUALITY CHECK (PSS)2M
2ATE 2AP-PSS.20 "A" EVAP QUALITY CHECK (PSS)2M
2ATE 2AP-PSS.19 HP THX STM QUAL"B EVAP" (PSS)2M
2ATE 2AP-PSS.09 LP DEPR/RECOV PHASE 2)2M
2ATE 2AP-PSS.11 HANGER CHECK COLD (PSS)2M

JUL

UNIT2/ COMMON

2BNA 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
2BEA 2TP-ESA.05 INTEGRATED ESFAS LP (RCS)2L
2SAC 2TP-ESA.03 ECCAS LOP SEQ PREOP (ESA)2L
2SDA 2TP-RAM.02 1-E AREA RAD MONT PRE-OP (RAM)2L
2SDA 2TP-RAM.04 1-E AIR RAD MONT (RAM)2L
2GTA 2TP-REV.01 RB AIR PUR/CLNUP/VENT (REV)2L
2CSC 2TP-RGC.03 H2 MONITORING PRE-OP (RGC)2L
2GSC 2TP-RGC.02 H2 VENT SUPPLY/EXH PRE-OP(RGC)2L
2GSA 2TP-RGC.01 H2 RECOMBR PRE-OP (RGC)2L
2SBA 2TP-RPS.01 RPS TIME RESPONSE (RPS)2L
2GMA 2TP-CHV.01 DC BLDG HVAC PRE-OP (CHV)2M
2SCA 2TP-RAM.01 AREA RAD MONT (MSP) (RAM)2M
2GMA 2TP-REV.03 CTMT HEAT REMOVAL PREOP (REV)2M
2RNA 2SP-ANN.06 CMPLT C/O)2L
2RNA 2SP-ANN.07 CMPLT C/O)2L
2SCA 2SP-NAT.01.01 CMPLT C/O)2L
2RLF 2SP-PIN.04 CMPLT C/O)2L
2SEA 2SP-RPS.01 RCP PWR MON RESPONS TIME (RPS)2L
2SEB 2SP-RPS.03 INITIAL ENERGIZATION (RPS)2M
2BGN 2PP-EC.03 FLSH PRIM WTR INTO EPS TK (EPS)2M
2AGD 5PP-AC.01 INST AIR BLOW (FWC)2M
2GLH 2TP-AHV.03 CNTL RM HVAC PRE-OP (AHV)2L

AUG

UNIT2/ COMMON

2NFA 2TP-CHF.04 POLAR CRANE PRE-OP (CHF)2M
2KCF 2TP-FPS.03 HALON FIRE PROTECTION PRE-OP)2M
2BGN 2TP-MUF.01 MU SYS PRE-OP (EFS) (EFS)2M
2SFB 2TP-NIS.04 NI DETECTOR PRE-OP (NIS)2M
2SFA 2TP-NIS.06 SR/IR INITIAL SETTINGS (RFS)2M
2SEA 2TP-NIS.02 ICM SYSTEM PRE-OP (NIS)2M
2SEB 2TP-NIS.03 NI DETECTOR CABLING TEST (NIS)2M
2SDB 2TP-RAM.03 CTMT HI RANGE RAD MON (RAM)2M
2SDB 2TP-RAM.07 STACK HI RANGE RAD MON (RAM)2M
2BMA 2TP-RPS.01 RB SPRAY HDR AIR TEST (RPS)2M
2BBA 2TP-RCS.19 PST HFT INTER INSP(RVIC) (RCS)2M
2SFB 2TP-FPS.05 ARIS SYS PREOP (FPS)2M
2GLE 2AP-AHV.01 TENDON GALLERY HVAC (AHV)2M
2GHA 2AP-CPS.01 CATHODIC PRPT ACCEPT (CPS)2M
2RLO 2SP-PIN.02 CMPLT C/O)2M
2RLP 2SP-PIN.03 CMPLT C/O)2M

SEP

1984 (CONT.)

OCT	NOV	DEC
		UNIT 1 1SEA 1TP-NIS.01 ICM ELECT TEST (NIS)1M 1SEB 1TP-NIS.04 NI DETECTOR PRE-OP (NIS)1M

1984

2DAS 2SP-DAS.?? DATA ACQ SETUP F/UNIT 2 TES)2R

UNIT 2/COMMON

UNIT 1

DOW 1FP-AT.XX DEMIN LINE TO DOW POND (FSS)1C
DOW 4FP-AT.XX COND LINE FLUSH TO POND (FSS)1C
1HFA 1TP-CHF.34 POLAR CRANE PRE-OP (CHE)1M
1GMA 1TP-CHV.?1 DG BLDG HVAC PRE-OP (CHV)1M
1GKA 1TP-FDA.01 FIRE DET & ALARM PREOP (FDA)1M
1KCC 1TP-FPS.01 CO2 FIRE PROT PRE-OP (FPS)1M
1KCF 1TP-FPS.03 HALON FIRE PROTECTION PRE-OP)1M
1SEB 1TP-MIS.?? NI DETECTOR CABLING TEST (MIS)1M
1SEA 1TP-MIS.02 ICM SYS PRE-OP (MIS)1M
1SGA 1TP-MS.?? SR/IR INITIAL SETTINGS (FFS)1M
1GKA 1TP-RES.01 RF SPRAY RDR AIR TEST (RES)1M
1GTA 1TP-REV.?? CTMT HEAT REMOVAL PREOP (RHV)1M
1GBA 1TP-RCS.19 RM FLGS SCRS/INTERM INSP (RCS)1M
1GLE 1AP-AHV.?1 TEED GALLERY HVAC (HHV)1M
1GHA 1AP-CPS.?1 CATHODIC PROTECTION (CPS)1M
1PRA 1SF-ANN.?8 CMPLT C/O)1M
1EGK 1FP-EG.35 FILL EBS TK COMPLETELY (EBS)1M
1HGP 1FP-EG.13 FLUSH OUT CUT PIPE (EES)1M
1EGP 1FP-EG.?? BACK FLUSH FR/1?GC FES)1M

JAN

2DAS 2SP-DAS.1? LOAD SENSING TRAIN CALIB)2R
2DAS 2SP-DAS.13 ACCELR TRAIN CALIB)2R
2DAS 2SP-DAS.?6 INSTALL LANYARD XDUCERS)2R
2DAS 2SP-DAS.15 LANYARD XDUCER CALIB)2R

UNIT 2/COMMON

FEB

MAR

1985

UNIT 1 [illegible]-PSS.14 INIT HTUP EXT LINE TO TUR)10		ATE ATP-FSS.XX MODE 1 INTEG. [illegible] (FSS)10 ATE TE-9020.14 HP COW LINE STEAM BLOW (FSS)10 ATE TE-902[illegible].14 LP COW WEST STEAM BLOW (FSS)10 ATE TE-902[illegible].14 LP COW EAST STEAM BLOW (FSS)10 ATE TE-902[illegible].14 LP COW TUR LNE STM BLOW (FSS)10 UNIT 2/COMMON
APR	MAY	JUN

1985

UNIT 1

1DAS DSP-DAS.04 DATA ACQ SETUP F/UNIT 1 FES))F
1DAS DSP-DAS.14 LOAD CELL CALIB))F
1DAS DSP-DAS.06 INSTALL ACCELR IN UNIT 1))R
1DAS DSP-DAS.17 ACCEL GAIN CALIB))F
1DAS DSP-DAS.08 INSTALL LANYARD XDUCERS IN UN))F
1DAS DSP-DAS.15 LANYARD XDUCER CALIB))F

JUL	AUG	SEP

1985

OCT	NOV	DEC

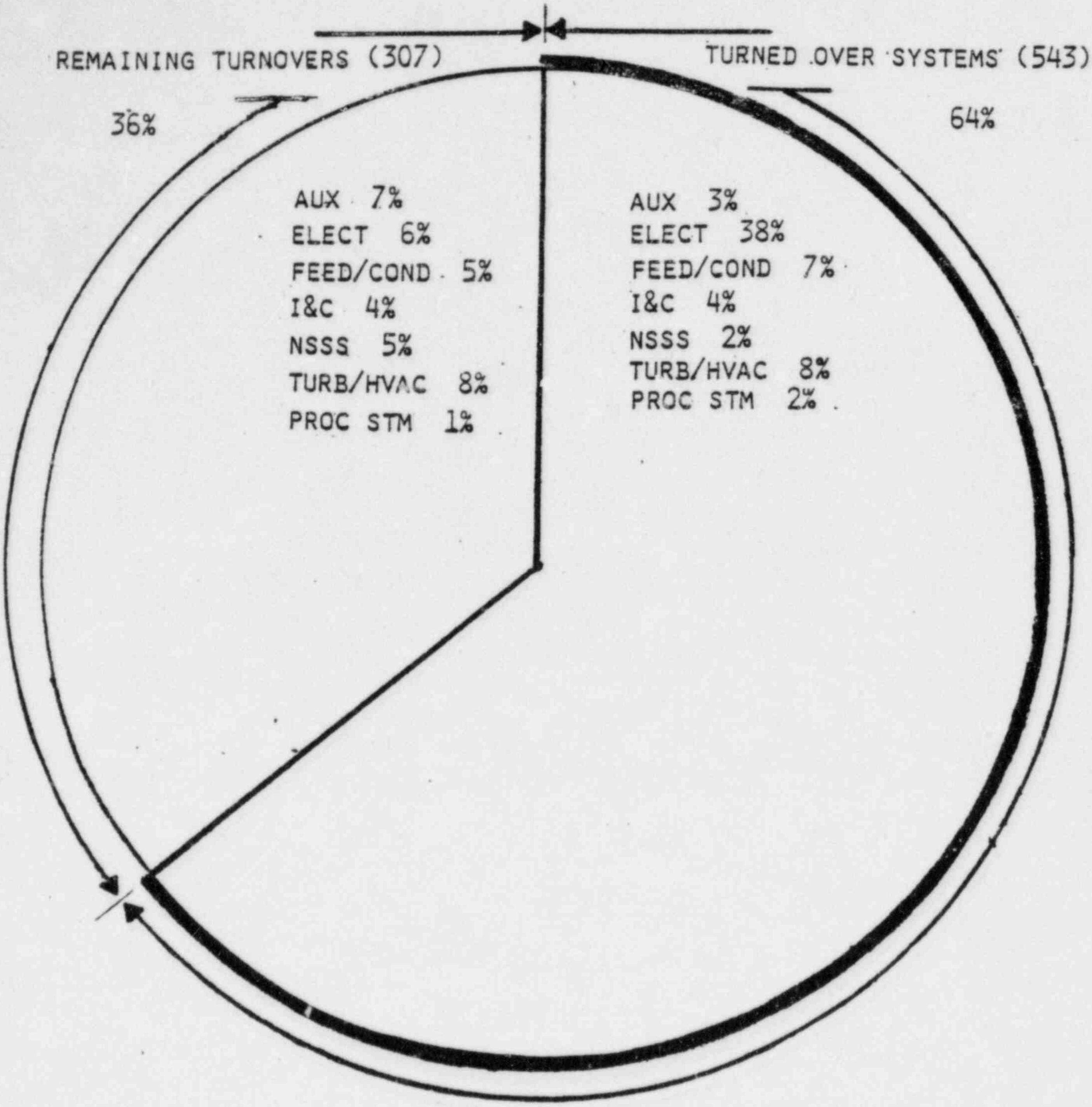
1985

VIEW GRAPHS

SYSTEM

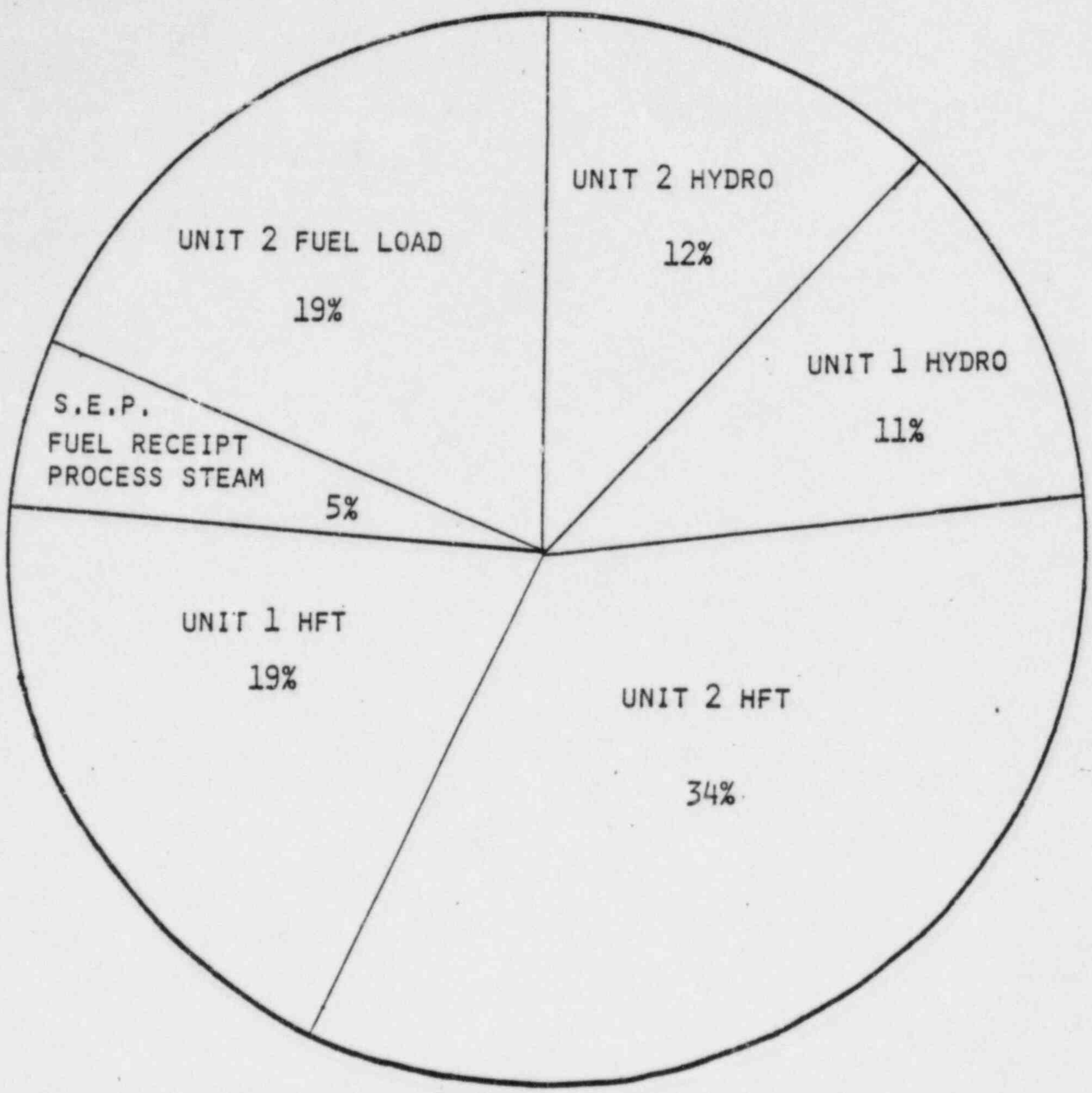
TURNOVER

STATUS



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

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

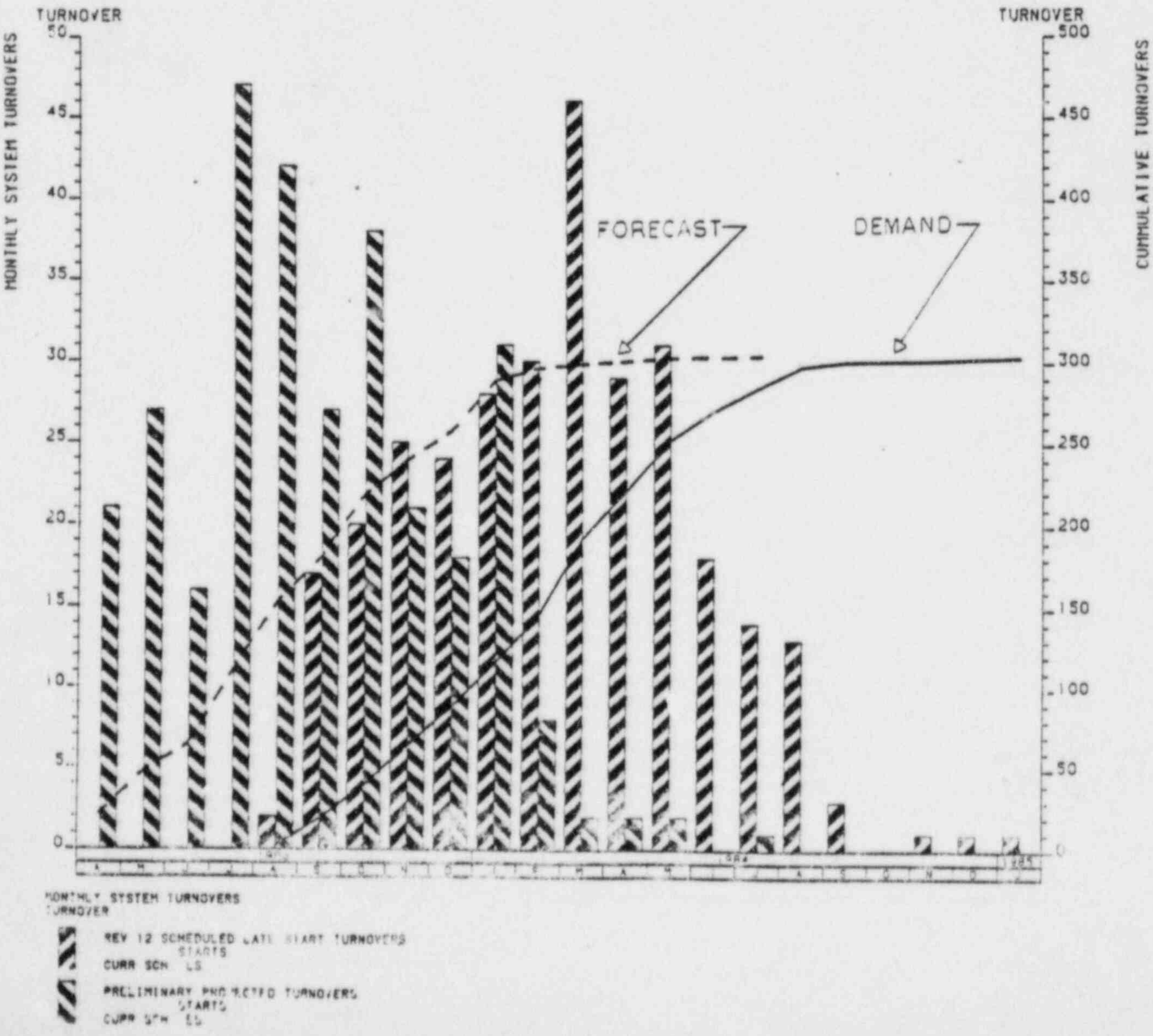


REMAINING SYSTEMS = 307

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

*** REVISION 12 ***

SYSTEMS ACCEPTED= 544 OF 850 TOTAL



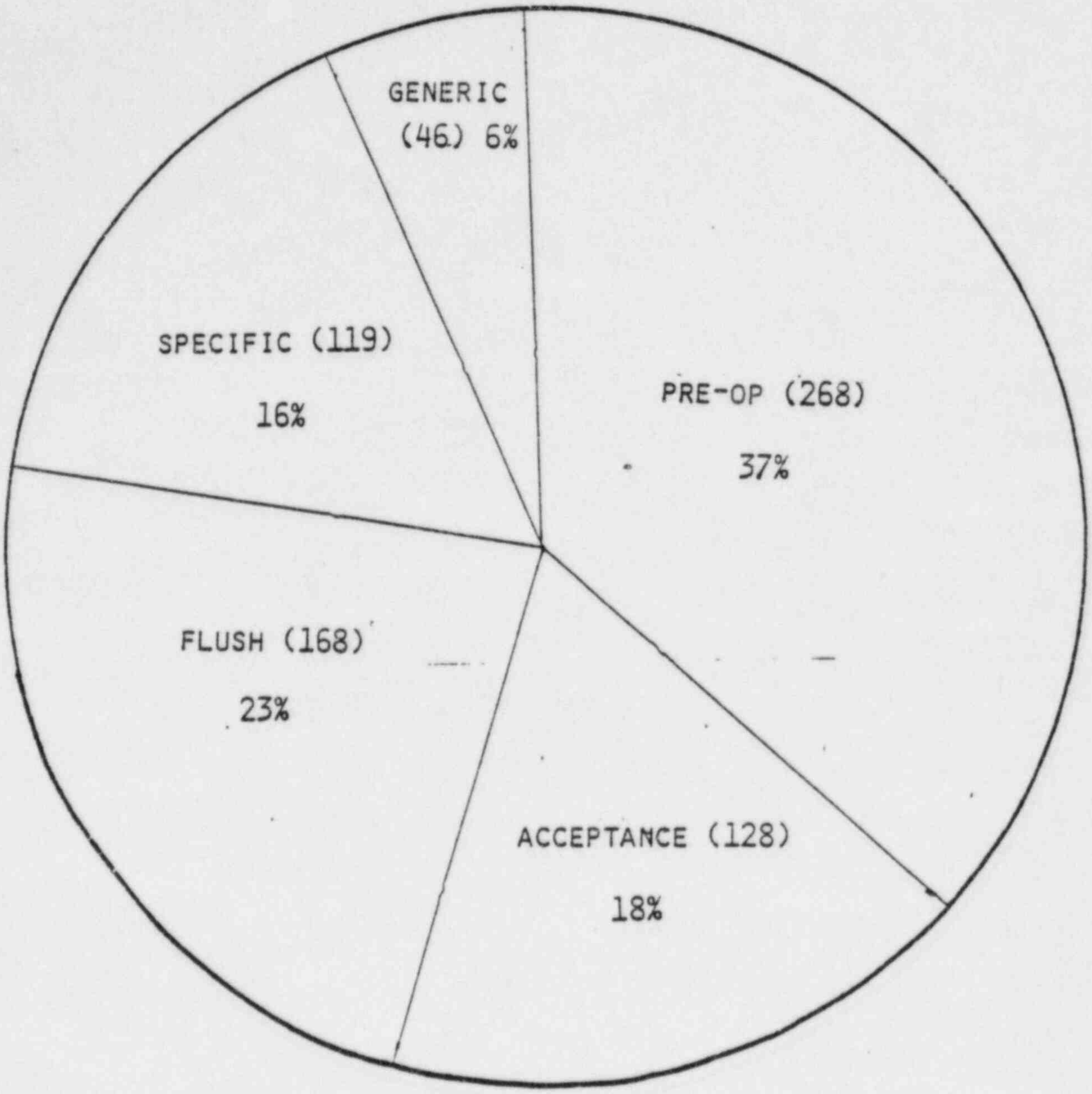
TEST STATUS

(REFER TO HANDOUT MATERIAL)

PROCEDURE DEVELOPMENT

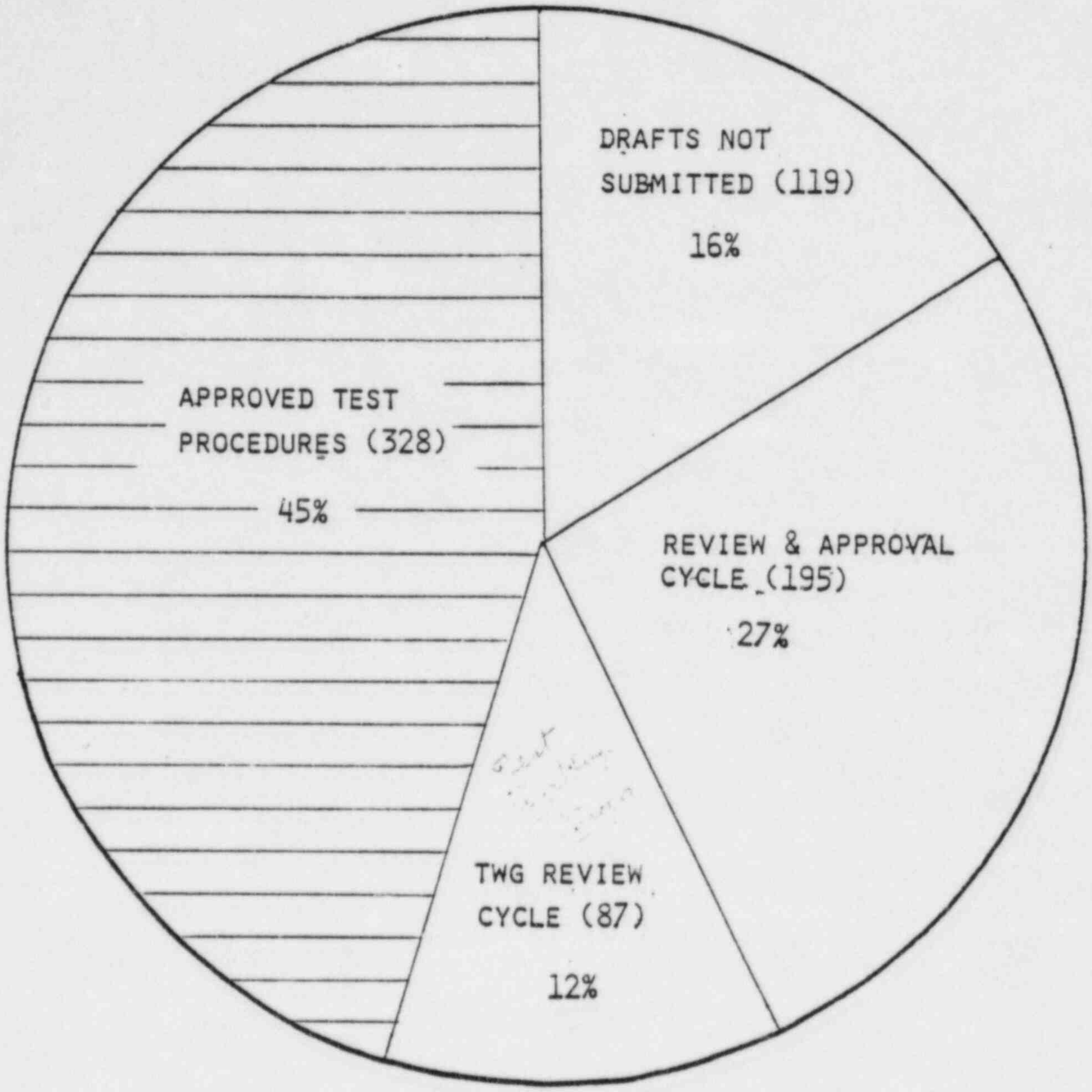
AND

PERFORMANCE STATUS

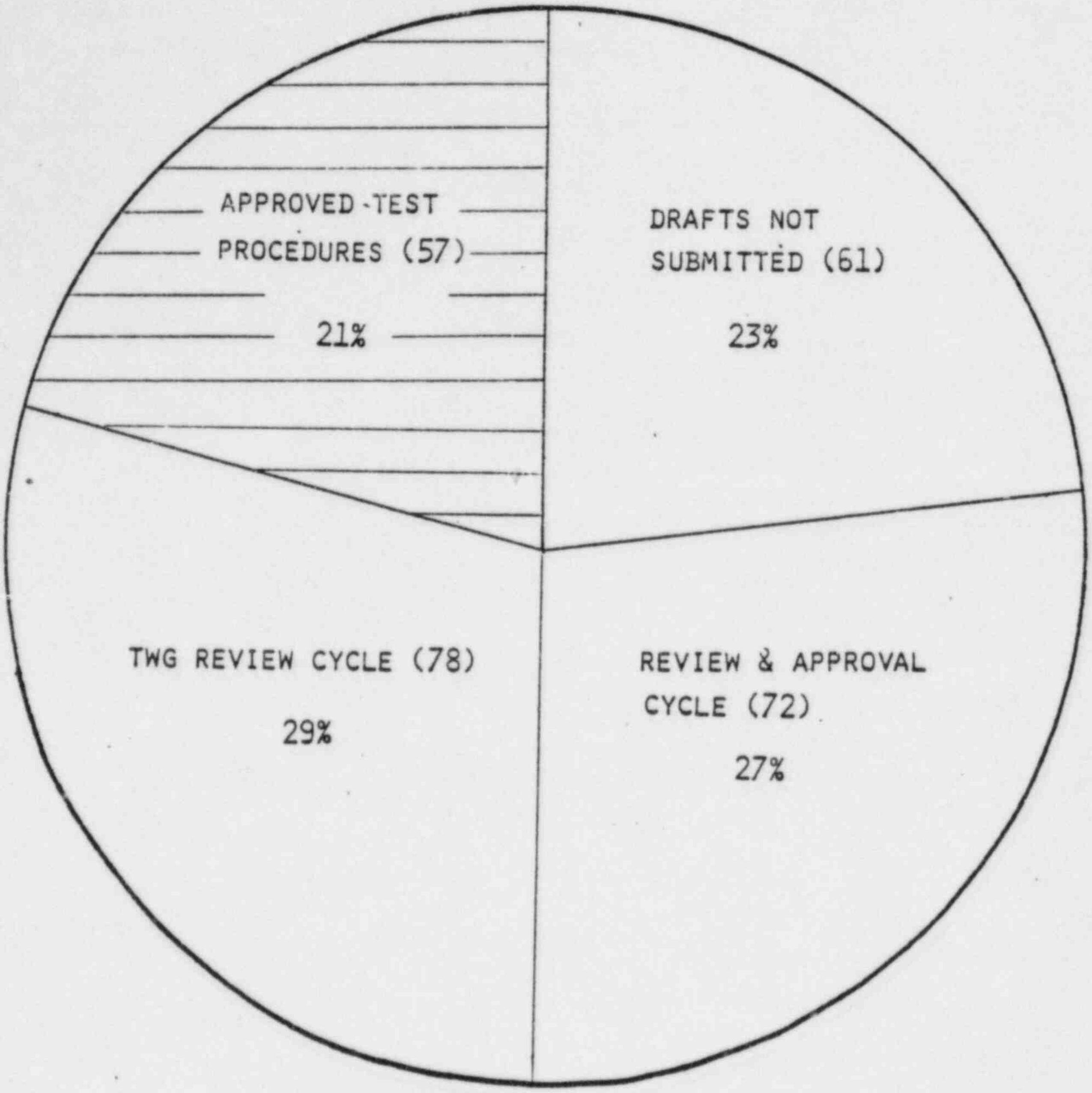


TEST PROCEDURES - PROCEDURE TYPES

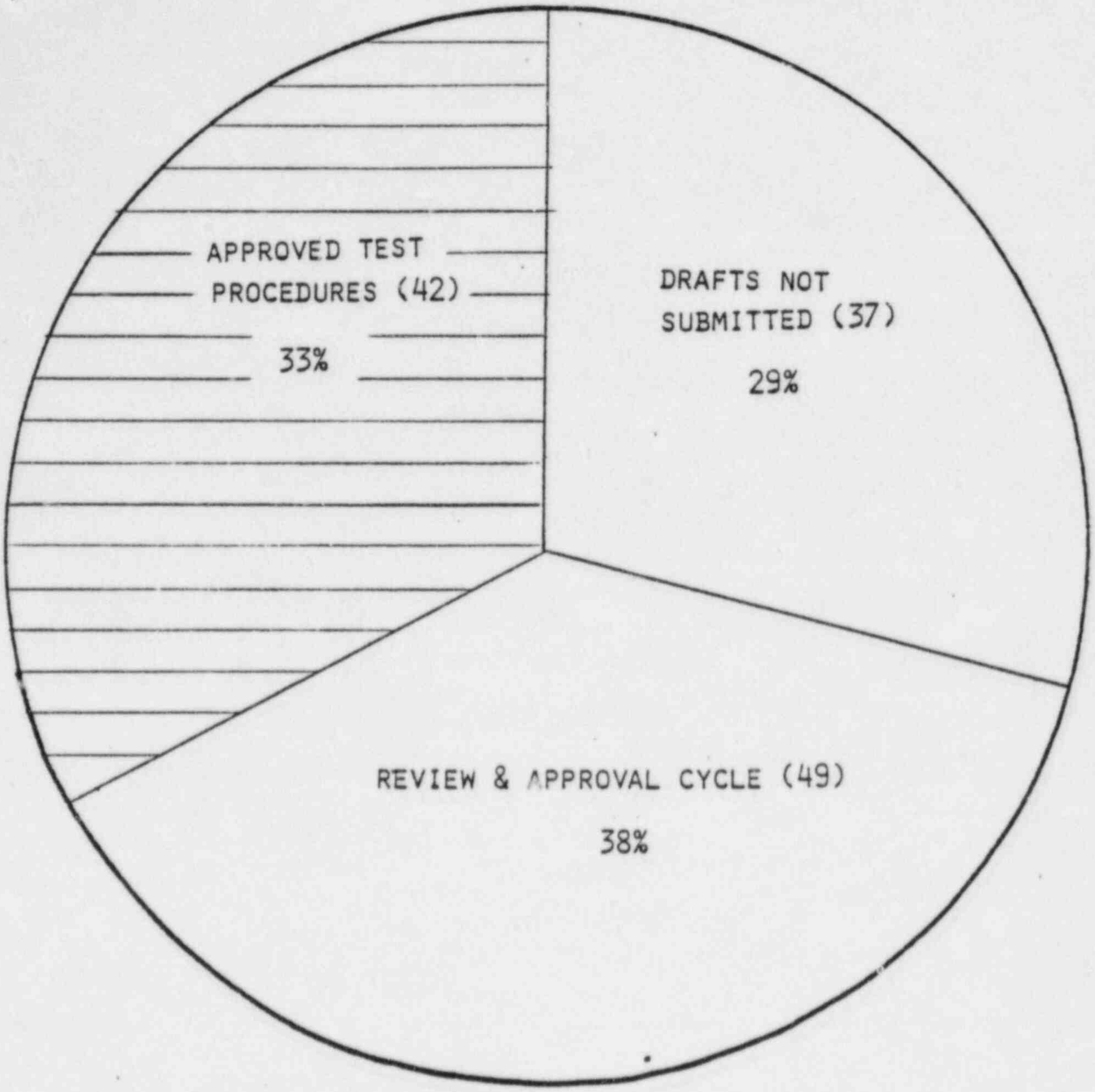
(729) (5)



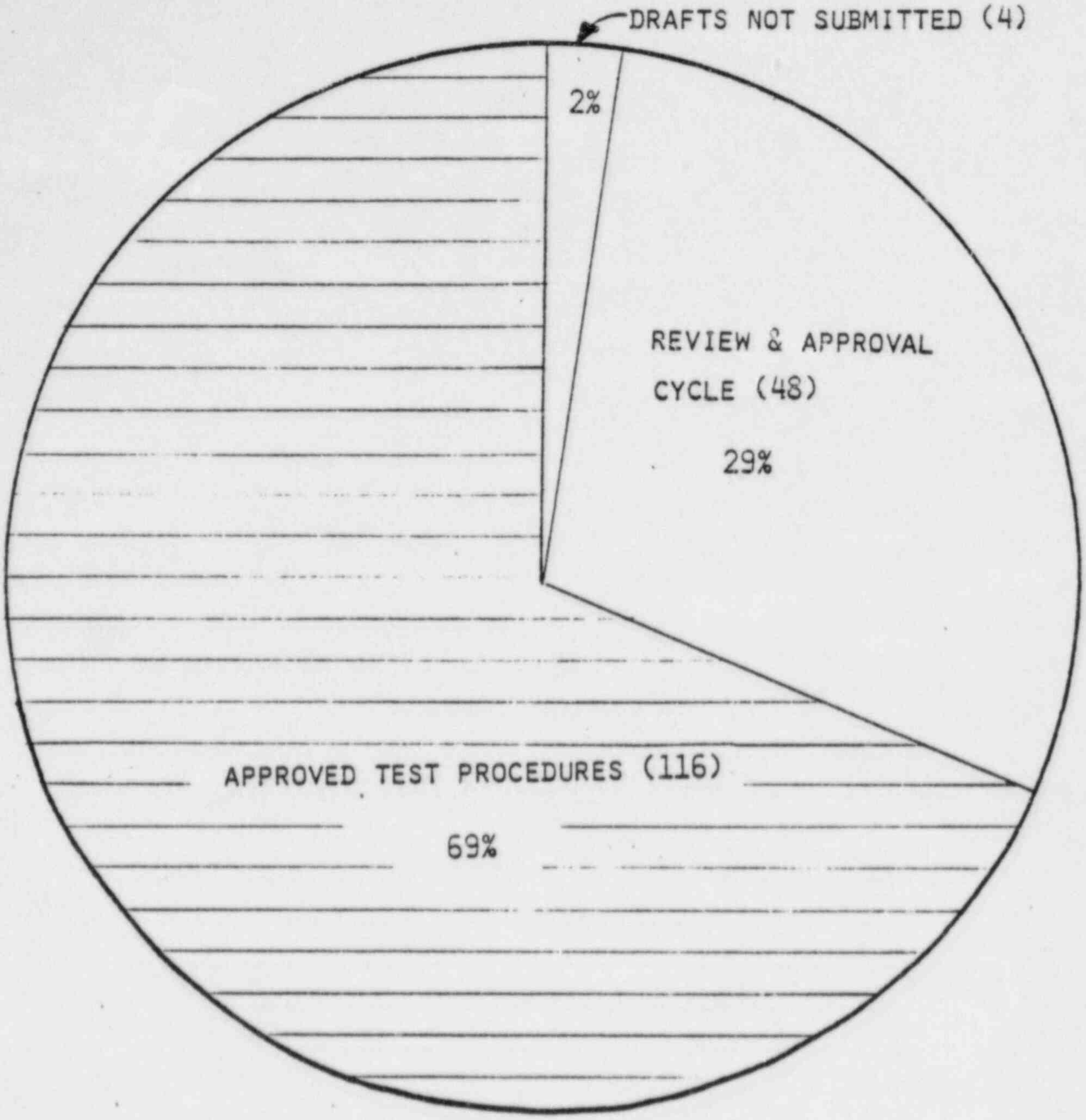
TEST PROCEDURE - STATUS 3-31-83 (729)



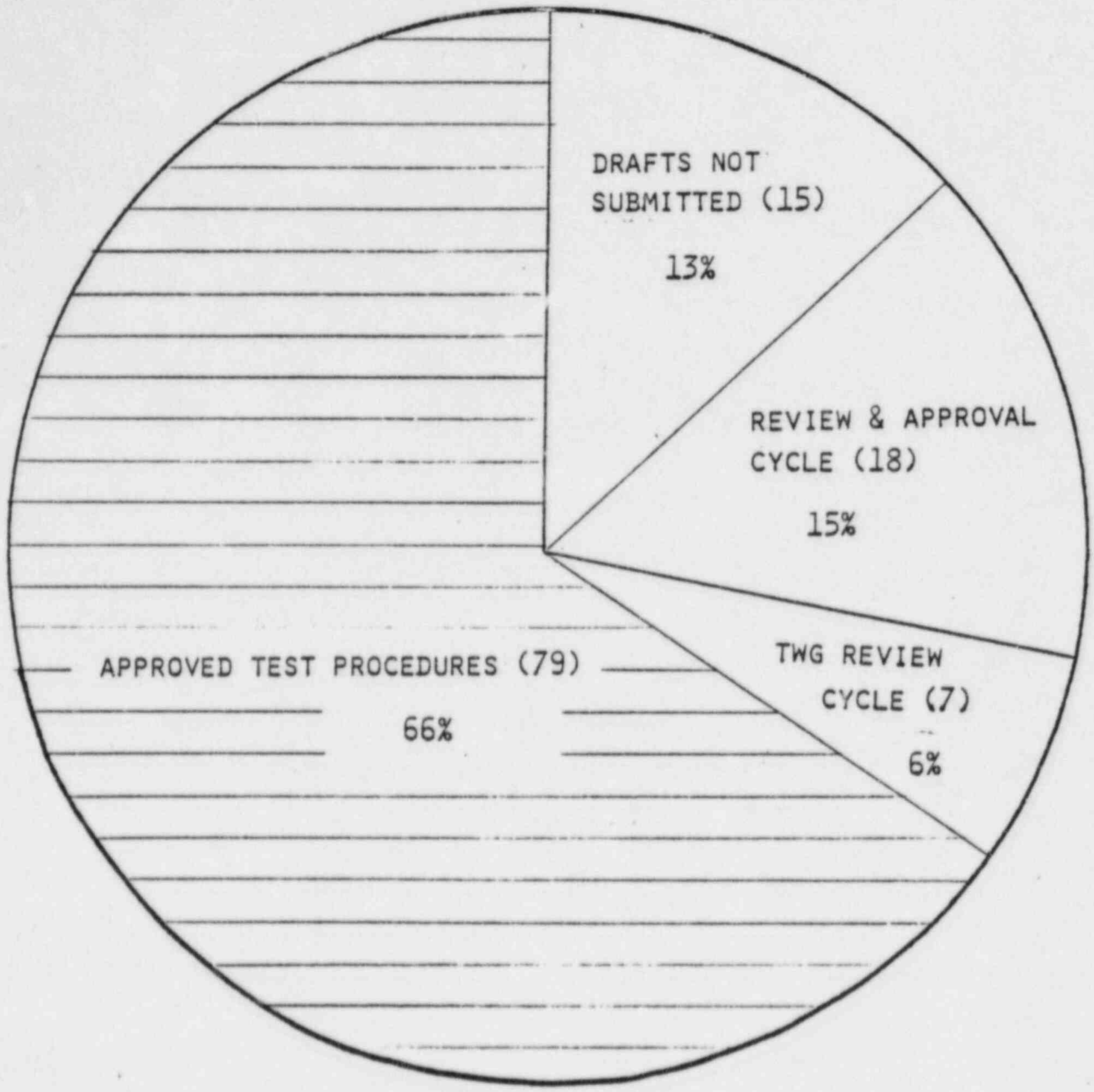
PREOPERATIONAL TEST PROCEDURES (268)



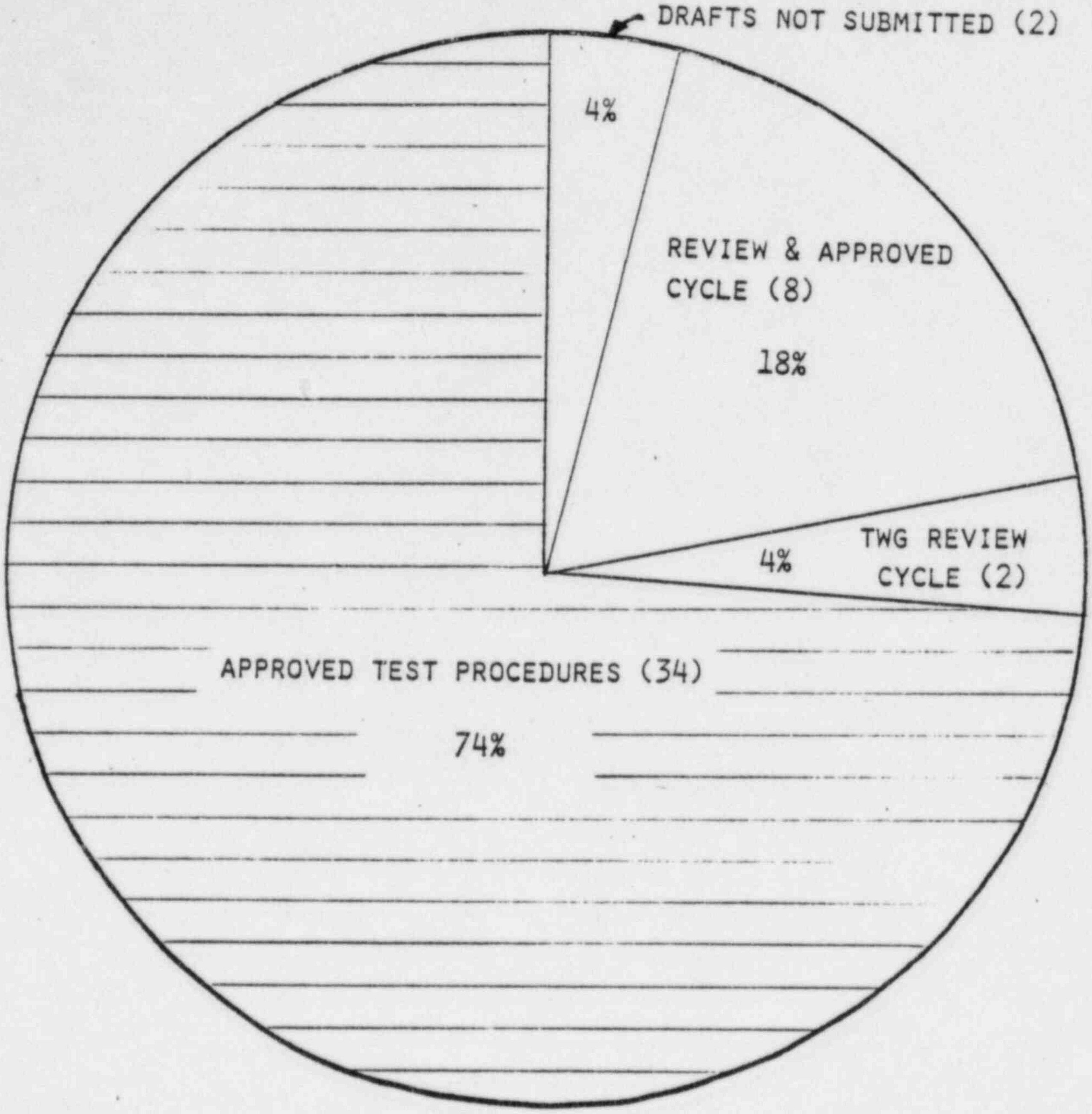
ACCEPTANCE PROCEDURES (128)



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

<u>NON-MANUAL</u>	55
<u>MANUAL</u>	
PIPEFITTERS & WELDERS	- 55
ELECTRICIANS	- 35
LABORERS	- 10
	100

18/01

TASK NO.:
DATE:
TAC #: 141433

TASK INTERFACE AGREEMENT

PROBLEM: Midland/Clinton - Deficiencies in HVAC

LEAD OFFICE: /_/ I&E /_/ NRR /X/ REGION /_/ JOINT

NOTIFICATION:

REFERENCES: Memo to DEisenhut fm RSpessard dated 08/04/83 subject: "Request to Review the Structural Design Adequacy of the Midland and Clinton HVAC Systems." Telecon between D. Danielson and R. Wessman on 8/15/83 regarding above memo.

ACTION PLAN:

NRR: Technical Assistance by MEB/MTEB is requested to resolve problems identified in safety related HVAC systems at Midland and Clinton. These problems relate to potentially altered materials specification records. Identified issues concern:

1. Evaluate HVAC design basis and its implementation by A-E at Midland and Clinton (Midland A-E is Bechtel; Clinton A-E is Sargent & Lundy)

2. Evaluate adequacy of analyses being accomplished by A-E with respect to:

   a. adequacy of materials,
   b. acceptability of substitute materials

3. Evaluate adequacy of program for control of design changes and field modifications including onsite and home office controls. (Region III to assist in QA aspects)

4. Provide technical support to Region III at Midland Licensing Board hearing, if required.

CONTINUED ON BACK - - - -

NRR: Designate Lead Project Manager to assign TA/S and coordinate correspondence, meetings, and reports (ORB# / LB# 4 - D. Hood) PM to prepare memo to Region III for DL signature transmitting results of NRR findings. 1/1/84

OFFICE COORDINATORS:

FAW G. Holahan (X27415)

APPROVED:

(I&E)

L. Spessard
(Region III)

R. Vollmer (X 27207)

T. Novak (X 27425)

(X)

(X)

F. Miraglia (X27492)

cc: V. Stello, ROGR
Regional Adms.
J. Taylor, I&E
E. Jordan, I&E
R. Baer, I&E
G. Lanik, I&E
J. Sniezek, I&E
R DeYoung, I&E

J. Heltemes, AEOD
D. Danielson, R-III
R. Bosnak
B.D. Liaw
H. Denton, NRR
E. Case, NRR
R. Mattson, NRR

T. Thompson, NRR
T. Speis, NRR
D. Eisenhut, NRR
R. Vollmer, NRR
G. Lainas, NRR
T. Novak, NRR
F. Miraglia, NRR
G. Holahan, NRR

R. Purple, NRR
R. Wessman, NRR
Lead Project Manager
E. Adensam, LB#4
A. Schwencer, LB#2
D. TErao, MEB
D. Sellers, MTEB
H. Abelson, LB#2

ACTION PLAN:

NRR: Requested to assist Region III in determining if these issues impact plant safety, including review of documentation, participation in licensee meetings, and preparation of a technical evaluation for Region III. (MEB, MTEB)

and site visit

18/61

TASK NO.: 83-78

DATE: AUGUST 2 9 1983

TAC #: 141433

TASK INTERFACE AGREEMENT

PROBLEM: Midland/Clinton - Deficiencies in HVAC

LEAD OFFICE: /_/ I&E /_/ NRR /X/ REGION /_/ JOINT

NOTIFICATION:

REFERENCES: Memo to DEisenhut fm RSpessard dated 08/04/83 subject: "Request to Review the Structural Design Adequacy of the Midland and Clinton HVAC Systems." Telecon between D. Danielson and R. Wessman on 8/15/83 regarding above memo.

ACTION PLAN:

NRR: Technical Assistance by MEB/MTEB is requested to resolve problems identified in safety related HVAC systems at Midland and Clinton. These problems relate to potentially altered materials specification records. Identified issues concern:

1. Evaluate HVAC (Matls & Mech) design basis and its implementation by A-E at Midland and Clinton (Midland A-E is Bechtel; Clinton A-E is Sargent & Lundy)

2. Evaluate adequacy of analyses being accomplished by A-E with respect to:
   a. adequacy of materials,
   b. acceptability of substitute materials

3. Evaluate technical aspects of control of design changes and field modifications including onsite and home office controls. (Region III to assist in QA aspects)

4. Provide technical support to Region III at Midland Licensing Board hearing, if required.

CONTINUED ON BACK - - - -

NRR: Designate Lead Project Manager to assign TACS and coordinate correspondence, meetings, and reports (ORB# / LB# 4 - D. Hood) PM to prepare memo to Region III for DL signature transmitting results of NRR findings.

OFFICE COORDINATORS:

G. Holahan (X27415)	R. Vollmer (X 27207)
APPROVED:	T. Novak [signature] 8/23 (X 27425)
(I&E)	(X)
D. Danielson for L. Spessard (Region III) Telecon w/ R. Wessman 8/15	(X)
	F. Miraglia [signature] for 8/25 (X27492)

cc: V. Stello, ROGR
Regional Adms.
J. Taylor, I&E
E. Jordan, I&E
R. Baer, I&E
G. Lanik, I&E
J. Sniezek, I&E
R. DeYoung, I&E
J. Heltemes, AEOD
D. Danielson, R-III
R. Bosnak
BD. Liaw
H. Denton, NRR
E. Case, NRR
R. Mattson, NRR
H. Thompson, NRR
T. Speis, NRR
D. Eisenhut, NRR
R. Vollmer, NRR
G. Lainas, NRR
T. Novak, NRR
F. Miraglia, NRR
G. Holahan, NRR
R. Purple, NRR
R. Wessman, NRR
Lead Project Manager
E. Adensam, LB#4
A. Schwencer, LB#2
D. TErao, MEB
D. Sellers, MTEB
H. Abelson, LB#2

ACTION PLAN:

NRR: Requested to assist Region III in determining if these issues impact plant safety, including review of documentation, participation in licensee meetings, and preparation of a technical evaluation for Region III. (MEB, MTEB)

vendor and site visits

UNITED STATES
NUCLEAR REGULATORY COMMISSION
REGION III
799 ROOSEVELT ROAD
GLEN ELLYN, ILLINOIS 60137

AUG 4 1983

MEMORANDUM FOR: D. G. Eisenhut, Director
Division of Licensing

FROM: R. L. Spessard, Director
Division of Engineering - Region III

SUBJECT: REQUEST TO REVIEW THE STRUCTURAL DESIGN ADEQUACY OF THE MIDLAND AND CLINTON HVAC SYSTEMS

As discussed between Mr. D. H. Danielson of my staff and Mr. R. J. Bosnak of the NRR staff, we request that NRR perform a review of the HVAC design methodology for the Midland and Clinton facilities. These reviews should be of the same type and magnitude as your recent effort (TIA 82-41) relative to the LaSalle HVAC system. As you know, TERA Corporation is conducting an Independent Design and Construction Verification Program (IDCVP)at the Midland Plant. One of these systems is the control room HVAC system and you may wish to factor this into your review.

We intend to use the results of your review to complement our onsite inspection efforts at both facilities. The combination of our respective efforts will address (1) the adequacy of the HVAC systems as they are constructed and (2) allegations of former Zack employees as they relate to Midland and Clinton. We are projecting that our inspection efforts at Midland will conclude on November 1, 1983, and on January 1, 1984 at Clinton. If your schedule allows, we believe it would be to NRC's benefit to have your effort completed by those dates also.

Our contact for coordination of Region III's actions concerning this matter is Mr. Danielson (FTS 384-2610). Please contact us if we can provide you further information regarding this request.

R. L. Spessard

R. L. Spessard, Director
Division of Engineering

cc: G. M. Holahan, NRR
R. J. Bosnak, NRR
R. H. Wessman, NRR
E. L. Jordan, IE
J. M. Taylor, IE
Directors, Div.Engr, RI, RII, RIV and RV

8406020038

LIMINARY NOTIFICATION OF EVENT OR UNUSUAL OCCURRENCE--PNO-III-83-70 Date. 8/5/83

s preliminary notification constitutes EARLY notice of events of POSSIBLE safety or lic interest significance. The information is as initially received without veri-ation or evaluation, and is basically all that is known by the staff on this date.

ility: Commonwealth Edison Company
Braidwood Station - Units 1 & 2
Braidwood, IL
Docket Nos. 50-456; 50-457

Licensee Emergency Classification:
_____ Notification of Unusual Event
_____ Alert
_____ Site Area Emergency
_____ General Emergency
X Not Applicable

ject: HVAC WORK REDUCED BECAUSE OF NRC INSPECTION FINDINGS

As a result of the preliminary findings of an ongoing Region III (Chicago) inspection, work has been reduced on safety-related heating, ventilating, and air conditioning (HVAC) installation at the Braidwood site. Pullman Power Products, the HVAC contractor, has laid off 46 employees (primarily crafts personnel) as a result of the work being reduced. Reinspection and program review work by Pullman is continuing.

The NRC inspection, which began August 1, 1983, has identified concerns regarding contractor implementing procedures for documentation of welding procedures used and weld material traceability. Concerns were also identified regarding CECo audit scope and content and corrective actions. The inspection is continuing.

Neither Region III nor the licensee intends to issue a news announcement at this time.

The State of Illinois will be notified.

Region III identified these HVAC problems during an inspection on August 3 and 4, 1983. This information is current as of 12:00 p.m., August 5, 1983.

CONTACT:

D. R. Hunter	D. W. Hayes	J. F. Streeter	R. C. Knop	R. L. Spessard
384-2555	384-2543	384-2541	384-2547	384-2552

STRIBUTION:

St._____	MNBB_____	Phillips_____	E/W_____	Willste_____
airman Palladino	EDO	NRR	IE	NMSS
m. Gilinsky	PA		OIA	RES
	MPA		AEOD	
m. Roberts	ELD	Air Rights_____		MAIL:
m. Asselstine	8308100289	SP	INPO_____	ADM:DMB
CY			NSAC_____	DOT: Trans Only
RS	Applicable Resident Site _____			

R Regions I_____, II_____, IV_____, V_____ Licensee (Corporate Office)_____

UNITED STATES
NUCLEAR REGULATORY COMMISSION
REGION III
799 ROOSEVELT ROAD
GLEN ELLYN, ILLINOIS 60137

AUG 4 1983

MEMORANDUM FOR: D. G. Eisenhut, Director
Division of Licensing

FROM: R. L. Spessard, Director
Division of Engineering - Region III

SUBJECT: REQUEST TO REVIEW THE STRUCTURAL DESIGN ADEQUACY OF THE MIDLAND AND CLINTON HVAC SYSTEMS

As discussed between Mr. D. H. Danielson of my staff and Mr. R. J. Bosnak of the NRR staff, we request that NRR perform a review of the HVAC design methodology for the Midland and Clinton facilities. These reviews should be of the same type and magnitude as your recent effort (TIA 82-42) relative to the LaSalle HVAC system. As you know, TERA Corporation is conducting an Independent Design and Construction Verification Program (IDCVP)at the Midland Plant. One of these systems is the control room HVAC system and you may wish to factor this into your review.

We intend to use the results of your review to complement our onsite inspection efforts at both facilities. The combination of our respective efforts will address (1) the adequacy of the HVAC systems as they are constructed and (2) allegations of former Zack employees as they relate to Midland and Clinton. We are projecting that our inspection efforts at Midland will conclude on November 1, 1983, and on January 1, 1984 at Clinton. If your schedule allows, we believe it would be to NRC's benefit to have your effort completed by those dates also.

Our contact for coordination of Region III's actions concerning this matter is Mr. Danielson (FTS 384-2610). Please contact us if we can provide you further information regarding this request.

R. L. Spessard
R. L. Spessard, Director
Division of Engineering

cc: G. M. Holahan, NRR
R. J. Bosnak, NRR
R. H. Wessman, NRR
E. L. Jordan, IE
J. M. Taylor, IE
Directors, Div.Engr, RI, RII, RIV and RV

8408020438

LIM RY NOTIFICATION OF EVENT OR UNUSUAL OCCURRENCE--PNO-III-83-70 Date: 8/5/83

s preliminary notification constitutes EARLY notice of events of POSSIBLE safety or lic interest significance. The information is as initially received without veri- ation or evaluation, and is basically all that is known by the staff on this date.

ility: Commonwealth Edison Company
Braidwood Station - Units 1 & 2
Braidwood, IL
Docket Nos. 50-456; 50-457

Licensee Emergency Classification:
______ Notification of Unusual Event
______ Alert
______ Site Area Emergency
______ General Emergency
X Not Applicable

ject: HVAC WORK REDUCED BECAUSE OF NRC INSPECTION FINDINGS

As a result of the preliminary findings of an ongoing Region III (Chicago) inspection, work has been reduced on safety-related heating, ventilating, and air conditioning (HVAC) installation at the Braidwood site. Pullman Power Products, the HVAC contractor, has laid off 46 employees (primarily crafts personnel) as a result of the work being reduced. Reinspection and program review work by Pullman is continuing.

The NRC inspection, which began August 1, 1983, has identified concerns regarding contractor implementing procedures for documentation of welding procedures used and weld material traceability. Concerns were also identified regarding CECo audit scope and content and corrective actions. The inspection is continuing.

Neither Region III nor the licensee intends to issue a news announcement at this time.

The State of Illinois will be notified.

Region III identified these HVAC problems during an inspection on August 3 and 4, 1983. This information is current as of 12:00 p.m., August 5, 1983.

CONTACT

D. R. Hunter	D. W. Hayes	J. F. Streeter	R. C. Knop	R. L. Spessard
384-2555	384-2543	384-2541	384-2547	384-2552

STRIBUTION:

St.____	MNBB____	Phillips____	E/W____	Willste____
airman Palladino	EDO	NRR	IE	NMSS
mm. Gilinsky	PA		OIA	RES
	MPA		AEOD	
mm. Roberts	ELD	Air Rights____		MAIL:
mm. Asselstine		SP	INPO____	ADM:DMB
CY			NSAC____	DOT: Trans Only
RS	Applicable Resident Site ____			

R Regions I____, II____, IV____, V____ Licensee (Corporate Office)____

13/81

NRC FORM 197 (10-81)

U.S. NUCLEAR REGULATORY COMMISSION

TECHNICAL ASSIGNMENT CONTROL FORM

TACS NUMBER*: 52311

X NEW ASSIGNMENT | NEW INFORMATION

SECTION I. REQUEST DATA

PREPARED BY: Darl S Hood	(AD) DATE PREPARED* MO DAY YR: 09 08 83
(AE/AF) FACILITY NAME AND ASSIGNMENT TITLE (Limit to 120 characters)*: Midland 1&2 - NRR Support of RIII HVAC Systems Design Review	(AZ) PLANNED ACCOMPLISHMENT NUMBER*: 14433
(AC) REQUEST CONTACT*: D Hood; (AX) REQUESTER'S INITIALS: DSH; (AB) REQUESTING ORGANIZATION*: NRR/DL/LB4	(AH) REQUESTING TARGET DATE MO DAY YR: 01 01 84
(AJ/AK) REQUESTING REMARKS (Limit to 120 characters)	(AL) MULTI PLANT ACTION NUMBER

SECTION II. SYSTEMS CONTROL DATA

A. OPERATING REACTOR ACTIONS

PRIORITY: 1 ☑ 2 ☐ 3 ☐ ☐

(BA) DOCKET*: 50-330

(AR) INITIATION DATE* MO DAY YR: 9 8 83

(AV) AMENDMENT FEE CLASS*: N/A ☐ I ☐ II ☐ III ☐ IV ☐ V ☐ VI ☐

B. TOPICAL REPORT REVIEWS

VENDOR'S NAME:

REPORT IDENTIFICATION SYMBOL

(DA) PROPRIETARY (P)

(AR) REPORT DATE MO DAY YR:

(AS) ADDITIONAL INFORMATION REQUEST DATE MO DAY YR:

(EA) NON PROPRIETARY VERSION (NP)

(AT) SUBMIT DATE MO DAY YR:

(AU) LETTER TO VENDOR DATE MO DAY YR:

(AV) ACCEPTED ☐ NOT ACCEPTED ☐ WITHDRAWN ☐

(FA) NON PROPRIETARY REPORT

SECTION III. REVIEW DATA

REVIEWER'S SURNAME	(CA) REVIEWER'S INITIALS*	(CB) ESTIMATED HOURS	COMPLETION DATE (CC) ESTIMATED MO DAY YR	COMPLETION DATE (CD) ACTUAL MO DAY YR
D. Hood	DSH	200	1 1 84	
D. Terao	DBT	200	1 1 84	
C. Sellers	CDS	200	1 1 84	
W. LeFave	WTL	150	1 1 84	

18/B1

UNITED STATES
NUCLEAR REGULATORY COMMISSION
WASHINGTON, D. C. 20555

FEB 13 1984

Docket Nos. 50-329/330

MEMORANDUM FOR: Thomas M. Novak, Assistant Director for Licensing
Division of Licensing

FROM: William V. Johnston, Assistant Director
Materials, Chemical & Environmental Technology
Division of Engineering

SUBJECT: TASK INTERFACE AGREEMENT 83-78, REGION III REQUEST FOR DESIGN ADEQUACY OF THE MIDLAND HVAC SYSTEMS (TAC #52311)

In a previous memorandum on this subject dated January 24, 1984, mention was made of materials discrepancies, which had been identified that were not expected to cause operating problems with the HVAC system. Specifically, this referred to bolts from Midland which had been hardness tested. Of the nine (9) ASTM A307 bolts selected by Region III for testing by Franklin Research Center, four (4) exceeded the maximum hardness for ASTM A307 Grade A. Another bolt exceeded the hardness maximum for Grade B but not the hardness maximum for Grade A. However, ASTM A307 states (in 1.2) "If no grade is specified in the inquiry, contract or orders, Grade A bolts shall be furnished." As no grade was stated in the information provided, it is assumed that all bolts were Grade A so only four (4) of the nine (9) tested exceeded specification requirements. The maximum hardness found on these four bolts was Rockwell C 29.

In a telecon between W. Hazelton of MTEB and D. Danielson of Region III, it was agreed that MTEB would determine the preload necessary to merit concern for potential stress corrosion failure and Region III would perform a breakaway torque test on a selected sample of installed bolts of the same type exhibiting the high hardness.

Calculations have been performed that demonstrate that the subject bolts, although in excess of the specification requirements, would probably not be in a stress corrosion regime at Rockwell C values much below Rockwell C 35. Because the highest hardness found in the Midland sample bolts was Rockwell C 29, we conclude that torque testing of the installed bolts is not necessary.

William V Johnston

William V. Johnston, Assistant Director
Materials, Chemical & Environmental Technology
Division of Engineering

8402230322

cc: See Page 2

Contact: C. D. Sellers
X-28049

~~8402230321 XA~~

FEB 13 1984

cc: R. Vollmer
D. Eisenhut
E. Sullivan
R. Bosnak
J. P. Knight
L. Rubenstein
O. Parr
E. Adensam
M. Miller
D. Hood
D. Terao
W. Le Fave
B. D. Liaw
S. Pawlicki
D. Danielson, Region III
F. Hawkins, Region III
W. Key, Region III
W. Hazelton
R. Klecker
C. Y. Cheng
C. D. Sellers

DISTRIBUTION:
DMB - Docket Files
MTEB Reading Files
MTEB Midland Files

DE:MTEB CDS	DE:MTEB for	DE:MTEB	DE:AD:MCET
C. D. Sellers:jar	W. Hazelton BJL	B. D. Liaw	W. V. Johnston
2/9/84	2/ 9 /84	2/10 /84	2/ 13 /84