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

NOV 19 1986

Docket Nos.: 50-528, 50-529
and 50-530

APPLICANT: Arizona Public Service Company

FACILITY: Palo Verde, Units 1, 2 and 3

SUBJECT: SUMMARY OF TRIP TO PHOENIX, ARIZONA, OCTOBER 27-31, 1986

1. Management Meeting

A management meeting was held on October 28, 1986, in the licensee's office in Phoenix, Arizona, with representatives of the licensee and NRC representatives from the Offices of NRR, Region V, I&E, and AEOD. The purpose of the meeting was to discuss NRC concerns generated during assessment of the operating performance of Palo Verde Units 1 and 2 in consideration of the pending licensing decision for Unit 3, and to identify needed licensee actions for improvement prior to the licensing decision.

The meeting agenda and list of attendees are enclosed as Enclosures 1 and 2 respectively.

The licensee prepared and presented responses to the concerns identified by the NRC in the proposed agenda provided in their letter dated October 10, 1986 to Mr. E. Van Brunt. Slides used in their presentation are enclosed as Enclosure 3. The licensee's briefing made it clear that the licensee was or is aware of the staff concerns. In some cases such as root cause analysis, operating experience at the corporate level, contacts with other plants concerning experiences on similar systems, single failure vulnerabilities in plant design, and I&C problems the licensee has taken actions he believes will resolve the concerns.

In the area of personnel errors and technical specifications surveillance violations, the licensee believes he now has programs in place to reduce the number of occurrences. He believes that experience to date has shown recognizable reductions already. However, recognizing the staff's concerns, he will monitor future performance and take further actions to resolve the problem, if necessary.

In light of the number of current staff concerns with two unit operation, the staff stated that the licensing of Unit three may deserve a reevaluation of corporate level operating experience.

There was a discussion of a number of items resulting from the licensing and operation of Units 1 and 2 that need to be resolved (Enclosure 4). It was agreed that documentation of the steps taken or planned to resolved staff concerns and schedule for resolution of the open items in Enclosure 4 will be submitted to the staff by January 1, 1987.

The NRC staff appreciated the presentation and will watch for evidence of success of the corrective actions in improving performance trends.

2. Emergency Exercise

On October 29, 1986, Messer, Knighton, Licitra, and Davis observed licensee performance during the Palo Verde annual Emergency Exercise. Operations were observed in the simulator, the Technical Support Center, and the Emergency Operations Facility.

3. Unit 3 Readiness Meeting

On October 30, 1986, a Unit 3 readiness meeting was held at the Palo Verde site with representatives of the licensee and the NRC staff. Following the meeting the staff members toured Unit 3. The purpose of the meeting and tour was to describe the status of construction on Unit 3 and the anticipated schedule for fuel load. The licensee expects to be ready for fuel load in early March, 1987, which is consistent with the current Bevill Schedule, and appears to the staff to be reasonable.

Enclosed as Enclosures 5 and 6 are a list of meeting attendees and a copy of the licensee's handout, Palo Verde Unit 3 Project Schedule October 28, 1986.

/S/

Michael J. Davis, Project Manager
PWR Project Directorate No. 7
Division of PWR Licensing-B

Enclosures:
As stated

cc: See next page

PD7
MDavis/yt
11/19/86

PD7
GWKnighton
11/19/86

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Arizona Nuclear Power Project

Palo Verde

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NOV 19 1986

MEETING SUMMARY DISTRIBUTION

Docket No(s): 50-528/529/530
NRC PDR
Local PDR
PBD-7 Reading
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BGrimes
ACRS (10)
EJordan
Attorney, OELD
GWKnighton
Project Manager M. Davis
ELicitra

NRC PARTICIPANTS

G. Knighton
E. Licitra
M. Davis
M. Harper
S. Richards
A. Chaffee
R. Zimmerman
L. Miller
F. J. Miraglia
J. G. Partlow
M. H. Williams
Y. Togo
J. B. Martin

bcc: Applicant & Service List

Enclosure 1

PALO VERDE MANAGEMENT MEETING

October 28, 1986

AGENDA

I.	Introduction	
	A. NRC	
	B. ANPP	E. E. Van Brunt
II.	ANPP Presentation	
	A. Overall Plant Performance	J. R. Bynum
	B. Assessing/Improving Plant Performance	O. J. Zeringue/R. M. Butler
	C. Management Resources	J. G. Haynes
	D. Conclusion	J. G. Haynes
III.	Closing Remarks	NRC

Enclosure 2

MEETING ATTENDEES FOR PALO VERDE

NAME	AFFILIATION
Manny Licitra	NRC/NRR/PD7
Marc Harper	NRC/AEOD/PTB
Stuart Richards	NRC/Region V
Al Chaffee	NRC/Region V
D. J. Zerangue	ANPP/PVNGS
Roy Zimmerman	NRC/Region V
Lew Miller	NRC/Region V
Joe Bynum	ANPP/PVNGS Plant Manager
Bob Butler	ANPP/Director Tech. Services
E. E. Van Brunt	ANPP/Exec. VP
J. G. Haynes	ANPP/VP
J. B. Martin	Region V Administrator
F. J. Miraglia	NRR/PWR-B
J. G. Partlow	NRC/Div. of Insp. Program, IE
Mark H. Williams	NRC/AEOD
G. W. Knighton	NRC/Project Directorate
Dan Andrews	ANPP
Michael J. Davis	NRC/NRR
Yoichi Togo	NRC/AEOD
Allan Mitchell	Arizona Corp. Comm.
Duke Railback	Arizona Corp. Comm.
Ken Rotta	Arizona Corp. Comm.
Nowell Rush	Ernst & Whinney
Christopher Kempley	ACC
George H. Lyons	Snell & Wilmer
Terry Quan	ANPP/Prudency Audit Dept.
John Driscoll	ANPP/AVP
Bill Quinn	ANPP/Manager Licensing
Tim Shriver	ANPP/Manager Compliance
Charles N. Russo	ANPP/Manager Nuclear Safety
Arthur Gehr	ANPP/Snell & Wilmer
Richard Bernier	ANPP/Lead Licensing Engineer
Peggy Nelson	ANPP/Licensing Engineer

DISCUSSION LIST FROM ANPP/NRC MANAGEMENT MEETING ON 10/28/86

11/04/86

1. The CPC DNBR program needs to be modified to eliminate the flow projected DNBR trip. When a fast bus transfer occurs, a 7 RPM dip in RCP speed is sufficient to cause a flow projected DNBR trip to occur. This appears to be a problem of insufficient margin.

2. The Steam Bypass Control System (SBCS) responds as expected when actuated from power levels above 70%. However, when power level is below 70%, the system has a tendency to over respond. This appears to be a fine tuning problem, and Combustion Engineering is involved in providing a solution.

3. Reactor Coolant Pump (RCP) coastdown is quicker than indicated in the safety analysis. A re-analysis was completed indicating that the existing flow conditions are within the bounds of the current safety analysis.

4. During a partial loss of non-class 1E power, the motor operated isolation valve in the main steam supply to the moisture separator reheater remained open, due to the loss of power. Simultaneously, the high level dump valve on the reheater drain tank opened to the condenser, creating a path for steam flow from the main steam system to the condenser. This in turn caused the pressure in the steam generator to decrease sufficiently to actuate the Main Steam Isolation Valves. Design changes will be implemented to correct the problem.

5. The BOP ESFAS/RMS equipment have caused numerous actuations of the ESF systems. The problems have been varied and have included inadequate ventilation in cabinets, bad connections, and inadequate grounding.

6. Several problems have occurred with the charging pumps. Gas binding has occurred due to low VCT level and a ruptured diaphragm in a pulsation dampener. Additionally, a crack was discovered in a charging pump block. The changing pumps impact the operability of the auxiliary pressurizer spray.

7. The issue of the masonry walls at elevation 76' is being addressed in separate correspondence with the NRC.

8. During the event on 7-12-86, the control room supervisor first diagnosed the event as a small break LOCA when in reality it was an excessive steam demand event. During the event there was also a partial loss of non-class 1E power which energizes certain main control board indicators needed to complete the diagnosis. The NRC has transmitted their concerns in a letter, and ANPP is evaluating them and the emergency procedure.

9. The NRC noted that the low pressurizer pressure trip and the safety injection actuation setpoints were the same. The question was raised as to whether it was desirable or not to have them the same.

10. ANPP has taken exception to provisions in R.G. 1.68.2 which would require a test to prove remote shutdown capability in each unit. The NRC has determined that the test should be done in each unit. ANPP will respond to the NRC by 11-10-86.

11. Problems were experienced with unwanted actuation of breakers in the switchyard. The breaker operations which caused actuations of the Reactor Protection System were caused by malfunctions in the plant multiplexer system (PMUX). Switchyard breaker control circuits have been hardwired, bypassing the PMUX for this function.

12. Numerous computer failures in the security system have been a problem.

13. PVNGS has demonstrated vulnerabilities to single failures as demonstrated by charging pump pulsation dampener failures, actuation of SBCS by a computer card, startup transformer current transformer connections, and a loose wire on MOV-536.

14. Numerous annunciators remain lighted on the main control boards.

15. ANPP should develop more formal and regular communication with other plants, particularly the other CPC plants.

16. The NRC expressed concern about whether or not formal procedures existed to insure the transfer of information and data from one unit to another.

17. Concern was expressed by the NRC concerning load shedding causing valve inoperability. They wanted to know if we were looking at the problem.

18. The NRC noted that we must insure that all information for the Sholly process is included in licensing submittals. In addition, consideration must be given to changes which could be affected by the Diablo Canyon decision in the Ninth Circuit Court which opened hearings for certain kinds of changes. Change requests should look at more than just the small scope of the change, and the time when the changes are <u>needed</u> must be considered.

19. Does the Post Trip Review Procedure adequately cover what must be done and what must be monitored when the plant is restarted when the cause of the trip has not been fully determined?

20. Does the SPDS computer have sufficient capacity to perform in a timely manner if the third unit is added to the system?

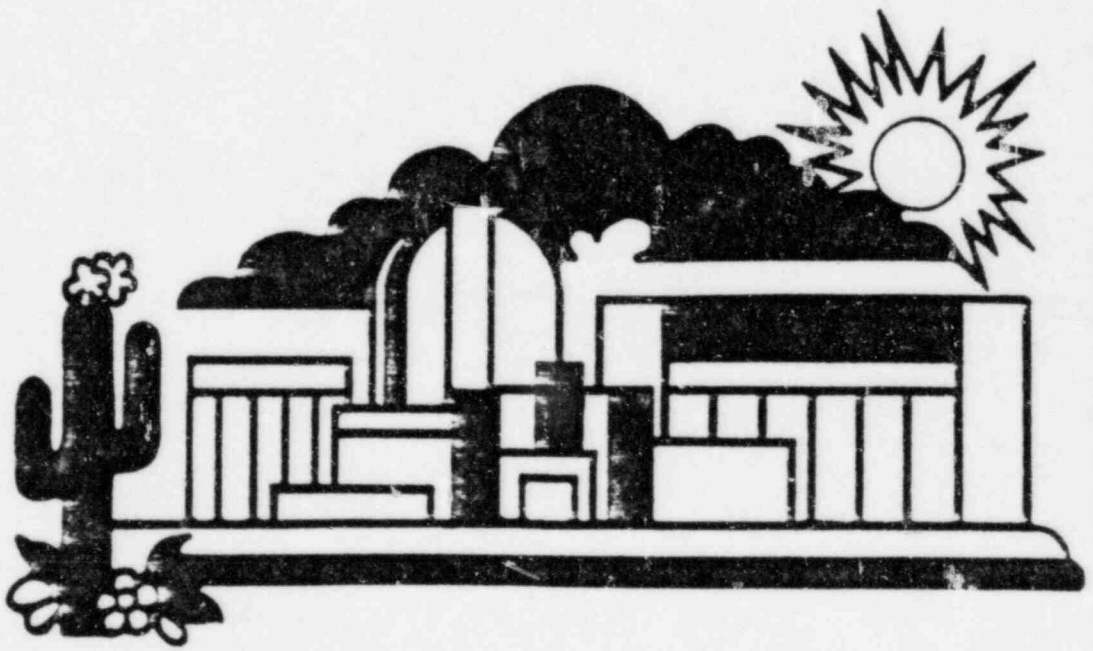
21. There have been control problems at low power levels in the feedwater control system.

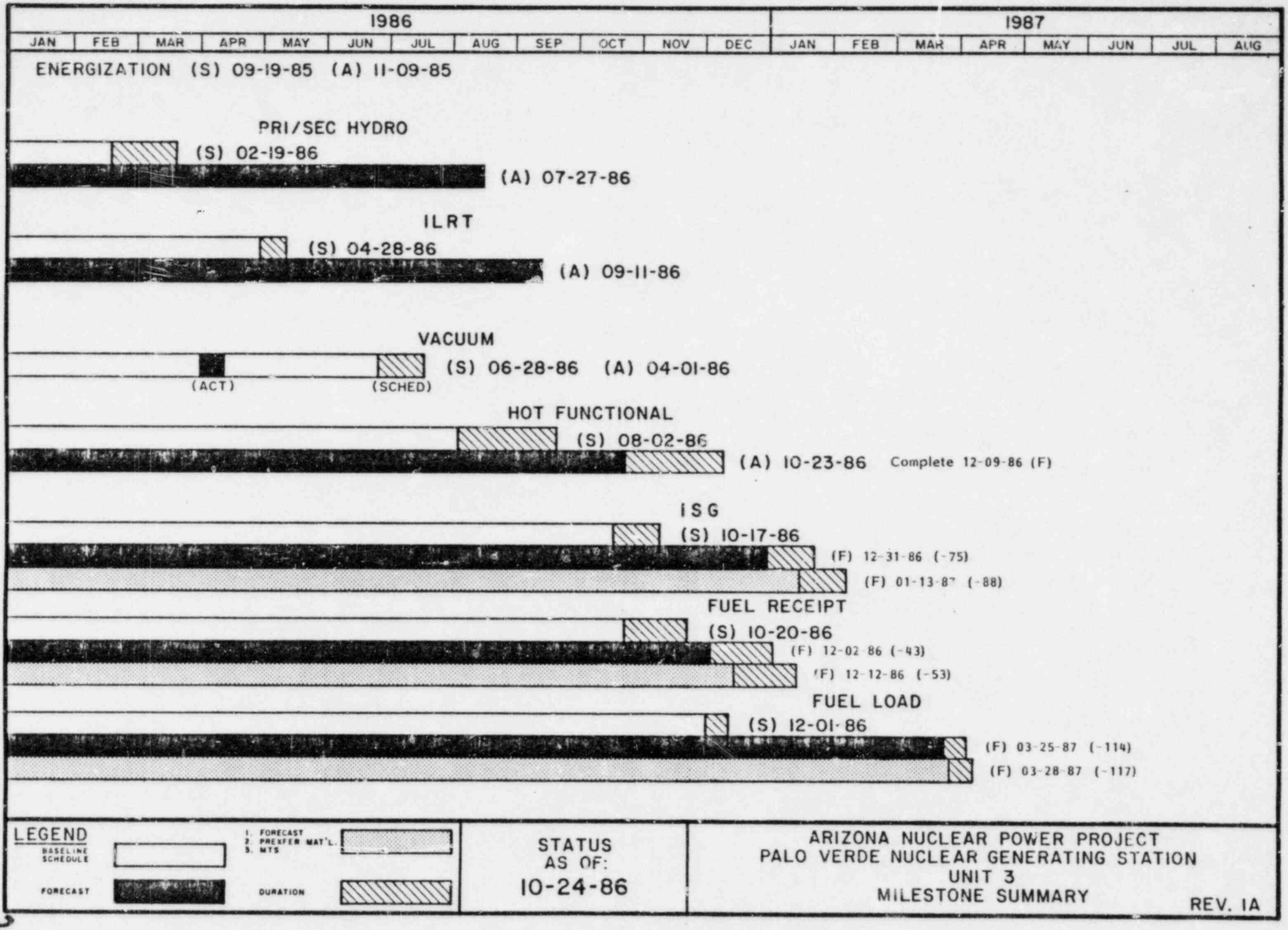
22. PVNGS has had several condenser tube problems. PVNGS has titanium tubes and relatively little debris to enter the water boxes. Condenser tube performance should be better.

23. PVNGS has had personnel errors/Tech. Spec. violations. Describe actions taken by management to reduce these occurrences.

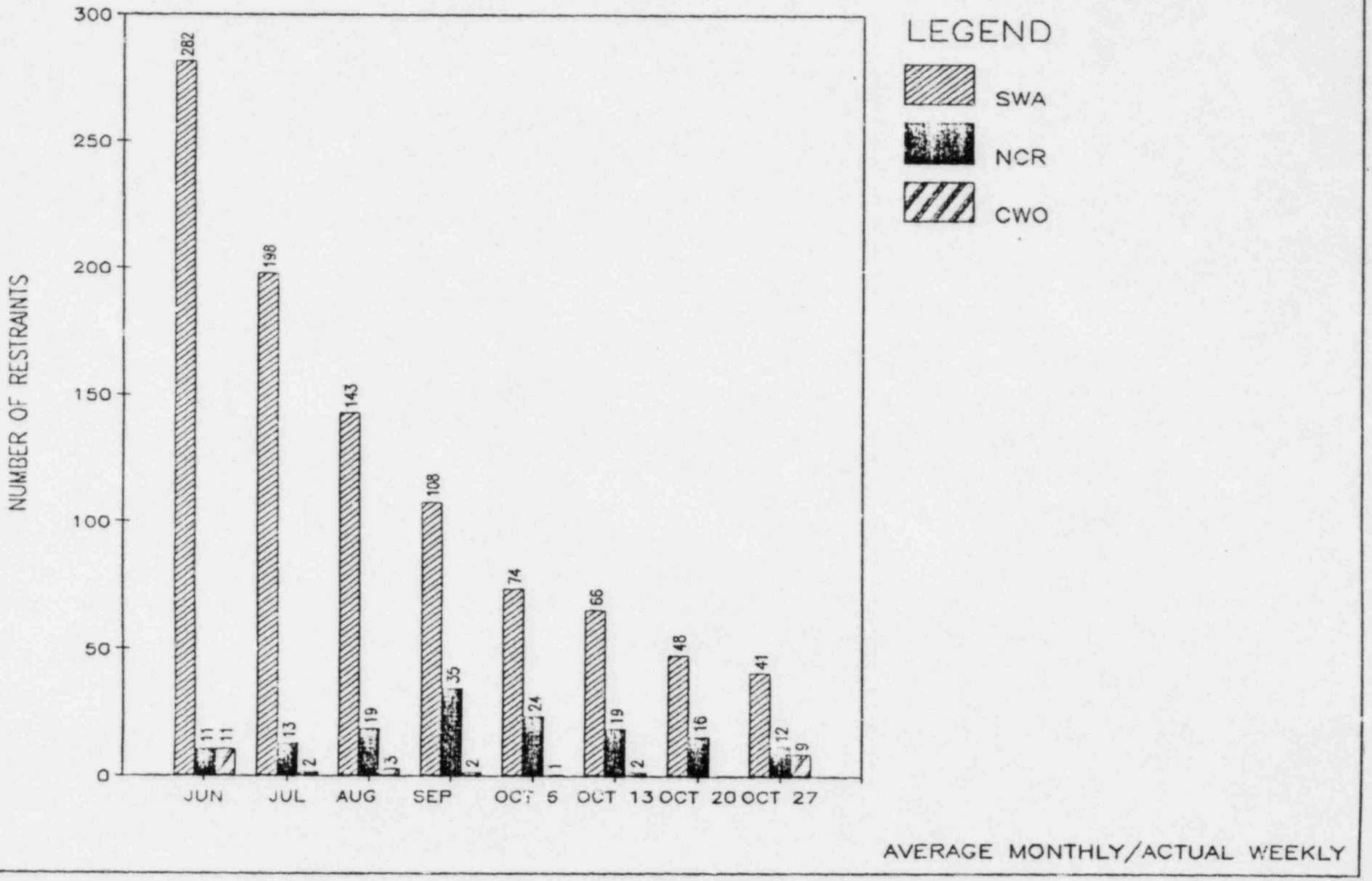
PALO VERDE UNIT 3 PROJECT SCHEDULE

DATE: 10-28-86

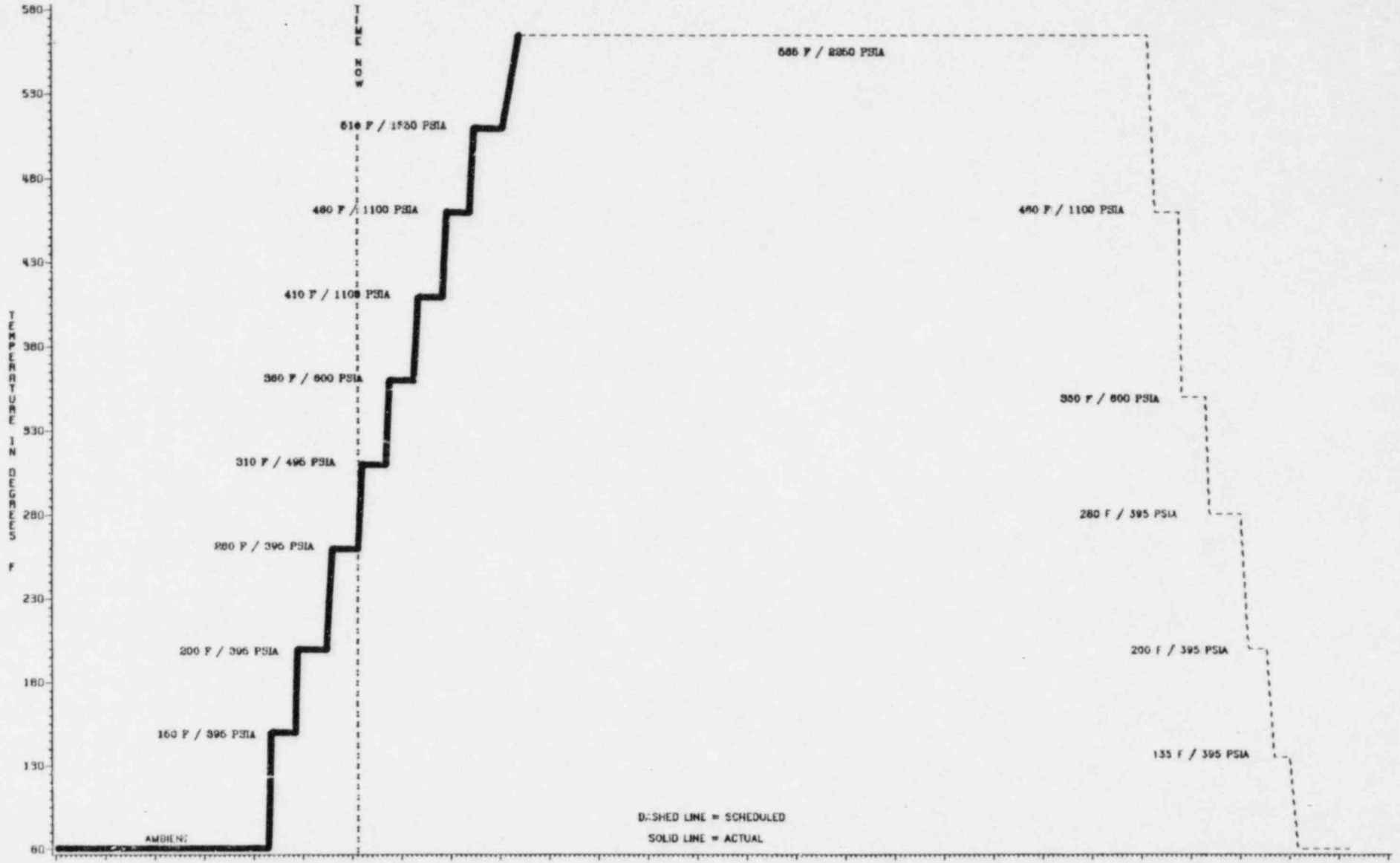



1986
JAN FEB MAR APR MAY JUN JUL AUG SEP OCT NOV DEC
1987
JAN FEB MAR APR MAY JUN JUL AUG
ENERGIZATION (S) 09-19-85 (A) 11-09-85
PRI/SEC HYDRO
(S) 02-19-86
(A) 07-27-86
ILRT
(S) 04-28-86
(A) 09-11-86
VACUUM
(S) 06-28-86 (A) 04-01-86
(ACT)
(SCHED)
HOT FUNCTIONAL
(S) 08-02-86
(A) 10-23-86 Complete 12-09-86 (F)
ISG
(S) 10-17-86
(F) 12-31-86 (-75)
(F) 01-13-87 (-88)
FUEL RECEIPT
(S) 10-20-86
(F) 12-02-86 (-43)
(F) 12-12-86 (-53)
FUEL LOAD
(S) 12-01-86
(F) 03-25-87 (-114)
(F) 03-28-87 (-117)
LEGEND
BASELINE SCHEDULE
FORECAST
1. FORECAST
2. PREXFER MAT'L.
3. MTS
DURATION
STATUS AS OF:
10-24-86
ARIZONA NUCLEAR POWER PROJECT
PALO VERDE NUCLEAR GENERATING STATION
UNIT 3
MILESTONE SUMMARY
REV. 1A

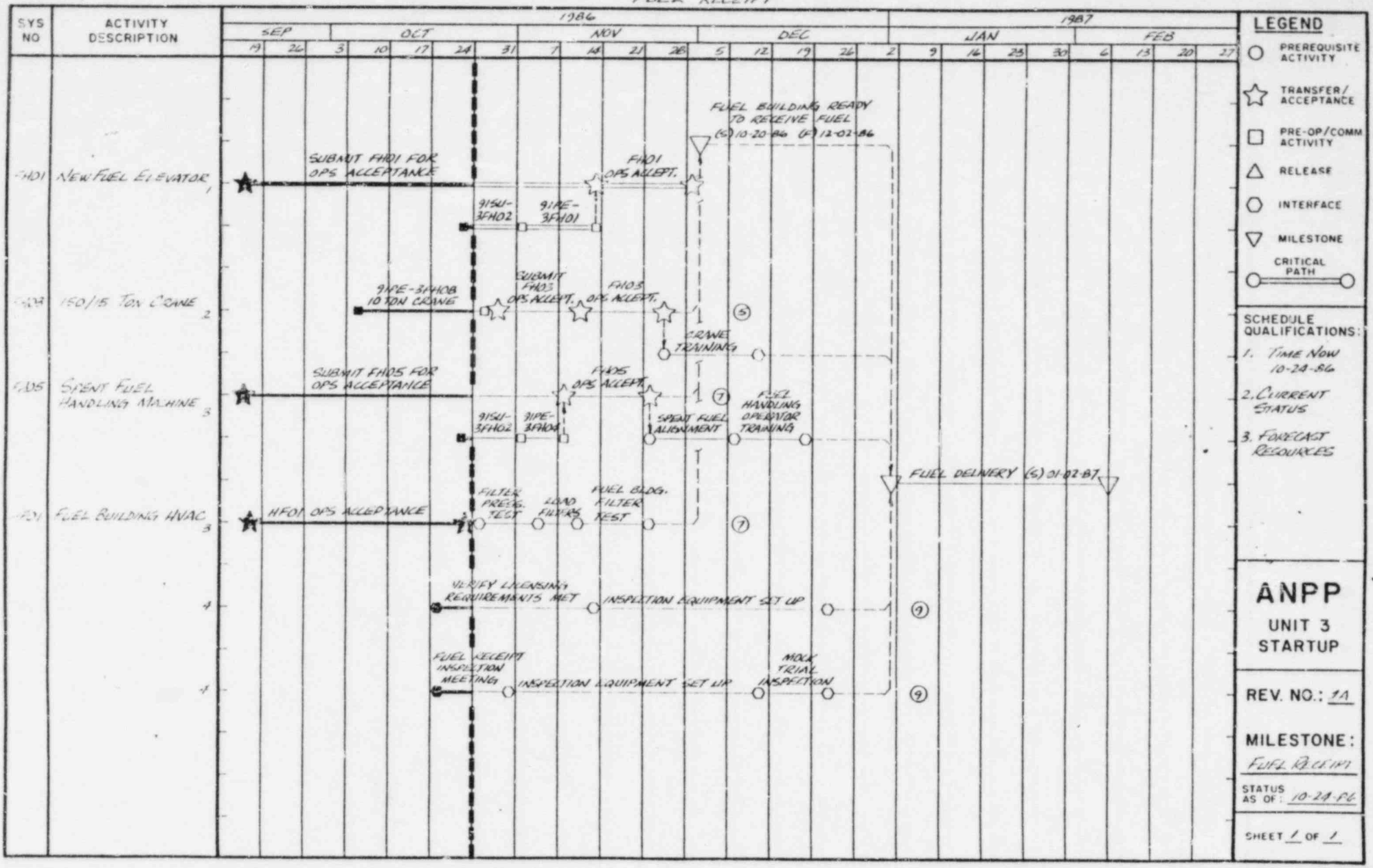
UNIT 3 MATERIAL RESTRAINTS
JUNE – OCTOBER 1986



UNIT THREE HOT FUNCTIONAL TESTING

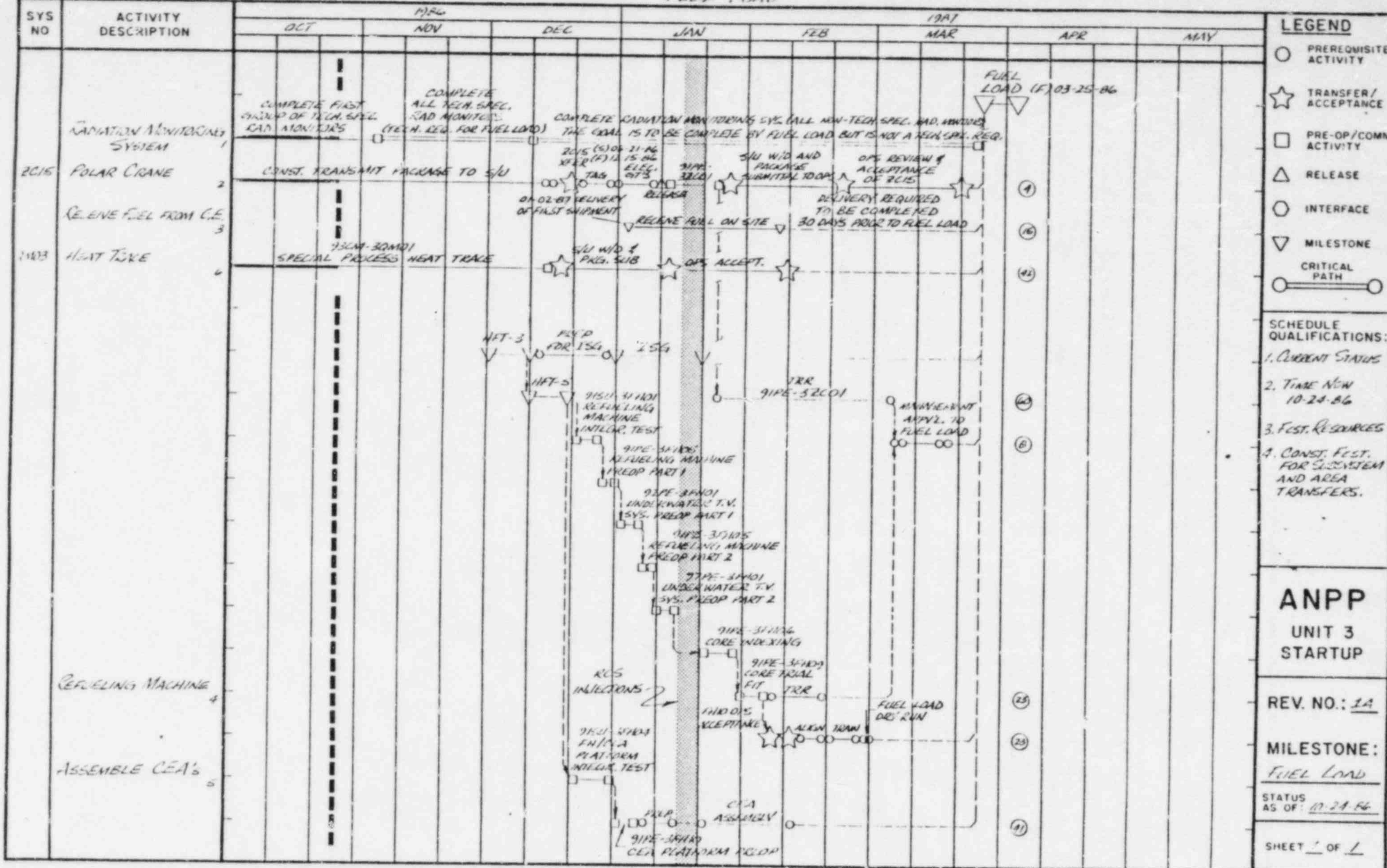


FUEL RECEIPT

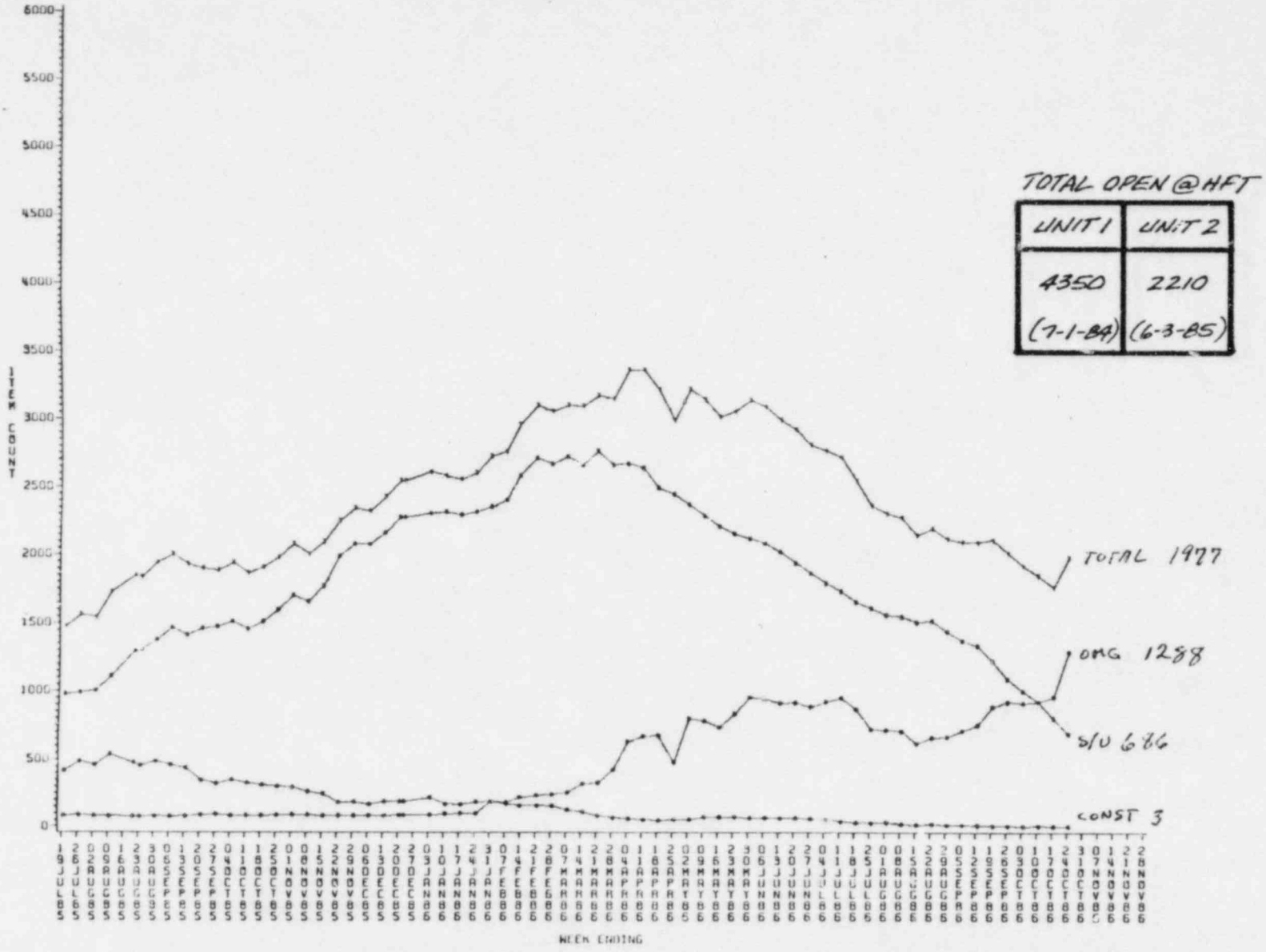


5

FUEL LOAD


SYS NO
ACTIVITY DESCRIPTION
1986
OCT
NOV
DEC
1987
JAN
FEB
MAR
APR
MAY
RADIATION MONITORING SYSTEM 1
2CI5 POLAR CRANE 2
RECEIVE FUEL FROM C.E. 3
HEAT TRACE 6
REFUELING MACHINE 4
ASSEMBLE CEA's 5
COMPLETE FIRST GROUP OF TECH. SPEC. RAD MONITORS
COMPLETE ALL TECH. SPEC. RAD MONITORS (TECH. REQ. FOR FUEL LOAD)
COMPLETE RADIATION MONITORING SYS. (ALL NON-TECH SPEC. RAD. MONITORS) THE GOAL IS TO BE COMPLETE BY FUEL LOAD BUT IS NOT A TECH SPEC. REQ.
FUEL LOAD (F) 03-25-86
CONST. TRANSMIT PACKAGE TO S/U
TAS
RELEASE
S/U W/O AND PACKAGE SUBMITTAL TO OPS
OPS REVIEW & ACCEPTANCE OF 2CI5
01-02-87 DELIVERY OF FIRST SHIPMENT
RECEIVE FUEL ON SITE
DELIVERY REQUIRED TO BE COMPLETED 30 DAYS PRIOR TO FUEL LOAD
SPECIAL PROCESS HEAT TRACE
S/U W/O & PKG. SUB
OPS ACCEPT.
HFT-3
PREP FOR ISG
ISG
HFT-5
INTEGR. TEST
TRR
91PE-32C01
MANAGEMENT APPVL. TO FUEL LOAD
REFUELING MACHINE PREOP PART 1
UNDERWATER T.V. SYS. PREOP PART 1
REFUELING MACHINE PREOP PART 2
UNDERWATER T.V. SYS. PREOP PART 2
CORE INDEXING
CORE TRIAL FIT
TRR
RCS INJECTIONS
OPS ACCEPTANCE
ALIGN
TRAIN
FUEL LOAD DRY RUN
FH/CEA PLATFORM INTEGR. TEST
PREP
CEA ASSEMBLY
CEA PLATFORM PREOP
LEGEND
PREREQUISITE ACTIVITY
TRANSFER/ ACCEPTANCE
PRE-OP/COMM ACTIVITY
RELEASE
INTERFACE
MILESTONE
CRITICAL PATH
SCHEDULE QUALIFICATIONS:
1. CURRENT STATUS
2. TIME NOW 10-24-86
3. FCST. RESOURCES
4. CONST. FCST. FOR SUBSYSTEM AND AREA TRANSFERS.
ANPP
UNIT 3
STARTUP
REV. NO.: 1A
MILESTONE: FUEL LOAD
STATUS AS OF: 10-24-86
SHEET 1 OF 1

UNIT 3 OPEN ITEMS
(ALL JURISDICTIONS)
(FIG. 1)



TOTAL OPEN @ HFT

UNIT 1	UNIT 2
4350 (7-1-84)	2210 (6-3-85)

S/U ITEMS = DATA MARKED WITH S
OPS ITEMS = DATA MARKED WITH O
CONST ITEMS = DATA MARKED WITH C
TOTAL ITEMS = DATA MARKED WITH T
NOTE: DATA POINT FOR 02JAN86 EXCLUDED FOR OVERALL TREND

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***** M A S T E R T R A C K I N G S Y S T E M *****
UNIT 3 STATUS REPORT WITH ACTION RESPONSIBILITY
SUMMARY

0:46 SATURDAY, OCTOBER 25, 1986

ACTIVITY	ADDED			CLOSED			XFRD			CHG			TOTAL		
	S	O	C	S	O	C	S	O	C	S	O	C	S	O	C
INIT ENER (13.1-13.3)	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0
PRIM HYDRO (1.0)	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
SEC HYDRO (2.0)	115	4	0	152	27	0	37	23	0	0	0	0	0	0	0
CONDENSER VACUUM (3.0)	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
PRE-CORE HFT (4.0-4.4)	71	6	0	101	5	0	-61	9	0	-91	10	0	171	28	0
SIT/ILLRT (5.0)	2	0	0	1	0	0	0	0	0	1	0	0	2	1	0
FUEL RECEIPT (6.0)	5	0	0	11	4	0	-1	-1	0	-7	-5	0	36	8	0
FUEL LOAD (7.1 & 7.4)	0	0	0	0	0	0	-15	2	0	-15	2	0	449	252	1
POST-CORE HFT (8.0)	0	0	0	0	3	0	0	-1	0	0	-4	0	0	22	0
INITIAL CRITICAL (9.0)	0	0	0	1	7	0	0	0	0	-1	-7	0	8	30	0
POWER ASCENT (10.0-10.9)	0	1	0	0	1	0	0	-3	0	0	-3	0	2	37	0
NON-MILESTONE ITEMS	8	453	0	5	59	0	-4	-54	0	-1	340	0	18	909	2
ALL SUBSYSTEMS	201	464	0	271	106	0	-44	-25	0	-114	333	0	686	1288	3

80

PALO VERDE NUCLEAR GENERATING STATION
UNIT 3 STARTUP STATUS SUMMARY
STATUS AS OF 10/18/86 - 10/24/86

I. SUBSYSTEM TRANSFERS TO STARTUP

Total	Scheduled To Date	Late	Actual This Period	Actual To Date	Remaining
374	374	(1)	0	373	1

II. PREREQUISITE TESTING STATUS

Discipline	Total Tests	Total This Period	Actual To Date	Actual % Complete	% Diff for Reporting Period
Electrical	10,198 (2)	81	9,961	97.7	0.8
I & C	13,147 (39)	91	12,821	97.5	0.4
Mechanical	3,643 (-15)	50	3,384	92.9	1.8
TOTAL	26,988 (26)	222	26,166	97.0	0.8
OPS DTS	2,303 (37)	38	931	40.4	1.0

III. SUBSYSTEM RELEASES TO PREOPERATIONAL TESTING

Total	Schedule To Date	Actual This Period	Actual To Date	Remaining
374	373	0	373	1

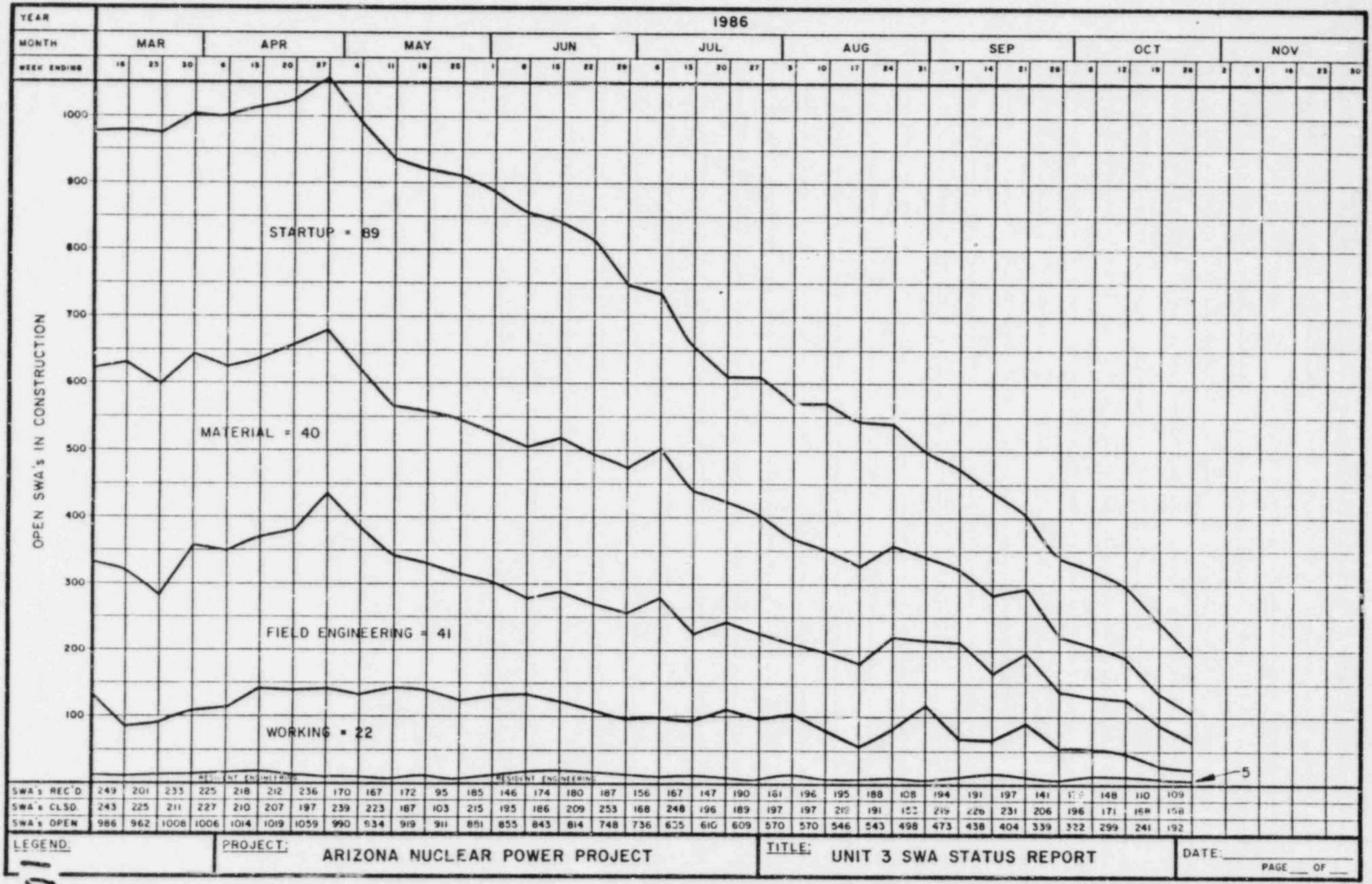
IV. PREOPERATIONAL/COMMISSIONING TESTING STATUS

	Total Tests	Sched. Comp.	TESTS In Progress	TO DATE Complete	Remaining
Preoperational	137	123	24	88	49
Commissioning	66	59	1	63	3
Hot Functional Test	34	-	13	-	34
Total	237	182	38	151	86

* V. OPERATIONS ACCEPTANCE

	Total	Scheduled To Date	LATE	Actual This Period	Actual To Date	Remaining
Startup	374	188	(5)	24	210	164
Construction	142	124	(5)	1	121	21
Total	516	312	(10)	25	331	185

* REFLECTS THE REV. 3 ACCEPTANCE PROFILE


YEAR
1986
MONTH
MAR
APR
MAY
JUN
JUL
AUG
SEP
OCT
NOV
WEEK ENDING
OPEN SWA's IN CONSTRUCTION
1000
900
800
700
600
500
400
300
200
100
STARTUP = 89
MATERIAL = 40
FIELD ENGINEERING = 41
WORKING = 22
RESIDENT ENGINEERING
RESIDENT ENGINEERING
5
SWA's REC'D 249 201 233 225 218 212 236 170 167 172 95 185 146 174 180 187 156 167 147 190 181 196 195 188 108 194 191 197 141 148 110 109
SWA's CLSD. 243 225 211 227 210 207 197 239 223 187 103 215 195 186 209 253 168 248 196 189 197 197 219 191 152 219 226 231 206 196 171 168 158
SWA's OPEN 986 962 1008 1006 1014 1019 1059 990 934 919 911 881 855 843 814 748 736 655 610 609 570 570 546 543 498 473 438 404 339 322 299 241 192
LEGEND:
PROJECT:
ARIZONA NUCLEAR POWER PROJECT
TITLE:
UNIT 3 SWA STATUS REPORT
DATE:
PAGE ___ OF ___

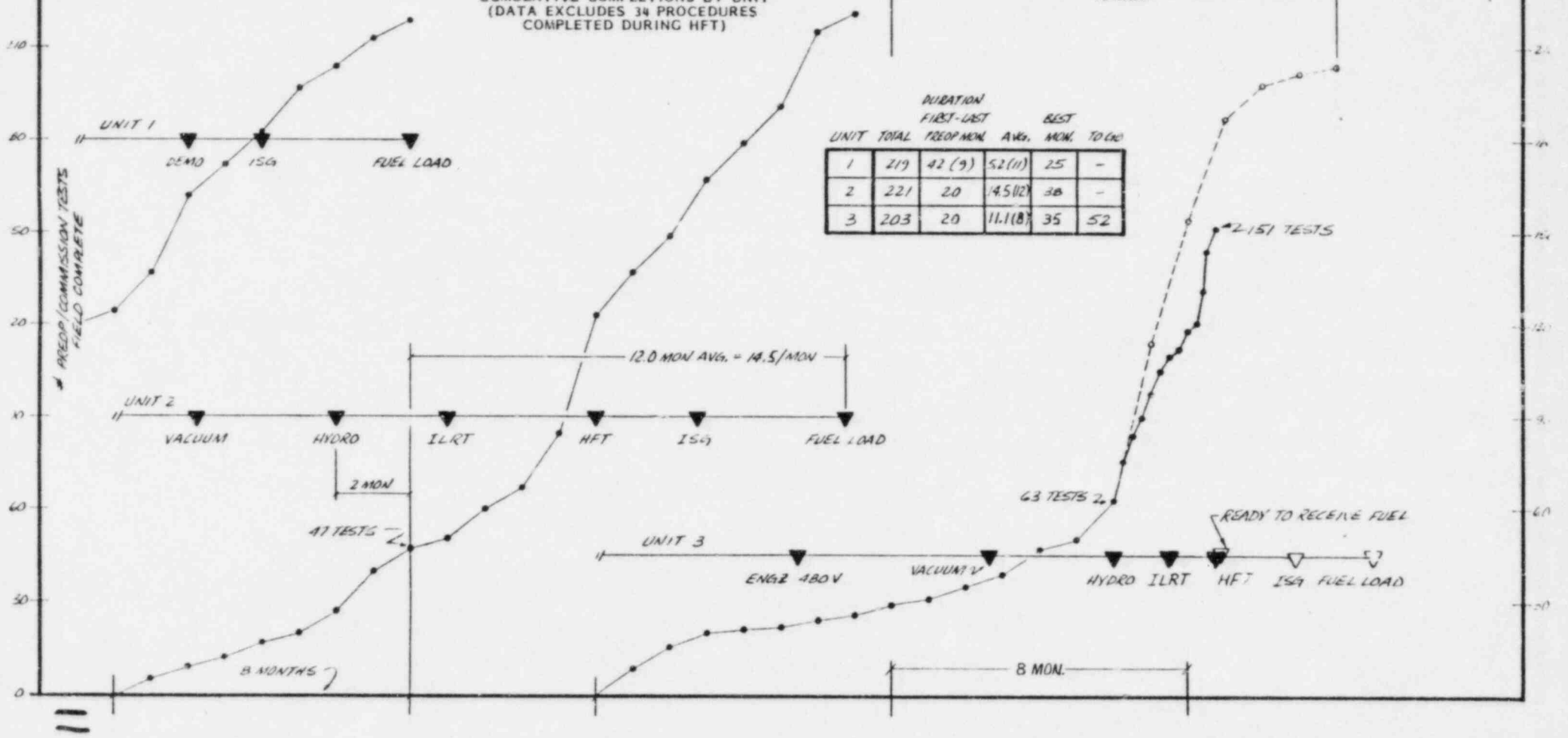
MONTHLY ACTUALS BY UNIT

UNIT	120 DAYS	1984 M	A	M	J	J	A	S	O	N	D	1985 J	F	M	A	M	J	J	A	S	O	N	D	1986 J	F	M	A	M	J	J	A	S	O	N	D	1987 J	F	M	A	M	J
1		4	13	25	10	10	15	7	9	6																															
2			5	4	3	5	3	7	13	7	3	10	7	18	38	14	12	18	12	12	24	6																		
3																9	7	4	1	1	3	1	3	2	4	4	8	3	13	35	20										

UNIT PREOPERATIONAL TEST COMPARISON

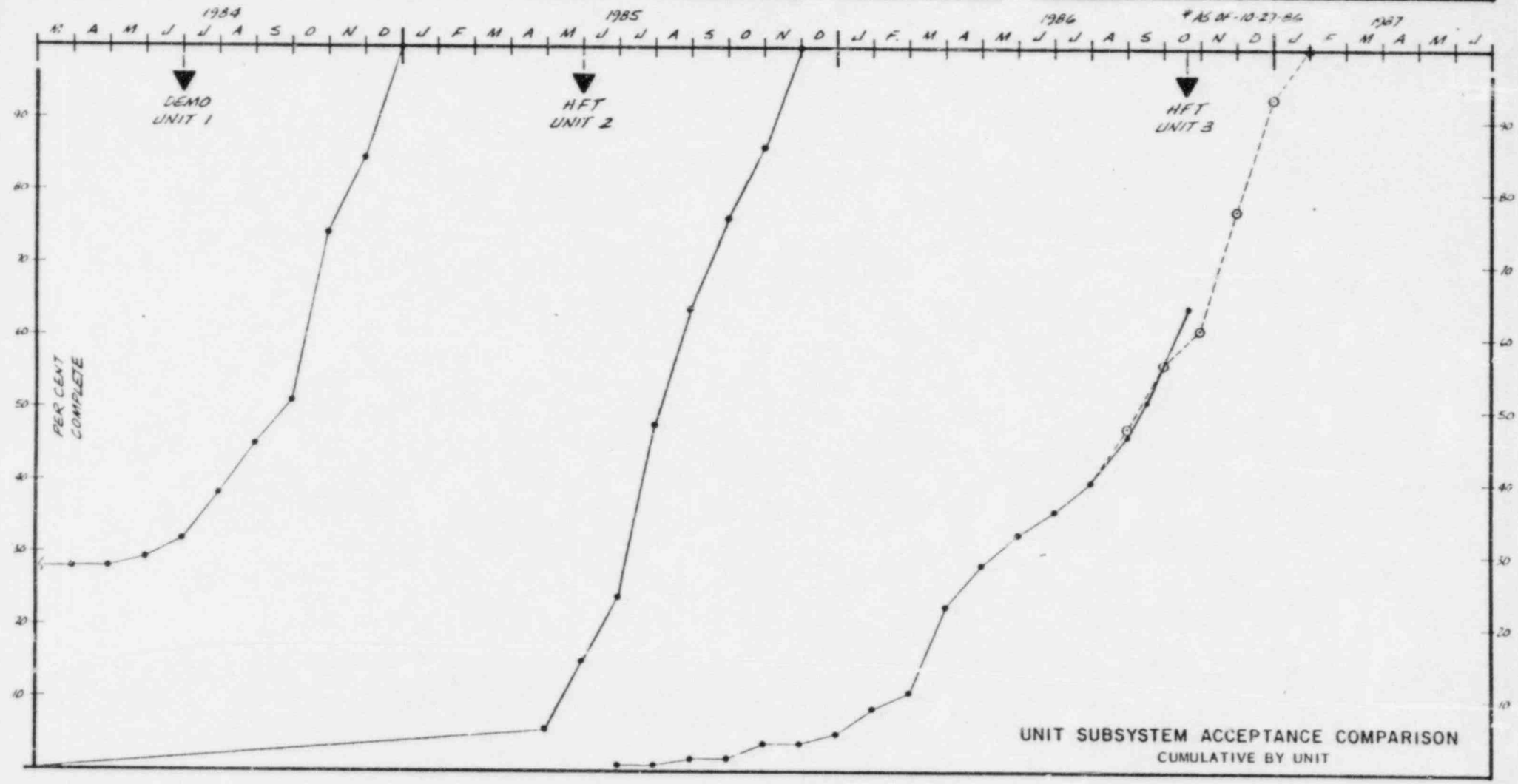
CUMULATIVE COMPLETIONS BY UNIT
(DATA EXCLUDES 34 PROCEDURES COMPLETED DURING HFT)

UNIT	TOTAL	DURATION FIRST-LAST PREOP MON.	AVG.	BEST MON.	TO GO
1	219	42 (9)	5.2 (11)	25	-
2	221	20	14.5 (12)	38	-
3	203	20	11.1 (8)	35	52



MONTHLY ACTUALS BY UNIT

UNIT																																						
1	156	156	164	183	218	255	288	419	472	561																												
2														39	60	60	116	109	82	28	91																	
3						1	0	0	0	0	1	0	0	1	0	5	2	1	1	14	0	3	20	14	65	31	25	21	18	17	42	99*							



UNIT SUBSYSTEM ACCEPTANCE COMPARISON
CUMULATIVE BY UNIT

MONTHLY ACTUALS BY UNIT

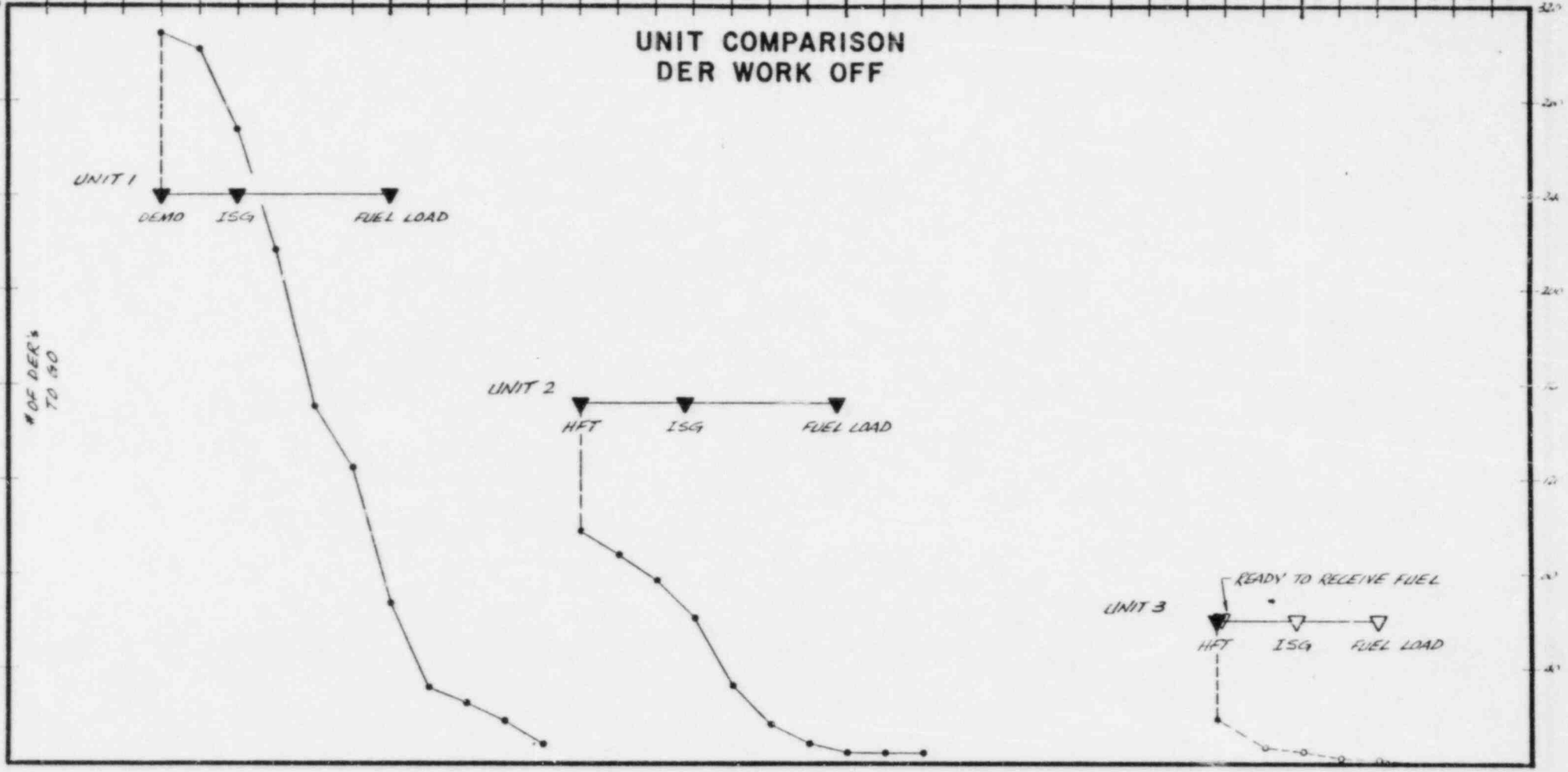
UNIT																																								
1				308	302	267	215	151	124	66	33	25	18	8																										
2															97	88	77	61	33	16	8	4	4	4																	
3																														18											

1984 | 1985 | 1986 | 1987

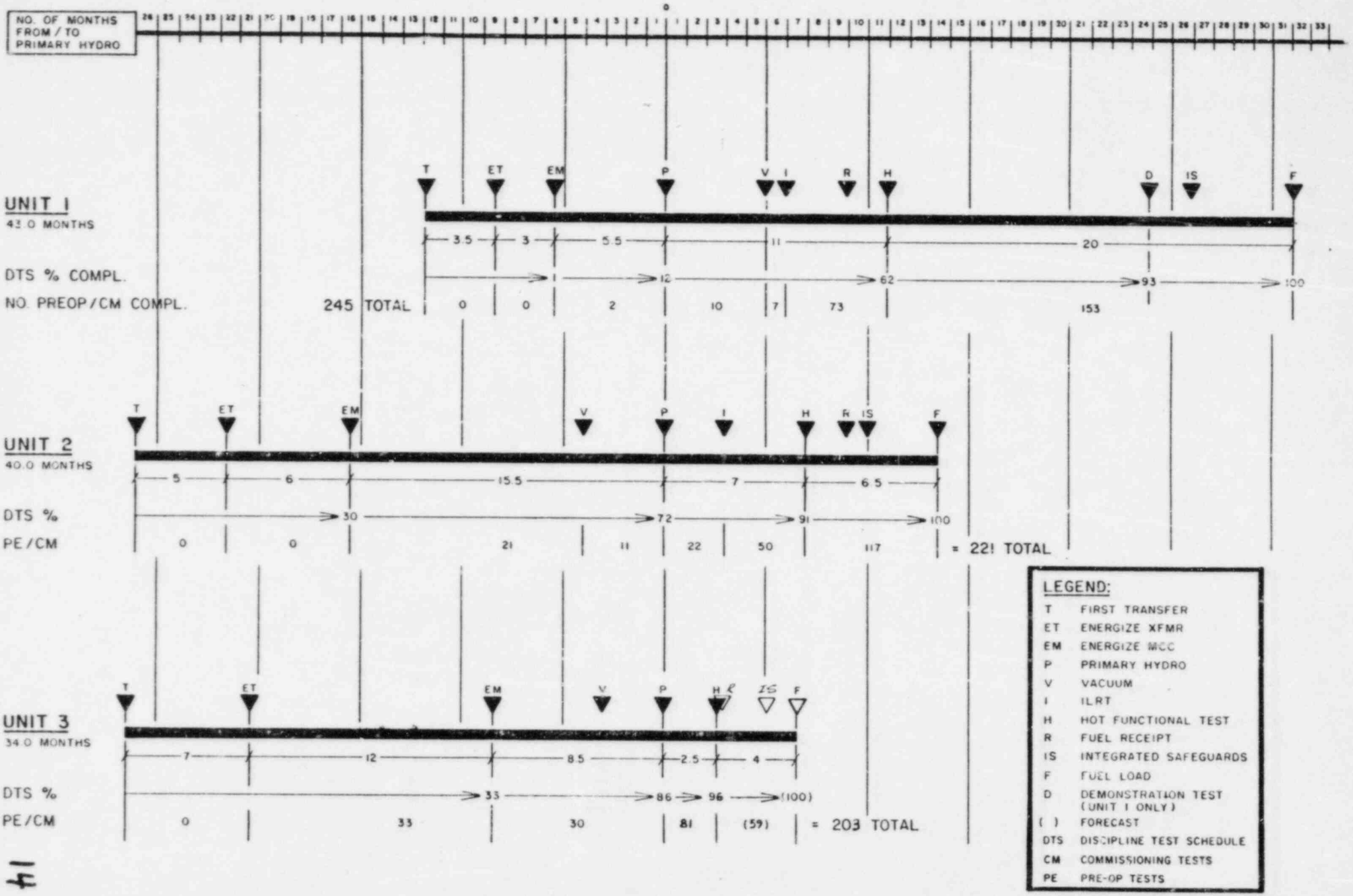
M A M J J A S O N D J F M A M J J A S O N D J F M A M J J A S O N D J F M A M J

320 280 240 200 160 120 80 40

UNIT COMPARISON
DER WORK OFF



PROJECT MILESTONE / UNIT COMPARISON CHART

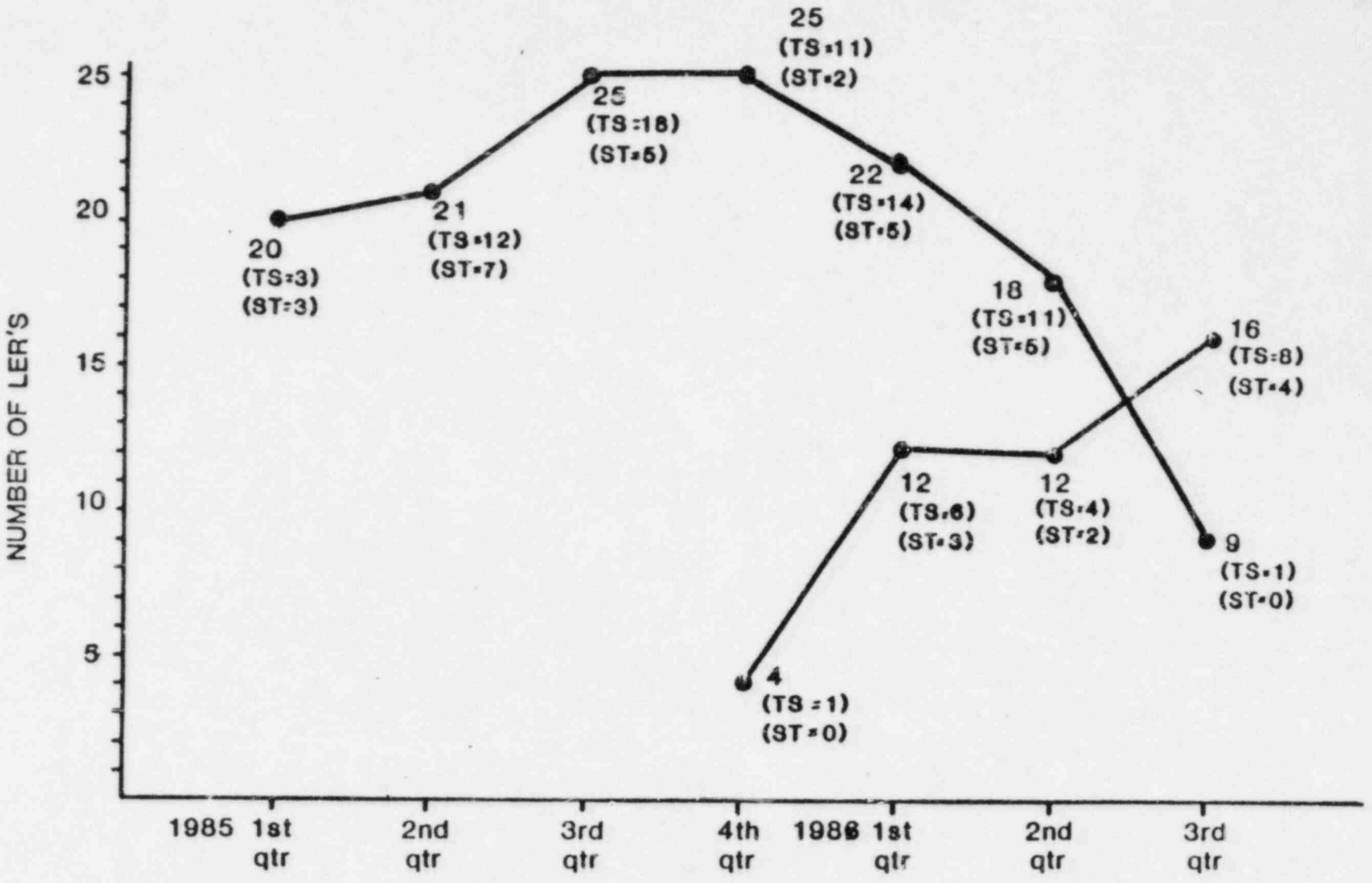


Enclosure 5

Readiness Meeting Attendees
October 30, 1986

J. Haynes	ANPP/VP
D. Bernier	ANPP/Lead Licensing Engineer
J. Ball	NRC/Resident Inspector
D. Gouge	ANPP/Unit 3 Superintendent
W. Jump	ANPP/Unit 3 Startup Manager
J. Kirby	ANPP/Transition Manager
G. Knighton	NRC/NRR
E. Licitra	NRC/NRR
M. Davis	NRC/NRR

LER'S ISSUED PER UNIT PER QUARTER



(ST) SURVEILLANCE TEST DEFICIENCIES

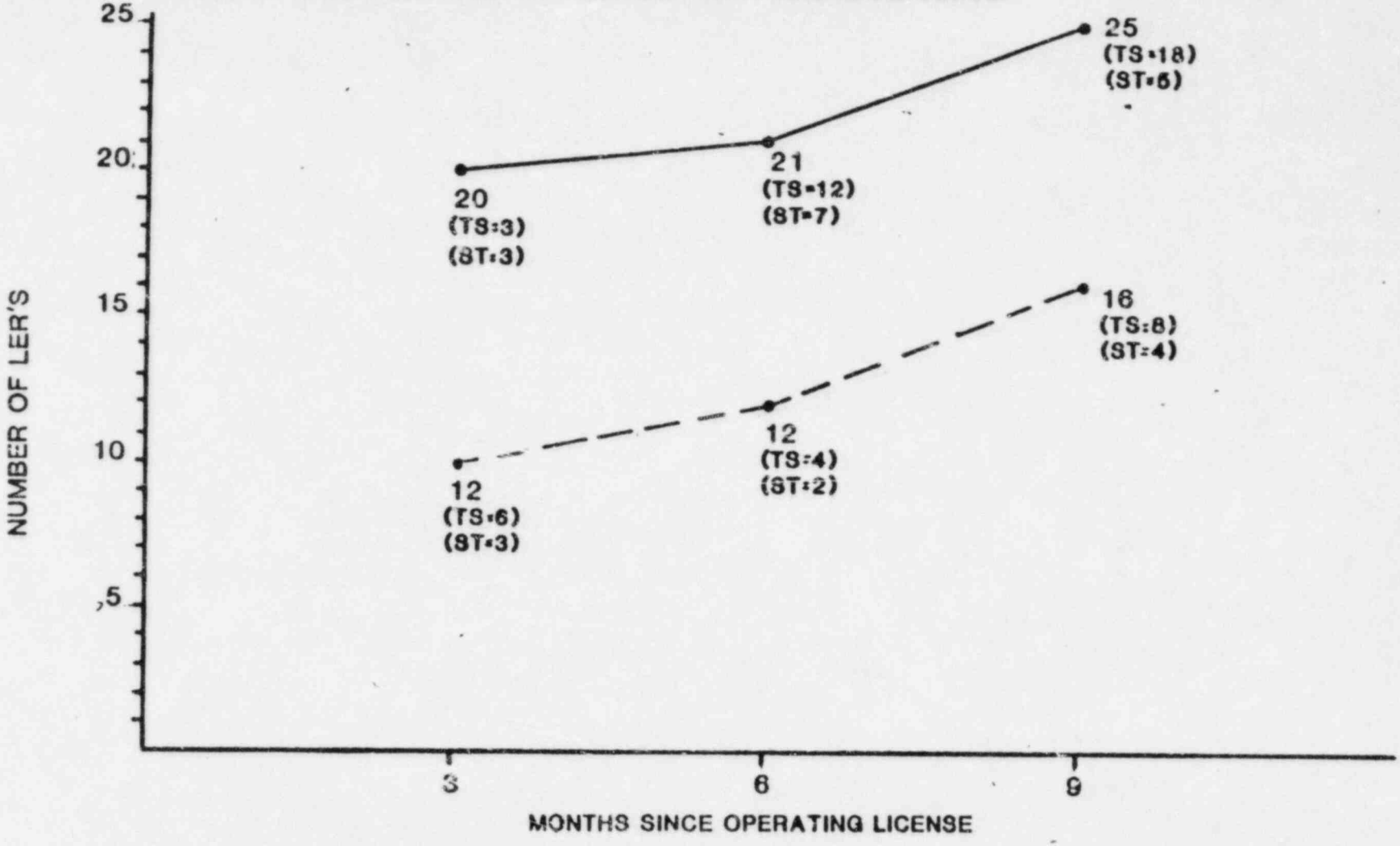
(TS) TECHNICAL SPECIFICATION VIOLATIONS

UNIT 1 ——

UNIT 2 ——

Enclosure 6

LER'S ISSUED PER UNIT PER QUARTER
FIRST NINE MONTHS AFTER OPERATING LICENSING

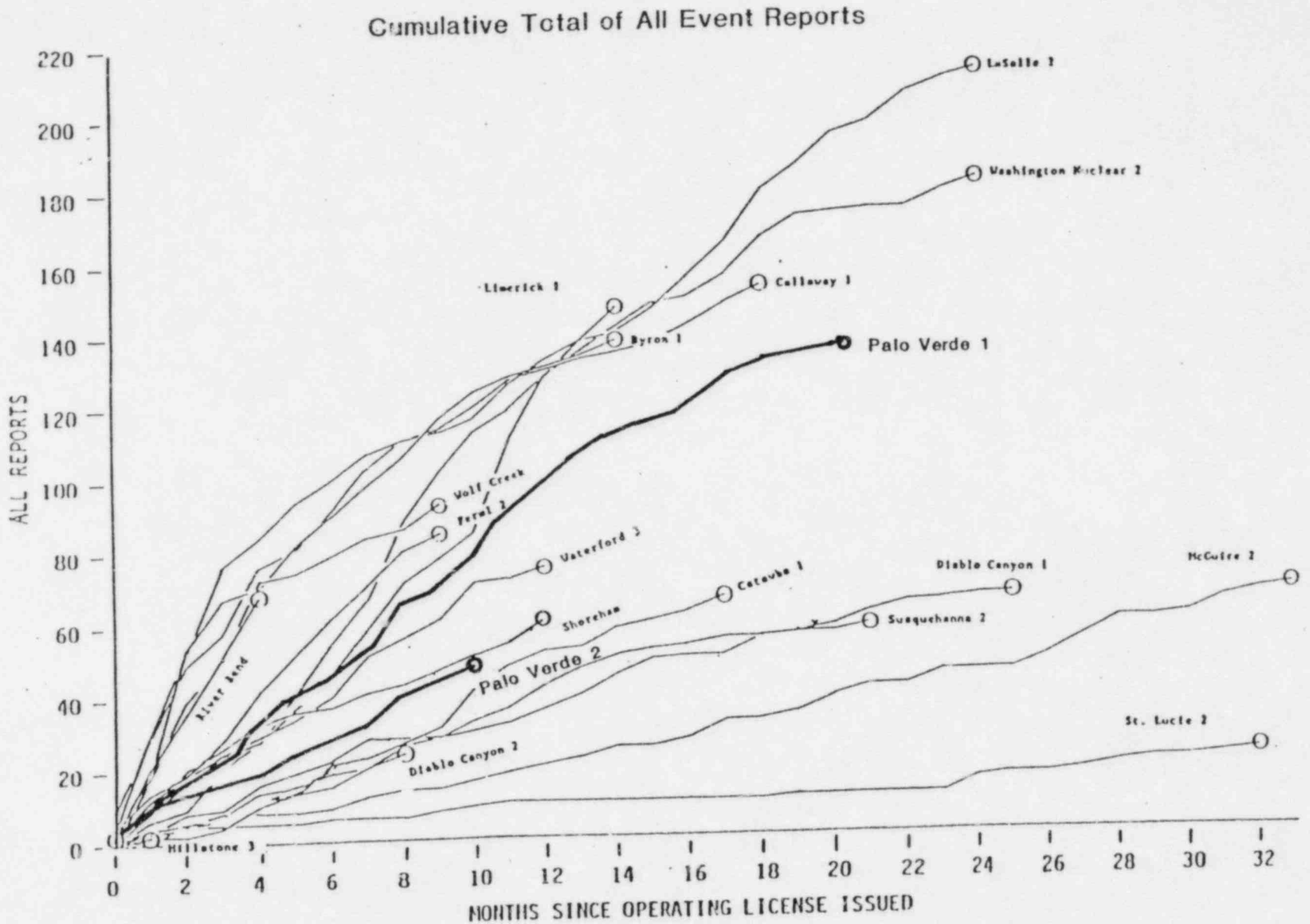


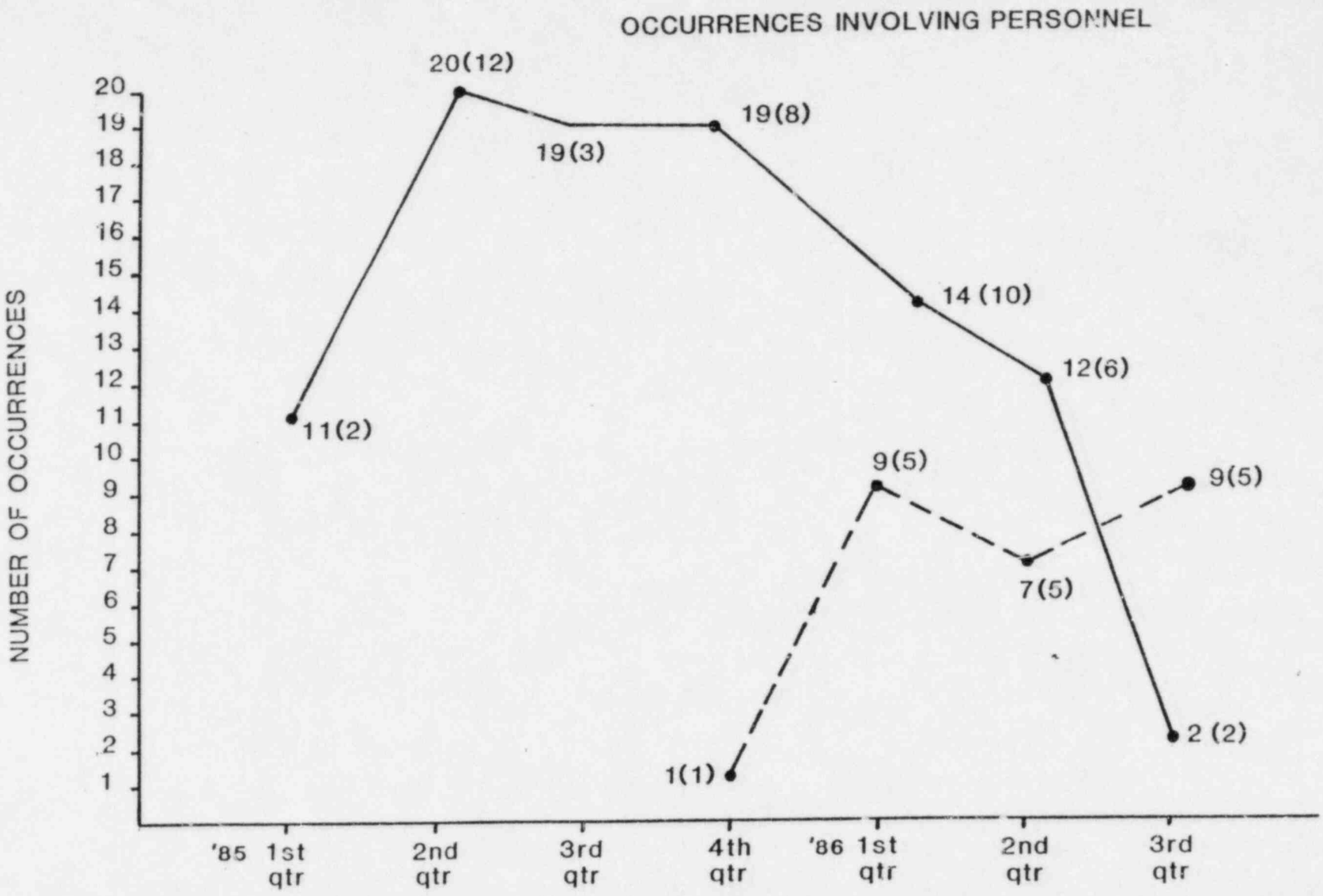
(ST) SURVEILLANCE TEST DEFICIENCIES

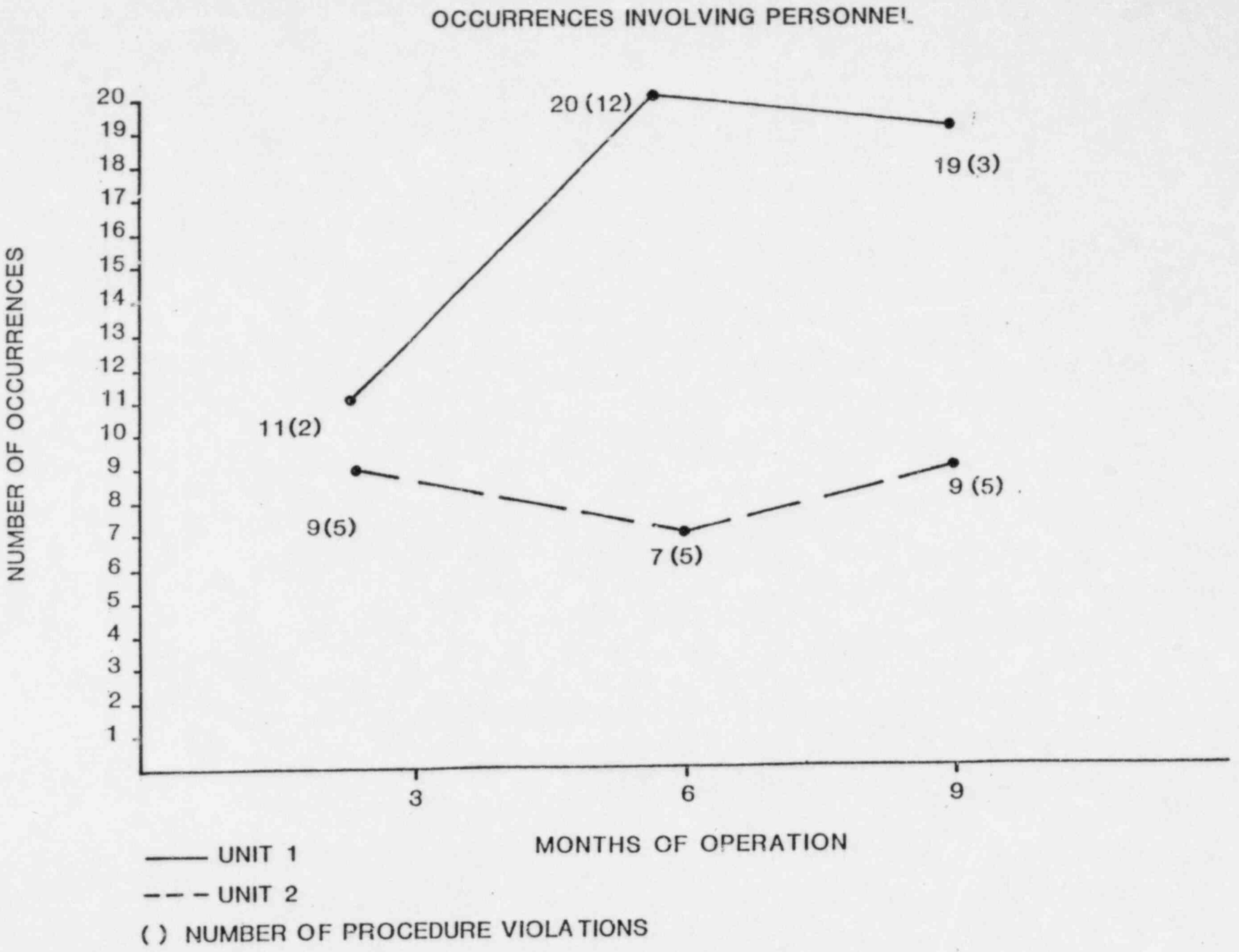
(TS) TECHNICAL SPECIFICATION VIOLATIONS

UNIT 1 (1985)

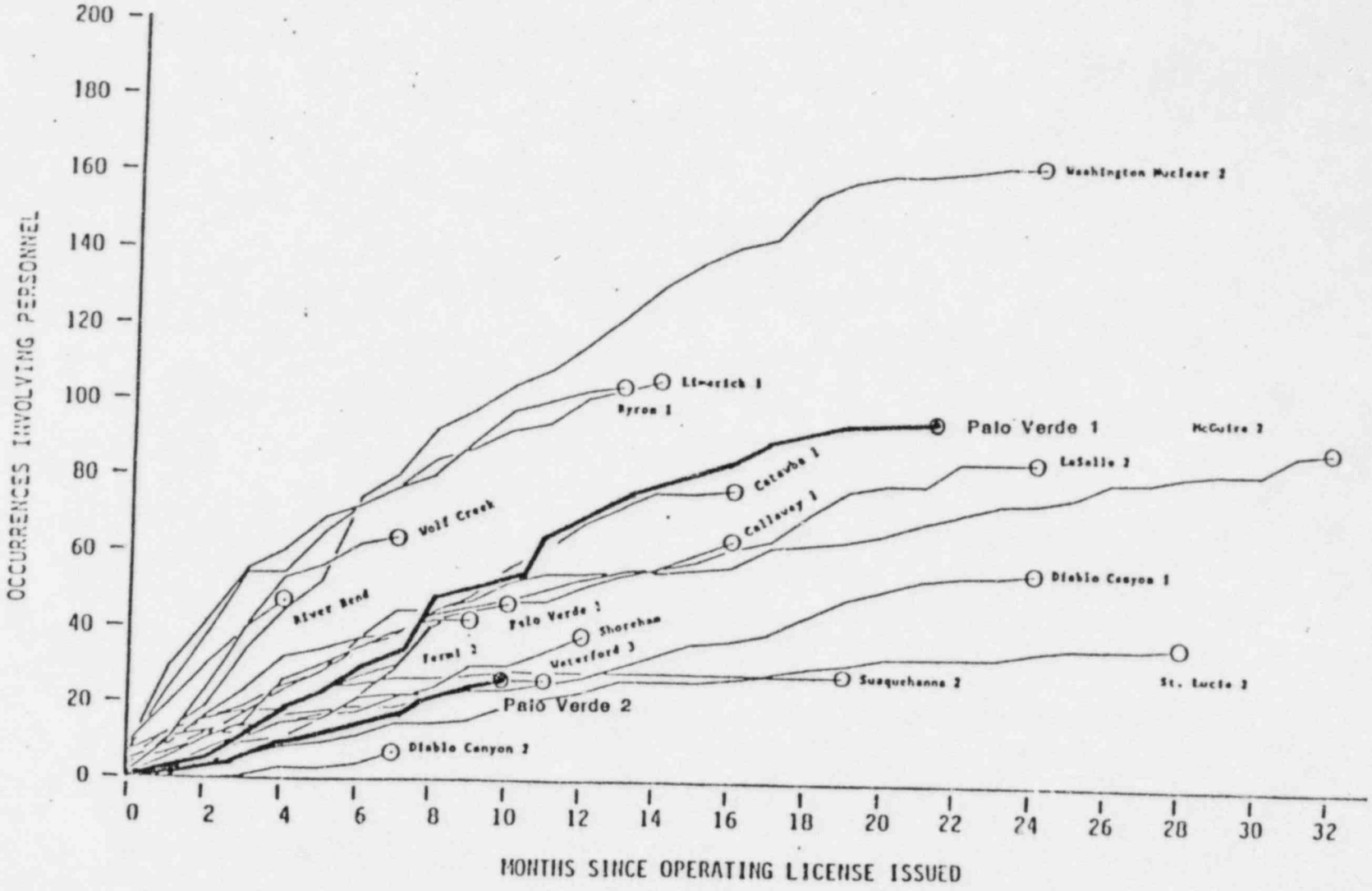
UNIT 2 (1986)

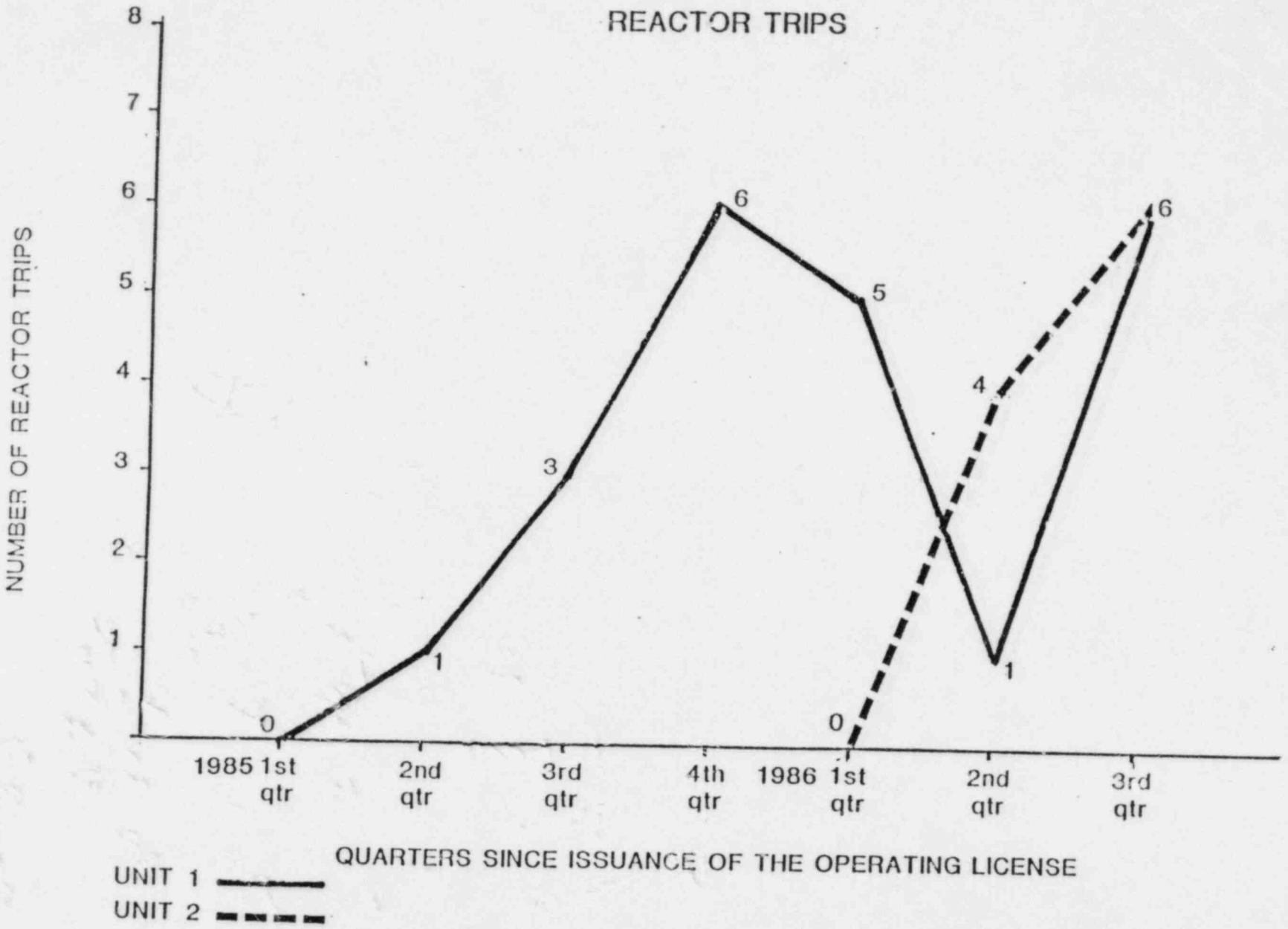

Cumulative Total of All Event Reports
ALL REPORTS
MONTHS SINCE OPERATING LICENSE ISSUED
0
20
40
60
80
100
120
140
160
180
200
220
0
2
4
6
8
10
12
14
16
18
20
22
24
26
28
30
32
LaSalle 1
Washington Nuclear 2
Limerick 1
Calloway 1
Byron 1
Palo Verde 1
Wolf Creek
Perry 1
Waterford 3
Diablo Canyon 1
McGuire 2
Catawba 1
Shoreham
Susquehanna 2
Palo Verde 2
River Bend
St. Lucie 2
Diablo Canyon 2
Hillstone 3

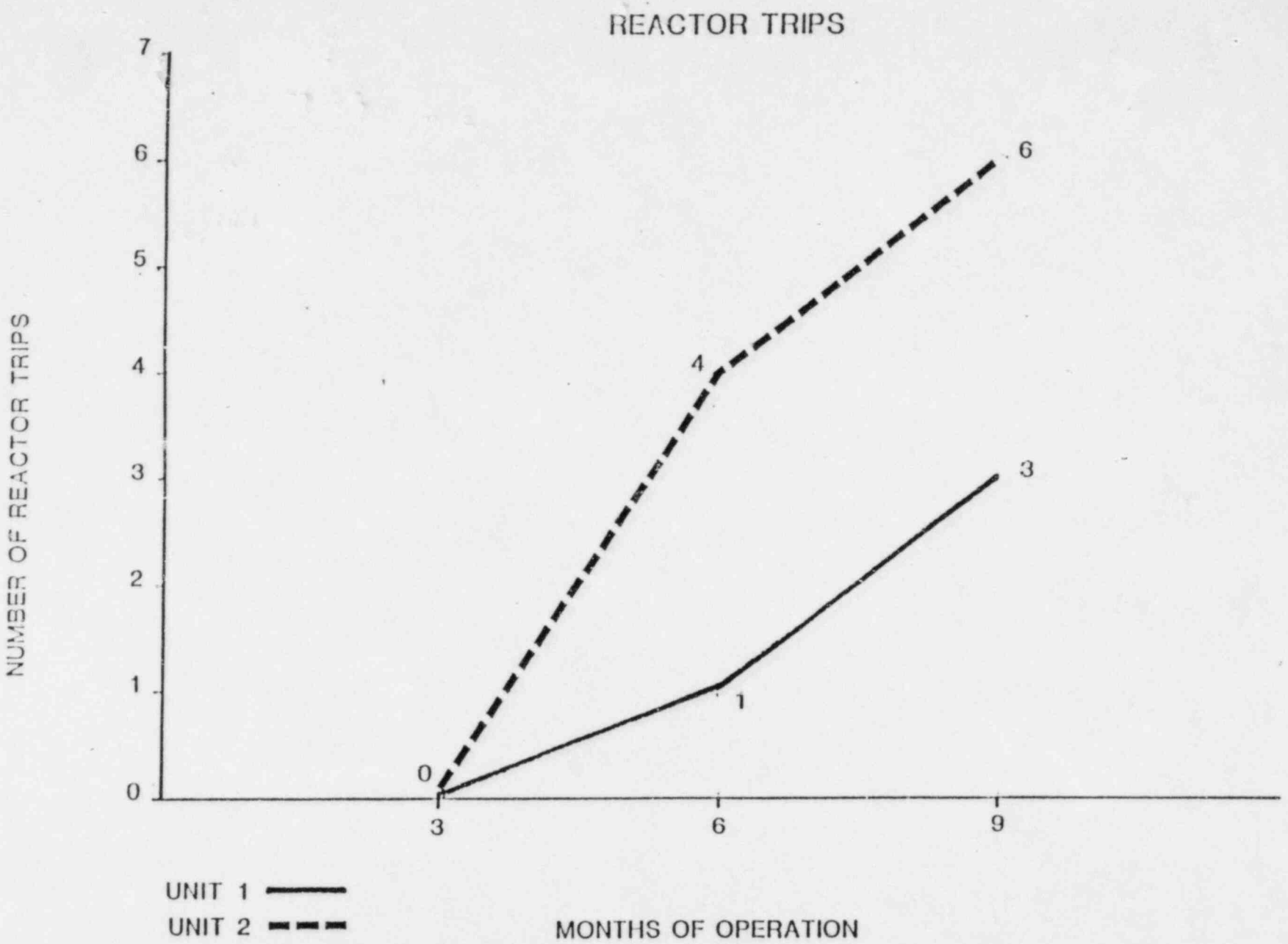

OCCURRENCES INVOLVING PERSONNEL
NUMBER OF OCCURRENCES
20
19
18
17
16
15
14
13
12
11
10
9
8
7
6
5
4
3
2
1
20(12)
19(8)
19(3)
14 (10)
12(6)
11(2)
9(5)
9(5)
7(5)
2 (2)
1(1)
'85 1st qtr
2nd qtr
3rd qtr
4th qtr
'86 1st qtr
2nd qtr
3rd qtr
QUARTERS SINCE ISSUANCE OF THE OPERATING LICENSE
UNIT 1
UNIT 2
( ) NUMBER OF PROCEDURE VIOLATIONS

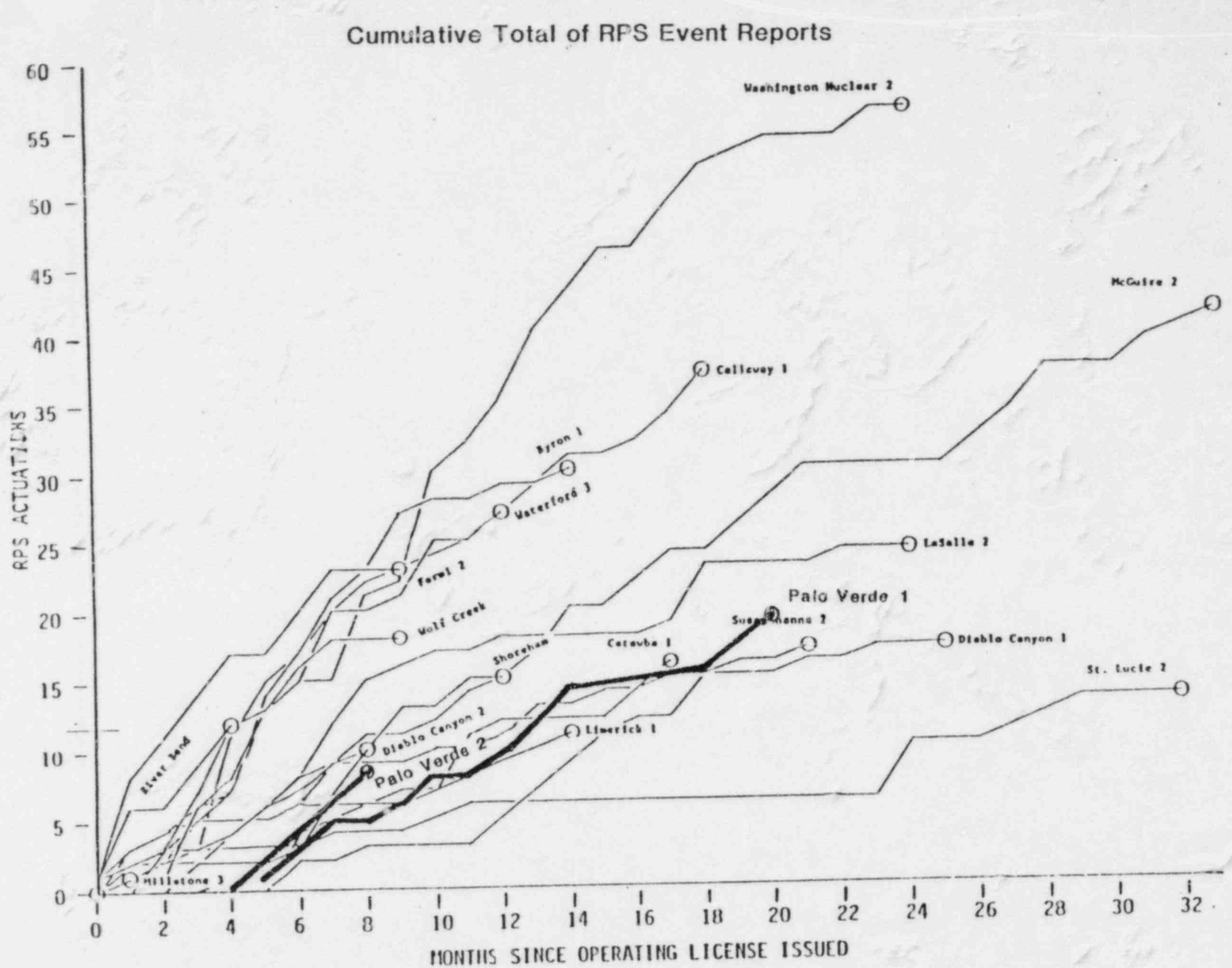

OCCURRENCES INVOLVING PERSONNEL
NUMBER OF OCCURRENCES
20
19
18
17
16
15
14
13
12
11
10
9
8
7
6
5
4
3
2
1
20 (12)
19 (3)
11(2)
9(5)
7 (5)
9 (5)
3
6
9
MONTHS OF OPERATION
UNIT 1
UNIT 2
( ) NUMBER OF PROCEDURE VIOLATIONS

Sample Unit Comparative Trend Based On SCSS Data




REACTOR TRIPS
NUMBER OF REACTOR TRIPS
8
7
6
5
4
3
2
1
0
1
3
6
5
1
0
4
6
1985 1st qtr
2nd qtr
3rd qtr
4th qtr
1986 1st qtr
2nd qtr
3rd qtr
QUARTERS SINCE ISSUANCE OF THE OPERATING LICENSE
UNIT 1
UNIT 2

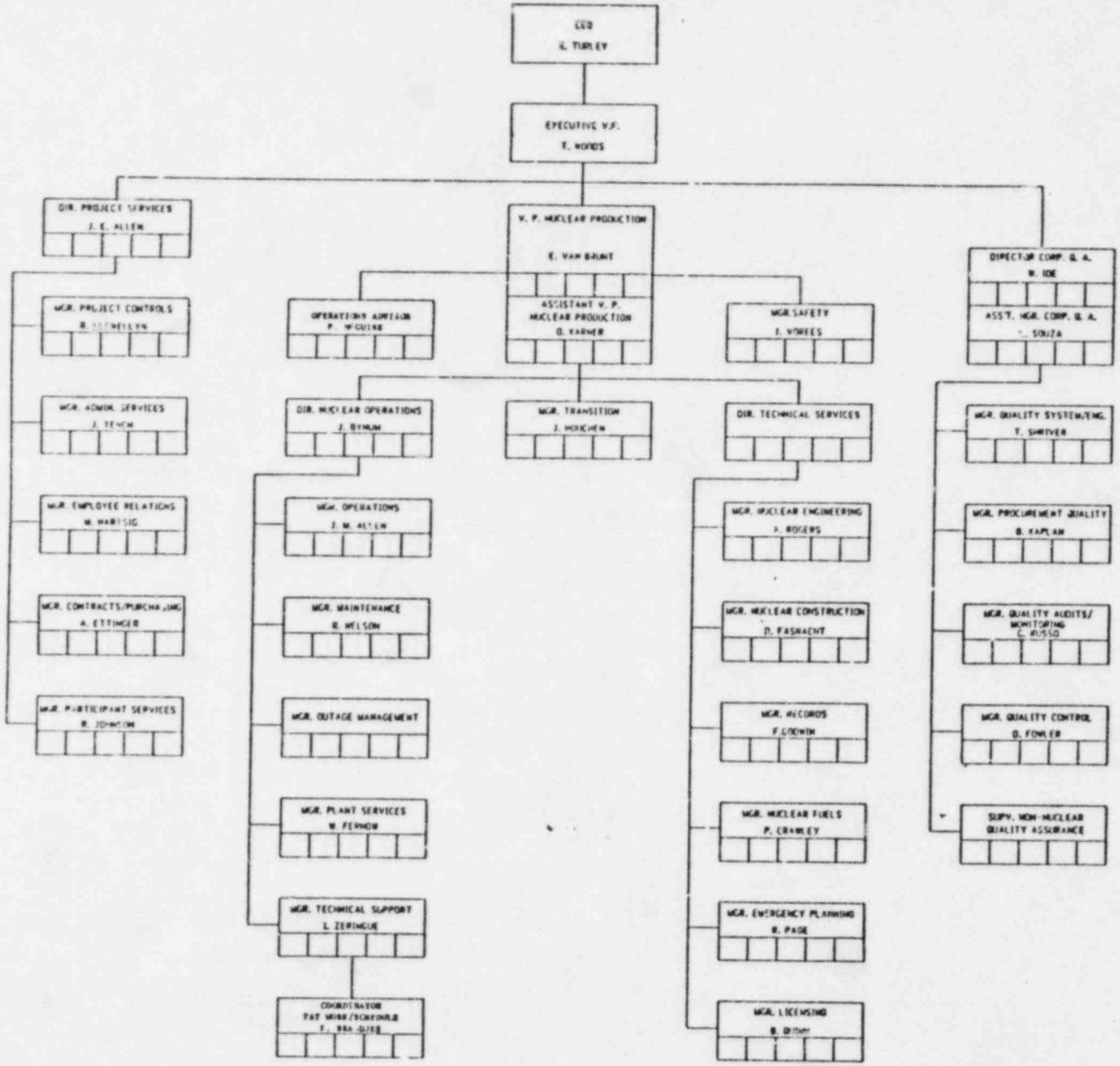

REACTOR TRIPS
NUMBER OF REACTOR TRIPS
7
6
5
4
3
2
1
0
3
6
9
0
4
6
1
3
UNIT 1
UNIT 2
MONTHS OF OPERATION


Cumulative Total of RPS Event Reports
RPS ACTUATIONS
MONTHS SINCE OPERATING LICENSE ISSUED
0
5
10
15
20
25
30
35
40
45
50
55
60
0
2
4
6
8
10
12
14
16
18
20
22
24
26
28
30
32
Washington Nuclear 2
McGuire 2
Calloway 1
Byron 1
Waterford 3
LaSalle 2
Farley 2
Palo Verde 1
Wolf Creek
Susquehanna 2
Diablo Canyon 1
Shoreham
Catawba 1
St. Lucie 2
Diablo Canyon 2
Limerick 1
Palo Verde 2
River Bend
Millstone 3

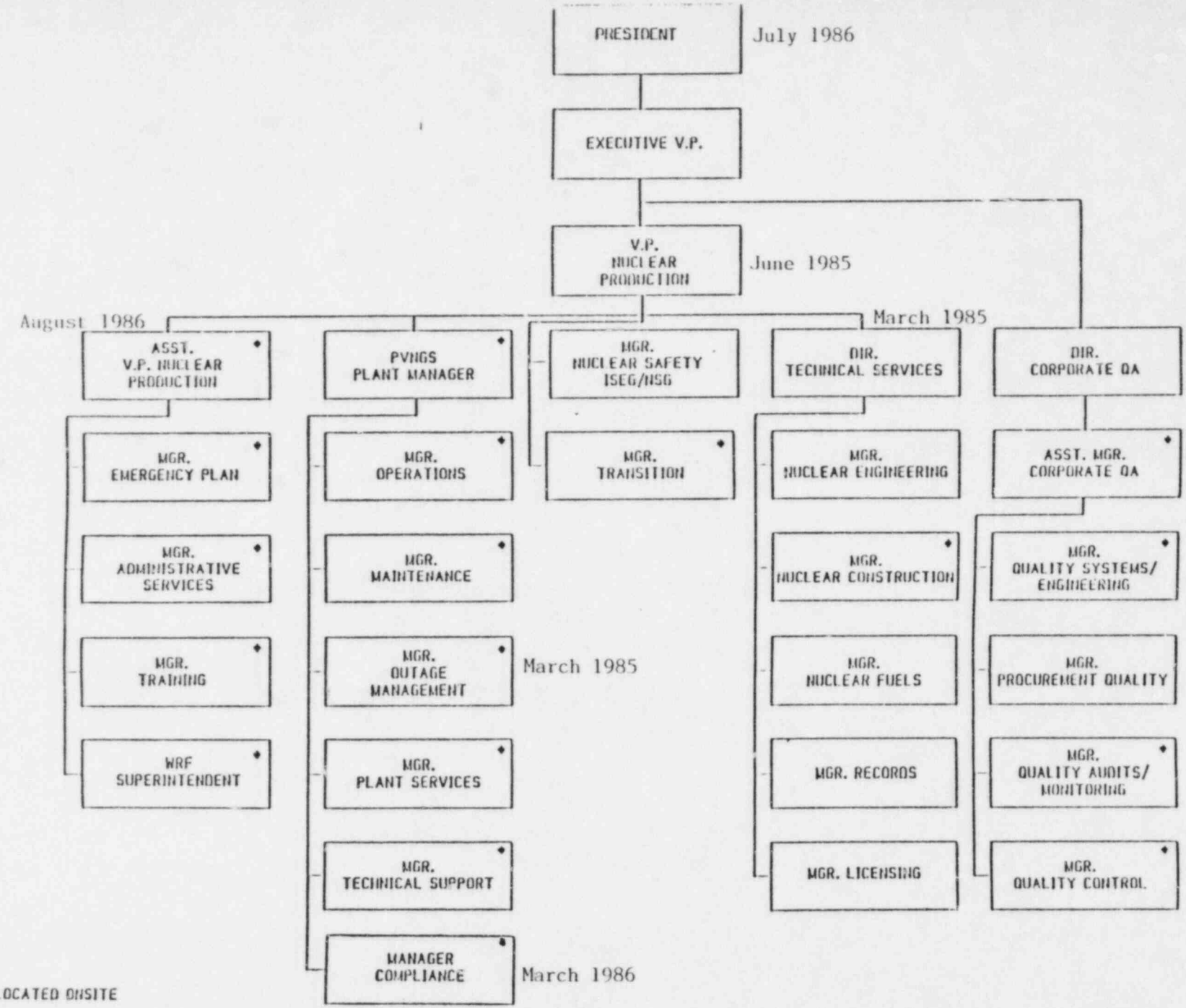
CRITICAL ASSESSMENT OF ENGINEERING EVALUATIONS AND ROOT CAUSE

1. CONTACTED OTHER PLANT TO EVALUATE EXISTING PROCESS.
2. IDENTIFIED AREAS OF IMPROVEMENT
3. DEFINED FORMAL ROOT CAUSE/ENGR. EVAL. PROCESS.
4. QUARANTINE COMPONENTS UNTIL ROOT CAUSE/EVALUATION COMPLETE
5. PLANT TRANSIENT RESPONSE/OPERATOR RESPONSE EVALUATION
6. DEFINED RESTART CRITERIA
7. UNIT UNIQUE EVALUATIONS WITH SHARED RESULT
8. ABOVE APPLIED TO OTHER SYSTEM, COMPONENT, & PERSONNEL PERFORMANCE EVALUATIONS

ORGANIZATION



11/09/84
JRB



10/28/86

OFFSITE ORGANIZATION