



UNITED STATES  
NUCLEAR REGULATORY COMMISSION  
ADVISORY COMMITTEE ON REACTOR SAFEGUARDS  
WASHINGTON, D. C. 20555

November 28, 1983

MEMORANDUM FOR: Dr. W. Kerr, ACRS Member  
FROM: Dr. S. Seth, ACRS Senior Fellow *SS*  
SUBJECT: Reliability of W and GE Circuit Breakers

This report provides information related to the reliability of Westinghouse and General Electric circuit breakers that would be of particular interest. The information is based partly on the Briefing provided by the circuit breaker vendors to the Commissioners on 11/3/83, and partly on my discussions with the vendor representatives after that meeting. I would like to bring to your particular attention a potential concern with the GE circuit breakers.

I am also forwarding (Attachment A) a copy of a brief NSAC report on the EPRI-ATWS matrix management program. The report highlights the important elements of the program which I referred to in an earlier report to you (EPRI's Proposed Work Related to Scram Unavailability, 6/22/83).

1. Westinghouse DB-50 Circuit Breakers

1.1 Salem Undervoltage Trip Attachments (UVTA):

Results of evaluation of UVTA from RTB-B showed no indications of excessive wear, broken parts, corrosion, manufacturing or design anomalies. Westinghouse conclusion is that the probable failure cause was maintenance-related, possibly excessive friction from lack of lubrication or dirt, although this was not specifically determinable.

The UVTA from RTB-A was received disassembled and not initially identified as from RTB-A. There was indication of a bent part but the specific failure cause was not determinable.

1.2 Westinghouse Reliability Survey:

20 plants responded to a survey that was sponsored by the W-Owners Group. Results and conclusions are based on close to 11000 reported cycles of DB-50 UVTA that include testing, preventive maintenance and automatic trips.

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PDR FOIA  
TOTTEN84-351 PDR

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Conclusions:

- UVTA failure rate: approximately  $1.7 \times 10^{-3}$  failures<sub>3</sub> per demand which is generally consistent with values of  $5 \times 10^{-3}$  used in PRAs.
- 11 of 13 malfunctions reported with identifiable causes were maintenance-related.
- Differing maintenance and testing philosophies can yield acceptable reliability - important is attention to the device.

1.3 DB-50 UVTA Confirmation Tests

The objectives of this program were to confirm force margins and determine factors affecting them, to evaluate cyclic life effects, and to conform periodic maintenance guidance.

The tests were conducted according to the following plan:

- ° 1 UVTA was a control sample not cycled
- ° 2 UVTA's cycled for 2500 trips, with 300 shunt trips interspersed at the 1200 and 2400 cycle points; periodic lubrication equivalent of every 2-3 years of operation (200 cycles)
- ° 2 UVTA's cycled for 2400 trips with only an initial lubrication

The UVTA's were mounted on DB-50 breakers, and performance measurements taken every 200 cycles (before and after lubrication). Testing was followed by metallurgical examinations.

The initial testing resulted in 2 failures-to-trip in 7000 integrated trip demands which was attributed to excessive friction due to inadequate lubrication. There were also 2 failures to latch (fail sale) due to latch hook wear (both in non-periodic lubrication tests)

Tests were repeated on 4 new UVTA's with an improved lubrication procedure. These showed 1 failure-to-trip in 9800 integrated trip demands (occurred in non-periodic lubrication tests).

Conclusions:

- adequate force margins exist and no design deficiencies were found. (delivered-to-required force ratio: 2 for UVTA and 6 for shunt)
- wear was not a factor in failure-to-trip; wear tends to be in fail-safe direction
- lubrication guidance can be improved; revised procedure sent to utilities
- replacement life is approximately 16 years (based on 75 trip demands per year)

#### 1.4 CRBR Circuit-breakers

I also discussed the applicability and use of the more reliable circuit breakers tested under the CRBR reliability program (Ref: ACRS Subcommittee Meeting, 2/24/83). These are the Westinghouse AQB and NQB types enclosed in molded insulation housings. They have a lower ampere-rating (250A) and each caters to only a subgroup of the control rods in the CRBR design. They cannot be used in Westinghouse PWR designs.

#### 2. General Electric Ak-2-25 Circuit Breakers

While no AK-2-25 circuit breakers have failed during actual reactor trips, there have been several instances (e.g., Oconee in 2/79 and San Onofre in 3/83) where testing with the UVTA alone, reactor trip breakers either failed to open or opened with an unsatisfactory response time.

The main failure mechanism is a hardening of the originally furnished lubricants in the bearings in the tripping train. This hardening increases the torque required to displace the trip latch to open the breaker. The increase in torque requirement from the original, as shipped value of less than 20 in-ounces, to the maximum allowed limiting value of 24 in-ounces, occurs over 8-10 years (based on Oconee and San Onofre investigations). Periodic surveillance and maintenance including lubricant revitalization is therefore considered by GE as "extremely important" for satisfactory breaker performance. ANSI standards require the AK 25 breaker to perform 12500 close-open operating cycles permitting recommended maintenance as frequently as every 1750 operations.

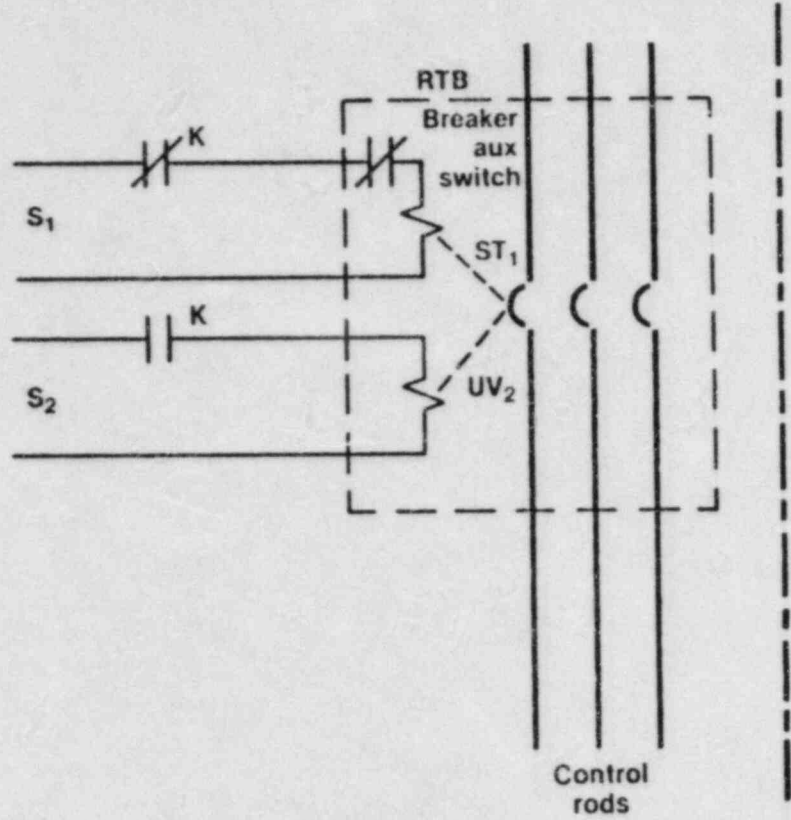
A cause for concern is the small margin between the allowable torque requirement of upto 24 in-ounces and the fixed torque output of the undervoltage device, which is 27 in-ounces. GE notes that the problem of increased torque requirement due to lubricant hardening, leading to RTB incidents, became known only in 1979. Today the AK 25 is only produced as a replacement device. (It was designed in the 1950's and commercially produced from 1958 until 1978). Further they point out that only 10% of circuit breaker applications have undervoltage attachments. Given the present market, GE considers that the cost of an effort needed to develop an improved design for breakers in nuclear reactor applications would be unrecoverable. Instead, GE proposes to reduce the reliance on periodic surveillance and maintenance by replacing the undervoltage device with a second shunt trip device which has a significantly greater tripping power (200 in-ounces torque).

One possible system modification suggested by GE is shown in Figure 1. Such a change on the installed AK-2-25 RTB's can be accomplished with standard, current production, shunt trip devices.

Attachments:  
As Stated

cc: ACRS Members  
ACRS Technical Staff  
ACRS Fellows

# PRESENT WITH UNDERVOLTAGE DEVICE



# POSSIBLE WITH 2ND SHUNT TRIP

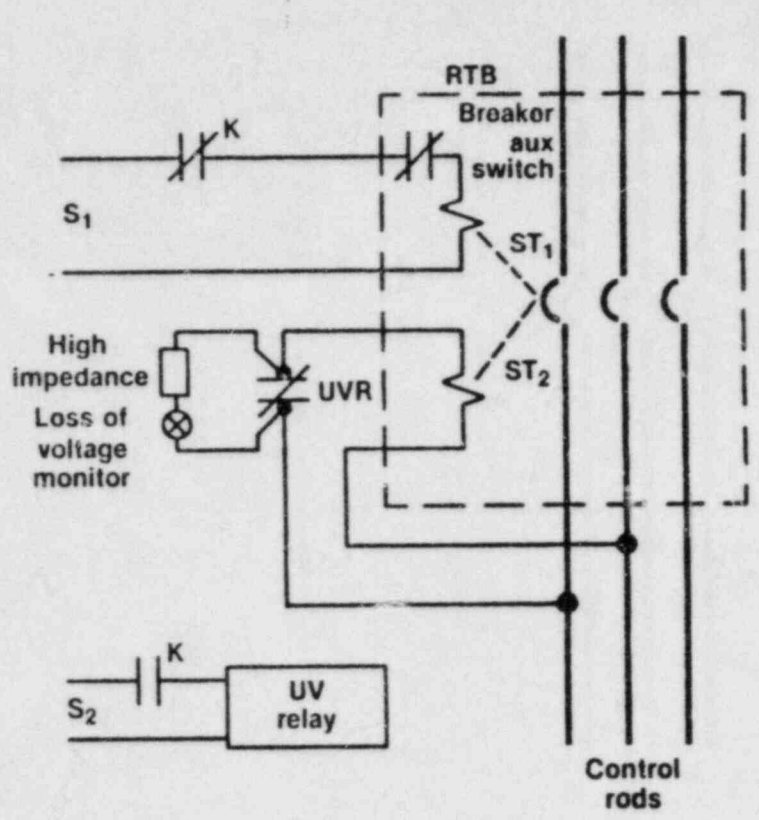


Fig. 1

EPRI-NSAC

# Matrix Program Being Formulated for ATWS

In response to the nuclear industry's desire continually to address reactor operating experience and obtain safety-significant insights, EPRI's Nuclear Power Division is formulating an ATWS-oriented program. The work will be reviewed by its utility advisory groups.

The EPRI ATWS matrix management program will have the following objectives:

- 1) Re-review the reliability of the reactor protection system and ATWS mitigators in light of operating experience;
- 2) Reappraise the ATWS risk relative to operating experience data;
- 3) Evaluate the appropriateness of suggested system improvements or alternative design changes;
- 4) Validate analytical models used to examine ATWS phenomena and system performance; and
- 5) Demonstrate the role of reactor operator participation in the mitigation of ATWS events rather than depending on overly conservative design criteria.

This ATWS matrix will involve several EPRI Nuclear Division departments; outside industry groups (owners' groups, vendors, etc.); new, current, and past research projects and studies; and the coordination, support, and exchange of information between various industry technical experts. It will result in both short- and long-term findings.

Unlike regulatory responses to ATWS-related events which have led to prescriptive new requirements in response to single events or isolated cases, yet universally applied, the matrix program will be a comprehensive re-examination of safety system expectations in light of a broad spectrum of operating experiences, real event-scenarios and reactor performance. Examination of operator capabilities to

negate serious implications of ATWS events will be pursued. Experience related to equipment or system vulnerabilities will be explored.

NSAC will serve as the program matrix manager. The program is scheduled to run through 1984.

## Historical Background

The Nuclear Power Division's Safety & Analysis Department has been doing analytical work on ATWS since 1975. The Engineering & Operations Department will begin work on ATWS in January 1984. NSAC has been involved in ATWS evaluations since the Browns Ferry 3 incident of June 1980. The Center has conducted several independent event evaluations related to ATWS, which have resulted in recommendations being sent to the utilities.

Since early 1982, NSAC has been actively conducting an evaluation of the new BWR Emergency Procedure Guidelines (EPGs). Specifically, NSAC is examining complex areas such as the intentional lowering of water level to reduce reactor power and pool heatup during a potential ATWS event. The NSAC Generic Issues operating experience reviews will serve as valuable data sources about Safety & Analysis Dept. programs to quantify system interactions and common-mode failure threats.

NSAC is also evaluating operator performance relative to new EPGs and their interaction with various Safety Panel Display System and Graphic Display System designs.

The postulated event called ATWS has been under discussion by AEC/NRC and the industry since 1969, when the ACRS first raised the issue. A procession of proposals and counter-proposals finally resulted in publication by NRC of a Final Rulemaking Set of Alternative Resolutions on ATWS in November 1981.

The next year was devoted to com-

ments, reviews, and re-evaluations in the light of TMI-related industry plant changes, new operational procedure enhancements and operator training improvements. Early in 1983 a special NRC task force informally recommended a final resolution.

That position appeared to be acceptable to most of the industry. Prior to execution of the recommendation, the Salem station experienced two ATWS-related events in February this year. These events reopened the ATWS issue again, as the Browns Ferry event had previously done in 1980.

In August this year the NRC staff reached a final position—a more prescriptive and demanding one, and a number of new Salem-related requirements were issued for broad industry implementation.

Industry's basic position all along has been that in the light of the safety goal programs, ATWS should not be singled out as a unique type of event but considered on the same basis as all other sequences; that a complete failure to scram is an unlikely event; and that an ATWS event will not proceed as the regulatory worst-case analysis indicates. The Browns Ferry and Salem events, and other operating experiences, indicated that reactor protection system performance may be more sensitive to outside influences than expected. However, ATWS-related events themselves are not as severe as "design-basis accident" analyses would indicate.

Operator mitigation has now been demonstrated to be very likely, due to newer procedures and training. Also, there are more mitigating systems available to the operator than earlier analysis would have indicated.

The EPRI-NSAC matrix program will be included in the Generic Safety Issues Book (see article on p. 1).

For additional information contact John Power at (415) 855-2394.

Site	Date:	Plant Operations	Radiological Controls	Maintenance	Surveillance	Fire Protection	Emergency Preparedness	Security and Safeguards	Refueling	Licensing Activities	Design Changes & Modifications
1/83	3/28/84 Beaver Valley	2	1	2	2	2	2	1	2	1	1
12/83	Calvert Cliffs	2	2	3	3	1	2	1	2	2	1
2/83	Fitzpatrick	2	2	2	2	2	1	1	N/R	2	1
7/83	Ginna	2	2	2	2	1	2	1	1	1	1
10/82	Haddam Neck	1	1	1	1	1	1	1	1	1	1
5/83	Indian Point 2	2	2	2	2	2	N/R	3	1	1	3
4/83	Indian Point 3	1	1	1	1	1	1	1	1	3	1
8/83	Maine Yankee	3	2	2	2	1	2	2	1	2	2
10/82	Millstone Unit 1	1	1	1	1	1	1	2	1	1	1
10/82	Millstone Unit 2	1	1	1	1	1	1	2	2	1	1
6/83	Ninemile Point 1	2	2	2	N/R	1	N/R	1	1	1	1
4/83	Oyster Creek	2	2	2	2	2	2	1	2	2	1
5/83	Peach Bottom	2	3	2	3	3	1	1	2	2	1

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Site Date	Date:	Plant Operations	Radiological Controls	Maintenance	surveillance	Fire Protection	Emergency Preparedness	security and safeguards	Refueling	Licensing Activities	Quality Assurance	
4/83	3/28/84	Brunswick	3	2	3	3	3	1	1	3	3	3
3/83		Brown's Ferry	3	3	3	2	2	2	3	1	2	3
10/83		Crystal River 3	2	1	2	2	2	2	2	1	2	2
12/82		Fasley	1	1	1	1	2	1	1	1	2	-
11/83		Grand Gulf	3	2	3	3	2	1	2	N/R	3	3
2/83		Hatch	2	2	2	2	2	2	2	N/R	2	2
7/83		McGuire	1	1	1	2	2	1	1	1	1	2
10/83		North Anna	1	1	2	2	N/R	1	1	1	1	2
7/83		Oconee	2	2	1	3	N/R	2	1	1	2	2
4/83		Robinson	2	2	3	1	N/R	2	2	1	3	3
3/83		Sequoyah	2	2	2	1	N/R	2	3	2	2	3
9/83		St Lucie	1	1	1	1	2	1	2	1	2	2
5/83		Summer	2	1	1	2	3	1	2	N/R	2	-





Site	Plant Operations	Radiological Controls	Maintenance	Surveillance	Fire Protection	Emergency Preparedness	Security and Safeguards	Refueling	Licensing Activities	Personnel Training	Environmental Protection	Quality Assurance	
8/83	Big Rock Point	1	2	1	1	2	1	1	N/R	2	2	1	2
7/83	Davis-Besse	2	1	3	2	2	2	2	1	2	-	-	1
5/83	D.C. Cook	2	2	3	2	3	2	2	2	2	-	-	3
4/83	Dresden	2	2	3	2	2	2	1	1	1	-	1	-
6/83	Duane Arnold	2	2	1	2	2	2	2	2	2	-	-	2
5/83	Kewaunee	2	2	2	2	1	2	2	1	2	2	-	-
9/83	LaCrosse	2	2	2	2	1	2	2	N/R	2	-	-	-
5/83	LaSalle	2	2	1	3	2	2	3	1	2	-	-	3
8/83	Monticello	2	2	2	1	2	1	1	1	2	-	-	-
8/83	Palisades	1	2	2	1	2	1	2	N/R	2	2	-	1
5/83	Point Beach	1	2	1	1	3	3	2	2	2	-	-	-
8/83	Prairie Island	2	1	1	1	1	1	1	1	1	-	-	-
4/83	Quad Cities	2	2	2	1	1	2	1	1	1	-	2	-
5/83	Zion	2	2	2	2	2	2	2	1	2	-	2	-





Arkansas 1/2

Region IV

	Plant Operations	Radio/cell Controls	Maintenance	Surveillance	Fire Protection	Emergency Repairs	Security and Safeguards	Refueling	Licensing Activities	Training	Mgt Control	QH						
Aug 1980	2	2	2	2	2	2	3	2	N/A				note: this SALP report was pre-NRCM 0576 of 3/23/82					
Sept 1981	2	2	2	3	2	1	2	2	N/A				note: same as above					
Aug 1982	3	2	3	3	2	3	2	2	2	2	3							
Aug 1983	2	2	3	2	3	2	1	2	2	2	2	2						

Beaver Valley 1

Region I

	Plant Operations	Radio logical Controls	Maintenance	Surveillance	Fire Protection	Emergency Preparedness	Security and Safeguards	Refueling	Licensing Activities										
Dec 1980	3	2	3	3	3	2	3	2	N/A										
March 1982	2	1	3	2	2	2	3	2	2										
Jan 1983	2	1	2	2	2	2	1	2	1										

note: this SALP report was  
 prepared - NIKCM 05/6 dtd 3/23/82

Big Rock Point

Region III

	Plant Operations	Radiological Controls	Maintenance	Surveillance	Fire Protection	Emergency Preparedness	Security and Safeguards	Refueling	Licensing Activities	Quality Programs	Personnel Training	Design Changes and Mod.	Environmental Protection
Nov. 1980	2	3	1	2	2	2	2	2	N/A				
Oct. 1981	1	2	2	2	2	2	1	1	2	2	2	2	
Sept. 1982	1	3	1	2	2	2	2	1	2	-	3	-	2
Aug 1983	1	2	1	1	2	1	1	1 1/2	2	2	2	-	-

Note: This SAR report was pre-NRCM0516 dtd 3/23/82

Brown's Ferry

Region II

	Plant Operations	Radiological Controls	Maintenance	Surveillance	Fire Protection	Emergency Preparedness	Security and Safeguards	Refueling	Licensing Activities										
AUG 1980	2	3	2	2	2	2	2	2	N/A										
Oct 1981 PO	3	3	2	2	3	N/A	2	2	N/A										
March 1983	3	3	3	2	2	2	3	1	2										

FD

Note: This SAR report was pre-NRCM 5/8 dated 3/23/83

same note

3





Calvest Cliffs

Region I

	Plant Operations	Radio logical Controls	Maintenance	Surveillance	Fire Protection	Emergency Repairs	Security and Safeguards	Refueling	Licensing Activities	Change Control
Nov 1980	3	2	3	2	2	2	3	2	N/A	Note: This SAAP report was prior to NRCM 0516 dated 3/23/82
Nov 1982	2	1	2	1	1	1	2	1	2	3
Dec 1983	2	2	3	3	1	2	1	2	2	

Cooper

Region IV

	Plant Operations	Radiological Controls	Maintenance	Surveillance	Fire Protection	Emergency Preparedness	Security and Safeguards	Refueling	Licensing Activities	Training	Administration	Quality Assurance	Management	Contract
Aug 1980	2	2	2	1	2	2	2	1	N/A		note: this STLP reports was pre-NRCM 05/6 11/3/82			
Aug 1981	1	2	2	1	2	3	2	1	N/A	same note				
Aug 1982	1	3 RP / 10th	1	1	1	3	1	1	1	2		2		
Aug 1983	2	2 (5 sep. netrip)	1	1	1	2	2	1	1	3		2		

Crystal River 3

Region - II

	Plant Operations	Radio logical Controls	Maintenance	Surveillance	Fire Protection	Emergency Preparedness	Security and Safeguards	Refueling	Licensing Activities	QA										
Oct 1980	2	2	2	2	2	3	2	2	N/A											
Oct 1982	2	2	3	1	2	2	2	2	3											
Oct 1983	2	1	2	2	2	2	2	1	2											

note: this SAL P report was prepared - WRCM 0516 dtd 5/23/82







Duane Arnold

Region - III

Plant Operations	Radiochemical Controls	Maintenance	Surveillance	Fire Protection	Emergency Repairs	Security and Safeguards	Refueling	Licensing Activities																																	
2	3	2	2	2	3	2	3	N/A																																	
2	2	1	2	2	2	2	2	2													2	2	2	2	2	2	2	2	2	2	2	2									
2	2	2	2	2	2	2	2	2																																	

note: this SACP report was pre-NIRCM 0516 dtd 3/23/82

Oct 1980  
June 1983

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Fitzpatrick

Region I

	Plant Operations	Radiological Controls	Maintenance	Surveillance	Fire Protection	Emergency Readiness	Security and Safeguards	Refueling	Licensing Activities
Jan 1981	2	3	2	2	3	3	3	2	N/A
May 1982	3	3	2	2	2	2	1	2	
Feb 1983	2	2	2	2	2	1	1	N/R	

note: this SALP report was  
 PRC - NRCM 05/16 476 3/23/82

Fort Calhoun

Region IV

	Plant Operations	Radio logical Controls	Maintenance	Surveillance	Fire Protection	Emergency Readiness	Security and Safeguards	Refueling	Licensing Activities	Quality Assurance	Design Controls	Management Controls	Training			
July 1980	2	2	2	2	2	2	2	2	N/A	note 11/15 P12-NRCM	0516	SATLP report was 416 3/23/82				
Dec 1981	2	2	2	2	2	2	2	N/A	N/A			same note				
Oct 1982	1	2	2	1	2	2	2	2	1	3	2	2				
Nov. 1983	1	2 (5 parts - some noted)	2	1	2	2	2	1	2	3	N/R	2	3			

Ft St Vrain

Region IV

	Plant Operations	Radio logical Controls	Maintenance	Surveillance	Fire Protection	Emergency Preparedness	Security and Safeguards	Refueling	Licensing Activities								
Oct 1980	2	2	2	2	2	2	3	2	N/A	X	note: this S4LP report was pre-URRM 0516 dtd 3/23/82						
Sept 1981	3	2	2	2	2	2	2	2	N/A	X	same note						
Nov, 1982	3	2	1	2	1	2	2	N/A	1	X	See Report for remaining Areas						
										X							
										X							
										X							
										X							
										X							
										X							
										X							

22:12



Grand Gulf

Region II

	Plant	Operational	Radioactive Controls	Maintenance	Surveillance	Fire Protection	Emergency Preparedness	Security and Safeguards	Refueling	Licensing Activities	Operational								
Sep 1981	2		1	2	3	N/A	N/A	N/A	N/A										
Jan 1983	3		2	N/R	3	N/R	2	2	N/R	2	2								
(Unit 1)																			
Nov. 1983	3		2	3	3	2	1	2	N/R	3	3								

Note: this plant is in Reop phase. Other areas listed in construction.

note: this plant is in Reop phase. Other areas listed in construction.

PRC - NRCAL 0510 d11 3/23/82

Hadden Neck

Region I

	Plant Operations	Radio logical Controls	Maintenance	Surveillance	Fire Protection	Emergency Repairs/ins	Security and Safeguards	Refueling	Licensing Activities										
July 1980	2	2	2	2	2	2	2	2	N/A	X									
Oct 1981	1	1	1	2	1	2	1	1	N/A	X									
Oct 1982	1	1	1	1	1	1	1	1	1	X									

Note: This SAUP report was prepared - NRCM 0516 dtd 3/23/82

same note

Hatch 1/2

Region - II

	Plant Operations	Radiological Controls	Maintenance	Surveillance	Fire Protection	Emergency Preparedness	Security and Safeguards	Refueling	Licensing Activities									
Aug 1980	2	2	2	2	2	2	2	2	N/A									
Sept 1981	2	2	2	2	2	N/A	1	2	N/A									
Feb 83	2	2	2	2	2	2	2	N/A	2									

FD

note: this SACP reports was pre NRCM 0516 did 3/23/82

same note



Indian Pt 2

Region - I

Design Control  
Quality Assurance

note: This SATP report was  
PNE-URCM 0516 dtd 3/23/82

Plant Operations	Radio logical Controls	Maintenance	Surveillance	Fire Protection	Emergency Repairs	Security and Safeguards	Refueling	Licensing Activities
3	2	3	2	2	2	3	2	N/A
2	2	2	3	2	2	1	2	2
2	2	2	2	2	N/A	3	1	1

Feb 1980

May 1982

May 1983

3







Lasalle 1/2

Region III

	Plant Operations	Radiological Controls	Maintenance	Surveillance	Fire Protection	Emergency Preparedness	Security and Safeguards	Refueling	Licensing Activities	QA/QC	Prep. Testing	Piping Systems						
April 82	-	25	2	3	2	2	3	-	-	2								
May 1983	2	2	1	3	2	2	3	1	2	3	2	2						

note: This plant was in prior operational phase other areas listed in Cons  
 note: This plant was in prior operational phase other areas listed in Cons  
 note: This plant was in prior operational phase other areas listed in Cons

note: This plant was in prior operational phase other areas listed in Cons

Maine Yankee

Region I

	Plant Operations	Radio logical Controls	Maintenance	Surveillance	Fire Protection	Emergency Preparedness	Security and Safeguards	Refueling	Licensing Activities	Decontamination	Quality Assurance									
Oct 1980	2	2	2	2	2	2	2	3	N/A	X	note in is still in progress pre-URC/UCR old 3/2/82									
Sept 1981	2	2	2	1	1	1	3	1	N/A	X	same note									
Sept 1982	3	2	2	2	1	2	2	N/A	2	X										
Aug 1983	3	2	2	2	1	2	2	1	2	X										

# Plans to conduct followup board etc 6 months

McGuire 1/2

Region II

	Plant Operations	Radiological Controls	Maintenance	Surveillance	Fire Protection	Emergency Repairs	Security and Safeguards	Refueling	Licensing Activities	QA	Prep (u-z)							
Oct 1980	2	2	2	2	2	2	2	2	N/A		not in his staff report							
Sept 1982	2	1	1	1	2	1	2	1	2		PRE-NRC action							
July 1983	1	1	1	2	2	1	1	1	1		2							

not in his staff report  
PRE-NRC action did 3/23/82







Nine Mile Pt 1

Region I

	Plant Operations	Radio logical Controls	Maintenance	Surveillance	Fire Protection	Emergency Preparedness	Security and Safeguards	Refueling	Licensing Activities										
April 1981	2	3	2	2	2	3	2	2	N/A	X									
June 1982	2	3	2	2	2	2	1	1	1	X									
Jun 1983	2	2	2	2	1	N/R	1	1	1	X									
										X									
										X									
										X									
										X									
										X									
										X									
										X									
										X									

note it is still repairing  
pre-NRC with old 3/23/82

Ext. change





Order Check 1

Region - I

	Plant Operations	Radio logical Controls	Maintenance	Surveillance	Fire Protection	Emergency Repairs/ins	Security and Safeguards	Refueling	Licensing Activities
Spt 1980	2	3	2	3	2	2	2	2	N/A
March 1981	2	2	2	2	2	2	3	2	
March 1982	2	2	3	3	2	2	2	2	
April 1983	2	2	2	2	2	2	1	2	

note it is still in progress  
 PRO-URCH ESTD 218/2



Pilgrim

Region: I

	Plant Operations	Radiological Controls	Maintenance	Surveillance	Fire Protection	Emergency Preparedness	Security and Safeguards	Refueling	Licensing Activities									
Feb 1981	2	3	2	2	2	3	2	3	N/A	X								
Oct 1981	3	2	3	2	2	1	2	2	N/A	X								
Aug 1982	3	2	2	2	3	1	2	2	2	X								
Aug. 1983	2	2	2	1	1	1	2	Shutoff Basis N/R	1	X								
										X								
										X								
										X								

note in his fall 1981  
prog. NRC with all 3/3/82

Peach Bottom

Region I

	Plant Operations	Radiological Controls	Maintenance	Surveillance	Fire Protection	Emergency Repairs	Security and Safeguards	Refueling	Licensing Activities																																			
June 1980	2	N/A	3	2	2	2	3	2	N/A	X	note in is still in progress																																	
Aug 1981	2	2	2	1	3	2	2	1	N/A	X	PRE-NRC ACTION dtd 3/23/82																																	
July 1982	2	3	2	2	3	2	2	2	1	X																																		
May 1983	2	3	2	3	3	1	1	2	2	X																																		

same note



Point Beach 1/2

Region III

	Plant Operations	Radiological Controls	Maintenance	Surveillance	Fire Protection	Emergency Preparedness	Security and Safeguards	Refueling	Licensing Activities
June 1982	2	1	2	2	3	2	2	2	2
May 1983	1	2	1	1	3	3	2	2	2

Prairie Island 1/2

III

	Plant Operations	Radio logical Controls	Maintenance	Surveillance	Fire Protection	Emergency Preparedness	Security and Safeguards	Refueling	Licensing Activities	Env. Protection Cont'n. Messn. Accts	QA, Corrective Ac'tions & Training	Region
Oct 1980	2	2	2	2	2	3	2	2	N/A	note it is JALF rep. it was pre-NRC decision dtd 3/23/82		
Oct 1981	1	1	1	1	1	2	2	1	N/A	same note		
Sept 1982	1	1	1	1	1	2	1	1	1	2	2	
Aug 1983	2	1	1	1	1	1	1	1	1			







Salem 1/2

Region I

	Plant Operations	Radio logical Controls	Maintenance	Surveillance	Fire Protection	Emergency Preparedness	Security and Safeguards	Refueling	Licensing Activities	Training	QA/QC	Comm. Prod.	Procurement	Design chgs	Overall
Oct 1980	3	3	2	3	2	2	3	2	N/A	X	note: + ins of ALF	ins of ALF			
APR 81	2	3	1	-	3	2	3	2	-	X	2	2	2	3	3
OCT 81	1	2	1	1	2	2	3	1	-	X	1	1	-	1	-
Nov 82	2	1	1	1	2	2	3	1	2	X				1	-
Nov 83	3	2	2	2	2	1	2	1	2	X					
										X					
										X					
										X					
										X					
										X					
										X					
										X					
										X					

note: + ins of ALF  
 pre-NRCA ins of ALF 3/28/82

San Onofre 1/2/3

Region V

	Plant Operations	Radiochemical Controls	Maintenance	Surveillance	Fire Protection	Emergency Response	Security and Safeguards	Refueling	Licensing Activities	QA	QA Action Items	Design Changes & Mods						
July 1981	2	3	3	1	2	2	3	1	N/A	X	note it is still in progress							
Aug 1982	3	3	3	2	2	1	3	N/A	2	X	pre-NRC action	3						
July 1983	3	3	2	2	2	1	2	1	2	X		1						

San Onofre 2/3

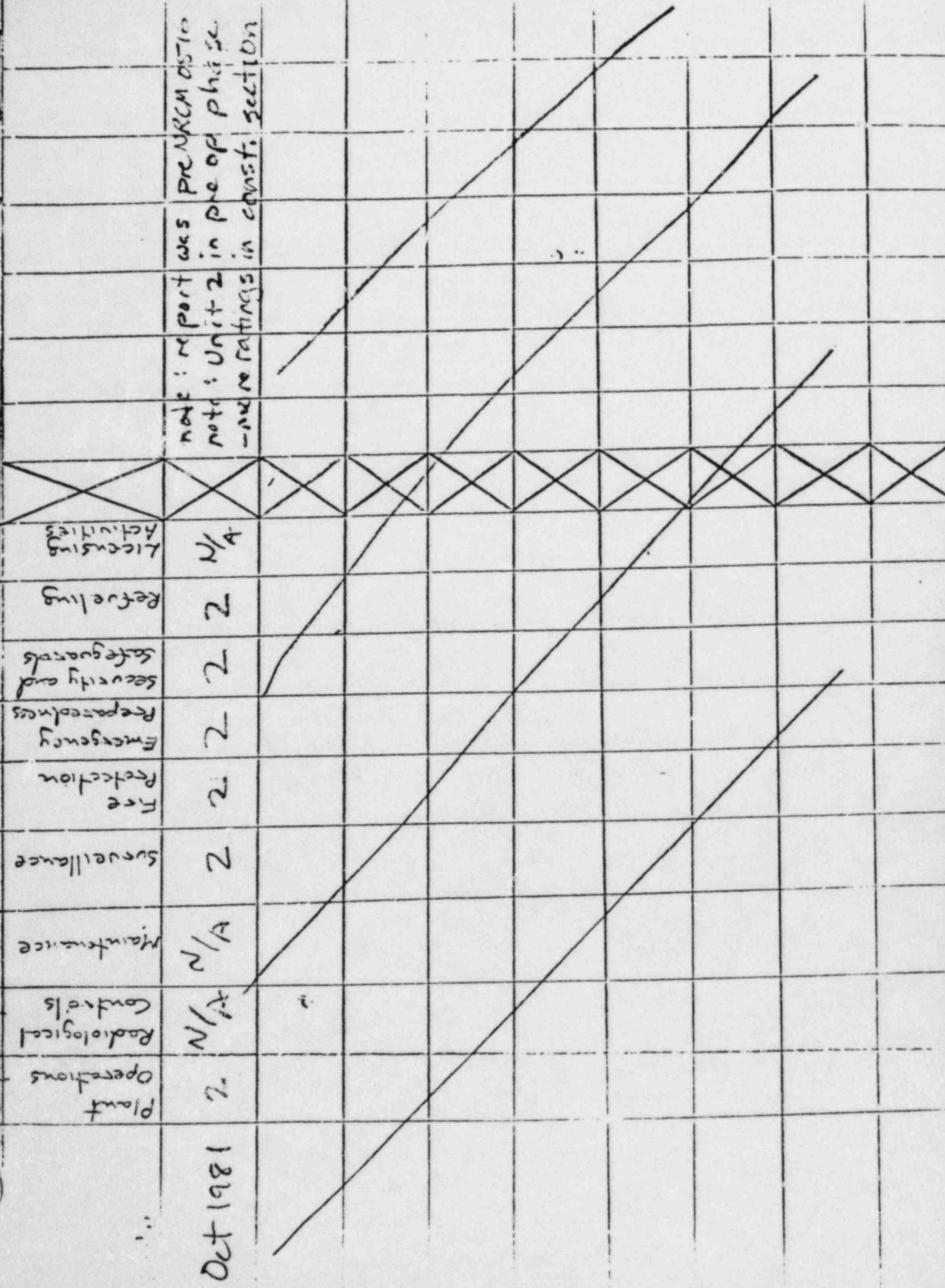
Region IV

	Plant Operations	Radiological Controls	Maintenance	Surveillance	Fire Protection	Emergency Preparedness	Security and Safeguards	Refueling	Licensing Activities	QA	TMI Action Items									
July 1981	1	N/A	2	2	N/A	N/A	N/A	2	N/A		note: this is JALF reportures PRE-NRC. 4.05.10 d. 1. 5.23/82									
Aug 1982	2	2	2	2	2	1	2	1	2	2	note: plant in pre-op phase - more findings found in const. reactor section note: pre-op phase - more ratings in const. reactor section									

X referred to Unit 1







note: report was pre NRCM disto  
 note: Unit 2 in pre of phase  
 -no re ratings in const. section

Oct 1981

Shoreham

Region I

	Plant Operations	Radiological Controls	Maintenance	Surveillance	Fire Protection	Emergency Preparedness	Security and Safeguards	Refueling	Licensing Activities										
April 1981	2	N/A	2	2	N/A	N/A	N/A	N/A	N/A										
April 1982	N/A	2	2	N/A	2	N/A	2	2	2										
May 1983	2	2	2	N/A	2	2	2	N/A	2										

note: this is JALF report was  
 pre-NRC, 05/10 did 3/23/82

note: plant in pre-op phase  
 - more ratings in const.  
 reactors section

same notes

Plant is in  
 Preop

2  
 3

House  
 Keep

St Lucie 1

Region II

	Plant Operations	Radiological Controls	Maintenance	Surveillance	Fire Protection	Emergency Response	Security and Safeguards	Refueling	Licensing Activities	QA	Reop Cont		
Oct 1980	2	2	2	2	2	2	2	2	2 1/4	X	notice is JALF in p. 17 of 65 PRC - NRC activities did 3h:15		
Oct 1982	1	1	2	1	2	2	2	1	2	X			
St Lucie 1/2													
Sept 1983	1	1	1	1	2	1	2	1	2	X			

St Lucie 1/2

Sept 1983

Summer

Region II

	Plant Operations	Radio logical Controls	Maintenance	Surveillance	Fire Protection	Emergency Preparedness	Security and Safeguards	Refueling	Licensing Activities	Audits, Reviews, Committee Act.	Corrective Action Reporting	Training
Oct 1980	2	2	2	2	2	2	2	2	N/A	note: it is JALF reportings pre-NRC, all 2/3/82 ←		
July 1982	2	N/A	2	2	N/A	1	2	2	N/A	note: Plant in pre-op status - more findings in const. reactors section		←
May 1983	2	1	1	2	3	1	2	N/A	2			

SURRY (1/2)

Region II

	Plant Operations	Radiological Controls	Maintenance	Surveillance	Fire Protection	Emergency Repairs/ins	Security and Safeguards	Refueling	Licensing Activities												
Sept 1980	3	2	2	2	2	2	2	2	N/A	X	QA	note it is still in progress	PRE-NRC discussion	3/23/82							
Sept 1981	3	2	2	2	2	N/A	2	2	N/A	X		same note									
Jan 1983	1	2	2	1	2	2	1	2	2	X											
Oct. 1983 <sup>©</sup>	2	3	2	1	2	1	1	1	1	X											

© Rpt. included with N. Area SOSP - per order

Susquehanna 1/2

Region - I

	Plant Operations	Radiological Controls	Maintenance	Surveillance	Fire Protection	Emergency Preparedness	Security and Safeguards	Refueling	Licensing Activities										
Feb 1981	2	2	3	3	2	2	2	3	N/A	X									
June 1982	2	QA 20	2	Preop Test 2	-	2	1	-	2	X									
April 1983 Unit 1	2	2	2	1	1	1	1	M/R	1	X									
										X									
										X									
										X									
										X									
										X									
										X									
										X									

not critical JALP report was  
 PRC - NRC 0516 dtd 3/23/82  
 note - unit 4 in pre-op phase  
 - more ratings in const.  
 reactors phase  
 Unit 2 was  
 in Reop/Const

TMI - 1

Region I

	Plant Operations	Radiological Controls	Maintenance	Surveillance	Fire Protection	Emergency Preparedness	Security and Safeguards	Refueling	Licensing Activities	QA/QC	Design Engineer & Modification							
May 1981	2	2	2	2	2	N/A	2	N/A	N/A	X	1	2						
Nov 1982	1	2	2	1	1	1	1	N/A	1	X	1	2						

note it has full services  
pro - N/A  
2/14/82



Trojan

Region IV

	Plant Operations	Radiological Controls	Maintenance	Surveillance	Fire Protection	Emergency Preparedness	Security and Safeguards	Refueling	Licensing Activities	Design Changes + Mods	Review & Audit + App R						
Sep 1980	2	2	2	2	2	2	2	2	N/A	none	no circuit is still reported						
Oct 1981	1	2	2	2	1	1	2	1	N/A	PNC	same note						
Oct 1982	2	1	1	2	2	1	1	1	1	1	2						
Oct 1983	2	2	2	1	2	1	1	1	1	-	3	3					



Waterford 3

Region - IV

	Plant Operations	Radio logical Controls	Maintenance	Surveillance	Fire Protection	Emergency Response	Security and Safeguards	Refueling	Licensing Activities	QA-OPERATIONS	TRAINING	MANAGEMENT CONTROL			
Sept 1981	3	N/A	N/A	2	N/A	N/A	2	N/A	2	X	note: this plant is in pre-OP phase				
Oct 1982 (continued)	2	N/A	N/A	3	2	N/A	1	N/A	N/A	X	note: plant in pre-OP phase - see const. reactors section for more ratings				
Aug. 1983 (continued)	2	2 / 3 const 3 needs	3	N/A	1	3	2	1	2	X		2	2	1	2
		PreOP TESTING								X					

NOTE: PLANT IN PRE-OP PHASE - SEE CONST. REACTOR SECTION FOR MORE RATINGS

Accp Testings  
Audits, Reports, Initial fuel + Com. Activities, Load, DrPS  
Chemistry, Radiation Monitoring, the protection  
Eff. Levels, Transportation of waste, Reliability Management  
Reduction of waste, Reliability Management

Watts Bar 1

Region - II

Activity	Rating	Notes
Plant Operations	N/A	note: Unit 1 is in pre-op phase - more ratings are found in constant section
Radioactive Controls	N/A	
Maintenance	N/A	
Surveillance	2	
Fire Protection	2	
Emergency Preparedness	N/A	
Security and Safeguards	2	
Refueling	3	
Licensing Activities	N/A	

Oct 1981

WNP 2

Region IV

	Plant Operations	Radio logical Controls	Maintenance	Surveillance	Fire Protection	Emergency Preparedness	Security and Safeguards	Refueling	Licensing Activities									
Aug 1981	2	N/A	1	1	N/A	N/A	N/A	N/A	N/A	X	note: this is still in pre-op phase pre-NRC review all 3/2/82							
Sept 1982	2	2	QA 2	2	2	3	N/A	N/A	1	X	note: Unit 2 in pre-op phase - more ratings in const reactors section							
Sept 1983	2	2	N/R	N/R	N/R	2	2	N/R	2	X	note: Unit 2 in pre-op phase - more ratings to const reactors section							









ZION 1/2

Region III

	Plant Operations	Radiological Controls	Maintenance	Surveillance	Fire Protection	Emergency Preparedness	Security and Safeguards	Refueling	Licensing Activities	Plant Mods	Environ Controls							
Oct 1980	2	3	2	2	2	3	2	2	N/A	X	notice is JALF report on PIC - NRCM 0510 d/d 3/23/82							
April 1982	2	3	2	2	N/A	2	2	1	2	X	3	2						
May 1983	2	2	2	2	2	2	2	1	2	X	M/R	2						

OFFICE OF INSPECTION AND ENFORCEMENT

84 MAR **EWS** P 4: 19

FACSIMILE TRANSMISSION

TO: Sinkville Marion, RII

FROM: Phillip McKee

DATE 4/2/84

- REGIONAL ADMINISTRATOR
- DEPUTY ADMINISTRATOR
- ASS'T TO ADMINISTRATOR
- DIRECTOR, PRP
- DIRECTOR, EOP
- DIRECTOR, EPMSP
- DIRECTOR, RMA

TIME 3:53

PAGES INCLUDING COVER 8

A/10/2

Region I

Date:  
3/27/84Rd  
Date

Site

Plant  
OperationsRadiological  
Controls

Maintenance

Surveillance

Fire  
ProtectionEmergency  
ReadinessSecurity and  
Safeguards

Refueling

Licensing  
ActivitiesDesign Changes  
& Modifications

1/83	Beaver Valley	2	1	2	2	2	2	1	2	1	-
12/83	Calvert Cliffs	2	2	(3)	(3)	1	2	1	2	2	-
2/83	Fitzpatrick	2	2	2	2	2	1	1	N/R	2	-
7/83	Ginna	2	2	2	2	1	2	1	1	1	-
10/82	Hatch Clark	1	1	1	1	1	1	1	1	1	-
5/83	Indian Point 2	2	2	2	2	2	N/R	(3)	1	1	(3)
4/83	Indian Point 3	1	1	1	1	1	1	1	1	(3)	-
3/85	Maine Yankee	(3)	2	2	2	1	2	2	1	2	2
10/82	Millstone Unit 1	1	1	1	1	1	1	2	1	1	-
10/82	Millstone Unit 2	1	1	1	1	1	1	2	2	1	-
6/83	Norville Point 1	2	2	2	N/R	1	N/R	1	1	1	-
4/83	Oyster Creek	2	2	2	2	2	2	1	2	2	-
5/83	Peach Bottom	2	(3)	2	(3)	(3)	1	1	2	2	-



id date	Region II										
	site	Plant Operations	Radiological Controls	Maintenance	surveillance	Fire Protection	Emergency Preparedness	Security and Safeguards	Refueling	Licensing Activities	Quality Assurance
4/83	Brunswick	(3)	2	(3)	(3)	(3)	1	1	(3)	(3)	(3)
3/83	Brown's Ferry	(3)	(3)	(3)	2	2	2	(3)	1	2	(3)
10/83	Crystal River	2	1	2	2	2	2	2	1	2	2
12/82	Hayley	1	1	1	1	2	1	1	1	2	-
11/83	Grand Gulf	(3)	2	(3)	(3)	2	1	2	N/R	(3)	(3)
2/83	Hatch	2	2	2	2	2	2	2	N/R	2	2
7/83	McGuire	1	1	1	2	2	1	1	1	1	2
10/83	North Anna	1	1	2	2	N/R	1	1	1	1	2
7/83	Oconee	2	2	1	(3)	N/R	2	1	1	2	2
4/83	Robinson	2	2	(3)	1	N/R	=	=	1	(3)	(3)
3/83	Suqoyah	2	2	2	1	N/R	2	(3)	2	2	(3)
4/83	St Lucie	1	1	1	1	2	1	2	1	2	2
5/83	Sumner	2	1	1	2	(3)	1	2	N/R	2	-

Region II

Date:

3/22/84

Rd  
Date

Site

Plant  
Operations

Radiological  
Controls

Maintenance

Surveillance

Fire  
Protection

Emergency  
Preparedness

Security and  
Safeguards

Refueling

Licensing  
Activities

Quality  
Assurance

10/  
83

Surry

2

(3)

2

1

2

1

1

1

1

2

9/  
83

Tucker  
Point

(3)

1

2

2

N/R

2

2

2

2

1

4-3  
4-1  
7-2

2-3  
7-1  
6-2

4-3  
5-1  
6-2

3-3  
1-1  
7-2

2-3  
0-1  
8-2

0-3  
8-1  
7-2

1-3  
9-1  
2-2

3-3  
3-1  
8-2

5-3  
1-1  
7-2

Region III

Date: 3/28/84

St Date

Site

Plant Operations

Radiological Controls

Maintenance

Surveillance

Fire Protection

Emergency Preparedness Security and Safeguards

Refueling

Licensing Activities

Personnel Training

Environmental Protection

Quality

3/28/84

8/83	Big Rock Point	1	2	1	1	2	1	1	N/R	2	2	-	2
7/83	Davis-Besse	2	1	(3)	2	2	2	2	1	2	-	-	-
5/83	D.C. Cossin	2	2	(3)	2	(3)	2	2	2	2	-	-	(3)
4/83	Dresden	2	2	(3)	2	2	2	1	1	1	-	1	-
6/83	Duane Arnold	2	2	1	2	2	2	2	2	2	-	-	2
5/83	Kewaunee	2	2	2	2	1	2	2	1	2	2	-	-
9/83	LaCrosse	2	2	2	2	1	2	2	N/R	2	-	-	-
5/83	Palisades	2	2	1	(3)	2	2	(3)	1	2	-	-	(3)
2/83	Port Hope	2	2	2	1	2	1	1	1	2	-	-	-
2/83	Palisades	1	2	2	1	2	1	2	N/R	2	2	-	1
5/83	Point Beach	1	2	1	1	3	3	2	2	2	-	-	-
8/83	Pelee Island	2	1	1	1	1	1	1	1	1	-	-	-
4/83	Quad Cities	2	2	2	1	1	2	1	1	1	-	2	-
5/83	Zion	2	2	2	2	2	2	2	1	2	-	2	-

Region IV

Date: 3/28/84

Rd Date

Site

Plant

Operations

Radiological Controls

Maintenance

Surveillance

Fire Protection

Emergency Preparedness

Security and Safeguards

Refueling

Licensing Activities

Training

Mgt Control

Quality Assurance

3/83	Ackema	2	2	3	2	3	2	1	2	2	2	2	2
3/83	...	2	2 (Licaps ratings)	1	1	1	2	2	1	1	3	2	2
11/83	Fort Calhoun	1	2	2	1	2	2	2	1	2	3	2	3
1/83	Fort St. Vrain	3	2	1	2	1	2	2	N/R	1	-	-	-



Region V

Date:

3/28/84

Rd  
Date

Site

Plant  
Operations

Radiological  
Controls

Maintenance

Surveillance

Fire  
Protection

Emergency  
Readiness

Security and  
Safeguards

Refueling

Licensing  
Activities

Plant  
Modifications

Quality  
Assurance

1/84	R. 10 2.0	(3)	2	2	(3)	2	2	1	1	(3)	-	-
7/85	San Dustin	(3)	(3)	2	2	2	1	2	1	2	1	
10/82	Trojan	2	1	1	2	2	1	1	1	1	1	2
9/83	WNP-2	2	2	N/R	N/R	N/R	2	2	2	N/R	2	

UNITED STATES  
NUCLEAR REGULATORY  
COMMISSION

SYSTEMATIC ASSESSMENT

OF

LICENSEE PERFORMANCE

(SALP)

8307220276

A/10/3

SOUTH CAROLINA  
ELECTRIC & GAS  
COMPANY

APRIL 1982 - FEBRUARY 1983

SUMMER NUCLEAR STATION

MAY 27, 1983

COLUMBIA, SOUTH CAROLINA

# INTRODUCTION

# SALP PROGRAM OBJECTIVES

1. IMPROVE LICENSEE PERFORMANCE
2. PROVIDE A BASIS FOR ALLOCATION OF NRC RESOURCES
3. IMPROVE NRC REGULATORY PROGRAM

# PERFORMANCE ANALYSIS AREAS FOR OPERATING REACTORS

1. PLANT OPERATIONS
2. RADIOLOGICAL CONTROLS
3. MAINTENANCE
4. SURVEILLANCE
5. FIRE PROTECTION
6. EMERGENCY PREPAREDNESS
7. SECURITY AND SAFEGUARDS
8. REFUELING
9. QUALITY ASSURANCE PROGRAM
10. LICENSING ACTIVITIES

# AREA PERFORMANCE

## *CATEGORY 1*

REDUCED NRC ATTENTION MAY BE APPROPRIATE. LICENSEE MANAGEMENT ATTENTION AND INVOLVEMENT ARE AGGRESSIVE AND ORIENTED TOWARD NUCLEAR SAFETY; LICENSEE RESOURCES ARE AMPLE AND EFFECTIVELY USED SUCH THAT A HIGH LEVEL OF PERFORMANCE WITH RESPECT TO OPERATIONAL SAFETY OR CONSTRUCTION IS BEING ACHIEVED.

# AREA PERFORMANCE

## *CATEGORY 2*

NRC ATTENTION SHOULD BE MAINTAINED AT NORMAL LEVELS. LICENSEE MANAGEMENT ATTENTION AND INVOLVEMENT ARE EVIDENT AND ARE CONCERNED WITH NUCLEAR SAFETY; LICENSEE RESOURCES ARE ADEQUATE AND ARE REASONABLY EFFECTIVE SUCH THAT SATISFACTORY PERFORMANCE WITH RESPECT TO OPERATIONAL SAFETY OR CONSTRUCTION IS BEING ACHIEVED.



# AREA PERFORMANCE

## CATEGORY 3

BOTH NRC AND LICENSEE ATTENTION SHOULD BE INCREASED. LICENSEE MANAGEMENT ATTENTION OR INVOLVEMENT IS ACCEPTABLE AND CONSIDERS NUCLEAR SAFETY, BUT WEAKNESSES ARE EVIDENT; LICENSEE RESOURCES APPEAR TO BE STRAINED OR NOT EFFECTIVELY USED SUCH THAT MINIMALLY SATISFACTORY PERFORMANCE WITH RESPECT TO OPERATIONAL SAFETY OR CONSTRUCTION IS BEING ACHIEVED.

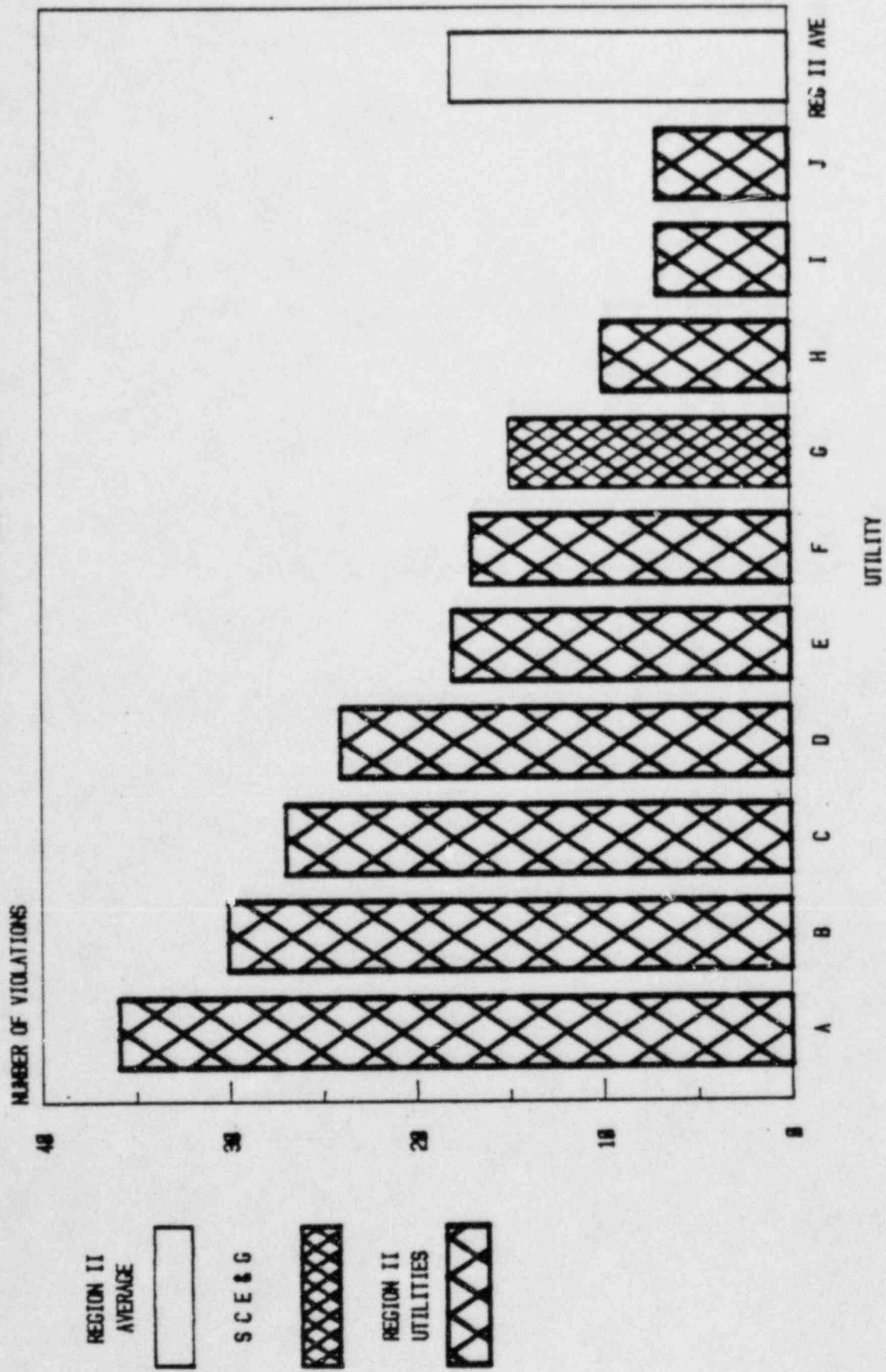
# EVALUATION CRITERIA

1. MANAGEMENT INVOLVEMENT IN ASSURING QUALITY
2. APPROACH TO RESOLUTION OF TECHNICAL ISSUES FROM THE SAFETY STANDPOINT
3. RESPONSIVENESS TO NRC INITIATIVES
4. ENFORCEMENT HISTORY
5. REPORTING AND ANALYSIS OF REPORTABLE EVENTS
6. STAFFING (INCLUDING MANAGEMENT)
7. TRAINING EFFECTIVENESS AND QUALIFICATION

# VIOLATIONS

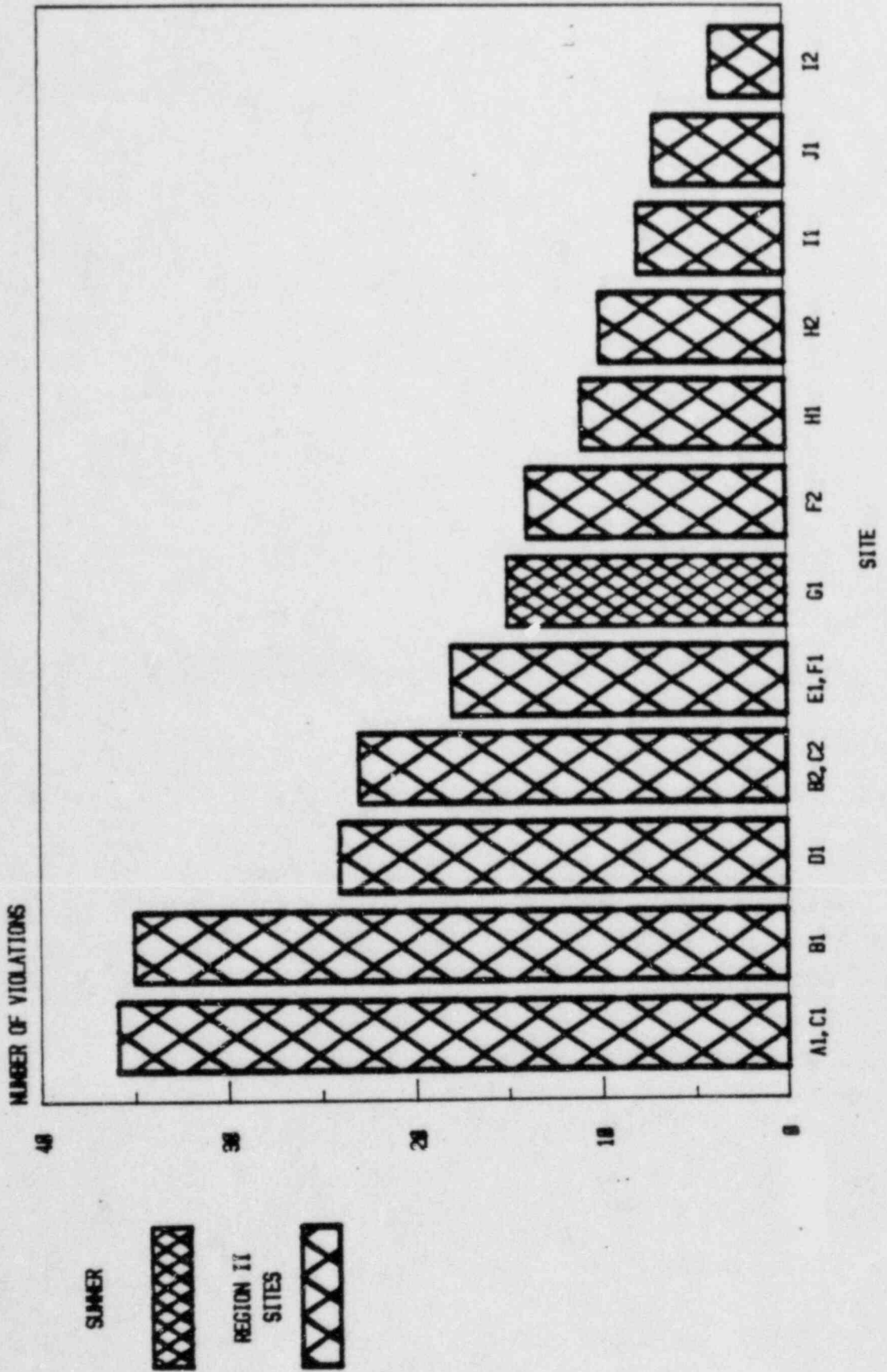
# OPERATIONS PHASE VIOLATIONS/UTILITY/UNIT

APRIL 1982 - FEBRUARY 1983



# OPERATIONS PHASE VIOLATIONS/SITE/UNIT

APRIL 1982 - FEBRUARY 1983



# VIOLATION SUMMARY OPERATING REACTORS

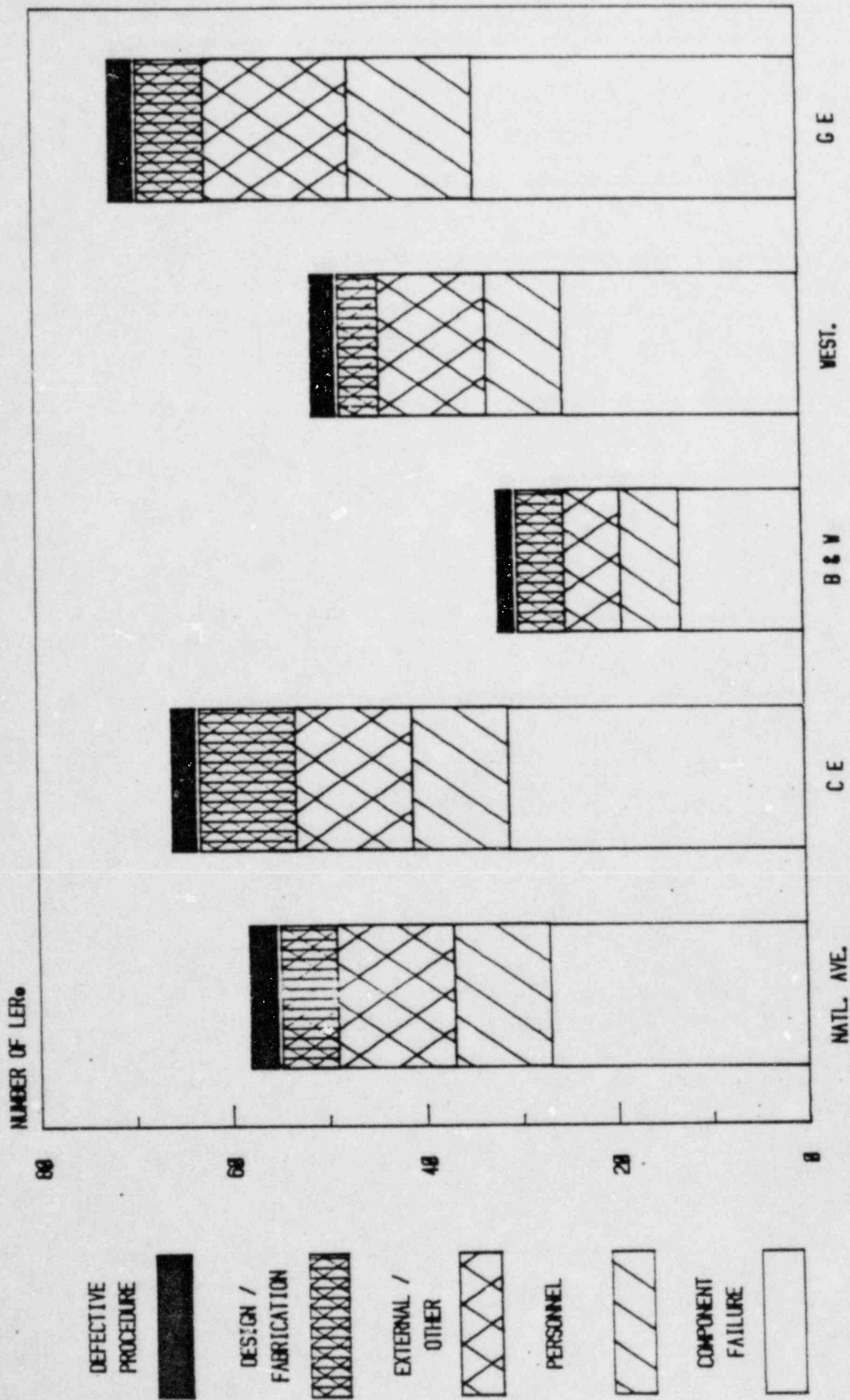
APRIL 1982 - FEBRUARY 1983

	I	II	III	IV	V
SUMMER	0	0	0	8	7
REGION II AVERAGE	0	0	1	10	7

# REPORTABLE EVENTS

# LERs PER PLANT TYPE

APRIL 1982 - FEBRUARY 1983

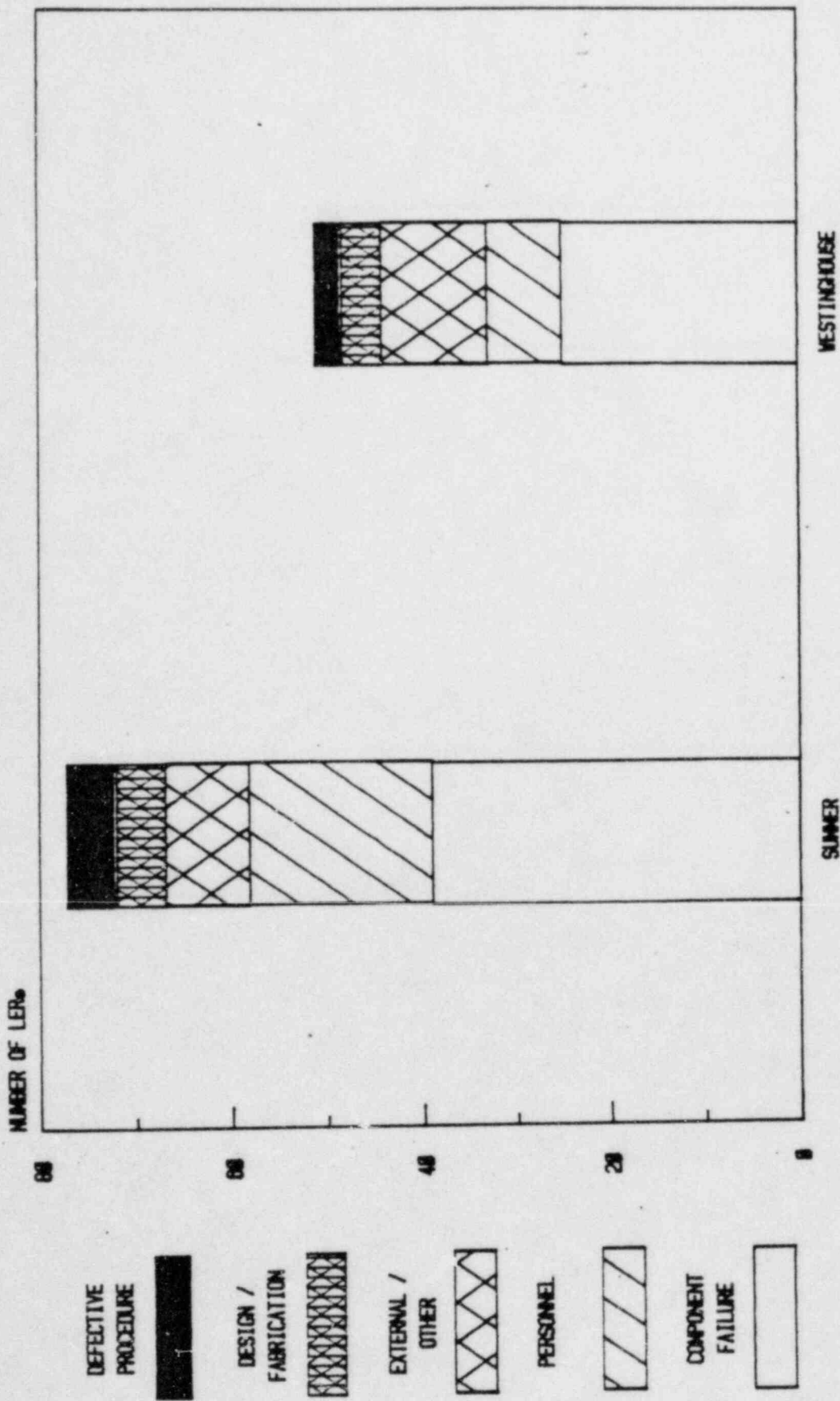


9 5 2



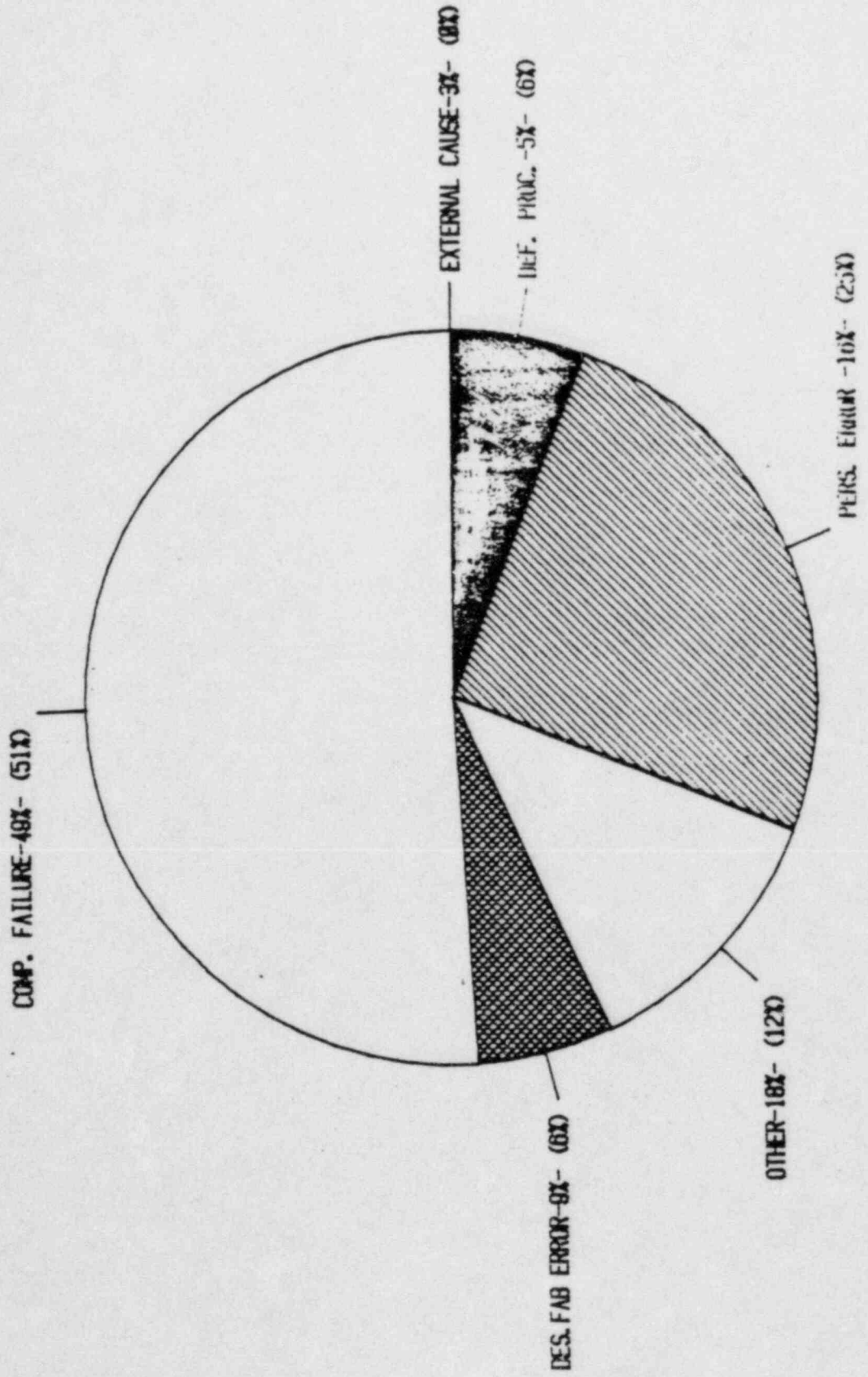
# SUMMER LERs

APRIL 1982 - FEBRUARY 1983



# WESTINGHOUSE and (SUMMER) LERS

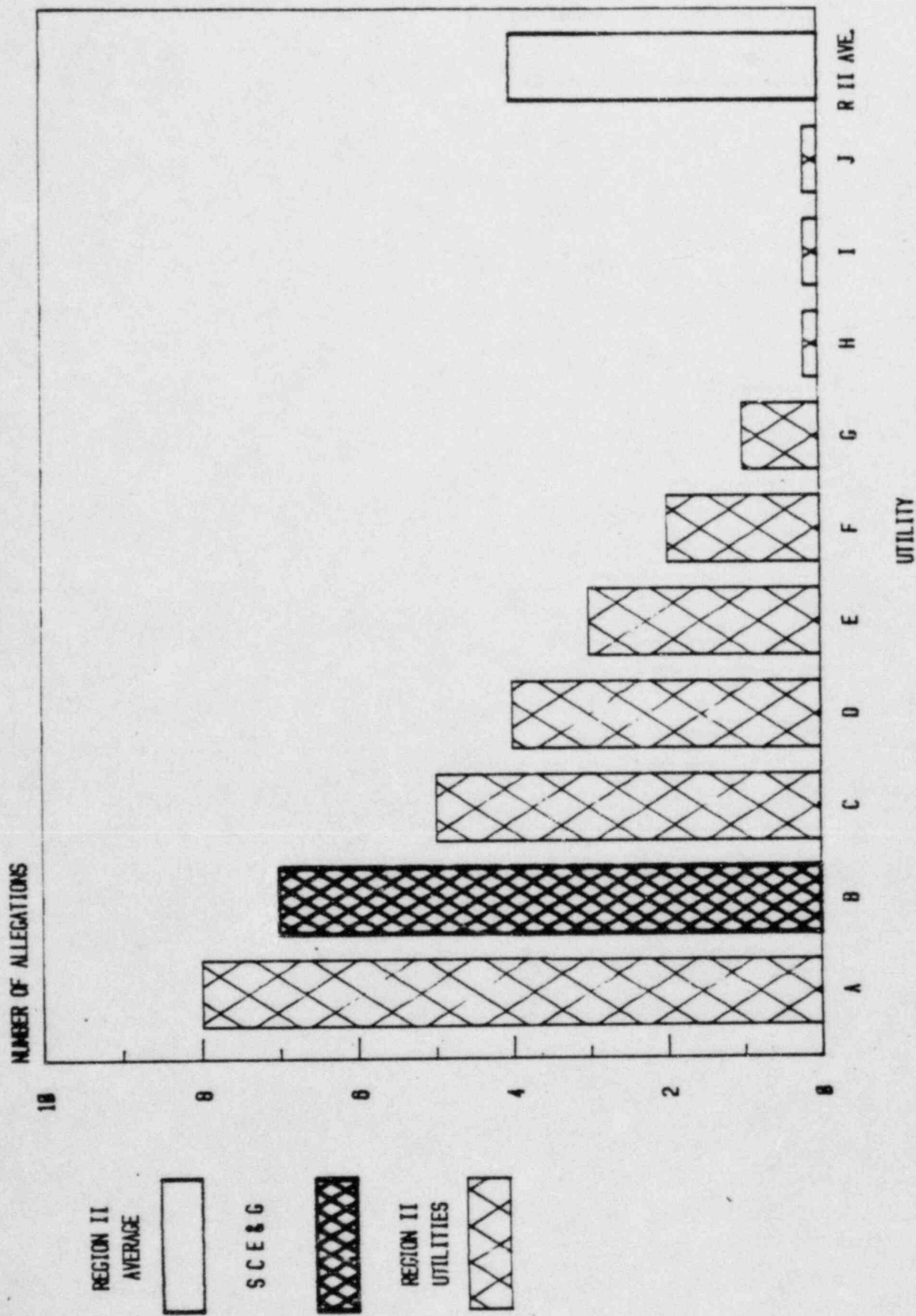
APRIL 1982 - FEBRUARY 1983



# INFORMATIONAL DATA

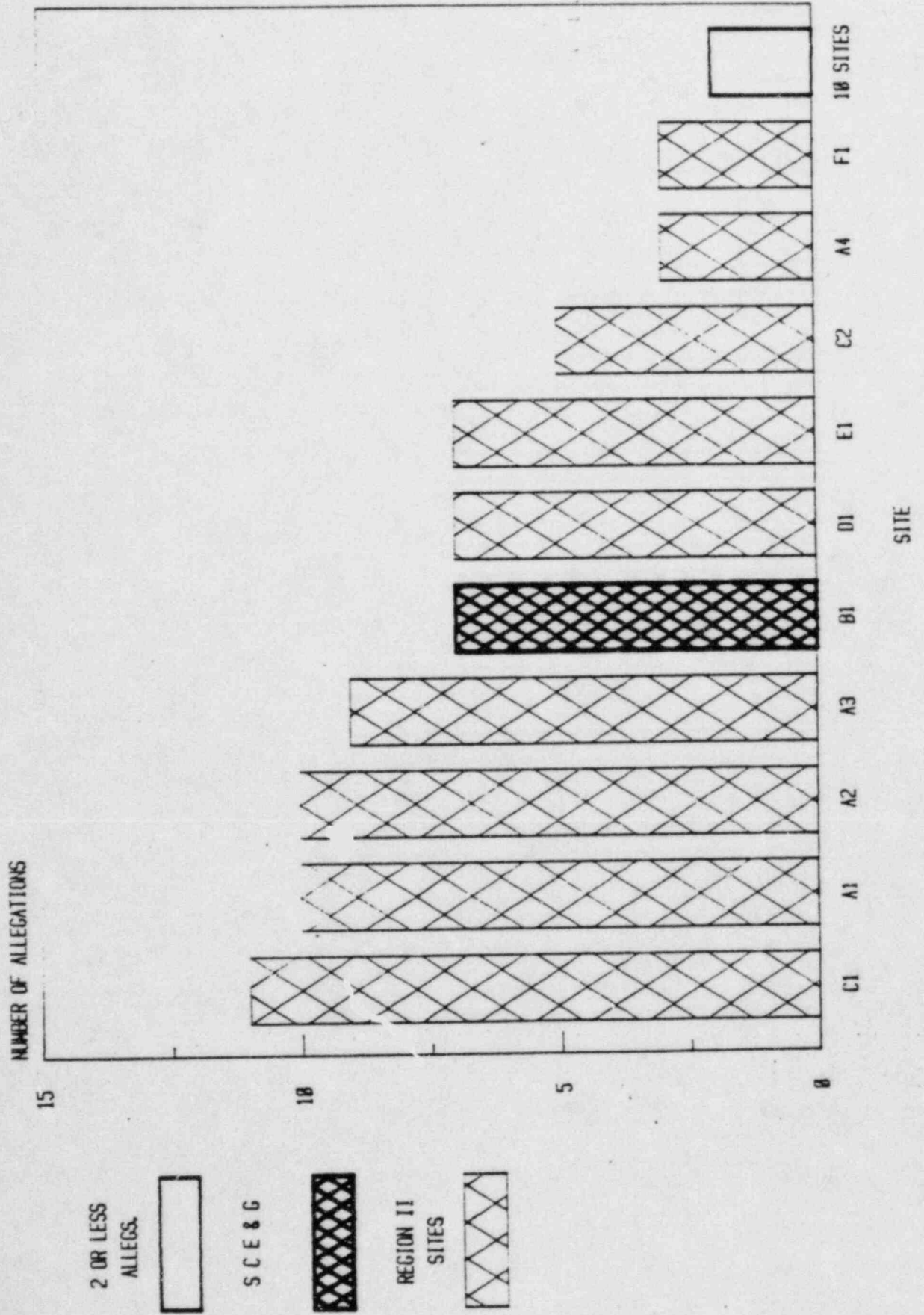
# ALLEGATIONS PER UTILITY

APRIL 1982 - FEBRUARY 1983



# ALLEGATIONS PER SITE

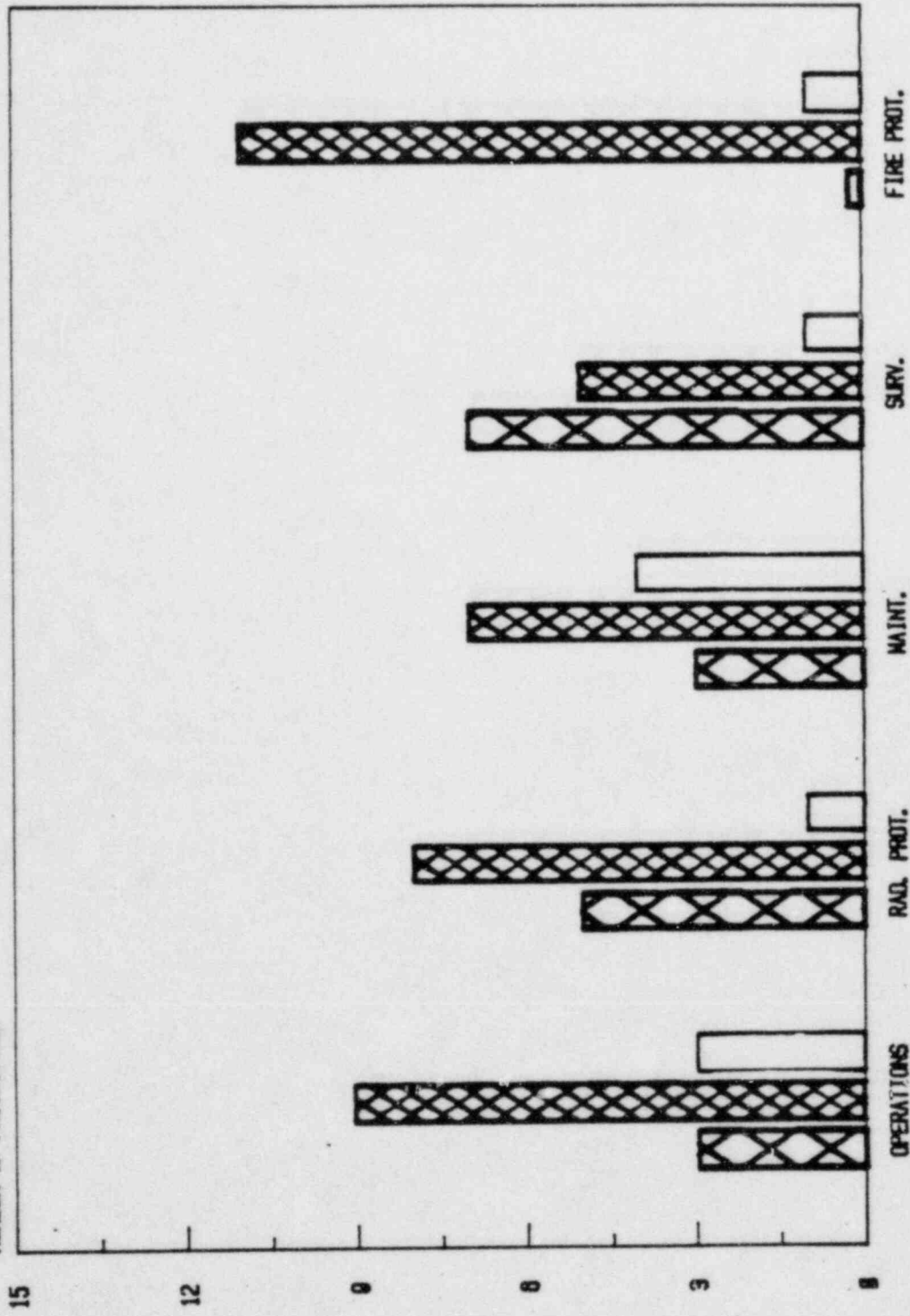
APRIL 1982 - FEBRUARY 1983



# FUNCTIONAL AREA COMPARISON

OPERATIONS

NUMBER OF FACILITIES



FUNCTIONAL AREAS

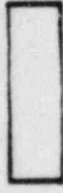
CATEGORY 1



CATEGORY 2



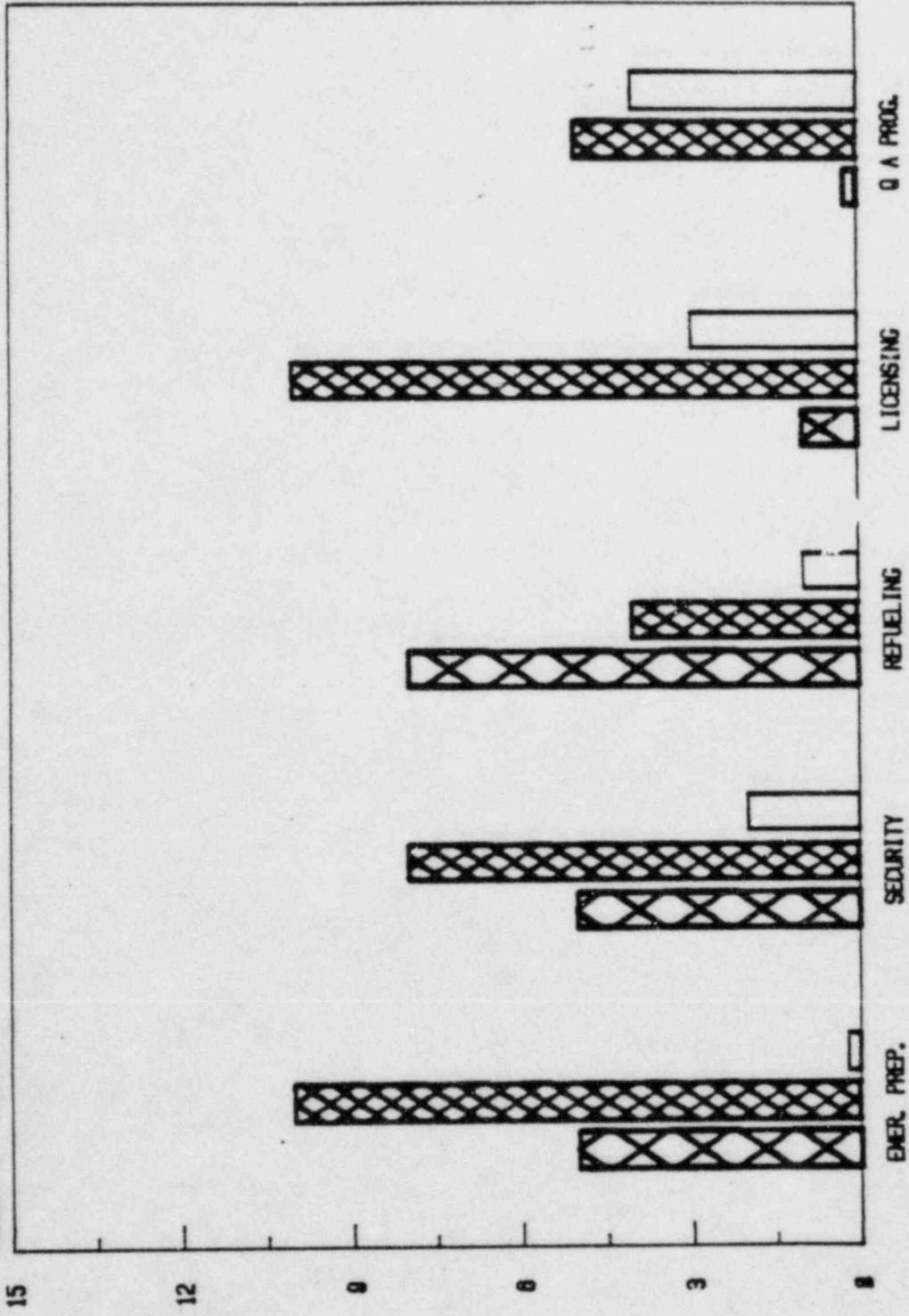
CATEGORY 3



# FUNCTIONAL AREA COMPARISON

OPERATIONS

NUMBER OF FACILITIES



FUNCTIONAL AREAS

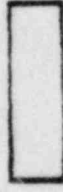
CATEGORY 1



CATEGORY 2



CATEGORY 3



# FINDINGS



# SUMMER

## AREAS NOT RATED

1. REFUELING

2. QUALITY ASSURANCE PROGRAM

# SUMMER

## CATEGORY 1 AREAS

1. RADIOLOGICAL CONTROLS
2. MAINTENANCE
3. EMERGENCY PREPAREDNESS

# SUMMER

## CATEGORY 2 AREAS

1. PLANT OPERATIONS
2. SURVEILLANCE
3. SECURITY AND SAFEGUARDS
4. LICENSING ACTIVITIES

SUMMER

CATEGORY 3 AREAS

1. FIRE PROTECTION

RDS

## SUMMER - OVERALL EVALUATION

1. SEVERAL MAJOR STRENGTHS AND A MAJOR WEAKNESS WERE IDENTIFIED.
2. PERFORMANCE SINCE THE PREVIOUS SALP IMPROVED IN THE AREA OF MAINTENANCE AND DECLINED IN THE AREA OF FIRE PROTECTION.
3. THE FACILITY WAS WELL MANAGED; THE LICENSEE DISPLAYED AN AGGRESSIVE, SAFETY-CONSCIOUS ATTITUDE TOWARD CORRECTING PROBLEMS DURING THE STARTUP PHASE.
4. THE PLANT STAFF WAS TECHNICALLY COMPETENT AND DEDICATED TO SAFE OPERATION OF THE PLANT.
5. RESOURCES WERE APPLIED AS NECESSARY TO SOLVE TECHNICAL ISSUES AND SAFETY CONCERNS.

# UTILITY EVALUATION

1. THE CORPORATE ORGANIZATION WAS WELL MANAGED AND TECHNICALLY COMPETENT.
2. THE CORPORATE ORGANIZATION EXHIBITED SATISFACTORY CONTROL OVER THE NUCLEAR POWER PLANT AND WAS INVOLVED IN THE DAY-TO-DAY OPERATIONS.
3. THE CORPORATE STAFF WAS RESPONSIVE TO NRC CONCERNS AND AGGRESSIVELY PURSUED TECHNICAL ISSUES TO A PROPER RESOLUTION; WITH THE SAFE OPERATION OF THE PLANT AS THE PRIME CONSIDERATION.
4. CORPORATE OVERVIEW OF THE FIRE PROTECTION WEAKNESS WAS EVIDENT ONCE THE PROBLEM WAS BROUGHT TO THEIR ATTENTION.

*2101060402*

UNITED STATES  
NUCLEAR REGULATORY  
COMMISSION

SYSTEMATIC ASSESSMENT

OF

LICENSEE PERFORMANCE

(SALP)

*A/10/3*

U. S. NUCLEAR REGULATORY COMMISSION  
REGION II

SYSTEMATIC ASSESSMENT OF  
LICENSEE PERFORMANCE  
BOARD ASSESSMENT

FLORIDA POWER & LIGHT COMPANY

TURKEY POINT PLANT UNITS 3 and 4  
DOCKET NUMBERS 50-250 and 50-251

ST. LUCIE PLANT UNITS 1 and 2  
DOCKET NUMBERS 50-335 and 50-389

JULY 1, 1982 THROUGH JUNE 30, 1983

INSPECTION

REPORT NUMBERS

50-250/83-33, 50-251/83-33

50-335/83-33, 50-389/83-61



# INTRODUCTION

# SALP PROGRAM OBJECTIVES

1. IMPROVE LICENSEE PERFORMANCE
2. PROVIDE A BASIS FOR ALLOCATION OF NRC RESOURCES
3. IMPROVE NRC REGULATORY PROGRAM

# PERFORMANCE ANALYSIS AREAS FOR OPERATING REACTORS

1. PLANT OPERATIONS
2. RADIOLOGICAL CONTROLS
3. MAINTENANCE
4. SURVEILLANCE
5. FIRE PROTECTION
6. EMERGENCY PREPAREDNESS
7. SECURITY AND SAFEGUARDS
8. REFUELING
9. QUALITY ASSURANCE PROGRAM
10. LICENSING ACTIVITIES

# AREA PERFORMANCE

## *CATEGORY 1*

REDUCED NRC ATTENTION MAY BE APPROPRIATE. LICENSEE MANAGEMENT ATTENTION AND INVOLVEMENT ARE AGGRESSIVE AND ORIENTED TOWARD NUCLEAR SAFETY; LICENSEE RESOURCES ARE AMPLE AND EFFECTIVELY USED SUCH THAT A HIGH LEVEL OF PERFORMANCE WITH RESPECT TO OPERATIONAL SAFETY OR CONSTRUCTION IS BEING ACHIEVED.

# AREA PERFORMANCE

## *CATEGORY 2*

NRC ATTENTION SHOULD BE MAINTAINED AT NORMAL LEVELS. LICENSEE MANAGEMENT ATTENTION AND INVOLVEMENT ARE EVIDENT AND ARE CONCERNED WITH NUCLEAR SAFETY; LICENSEE RESOURCES ARE ADEQUATE AND ARE REASONABLY EFFECTIVE SUCH THAT SATISFACTORY PERFORMANCE WITH RESPECT TO OPERATIONAL SAFETY OR CONSTRUCTION IS BEING ACHIEVED.

# AREA PERFORMANCE

## *CATEGORY 3*

BOTH NRC AND LICENSEE ATTENTION SHOULD BE INCREASED. LICENSEE MANAGEMENT ATTENTION OR INVOLVEMENT IS ACCEPTABLE AND CONSIDERS NUCLEAR SAFETY, BUT WEAKNESSES ARE EVIDENT; LICENSEE RESOURCES APPEAR TO BE STRAINED OR NOT EFFECTIVELY USED SUCH THAT MINIMALLY SATISFACTORY PERFORMANCE WITH RESPECT TO OPERATIONAL SAFETY OR CONSTRUCTION IS BEING ACHIEVED.

# EVALUATION CRITERIA

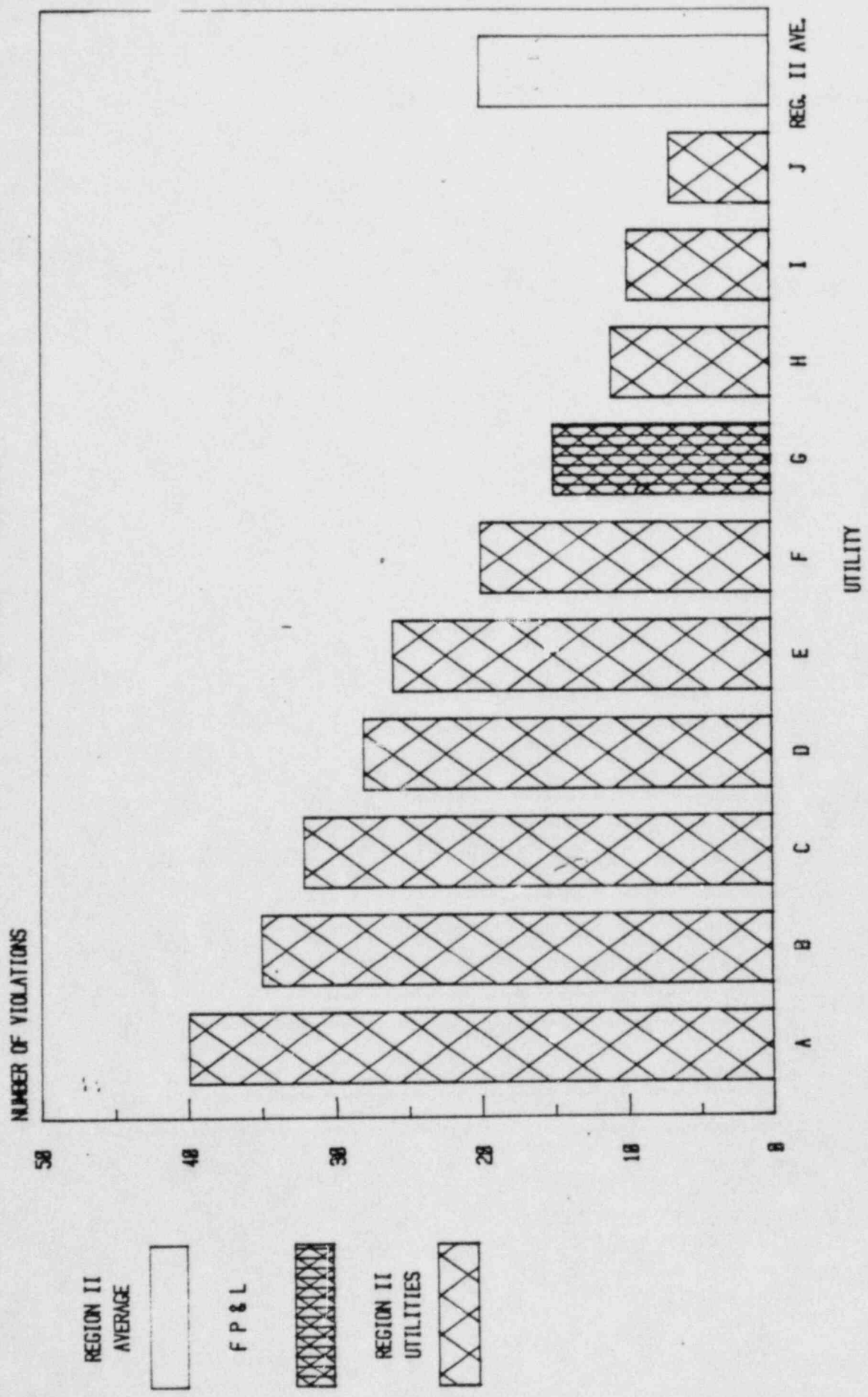
1. MANAGEMENT INVOLVEMENT IN ASSURING QUALITY
2. APPROACH TO RESOLUTION OF TECHNICAL ISSUES FROM THE SAFETY STANDPOINT "
3. RESPONSIVENESS TO NRC INITIATIVES
4. ENFORCEMENT HISTORY
5. REPORTING AND ANALYSIS OF REPORTABLE EVENTS
6. STAFFING (INCLUDING MANAGEMENT)
7. TRAINING EFFECTIVENESS AND QUALIFICATION

VIOLATIONS



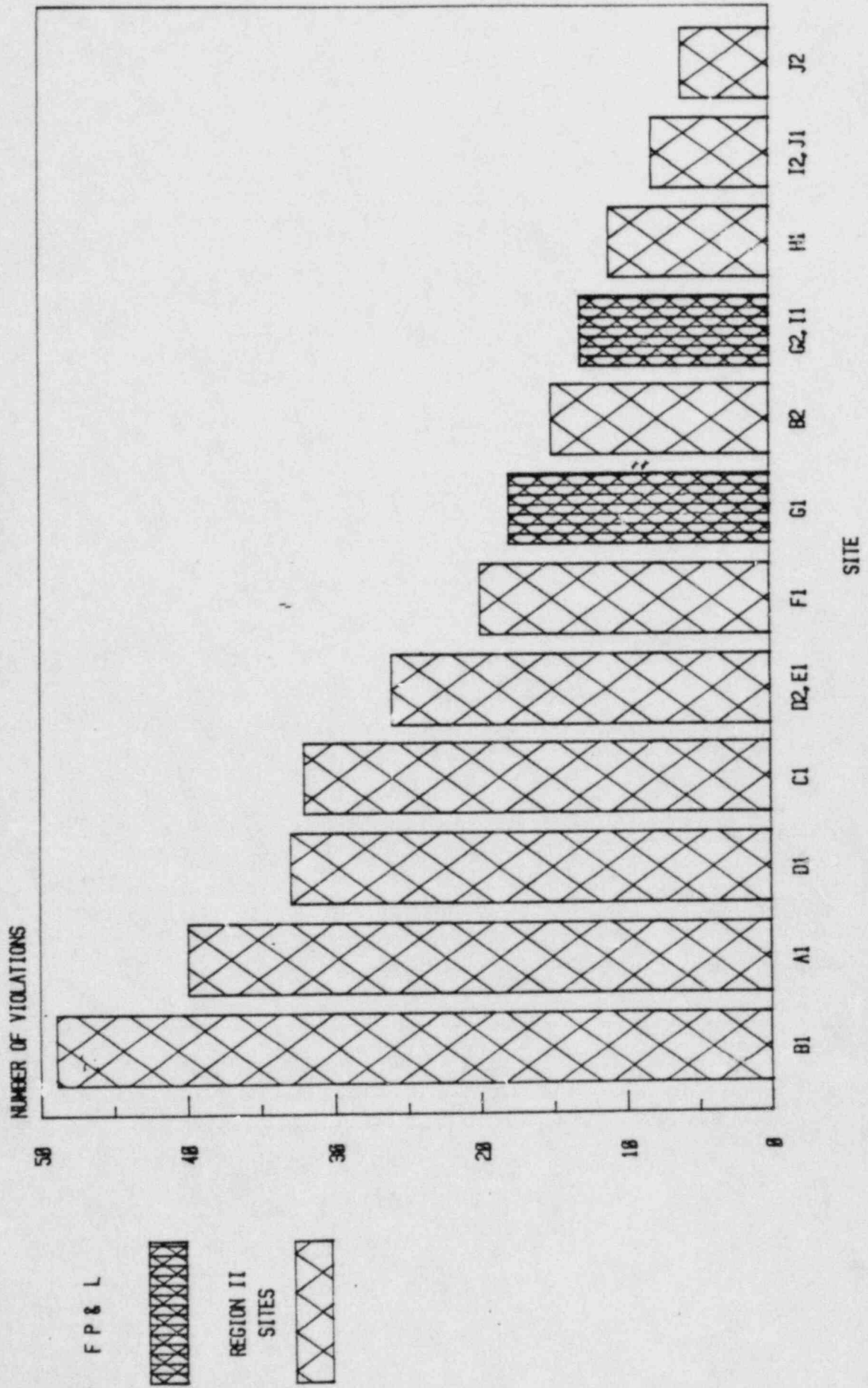
# OPERATIONS PHASE VIOLATIONS/UTILITY/UNIT

JULY 1982 - JUNE 1983



# OPERATIONS PHASE VIOLATIONS/SITE/UNIT

JULY 1992 - JUNE 1993



# VIOLATION SUMMARY OPERATING REACTORS

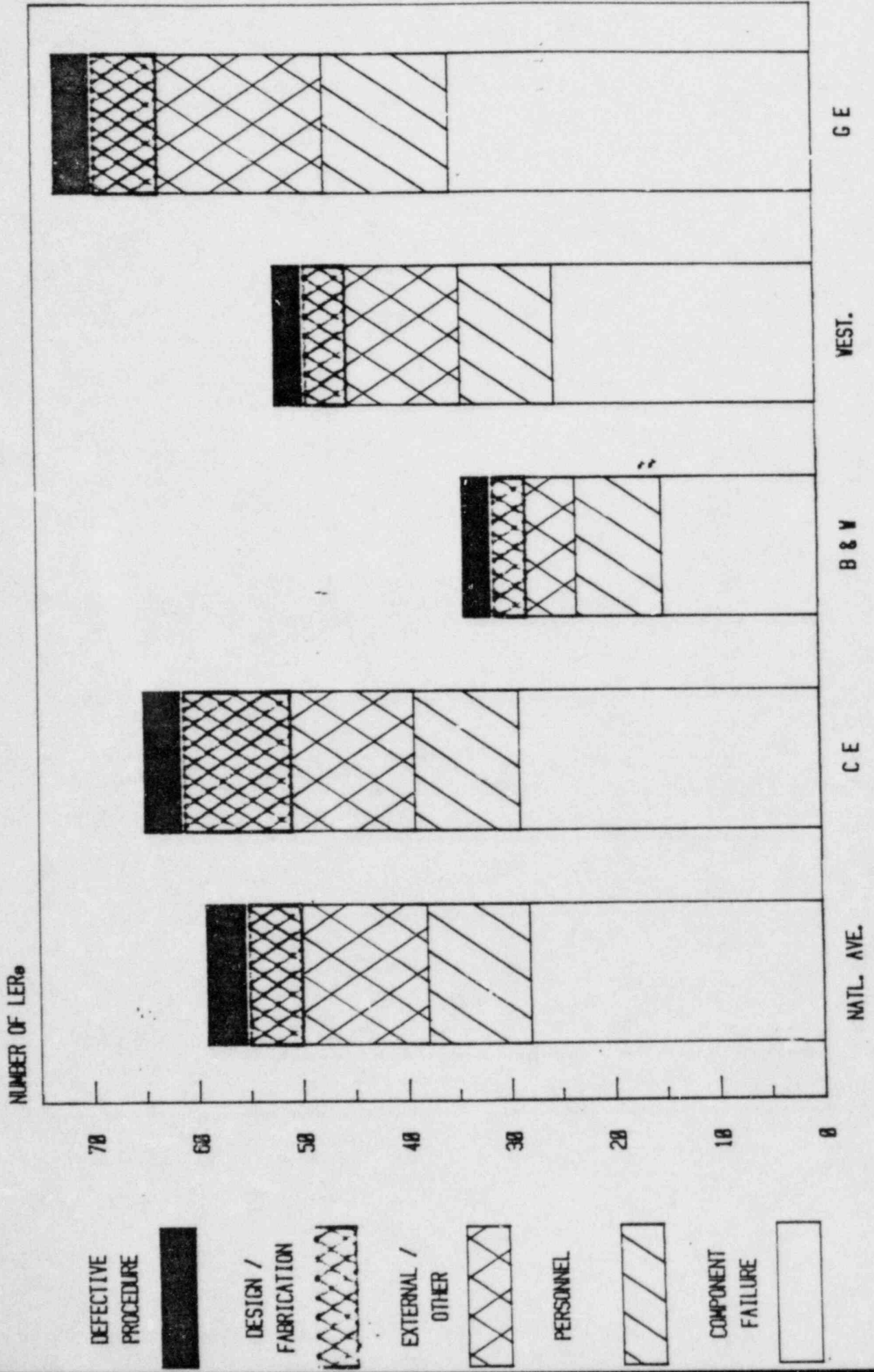
*JULY 1982 - JUNE 1983*

	I	II	III	IV	V
TURKEY POINT 3	0	1	1	6	3
TURKEY POINT 4	0	0	1	8	9
ST. LUCIE 1	0	0	0	11	7
ST. LUCIE 2	0	0	0	6	2
REGION II AVERAGE	0	0	1	11	8

REPORTABLE EVENTS

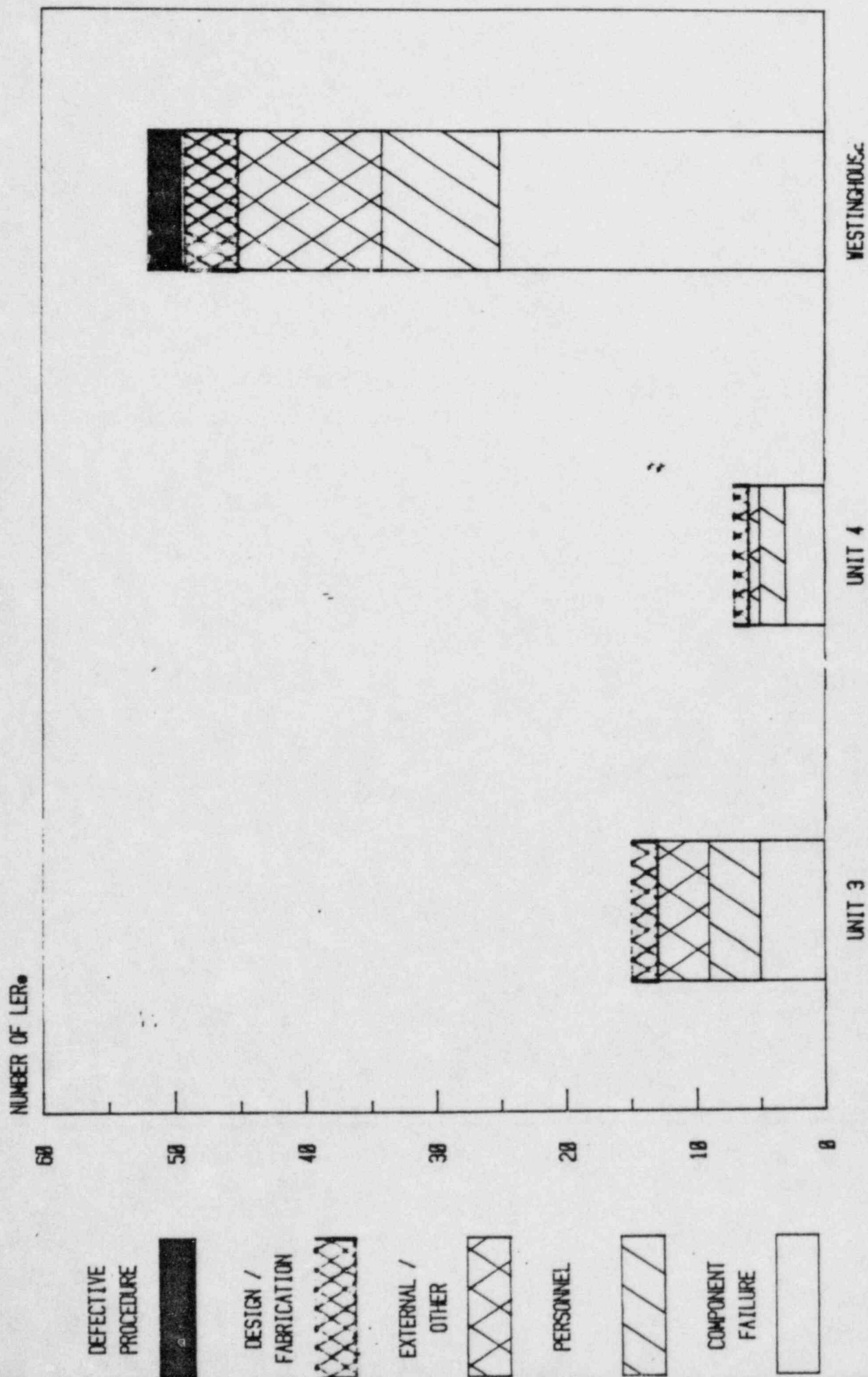
# LERs PER PLANT TYPE

JULY 1982 - JUNE 1983



# TURKEY POINT LERs

JULY 1982 - JUNE 1983



DEFECTIVE  
PROCEDURE



DESIGN /  
FABRICATION



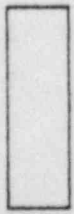
EXTERNAL /  
OTHER



PERSONNEL

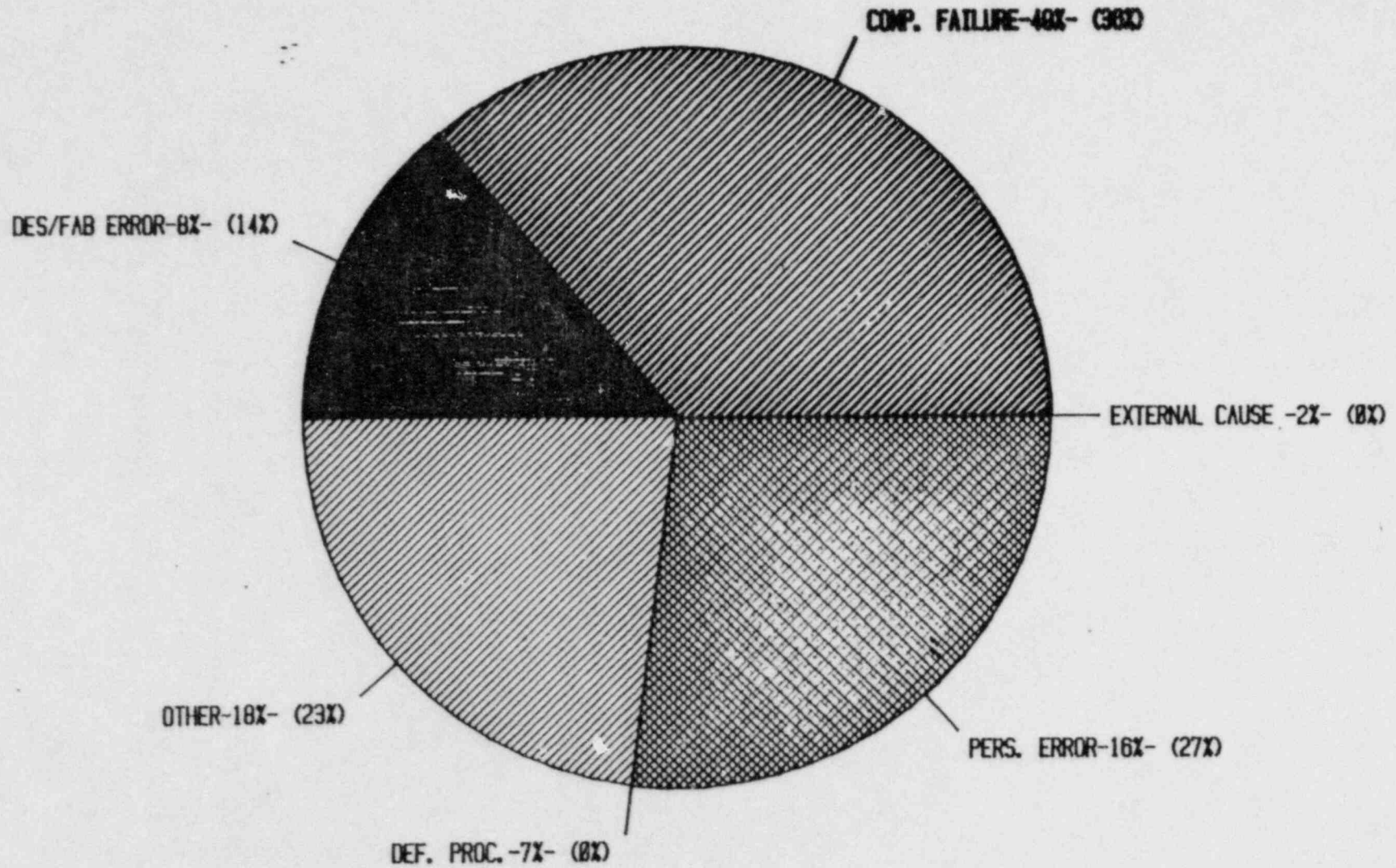


COMPONENT  
FAILURE



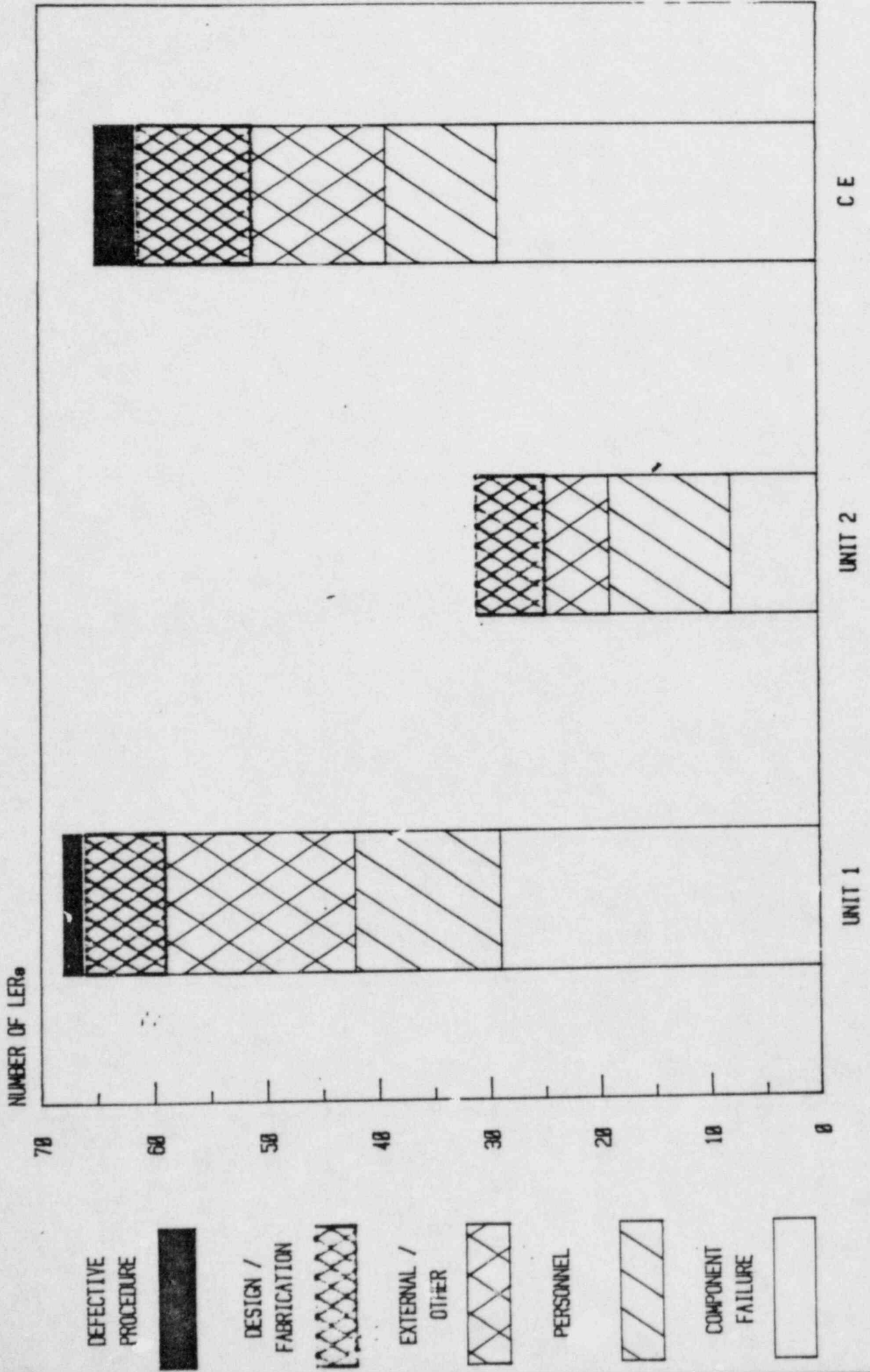
# WESTINGHOUSE and (TURKEY POINT) LERs

JULY 1982 - JUNE 1983



# ST. LUCIE LERS

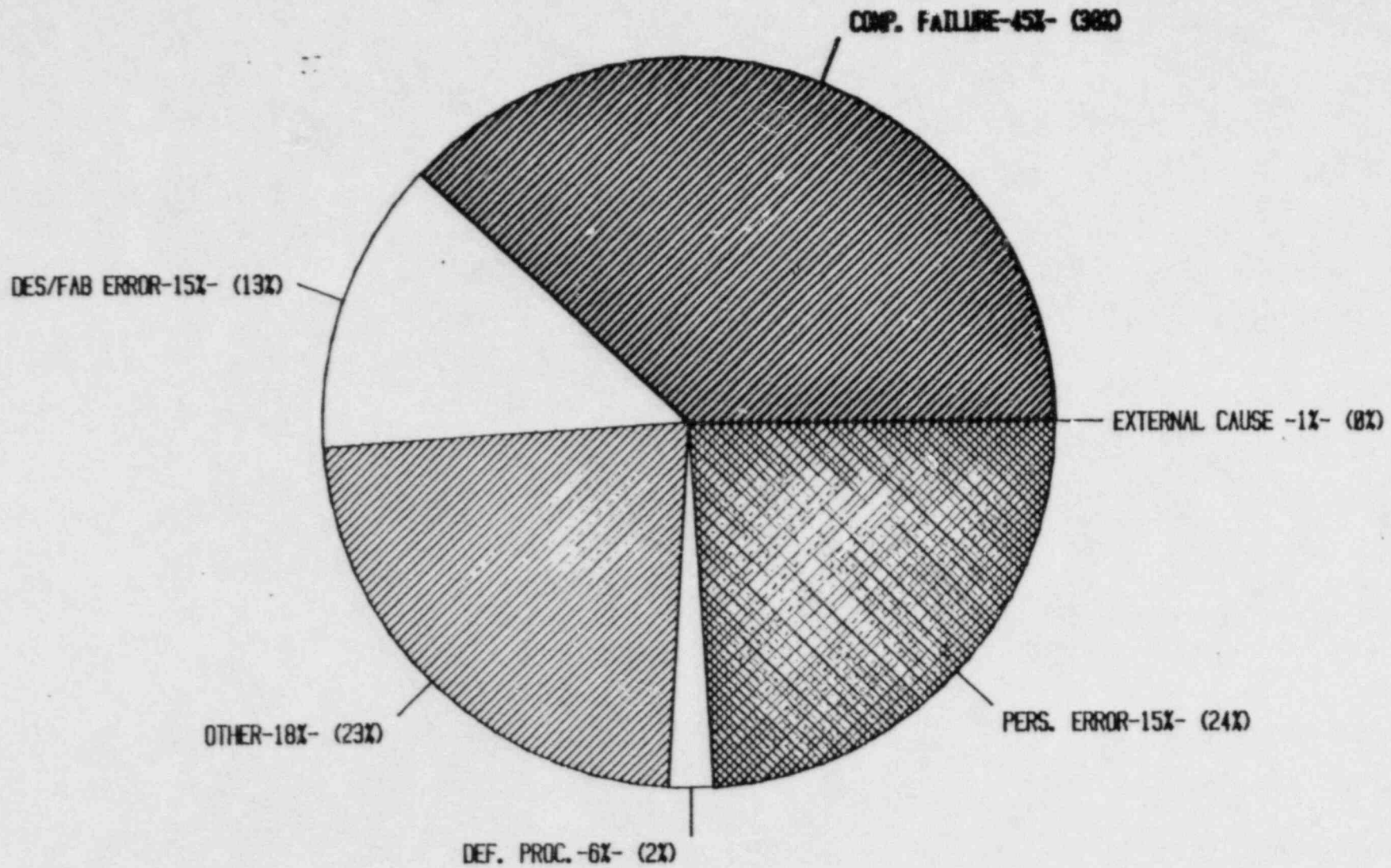
JULY 1982 - JUNE 1983





# C E and (ST. LUCIE) LERs

JULY 1982 - JUNE 1983



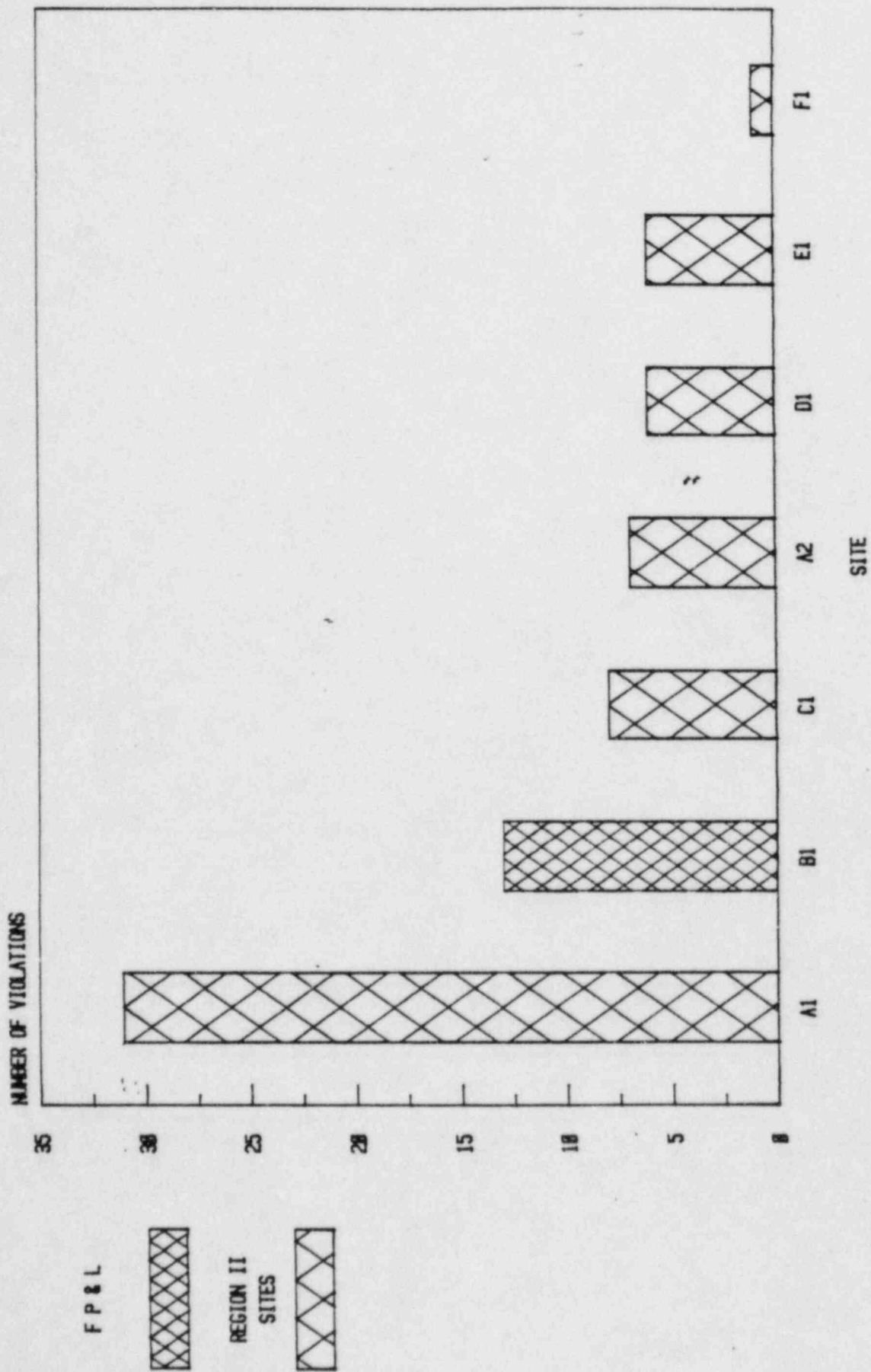
# VIOLATION SUMMARY CONSTRUCTION REACTORS

*JULY 1982 - JUNE 1983*

	I	II	III	IV	V
ST. LUCIE 2	0	0	0	12	1
REGION II AVERAGE	0	0	0	5	6

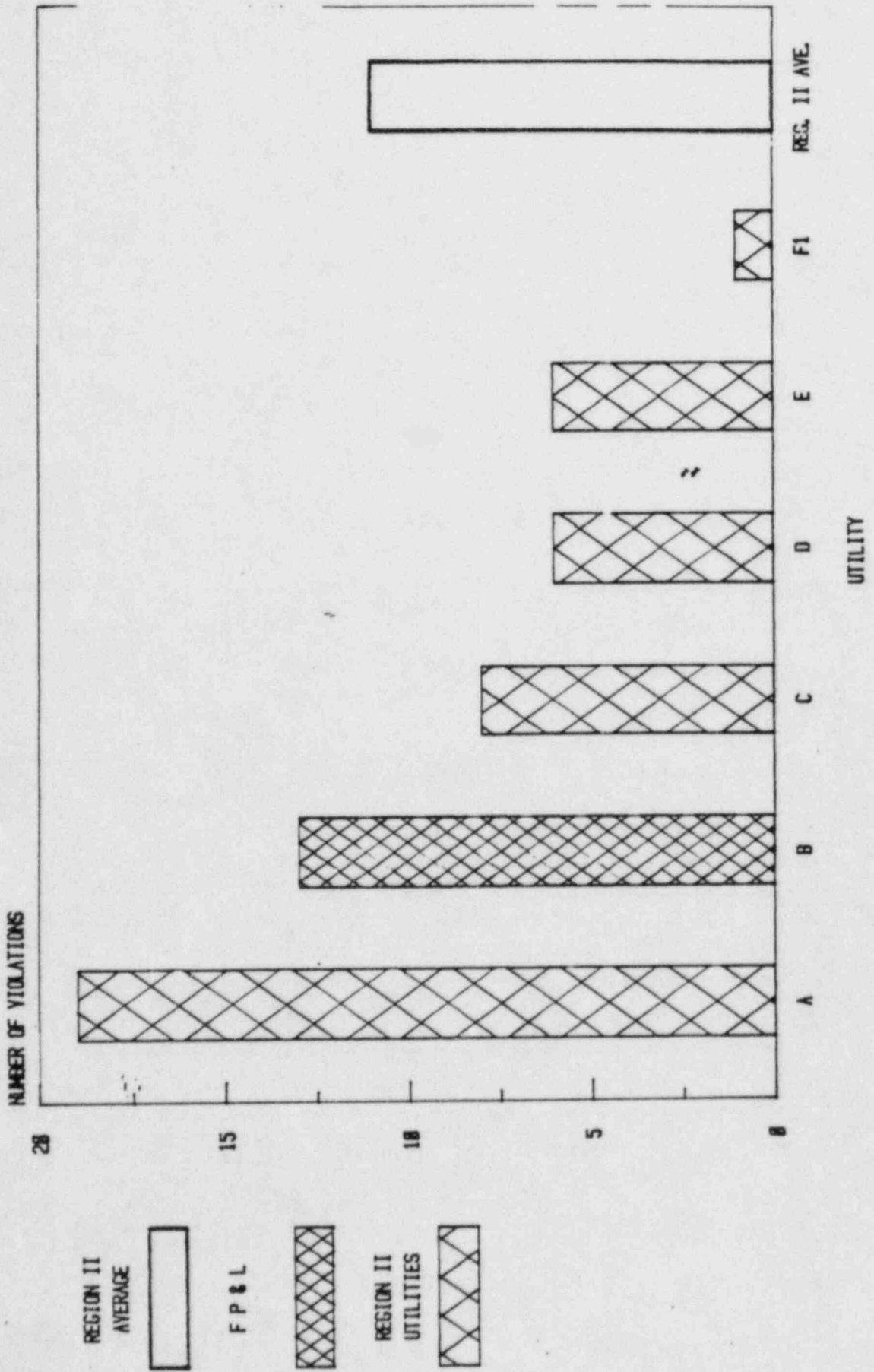
# CONSTRUCTION PHASE VIOLATIONS/SITE/UNIT

JULY 1982 - JUNE 1983



# CONST. PHASE VIOLATIONS/UTILITY/UNIT

JULY 1982 - JUNE 1983



# CONSTRUCTION DEFICIENCY REPORTS

*JULY 1982 - JUNE 1983*

ST. LUCIE 2 28

REGION II AVERAGE 42

“

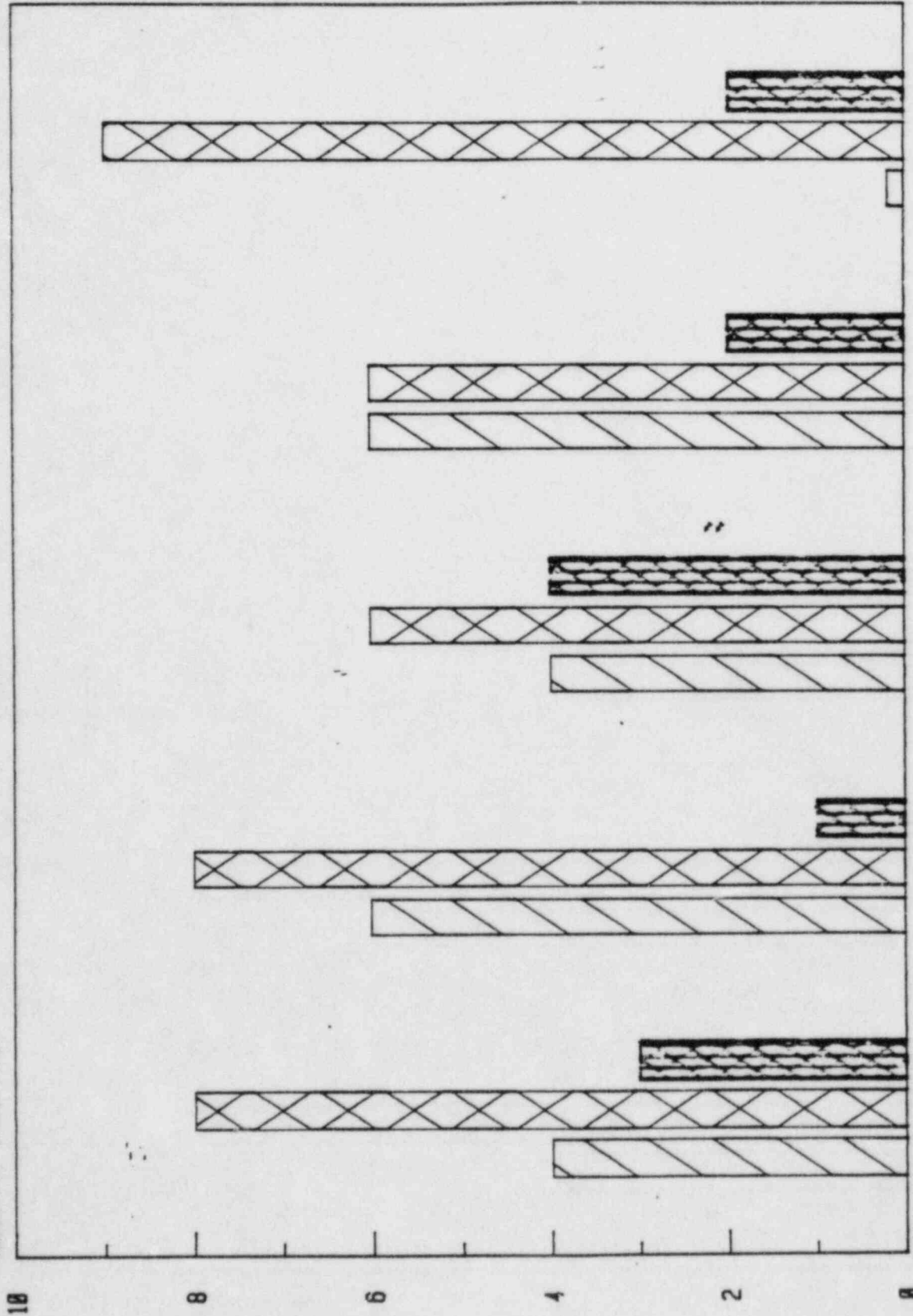
# INFORMATIONAL DATA

“

# FUNCTIONAL AREA COMPARISON

OPERATIONS

NUMBER OF FACILITIES



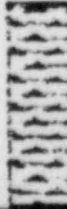
CATEGORY 1



CATEGORY 2



CATEGORY 3



OPERATIONS

RAD. PROT.

MAINT.

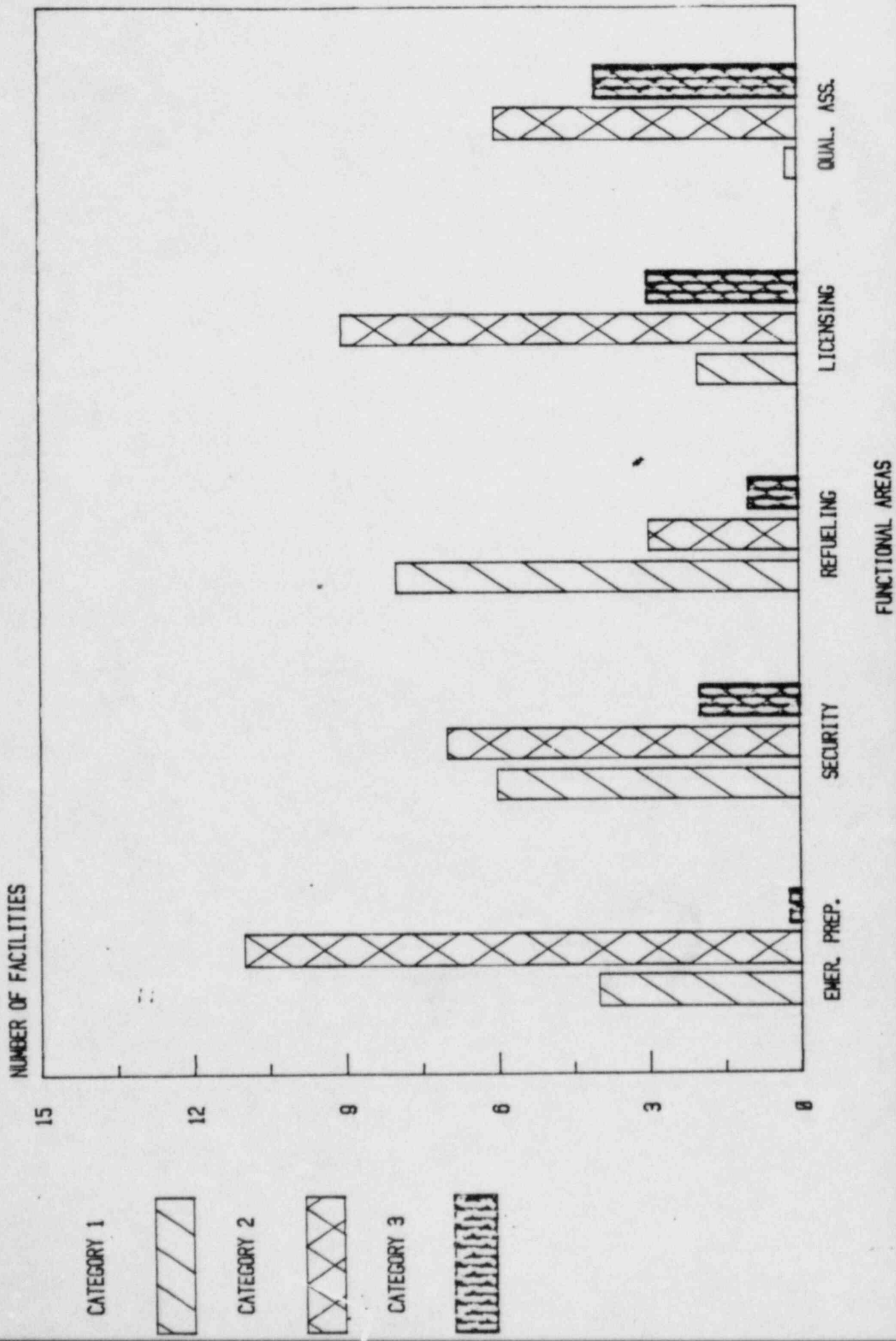
SURV.

FIRE PROT.

FUNCTIONAL AREAS

# FUNCTIONAL AREA COMPARISON

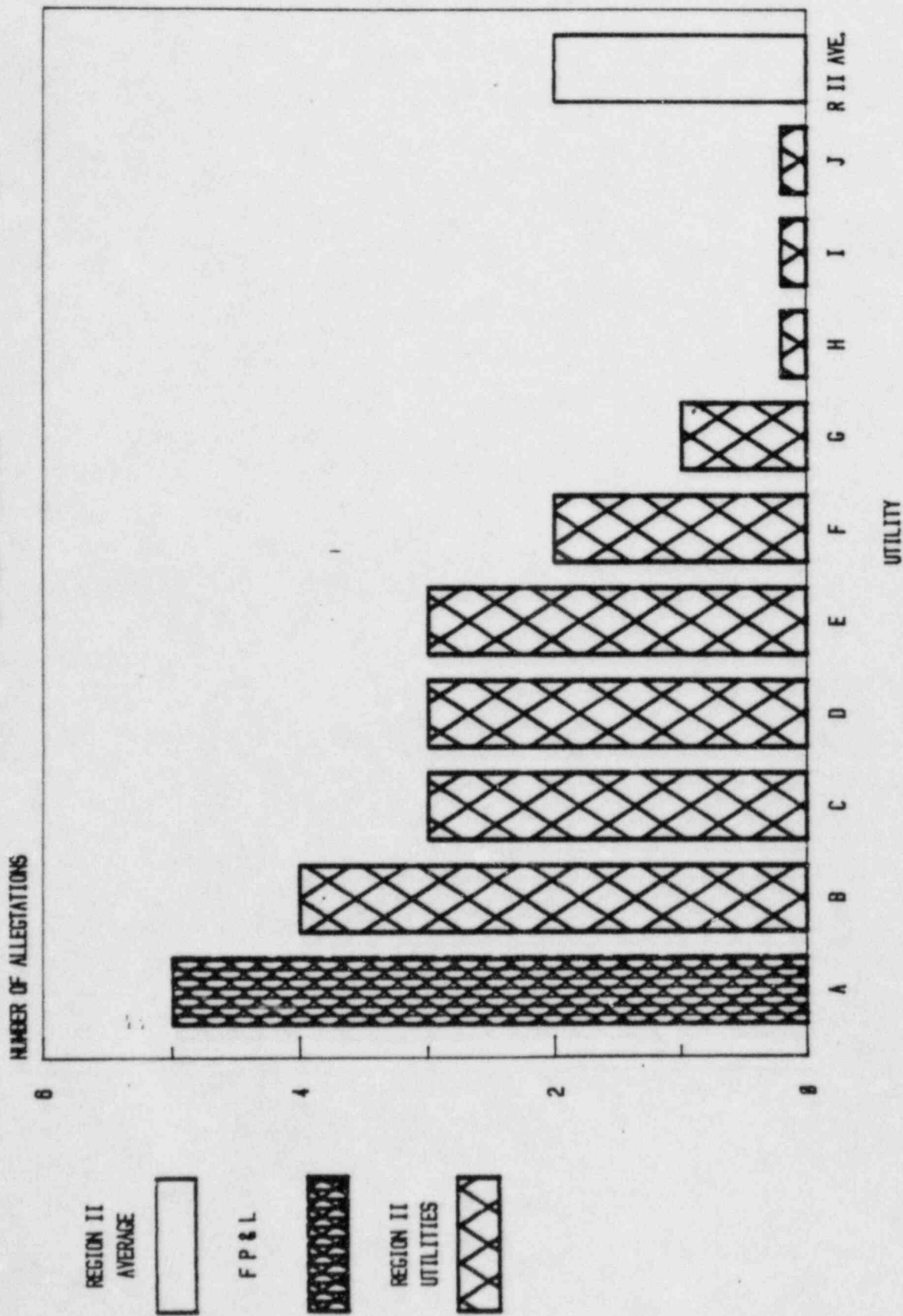
OPERATIONS





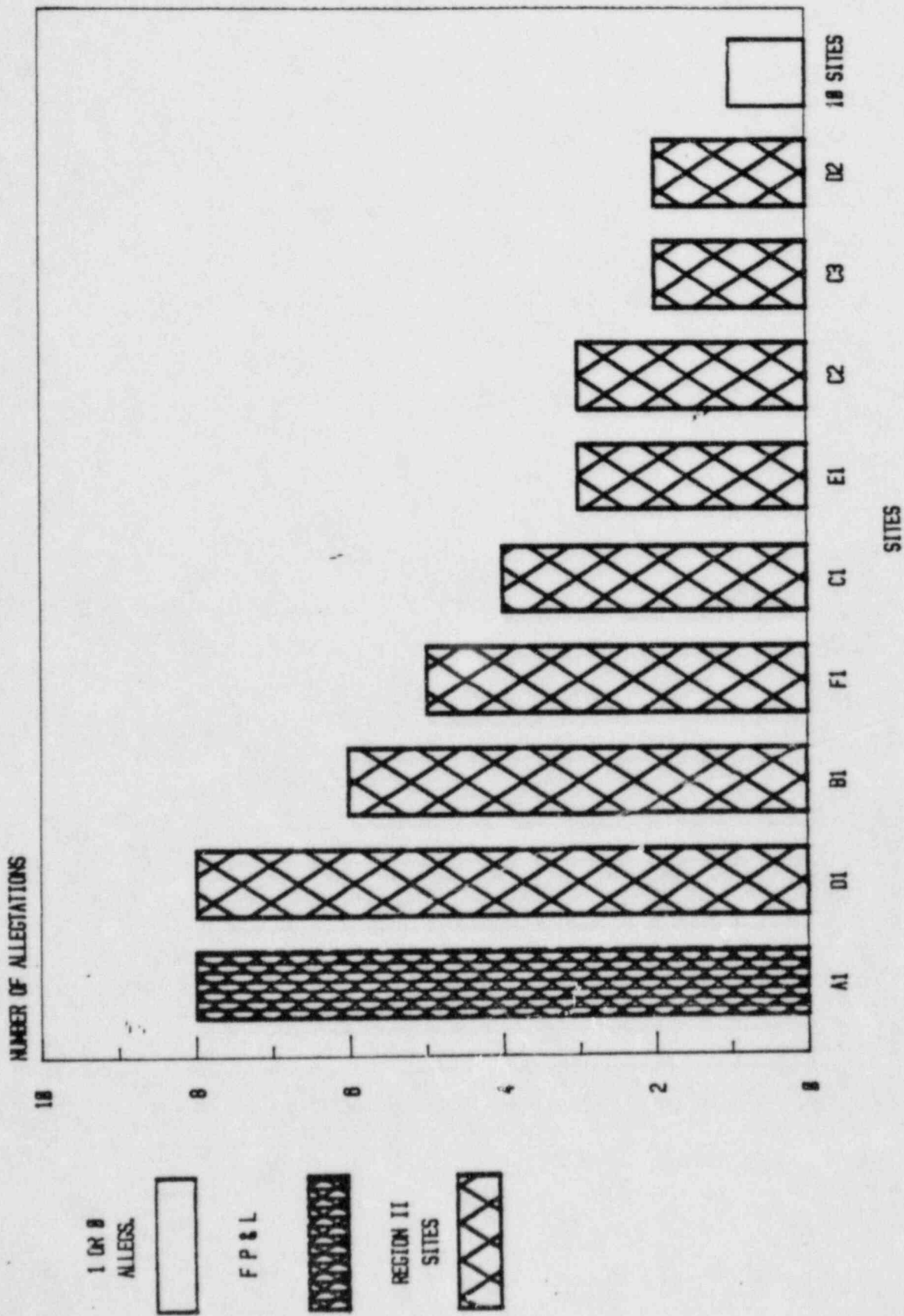
# ALLEGATIONS PER UTILITY

JULY 1982 - JUNE 1983



# ALLEGATIONS PER SITE

JULY 1982 - JUNE 1983



# CAUSES OF REACTOR TRIPS

## SEPTEMBER 1982 - JUNE 1983

	TOTAL NUMBER OF TRIPS	AVERAGE TRIPS/UNIT	MECH. FAILURE	ELEC. FAILURE	PERSONNEL ERROR
WEST	178	5	24%	34%	42%
C E	58	6	22%	40%	38%
B & W	26	4	30%	35%	35%
G E	115	4	28%	37%	35%
TURKEY POINT	9	5	44%	12%	44%
ST. LUCIE	4	4	25%	50%	25%

# FINDINGS

# TURKEY POINT

*AREAS NOT RATED*

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1. FIRE PROTECTION

# TURKEY POINT

## *CATEGORY 1 AREAS,*

1. RADIOLOGICAL CONTROLS
2. QA PROGRAM

# TURKEY POINT

## *CATEGORY 2 AREAS.*

1. MAINTENANCE
2. SURVEILLANCE
3. EMERGENCY PREPAREDNESS
4. SECURITY AND SAFEGUARDS
5. REFUELING
6. LICENSING ACTIVITIES

# TURKEY POINT

## *CATEGORY 3 AREAS*

..

1. PLANT OPERATIONS



# ST. LUCIE

## *CATEGORY 1 AREAS*

1. PLANT OPERATIONS
2. RADIOLOGICAL CONTROLS
3. MAINTENANCE
4. SURVEILLANCE
5. EMERGENCY PREPAREDNESS
6. REFUELING
7. PREOPERATIONAL TESTING AND  
STARTUP TESTING (UNIT 2 ONLY)

# ST. LUCIE

## *CATEGORY 2 AREAS,*

1. FIRE PROTECTION
2. SECURITY AND SAFEGUARDS
3. LICENSING ACTIVITIES
4. QA PROGRAM
5. CONSTRUCTION ACTIVITIES  
(UNIT 2 ONLY)

ST. LUCIE

*CATEGORY 3 AREAS*

NONE

# TURKEY POINT

## OVERALL EVALUATION

1. MAJOR STRENGTHS WERE IDENTIFIED IN THE AREAS OF RADIOLOGICAL CONTROLS AND THE QUALITY ASSURANCE PROGRAM.
2. A MAJOR WEAKNESS WAS IDENTIFIED IN THE AREA OF PLANT OPERATIONS. INCREASED LICENSEE ATTENTION SHOULD BE DEVOTED TO MID-LEVEL MANAGEMENT CONTROL OF ROUTINE PERSONNEL PERFORMANCE IN THIS AREA.
3. IN GENERAL, TURKEY POINT IS WELL MANAGED, WITH A TECHNICALLY KNOWLEDGEABLE AND PROFESSIONAL STAFF.
4. THE REPLACEMENT OF THE UNIT 4 STEAM GENERATORS DEMONSTRATED SIGNIFICANT TECHNICAL EXPERTISE AND MANAGEMENT EFFORT.

# ST LUCIE

## OVERALL EVALUATION

1. MAJOR STRENGTHS WERE IDENTIFIED IN THE AREAS OF PLANT OPERATIONS, RADIOLOGICAL CONTROLS, MAINTENANCE, SURVEILLANCE, EMERGENCY PREPAREDNESS, REFUELING, AND PREOPERATIONAL AND STARTUP TESTING.
2. NO MAJOR WEAKNESSES WERE IDENTIFIED.
3. MANAGEMENT WAS AGGRESSIVE AND KNOWLEDGEABLE WITH RESPECT TO THE RESOLUTION OF TECHNICAL ISSUES.
4. IMPROVEMENTS WERE NOTED IN THE AREAS OF SURVEILLANCE AND SECURITY.

# UTILITY EVALUATION

1. DURING THIS ASSESSMENT PERIOD, THE LICENSEE HAS DEMONSTRATED RELIABLE PERFORMANCE WITH IMPROVEMENT IN MOST PREVIOUSLY NOTED AREAS OF WEAKNESSES.
2. SITE AND CORPORATE MANAGEMENT ARE FAMILIAR WITH NRC REGULATIONS, GUIDES, GENERIC ISSUES, AND STAFF POSITIONS.
3. LICENSEE MANAGEMENT IS HIGHLY VISABLE AND PARTICIPATES IN DAY-TO-DAY ACTIVITIES, PROBLEMS, AND TECHNICAL CONCERNS.
4. THE LICENSEE'S APPROACH TO THE RESOLUTION OF TECHNICAL PROBLEMS AND SAFETY ISSUES IS ROUTINELY COMPLETE, CONSERVATIVE, AND BASED ON VALID ENGINEERING JUDGEMENT.

3306290537

UNITED STATES  
NUCLEAR REGULATORY  
COMMISSION

SYSTEMATIC ASSESSMENT

OF

LICENSEE PERFORMANCE

(SALP)

A/16/3

CAROLINA POWER AND LIGHT  
COMPANY

JANUARY 1982 - JANUARY 1983

BRUNSWICK STEAM ELECTRIC PLANT

ROBINSON STEAM ELECTRIC PLANT

HARRIS NUCLEAR POWER PLANT

MAY 10, 1983

RALEIGH, NORTH CAROLINA



# INTRODUCTION

# SALP PROGRAM OBJECTIVES

1. IMPROVE LICENSEE PERFORMANCE
2. PROVIDE A BASIS FOR ALLOCATION OF NRC RESOURCES
3. IMPROVE NRC REGULATORY PROGRAM

# PERFORMANCE ANALYSIS AREAS FOR OPERATING REACTORS

1. PLANT OPERATIONS
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6. EMERGENCY PREPAREDNESS
7. SECURITY AND SAFEGUARDS
8. REFUELING
9. QUALITY ASSURANCE PROGRAM
10. LICENSING ACTIVITIES

# PERFORMANCE ANALYSIS AREAS FOR CONSTRUCTION REACTORS

1. SOILS AND FOUNDATIONS
2. CONTAINMENT AND OTHER  
SAFETY RELATED STRUCTURES
3. PIPING SYSTEMS AND SUPPORTS
4. SAFETY RELATED COMPONENTS
5. SUPPORT SYSTEMS
6. ELECTRICAL POWER SUPPLY  
DISTRIBUTION
7. INSTRUMENTATION AND CONTROL
8. LICENSING ACTIVITIES
9. CONSTRUCTION QUALITY  
ASSURANCE PROGRAM

# AREA PERFORMANCE

## *CATEGORY 1*

REDUCED NRC ATTENTION MAY BE APPROPRIATE. LICENSEE MANAGEMENT ATTENTION AND INVOLVEMENT ARE AGGRESSIVE AND ORIENTED TOWARD NUCLEAR SAFETY; LICENSEE RESOURCES ARE AMPLE AND EFFECTIVELY USED SUCH THAT A HIGH LEVEL OF PERFORMANCE WITH RESPECT TO OPERATIONAL SAFETY OR CONSTRUCTION IS BEING ACHIEVED.

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# AREA PERFORMANCE

## *CATEGORY 3*

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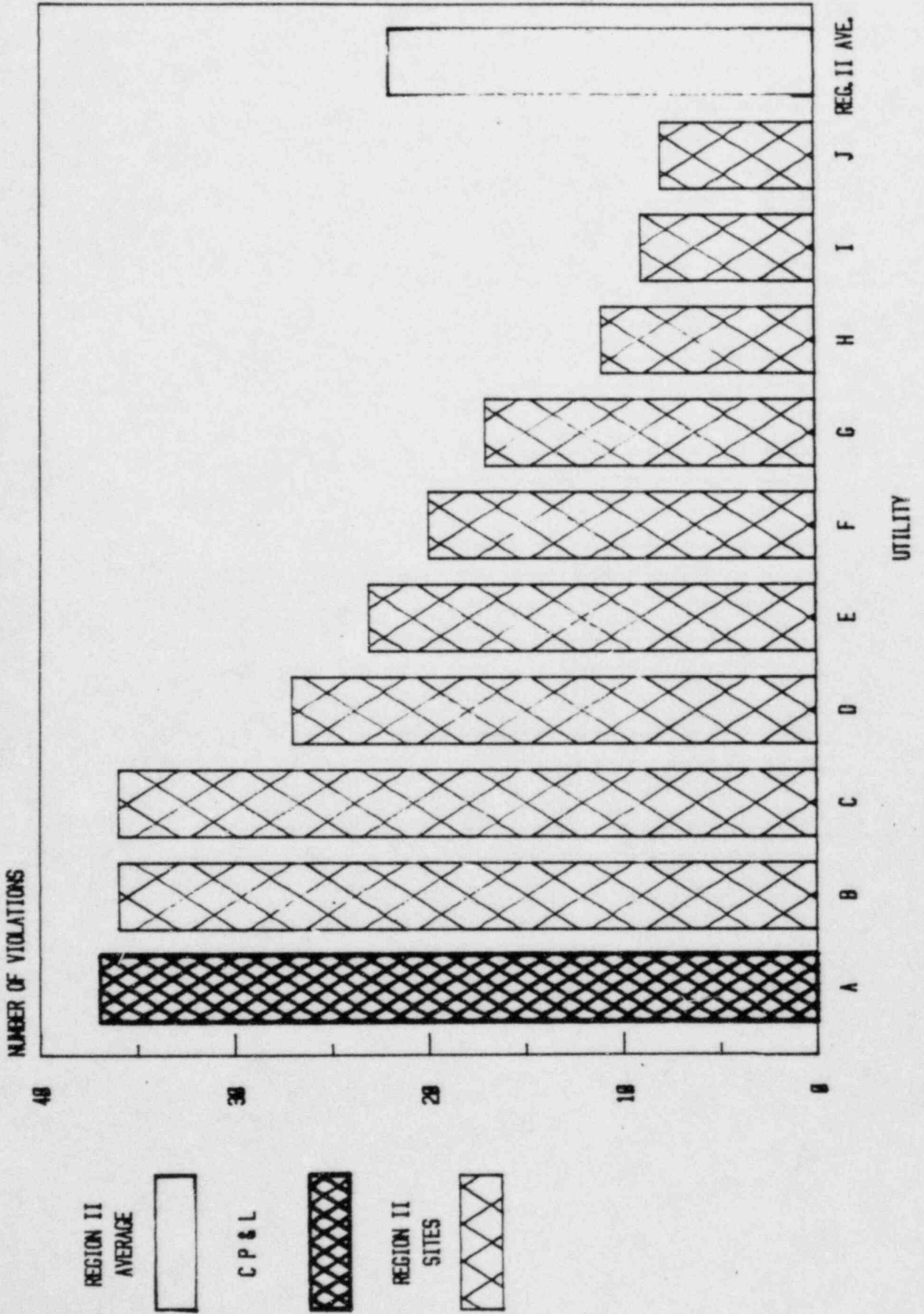
1. MANAGEMENT INVOLVEMENT IN ASSURING QUALITY
2. APPROACH TO RESOLUTION OF TECHNICAL ISSUES FROM THE SAFETY STANDPOINT
3. RESPONSIVENESS TO NRC INITIATIVES
4. ENFORCEMENT HISTORY
5. REPORTING AND ANALYSIS OF REPORTABLE EVENTS
6. STAFFING (INCLUDING MANAGEMENT)
7. TRAINING EFFECTIVENESS AND QUALIFICATION



# VIOLETIONS

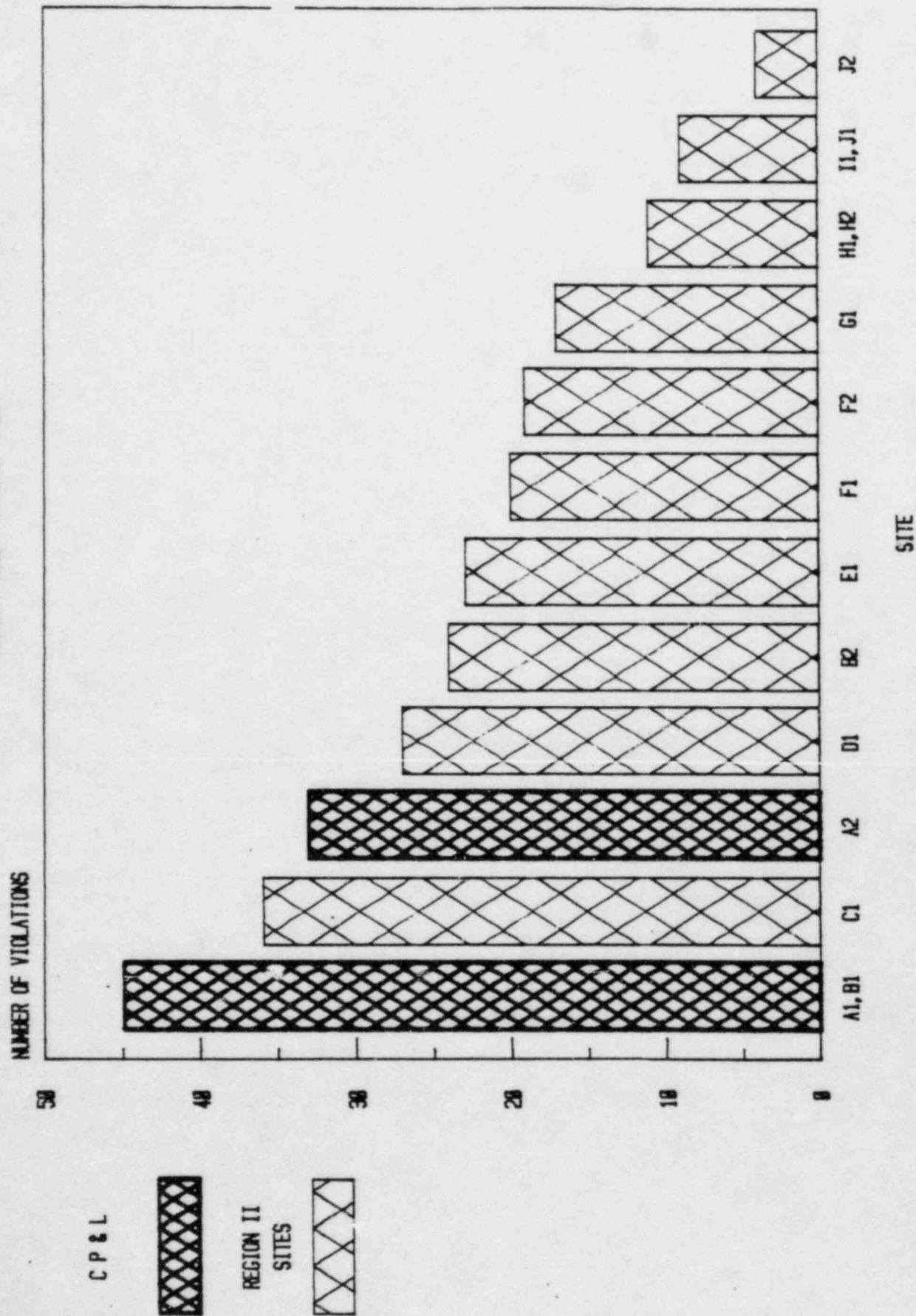
# OPERATIONS PHASE VIOLATIONS/UTILITY/UNIT

JANUARY 1982 - JANUARY 1983



# OPERATIONS PHASE VIOLATIONS/SITE/UNIT

JANUARY 1982 - JANUARY 1983



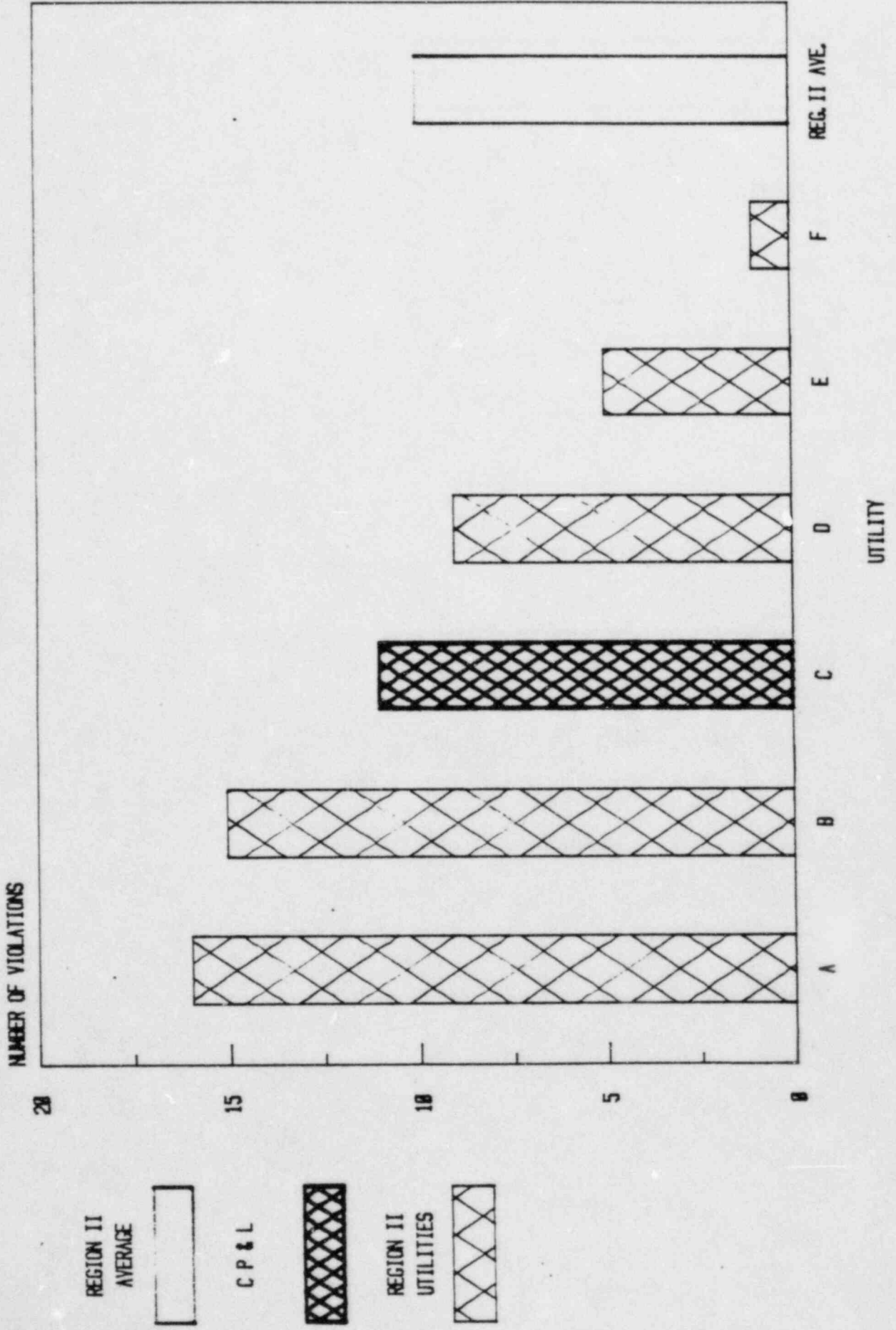
# VIOLATION SUMMARY OPERATING REACTORS

JANUARY 1982 - JANUARY 1983

	I	II	III	IV	V	VI	
BRUNSVICK 1	3	3	5	13	15	1	34
BRUNSVICK 2	3	3	2	14	18	3	32
ROBINSON 2	3	3	1	25	13	1	46
			8	52	50	2	112
REGION II AVERAGE	3	3	1	11	13	1	

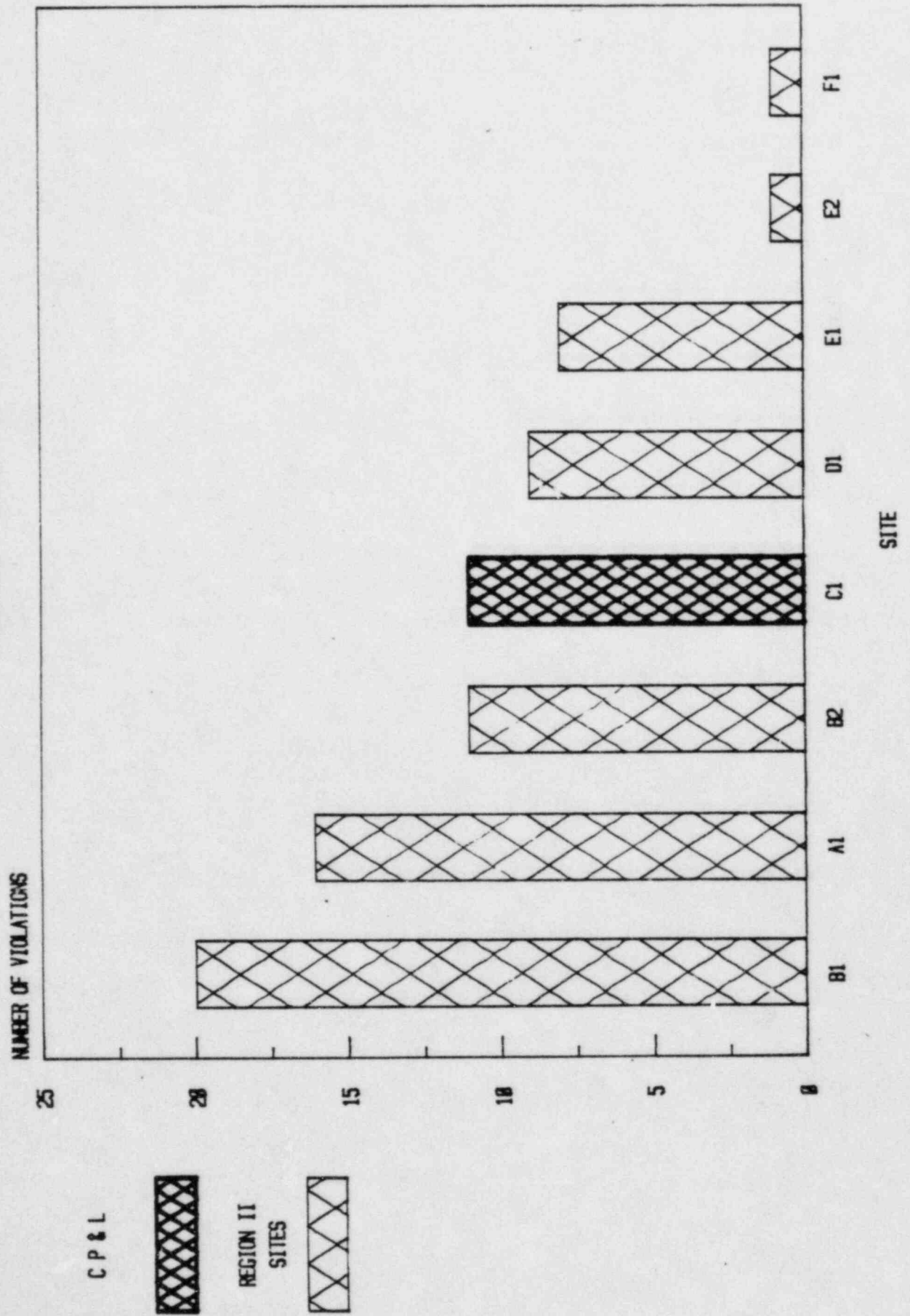
# CONST. PHASE VIOLATIONS/UTILITY/UNIT

JANUARY 1982 - JANUARY 1983



# CONST. PHASE VIOLATIONS/SITE/UNIT

JANUARY 1982 - JANUARY 1983



# VIOLATION SUMMARY CONSTRUCTION REACTORS

JANUARY 1982 - JANUARY 1983

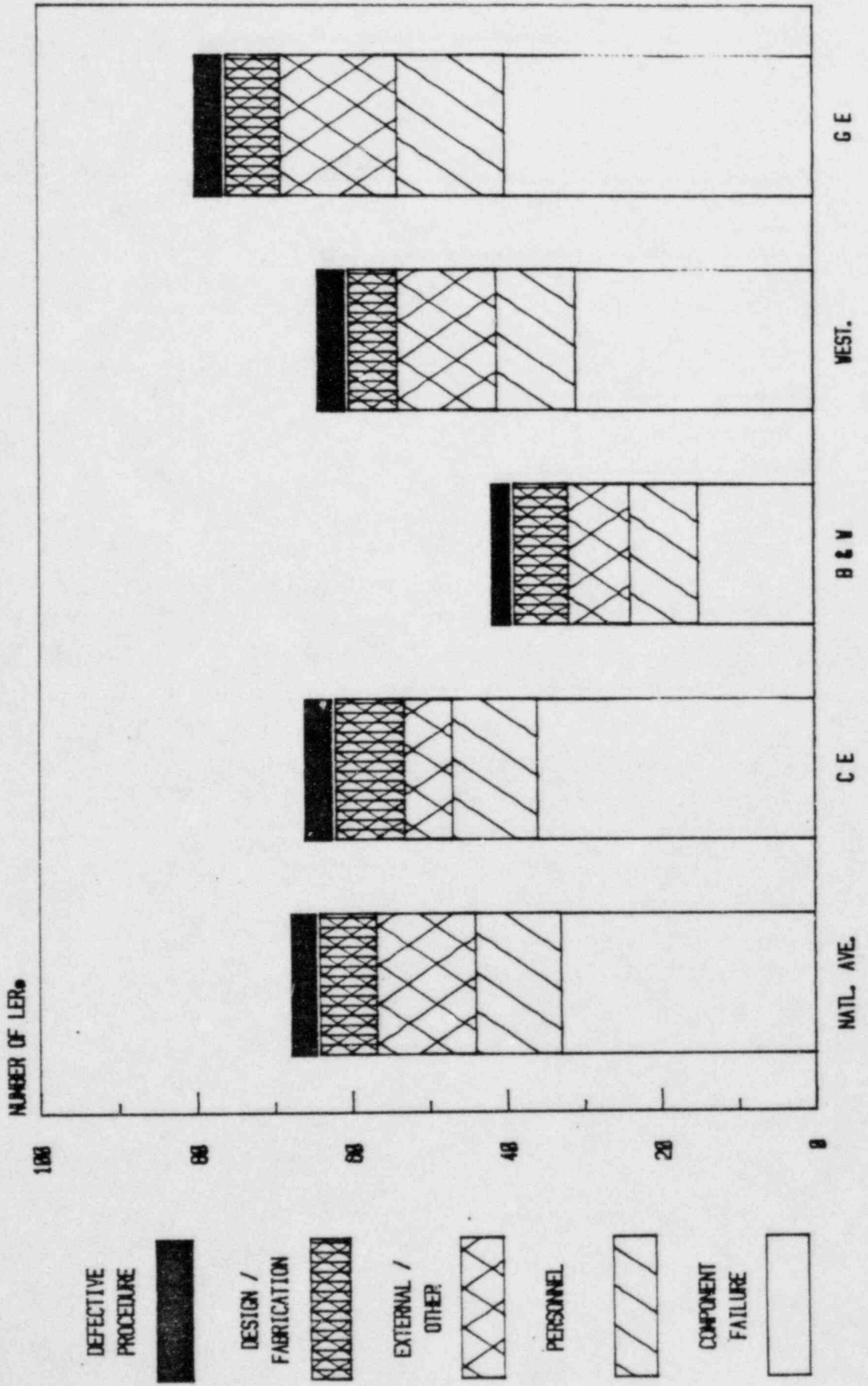
	I	II	III	IV	V	VI	
HARRIS 1	3	3	3	3	13	1	20
HARRIS 2	3	3	3	1	2	3	6
				10	12	4	26
REGION 11 AVERAGE	3	3	3	5	5	3	

# REPORTABLE EVENTS



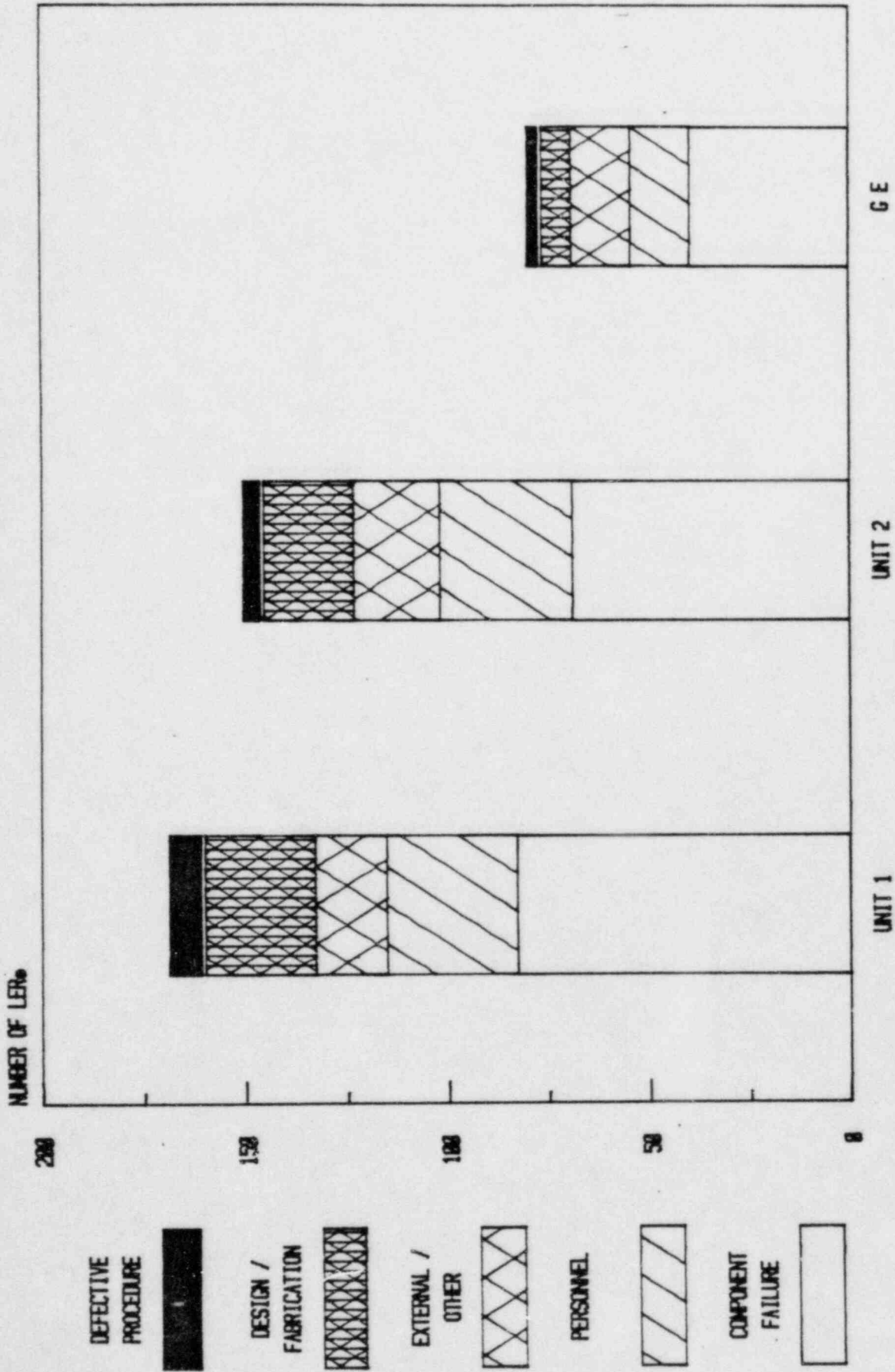
# LERs PER PLANT TYPE

JANUARY 1982 - JANUARY 1983



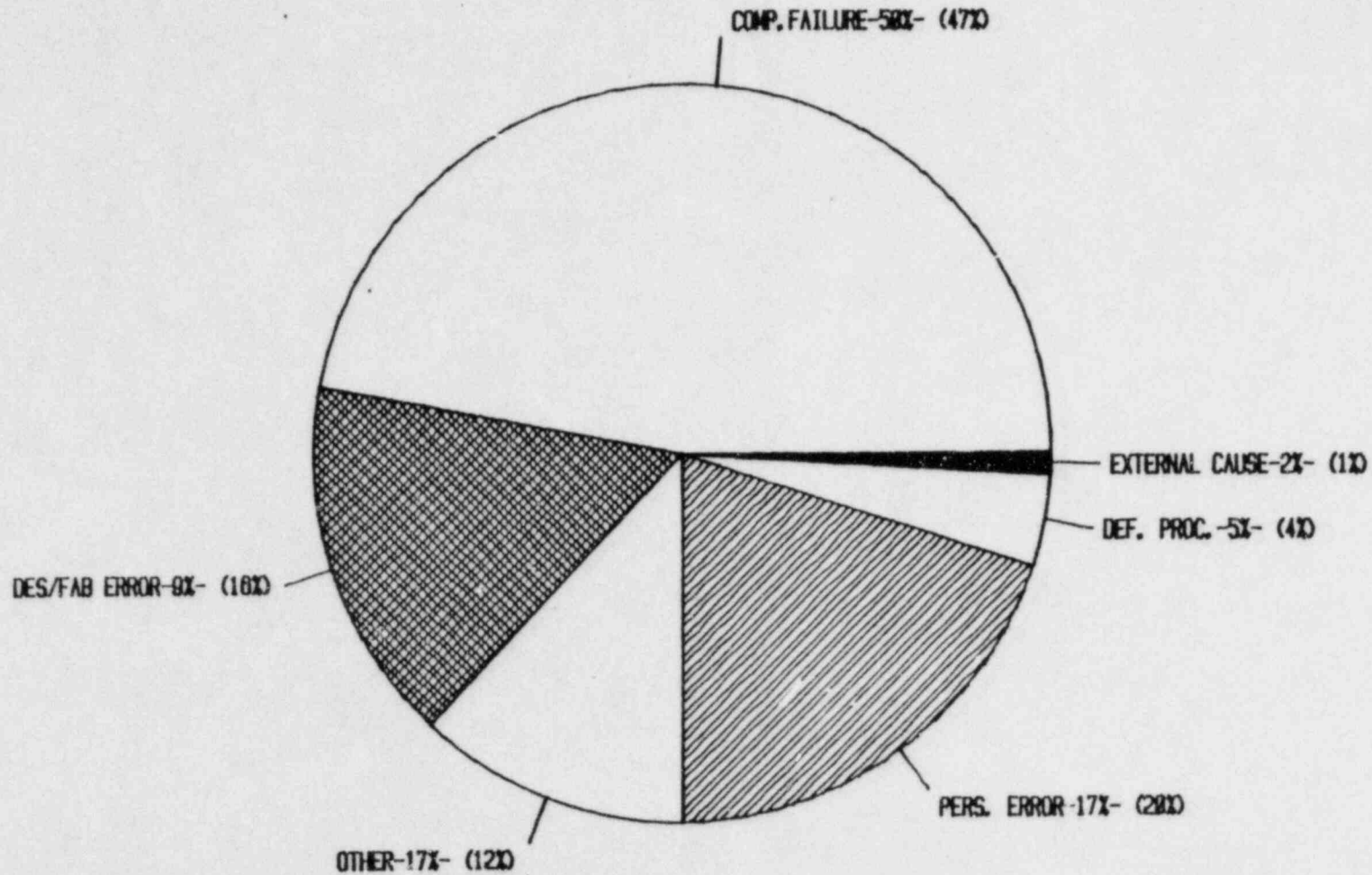
# BRUNSWICK LERs

JANUARY 1982 - JANUARY 1983



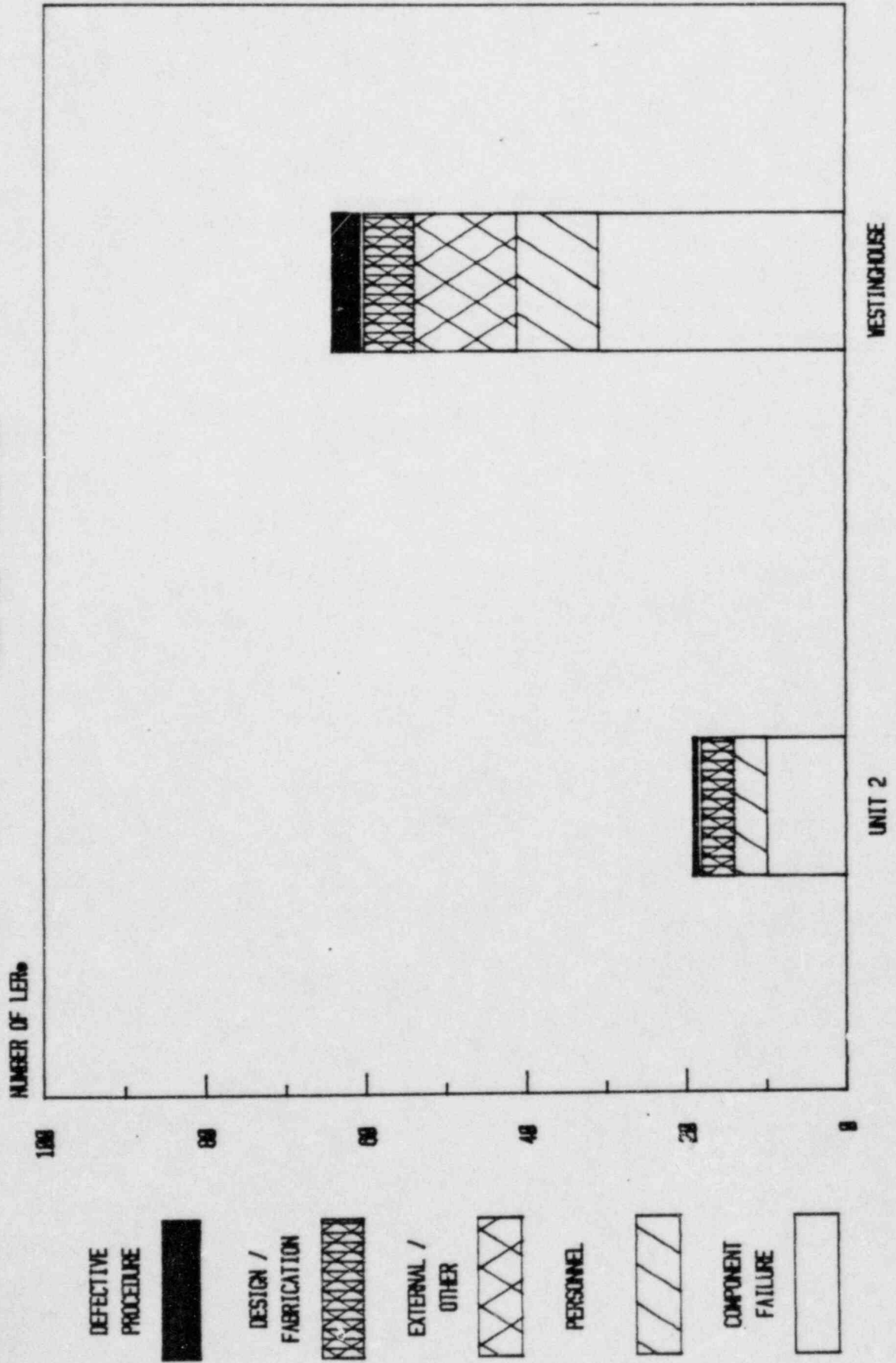
# GENERAL ELECTRIC and (BRUNSWICK) LERs

JANUARY 1982 - JANUARY 1983



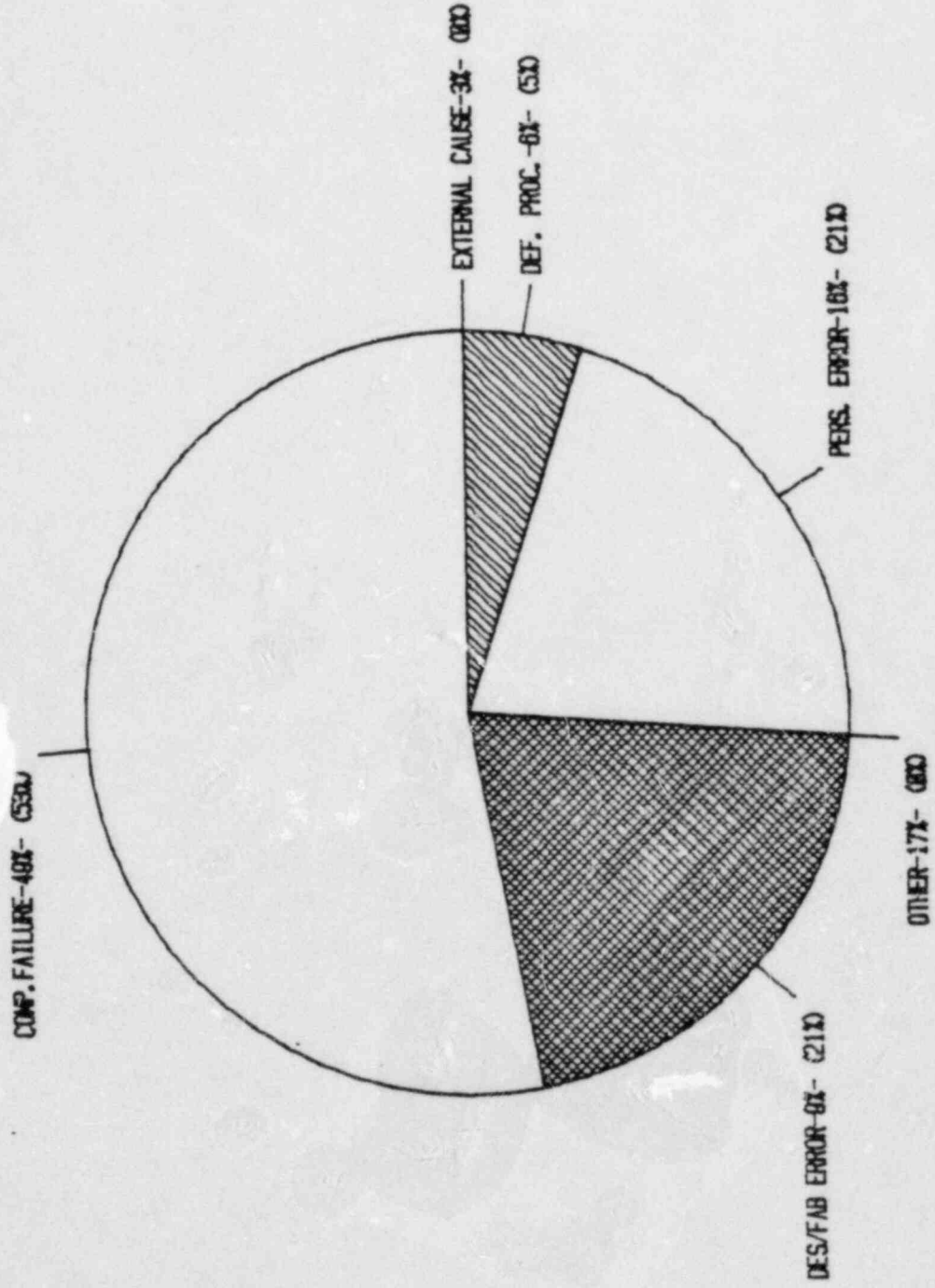
# ROBINSON LERs

JANUARY 1982 - JANUARY 1983



# WESTINGHOUSE and (ROBINSON) LERs

JANUARY 1982 - JANUARY 1983



CONSTRUCTION DEFICIENCY REPORTS

JANUARY 1982 - JANUARY 1983

HARRIS 1

24

HARRIS 2

14

REGION II AVERAGE

35

# INFORMATIONAL DATA

# CAUSES OF REACTOR TRIPS

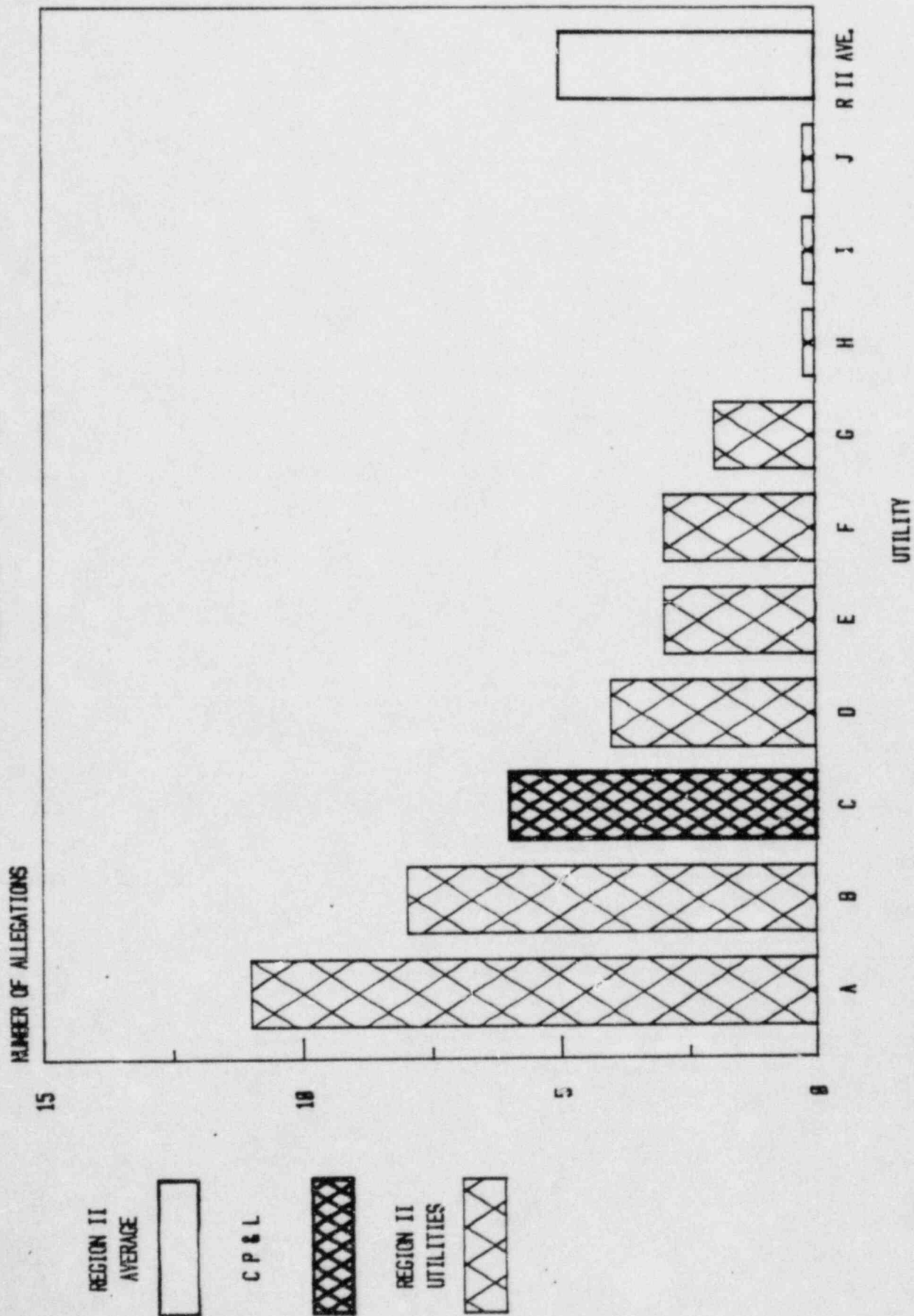
JANUARY 1981 - JUNE 1981/AUGUST 1982 - JANUARY 1983

	TOTAL NUMBER OF TRIPS	AVERAGE TRIPS/UNIT	FEEDWATER/ CONDENSATE/ STEAM GENERATOR (REACTOR) LEVEL RELATED (%)	SURVEILLANCE/ MAINTENANCE RELATED (%)	OTHER (%)
WEST.	135/117	5/4	43/54	14/10	43/30
C E	23/41	3/5	30/40	13/12	40/42
G E	70/83	3/2	10/41	33/13	51/40
B. & W	23/18	3/3	20/20	20/17	40/35
BRUNG.	11/8	0/3	30/0	0/33	04/07
ROD.	0/0	0/0	02/75	0/0	30/25



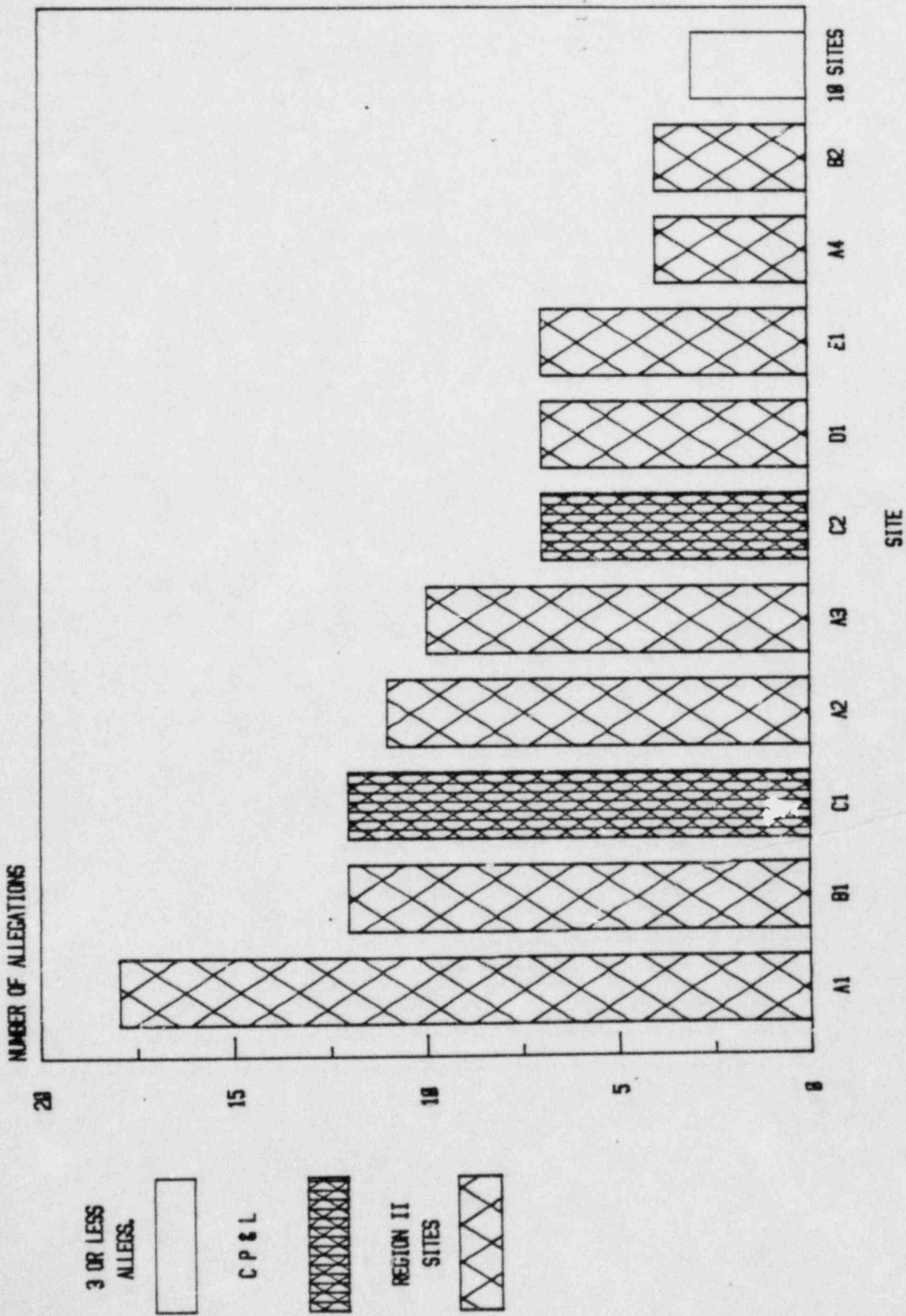
# ALLEGATIONS PER UTILITY

JANUARY 1982 - JANUARY 1983

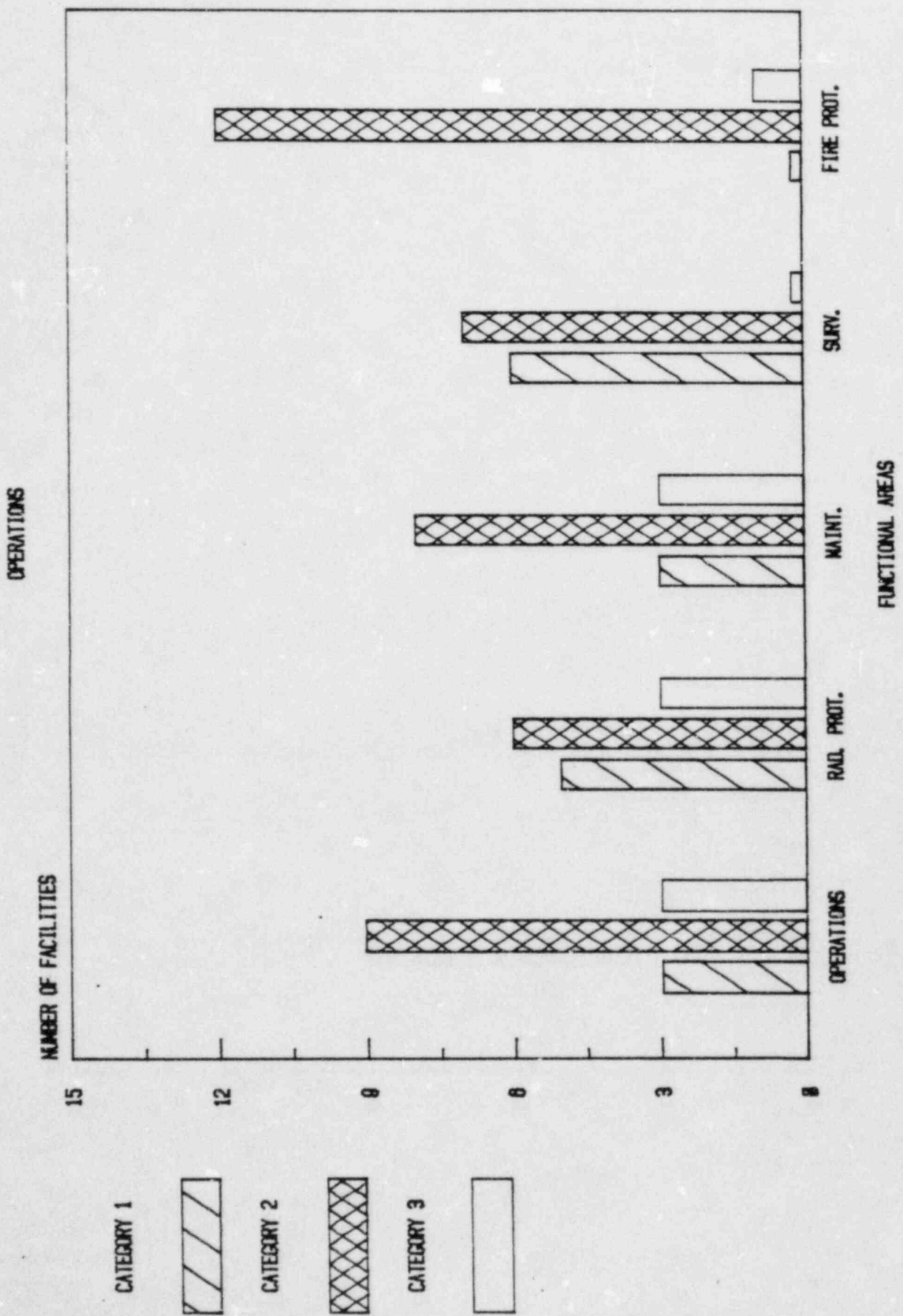


# ALLEGATIONS PER SITE

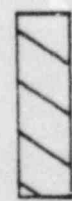
JANUARY 1982 - JANUARY 1983



# FUNCTIONAL AREA COMPARISON



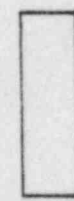
CATEGORY 1



CATEGORY 2



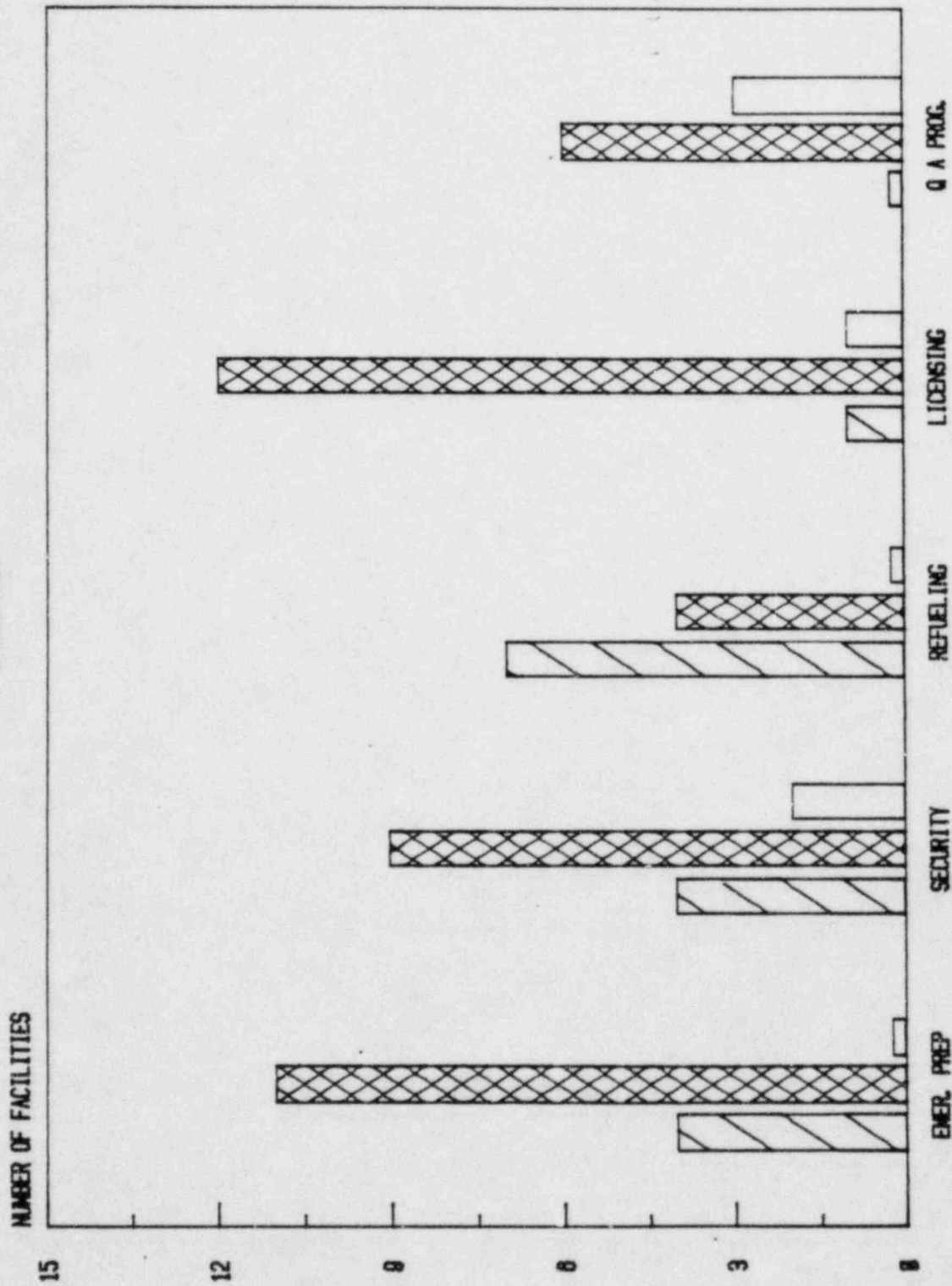
CATEGORY 3



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# FUNCTIONAL AREA COMPARISON

OPERATIONS



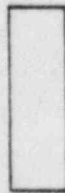
CATEGORY 1



CATEGORY 2

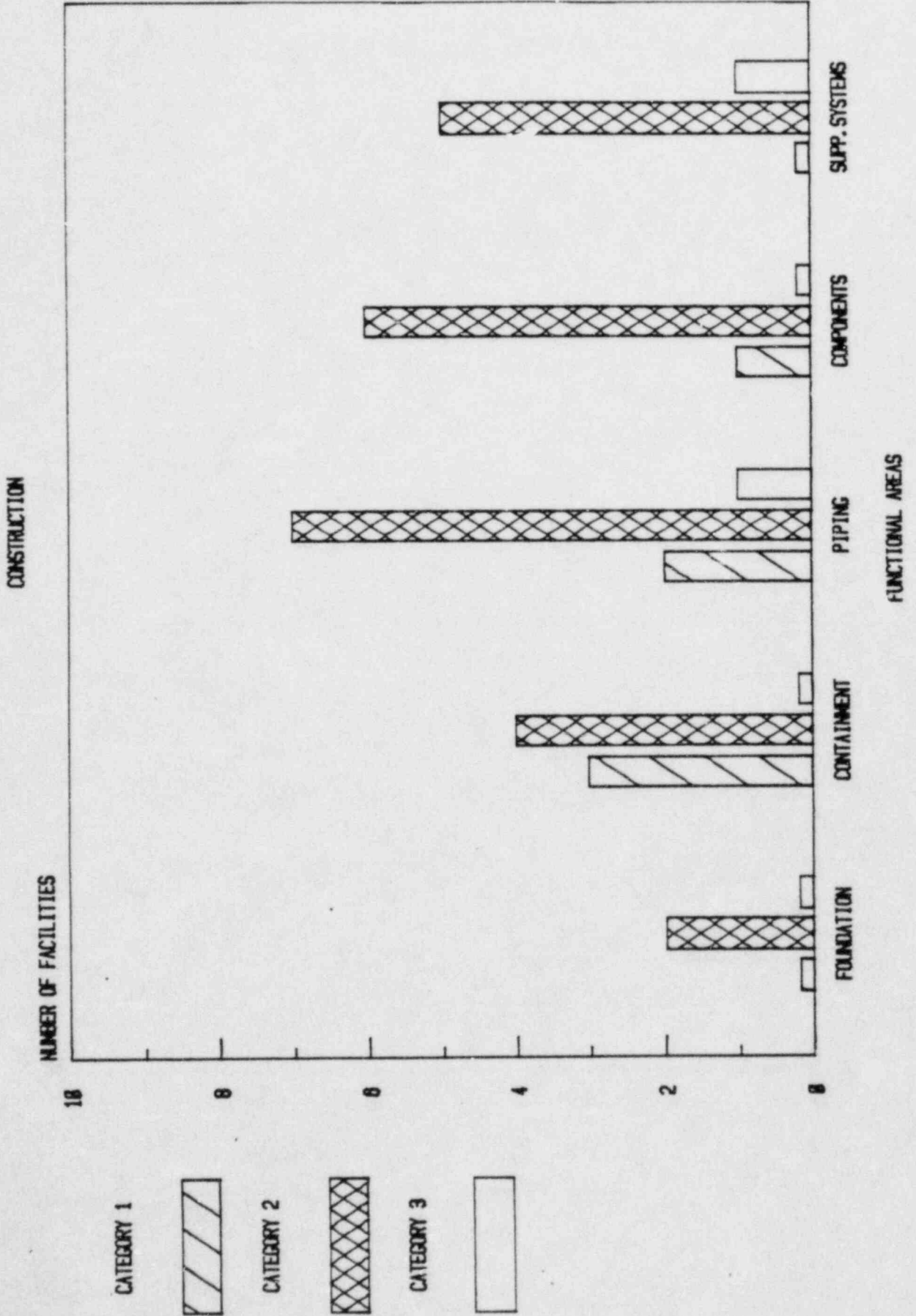


CATEGORY 3



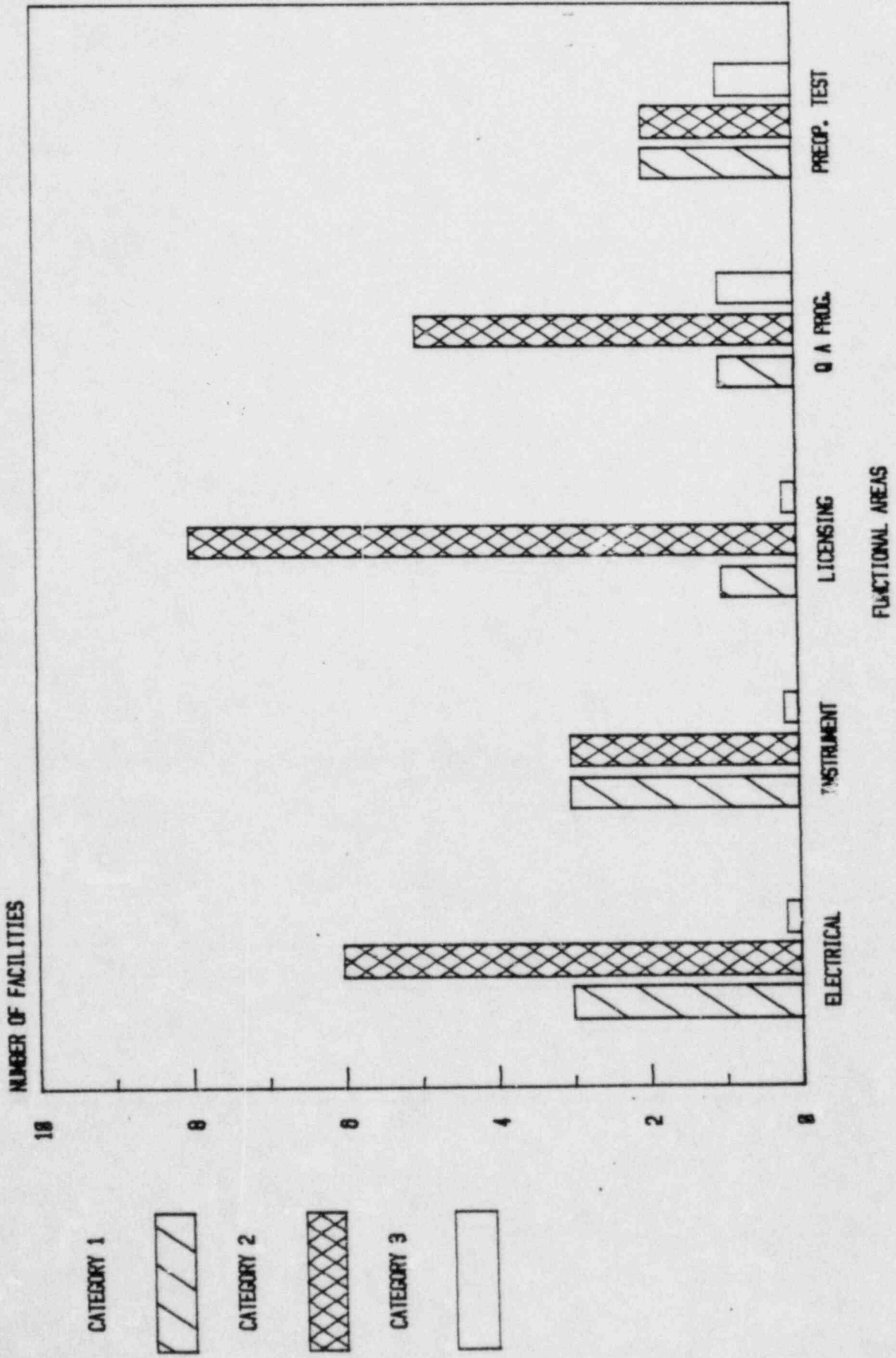
FUNCTIONAL AREAS

# FUNCTIONAL AREA COMPARISON



# FUNCTIONAL AREA COMPARISON

CONSTRUCTION



# FINDINGS

# BRUNSWICK

## *CATEGORY 1 AREAS*

1. EMERGENCY PREPAREDNESS
2. SECURITY AND SAFEGUARDS



# BRUNSWICK

## *CATEGORY 2 AREAS*

1. RADIOLOGICAL CONTROLS

# BRUNSWICK

## *CATEGORY 3 AREAS*

1. PLANT OPERATIONS
2. MAINTENANCE
3. SURVEILLANCE
4. FIRE PROTECTION
5. REFUELING
6. LICENSING ACTIVITIES
7. QUALITY ASSURANCE

# ROBINSON

## *CATEGORY 1 AREAS*

1. SURVEILLANCE

2. REFUELING

# ROBINSON

## *CATEGORY 2 AREAS*

1. PLANT OPERATIONS
2. RADIOLOGICAL CONTROLS
3. EMERGENCY PREPAREDNESS
4. SECURITY AND SAFEGUARDS

# ROBINSON

## *CATEGORY 3 AREAS*

1. MAINTENANCE
2. LICENSING ACTIVITIES
3. QUALITY ASSURANCE

# HARRIS

## *CATEGORY 1 AREAS*

1. CONTAINMENT AND OTHER  
SAFETY-RELATED STRUCTURES
  
2. SUPPORT SYSTEMS

# HARRIS

## *CATEGORY 2 AREAS*

1. PIPING SYSTEMS AND SUPPORTS
2. SAFETY-RELATED COMPONENTS
3. ELECTRICAL POWER SUPPLY AND DISTRIBUTION
4. QUALITY ASSURANCE

HARRIS

*CATEGORY 3 AREAS*

1. LICENSING ACTIVITIES



## BRUNSWICK - OVERALL EVALUATION

1. SEVERAL MAJOR STRENGTHS AND WEAKNESSES WERE IDENTIFIED.
2. POSITIVE ACTIONS INCLUDED THE ASSIGNMENT OF A SENIOR MANAGER TO THE SITE AND DEVELOPMENT OF A LONG RANGE IMPROVEMENT PLAN.
3. IMPROVEMENT SINCE THE PREVIOUS SALP WAS EVIDENT IN THE AREA OF RADIOLOGICAL CONTROLS.
4. IMPROVEMENT SINCE THE PREVIOUS SALP WAS NOT APPARENT IN THE AREAS OF PLANT OPERATIONS, MAINTENANCE, AND FIRE PROTECTION.
5. SUBSTANTIAL LICENSEE RESOURCES HAVE BEEN COMMITTED TO A LONG RANGE IMPROVEMENT INITIATIVE WHICH IS EXPECTED TO RESULT IN IMPROVED PERFORMANCE.

## ROBINSON - OVERALL EVALUATION

1. SEVERAL MAJOR STRENGTHS AND WEAKNESSES WERE IDENTIFIED.
2. IMPROVEMENT WAS NOTED IN THE AREAS OF RADIOLOGICAL CONTROLS AND SURVEILLANCE TESTING.
3. WEAKNESS IN THE QA AREA IS ATTRIBUTED TO THE CORPORATE AUDIT FUNCTION.
4. PERFORMANCE IN MAINTENANCE AND QA DECLINED FROM THE PREVIOUS SALP EVALUATION.

## HARRIS - OVERALL EVALUATION

1. TWO MAJOR STRENGTHS AND A MAJOR WEAKNESS WERE IDENTIFIED.
2. IMPROVEMENT IS NEEDED TO UPGRADE THE TIMELINESS, THOROUGHNESS, AND TECHNICAL SOUNDNESS OF INFORMATION SUBMITTED TO NRC.
3. MANAGEMENT INVOLVEMENT AND SUPPORT FOR QUALITY CONSTRUCTION WAS EVIDENT.
4. NO PROGRAMMATIC BREAKDOWNS WERE IDENTIFIED.

# UTILITY EVALUATION

1. SIGNIFICANT IMPROVEMENT WAS SHOWN IN SOME AREAS; BUT SEVERAL WEAK AREAS DID NOT SHOW IMPROVEMENT. AN EXTENSIVE LONG-RANGE IMPROVEMENT PROGRAM WAS INITIATED TO CORRECT THESE WEAKNESSES.
2. ALTHOUGH THE LICENSEE EXHIBITED A POSITIVE ATTITUDE TO NRC INITIATIVES, RESPONSES DEMONSTRATED INADEQUATE MANAGEMENT INVOLVEMENT IN LICENSING ACTIVITIES, PARTICULARLY IN THE INTERFACE WITH NRR.
3. CORPORATE MANAGEMENT'S INVOLVEMENT IN ASSURING QUALITY PERFORMANCE OF SITE ACTIVITIES WAS GENERALLY ADEQUATE EXCEPT FOR CONTINUING WEAKNESS IN THE FUNCTIONING OF THE PEU.
4. IMPROVEMENTS WERE NOTED AT BOTH OPERATING SITES IN THE AREA OF RADIATION PROTECTION.
5. WEAKNESS WAS NOTED AT BOTH OPERATING SITES IN THE AREA OF MAINTENANCE.

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UNITED STATES  
NUCLEAR REGULATORY  
COMMISSION

SYSTEMATIC ASSESSMENT

OF

LICENSEE PERFORMANCE

(SALP)

11/10/3

U.S. NUCLEAR REGULATORY COMMISSION  
REGION II

SYSTEMATIC ASSESSMENT OF  
LICENSEE PERFORMANCE  
BOARD ASSESSMENT

DUKE POWER COMPANY

OCONEE NUCLEAR STATION UNITS 1, 2, and 3  
DOCKET NUMBERS 50-269, 50-270, and 50-287

McGUIRE NUCLEAR STATION UNITS 1 and 2  
DOCKET NUMBERS 50-369 and 50-370

CATAWBA NUCLEAR STATION UNITS 1 and 2  
DOCKET NUMBERS 50-413 and 50-414

JUNE 1, 1982 THROUGH APRIL 30, 1983

INSPECTION  
REPORT NUMBERS

50-269/83-17, 50-270/83-17, 50-287/83-17  
50-369/83-24, 50-370/83-32  
50-413/83-14, 50-414/83-13

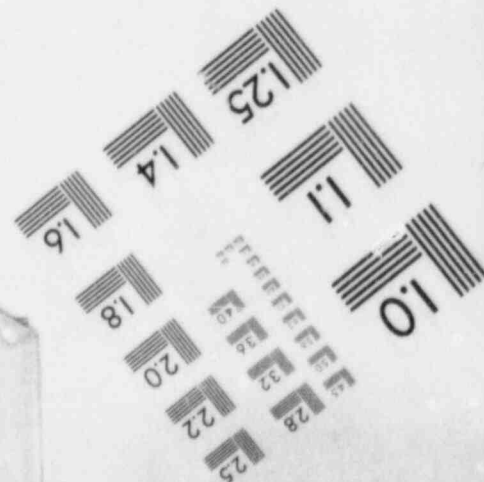
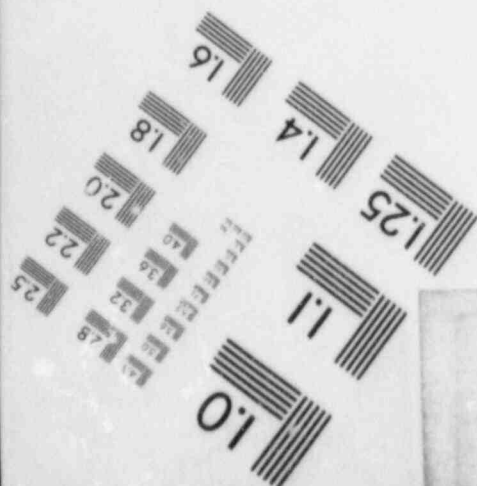
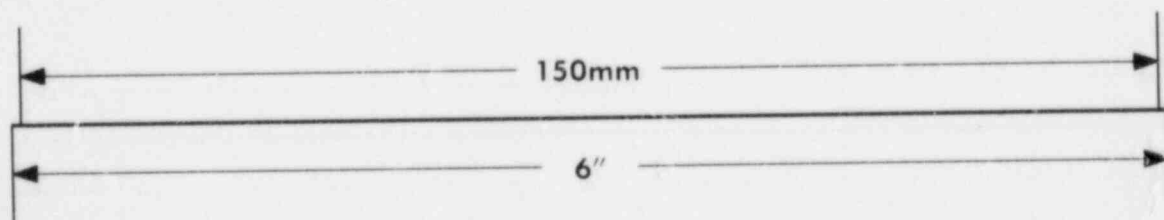
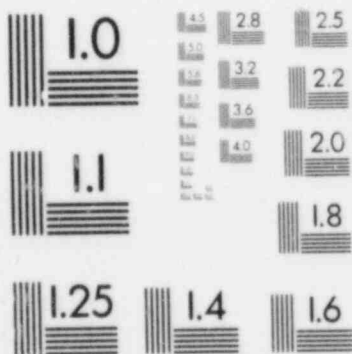
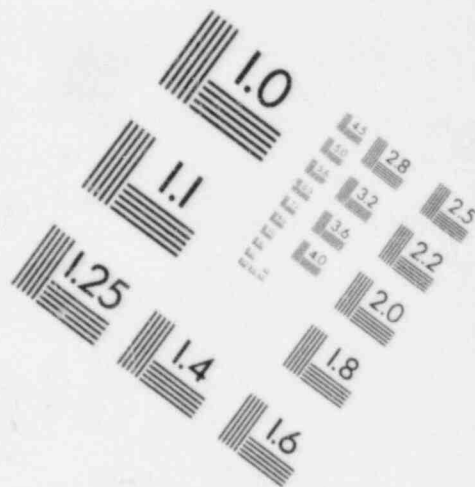
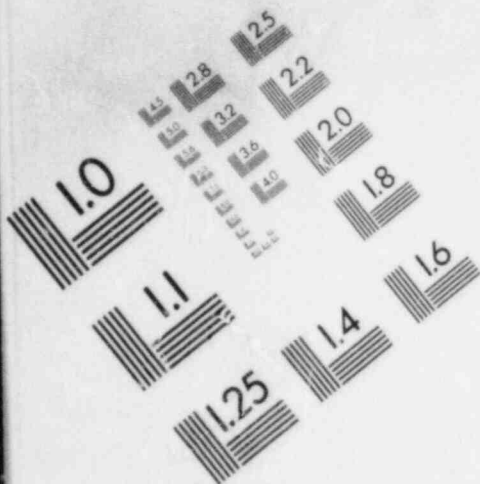
# INTRODUCTION

# SALP PROGRAM OBJECTIVES

1. IMPROVE LICENSEE PERFORMANCE
2. PROVIDE A BASIS FOR ALLOCATION OF NRC RESOURCES
3. IMPROVE NRC REGULATORY PROGRAM



IMAGE EVALUATION  
TEST TARGET (MT-3)



# PERFORMANCE ANALYSIS AREAS FOR OPERATING REACTORS

1. PLANT OPERATIONS
2. RADIOLOGICAL CONTROLS
3. MAINTENANCE
4. SURVEILLANCE
5. FIRE PROTECTION
6. EMERGENCY PREPAREDNESS
7. SECURITY AND SAFEGUARDS
8. REFUELING
9. QUALITY ASSURANCE PROGRAM
10. LICENSING ACTIVITIES

# PERFORMANCE ANALYSIS AREAS FOR CONSTRUCTION REACTORS

1. SOILS AND FOUNDATIONS
2. CONTAINMENT AND OTHER  
SAFETY RELATED STRUCTURES
3. PIPING SYSTEMS AND SUPPORTS
4. SAFETY RELATED COMPONENTS
5. SUPPORT SYSTEMS
6. ELECTRICAL POWER SUPPLY  
DISTRIBUTION
7. INSTRUMENTATION AND CONTROL
8. LICENSING ACTIVITIES
9. CONSTRUCTION QUALITY  
ASSURANCE PROGRAM

# AREA PERFORMANCE

## *CATEGORY 2*

NRC ATTENTION SHOULD BE MAINTAINED AT NORMAL LEVELS. LICENSEE MANAGEMENT ATTENTION AND INVOLVEMENT ARE EVIDENT AND ARE CONCERNED WITH NUCLEAR SAFETY; LICENSEE RESOURCES ARE ADEQUATE AND ARE REASONABLY EFFECTIVE SUCH THAT SATISFACTORY PERFORMANCE WITH RESPECT TO OPERATIONAL SAFETY OR CONSTRUCTION IS BEING ACHIEVED.

# AREA PERFORMANCE

## *CATEGORY 1*

REDUCED NRC ATTENTION MAY BE APPROPRIATE. LICENSEE MANAGEMENT ATTENTION AND INVOLVEMENT ARE AGGRESSIVE AND ORIENTED TOWARD NUCLEAR SAFETY; LICENSEE RESOURCES ARE AMPLE AND EFFECTIVELY USED SUCH THAT A HIGH LEVEL OF PERFORMANCE WITH RESPECT TO OPERATIONAL SAFETY OR CONSTRUCTION IS BEING ACHIEVED.

# EVALUATION CRITERIA

1. MANAGEMENT INVOLVEMENT IN ASSURING QUALITY
2. APPROACH TO RESOLUTION OF TECHNICAL ISSUES FROM THE SAFETY STANDPOINT
3. RESPONSIVENESS TO NRC INITIATIVES
4. ENFORCEMENT HISTORY
5. REPORTING AND ANALYSIS OF REPORTABLE EVENTS
6. STAFFING (INCLUDING MANAGEMENT)
7. TRAINING EFFECTIVENESS AND QUALIFICATION

# AREA PERFORMANCE

## *CATEGORY 3*

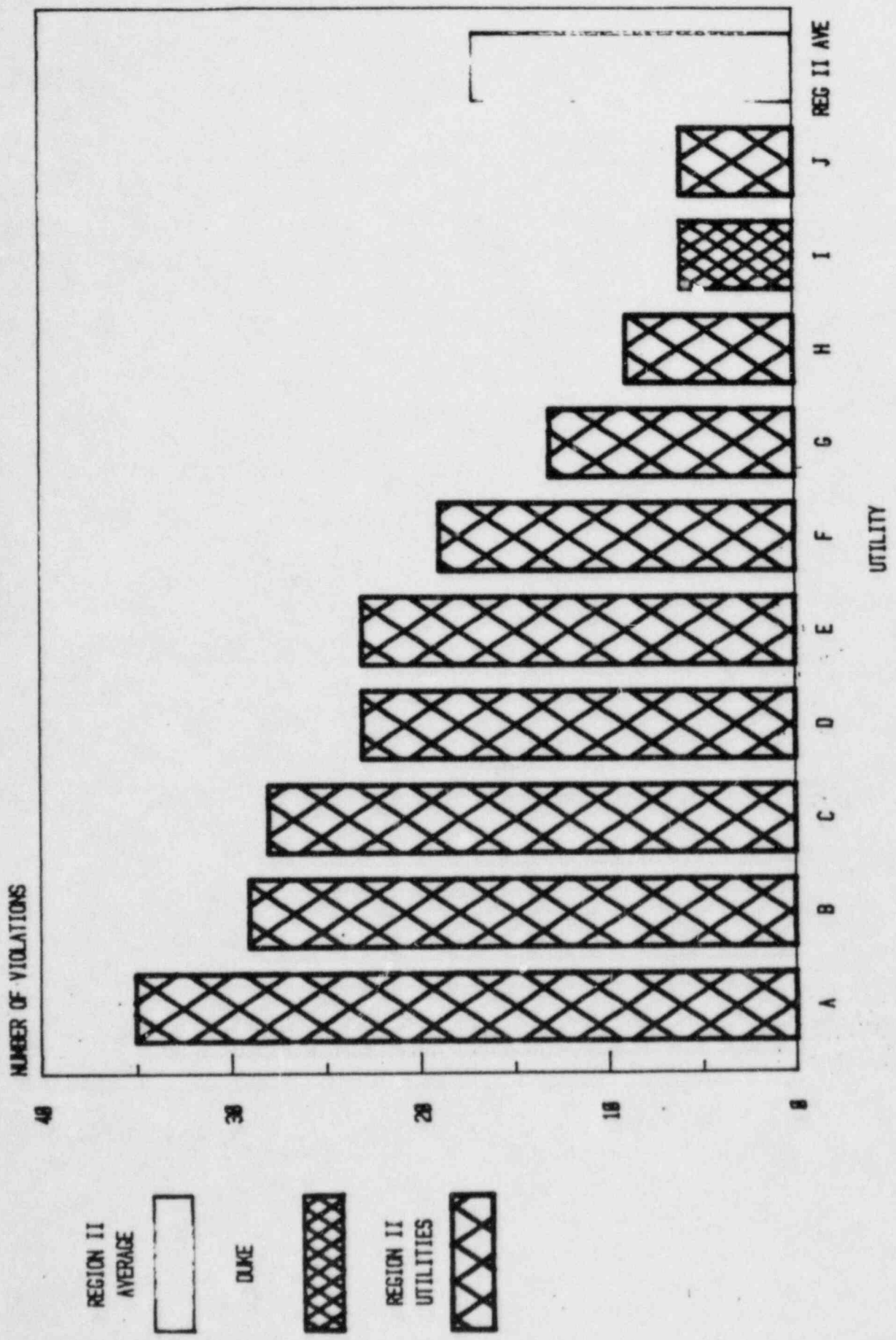
BOTH NRC AND LICENSEE ATTENTION SHOULD BE INCREASED. LICENSEE MANAGEMENT ATTENTION OR INVOLVEMENT IS ACCEPTABLE AND CONSIDERS NUCLEAR SAFETY, BUT WEAKNESSES ARE EVIDENT; LICENSEE RESOURCES APPEAR TO BE STRAINED OR NOT EFFECTIVELY USED SUCH THAT MINIMALLY SATISFACTORY PERFORMANCE WITH RESPECT TO OPERATIONAL SAFETY OR CONSTRUCTION IS BEING ACHIEVED.

# VIOLATIONS



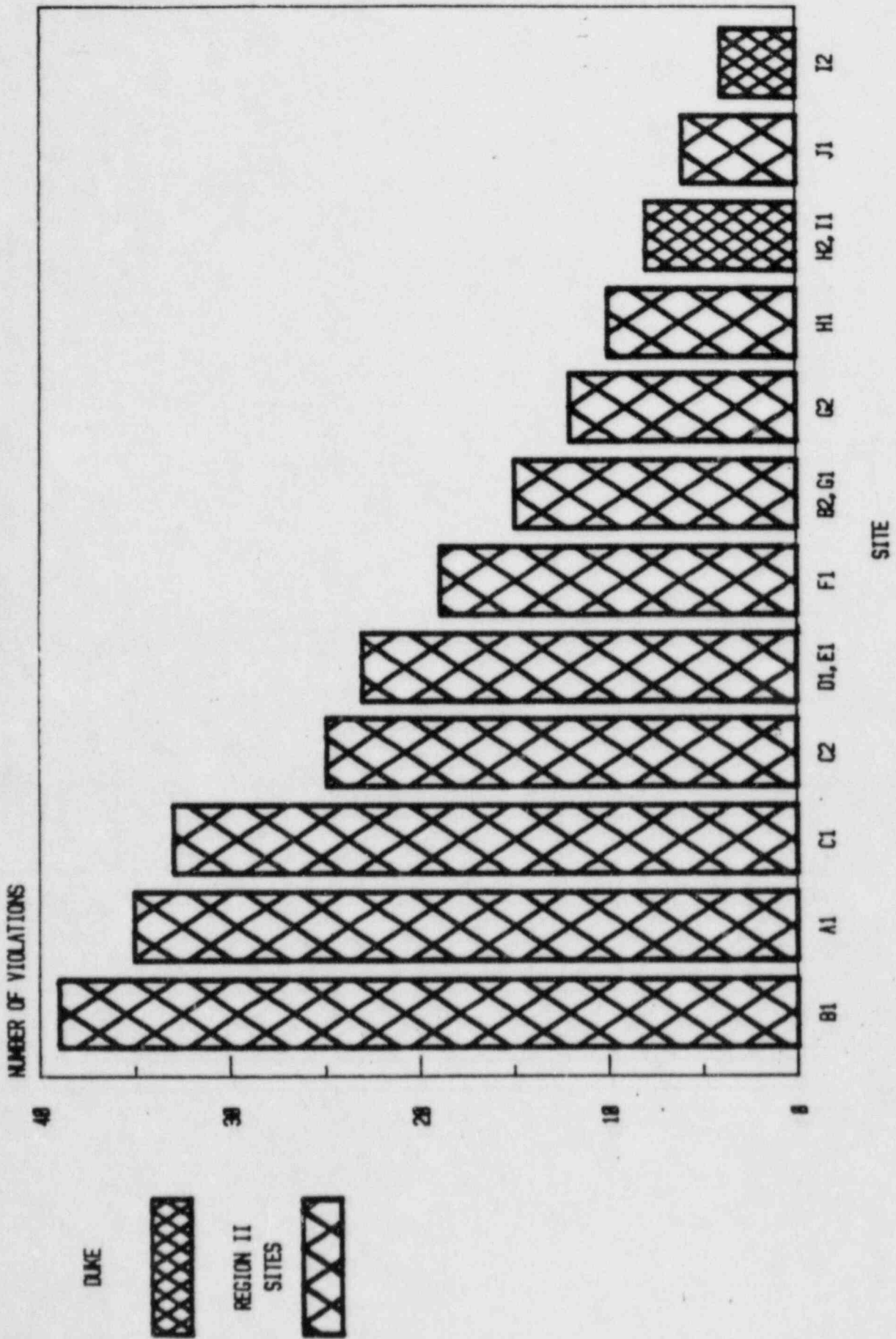
# OPERATIONS PHASE VIOLATIONS/UTILITY/UNIT

JUNE 1982 - APRIL 1983



# OPERATIONS PHASE VIOLATIONS/SITE/UNIT

JUNE 1982 - APRIL 1983



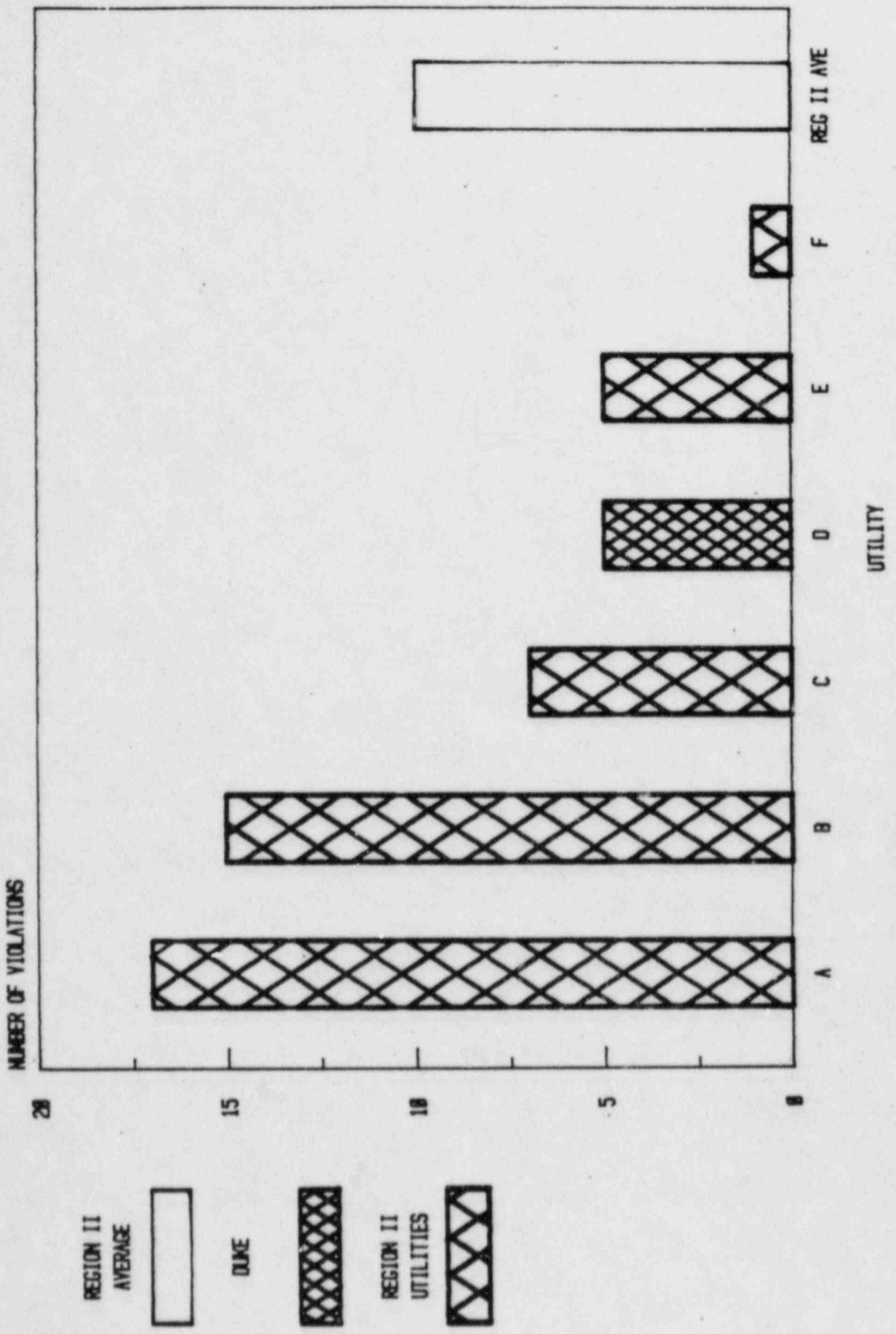
# VIOLATION SUMMARY OPERATING REACTORS

*JUNE 1982 - APRIL 1983*

	I	II	III	IV	V
OCONEE 1	0	0	2	3	4
OCONEE 2	0	0	1	4	3
OCONEE 3	0	0	2	2	3
McGUIRE 1	0	0	0	3	3
McGUIRE 2	0	0	0	1	1
REGION II AVERAGE	0	0	1	9	7

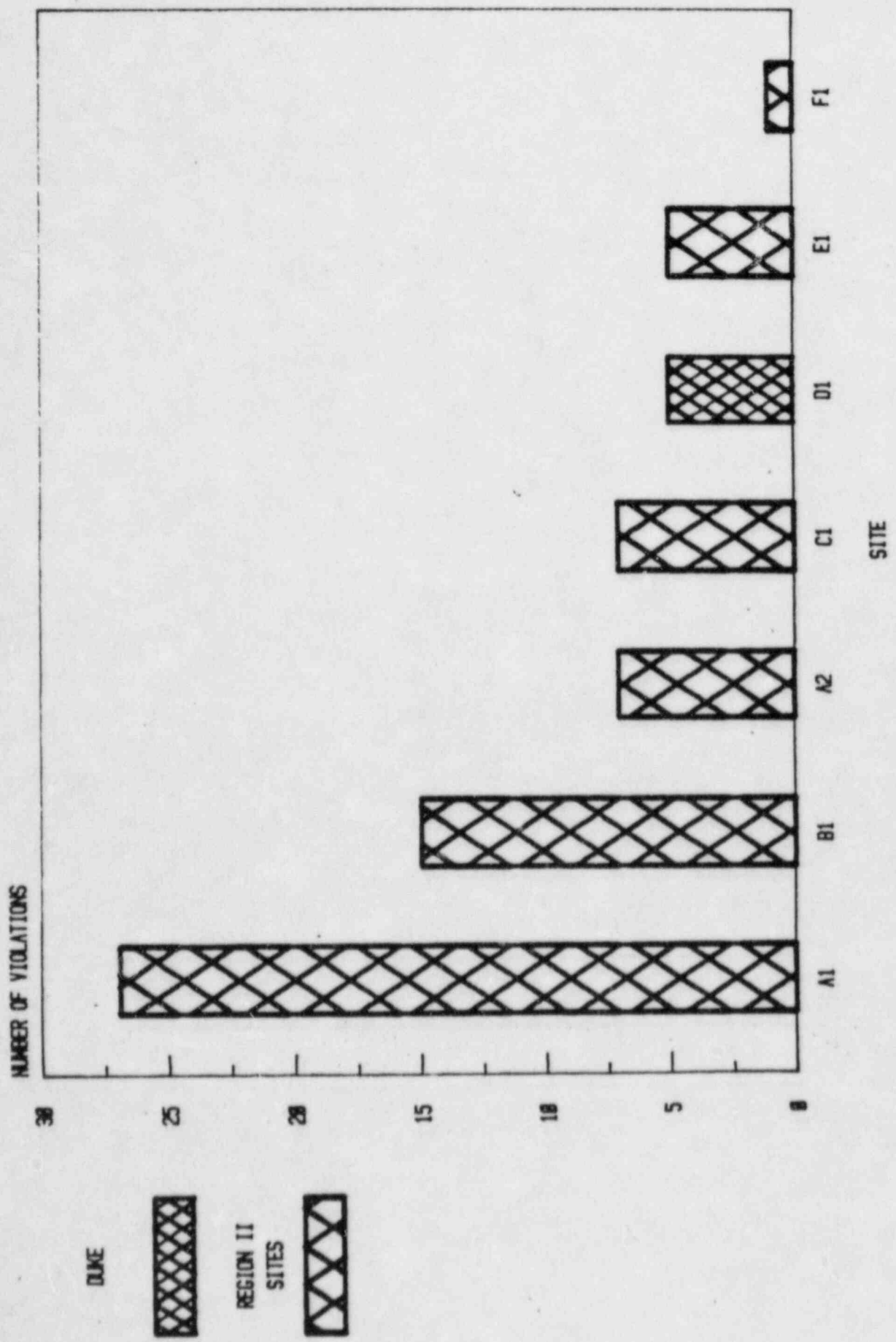
# CONST. PHASE VIOLATIONS/UTILITY/UNIT

JUNE 1982 - APRIL 1983



# CONSTRUCTION PHASE VIOLATIONS/SITE/UNIT

JUNE 1982 - APRIL 1983



# VIOLATION SUMMARY CONSTRUCTION REACTORS

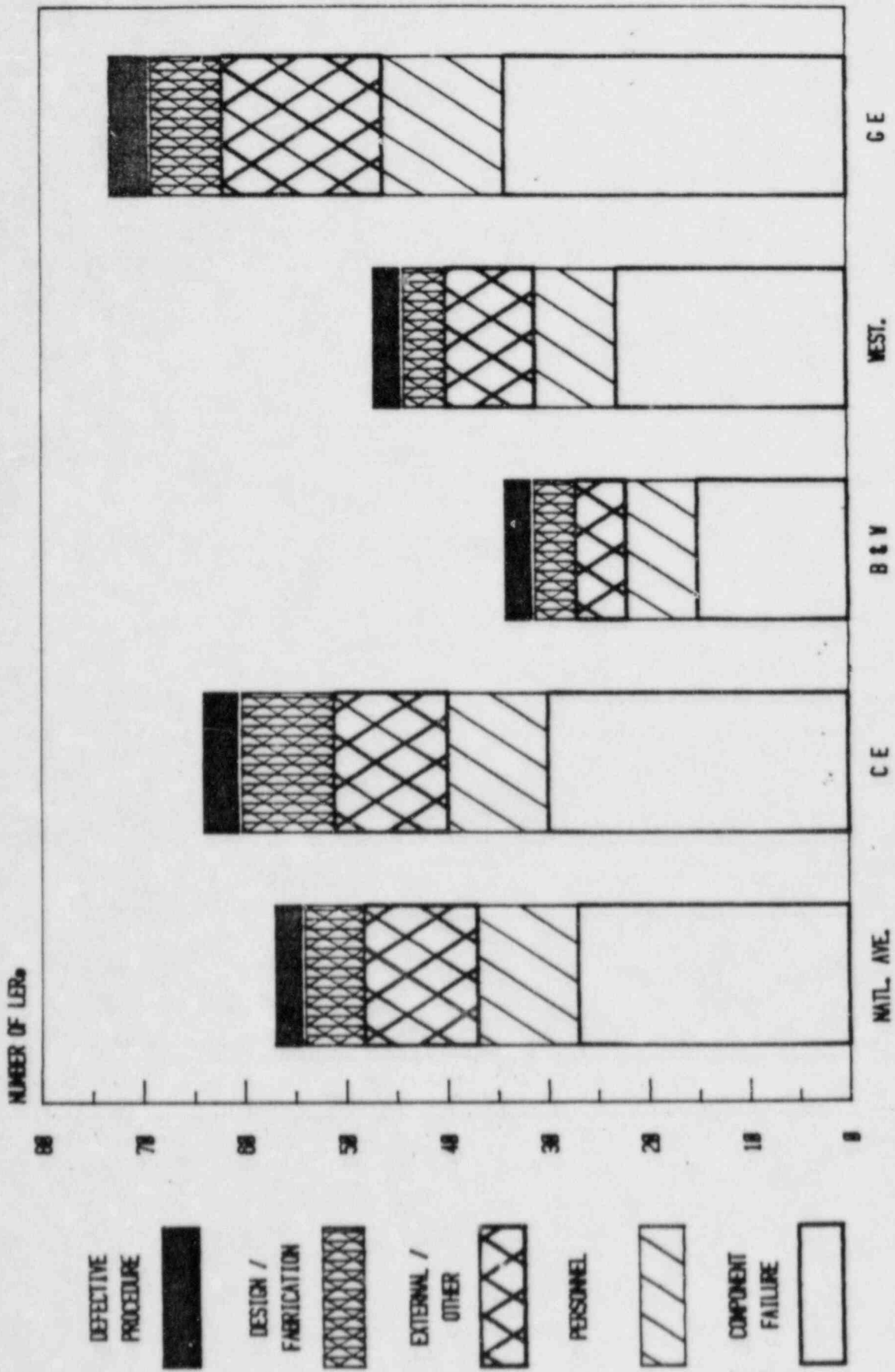
*JUNE 1982 - APRIL 1983*

	I	II	III	IV	V
CATAWBA 1	0	0	0	5	2
CATAWBA 2	0	0	0	3	0
REGION II AVERAGE	0	0	0	4	6

# REPORTABLE EVENTS

# LERs PER PLANT TYPE

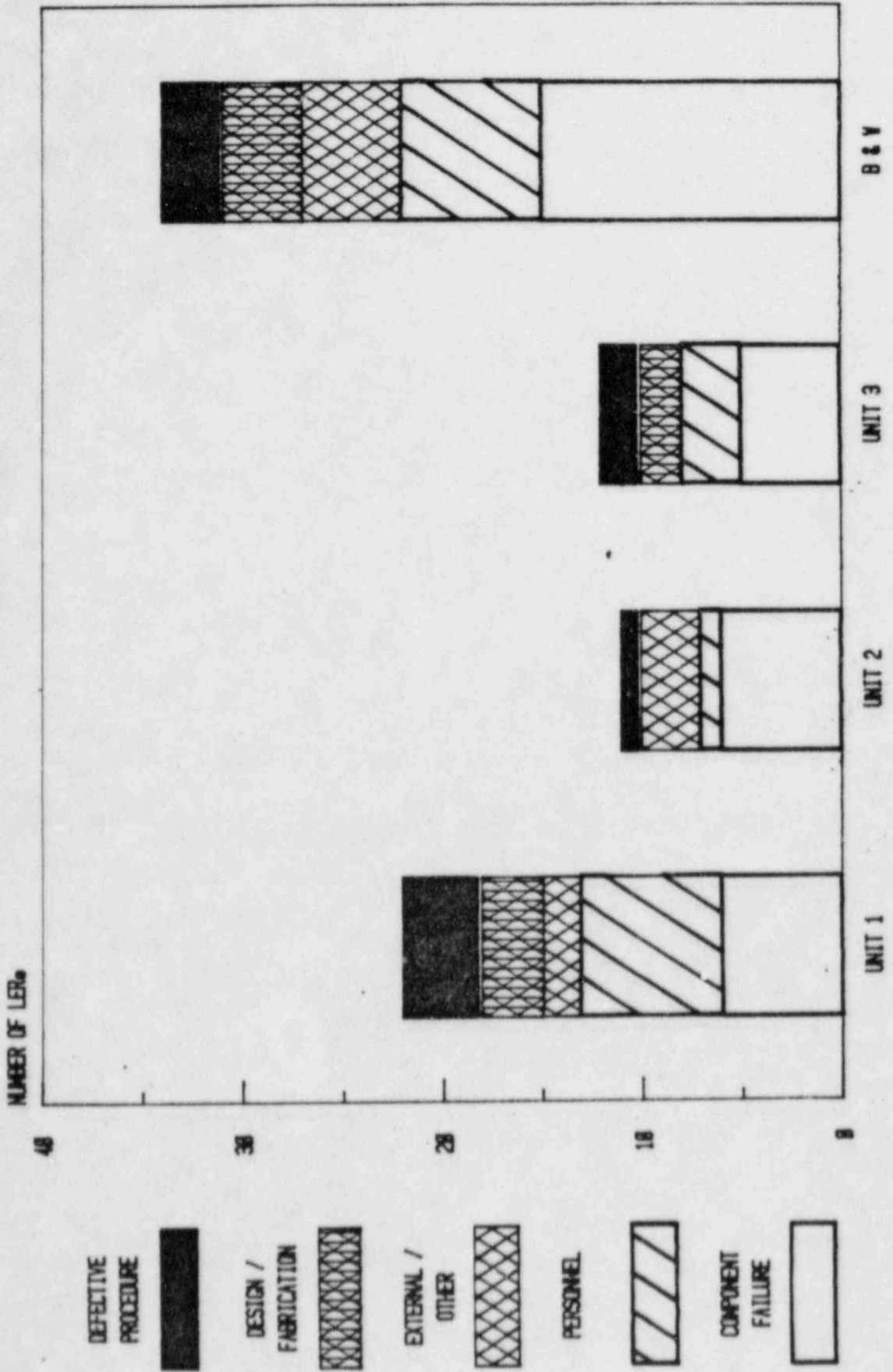
JUNE 1982 - APRIL 1983





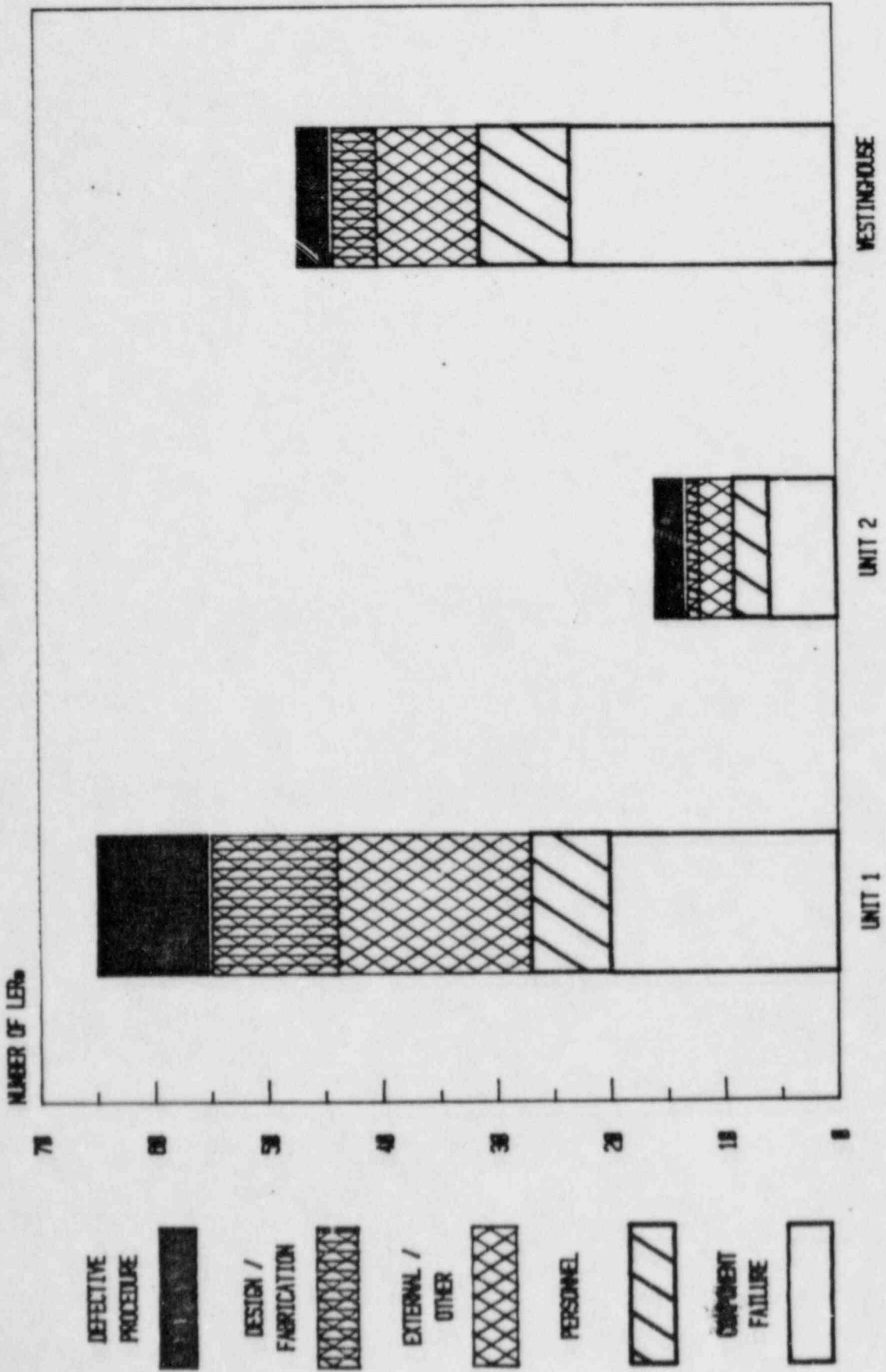
# OCCONEE LERS

JUNE 1982 - APRIL 1983



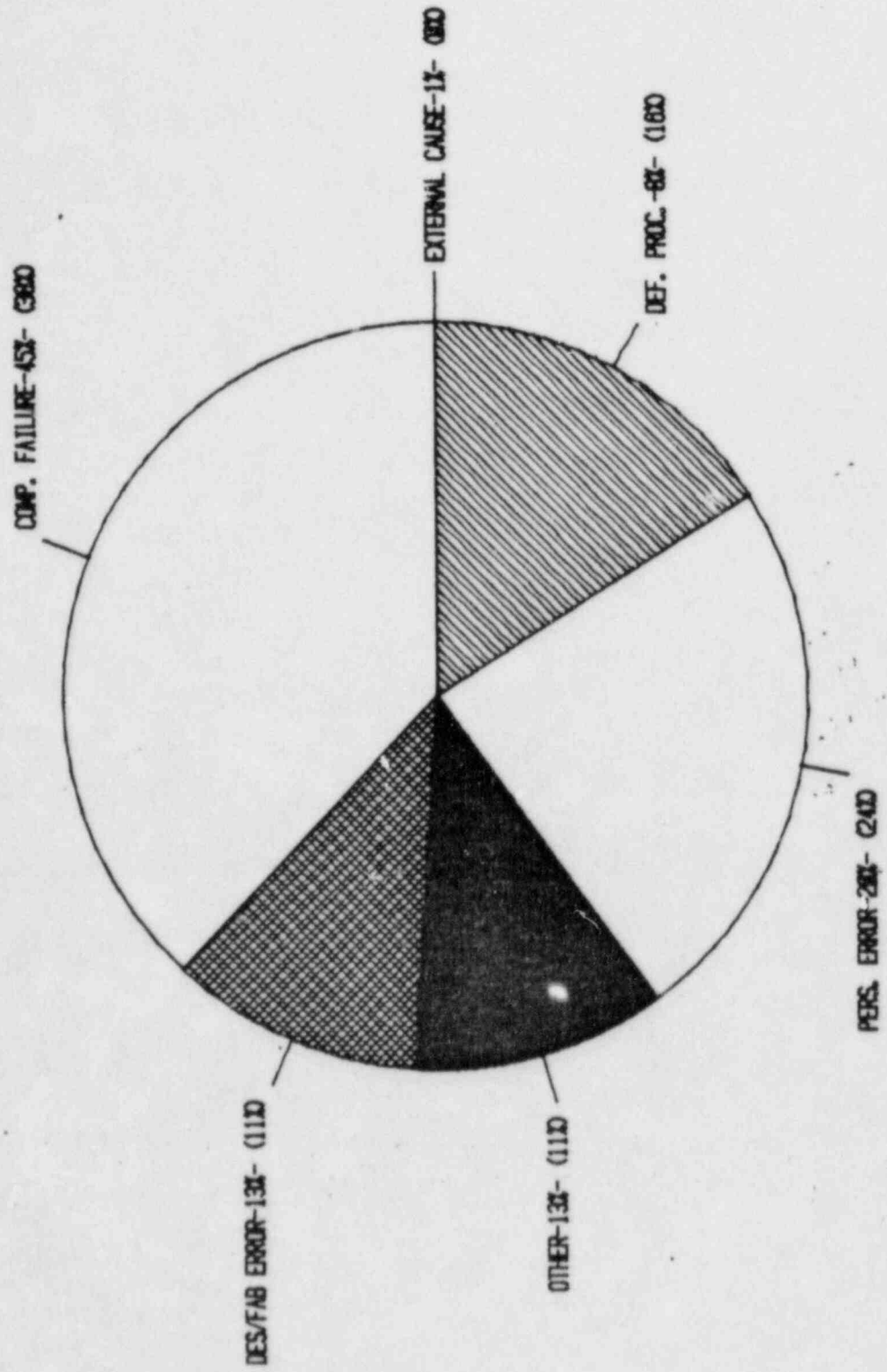
# McGUIRE LERS

JUNE 1982 - APRIL 1983



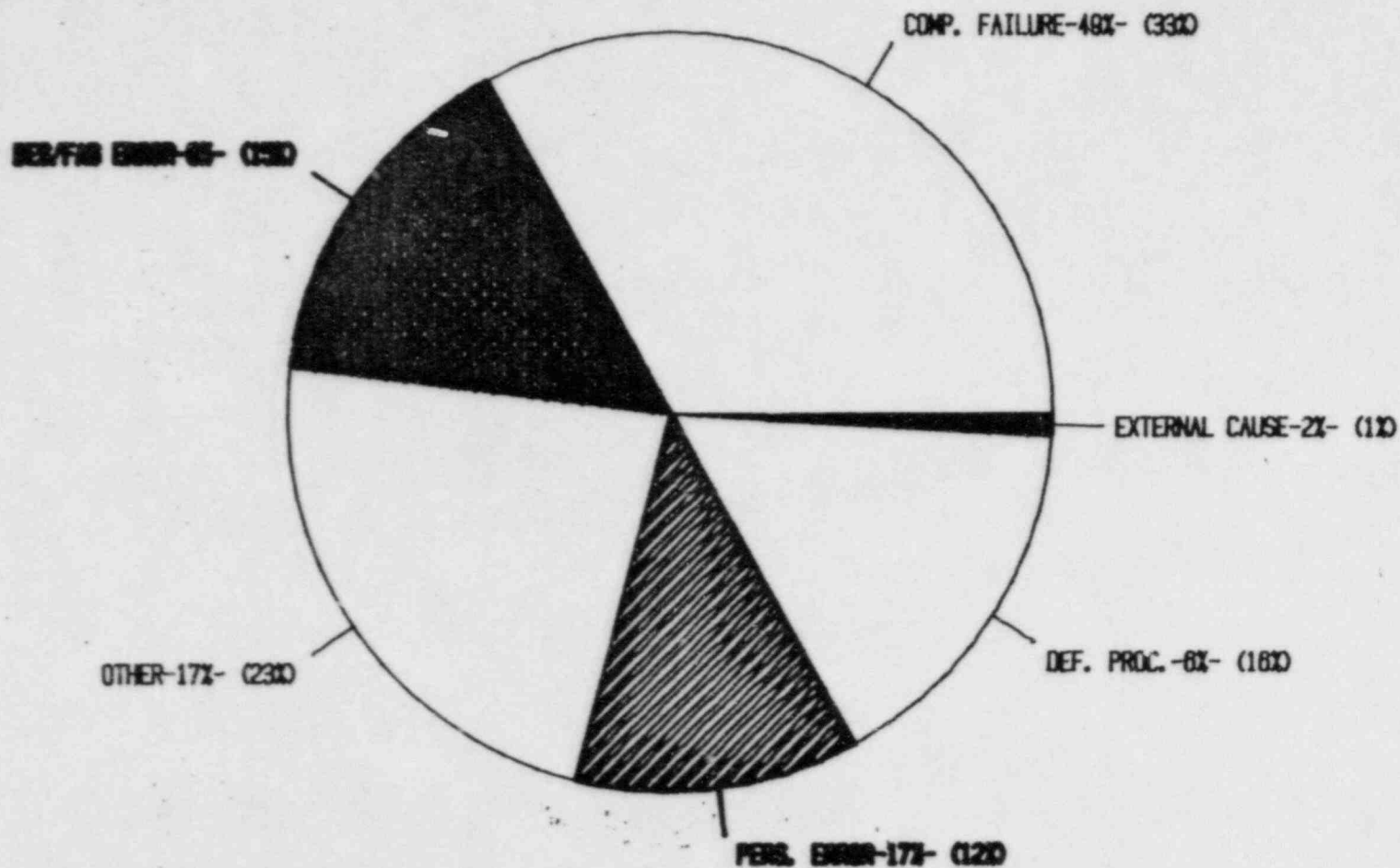
# B & W and (OCONEE) LERs

JUNE 1982 - APRIL 1983



# WESTINGHOUSE and (McGUIRE) LERs

JUNE 1982 - APRIL 1983



CONSTRUCTION DEFICIENCY REPORTS  
JUNE 1982 - APRIL 1983

CATAWBA 1 19

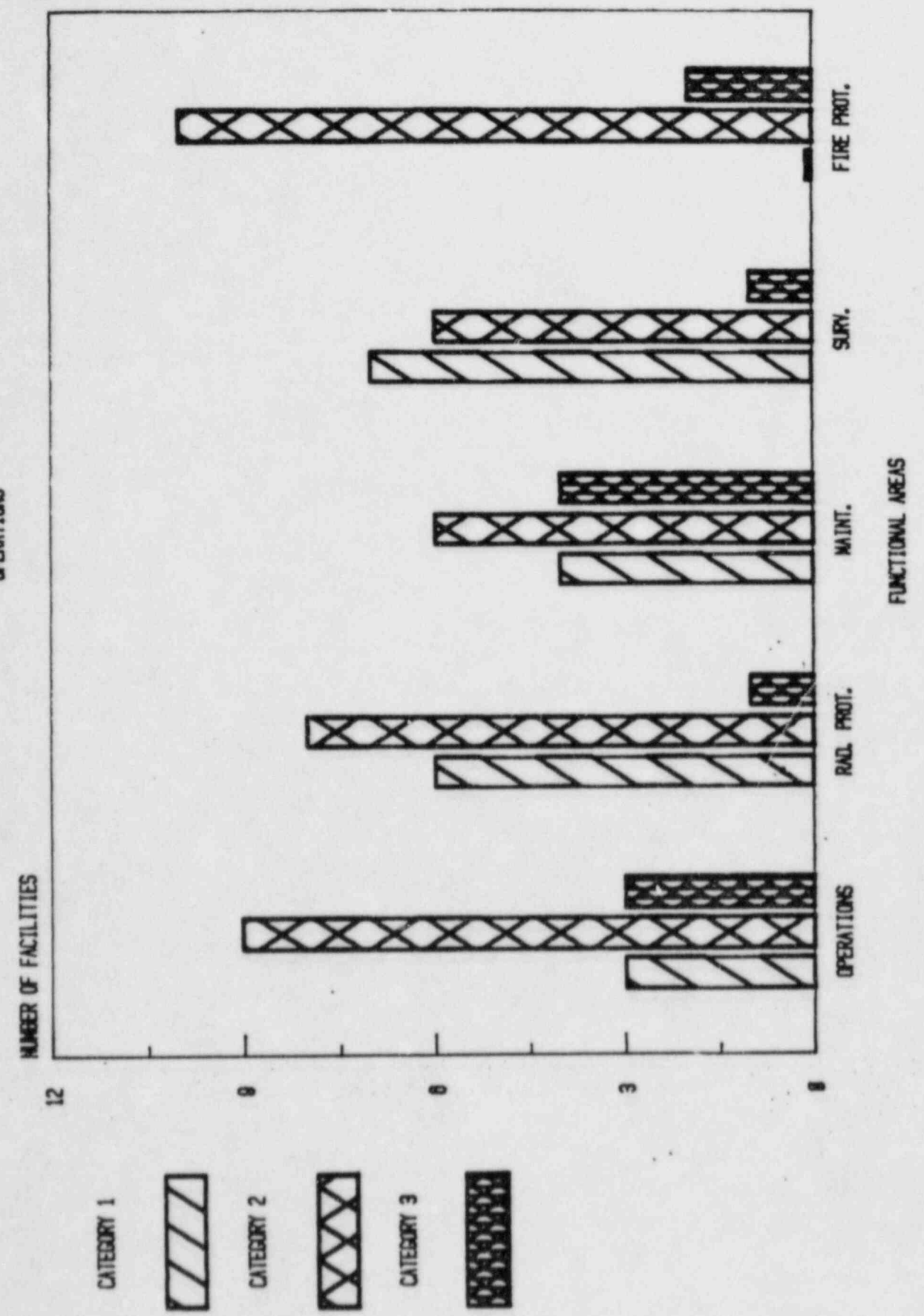
CATAWBA 2 18

REGION II AVERAGE 35

# INFORMATIONAL DATA

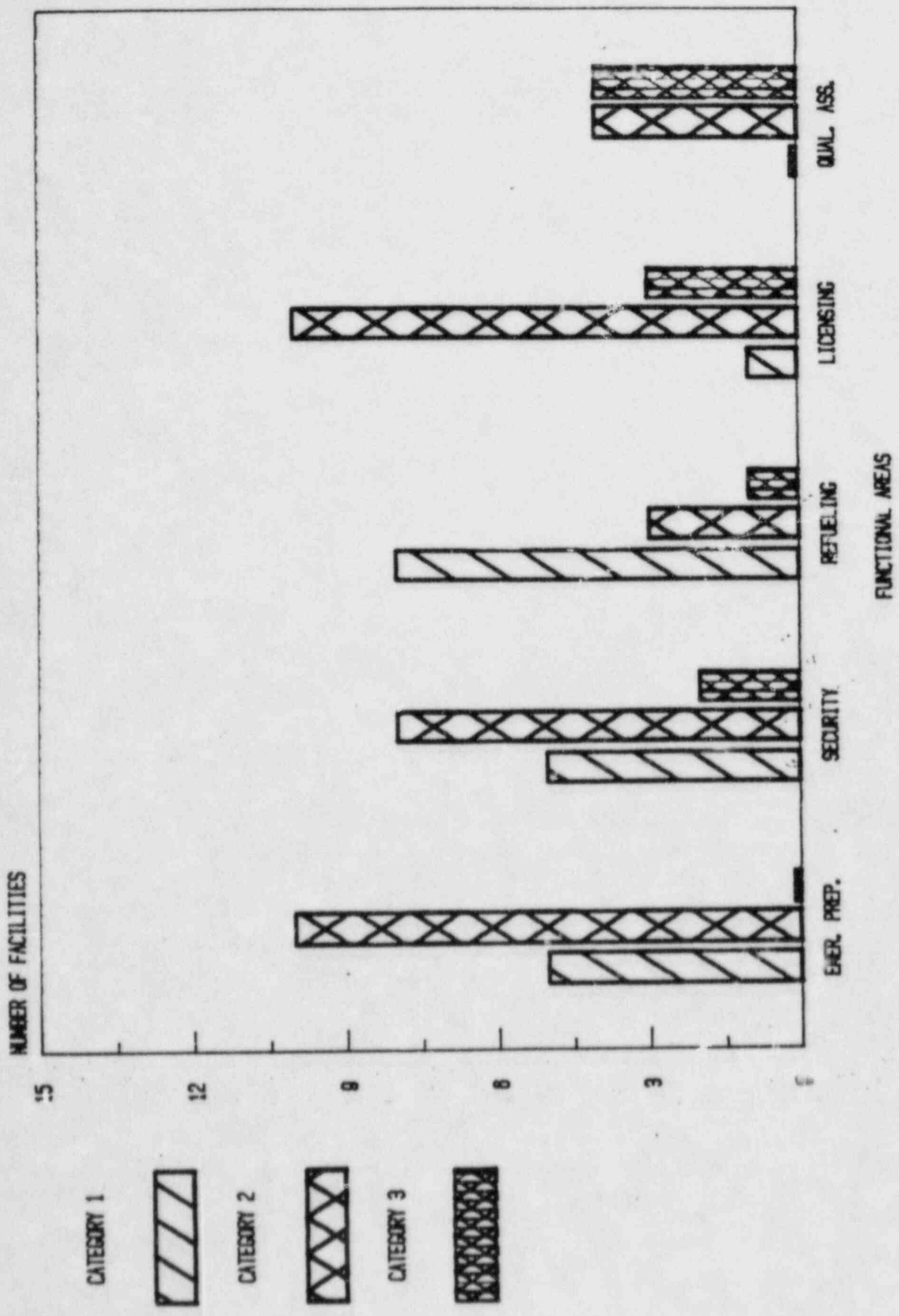
# FUNCTIONAL AREA COMPARISON

OPERATIONS



# FUNCTIONAL AREA COMPARISON

OPERATIONS



NUMBER OF FACILITIES

15

12

9

6

3

0

CATEGORY 1



CATEGORY 2



CATEGORY 3

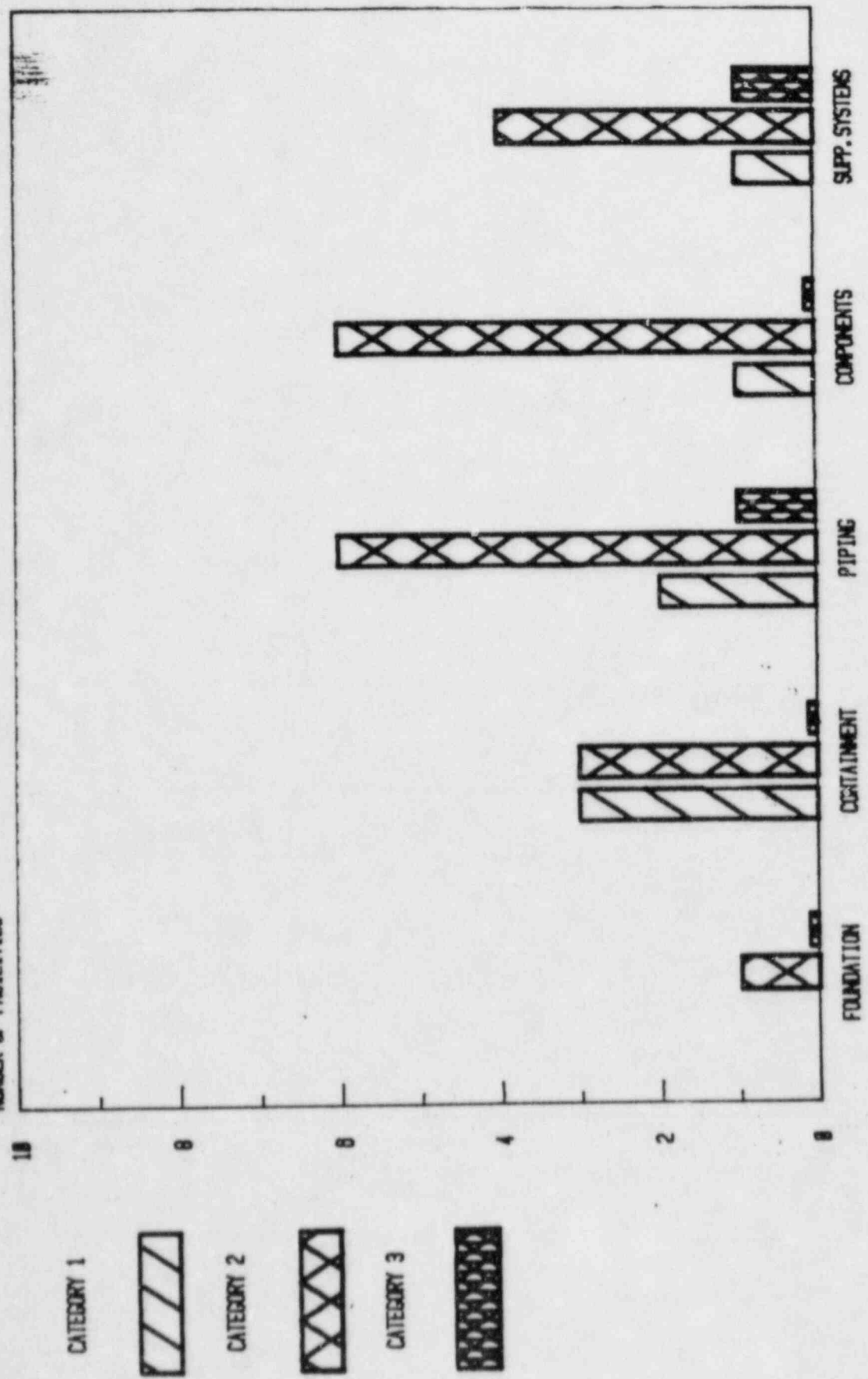




# FUNCTIONAL AREA COMPARISON

CONSTRUCTION

NUMBER OF FACILITIES



FUNCTIONAL AREAS

CATEGORY 1



CATEGORY 2

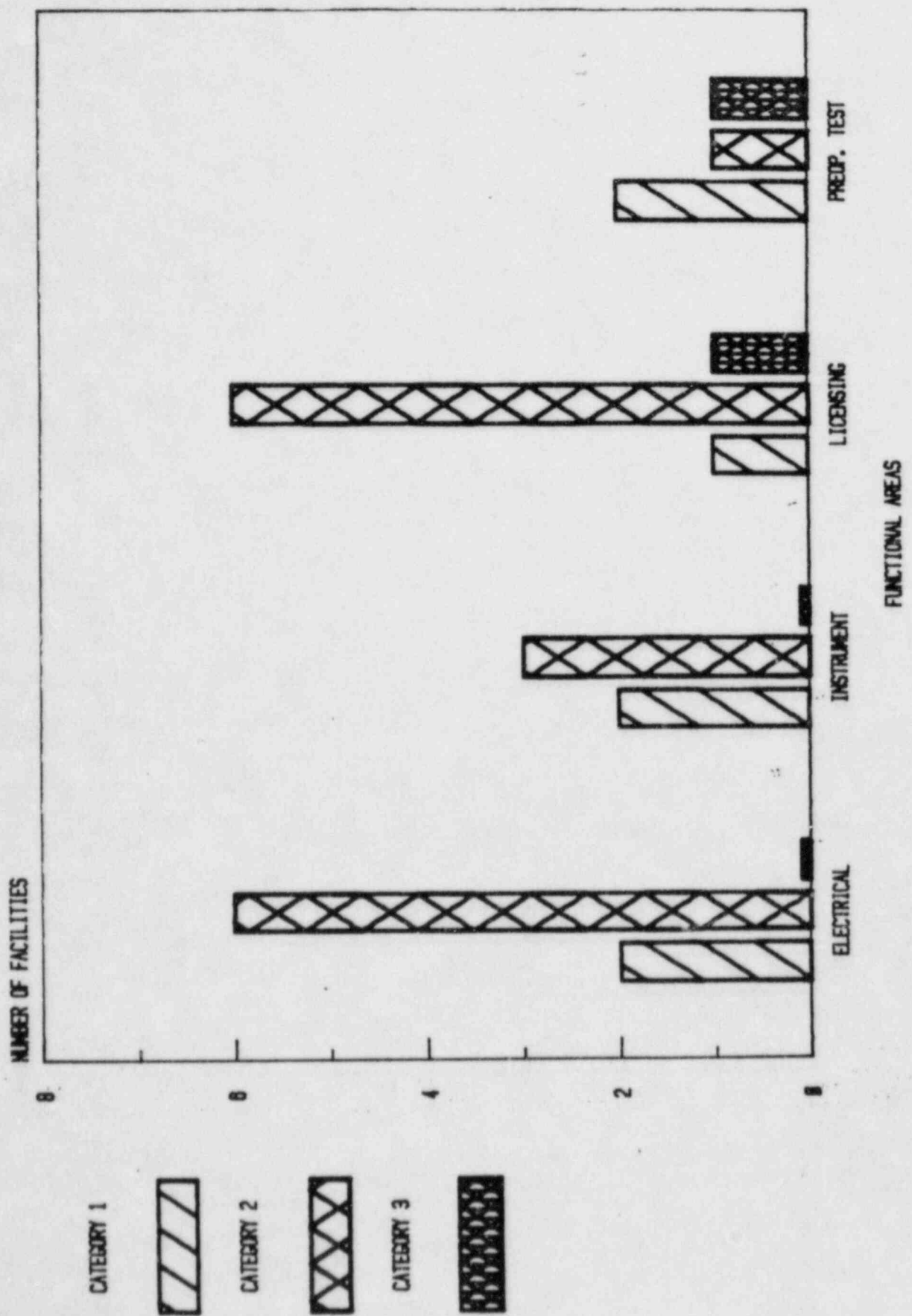


CATEGORY 3



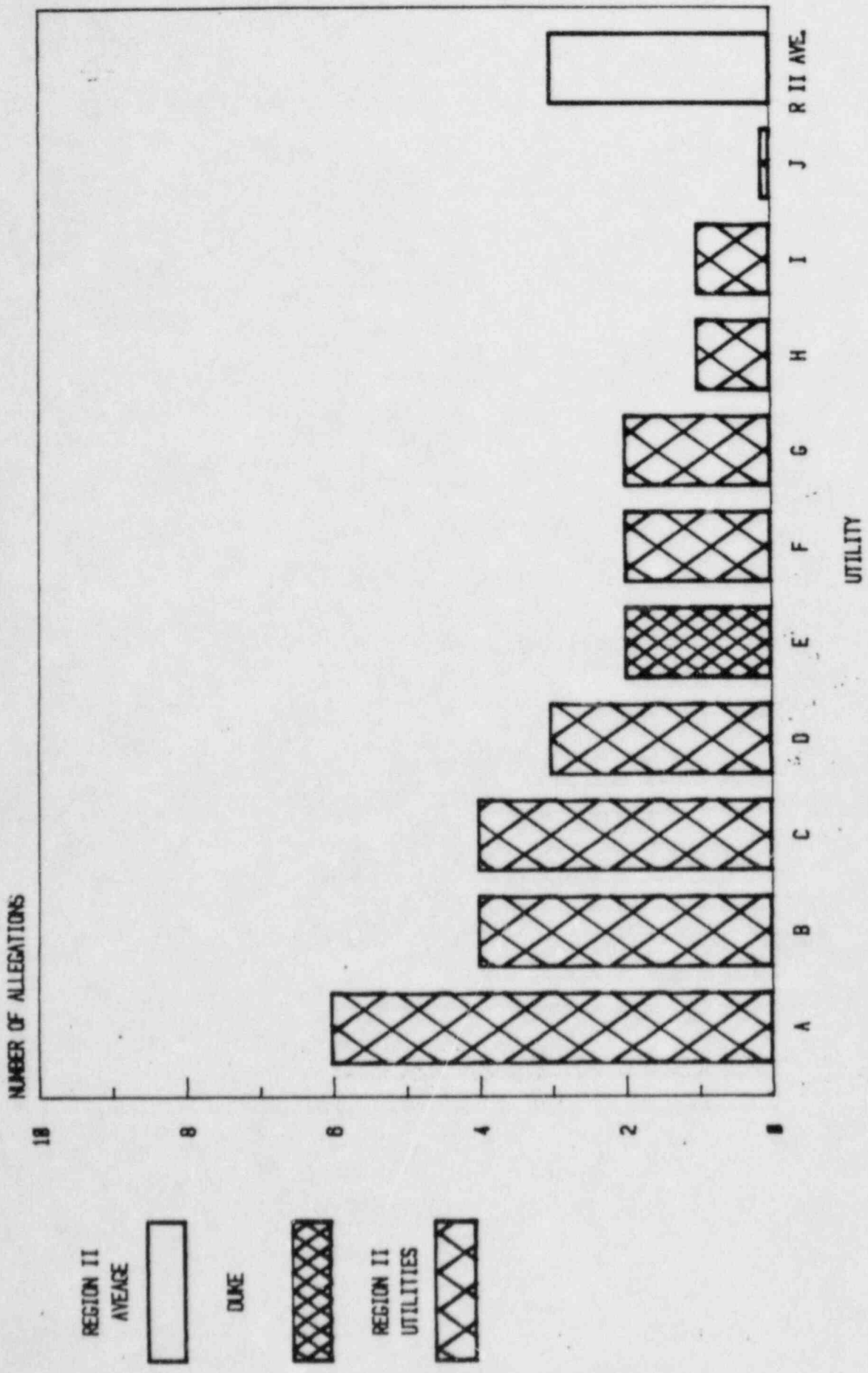
# FUNCTIONAL AREA COMPARISON

CONSTRUCTION



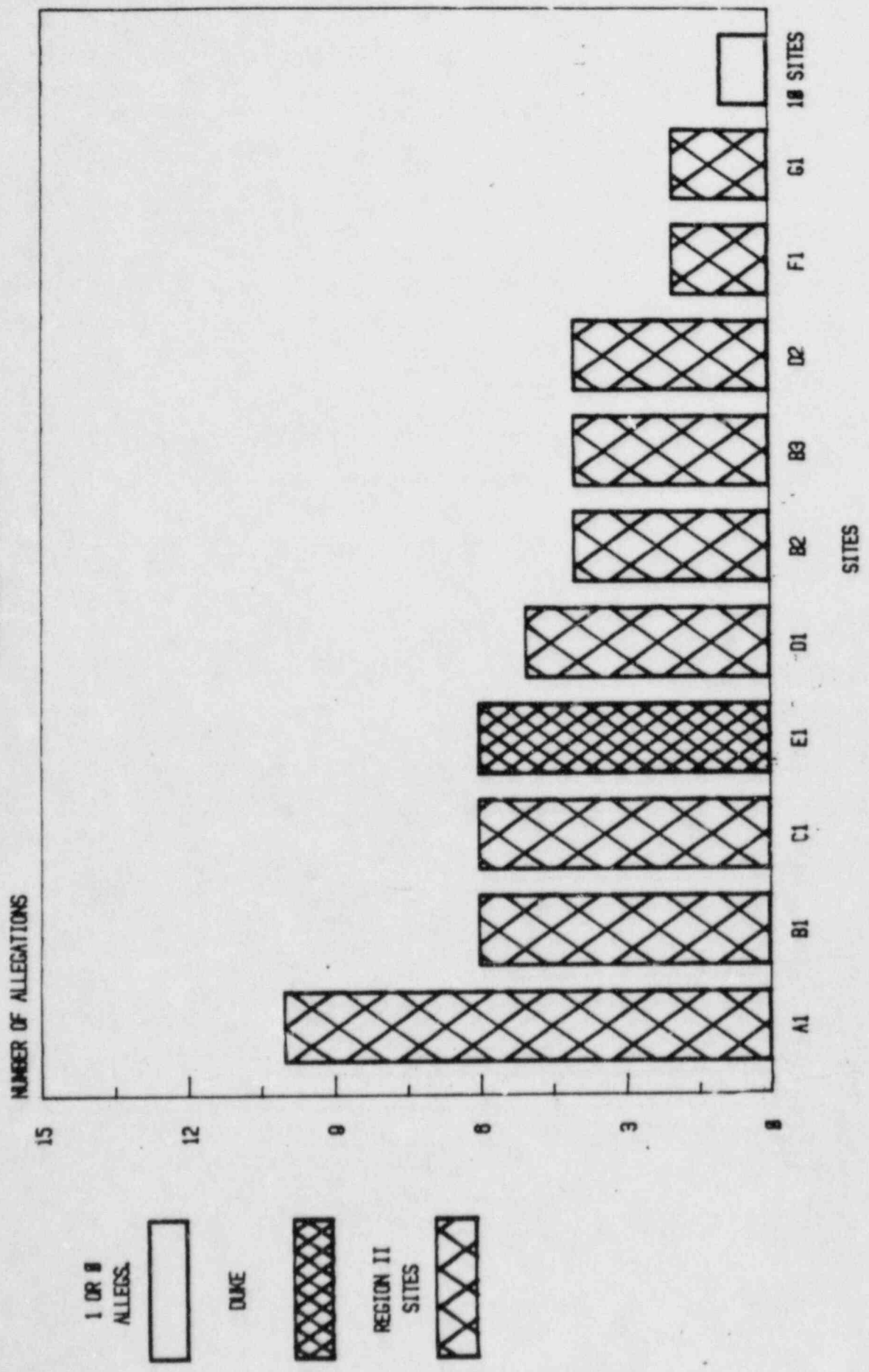
# ALLEGATIONS PER UTILITY

JUNE 1982 - APRIL 1983



# ALLEGATIONS PER SITE

JUNE 1982 - APRIL 1983



# CAUSES OF REACTOR TRIPS

## SEPTEMBER 1982 - APRIL 1983

	TOTAL NUMBER OF TRIPS	AVERAGE TRIPS/UNIT	MECH. FAILURE	ELEC. FAILURE	PERSONNEL ERROR
WEST.	132	4	27%	33%	40%
C E	47	5	17%	40%	43%
B & W	21	3	24%	38%	38%
G E	86	3	30%	34%	36%
OCONEE	9	3	45%	22%	33%
McGUIRE	5	5	0%	80%	20%

# FINDINGS

OCONEE

*AREAS NOT RATED*

1. FIRE PROTECTION

# OCONEE

## *CATEGORY 1 AREAS*

1. MAINTENANCE
2. SECURITY AND SAFEGUARDS
3. REFUELING



# OCCONEE

## *CATEGORY 2 AREAS*

1. PLANT OPERATIONS
2. RADIOLOGICAL CONTROLS
3. EMERGENCY PREPAREDNESS
4. LICENSING ACTIVITIES
5. QUALITY ASSURANCE PROGRAM

OCONEE

*CATEGORY 3 AREAS*

1. SURVEILLANCE

# McGUIRE

## *CATEGORY 1 AREAS*

1. PLANT OPERATIONS
2. RADIOLOGICAL CONTROLS
3. MAINTENANCE
4. EMERGENCY PREPAREDNESS
5. SECURITY AND SAFEGUARDS
6. REFUELING
7. LICENSING ACTIVITIES
8. PREOPERATIONAL TESTING

# McGUIRE

## *CATEGORY 2 AREAS*

1. SURVEILLANCE
2. FIRE PROTECTION
3. QUALITY ASSURANCE  
PROGRAM

McGUIRE

*CATEGORY 3 AREAS*

NONE

# CATAWBA

## *AREAS NOT RATED*

1. SAFETY RELATED  
COMPONENTS
2. SUPPORT SYSTEMS

# CATAWBA

## *CATEGORY 1 AREAS*

1. PIPING SYSTEMS AND SUPPORTS
2. QUALITY ASSURANCE PROGRAM

# CATAWBA

## *CATEGORY 2 AREAS*

1. CONTAINMENT AND OTHER SAFETY RELATED STRUCTURES
2. ELECTRICAL POWER SUPPLY AND DISTRIBUTION
3. INSTRUMENTATION AND CONTROL SYSTEMS
4. LICENSING ACTIVITIES



CATAWBA

*CATEGORY 3 AREAS*

NONE

# OCONEE - OVERALL EVALUATION

1. MAJOR STRENGTHS IN MAINTENANCE, SECURITY AND SAFEGUARDS, AND REFUELING WERE IDENTIFIED. A MAJOR WEAKNESS WAS NOTED IN SURVEILLANCE.
2. VIOLATIONS WERE GENERALLY CAUSED BY PROCEDURAL OR COMMUNICATIONS PROBLEMS, THOUGH THERE HAS BEEN SOME IMPROVEMENT IN PROCEDURAL COMPLIANCE.
3. AN ADDITIONAL WEAKNESS WAS NOTED IN THE PROGRAMMATIC REVIEW OF LICENSE AMENDMENT IMPLEMENTATION.
4. STRONG TECHNICAL COMPETENCE WAS EXHIBITED IN SAFETY REVIEW AREAS.
5. OPERATOR RESPONSE TO SIGNIFICANT OPERATIONAL EVENTS WAS ANOTHER STRONG AREA.
6. A SURVEILLANCE PROGRAM WEAKNESS INVOLVED A LACK OF VERIFIABLE CONTROLS IN SYSTEM RESTORATION FOLLOWING SURVEILLANCE OR MAINTENANCE ACTIVITIES.

## McGUIRE - OVERALL EVALUATION

1. MAJOR STRENGTHS IN PLANT OPERATIONS, RADIOLOGICAL CONTROLS, MAINTENANCE, EMERGENCY PREPAREDNESS, SECURITY AND SAFEGUARDS, REFUELING, LICENSING ACTIVITIES, AND PREOPERATIONAL TESTING OF UNIT 2 WERE IDENTIFIED. NO MAJOR WEAKNESSES WERE NOTED.
2. THE LOW NUMBER OF VIOLATIONS/ DEVIATIONS IDENTIFIED ATTESTED TO THE STRENGTH OF MANAGEMENT ATTENTION TO THE RESOLUTION OF MATTERS OF NUCLEAR SAFETY.
3. THE LICENSEE WAS TECHNICALLY COMPETENT, DEDICATED TO SAFE, EFFICIENT PLANT COMPLETION AND STARTUP, AND APPLIED APPROPRIATE RESOURCES TO RESOLVE TECHNICAL ISSUES AND SAFETY CONCERNS.

## CATAWBA - OVERALL EVALUATION

1. MAJOR STRENGTHS IN PIPING SYSTEMS AND SUPPORTS, AND THE QUALITY ASSURANCE PROGRAM, WERE IDENTIFIED.
2. A CONTINUING STRENGTH APPEARED TO BE THE CONSIDERABLE DEDICATION, AT ALL LEVELS, TOWARDS PRODUCING QUALITY WORK.
3. SIGNIFICANT ACTIONS TO IMPROVE QUALITY ASSURANCE WERE IMPLEMENTED DURING THE APPRAISAL PERIOD.
4. IMPROVED PERFORMANCE WAS NOTED IN THE CORRECTIVE ACTION PROGRAM.

# UTILITY EVALUATION

1. A COMPREHENSIVE SELF-AUDIT OF ACTIVITIES RELATED TO THE SEISMIC DESIGN OF THE CATAWBA AND McGUIRE FACILITIES WAS PERFORMED. THE EFFORT DEVOTED TO THE SELF-AUDIT ATTESTS TO LICENSEE MANAGEMENT RESPONSIVENESS TO SAFETY CONCERNS.
2. THE LICENSEE WAS RESPONSIVE TO NRC CONCERNS AND PERFORMED THOROUGH EVALUATIONS OF TECHNICAL SAFETY ISSUES.
3. ISSUES IDENTIFIED BY UTILITY PERSONNEL WERE PROMPTLY REPORTED AND INVESTIGATED.

# UTILITY EVALUATION

4. THE LICENSEE WAS RESPONSIVE TO NRC CONCERNS AND PERFORMED THOROUGH EVALUATIONS OF TECHNICAL SAFETY ISSUES.
5. ISSUES IDENTIFIED BY UTILITY PERSONNEL WERE PROMPTLY REPORTED AND INVESTIGATED.
6. THE LICENSEE HAS SIGNIFICANTLY IMPROVED THE CORPORATE QUALITY ASSURANCE PROGRAM IN THE AREAS OF DESIGN AND CONSTRUCTION ACTIVITIES.

210/662393

UNITED STATES  
NUCLEAR REGULATORY  
COMMISSION

SYSTEMATIC ASSESSMENT

OF

LICENSEE PERFORMANCE

(SALP)

A/10/3

U. S. NUCLEAR REGULATORY COMMISSION  
REGION II

SYSTEMATIC ASSESSMENT OF  
LICENSEE PERFORMANCE  
BOARD ASSESSMENT

CRYSTAL RIVER UNIT 3  
DOCKET NUMBER 50-302

JULY 1, 1982 through JUNE 30, 1983

INSPECTION  
REPORT NUMBER  
50-302/83-22



# INTRODUCTION

# SALP PROGRAM OBJECTIVES

1. IMPROVE LICENSEE PERFORMANCE
2. PROVIDE A BASIS FOR ALLOCATION OF NRC RESOURCES
3. IMPROVE NRC REGULATORY PROGRAM

# PERFORMANCE ANALYSIS AREAS FOR OPERATING REACTORS

1. PLANT OPERATIONS
2. RADIOLOGICAL CONTROLS
3. MAINTENANCE
4. SURVEILLANCE
5. FIRE PROTECTION
6. EMERGENCY PREPAREDNESS
7. SECURITY AND SAFEGUARDS
8. REFUELING
9. QUALITY ASSURANCE PROGRAM
10. LICENSING ACTIVITIES

# AREA PERFORMANCE

## *CATEGORY 1*

REDUCED NRC ATTENTION MAY BE APPROPRIATE. LICENSEE MANAGEMENT ATTENTION AND INVOLVEMENT ARE AGGRESSIVE AND ORIENTED TOWARD NUCLEAR SAFETY; LICENSEE RESOURCES ARE AMPLE AND EFFECTIVELY USED SUCH THAT A HIGH LEVEL OF PERFORMANCE WITH RESPECT TO OPERATIONAL SAFETY OR CONSTRUCTION IS BEING ACHIEVED.

# AREA PERFORMANCE

## *CATEGORY 2*

NRC ATTENTION SHOULD BE MAINTAINED AT NORMAL LEVELS. LICENSEE MANAGEMENT ATTENTION AND INVOLVEMENT ARE EVIDENT AND ARE CONCERNED WITH NUCLEAR SAFETY; LICENSEE RESOURCES ARE ADEQUATE AND ARE REASONABLY EFFECTIVE SUCH THAT SATISFACTORY PERFORMANCE WITH RESPECT TO OPERATIONAL SAFETY OR CONSTRUCTION IS BEING ACHIEVED.

# AREA PERFORMANCE

## *CATEGORY 3*

BOTH NRC AND LICENSEE ATTENTION SHOULD BE INCREASED. LICENSEE MANAGEMENT ATTENTION OR INVOLVEMENT IS ACCEPTABLE AND CONSIDERS NUCLEAR SAFETY, BUT WEAKNESSES ARE EVIDENT; LICENSEE RESOURCES APPEAR TO BE STRAINED OR NOT EFFECTIVELY USED SUCH THAT MINIMALLY SATISFACTORY PERFORMANCE WITH RESPECT TO OPERATIONAL SAFETY OR CONSTRUCTION IS BEING ACHIEVED.

# EVALUATION CRITERIA

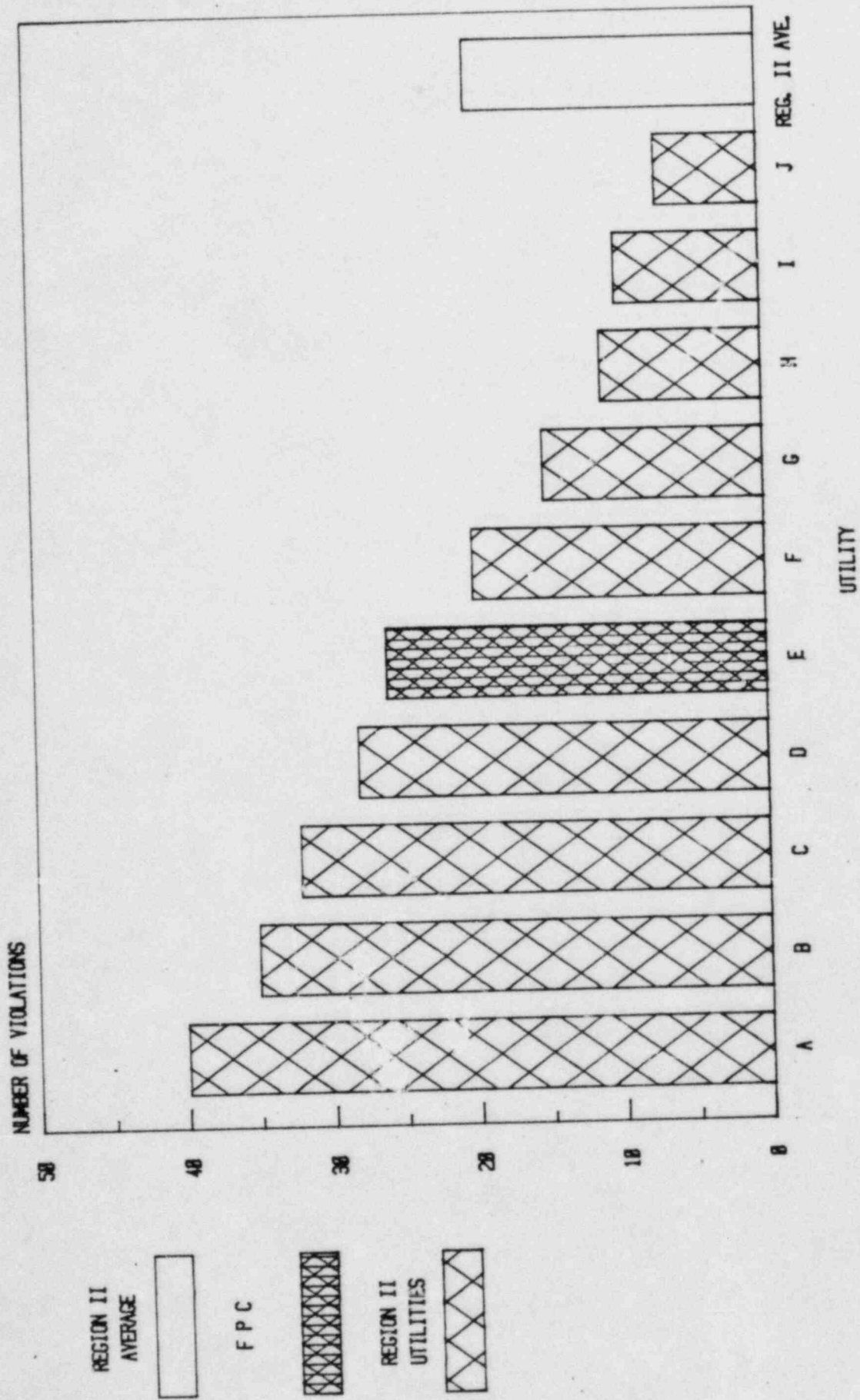
1. MANAGEMENT INVOLVEMENT IN ASSURING QUALITY
2. APPROACH TO RESOLUTION OF TECHNICAL ISSUES FROM THE SAFETY STANDPOINT
3. RESPONSIVENESS TO NRC INITIATIVES
4. ENFORCEMENT HISTORY
5. REPORTING AND ANALYSIS OF REPORTABLE EVENTS
6. STAFFING (INCLUDING MANAGEMENT)
7. TRAINING EFFECTIVENESS AND QUALIFICATION

# VIOLATIONS



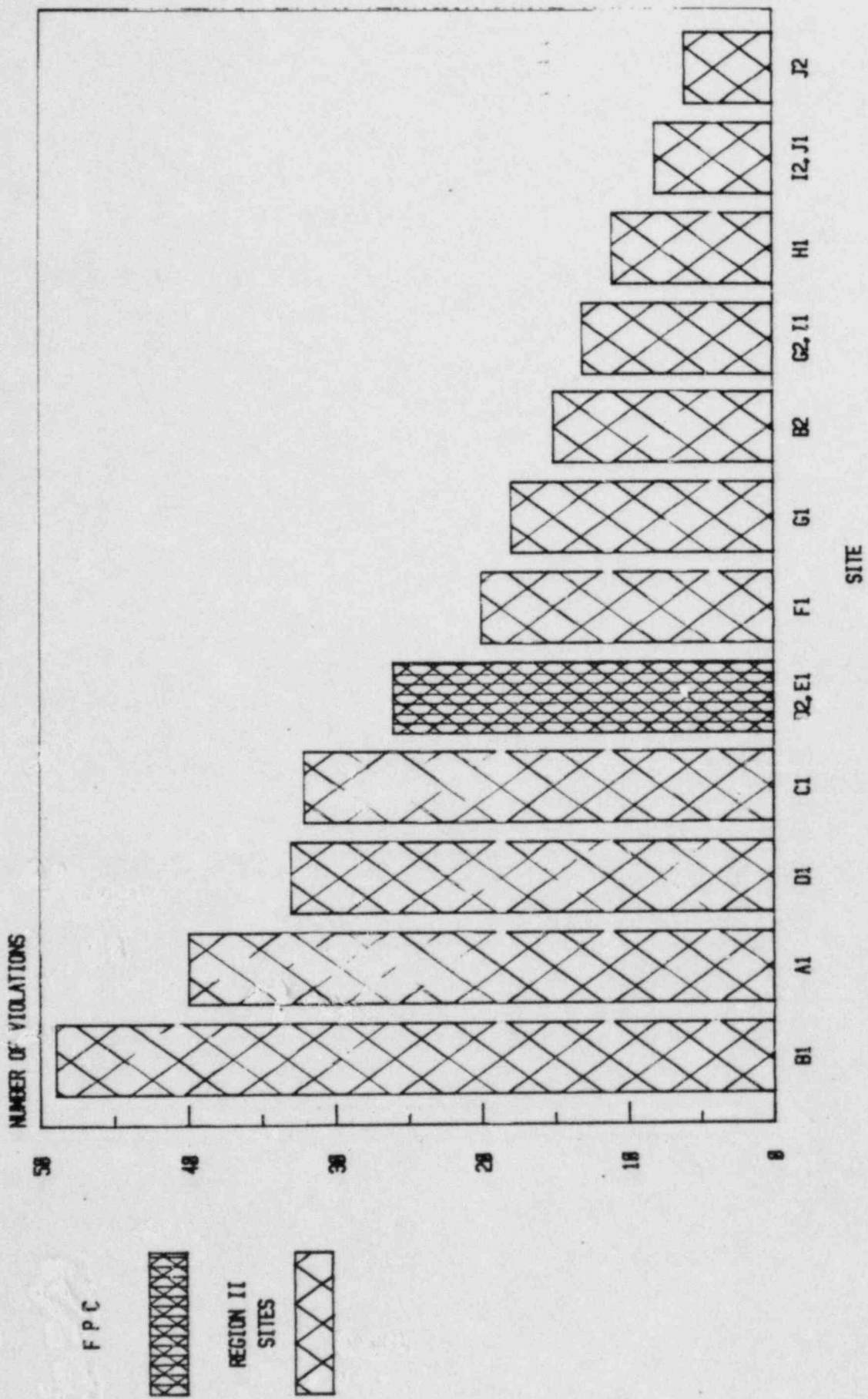
# OPERATIONS PHASE VIOLATIONS/UTILITY/UNIT

JULY 1982 - JUNE 1983



# OPERATIONS PHASE VIOLATIONS/SITE/UNIT

JULY 1982 - JUNE 1983



# VIOLATION SUMMARY OPERATING REACTORS

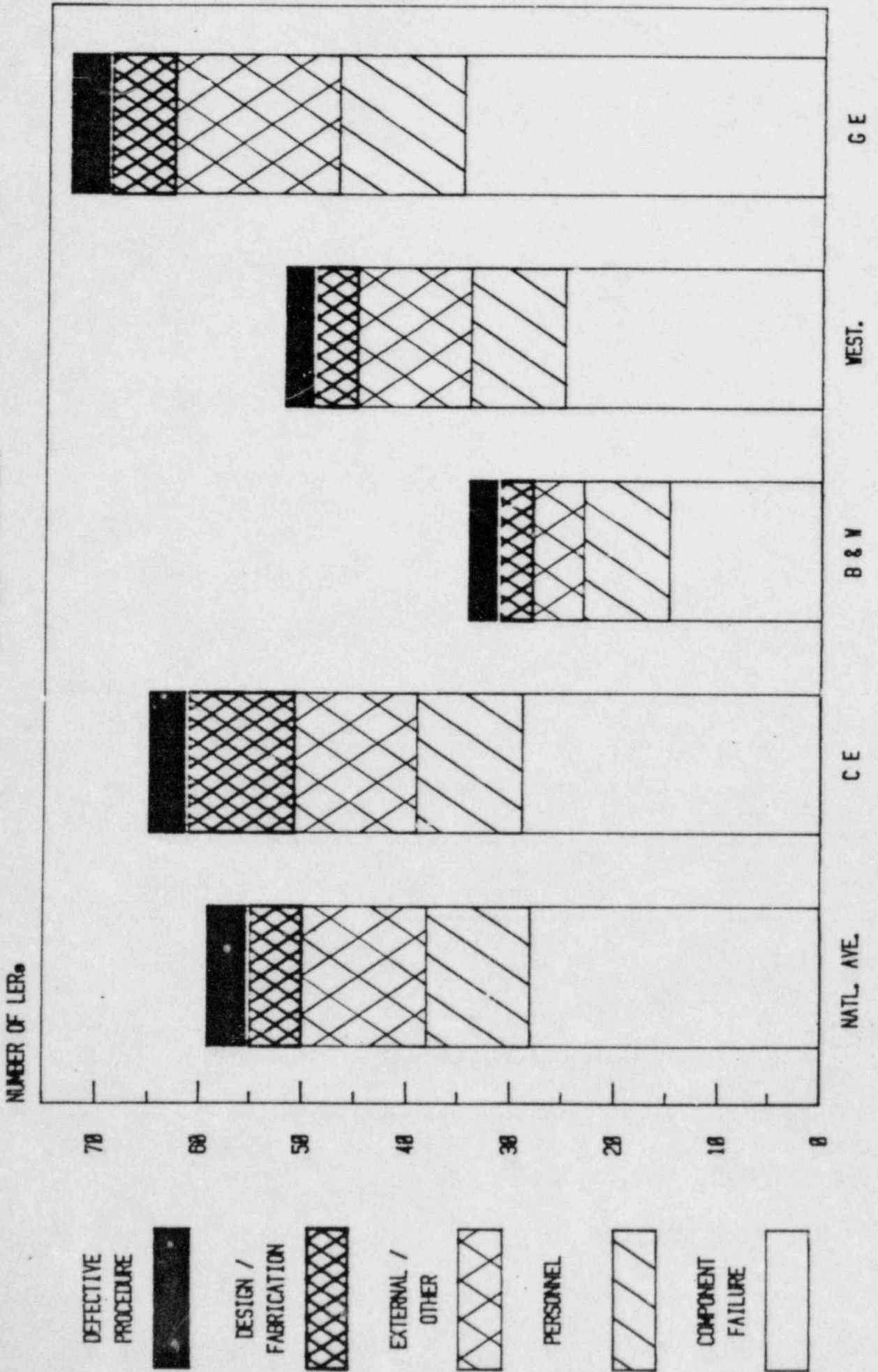
*JULY 1982 - JUNE 1983*

	I	II	III	IV	V
CRYSTAL RIVER 3	0	0	1	13	12
REGION II AVERAGE	0	0	1	11	8

REPORTABLE EVENTS

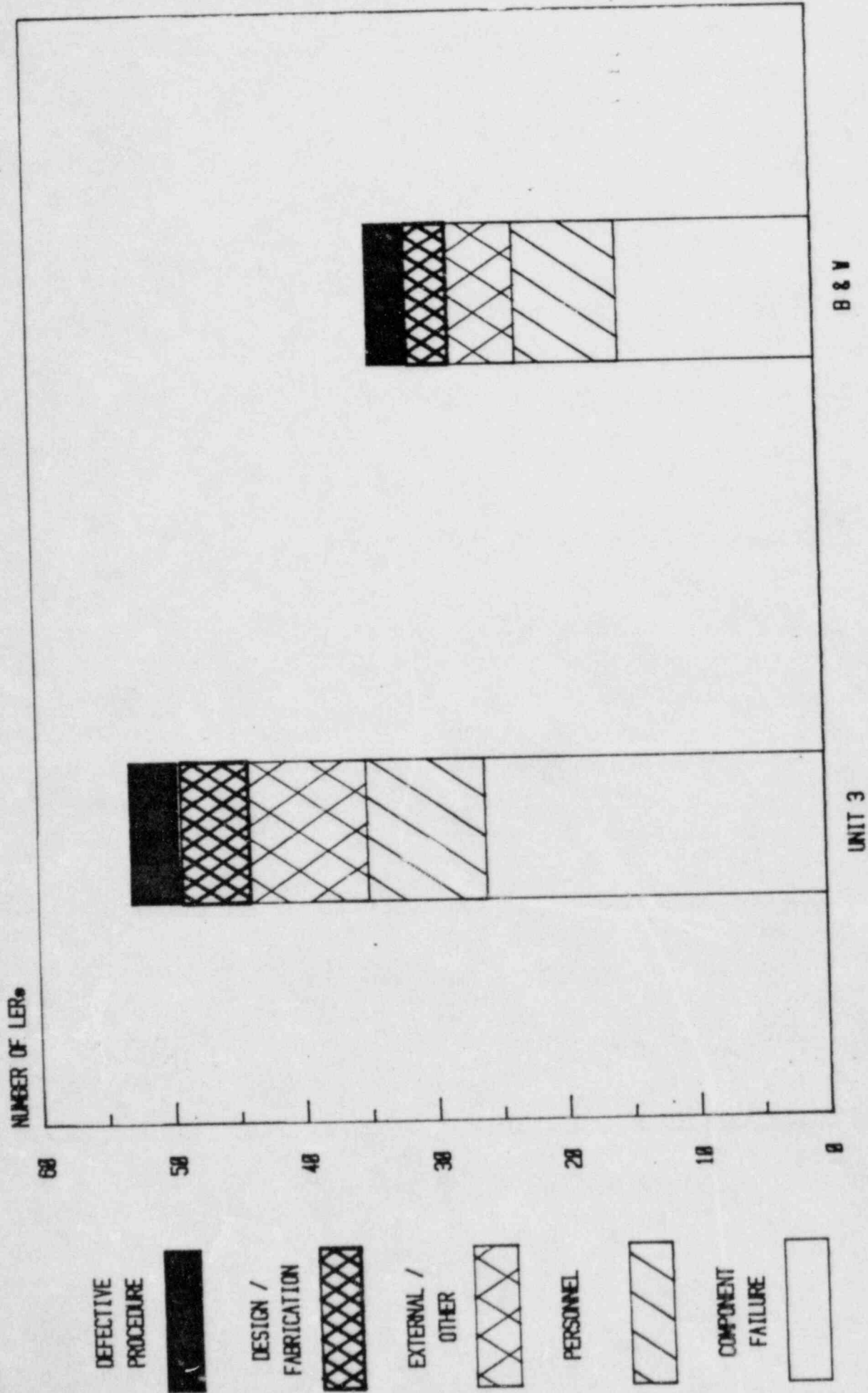
# LERs PER PLANT TYPE

JULY 1982 - JUNE 1983



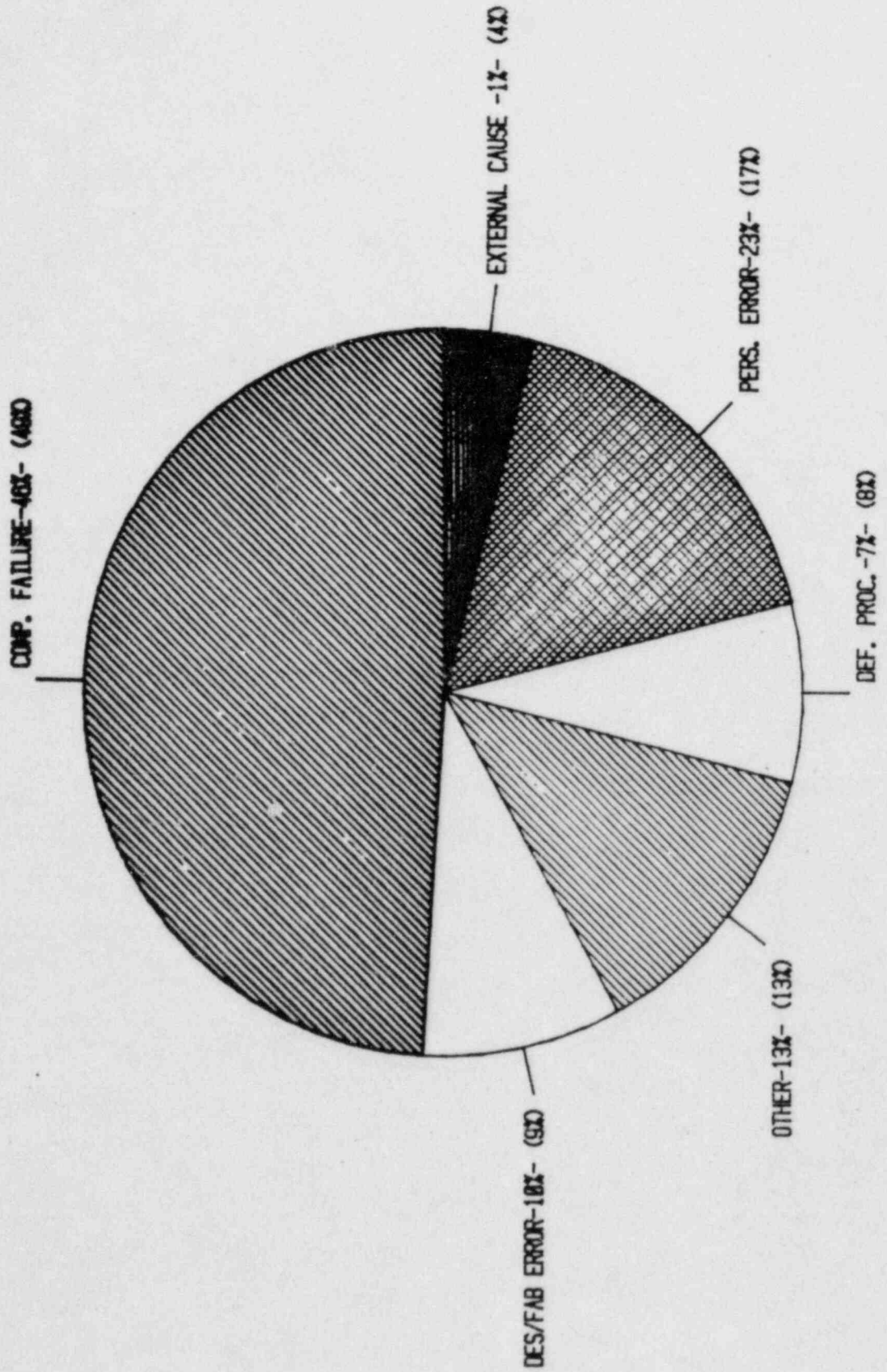
# CRYSTAL RIVER LERS

JULY 1982 - JUNE 1983



# B & W and (CRYSTAL RIVER) LERs

JULY 1982 - JUNE 1983



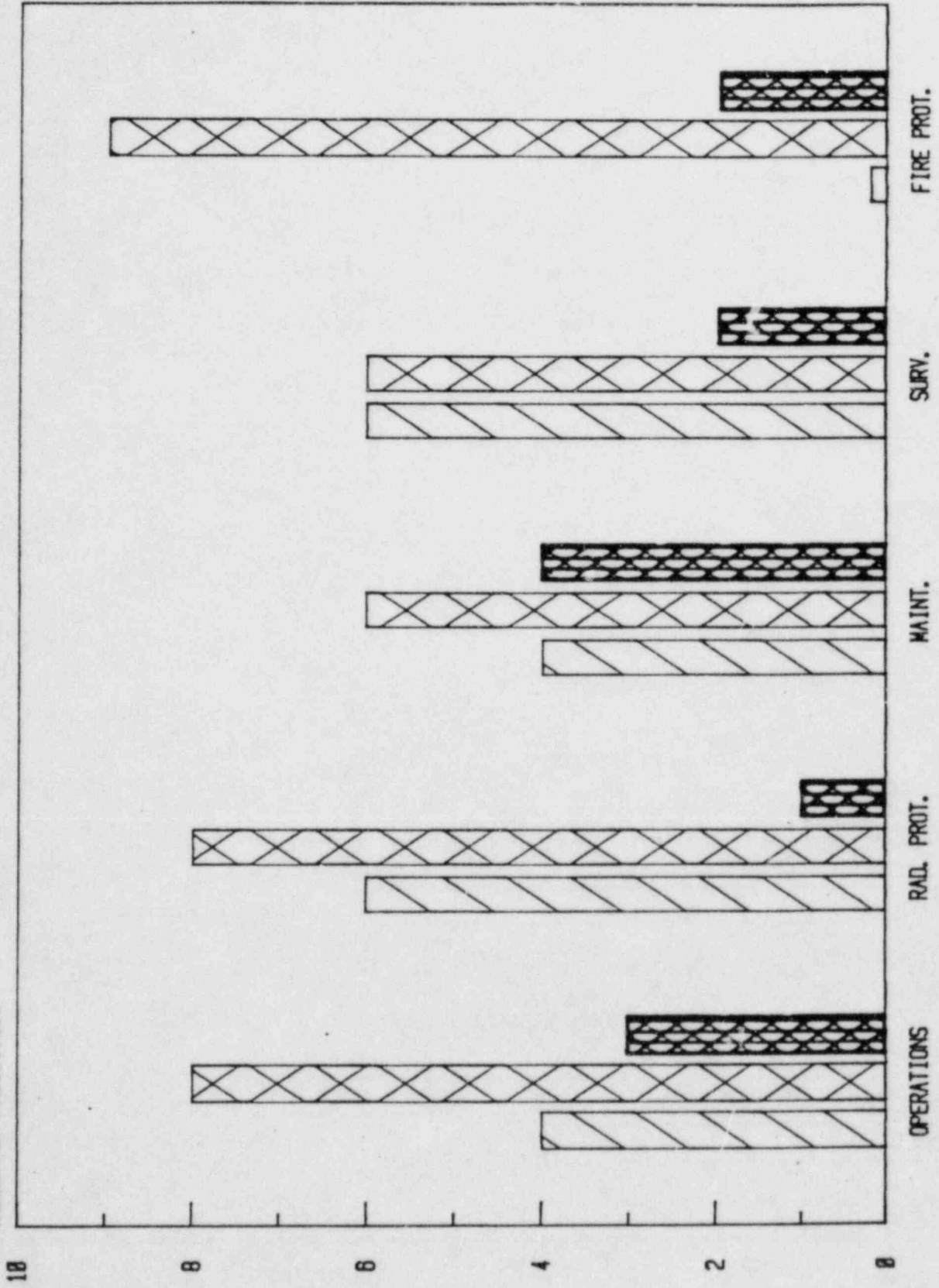
# INFORMATIONAL DATA



# FUNCTIONAL AREA COMPARISON

OPERATIONS

NUMBER OF FACILITIES



FUNCTIONAL AREAS

CATEGORY 1



CATEGORY 2

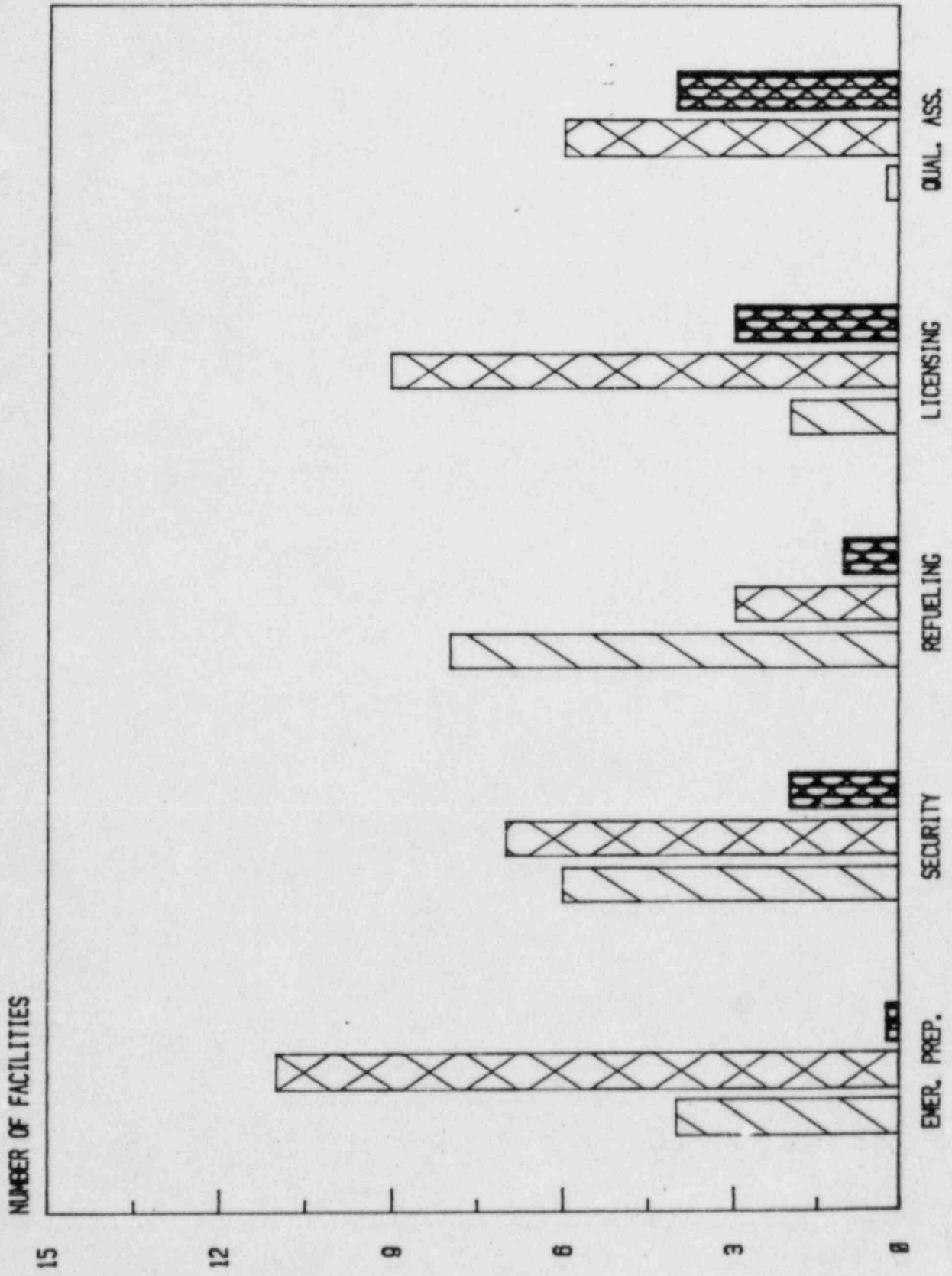


CATEGORY 3



# FUNCTIONAL AREA COMPARISON

OPERATIONS



FUNCTIONAL AREAS

CATEGORY 1



CATEGORY 2

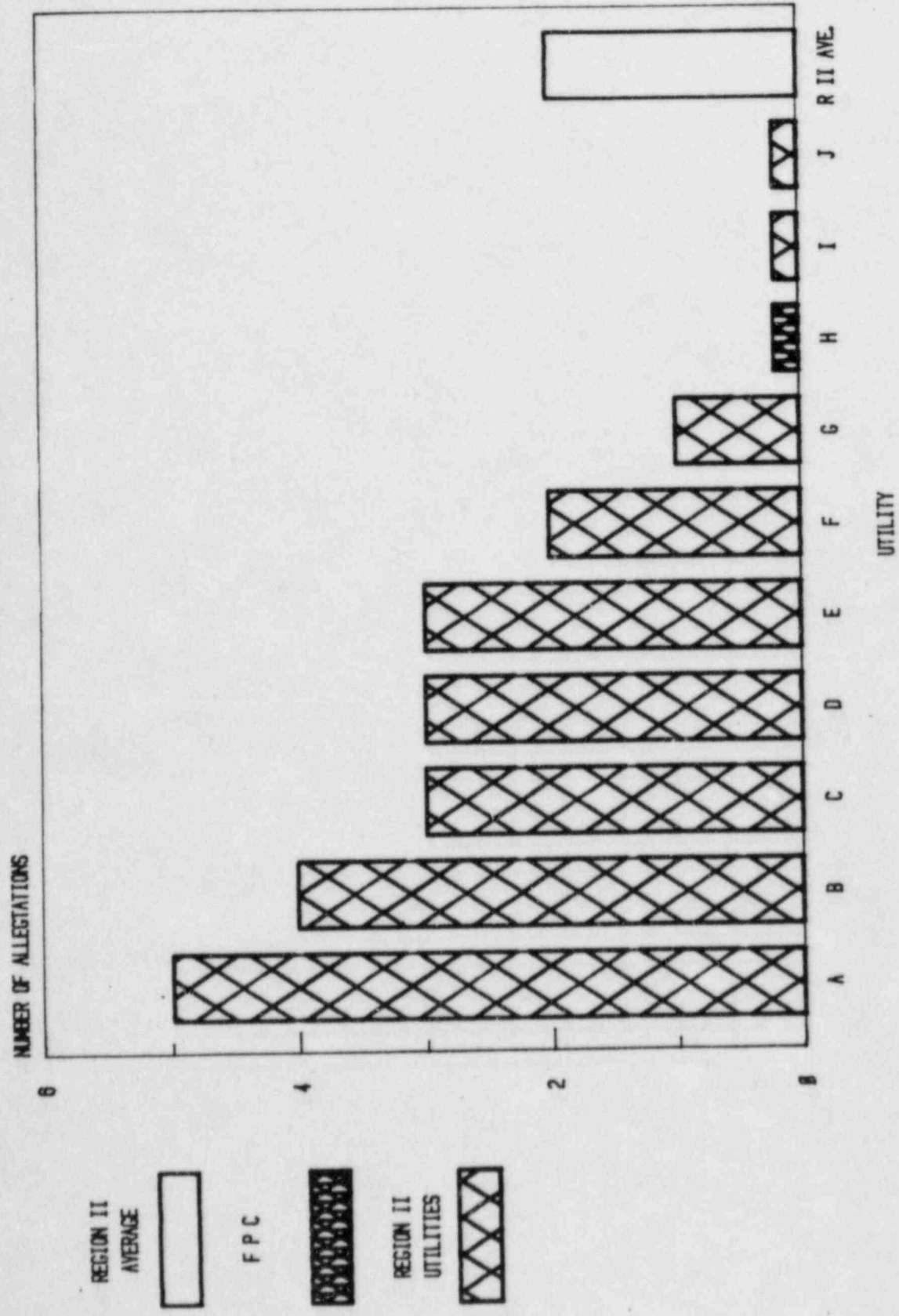


CATEGORY 3



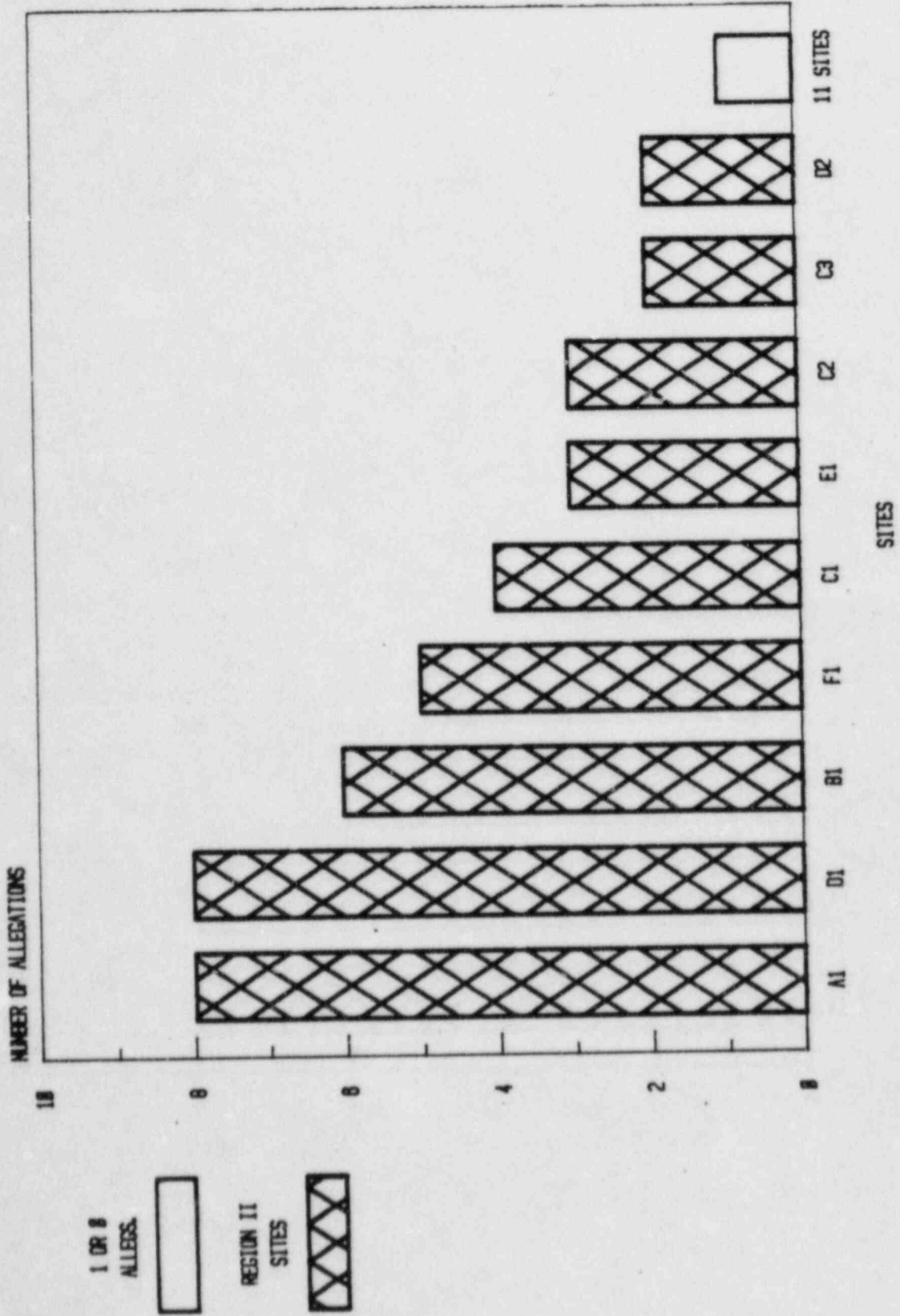
# ALLEGATIONS PER UTILITY

JULY 1982 - JUNE 1983



# ALLEGATIONS PER SITE

JULY 1982 - JUNE 1983



# CAUSES OF REACTOR TRIPS

SEPTEMBER 1982 - JUNE 1983

	TOTAL NUMBER OF TRIPS	AVERAGE TRIPS/UNIT	MECH. FAILURE	ELEC. FAILURE	PERSONNEL ERROR
WEST	178	5	24%	34%	42%
C E	58	8	22%	48%	38%
B & W	28	4	30%	35%	35%
G E	115	4	28%	37%	35%
CRYSTAL RIVER	2	2	0%	100%	0%

# FINDINGS

# CRYSTAL RIVER

## *CATEGORY 1 AREAS*

1. RADIOLOGICAL CONTROLS
2. REFUELING

# CRYSTAL RIVER

## *CATEGORY 2 AREAS*

1. PLANT OPERATIONS
2. MAINTENANCE
3. SURVEILLANCE
4. FIRE PROTECTION
5. EMERGENCY PREPAREDNESS
6. SECURITY AND SAFEGUARDS
7. LICENSING ACTIVITIES
8. QA PROGRAMS



# CRYSTAL RIVER

*CATEGORY 3 AREAS*

NONE

# CRYSTAL RIVER OVERALL EVALUATION

1. MAJOR STRENGTHS WERE IDENTIFIED IN THE AREAS OF REFUELING AND RADIOLOGICAL CONTROLS. IMPROVEMENT IN MAINTENANCE ALSO OCCURRED.
2. PERFORMANCE IN THE AREA OF PLANT OPERATIONS HAS NOT IMPROVED DUE TO THE LACK OF ATTENTION TO DETAILS AND FAILURE TO FOLLOW PROCEDURES.
3. PERFORMANCE IN THE AREA OF SURVEILLANCE HAS DETERIORATED APPARENTLY BECAUSE OF INADEQUATE CORRECTIVE ACTIONS.
4. CONTINUED EMPHASIS ON DEVELOPING WORKABLE AND ADEQUATE PROCEDURES AND EMPHASIZING PROCEDURAL ADHERENCE WILL IMPROVE OTHER AREAS AS IT HAS THE MAINTENANCE AREA.

# UTILITY EVALUATION

1. THE LICENSEE WAS GENERALLY RESPONSIVE TO NRC CONCERNS.
2. THERE WAS APPARENT DIFFICULTY IN ACCOMPLISHING PROMPT AND EFFECTIVE CORRECTION OF IDENTIFIED DEFICIENCIES.
3. A PROBLEM ALSO EXISTED IN THE EFFECTIVE OVERVIEW OF CONTRACTOR AND CONSULTANT ACTIVITIES, ALTHOUGH REMEDIAL IMPROVEMENT HAS OCCURRED.
4. ORGANIZATIONAL CHANGES MAY HAVE CONTRIBUTED TO THESE PROBLEMS; HOWEVER, NOW THAT THE ORGANIZATIONS ARE IN PLACE, IMPROVEMENTS CAN BE EFFECTED.

2463910122

UNITED STATES  
NUCLEAR REGULATORY  
COMMISSION

SYSTEMATIC ASSESSMENT

OF

LICENSEE PERFORMANCE

(SALP)

A/10/3

U. S. NUCLEAR REGULATORY COMMISSION  
REGION II

SYSTEMATIC ASSESSMENT OF  
LICENSEE PERFORMANCE  
BOARD ASSESSMENT

MISSISSIPPI POWER AND LIGHT COMPANY

GRAND GULF NUCLEAR STATION, UNITS 1 and 2

DOCKET NUMBERS 50-416 and 50-417

SEPTEMBER 1, 1982 Through SEPTEMBER 30, 1983

INSPECTION  
REPORT NUMBERS  
50-416/83-55, 50-417/83-09

# INTRODUCTION

# SALP PROGRAM OBJECTIVES

1. IMPROVE LICENSEE PERFORMANCE
2. PROVIDE A BASIS FOR ALLOCATION OF NRC RESOURCES
3. IMPROVE NRC REGULATORY PROGRAM

# PERFORMANCE ANALYSIS AREAS FOR OPERATING REACTORS

1. PLANT OPERATIONS
2. RADIOLOGICAL CONTROLS
3. MAINTENANCE
4. SURVEILLANCE
5. FIRE PROTECTION
6. EMERGENCY PREPAREDNESS
7. SECURITY AND SAFEGUARDS
8. REFUELING
9. QUALITY ASSURANCE PROGRAM
10. LICENSING ACTIVITIES



# PERFORMANCE ANALYSIS AREAS FOR CONSTRUCTION REACTORS

1. SOILS AND FOUNDATIONS
2. CONTAINMENT AND OTHER  
SAFETY RELATED STRUCTURES
3. PIPING SYSTEMS AND SUPPORTS
4. SAFETY RELATED COMPONENTS
5. SUPPORT SYSTEMS
6. ELECTRICAL POWER SUPPLY  
DISTRIBUTION
7. INSTRUMENTATION AND CONTROL
8. LICENSING ACTIVITIES
9. CONSTRUCTION QUALITY  
ASSURANCE PROGRAM

# AREA PERFORMANCE

## *CATEGORY 1*

REDUCED NRC ATTENTION MAY BE APPROPRIATE. LICENSEE MANAGEMENT ATTENTION AND INVOLVEMENT ARE AGGRESSIVE AND ORIENTED TOWARD NUCLEAR SAFETY; LICENSEE RESOURCES ARE AMPLE AND EFFECTIVELY USED SUCH THAT A HIGH LEVEL OF PERFORMANCE WITH RESPECT TO OPERATIONAL SAFETY OR CONSTRUCTION IS BEING ACHIEVED.

# AREA PERFORMANCE

## *CATEGORY 2*

NRC ATTENTION SHOULD BE MAINTAINED AT NORMAL LEVELS. LICENSEE MANAGEMENT ATTENTION AND INVOLVEMENT ARE EVIDENT AND ARE CONCERNED WITH NUCLEAR SAFETY; LICENSEE RESOURCES ARE ADEQUATE AND ARE REASONABLY EFFECTIVE SUCH THAT SATISFACTORY PERFORMANCE WITH RESPECT TO OPERATIONAL SAFETY OR CONSTRUCTION IS BEING ACHIEVED.

# AREA PERFORMANCE

## CATEGORY 3

BOTH NRC AND LICENSEE ATTENTION SHOULD BE INCREASED. LICENSEE MANAGEMENT ATTENTION OR INVOLVEMENT IS ACCEPTABLE AND CONSIDERS NUCLEAR SAFETY, BUT WEAKNESSES ARE EVIDENT; LICENSEE RESOURCES APPEAR TO BE STRAINED OR NOT EFFECTIVELY USED SUCH THAT MINIMALLY SATISFACTORY PERFORMANCE WITH RESPECT TO OPERATIONAL SAFETY OR CONSTRUCTION IS BEING ACHIEVED.

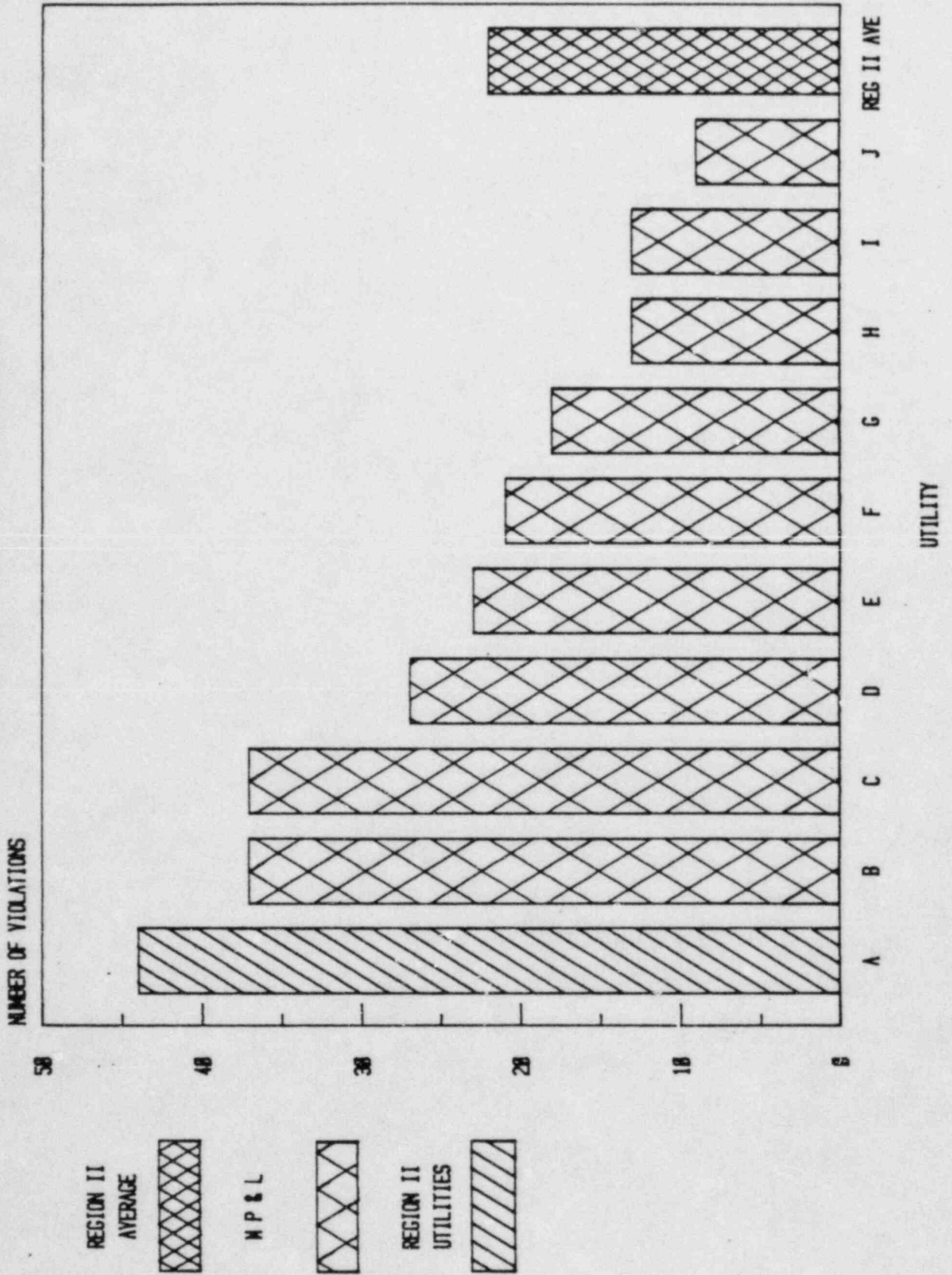
# EVALUATION CRITERIA

1. MANAGEMENT INVOLVEMENT IN ASSURING QUALITY
2. APPROACH TO RESOLUTION OF TECHNICAL ISSUES FROM THE SAFETY STANDPOINT
3. RESPONSIVENESS TO NRC INITIATIVES
4. ENFORCEMENT HISTORY
5. REPORTING AND ANALYSIS OF REPORTABLE EVENTS
6. STAFFING (INCLUDING MANAGEMENT)
7. TRAINING EFFECTIVENESS AND QUALIFICATION

# VIOLATIONS

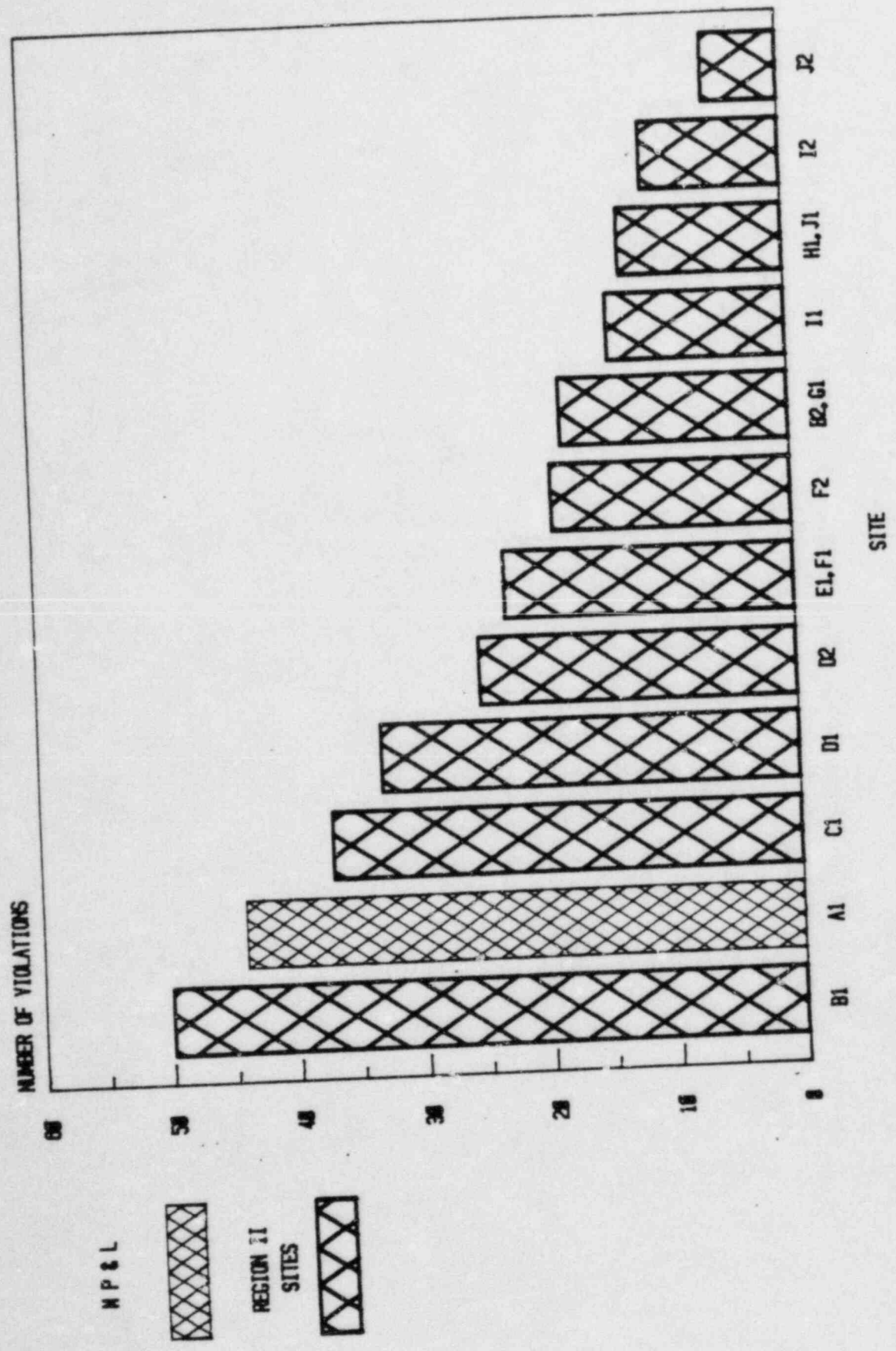
# OPERATIONS PHASE VIOLATIONS/UTILITY/UNIT

SEPTEMBER 1, 1982 - SEPTEMBER 30, 1983

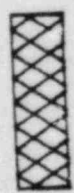


# OPERATIONS PHASE VIOLATIONS/SITE/UNIT

SEPTEMBER 1, 1982 - SEPTEMBER 30, 1983



MP&L



REGION II  
SITES





107

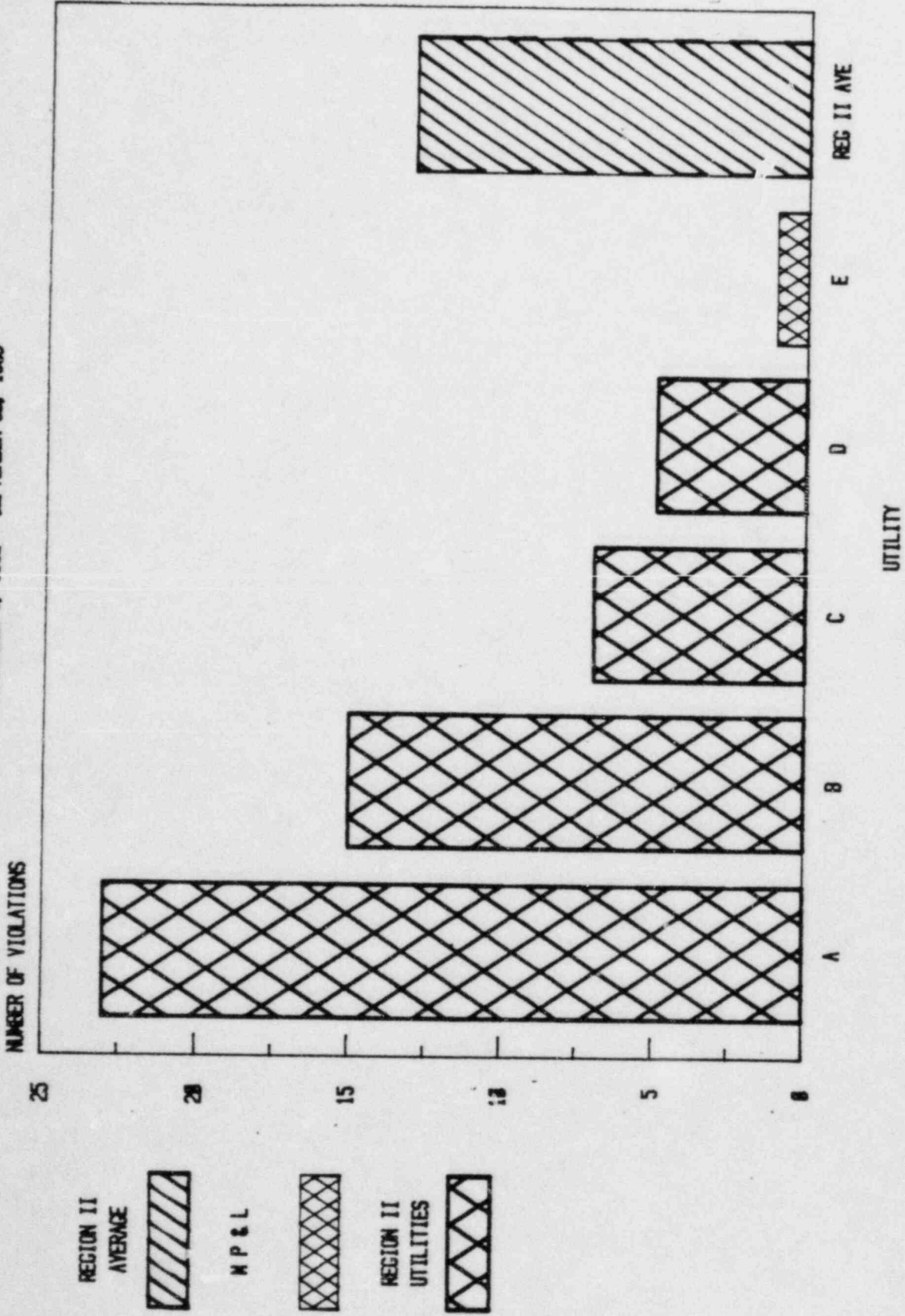
# VIOLATION SUMMARY OPERATING REACTORS

*SEPTEMBER 1982 - SEPTEMBER 1983*

	I	II	III	IV	V
GRAND GULF 1	0	0	1	24	19
REGION II AVERAGE	0	0	1	11	10

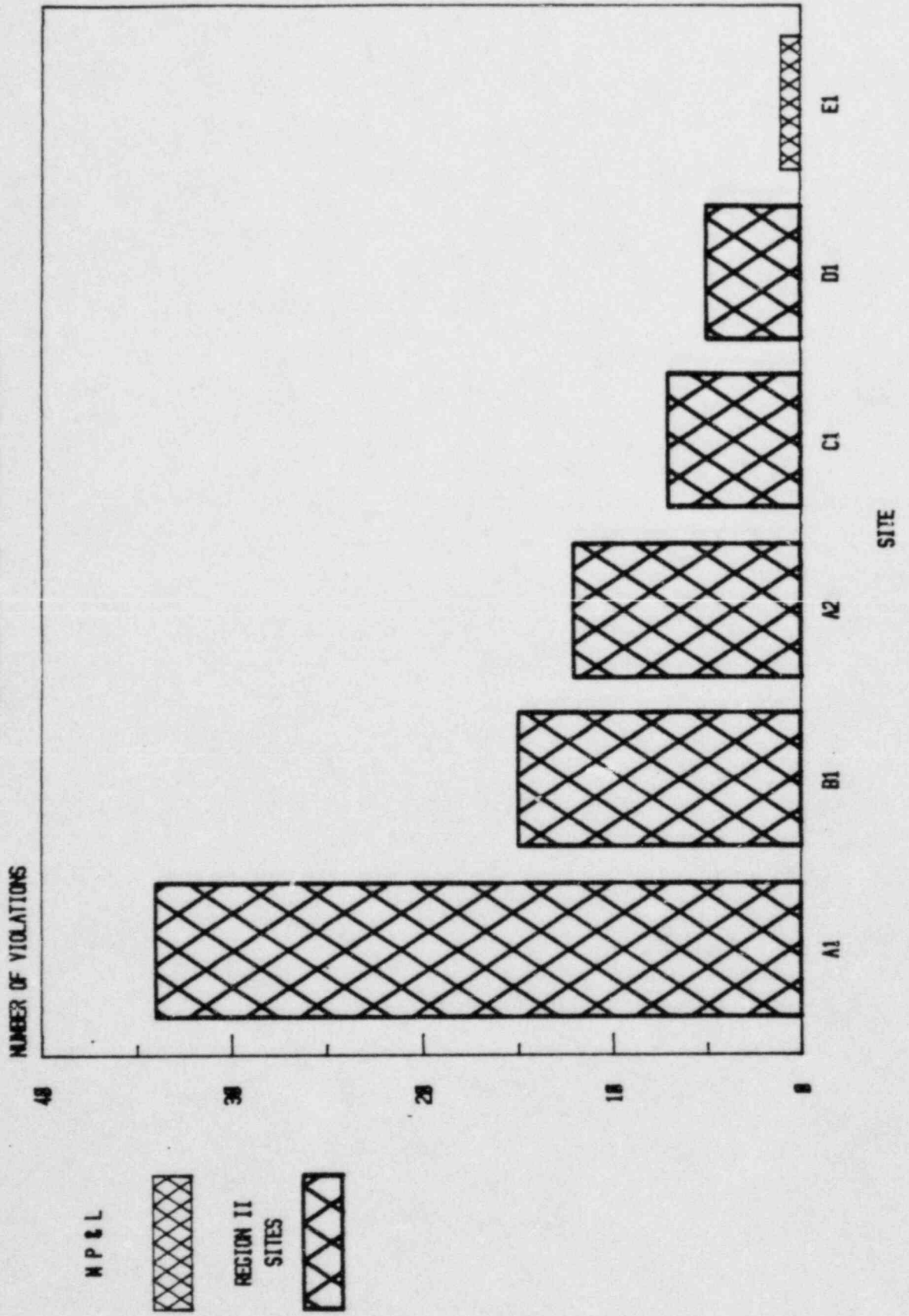
# CONST. PHASE VIOLATIONS/UTILITY/UNIT

SEPTEMBER 1, 1982 - SEPTEMBER 30, 1983



# CONSTRUCTION PHASE VIOLATIONS/SITE/UNIT

SEPTEMBER 1, 1982 - SEPTEMBER 30, 1983



# VIOLATION SUMMARY CONSTRUCTION REACTORS

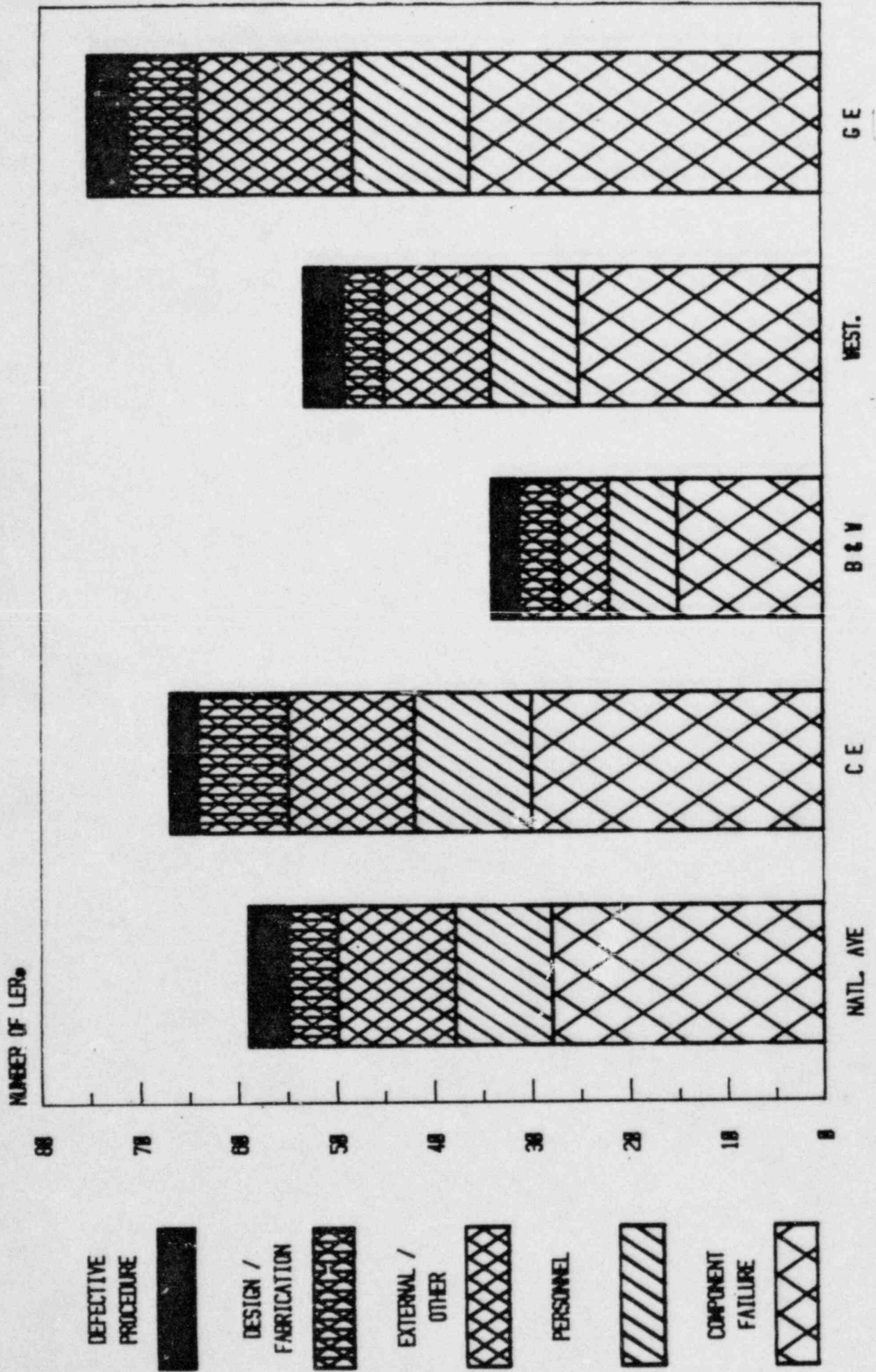
*SEPTEMBER 1982 - SEPTEMBER 1983*

	I	II	III	IV	V
GRAND GULF 2	0	0	0	0	1
REGION II AVERAGE	0	0	0	5	8

# REPORTABLE EVENTS

# LERs PER PLANT TYPE

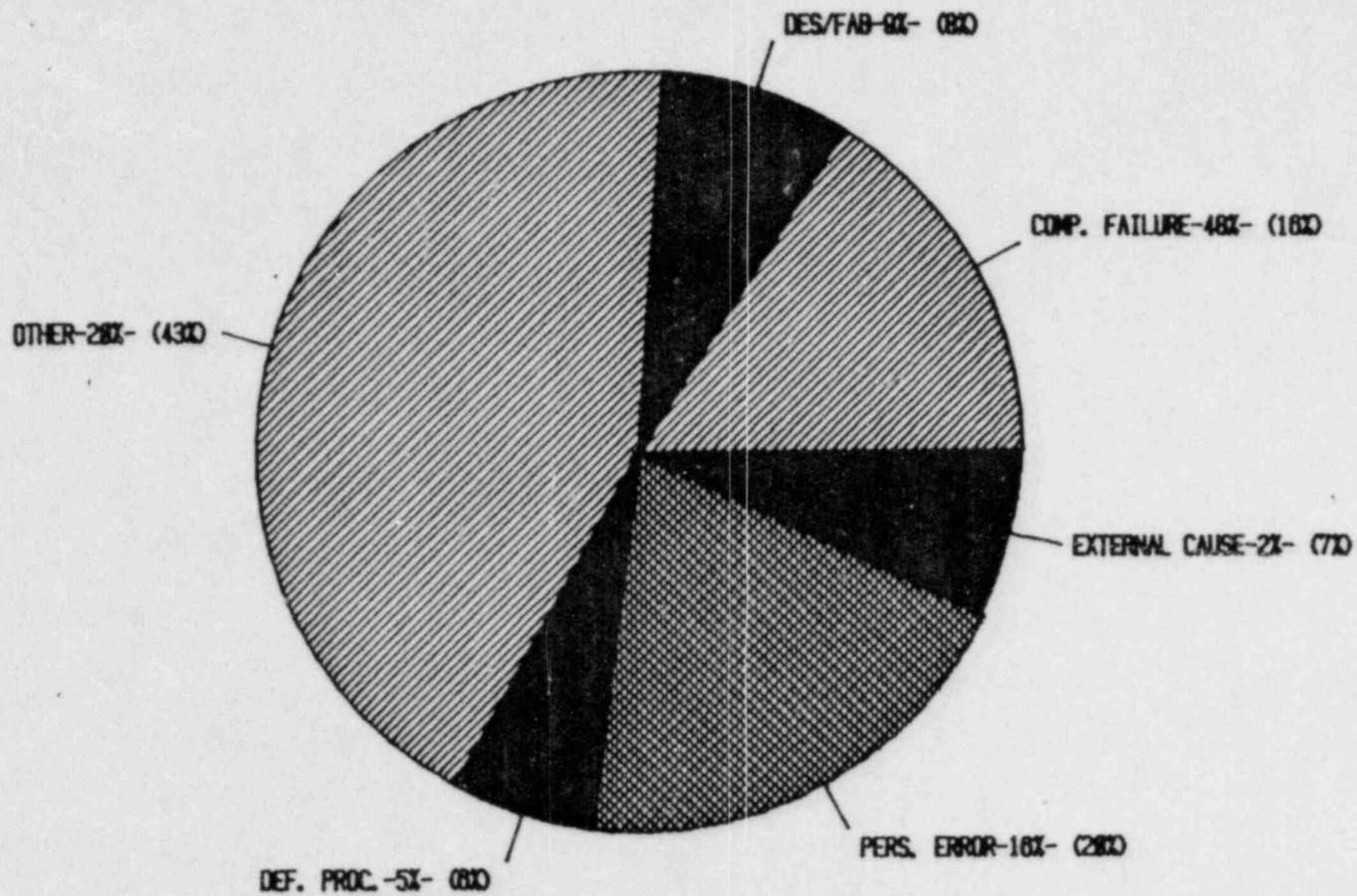
SEPTEMBER 1982 - SEPTEMBER 1983





# G E and (GRAND GULF) LERs

SEPTEMBER 1982 - SEPTEMBER 1983





# CONSTRUCTION DEFICIENCY REPORTS

*SEPTEMBER 1982 - SEPTEMBER 1983*

GRAND GULF 1	12
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GRAND GULF 2	13
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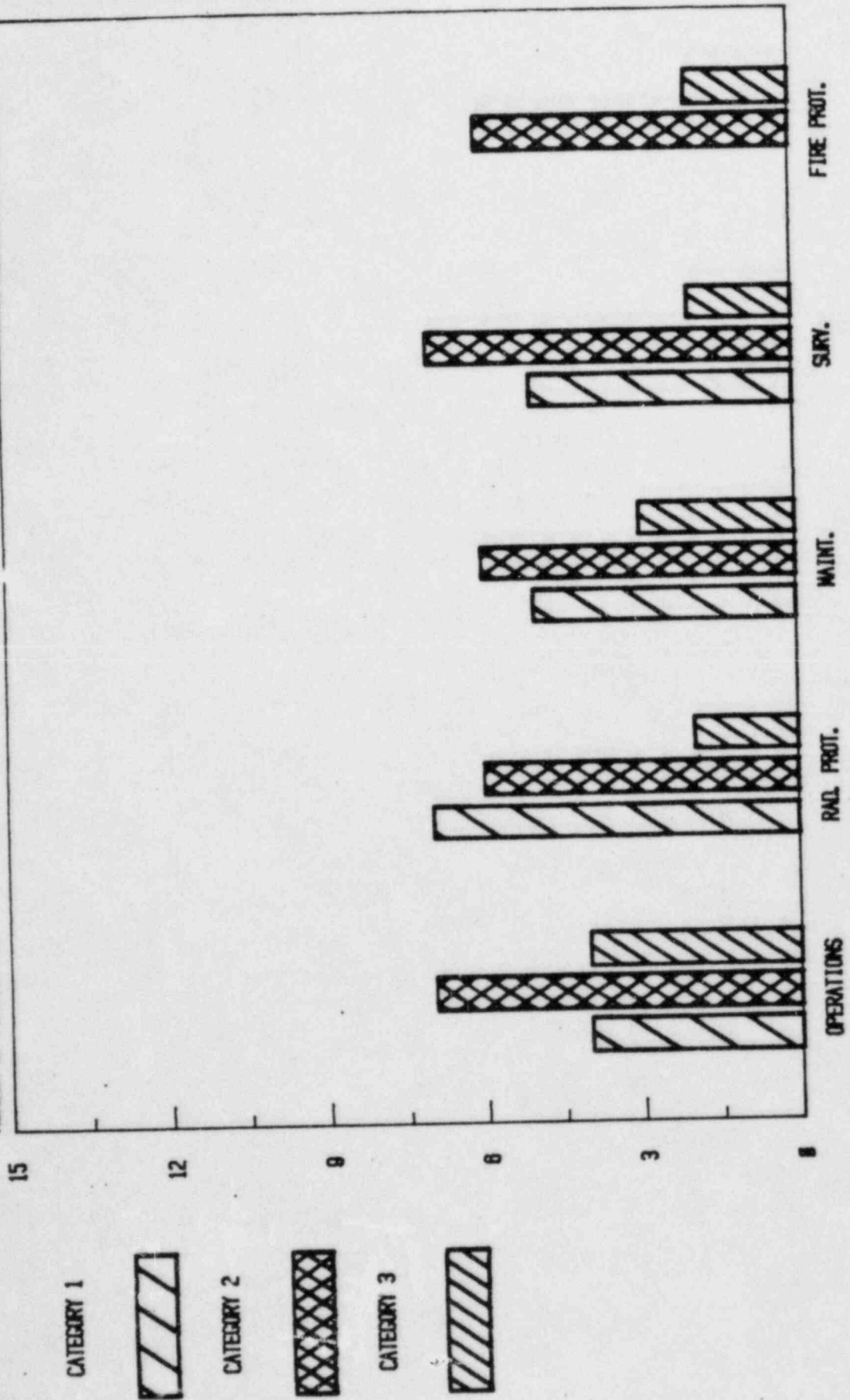
REGION II AVERAGE	38
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# INFORMATIONAL DATA

# FUNCTIONAL AREA COMPARISON

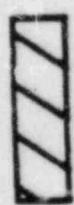
OPERATIONS

NUMBER OF FACILITIES



FUNCTIONAL AREAS

CATEGORY 1



CATEGORY 2



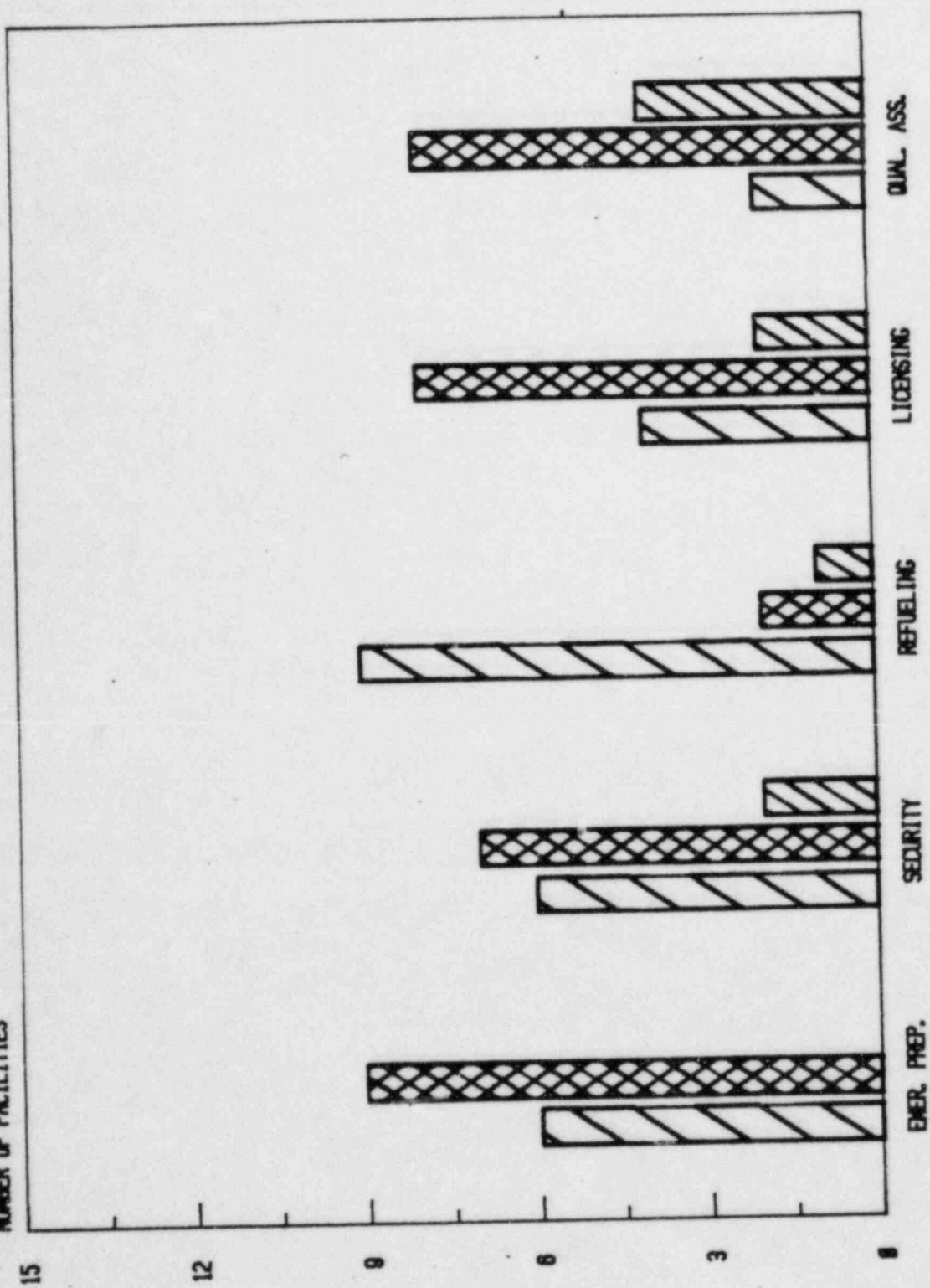
CATEGORY 3



# FUNCTIONAL AREA COMPARISON

OPERATIONS

NUMBER OF FACILITIES



FUNCTIONAL AREAS

CATEGORY 1



CATEGORY 2

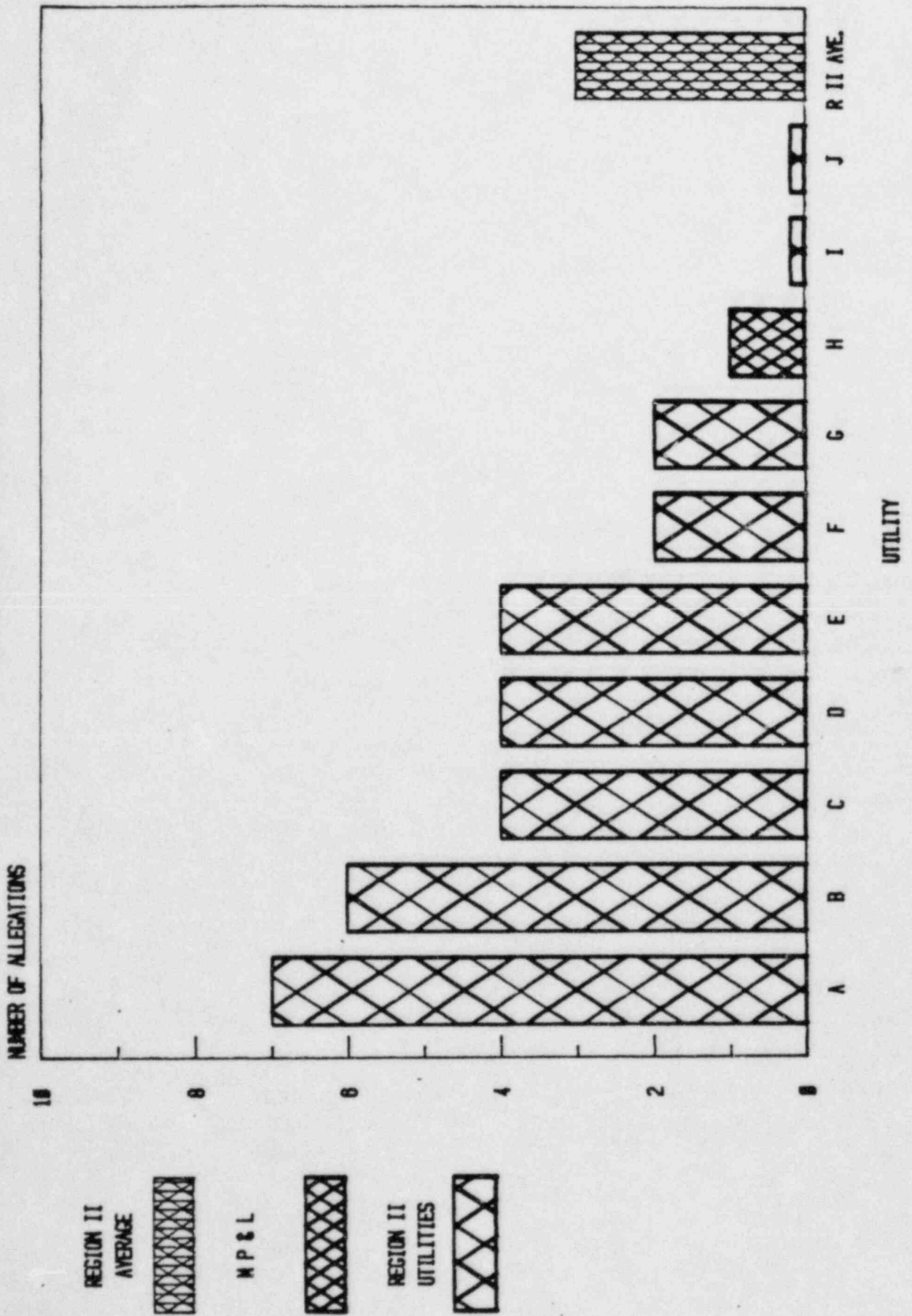


CATEGORY 3



# ALLEGATIONS PER UTILITY

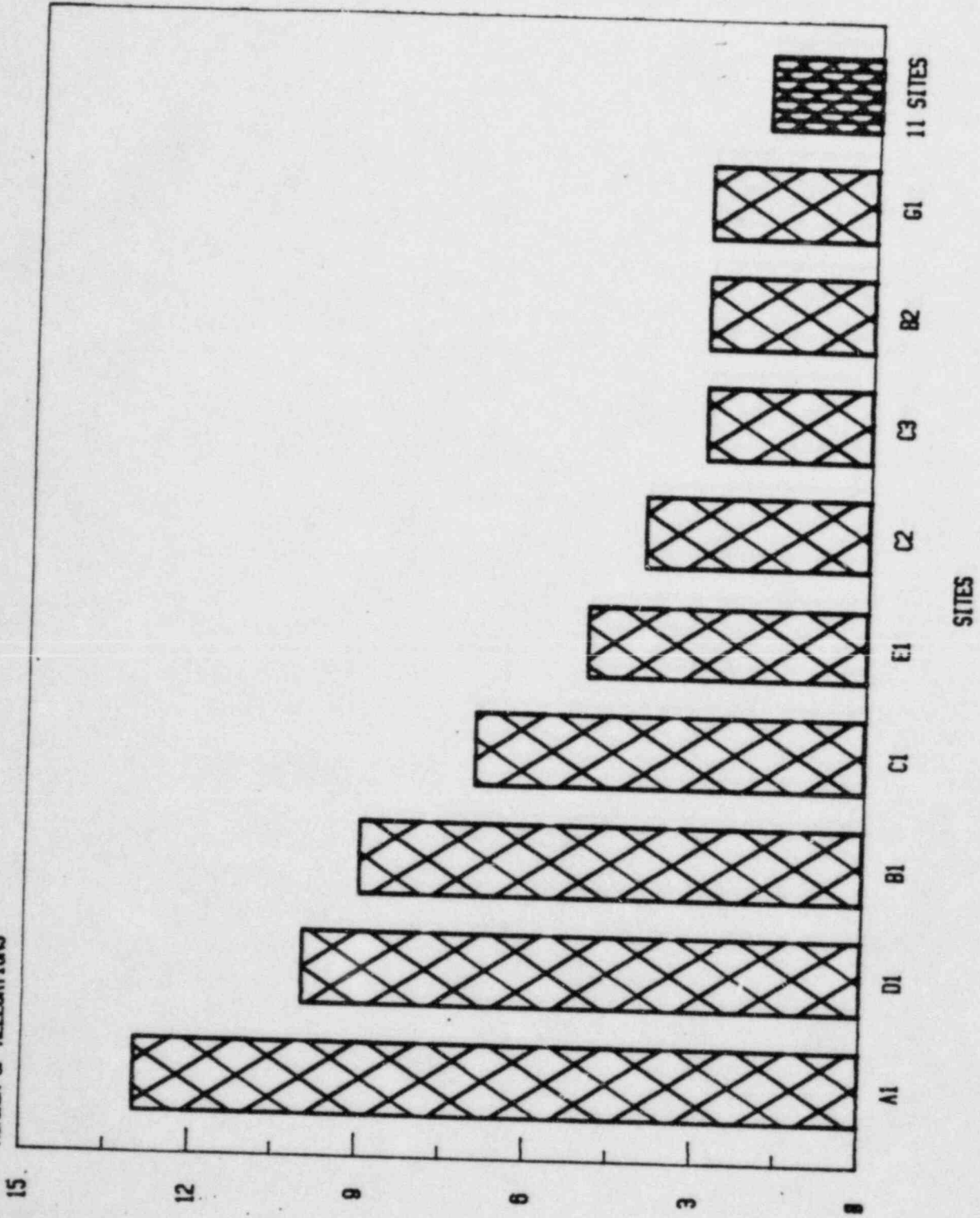
SEPTEMBER 1982 - SEPTEMBER 1983



# ALLEGATIONS PER SITE

SEPTEMBER 1982 - SEPTEMBER 1983

NUMBER OF ALLEGATIONS



2 OR LESS  
ALLEG.



REGION II  
SITES



# CAUSES OF REACTOR TRIPS

## SEPTEMBER 1982 - SEPTEMBER 1983

	TOTAL NUMBER OF TRIPS	AVERAGE TRIPS/UNIT	MECH. FAILURE	ELEC. FAILURE	PERSONNEL ERROR
WEST	233	7	24%	33%	43%
C E	76	8	21%	34%	45%
B & W	46	7	35%	35%	30%
G E	142	5	27%	34%	39%
GRAND GULF	5	5	40%	60%	0%

# FINDINGS



# GRAND GULF

*AREAS NOT RATED*

1. REFUELING
2. UNIT 2 CONSTRUCTION

# GRAND GULF

## *CATEGORY 1 AREAS*

1. EMERGENCY PREPAREDNESS

# GRAND GULF

## *CATEGORY 2 AREAS*

1. RADIOLOGICAL CONTROLS
2. FIRE PROTECTION
3. SECURITY and SAFEGUARDS

# GRAND GULF

## *CATEGORY 3 AREAS*

1. PLANT OPERATIONS
2. MAINTENANCE
3. SURVEILLANCE and PREOPERATIONAL TESTING
4. LICENSING ACTIVITIES
5. QUALITY ASSURANCE PROGRAM

# GRAND GULF OVERALL EVALUATION

1. A MAJOR STRENGTH WAS IDENTIFIED IN THE AREA OF EMERGENCY PLANNING.
2. MAJOR WEAKNESSES WERE IDENTIFIED IN THE AREAS OF PLANT OPERATIONS, MAINTENANCE, SURVEILLANCE AND PREOPERATIONAL TESTING, LICENSING ACTIVITIES, AND THE QUALITY ASSURANCE PROGRAM.
3. CORRECTIVE ACTIONS INITIATED BY THE LICENSEE HAVE SLOWLY RESULTED IN IMPROVEMENTS IN MANY PROGRAMS. HOWEVER, SOME AREAS CONTINUE TO EXHIBIT MAJOR WEAKNESSES.

4. THE ROOT CAUSES OF THE MAJOR WEAKNESSES APPEARED TO INCLUDE THE FAILURE TO COMPLY WITH PLANT PROCEDURES, THE FAILURE TO UNDERSTAND AND COMPLY WITH THE REGULATIONS GOVERNING THE EVALUATION OF THE SAFETY SIGNIFICANCE OF CERTAIN MODIFICATIONS, THE FAILURE TO EVALUATE PROBLEMS IN SUFFICIENT DEPTH TO AFFECT ADEQUATE CORRECTIVE ACTIONS, AND THE FAILURE TO PROVIDE FACILITY PERSONNEL WITH ADEQUATE TRAINING.
  
5. THE LICENSEE HAS DEVOTED SIGNIFICANT RESOURCES TO SOLVE THE IDENTIFIED PROBLEMS. THESE EFFORTS HAVE NOT YET BEEN COMPLETELY SUCCESSFUL, RESULTING IN THE NEED FOR CONTINUED INCREASED LICENSEE ATTENTION IN CERTAIN AREAS.

6. NRC BELIEVES, AT THIS TIME, THAT THE LICENSEE HAS RECOGNIZED THESE PROBLEMS AND HAS PROPOSED CORRECTIVE ACTIONS SUFFICIENT TO SOLVE THEM.

# UTILITY EVALUATION

1. THE LICENSEE HAS UNDERTAKEN SIGNIFICANT IMPROVEMENT PROGRAMS TO ENHANCE COMMUNICATIONS AND TECHNICAL EXCHANGE BETWEEN THE PLANT AND THE CORPORATE OFFICE.
2. THE ASSESSMENT FOR THIS SALP PERIOD REFLECTS AN IMPLEMENTATION PERIOD DURING WHICH COMPREHENSIVE IMPROVEMENT PROGRAMS WERE INSTITUTED TO CORRECT SIGNIFICANT PROBLEMS IDENTIFIED DURING THE PREVIOUS SALP ASSESSMENT PERIOD.
3. THESE IMPROVEMENT PROGRAMS HAVE SLOWLY RESULTED IN IMPROVEMENTS IN MANAGEMENT CONTROL AND THE TIMELINESS OF CORRECTIVE ACTIONS.



4. MANAGEMENT CONTROL, AS IT RELATES TO ADHERENCE TO PROCEDURES AND INDEPTH ANALYSIS OF PLANT PROBLEMS, NEEDS IMPROVEMENT.
  
5. LICENSEE MANAGEMENT PRESENCE, AT THE SITE, HAS IMPROVED, AND TOP LEVEL MANAGEMENT NOW PARTICIPATES TO A GREATER DEGREE IN DAY-TO-DAY ACTIVITIES AND THE RESOLUTION OF PROBLEMS AND TECHNICAL CONCERNS.

4

December 28, 1982

Docket No. 50-546  
Docket No. 50-547

Public Service of Indiana  
ATTN: Mr. S. W. Shields  
Senior Vice President  
Nuclear Division  
Post Office Box 190  
New Washington, IN 47162

Gentlemen:

This refers to the NRC's Systematic Assessment of Licensee Performance (SALP) of the Marble Hill Nuclear Generating Station and our meeting on December 14, 1982, to review the results of that assessment. A preliminary copy of the SALP Report covering the period October 1, 1981 through September 30, 1982, was provided for your review in advance of the meeting. The final SALP Report incorporating the SALP Board Chairman's letter to you is enclosed.

In addition to the assessments and recommendations made by the SALP Board, I wish to acknowledge the steadily improving regulatory performance of Public Service of Indiana at the Marble Hill facility. The Company's regulatory performance for the SALP 3 period ranks as one of the best for a construction project within Region III. I hope the management effort which was evident in bringing about this improved performance will not be relaxed and that a strong commitment toward Quality Assurance will continue to permeate through the organization from the top management of the Company.

In accordance with Section 2.790 of the NRC's "Rules of Practice," Part 2, Title 10, Code of Federal Regulations, a copy of this letter and the SALP Report will be placed in the NRC's Public Document Room.

~~6405210314~~

PDR

A/10/4

December 28, 1982

No reply to this letter is required; however, should you have any questions concerning these matters, we will be pleased to discuss them with you.

Sincerely,

Original signed by  
James G. Keppler

James G. Keppler  
Regional Administrator

Enclosure: SALP 3 Reports  
No. 50-546/82-20 and  
No. 50-547/82-20

cc w/encl:

- W. M. Petro, Vice President  
Nuclear Operations
- DMB/Document Control Desk (RIDS)  
Resident Inspector, RIII
- LeBoeuf, Lamb, Leiby & MacRae
- Dave Martin, Office of Attorney  
General
- John R. Galloway, Staff Director  
Environment, Energy and Natural  
Resources Subcommittee
- E. P. Martin, Wabash Valley Power  
Association
- Thomas M. Dattilo, Save the Valley
- J. M. Taylor, IE

RIII *5*

Tambling/sv  
12/20/82  
21

RIII

*RD for*  
Spessard  
12/21/82

RIII

*DN*  
Nedelius  
12/21/82

RIII

*JK for JAH*  
Hind

RIII

*L*  
Davis  
12/21/82

RIII

*JK*  
Keppler  
12/28/82

SALP 3

U.S. NUCLEAR REGULATORY COMMISSION  
REGION III

SYSTEMATIC ASSESSMENT OF LICENSEE PERFORMANCE

Public Service of Indiana

MARBLE HILL NUCLEAR GENERATING STATION

Docket Nos. 50-546; 50-547

Reports No. 50-546/82-20; 50-547/82-20

Assessment Period

October 1, 1981 through September 30, 1982

4485214317

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III. Summary of Results .....	3
IV. Performance Analyses .....	4
V. Supporting Data and Summaries .....	11

Docket No. 50-546

Docket No. 50-547

Public Service of Indiana  
ATTN: Mr. S. W. Shields  
Senior Vice President  
Nuclear Division  
Post Office Box 190  
New Washington, IN 47162

Gentlemen:

This is to confirm the conversation between Mr. S. W. Shields and Mr. J. J. Harrison of the Region III staff scheduling December 14, 1982, at 10:00 a.m. as the date and time to discuss the Systematic Assessment of Licensee Performance (SALP) for the Marble Hill Nuclear Generating Station. This meeting is to be held at the Region III Office, 799 Roosevelt Road, Glen Ellyn, Illinois.

Mr. James G. Keppler and members of the NRC staff will present the observations and findings of the SALP Board. Since this meeting is intended to be a forum for the mutual understanding of the issues and findings, you are encouraged to have appropriate representation at the meeting. As a minimum we would suggest you, Mr. W. M. Petro and Mr. L. D. Ramsett attend the meeting.

Enclosure 1 to this letter summarizes the more significant findings identified in the SALP Board's evaluation of the Marble Hill Nuclear Generating Station for the period of October 1, 1981 through September 30, 1982.

The enclosed SALP Report which documents the findings of the SALP Board is for your review prior to the meeting. Subsequent to the meeting the SALP Report will be issued by the Regional Administrator.

If you desire to make comments concerning our evaluation of your facility, they should be submitted to this office within twenty days after the meeting date; otherwise, it will be assumed that you have no comments.

In accordance with Section 2.790 of the NRC's "Rules of Practice" Part 2, Title 10, Code of Federal Regulations, a copy of this letter, the SALP Report, and your comments, if any, will be placed in the NRC's Public Document Room when the SALP Report is issued.

If you have any question concerning the SALP Report we will be happy to discuss them with you.

Sincerely,

J. A. Hind, Chairman  
Region III SALP Board  
Director, Division of Emergency  
Preparedness and Operational  
Support

Enclosures:

1. Summary of Significant Findings
2. Preliminary SALP 3 Report (5 copies)

cc w/encls:

Resident Inspector, RIII

ENCLOSURE 1

Summary of Significant Findings for Marble Hill Nuclear Generating Plant.

General Observations

The licensee's performance in the individual functional areas continued at an unusually high level in most cases, indicating high levels of management involvement and attention. The licensee has been very responsive to identified problems and NRC concerns and issues. Management efforts have been supplemented by a stable and competent staff. Several noncompliances were identified in the material control area; however, the licensee took prompt corrective action to resolve these concerns.



## I. INTRODUCTION

The NRC has established a program for the Systematic Assessment of Licensee Performance (SALP). The SALP is an integrated NRC Staff effort to collect available observations and data on a periodic basis and evaluate licensee performance based upon those observations. SALP is supplemental to normal regulatory processes used to insure compliance to the rules and regulations. SALP is intended primarily from a historical point to be sufficiently diagnostic to provide a rational basis for allocating future NRC resources and to provide meaningful guidance to the licensee's management to promote quality and safety of plant construction and operation.

A NRC SALP Board, composed of the staff members listed below, met on November 23, 1982, to review the collection of performance observations and data to assess the licensee performance in accordance with the guidance in NRC Manual Chapter 0516, Systematic Assessment of Licensee Performance: a summary of the guidance and evaluation criteria is provided in Section II of this report.

This report is the SALP Board's assessment of the licensee safety performance at the Marble Hill Nuclear Generating Station during the period of October 1, 1981 through September 30, 1982.

During this period, although construction activities were considered to be under a normal program, the Confirmatory Order of August 15, 1979, was still in force. This order was lifted on February 12, 1982.

The results of the SALP Board assessments in the selected functional areas were presented to the licensee at a meeting held on .

SALP Board for Marble Hill consisted of the following attendees:

J. A. Hind, Chairman SALP Board, Director, DEPOS  
R. L. Spessard, Director, Division of Project and Resident Programs  
W. S. Little, Chief, Engineering Programs Branch  
E. Doolittle, Licensing Project Manager, Marble Hill  
J. J. Harrison, Senior Resident Inspector, Marble Hill  
J. E. Konklin, Chief, Projects Section 1A  
P. R. Pelke, Project Inspector, Projects Section 1A  
T. N. Tambling, Chief, Program Support Section

## II. CRITERIA

The licensee performance is assessed in selected functional areas depending upon whether the facility is in a construction, pre-operational or operating phase. Each functional area normally represents areas significant to nuclear safety and the environment, and are normal programmatic areas. Some functional areas may not be assessed because of little or no licensee activities or lack of meaningful observations. Special areas may be added to highlight significant observation.

One or more of the following evaluation criteria were used to assess each functional area.

1. Management involvement in assuring quality
2. Approach to resolution of technical issues from safety standpoint
3. Responsiveness to NRC initiatives
4. Enforcement history
5. Reporting and analysis of reportable events
6. Staffing (including management)
7. Training effectiveness and qualification.

However, the SALP Board is not limited to these criteria and others may have been used where appropriate.

Based upon the SALP Board assessment each functional area evaluated is classified into one of three performance categories. The definition of these performance categories is:

Category 1. Reduced NRC attention may be appropriate. Licensee management attention and involvement are aggressive and oriented toward nuclear safety; licensee resources are ample and effectively used such that a high level of performance with respect to operational safety or construction is being achieved.

Category 2. NRC attention should be maintained at normal levels. Licensee management attention and involvement are evident and are concerned with nuclear safety; licensee resources are adequate and are reasonably effective such that satisfactory performance with respect to operational safety or construction is being achieved.

Category 3. Both NRC and licensee attention should be increased. Licensee management attention or involvement is acceptable and considers nuclear safety, but weaknesses are evident; licensee resources appear to be strained or not effectively used such that minimally satisfactory performance with respect to operational safety or construction is being achieved.

### III. SUMMARY OF RESULTS

<u>Functional Area Assessment</u>	<u>Category 1</u>	<u>Category 2</u>	<u>Category 3</u>
1. Soils & Foundations		X	
2. Containment & Other Safety-Related Structures	X		
3. Piping Systems & Supports		X	
4. Safety-Related Components	X		
5. Support Systems		X	
6. Electrical Power Supply & Distribution		X	
7. Instrumentation & Control Systems		Not evaluated	
8. Licensing Activities	X		
9. Quality Assurance	X		
10. Material Control Storage & Maintenance		X	

#### IV. PERFORMANCE ANALYSES

##### 1. Soils and Foundations

###### a. Analysis

A portion of one inspection in the area of backfill and compaction processes for essential service water piping was performed to evaluate compliance with licensee commitments in the Preliminary Safety Analysis Report, licensee and contractor manuals, standards, and procedures.

No items of noncompliance or deviations were identified. Performance appeared to be adequate in this area.

###### b. Conclusion

The licensee is rated Category 2 in this area. This is the same rating as the previous assessment period and is based upon a very limited level of activity in which no significant strengths nor weaknesses were identified.

###### c. Board Recommendations

None.

##### 2. Containment and other Safety-Related Structures

###### a. Analysis

Examination of this functional area consisted of portions of thirteen inspections to evaluate compliance with licensee commitments in the Preliminary Safety Analysis Report, licensee and contractor manuals, standards, and procedures.

One item of noncompliance was identified. This noncompliance was an isolated, short term example which was promptly corrected.

Severity Level V - failure to utilize a proper calibration device to perform calibration. (Inspection Report Nos. 50-546/82-10; 50-547/82-10).

During this evaluation period the licensee continued to effectively implement the quality program in this area. Selected activities accomplished during this period include the following:

- Concrete placed - 51,000 cubic yards
- Installation of the Unit 1 containment dome
- Concrete patching and repairs - 4,960 items completed of 6,937 items identified (71.5%)
- Structural steel erected - 3,380 tons
- Coatings application to the Unit 1 containment liner, structural steel, and embeds
- Installation of the Unit 1 and 2 polar cranes

The outstanding performance of the licensee and site contractors in this area continues to demonstrate that a properly implemented quality program yields high quality construction. This is exemplified by management attention and involvement in proper planning, scheduling, and program execution. There appears to be no substantial weakness in any part of the program and the licensee is responsive to valid items of concern. The licensee has been aggressive in supporting this area with an adequate number of qualified personnel. Procedures were found to be acceptable and were followed. Inspection of records indicated that they had been reviewed properly and were complete.

b. Conclusion

The licensee is rated Category 1 in this area. This is the same rating as the previous assessment period. Observed performance in this area continues to be exceptional.

c. Board Recommendation

None.

3. Piping System and Supports

a. Analysis

Examination in this functional area consisted of portions of six inspections to evaluate compliance with licensee commitments in the Preliminary Safety Analysis Report, licensee and contractors manuals, standards, and procedures.

One item of noncompliance was identified:

Severity Level V - failure to implement the preservation program for inprocess piping (Inspection Report Nos. 50-546/82-14; 50-547/82-14).

The work activities in this area were limited because of the concrete patching program and other scheduling considerations. During the last quarter of this assessment period work activities began to increase, were inspected by the NRC and were found to be adequate. The activities observed, the management controls used and the records and record control systems in place met requirements. Personnel involved in the areas reviewed were properly trained and qualified.

b. Conclusion

The licensee is rated Category 2 in this area. This is the same rating as the previous assessment period.

c. Board Recommendations

None.

4. Safety-Related Components

a. Analysis

Examination in this functional area consisted of portions of three inspections to evaluate compliance with licensee commitments in the Preliminary Safety Analysis Report, licensee and contractor manuals, standards, and procedures. Licensee activities during this evaluation period included installation of the Unit 1 reactor vessel, four steam generators, and the pressurizer. Also the control rod drive mechanisms were installed and welded to the Units 1 and 2 reactor vessel heads. The inspector reviewed the quality programs of the licensee and installing contractors, observed the installation activities (including workmanship and inspection), and reviewed the quality records (in process and final) that were generated.

No items of noncompliance were identified.

These activities were planned, scheduled, and executed with a high degree of quality. Installation of all vessels was performed in accordance with prescribed procedures and was professionally managed with no problems or damage encountered. Because management insured that procedures implemented vendor recommendations, installation problems which have occurred at other sites were prevented. Staffing and quality records were more than adequate. Corrective actions were taken in a timely manner.

b. Conclusion

The licensee is rated Category 1 in this area. This is an improvement from the previous assessment period and is based upon a good regulatory compliance record and the high level of management involvement in planning and quality activities.

c. Board Recommendations

None.

5. Support Systems

a. Analysis

Inspection of this functional area was consistent with normal practice for the status of project completion, and consisted of portions of five inspections to evaluate installation of heating, ventilation, and air conditioning (HVAC) systems, housekeeping practices and the fire protection program.

One item of noncompliance was identified:

Severity Level V - inadequate procedures for fire prevention and fire protection activities. (Inspection Report Nos. 50-546/82-11; 50-547/82-11).

It is noted that the licensee promptly developed a comprehensive Construction Fire Prevention and Protection procedure subsequent to issuance of this noncompliance. In general, HVAC installation was adequate and housekeeping practices were more than adequate.

b. Conclusion

The licensee is rated Category 2 in this area. This is the same rating as the previous assessment period and is based on a limited level of activity in which no significant strengths or weaknesses were identified.

c. Board Recommendations

None.

6. Electrical Power Supply and Distribution

a. Analysis

Examination of this functional area consisted of portions of four inspections to evaluate compliance with licensee commitments in the Preliminary Safety Analysis Report, licensee and contractor manuals, standards, and procedures.

No items of noncompliance were identified.

Licensee activities in this area consisted mainly of installation of cable tray hangers and cable tray. Additionally, electrical switchgear storage was reviewed. Licensee staffing in this area is more than adequate. It should be noted that in July 1982, the electrical contractor put in place a "Stop Work Order" because of inadequate controls. These problems were promptly identified by the licensee and the contractor. Work activities completely resumed in October 1982 utilizing a phased restart approach to insure proper implementation of the revised quality assurance program. In addition, all previous work was reinspected. This action appeared to have positive results and illustrates a commitment to quality by the licensee and site contractors.

b. Conclusion

The licensee is rated Category 2 in this area. This is the same rating as the previous assessment period and is based on a limited level of activity.

c. Board Recommendations

None.

7. Instrumentation and Control Systems

This functional area was not evaluated because there was no significant licensee activity.

8. Licensing Activities

a. Analysis

The licensee submitted the Marble Hill Operating License application on November 26, 1982, as scheduled. Preparation of the Final Safety Analysis Report and Environmental Report showed evidence of prior planning and assignment of priorities.

The licensee also initiated early discussions with the staff regarding the Preoperational Environmental Radiological Monitoring Program and the emergency planning submittal.

The licensee promptly responded to a new rule, 10 CFR 50.34(g), which required the Final Safety Analysis Report submittal to include additional information. They initiated a program to supply this information on a schedule commensurate with the NRR license review schedule. Review by NRR indicated that the program is thorough.

In the licensing area the licensee has shown strict adherence to their procedures and policies regarding replication of Byron. They make frequent efforts to discuss these policies with NRC staff members. Their policy concerning the format and content of the Final Safety Analysis Report is well stated and understandable. The licensee has reaffirmed their intent to hold design changes to a minimum, as directed by NRR.

b. Conclusion

The licensee is rated Category 1 in this area. The licensee's staffing and management involvement in this area are adequate as indicated by their ability to meet the scheduled application submittal date. Positions and authority are well defined. The licensee is responsive to NRC initiatives and understands issues. This area was not evaluated in the previous assessment period.

c. Board Recommendations

None.

9. Quality Assurance Program

a. Analysis

NRC examination in this functional area consisted of portions of two inspections to specifically evaluate portions of the quality



assurance program. The licensee continued to exhibit effective management of this program while supporting a considerable increase in construction activities.

Also included in evaluating this area were the results of inspections conducted in all other areas contributing to SALP 3. A total of six noncompliances were identified as discussed in the other sections of this report. These noncompliances do not indicate any programmatic deficiencies in the licensee's overall quality program. The three Severity Level V noncompliances are considered to be isolated cases and the licensee took prompt corrective actions. The three Severity Level IV material control noncompliances were identified early in the assessment period. The licensee's corrective actions have resulted in a material control program which is currently more than adequate. Additionally, the stop work actions taken by the licensee in the electrical area are further evidence of an effective quality program.

Portions of six inspections were performed to evaluate the licensee's actions with regard to IE Bulletins, IE Circulars, and 10 CFR 50.55(e) and 10 CFR 21 reporting requirements. Required reports, documenting appropriate corrective actions, were submitted to the NRC in a timely manner. The licensee's filing of supporting documentation and tracking of these items were considered exceptional. Additionally, the licensee was responsive to inspector concerns during the reviews. The licensee's reporting and corrective actions taken in response to items of noncompliance were more than adequate.

b. Conclusion

The licensee is rated Category 1 in this area. This is the same rating as the previous assessment period.

c. Board Recommendations

None.

10. Material Control - Storage and Maintenance

a. Analysis

Two inspections were conducted in this functional area to evaluate compliance with licensee commitments in the Preliminary Safety Analysis Report, licensee and contractor manuals, standards, and procedures. In addition, this area was routinely assessed on a monthly basis by the resident inspector.

Three Severity Level IV items of noncompliance were identified (Inspection Report Nos. 50-546/81-22; 50-547/81-22):

- (1) failure to properly implement a training program,
- (2) failure to provide adequate procedures and instructions and,

- (3) failure to properly implement a storage and maintenance program.

On November 23, 1981, an NRC enforcement conference was held to discuss why the breakdown in this area of the program had occurred and what corrective action was to be taken. The approved corrective action was monitored on an ongoing basis by the NRC and the licensee's Quality Assurance staff.

Historically, this program area has been the weakest link in the licensee's management chain. Numerous managers had been in the Materials Manager's position, a situation which caused frequent changes in direction and philosophy. A strong capable manager is currently in that position, and all responsibility for storage and maintenance has been reassigned to one contractor. Substantial improvements are apparent with the additional emphasis to further improve overall controls. These improvements were verified during a Region III inspection conducted during the week of October 4, 1982, to evaluate the effectiveness of the corrective actions. This inspection resulted in the closure of the outstanding noncompliances.

b. Conclusion

The licensee is rated Category 2 in this area because of improvement in the latter part of the evaluation period. This area was not evaluated in the previous assessment period.

c. Board Recommendations

The Board recommends that the licensee continue to emphasize effective management controls in this area. It also recommends that the NRC maintain the present level of inspection in this area.

V. SUPPORTING DATA AND SUMMARIES

A. Noncompliance Data

Facility Name: Marble Hill, Units 1 and 2 Docket Nos. 50-546; 50-547

Inspections: No. 81-19 through 81-24  
 No. 82-01 through 82-17

Functional Area Assessment	Noncompliances and Deviations Severity Levels*					Dev.
	I	II	III	IV	V	
1. Soils & Foundations						
2. Containment & Other Safety-Related Structures						1
3. Piping System & Supports						1
4. Safety-Related Components						
5. Support Systems						1
6. Electrical Power Supply & Distribution						
7. Instrumentation & Control Systems						
8. Licensing Activities						
9. Quality Assurance						
10. Material Control Storage & Maintenance					3	
TOTALS					3	3

\*All Severity Levels are in accordance with the NRC Enforcement Policy, 47 FR 9987 (March 9, 1982).

B. Licensee Report Data

1. Construction Deficiency Reports (CDRs)

Fifteen CDRs were submitted by the licensee under the reporting requirements of 10 CFR 50.55(e). Two of these were retracted, three were submitted as a result of vendor 10 CFR 21 reports, and two were Westinghouse generic concerns. The remainder concerned specification/design change controls; quality records missing from a supplier's document packages; discrepancies identified in a vendor audit; incorrect fabrication of structural steel; deficient conduit and cable tray hanger inspection reports; inadequate disposition of an NCR; and inadequate wire anchors attached to embedded plates.

2. Part 21 Reports

No 10 CFR 21 items were reported by the licensee during this evaluation period.

C. Licensee Activities

Unit 1 and Unit 2 were reported by the licensee as being 41 percent and 22 percent complete, respectively, as of July 31, 1982.

On February 12, 1982, the Director, Office of Inspection and Enforcement concluded that the licensee substantially accomplished the requirements of the "Graduated Rescission of the Order dated August 15, 1979", and has demonstrated that there is reasonable assurance that construction performance will be acceptable. The final rescission of the order was granted.

Other Activities (Selected Milestones completed during this SALP period):

- Installation of the Unit 1 containment dome
- Repair and installation of the polar cranes in Unit 1 and Unit 2 containments
- Installation of the Unit 1 reactor vessel, pressurizer, and steam generators
- Coating of the Unit 1 containment liner
- Concrete patching program 71 percent completed; 4,960 patches completed of the 6,937 areas identified
- Concrete placed: 51,000 cubic yards
- Structural steel erected: 3,380 tons

D. Inspection Activities

During this evaluation period, a total of twenty-three inspections were conducted on the Marble Hill project. No team inspections were performed.

E. Investigations and Allegations Review

The NRC Headquarters staff received allegations that certain concrete aggregate test results had failed to meet State specification requirements. The allegations were not substantiated (Inspection Report Nos. 50-546/81-23; 50-547/81-23).

F. Escalated Enforcement Action

1. Civil Penalties

None.

2. Orders

The Confirmatory Order of August 15, 1979 was lifted on February 12, 1982.

G. Administrative Actions

1. Confirmatory Action Letters

None.

2. Management Conferences

The following management meetings were conducted during this period:

November 23, 1981 Enforcement conference to discuss a weakness in a portion of the quality assurance program implementation that applied to material control (Inspection Report Nos. 50-546/81-22; 50-547/81-22).

February 12, 1982 Management Meeting to make final determination whether to lift the Confirmatory Order (Inspection Report Nos. 50-546/82-02; 50-547/82-02).

March 10, 1982 Management Meeting to review the SALP results for the period of July 1, 1980 through September 30, 1981 (Inspection Report Nos. 50-546/82-07; 50-547/82-07).