UNITED STATES
NUCLEAR REGULATORY COMMISSION
REGION IV
611 RYAN PLAZA DRIVE, SUITE 400
ARLINGTON, TEXAS 76011-8064

MAR -7 1996

Washington Public Power Supply System
ATTN: J. V. Parrish, Chief Financial Officer
3000 George Washington Way
P.O. Box 968, MD 1023
Richland, Washington 99352

SUBJECT: PUBLIC MEETING ON FEBRUARY 15, 1996 - OVERSIGHT PANEL MEETING

This refers to the NRC Oversight Panel meeting open to public observation conducted on February 15, 1996, at the Washington Nuclear Plant (WNP-2), in Richland, Washington. This meeting was the fourth meeting between the NRC Oversight Panel and the Washington Public Power Supply System (Supply System) regarding the operation of the WNP-2 facility. Attendees at the meeting are listed in Enclosure 1 to this letter.

The purpose of the meeting was to discuss several areas of the Supply System's Performance Enhancement Strategy (PES), which included a general status overview, business plan and PES alignment, human performance, general plant operations, health physics, engineering, and maintenance activities. The discussions provided your perspectives of the status and progress of the initiatives which are part of the PES. These discussions were beneficial in furthering our understanding of your areas of emphasis. We were interested to hear your perspective on the organizational and management changes made related to those departments reporting directly to you. We note your intention to perform another self-assessment using independent reviewers following the 1996 refueling outage. A copy of the slides presented by the Supply System are provided as Enclosure 2.

We recognize that the next Oversight Panel meeting would normally be held in April 1996, a month with the Regulatory Information Conference already planned. We also recognize that mid-April is the beginning of your scheduled refueling outage. We will be contacting the Supply System staff to establish the specific date of the next meeting.

In accordance with 10 CFR 2.790 of the NRC's "Rules of Practice," a copy of this letter will be placed in the NRC's Public Document Room.

Should you have any questions concerning this matter, we will be pleased to discuss them with you.

Sincerely,

JEDyer

J. E. Dyer, Director
Division of Reactor Projects

Enclosures:
1. Attendance List
2. Presentation Slides

Docket: 50-397
License: NPF-21

cc w/enclosures:
Washington Public Power Supply System
ATTN: G. O. Smith, WNP-2 Plant Manager
P.O. Box 968, MD 927M
Richland, Washington 99352-0968

Washington Public Power Supply System
ATTN: Chief Counsel
3000 George Washington Way
P.O. Box 968, MD 396
Richland, Washington 99352-0968

Energy Facility Site Evaluation Council
ATTN: Frederick S. Adair, Chairman
P.O. Box 43172
Olympia, Washington 98504-3172

Washington Public Power Supply System
ATTN: D. A. Swank, WNP-2 Licensing Manager
P.O. Box 968 (Mail Drop PE20)
Richland, Washington 99352-0968

Washington Public Power Supply System
ATTN: P. R. Bemis, Director
Regulatory and Industry Affairs
P.O. Box 968 (Mail Drop PE20)
Richland, Washington 99352-0968

Benton County Board of Commissioners
ATTN: Chairman
P.O. Box 190
Prosser, Washington 99350-0190

Winston & Strawn
ATTN: M. H. Philips, Esq.
1400 L Street, N.W.
Washington, D.C. 20005-3502

bcc to DMB (IE45)

bcc distrib. by RIV:

L. J. Callan
DRS-PSB
Branch Chief (DRP/E, WCFO)
Senior Project Inspector (DRP/E, WCFO)
Leah Tremper (OC/LFDCB, MS: TWFN 9E10)
Resident Inspector
MIS System
RIV File
Branch Chief (DRP/TSS)
M. Hammond (PAO, WCFO)

To receive copy of document, indicate in box: "C" = Copy without enclosures "E" = Copy with enclosures "N" = No copy

RIV:C:DRP/E		D:DRP	C					
HJWong;df*		JEDyer						
3/5/96		3/7 /96						

*previously concurred

OFFICIAL RECORD COPY

110049

bcc to DMB (IE45)

bcc distrib. by RIV:

L. J. Callan
DRS-PSB
Branch Chief (DRP/E, WCFO)
Senior Project Inspector (DRP/E, WCFO)
Leah Tremper (OC/LFDCB, MS: TWFN 9E10)
Resident Inspector
MIS System
RIV File
Branch Chief (DRP/TSS)
M. Hammond (PAO, WCFO)

To receive copy of document, indicate in box: "C" = Copy without enclosures "E" = Copy with enclosures "N" = No copy

RIV:C:DRP/E		D:DRP	C						
HJWong;df*		JEDyer							
3/5/96		3/7 /96							

*previously concurred

OFFICIAL RECORD COPY

ENCLOSURE 1

ATTENDEES AT NRC/WPPSS MEETING ON FEBRUARY 15, 1996

OVERSIGHT PANEL MEETING

Washington Public Power Supply System

J. Parrish, Managing Director
P. Bemis, Vice President, Nuclear Operations
R. Webring, Vice President, Operations Support
J. Baker, Vice President, Resource Development
J. Kucera, Vice President, Administration/Chief Financial Officer
G. Smith, Plant General Manager
J. Swailes, Director, Engineering
W. Barley, Manager, Quality
J. McDonald, Assistant Engineering Manager
C. Schwarz, Manager, Operations
M. Monopoli, Manager, Maintenance
J. Albers, Manager, Radiation Protection
D. Swank, Manager, Regulatory and Industry Affairs
J. Peters, Manager, Quality Programs
A. Langdon, Assistant Operations Manager
G. Sanford, Manager, Planning, Scheduling, and Outage
M. Price, Lead, Long Range Planning
P. Ingersoll, System Engineering Supervisor
J. Holder, Regulatory Programs
J. Taylor, Information Specialist
S. Senner, Public Affairs Officer
M. Hatcher, Staff Attorney
J. Engbarth, Executive Board Auditor

NRC

J. Dyer, Director, Division of Reactor Projects (DRP)
W. Batemam, Director, Reactor Projects Regions III/IV, NRR
K. Brockman, Deputy Director, Division of Reactor Safety
H. Wong, Chief, Project Branch E, DRP
R. Barr, Senior Resident Inspector, DRP
G. Replogle, Resident Inspector, DRP
J. Mitchell, Office of the Executive Director of Operations
D. Kunihiro, Regional State Liaison Officer, Walnut Creek Field Office
M. Hammond, Public Affairs Officer

Others

D. Williams, Nuclear Engineer, BPA
D. McManman, Tri-City Herald

WNP-2

Management Oversight Meeting

February 15, 1996

ENCLOSURE 2

Opening Remarks

- **J. V. Parrish, Managing Director**
  - **Current Challenges**
  - **Institutional Focus**

Introduction of Presenters & Agenda

Paul R. Bemis

Introduction of Presenters & Agenda

- **Agenda**
  - **PES Status** — **P. R. Bemis**
  - **Business Plan & PES Alignment**
  - — **M. Price**
  - **Site Human Performance** — **J. Peters**
  - **General Plant** — **G. O. Smith**

Introduction of Presenters

- **Business Plan & Performance Enhancement Strategy (PES) Alignment**
- **Human Performance**
- **Plant Issues**

Introduction of Presenters & Agenda

– Operations	C. J. Schwarz
– Health Physics	J. P. Albers
– Engineering	J. McDonald
– Maintenance	M. M. Monopoli
– Closing Remarks	J. V. Parrish

Performance Enhancement Strategy Status

- P. R. Bemis

PES Status - Overview

- WNP-2 Performance is Slowly Improving
- Performance Enhancement Strategy is Contributing to Improved Performance

PES Status - Overview cont.

- **Early signs of degraded performance have been identified and are being aggressively addressed**

- **Sustained Improved Performance Remains Goal**

PES Status - Summary

- **Lessons Learned from Six Months of Experience**
  - **Management in each functional area has adopted the Performance Enhancement Strategy methodology.**
  - **Measurement standards employed at the functional level have a direct correlation to the attainment of corporate business objectives.**

PES Status - Summary

- **Lessons Learned from Six Months of Experience** cont.

  - **Employees are performing their tasks, on a more consistent basis, in a manner consistent with management's expectations.**

  - **Early signs of culture change are evident**

PES Status - Summary Cont....

- Continued Sense of Cautious Optimism
- Positive Progress To Date
- Too Soon To Declare Victory
- Performance Enhancement Strategy Requires Assessment Over Long Term
- Closing

Business Plan & PES Alignment

Mike Price

SUPPLY SYSTEM PLANNING PROCESS

"WE HAVE A PLAN!"

Strategic Planning (FY97-FY01)
- "Our Vision of the Future"
- Mission & Vision Statement
- Strategic Objectives & Targets

Business Plan (FY96-FY98)
- Business Objectives & Strategies
- Management Initiatives
- Key Performance Indicators

Performance Enhancement Strategy
- Achieve and Sustain
  - Safe Performance
  - Superior Performance
- Identify, Track & Trend Initiatives

Long Range Projects Plan (FY96-FY97)
- Developed by Project Review Committee
- Approved by Senior Management
- Includes
  - Project Modification Requests
  - Major Maintenance
  - Major Programs

Fiscal Year Budget (FY96-FY97)
- Identification of Work (Projects & LOE)
- By Work Alignment of Resources
- By Organization Alignment of Resources

PES RELATIONSHIP TO BUSINESS PLAN

- **BUSINESS PLAN**
  - Six "Plant 2" Objectives
    - » Safe Operations
    - » Generation Performance
    - » Organization Performance
    - » Public Confidence & Trust
    - » Station Condition
    - » Cost Competitiveness
  - Specific Management Initiatives will help improve performance
- **PES RELATIONSHIP TO BP**
  - All PES Objectives support a Business Plan Objective
  - Seven PES Objectives aligned with a Business Plan Initiative

PES OBJECTIVES ALIGNED TO BP INITIATIVES

(Vice President Nuclear Operations) VPNO Objectives		(Organization Performance) OP Initiatives
VPNO 0.1.1 Improve Manager/Supervisor Performance	⟷	OP6 Improve Manager/Supervisor Performance
VPNO 0.2.1 Improve Human Performance at Plant 2	⟷	OP9 Human Performance Improvement
VPNO 0.3.1 Improve the Effectiveness of Corrective Action	⟷	OP10 Corrective Action Program Performance Improvement
VPNO 0.4.1 Simplify Administrative Procedures	⟷	OP7 Simplify Work Processes and Improve Procedures
VPNO 0.5.1 Simplify Management Processes	⟷	OP7 Simplify Work Processes and Improve Procedures
(Additional Improvement Initiatives) AII Objectives		**(Station Condition) and (Cost Competitiveness) SC and CC Initiatives**
AII 7.1.1 Implement Maintenance Rule	⟷	SCT2 Implement Maintenance Rule Program
AII 7.3.1 Convert existing Tech Specs to Improved Tech Specs	⟷	CC5 Conversion to Improved Tech Specs

Human Performance

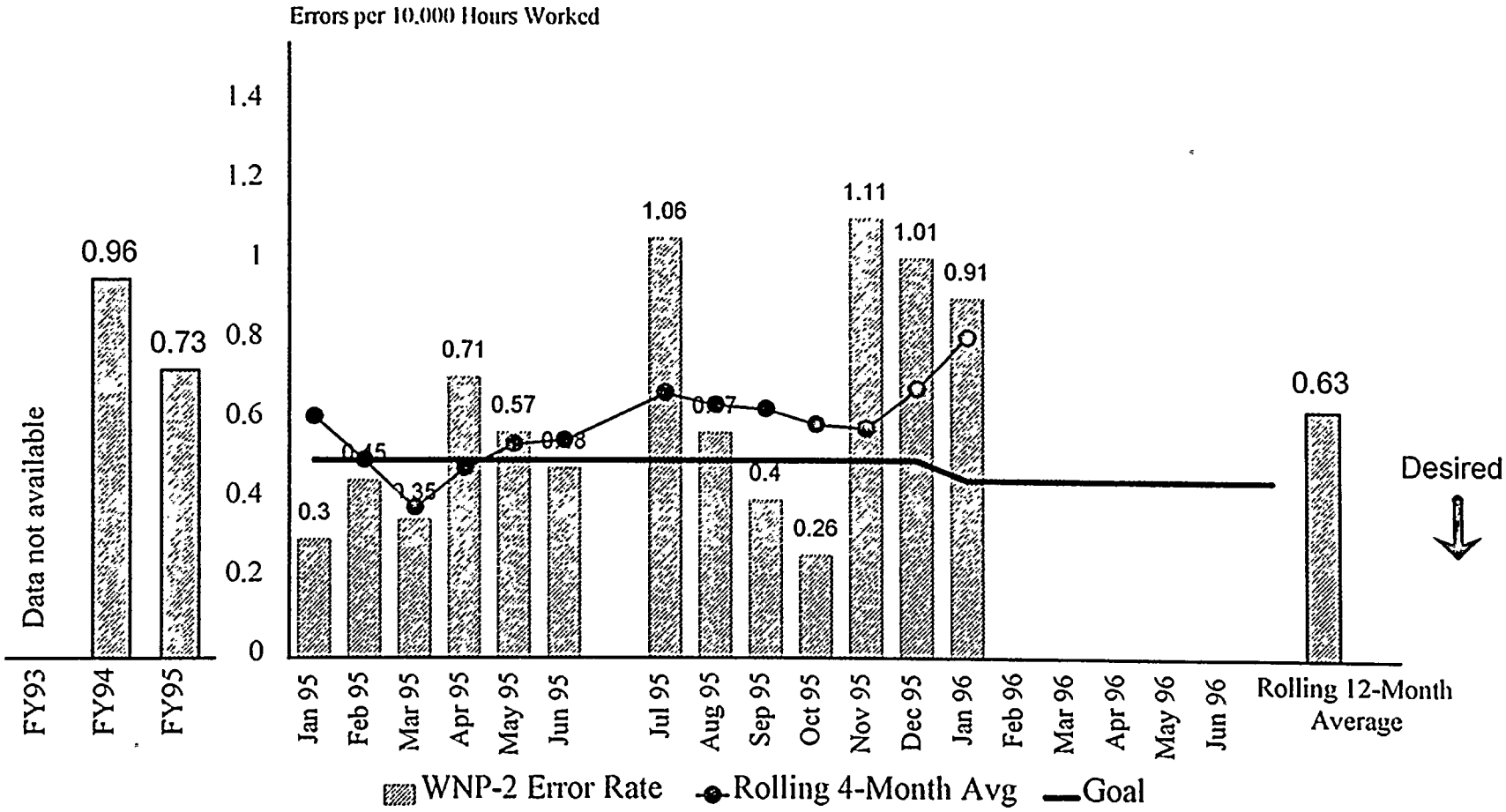
- John Peters

Core VPNO Objectives

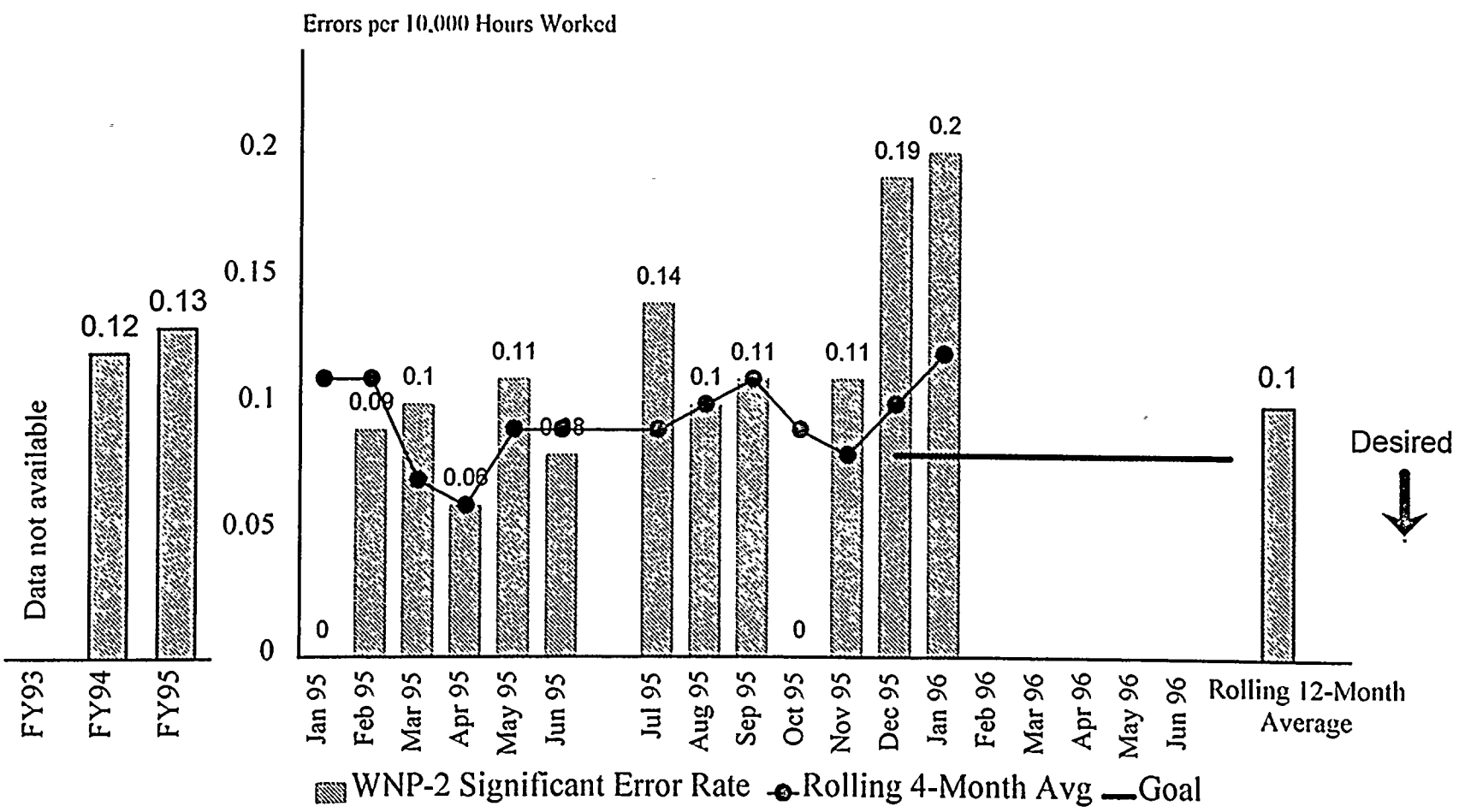
- **0.2 Human Performance**
  - 0.2.1 **Improve human performance at WNP-2**
    - » Management initiative to improve human performance completed.
    - » Human performance coordinator position established.
    - » Internal and external attitudes regarding human performance identified.
    - » Current initiatives to improve human performance completed.
    - » Assess devices being used to monitor human performance completed.

Personnel Error Rates

WNP-2 MONTHLY & FISCAL YEAR ERROR RATES



Personnel Error Rates



Operations Overview

Greg O. Smith

Maintaining Our Focus

Station Priorities

- Teamwork
  - Common Goals
  - Radiation Exposure
- Efficiency
  - Cost of Power
  - Station Budget
  - Capability Factor
- Excellence
  - Material Condition
  - Personnel Performance

Operations Update

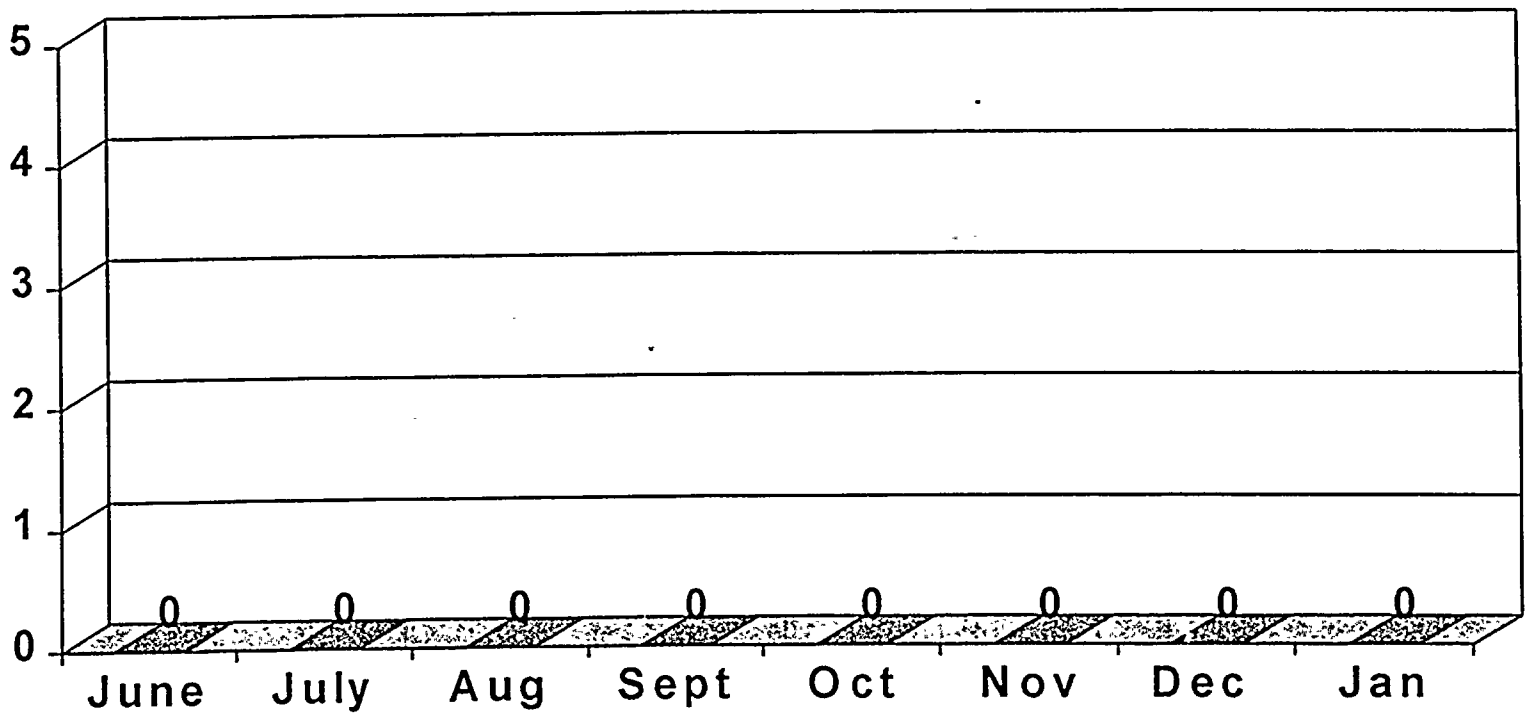
Chris Schwarz

WNP-2 Operations

- **Ownership**
- **Demanding Customer**
- **Solving our Problems**
- **Human Performance**

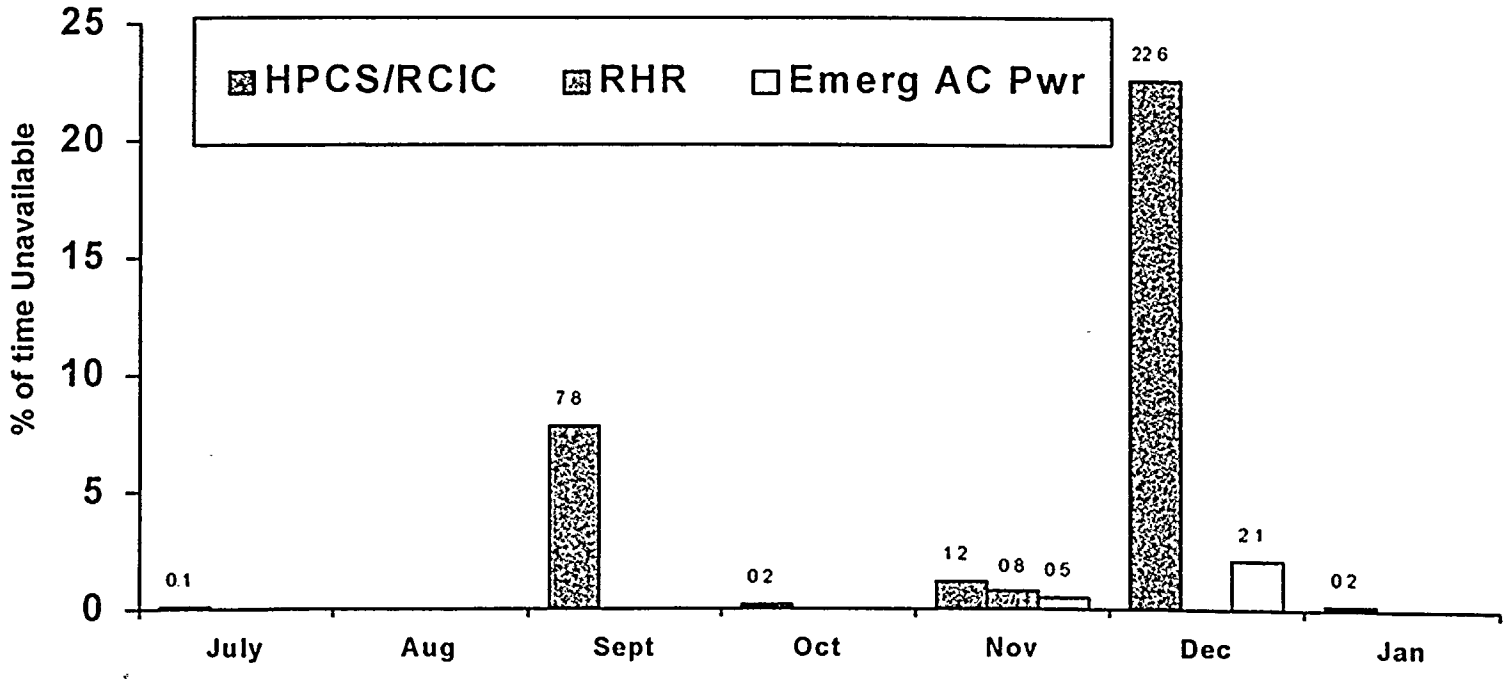
Operations Safety Focus

- **Unplanned Scrams**



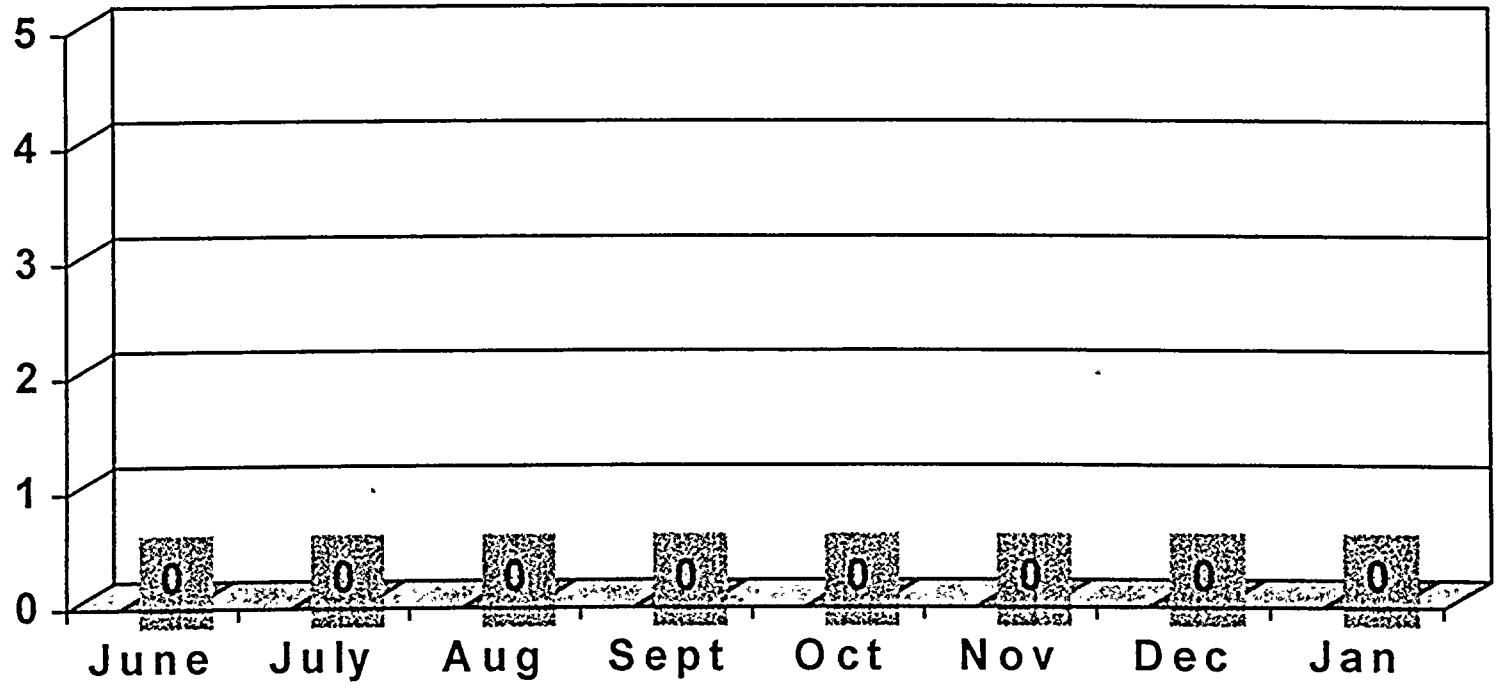
Operations Safety Focus

Safety System Performance



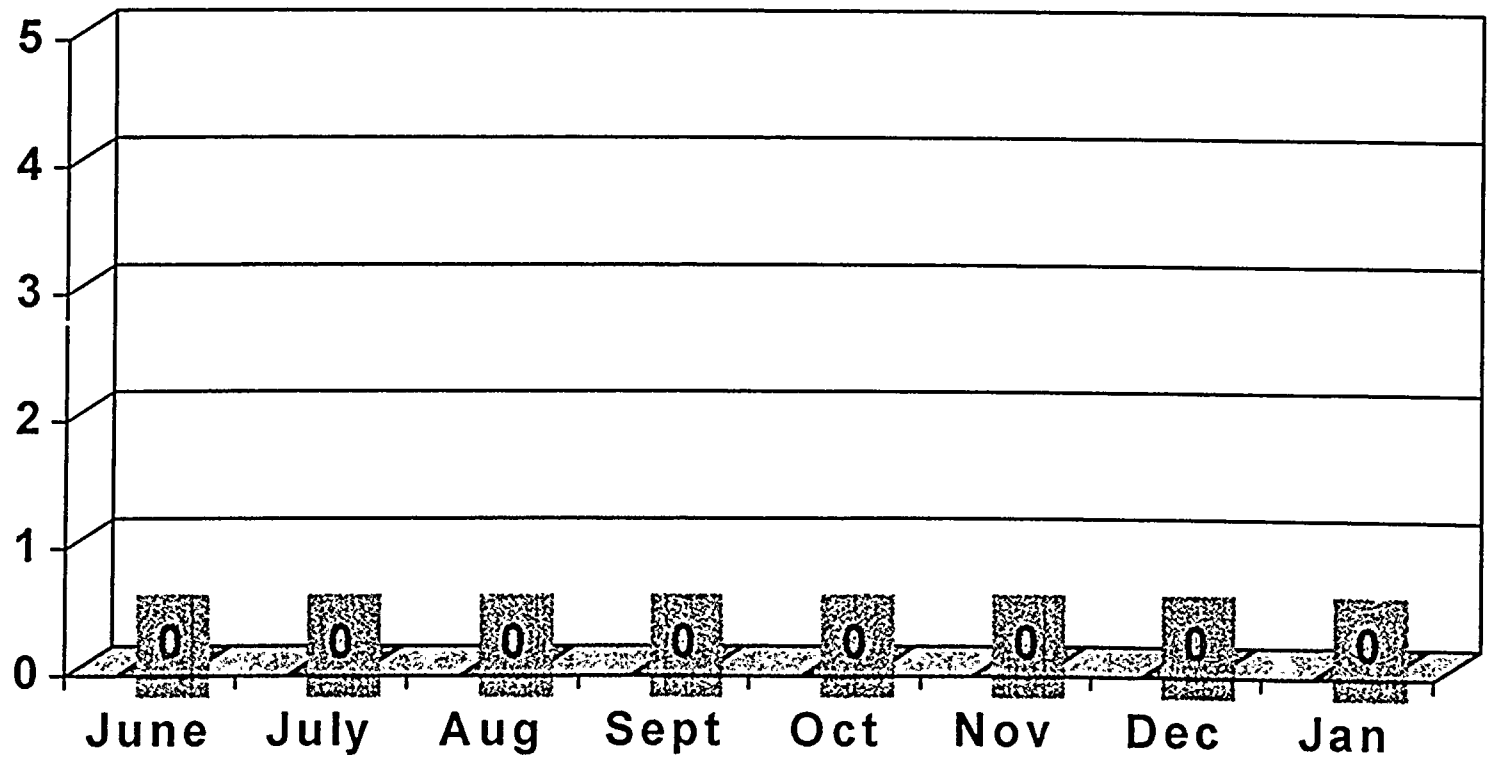
Operations Safety Focus

- **Unplanned Safety System Actuations**



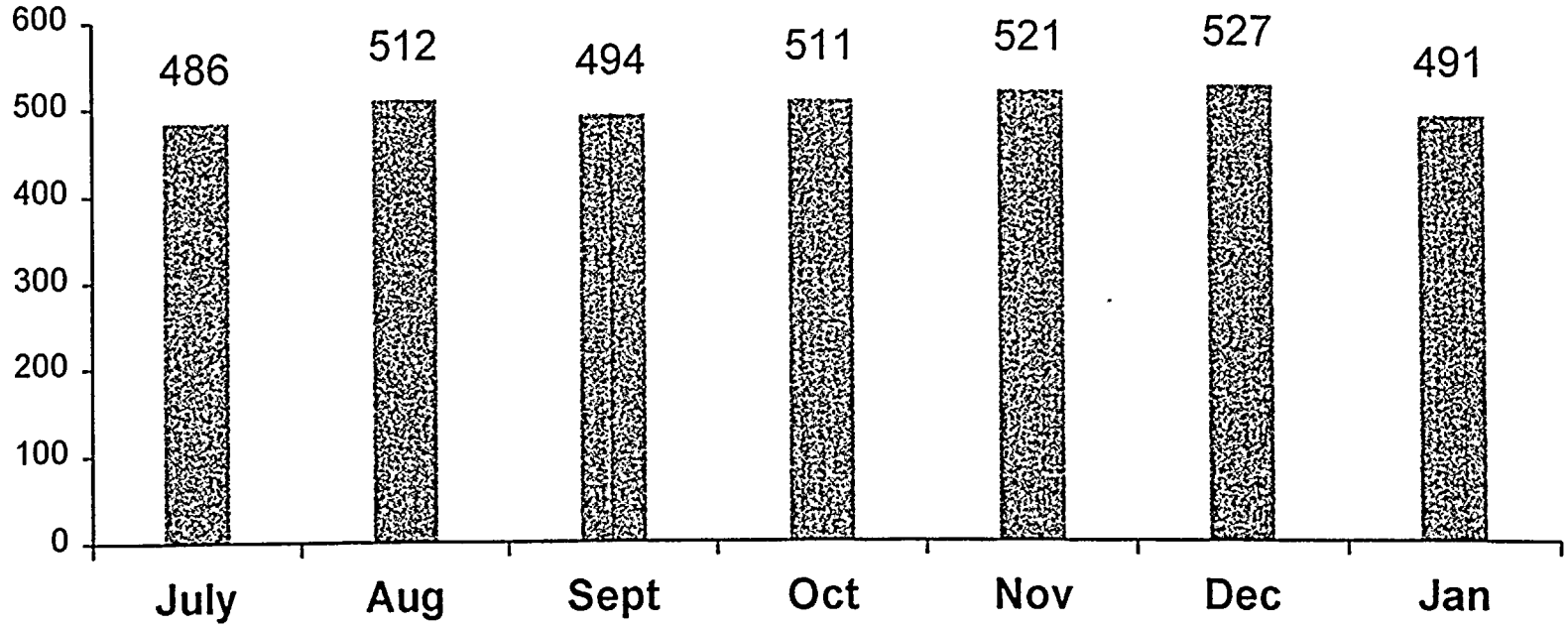
Operations Safety Focus

- **Emergency Generator Unreliability**



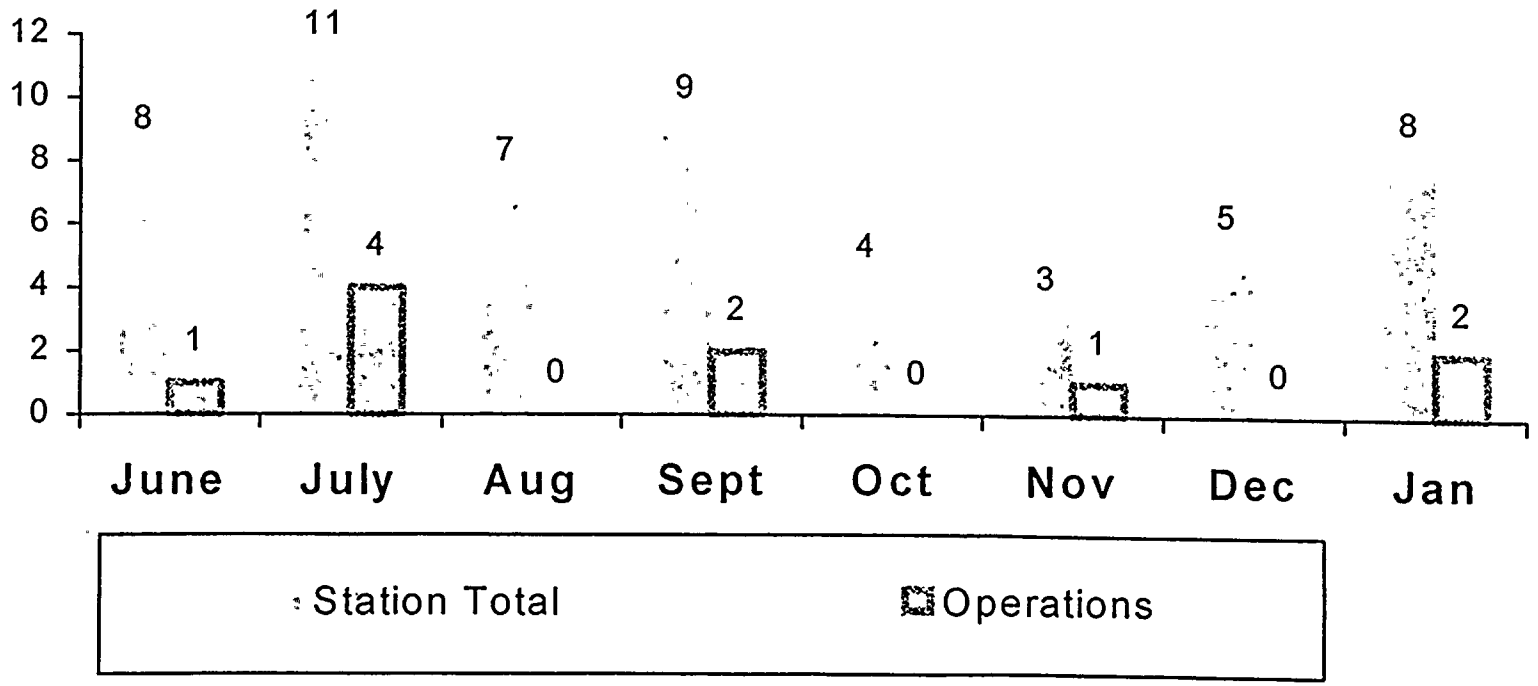
Operations Safety Focus

◆ OI-9 Observation Totals



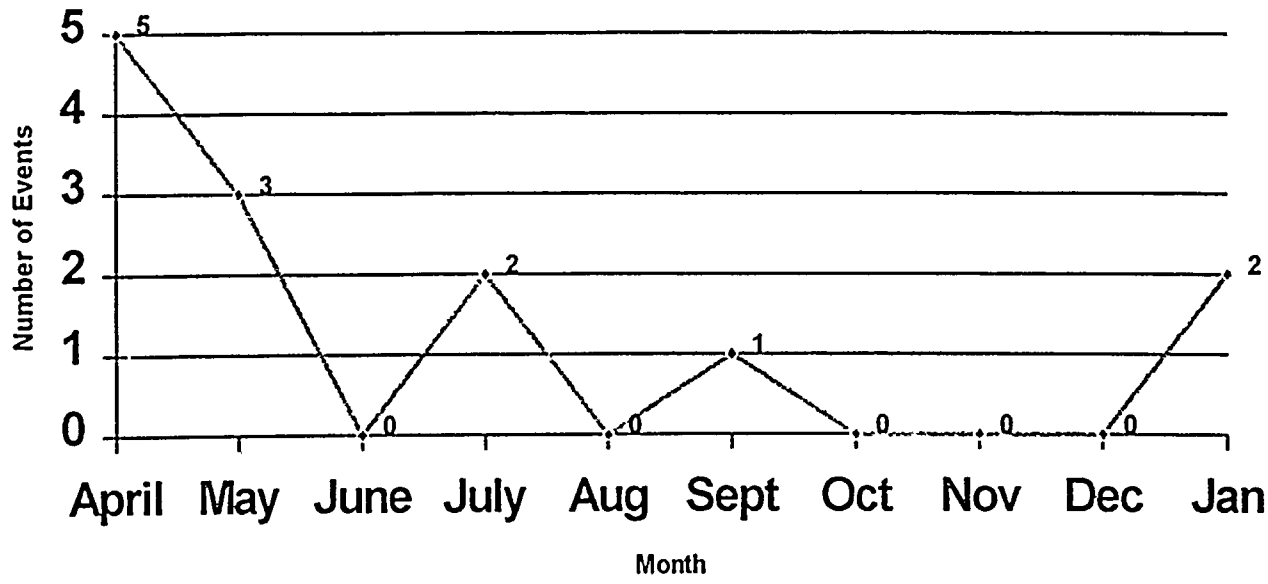
Operations Safety Focus

◆ WNP-2 Operations Significant PERs



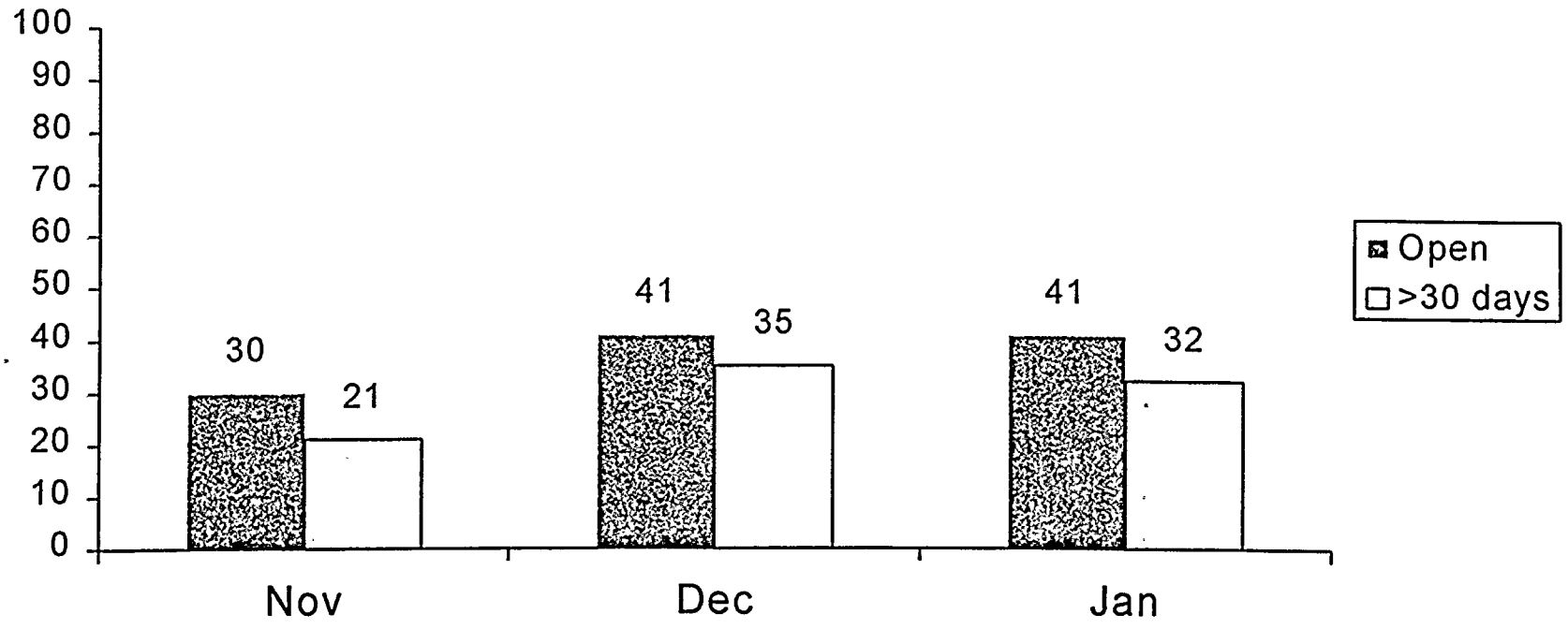
Operations Management Involvement

◆ HPI - Clearance Order Performance



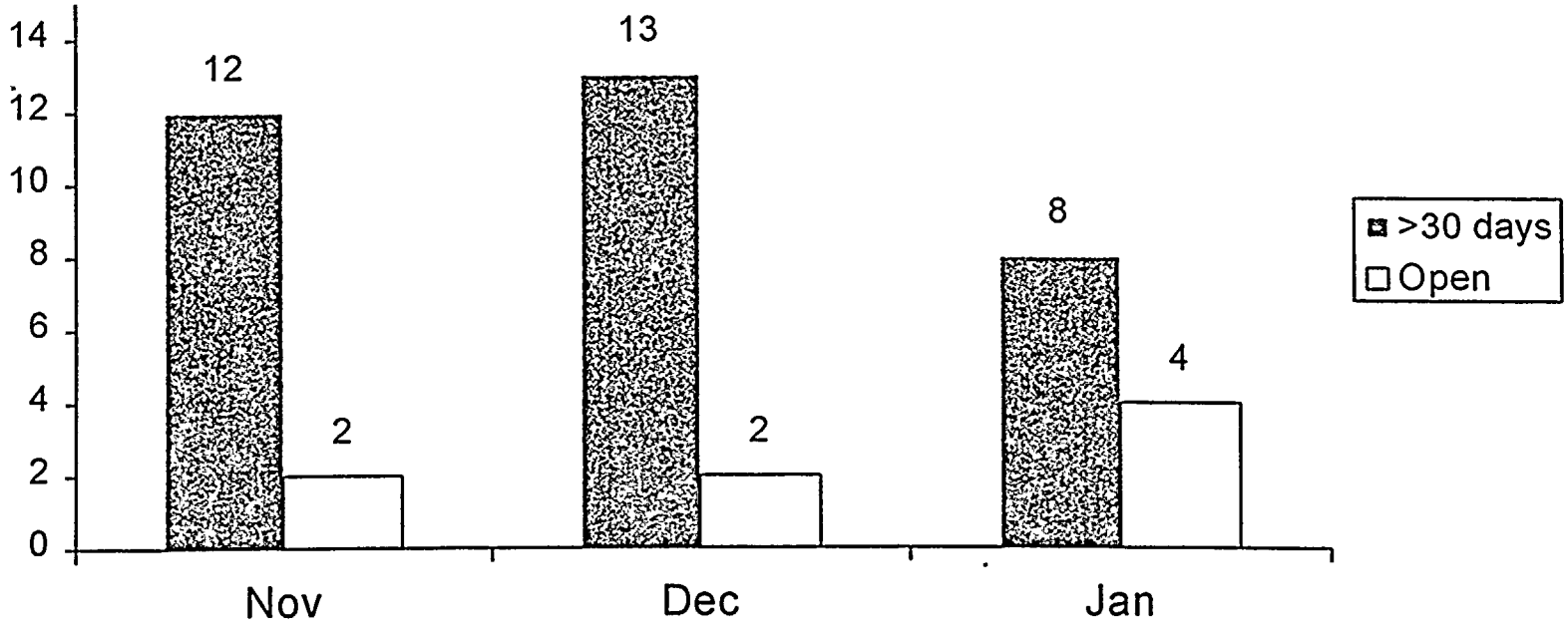
Operations Problem Resolution

- **Open Work - Caution Tags**



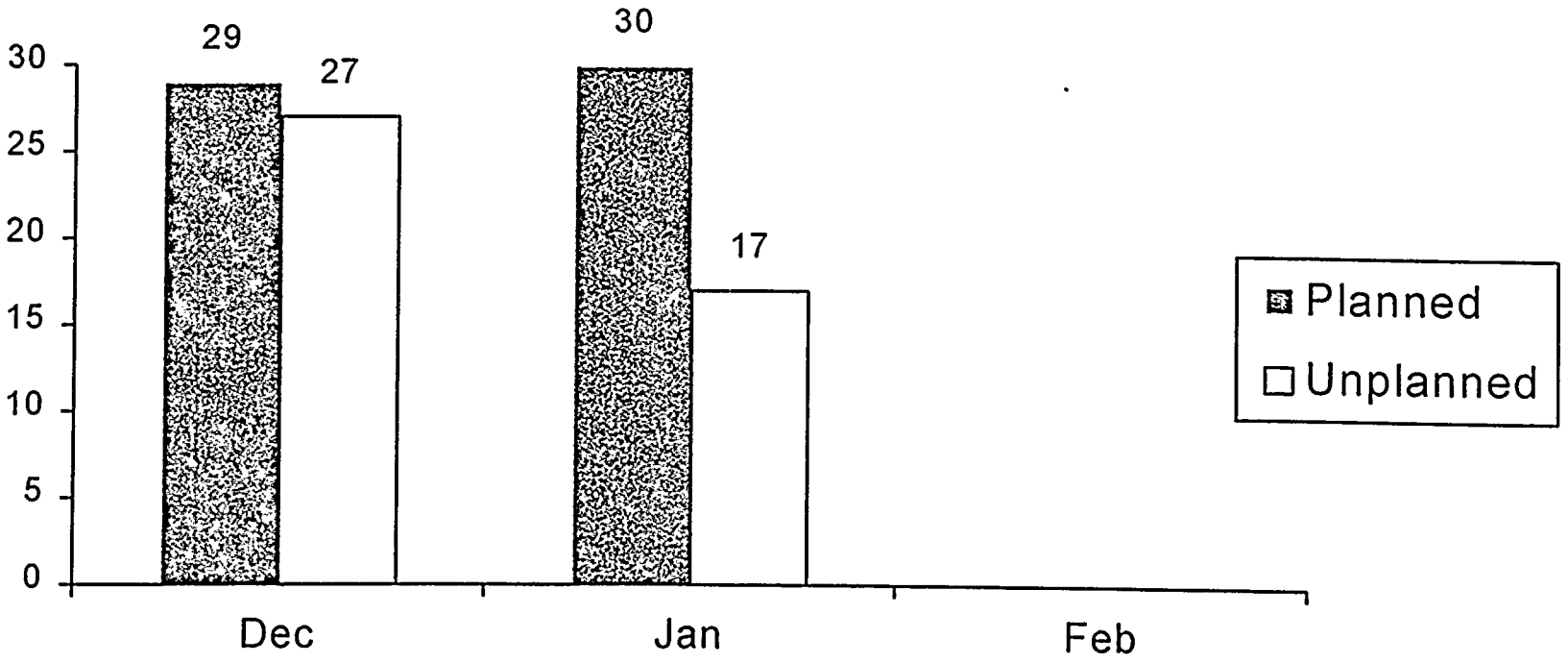
Operations Problem Resolution

- **Open Work - LCO &Inop Broke/Fix**



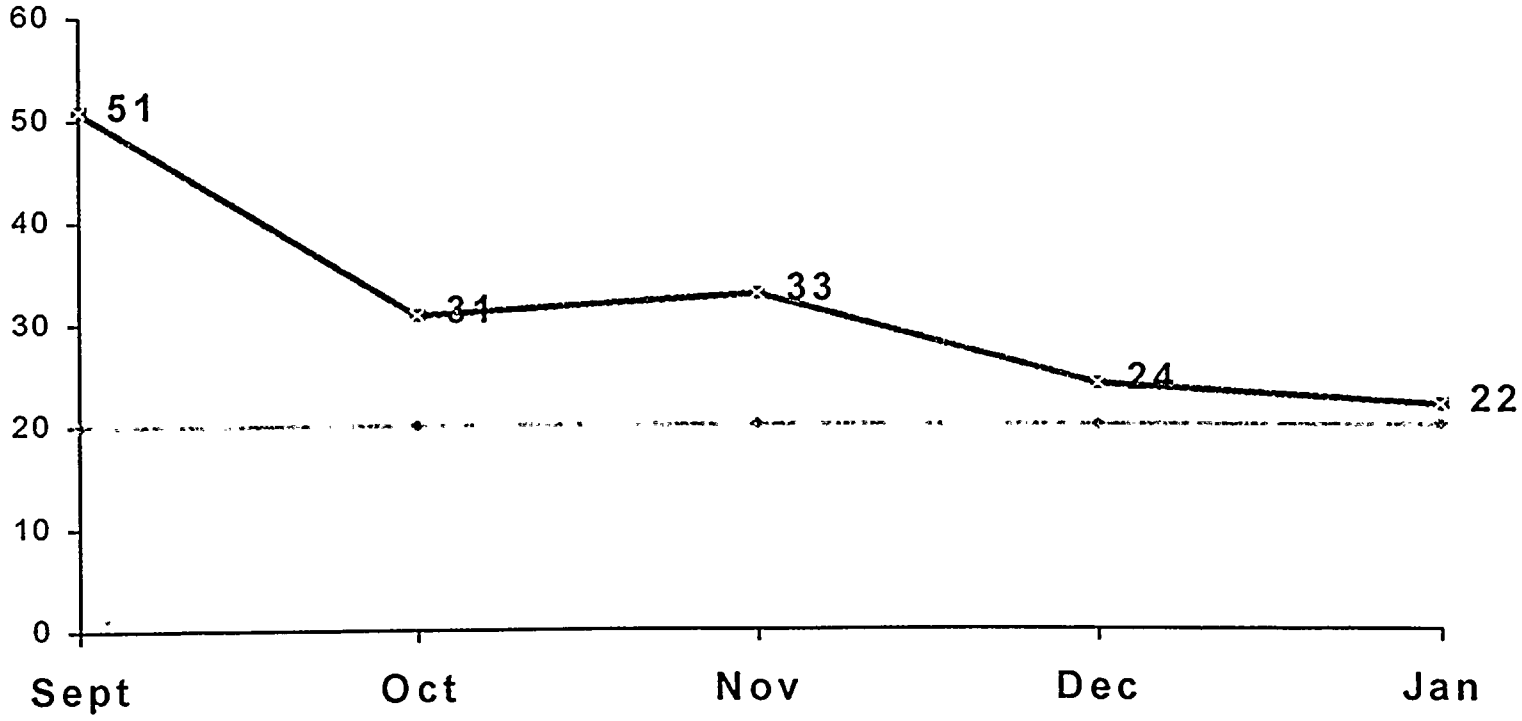
Operations Problem Resolution

- **LCO Entries**



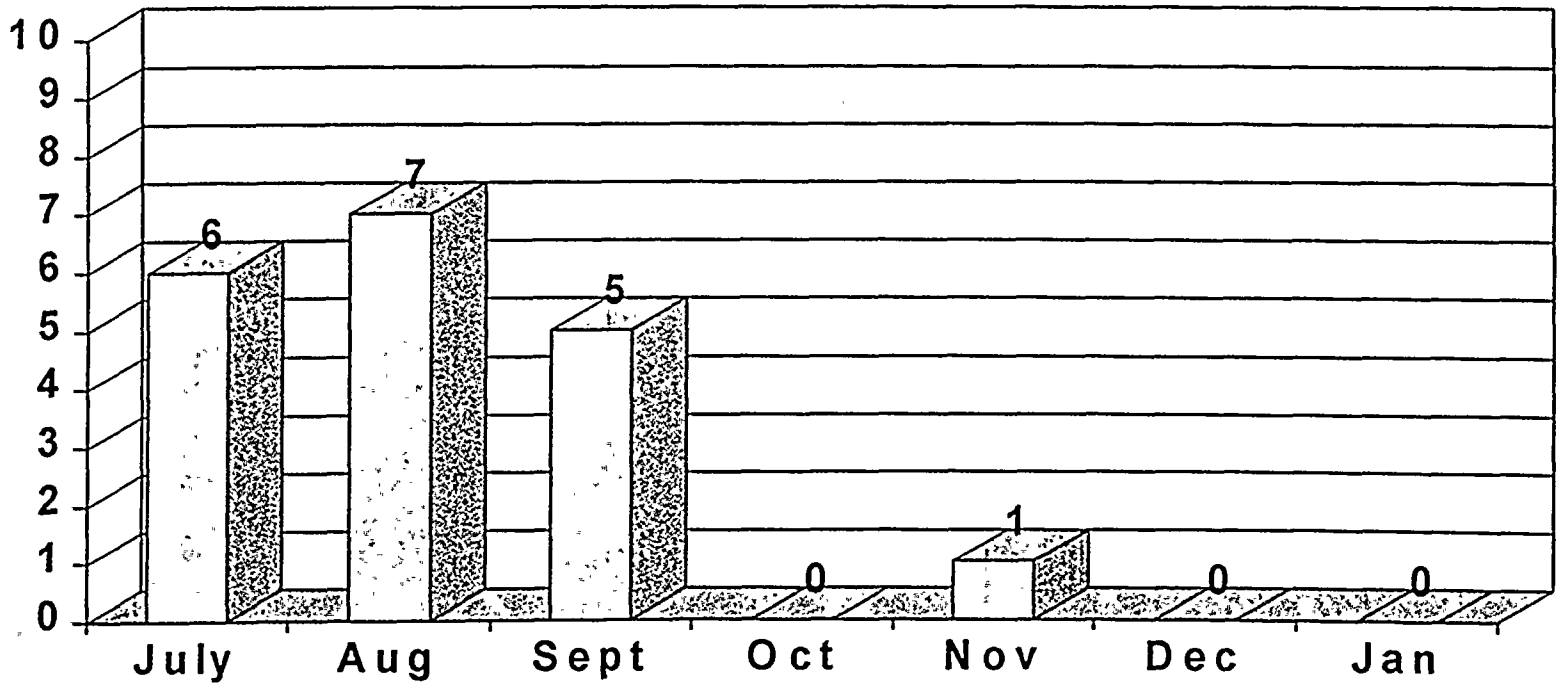
Operations Problem Resolution

- **Control Room Non Outage Deficiencies**
  - **Expectation is 20 or less**



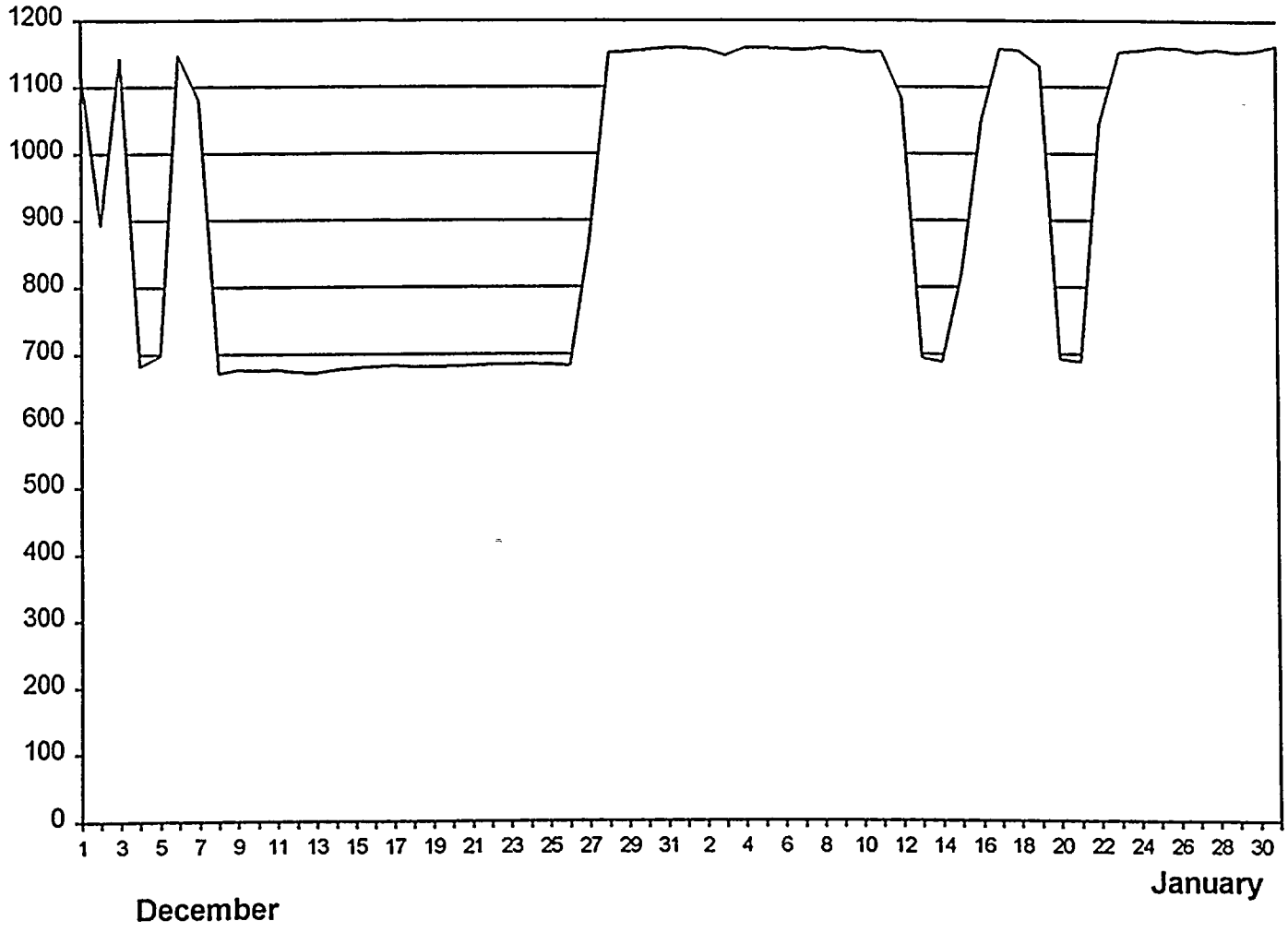
Quality of Operations

- **QA PER Refurbishments**



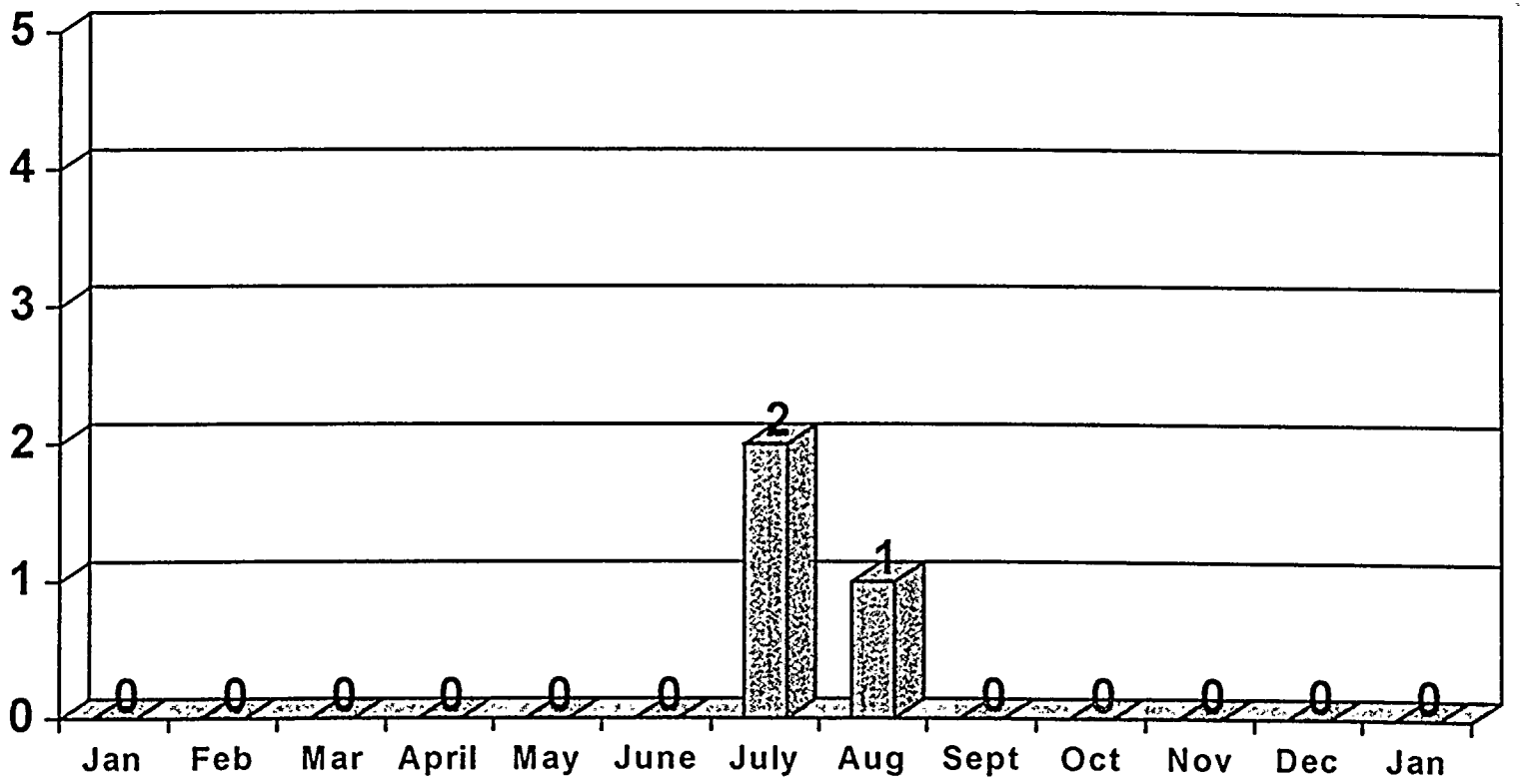
Daily Load Profile

December - January



Quality of Operations

- **CR Mispositioning/Reactivity Events**



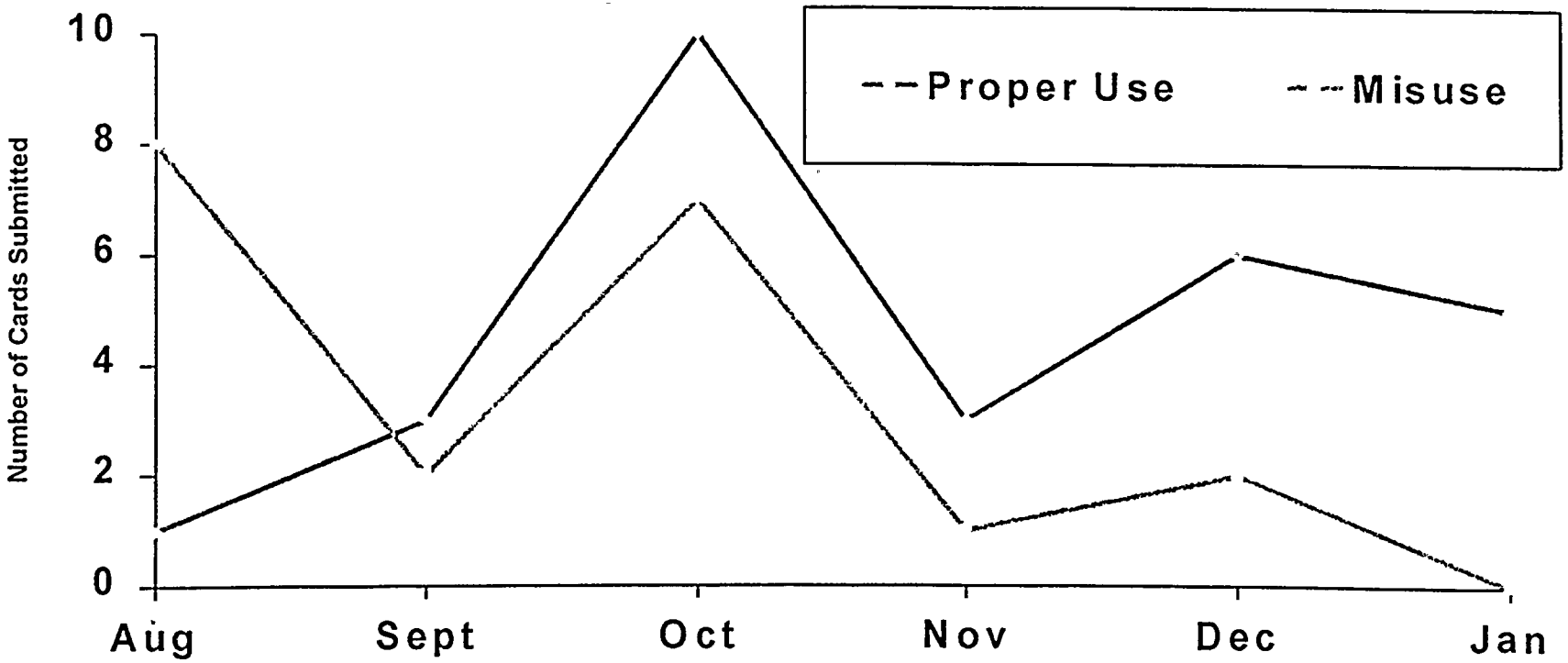
Quality of Operations

Ops/Eng Communications

- **September**
  - Feedwater Flow Calcs
- **October**
  - RCIC-V-28
- **November**
  - Cond Demin Sulphates
- **December**
  - Service Water Piping
  - A RFPT Elect Speed Degradation
  - RCIC Steam Supply Hanger
  - DG-1 Electronic Governor
- **January**
  - Substation Supervisory
  - TSW Leak
  - RCIC Gasket Leak
  - Potter Brumfield Relay
  - DG Vent/Dampers (Cold Weather Ops)

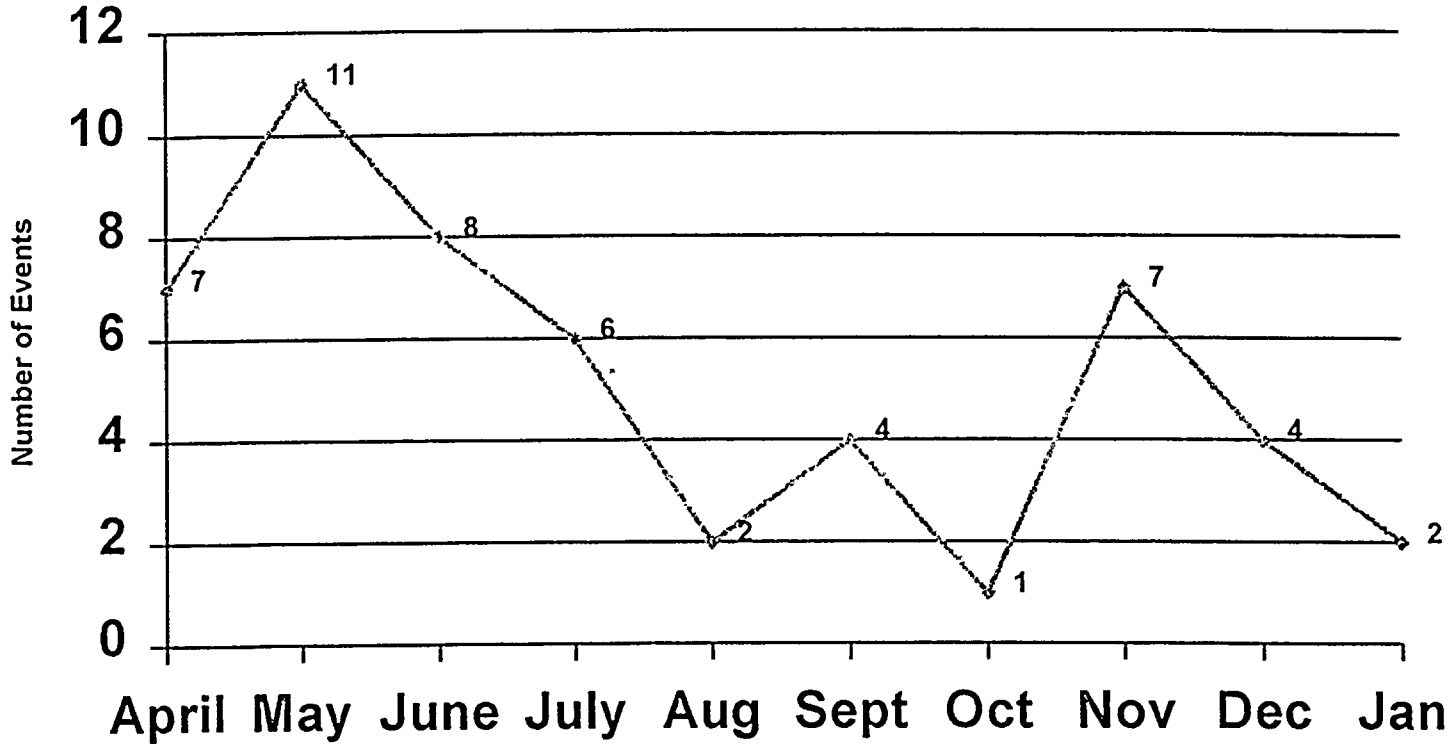
Quality of Operations

- **Gold Card Program - Procedure Compliance**



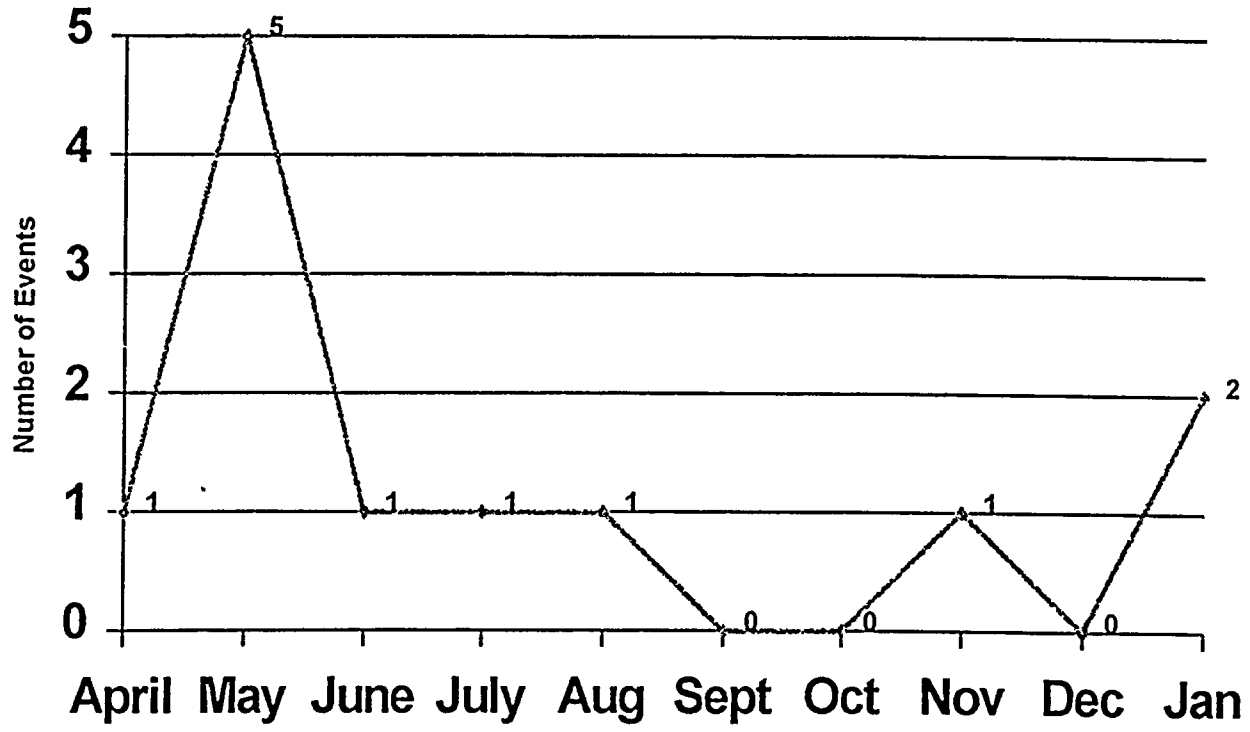
Operations Programs & Procedures

◆ HPI - Procedure Compliance



Operations Programs & Procedures

◆ HPI - Configuration Control



Quality of Operations

◆Equipment Operator Support

- ◆Latest INPO Assist Visit (August 1994)
- ◆<u>Inadequate Equipment Operator Performance:</u>
  - Plant Labeling
  - Teamwork
  - Discipline
  - Communications
  - Self-Checking

Quality of Operations EO Support Initiatives - Labeling

- RCIC
- RHR A,B,C
- LPCS
- HPCS
- CRD Pump Room
- SW Pumphouses
- CAC
- ASD Glycol
- 480V MCCs (>65)
- 250V DC Buses

Quality of Operations EO Support Initiatives - Teamwork

- Crew Reorganization October 1995
- Ops Teambuilding Session 1995
- Simulator Scenarios
- EO Break Room/Production Center
- EO diverse assignments (FIN Team, PER Dispositioners, Labeling Coordinator)

Quality of Operations EO Support Initiatives - Discipline

- First line supervisors increase supervisory skills
- Positively reinforce correct behaviors (OI-9s)
- Performance manage habitual performance problems
- OI-23 Human Performance Improvement Program
- Improve performance evaluations
- RO/SRO selection process

Quality of Operations EO Support Initiatives - Communications

- Periodic meetings between Ops Manager & EOs
- Shift Crew Team Building sessions continuing
- Plant General Manager meetings with EOs
- Weekly Human Performance Indicators
- OI for Performance Expectations in Ops

Quality of Operations EO Support Initiatives - Self-Check

- Gold card results show areas of improvement
- Increase supervisory focus on reinforcing correct behaviors
- Management Oversight Program provide monitoring, coaching and feedback
- Increase Ops management rounds with equipment operators
- Self-check simulator scheduled 1st qtr of 1996

Quality of Operations EO Support Initiatives - Operator Pipeline

- **6 new EO trainees started January 8, 1996**

Quality of Operations Outage Preparedness

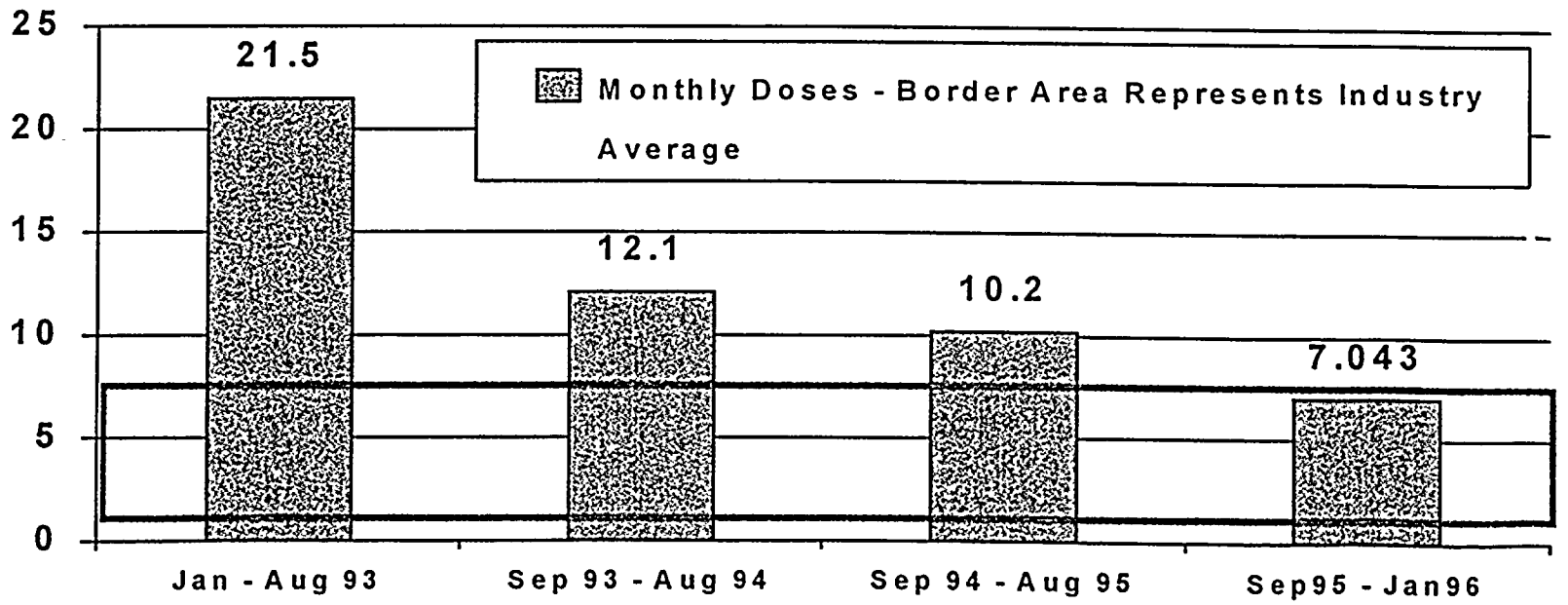
- Contract GE Fuel Movement
- Clearance Reduction Program
- Improvements Resource allocations (turnover, preps)

Health Physics Performance Update

John Albers

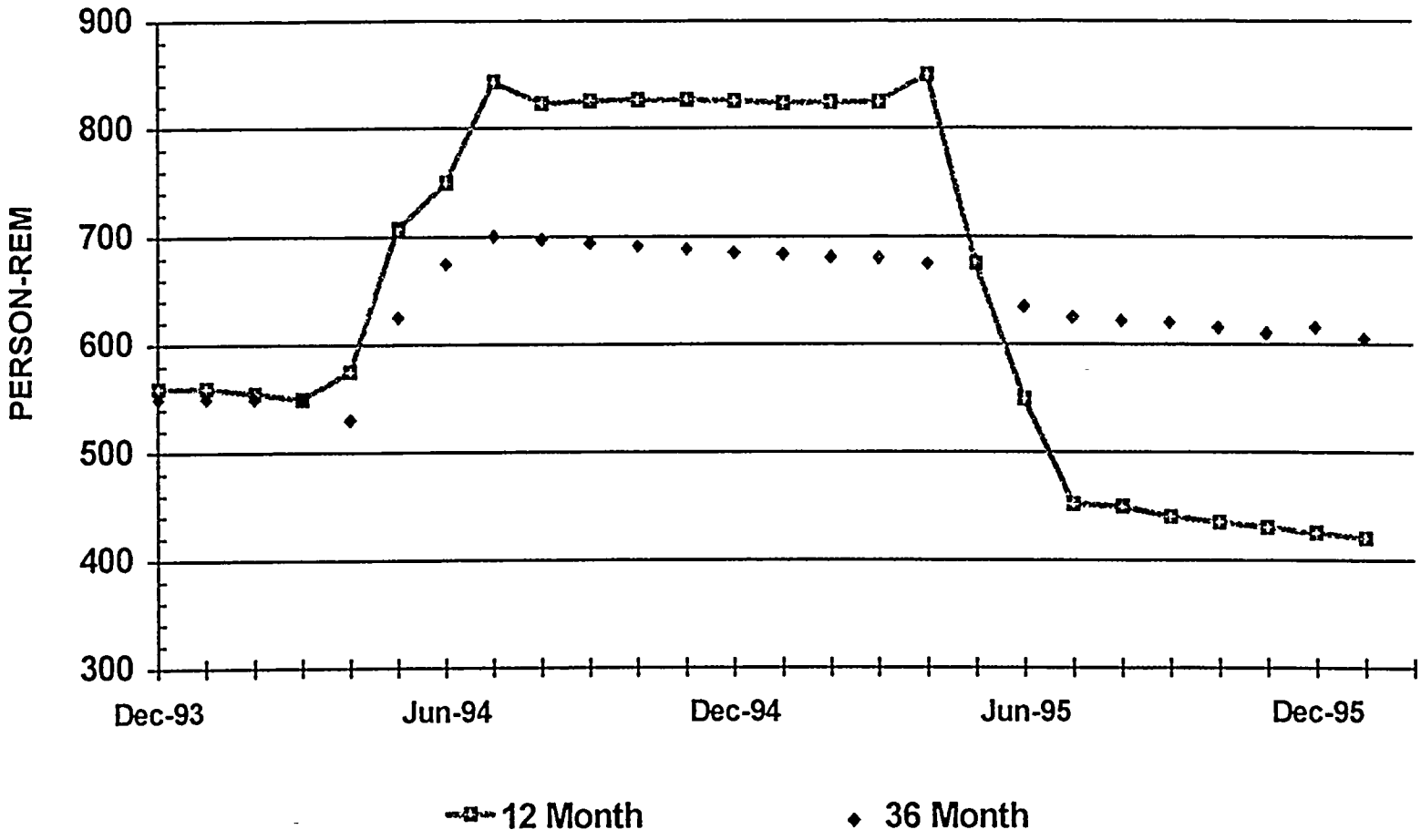
WNP-2 Non Outage Average Monthly Doses

- 5.3E.1 **Reduce personnel radiation exposure to a level consistent with comparable Boiling Water Reactors**



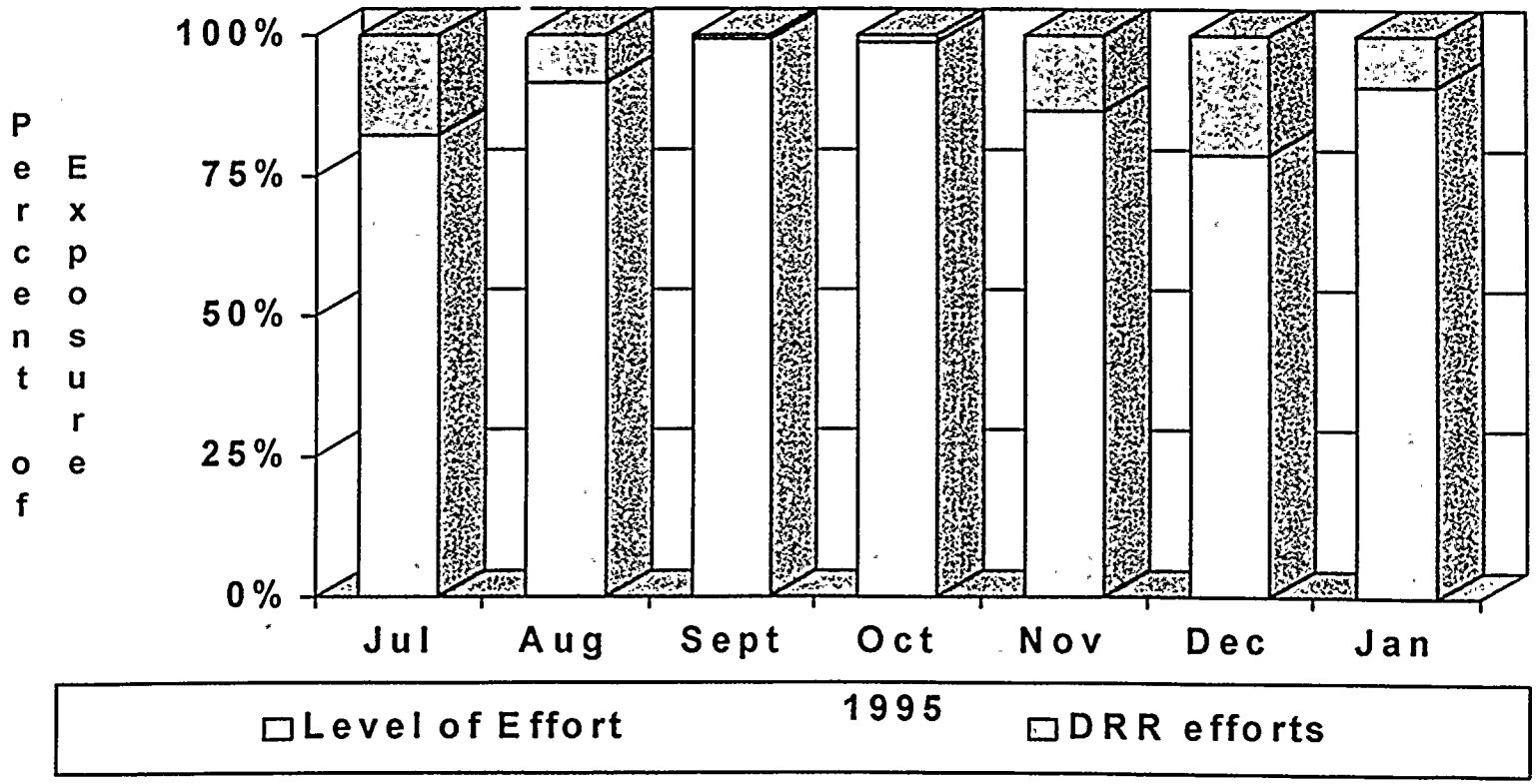
RADIATION EXPOSURE

Rolling Average



Monthly Dose Attributed to Dose Rate Reduction (DRR) Efforts

- 5.3E.1.A **Implement WNP-2 Business Plan concerning reduction of occupational and collective personnel radiation exposure**



DOSE REDUCTION EFFORTS
SHIELDING PROGRAM

Scheduled Future Permanent Shielding Projects

- CRD Vault
  Reduction of general area dose rates from 200 mrem/hr to 30-40 mrem/hr

- CRD Table Shielding
  Reduction in dose rates from 4-8 R/hr to less than 100 mrem/hr.

- RHR Pump Room- Pumps A & B
  Shielding of pump discharge bells results in removal of high radiation area.

- EDR Line (Above Tool Crib)
  Reduction in contact dose rates from 3-5 R/hr to 4-6 mrem/hr.

DOSE REDUCTION EFFORTS
SHIELDING PROGRAM

Scheduled Future Temporary Shielding Projects

- CRD Vault

  During room modifications

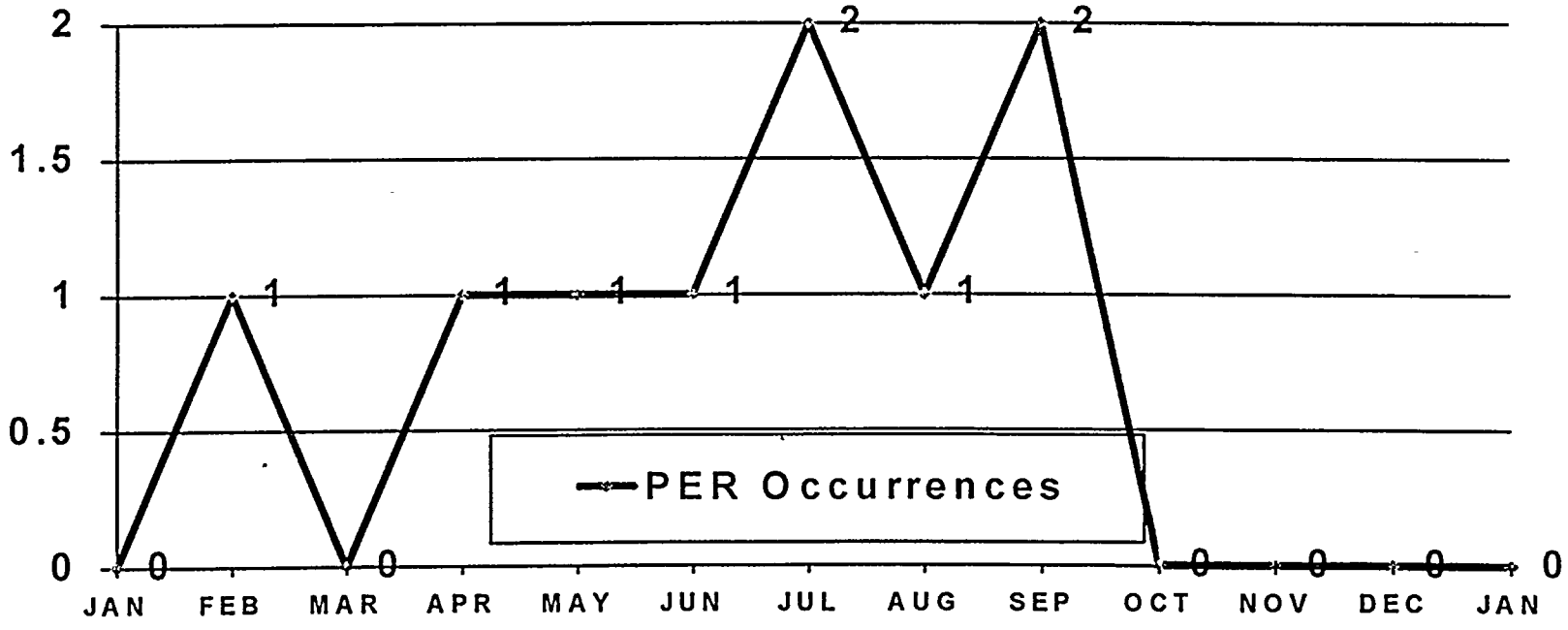
- Contaminated Area Reduction

  Temporary shielding installations in support of contaminated area reduction efforts

PER Trending

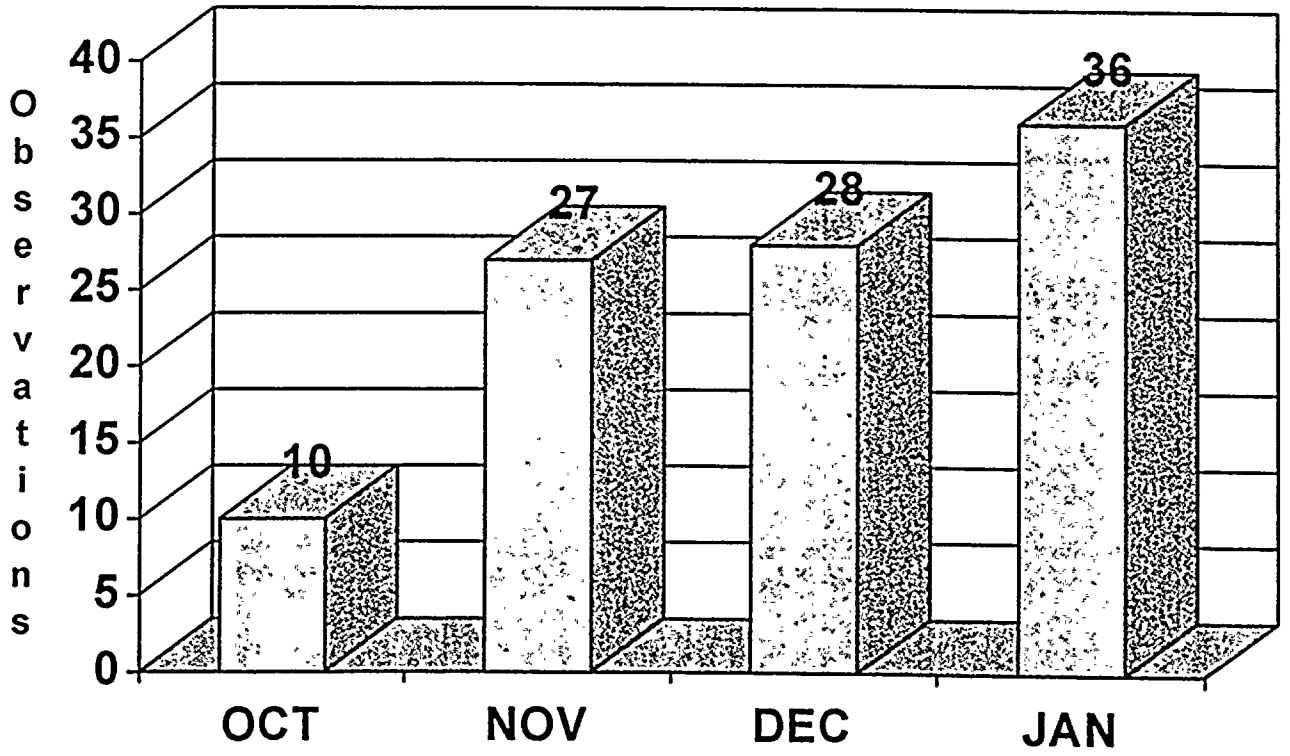
PERs Classified as "Personnel Error"

- 5.3E.2 **Continue to foster an environment which encourages adherence to radiological requirements.**



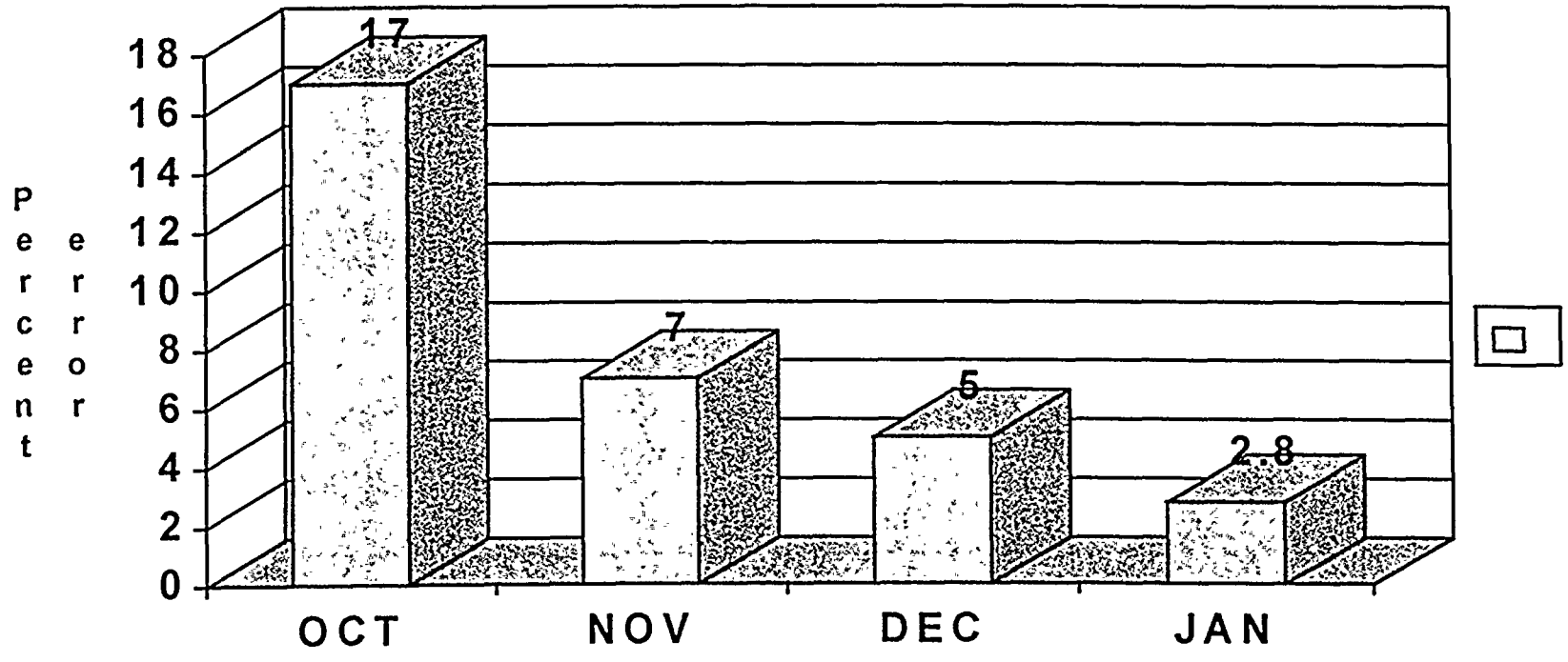
Human Performance Indicators

- Performance Oversight Observations



Human Performance Indicators

- **Human Performance Weaknesses**



HUMAN PERFORMANCE IMPROVEMENTS

NRRPT Training & Examination

- Examination Taken November 11, 1995
- Attendance: 13 Health Physics Personnel
- 12 out of 13 Passed.

Engineering Performance Status

John A. McDonald

System Report Cards

SYSTEM	Rx/TG Trips			CF Losses			ESF Act.			MRule Stat.			Deficiencies		
EAC	0	0	0	0	0	0.1	0	0	0	NA	NA	NA	NA	1	1
	0			0			0			a(2)			0		
EDC	0	0	0	0	0	0	0	0	0	NA	NA	NA	NA	0	0
	0			0			0			a(2)			0		
EUP	0	0	0	0	0	0	0	0	0	NA	NA	NA	NA	0	0
	0			0			0			a(2)			0		
CRD	0	0	0	0	0	0	0	0	0	NA	NA	NA	NA	1	1
	0			0			0			a(2)			1		
SBAC	0	0	0	0	0	0	0	0	0	NA	NA	NA	NA	2	0
	0			0			0			a(2)			0		
SW	0	0	0	0	0	0	0	0	0	NA	NA	NA	NA	2	2
	0			0			0			a(2)			1		
RHR	0	0	0	0	0	0	0	0	0	NA	NA	NA	NA	1	1
	0			0			0			a(2)			0		
HPCS	0	0	0	0	0	0	0	0	0	NA	NA	NA	NA	0	0
	0			0			0			a(2)			0		
RCIC	0	0	0	0	0	0	0	0	0	NA	NA	NA	NA	2	1
	0			0			0			a(2)			0		
DEH	1	0	0	3.2	0	0	0	0	0	NA	NA	NA	NA	1	0
	0			0			0			a(2)			0		

System Report Cards (Cont'd)

SYSTEM	Rx/TG Trips			CF Losses			ESF Act.			MRule Stat.			Deficiencies		
RFW	0	1	0	0	6.4	3.2	0	0	0	NA	NA	NA	NA	4	3
	0			0.4			0			a(2)			3		
TG	0	0	0	0	0	0.3	0	0	0	NA	NA	NA	NA	1	1
	0			0			0			a(2)			1		
COND	0	0	0	1	0	0	0	0	0	NA	NA	NA	NA	4	4
	0			2.4			0			a(2)			0		
RPS	0	0	0	0	0	0	0	0	0	NA	NA	NA	NA	0	0
	0			0			0			a(2)			0		
TSW	0	0	0	0	0	0	0	0	0	NA	NA	NA	NA	0	0
	0			0			0			a(2)			0		
CAS	0	0	0	0	0	0	0	0	0	NA	NA	NA	NA	0	0
	0			0			0			a(2)			0		
CEP/CSP	0	0	0	0	0	0	0	0	0	NA	NA	NA	NA	3	2
/CVB	0			0			0			a(2)			1		
NS4	0	0	0	0	0	0	0	0	0	NA	NA	NA			
	0			0			0			a(2)					
CW	0	0	0	0	0	0	0	0	0	NA	NA	NA	NA	1	0
	0			0			0			a(2)			0		
MS	0	0	0	0	0	0	0	0	0	NA	NA	NA	NA	2	2
	0			0			0			a(2)			3		

System Report Cards (Cont'd)

SYSTEM	Rx/TG Trips				CF Losses				ESF Act.				MRule Stat.				Deficiencies			
AR	0	0	0	0	0	0	0	0	0	0	0	0	NA	NA	NA	a(2)	NA	0	0	0
OG	0	0	0	0	0	0	0	0	0	0	0	0	NA	NA	NA	a(2)	NA	2	1	1
SCW	0	0	0	0	0	0	0	0	0	0	0	0	NA	NA	NA	a(2)	NA	0	0	0
RRC	0	0	0	0	0	0	0	0	0	0	0	0	NA	NA	NA	a(2)	NA	5	5	5
TO	0	0	0	0	0	0	0	0	0	0	0	0	NA	NA	NA	a(2)	NA	0	0	0
CIA	0	0	0	0	0	0	0	0	0	0	0	0	NA	NA	NA	a(2)	NA	0	0	0
RCC	0	0	0	0	0	0	0	0	0	0	0	0	NA	NA	NA	a(2)	NA	1	1	1
RWCU	0	0	0	0	0	0	0	0	0	0	0	0					NA	9	12	10
APRM	0	0	0	0	0	0	0	0	0	0	0	0	NA	NA	NA	a(2)	NA	0	0	0
ARI	0	0	0	0	0	0	0	0	0	0	0	0	NA	NA	NA	a(2)	NA	0	0	0

System Report Cards (Cont'd)

SYSTEM	Rx/TG Trips				CF Losses				ESF Act.				MRule Stat.				Deficiencies			
IRM/SRM	0	0	0	0	0	0	0	0	0	0	0	0	NA	NA	NA	a(2)	NA	1	0	0
LPRM	0	0	0	0	0	0	0	0	0	0	0	0	NA	NA	NA	a(2)	NA	0	0	0
RPIS	0	0	0	0	0	0	0	0	0	0	0	0	NA	NA	NA	a(1)	NA	0	0	0
SLC	0	0	0	0	0	0	0	0	0	0	0	0	NA	NA	NA	a(2)	NA	0	0	0
LPCS	0	0	0	0	0	0	0	0	0	0	0	0	NA	NA	NA	a(2)	NA	0	0	0
RB HVAC	0	0	0	0	0	0	0	0	0	0	0	0	NA	NA	NA	a(2)	NA	1	1	1
DB HVAC	0	0	0	0	0	0	0	0	0	0	0	0	NA	NA	NA	a(2)	NA	0	0	0
CN	0	0	0	0	0	0	0	0	0	0	0	0	NA	NA	NA	a(2)	NA	2	0	0
POA	0	0	0	0	0	0	0	0	0	0	0	0	NA	NA	NA	a(2)	NA	0	0	0
PRA	0	0	0	0	0	0	0	0	0	0	0	0	NA	NA	NA	a(2)	NA	0	0	0

System Report Cards (Cont'd)

SYSTEM	Rx/TG Trips				CF Losses				ESF Act.				MRule Stat.				Deficiencies			
CJW	0	0	0	0	0	0	0	0	0	0	0	0	NA	NA	NA	a(2)	NA	0	0	0
PCINT	0	0	0	0	0	0	0	0	0	0	0	0	NA	NA	NA	a(2)	NA	2	2	2
SGT	0	0	0	0	0	0	0	0	0	0	0	0	NA	NA	NA	a(2)	NA	1	1	1
PRM	0	0	0	0	0	0	0	0	0	0	0	0	NA	NA	NA	a(1)	NA	0	0	0
WEA	0	0	0	0	0	0	0	0	0	0	0	0	NA	NA	NA	a(2)	NA	0	0	0
WMA	0	0	0	0	0	0	0	0	0	0	0	0	NA	NA	NA	a(1)	NA	1	1	1
CCH	0	0	0	0	0	0	0	0	0	0	0	0	NA	NA	NA	a(2)	NA	0	0	0
CMS	0	0	0	0	0	0	0	0	0	0	0	0	NA	NA	NA	a(2)	NA	1	0	0
RWM / RWM	0	0	0	0	0	0	0	0	0	0	0	0	NA	NA	NA	a(2)	NA	0	0	0
FPC	0	0	0	0	0	0	0	0	0	0	0	0	NA	NA	NA	a(2)	NA	0	0	0

Improvement Areas

- System Engineer Design Basis Knowledge
- Prioritization of Work
- Systems with Deficiencies
- Independent Reviews
- Communication

Improvement Areas (Cont'd)

- **Operability Issues**
- **Comprehensive Assessment of Configuration Control**
- **Self Critical Behavior**

System Engineer Operations Support

- **Examples of Good Support to Operations**
  - **Substation Supervisory Problem**
  - **DG Air Gauge Troubleshooting**
  - **TSW Leak / RCIC Gasket Leak**
  - **On-Line Tube Plugging**
  - **SSPV Diaphragm Industry Issue**

System Engineer Operations Support

(Cont'd)

- Revised TI 2.1
- Improvement Areas
  - DMA Damper
  - DG Heaters

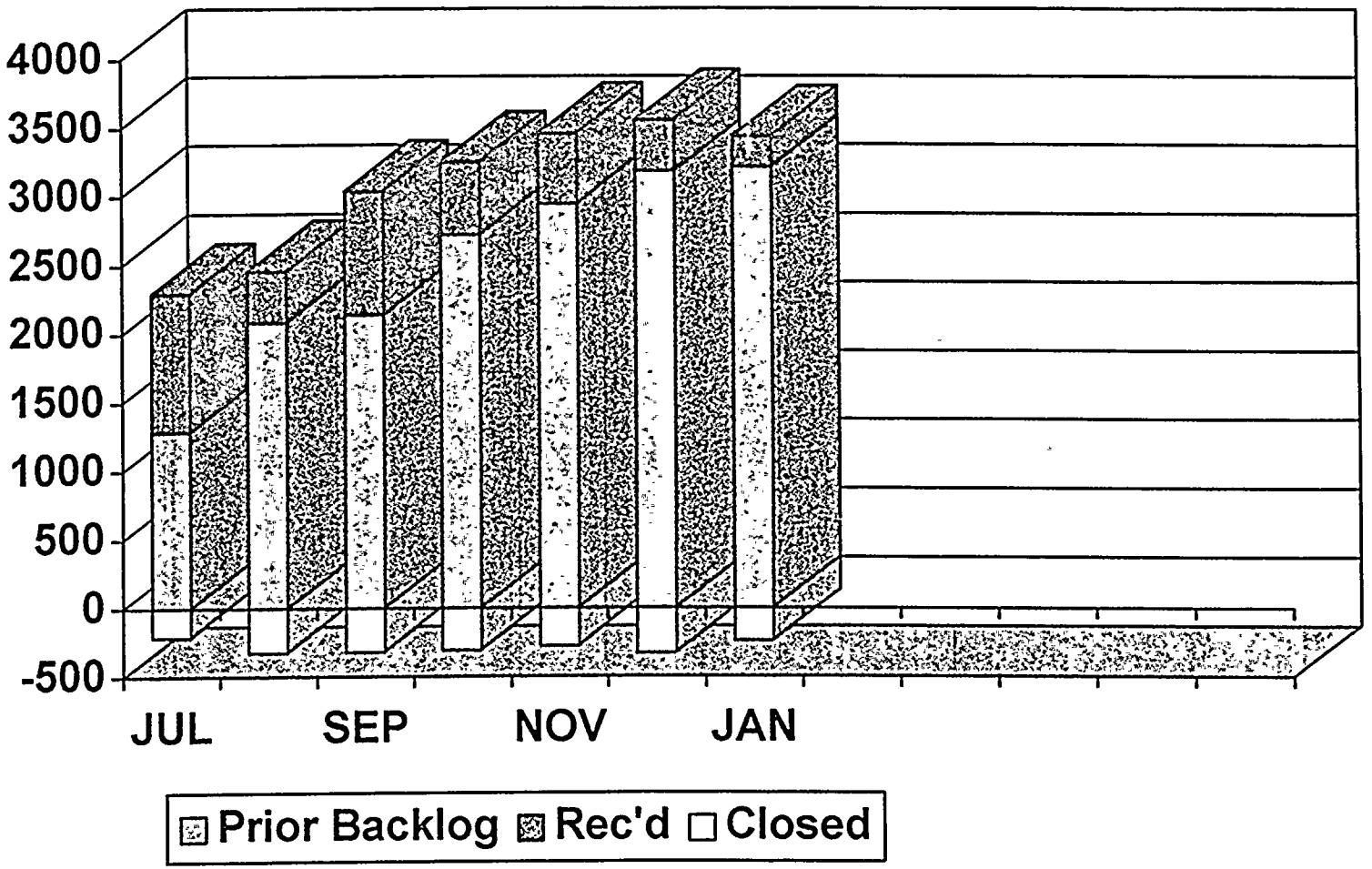
Design Support for Outage

- **Scope**
  - **Outage Installation Activities (16)**
    - » 6 ASD & Digital Feedwater reliability enhancements
    - » 5 Other reliability enhancements
    - » 4 ALARA improvements
    - » 1 Material condition improvement
  - **Pre-Outage Installations (4)**
    - » 3 ALARA improvements
    - » 1 ABB fuel-related

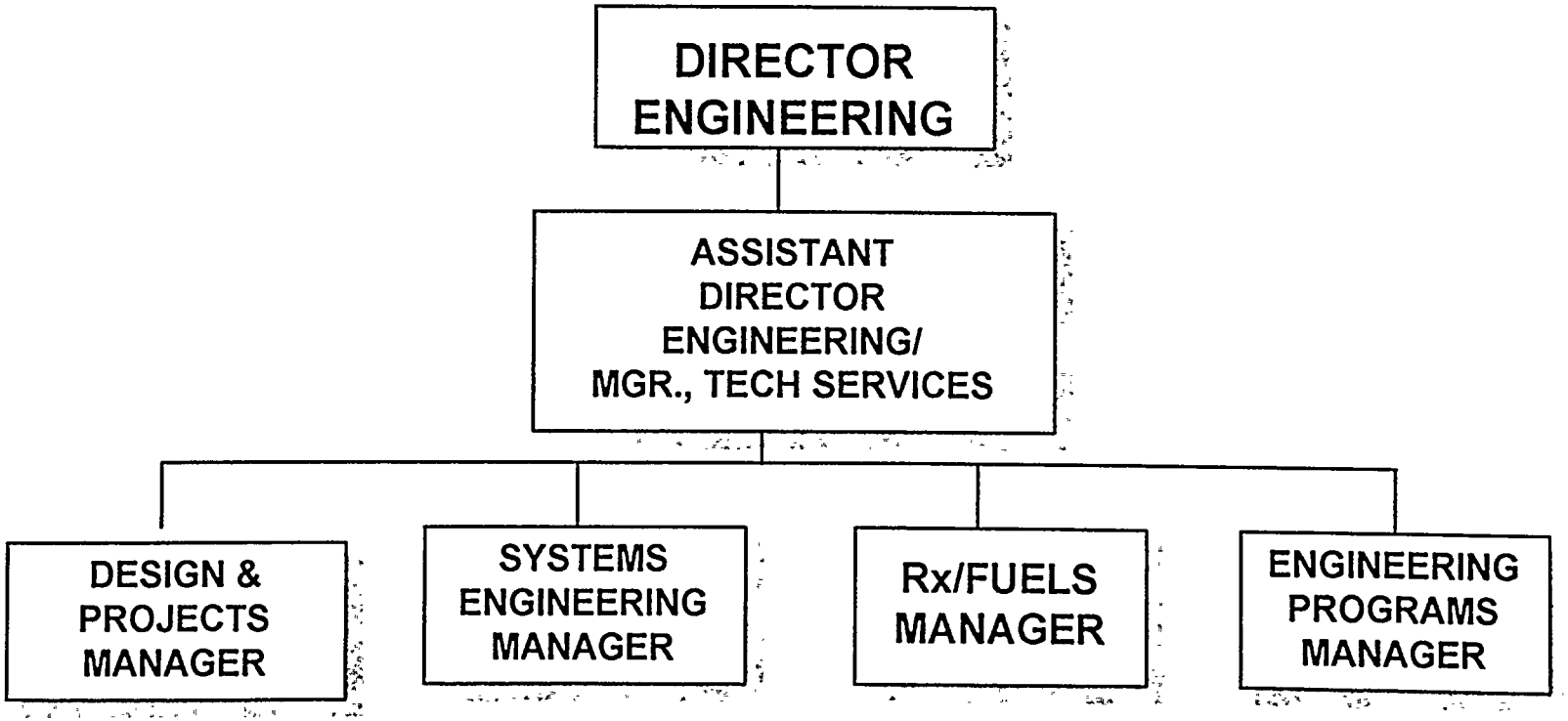
Design Support for Outage (Cont'd)

- **Current Status**
  - **13 of 16 outage designs completed**
  - **3 of 4 pre-outage designs completed**
  - **70 of 118 outage work order tasks planned (118 of 118 by March 2)**
  - **26 of 33 pre-outage work order tasks planned (33 of 33 by March 15)**

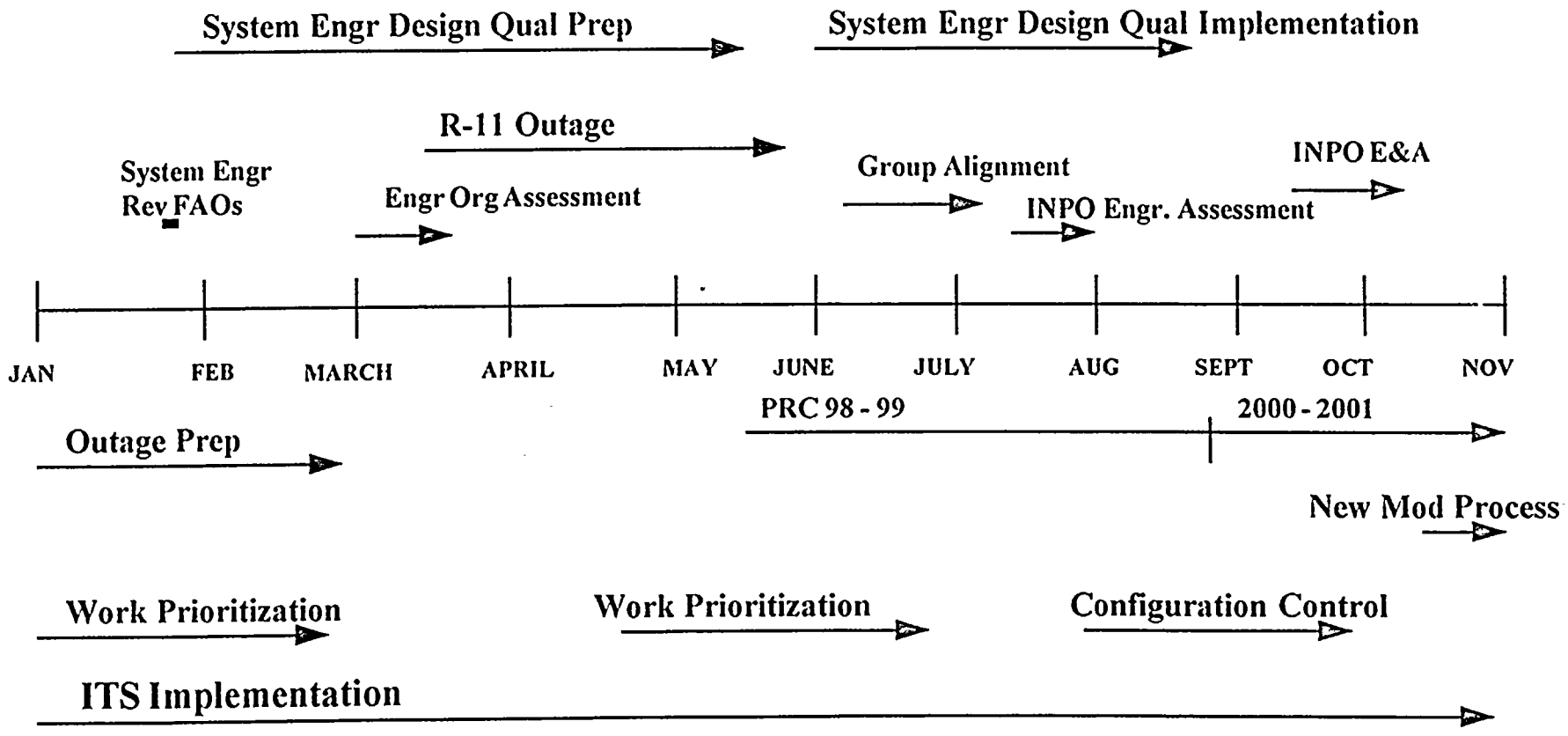
Engineering Level of Effort



Engineering Organization Chart



Engineering Initiatives



Prioritization Considerations

- Operational and Maintenance Support
- Outage Preparation
- ITS Implementation
- Training
- Plant Review of Priorities
  - Defer if no impact on safe plant operation until after outage
- More Management Interaction to Change Priorities

Configuration Control

- **15 Programmatic As-Built Walkdowns**
  - **Fuses, seals, separation, tray, thermolag**
- **15 Comprehensive System Walkdowns**
  - **Limited configuration issues identified**
  - **As-Builts performed in some cases**

Configuration Control (Cont'd)

- **Configuration Control Checks**
  - **Modification walkdowns**
  - **Pre-modification wiring checks**
  - **Valve lineups**
  - **Startup checklists**
  - **System Engineer walkdowns**

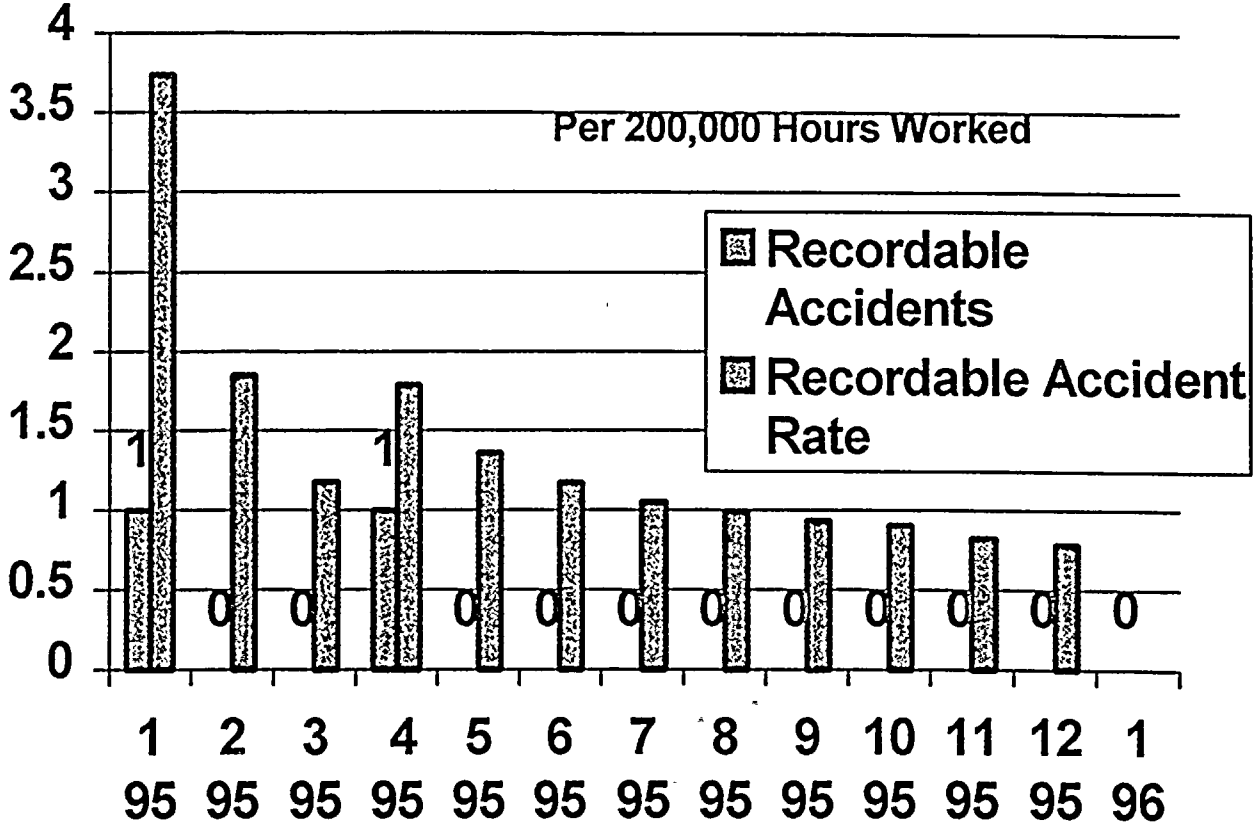
Configuration Control Issues

- **Drawing Errors**
  - **January 1, 1995 to present: 39 PERs against top tier drawings; no common cause**
  - **Error initiation was over past 20 years**
- **Post outage activities**
  - **Number of drawings and databases maintained**
  - **Quantity of CVI information maintained**
  - **System Engineer design knowledge**

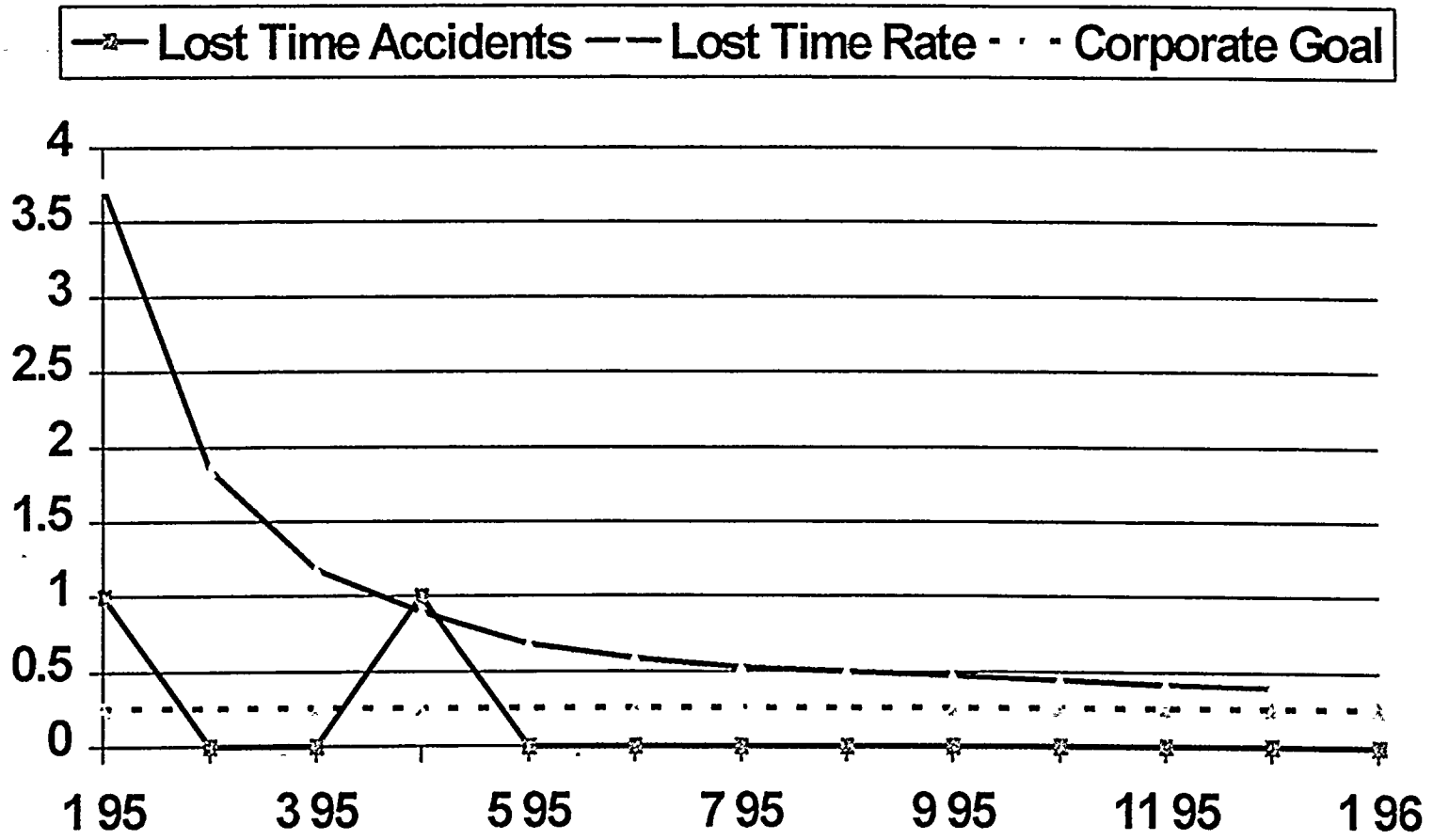
Maintenance Performance Status

- **Matt Monopoli**

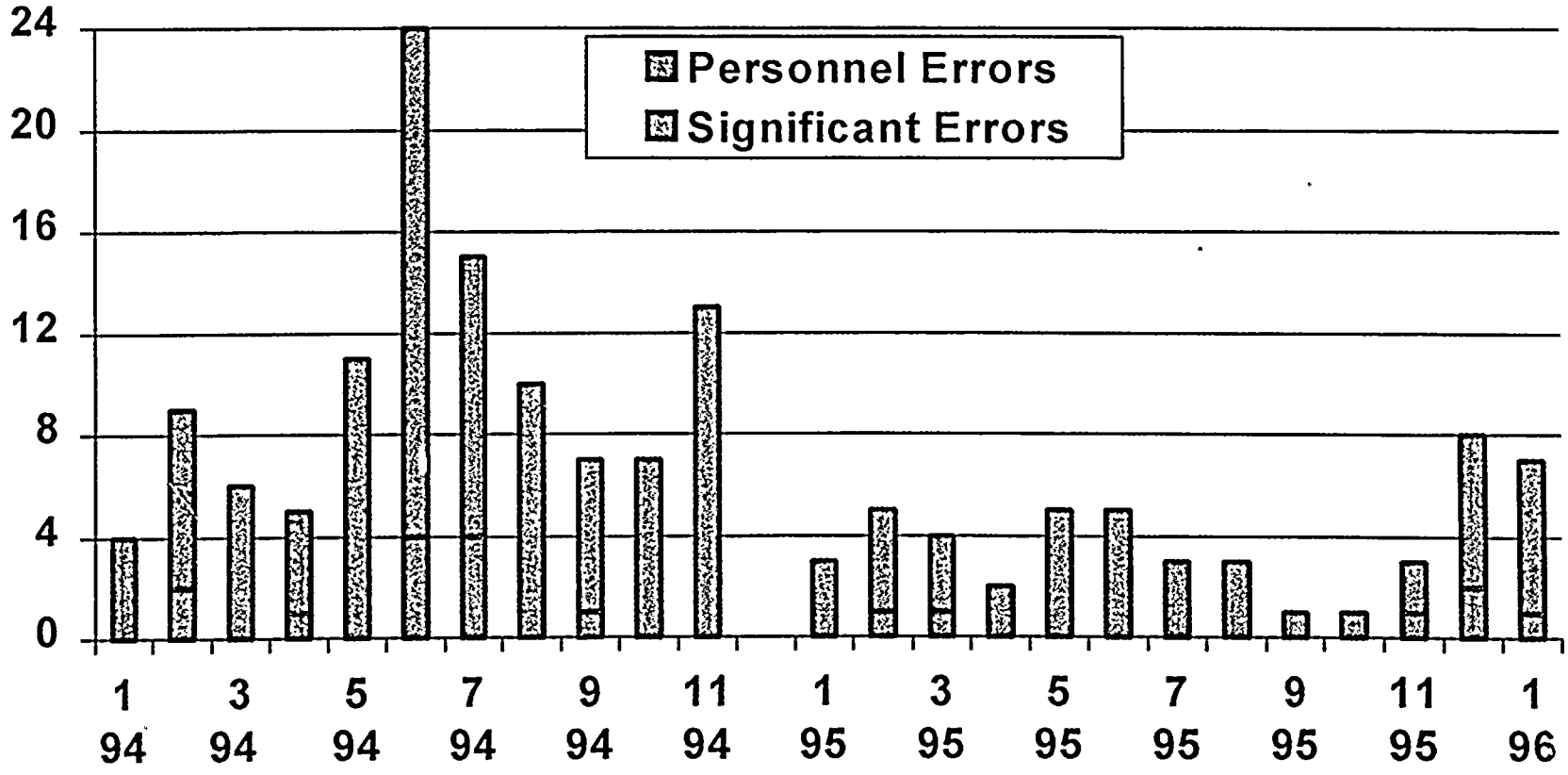
Maintenance Recordable Accidents / Recordable Accident Rate



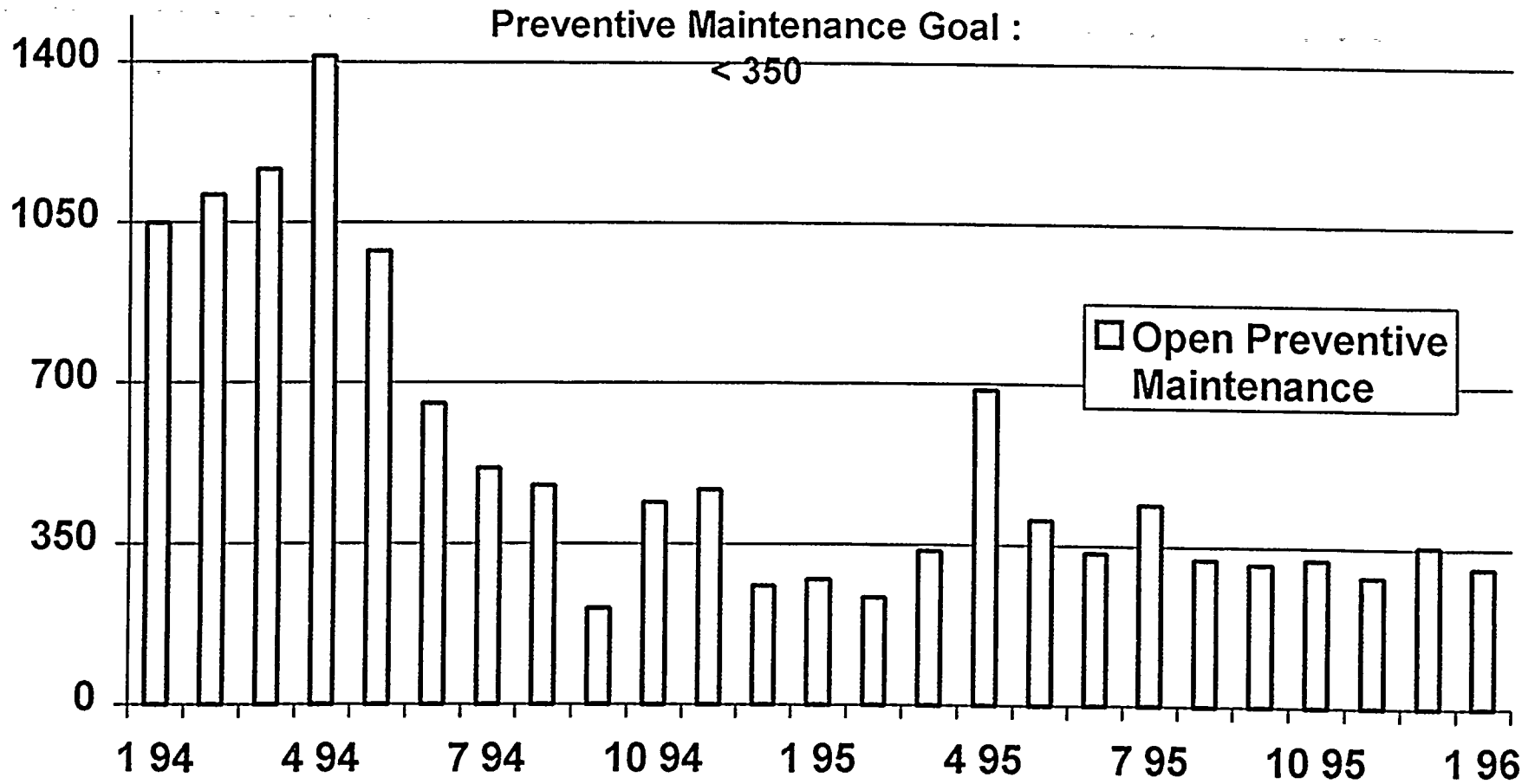
Maintenance Lost Time Accidents / Lost Time Rate



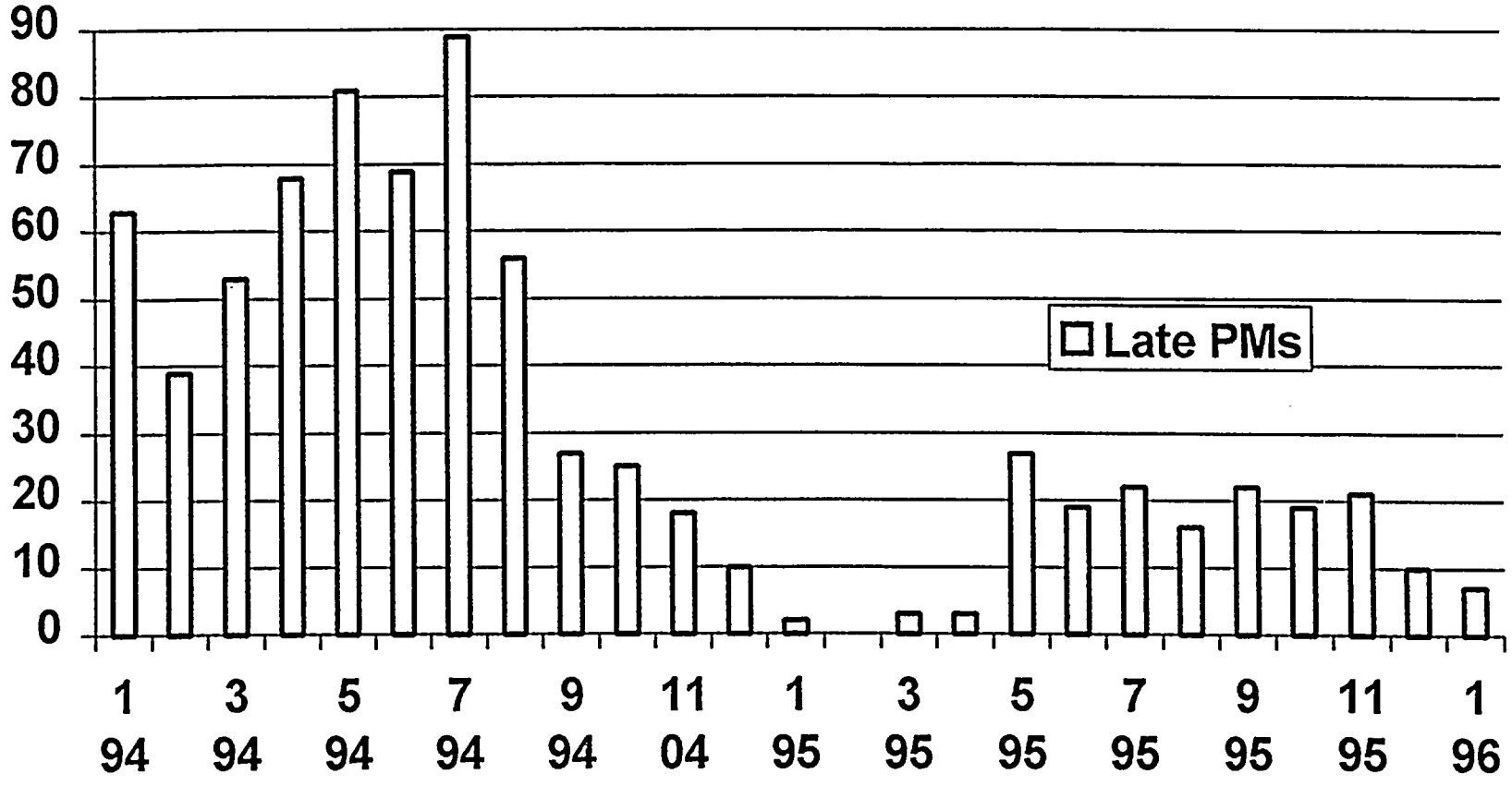
Personnel Errors - Maintenance



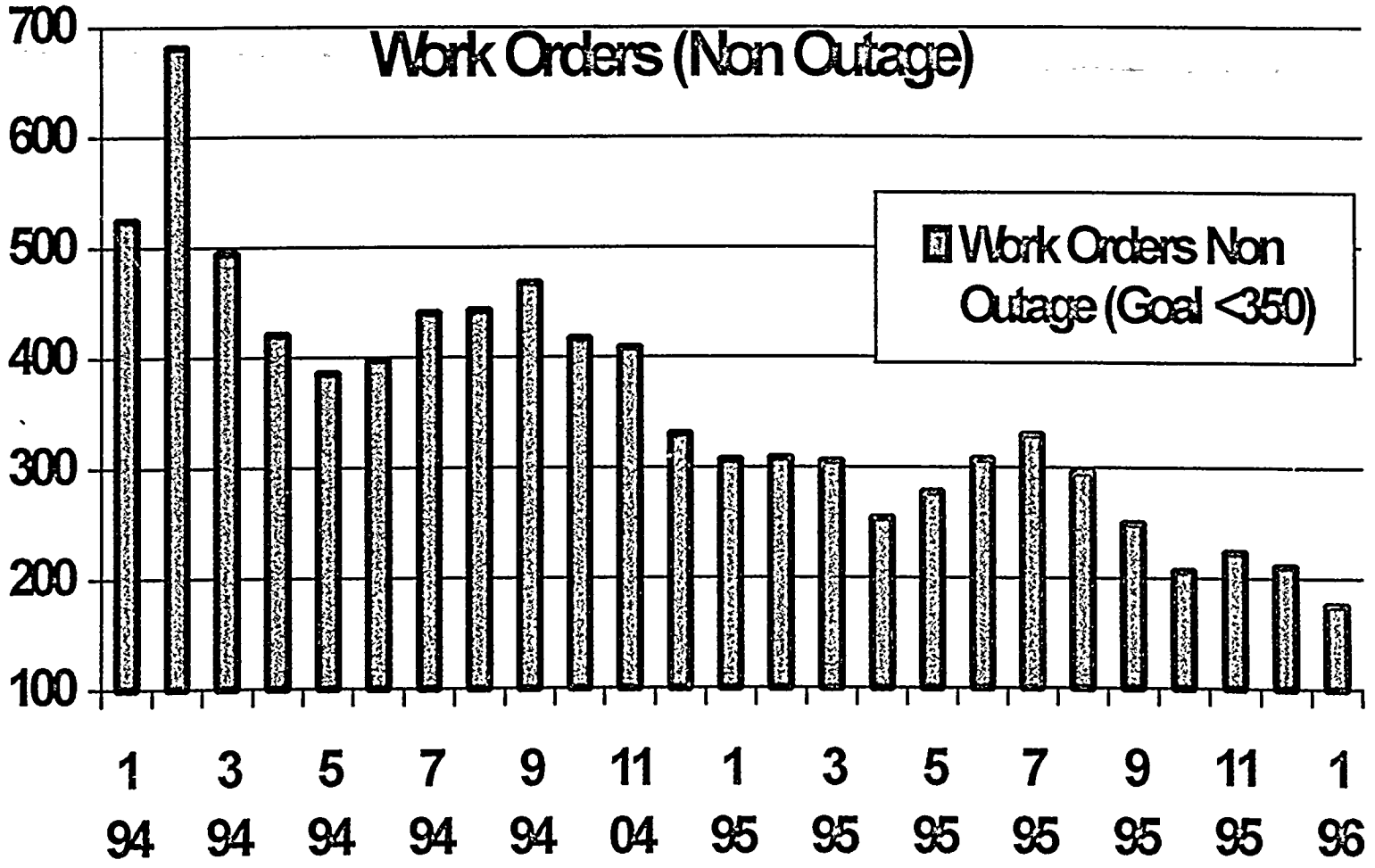
Preventive Maintenance - Total Plant



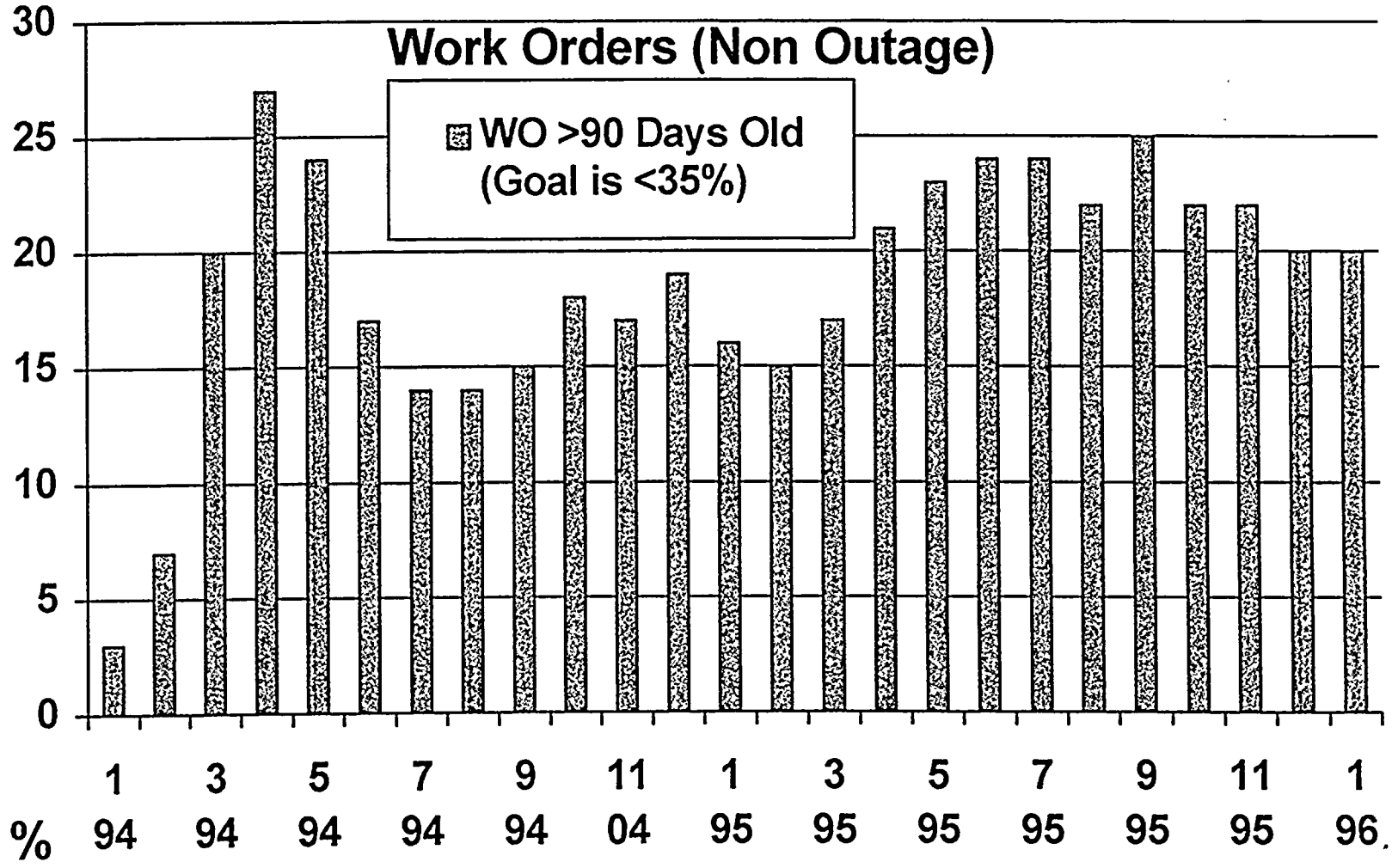
Preventive Maintenance - (Late PM's >25%) Goal is <1%



Corrective Maintenance Work Order Backlog

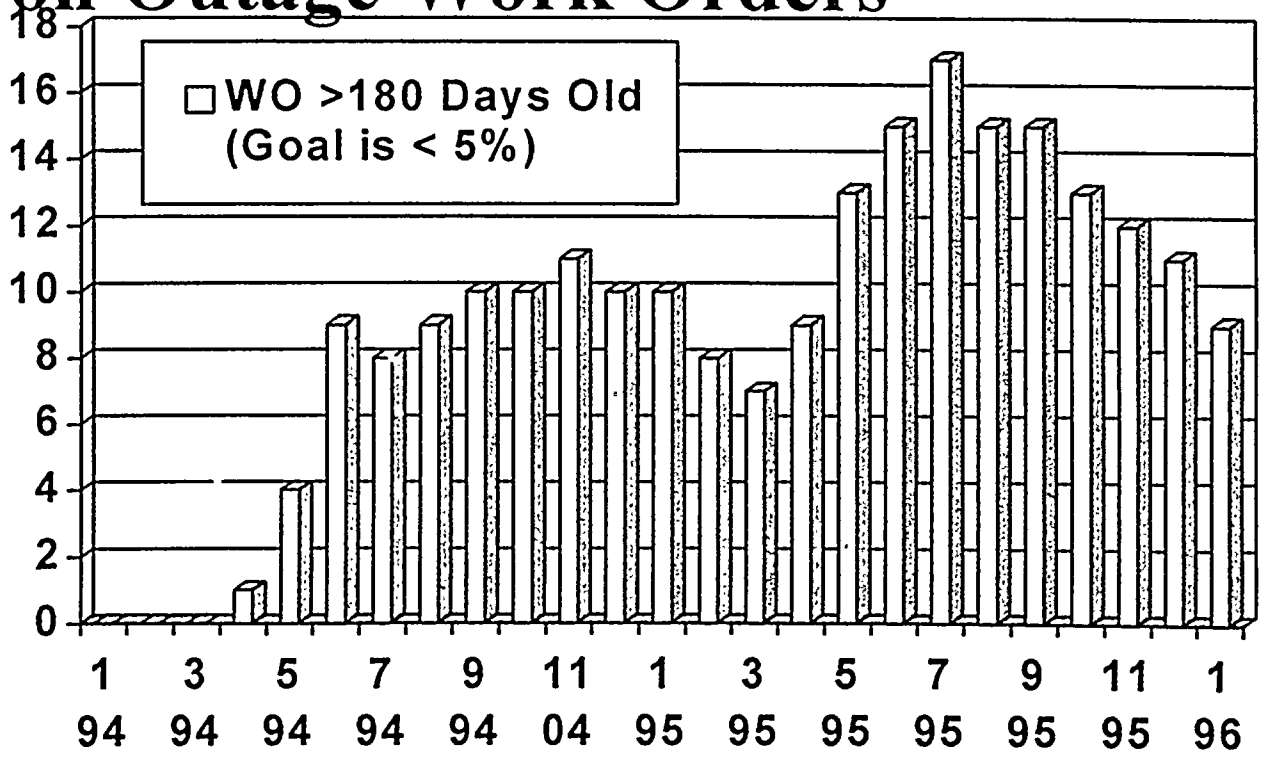


Percent of Work Order Backlog by 90 Days



Percent of Work Order Backlog by 180 Days

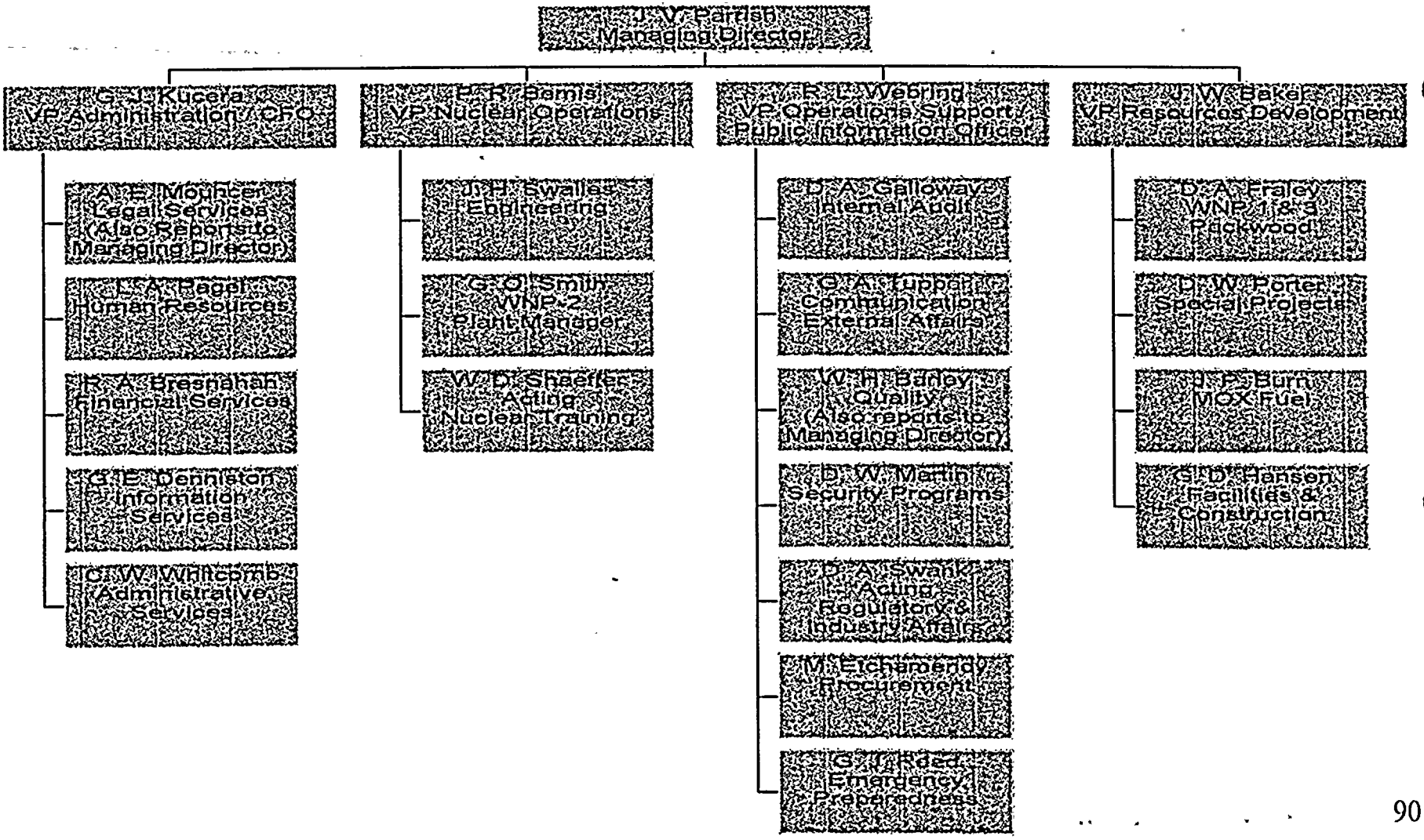
- Non Outage Work Orders



Closing Remarks

J. V. 'Vic' Parrish

Supply System Organization Chart
Recent Organizational Changes



Closing Remarks Concluded

- **Future Actions**