

# CATEGORY 1

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50-389 St. Lucie Plant, Unit 2, Florida Power & Light Co.      05000389

AUTH. NAME      AUTHOR AFFILIATION

STALL, J.A.      Florida Power & Light Co. *See Meeting Summary*

RECIP. NAME      RECIPIENT AFFILIATION

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SUBJECT: Forwards indicators issued in Mar 1998 for St Lucie Plant, Units 1 & 2. Indicators were discussed at 980306 plant mgt review meeting.

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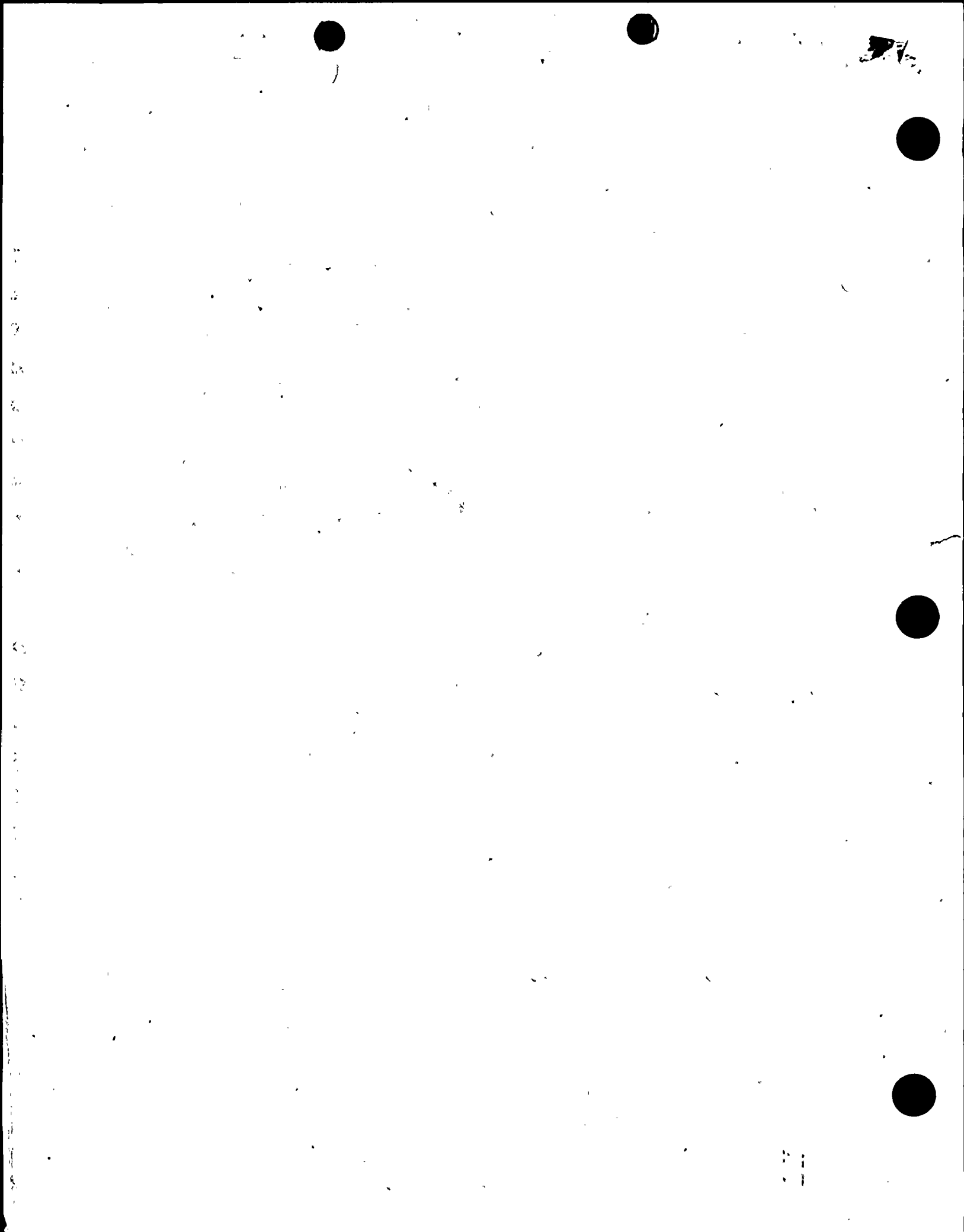
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Florida Power & Light Company, 6351 S. Ocean Drive, Jensen Beach, FL 34957

March 17, 1998

L-98-074  
10 CFR 50.4

U. S. Nuclear Regulatory Commission  
Attn: Document Control Desk  
Washington, DC 20555

RE: St. Lucie Units 1 and 2  
Docket Nos. 50-335 and 50-389  
Management Review Meeting - March 1998

During a November 1995 meeting with the NRC, Florida Power and Light Company (FPL) reviewed the progress made in completing activities outlined in the St. Lucie Plan to Improve Operational Performance. FPL stated that meetings to review performance would be held monthly. In the November meeting, FPL committed to provide the monthly review materials to the NRC.

Enclosed is a copy of the indicators issued in March 1998 for St. Lucie Plant. The indicators were discussed at the March 6, 1998, FPL management review meeting at St. Lucie.

We look forward to NRC feedback. If you have any questions on this material, please contact us.

Very truly yours,

J. A. Stall  
Vice President  
St. Lucie Plant

JAS/spt

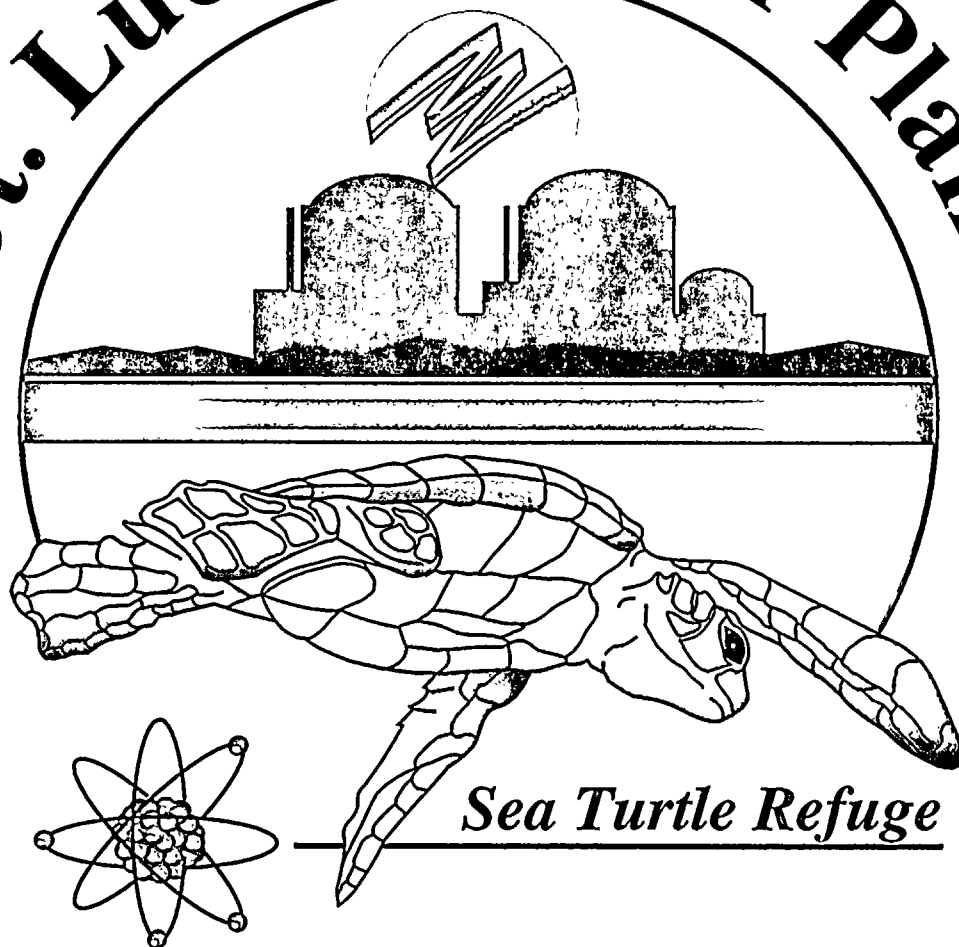
Enclosure

cc: Regional Administrator, USNRC, Region II  
Senior Resident Inspector, USNRC, St. Lucie Plant

9803240073 980317  
PDR ADOCK 05000335  
PDR



# St. Lucie Nuclear Plant



STATUS MEETING  
MARCH 6, 1998

9803240073





# Agenda

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Business Plan

J. Scarola

Operations

H. Johnson

Maintenance

J. Marchese

Work Control

C. Wood

Engineering

C. Bible

● Break

Services

D. Fadden

Materials Management

L. Rogers

Business Systems

R. Heroux

Licensing

E. Weinkam

Human Resources

L. Morgan

Quality Assurance

R. De La Espriella







# St. Lucie Nuclear Plant

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## Business Plan

J. Scarola

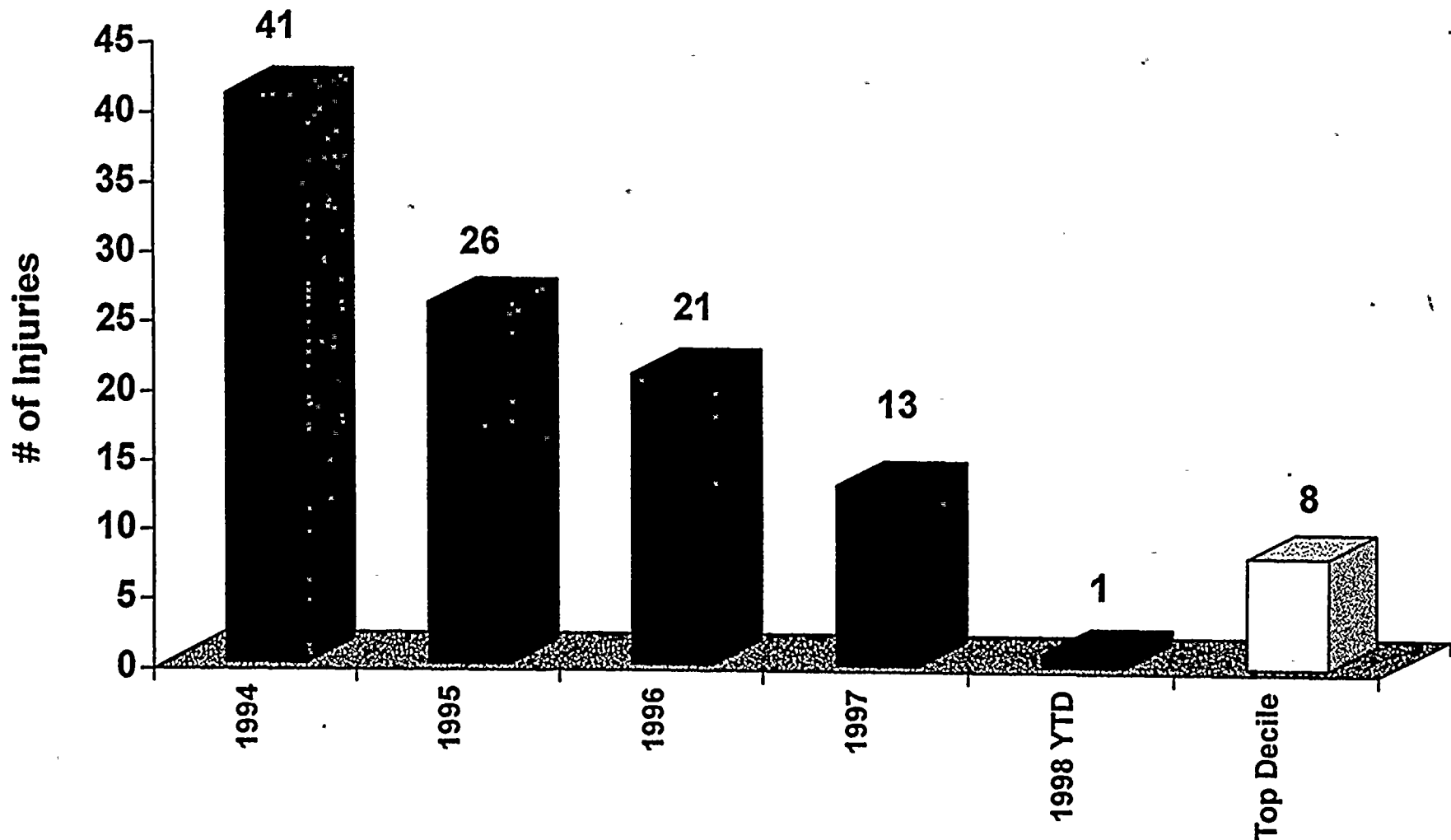




**FPL**

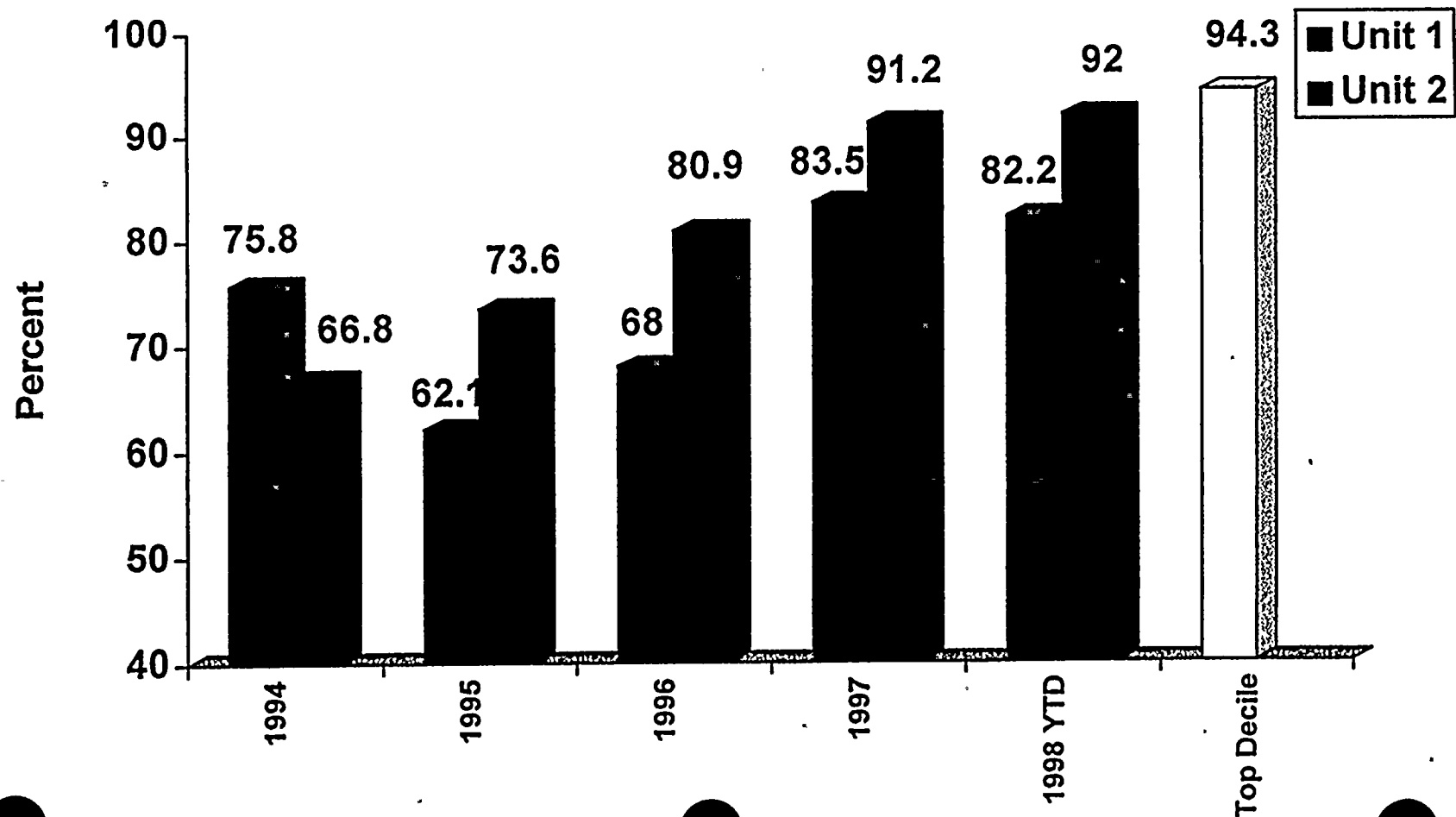
# St. Lucie Nuclear Plant

## OSHA Recordable Injuries





# St. Lucie Nuclear Plant WANO Overall Performance

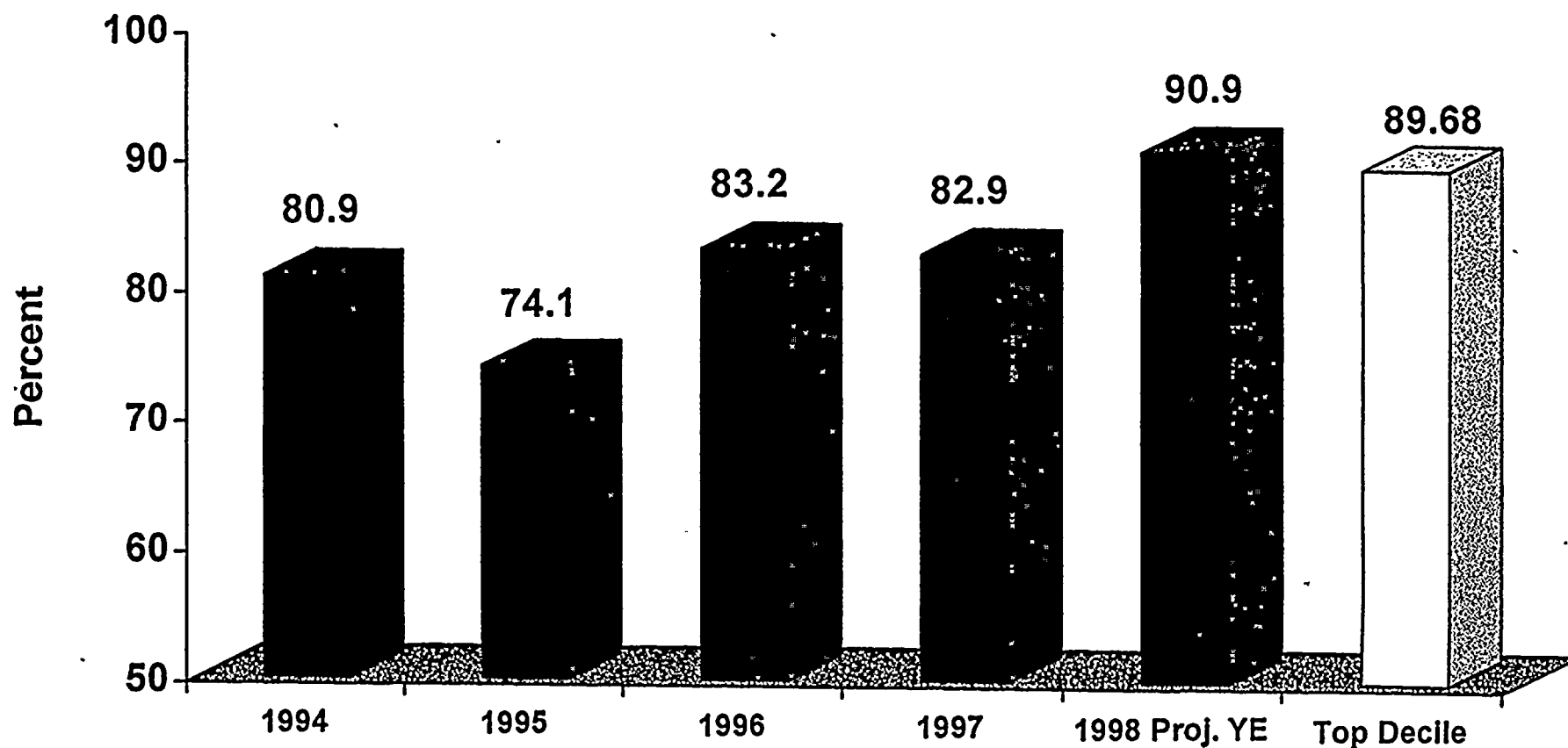




**FPL**

# St. Lucie Nuclear Plant

## Combined Unit Average Equivalent Availability





## St. Lucie Nuclear Plant 1998 Significant Events

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- FPGI INSPECTION - MARCH
- EMERGENCY PREPAREDNESS EVALUATED DRILL - MARCH
- ENGINEERING INSPECTION - APRIL
- CORRECTIVE ACTION INSPECTION - APRIL
- INPO OUTAGE ASSIST VISIT - MAY
- END OF NRC SALP PERIOD - JUNE
- UNIT 2 REFUELING OUTAGE - NOVEMBER



# St. Lucie Nuclear Plant

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## Operations

H. Johnson







## PSL Operations Staffing

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- Hot License Class 13A      8 RCO's      License 6/98
- Instant SRO's      4 SRO's      License 6/98
- Hot License Class 14      14 RCO's      License 12/98  
1 SRO      License 12/98



# PSL Operations

## Conduct of Operations

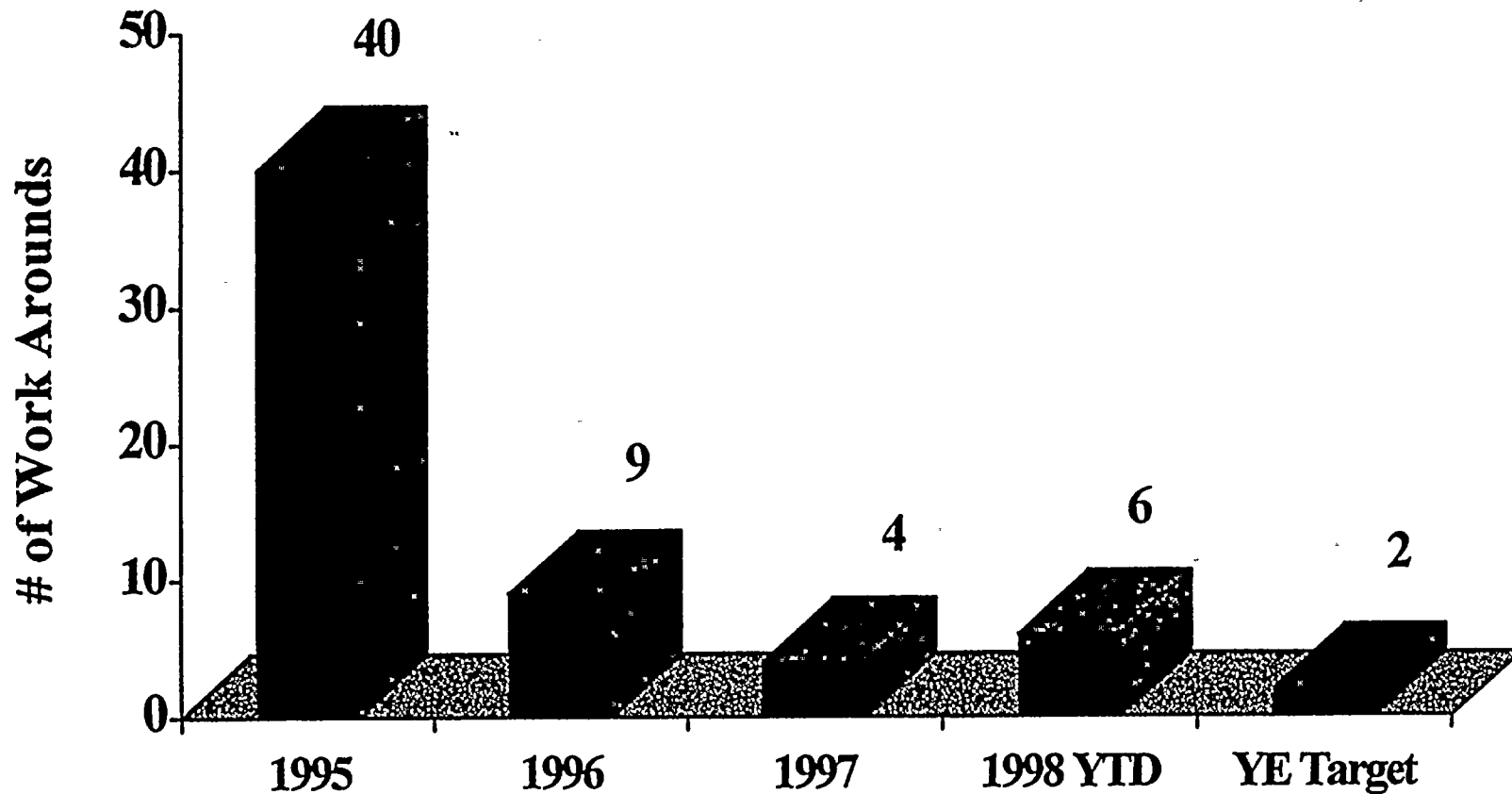
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- Focus on Self-Checking and Peer Check to Reduce Errors
- Supervisor Reinforcement of Expectations in Control Room and in the Field
- “*RAISING THE BAR*” in Non-Licensed Operator Training to RCO Level
- Increase Supervisor Presence in the Field to Reinforce Standards
- Work Control Center Changes to Separate Clearance Writing and Review Area From Business Area



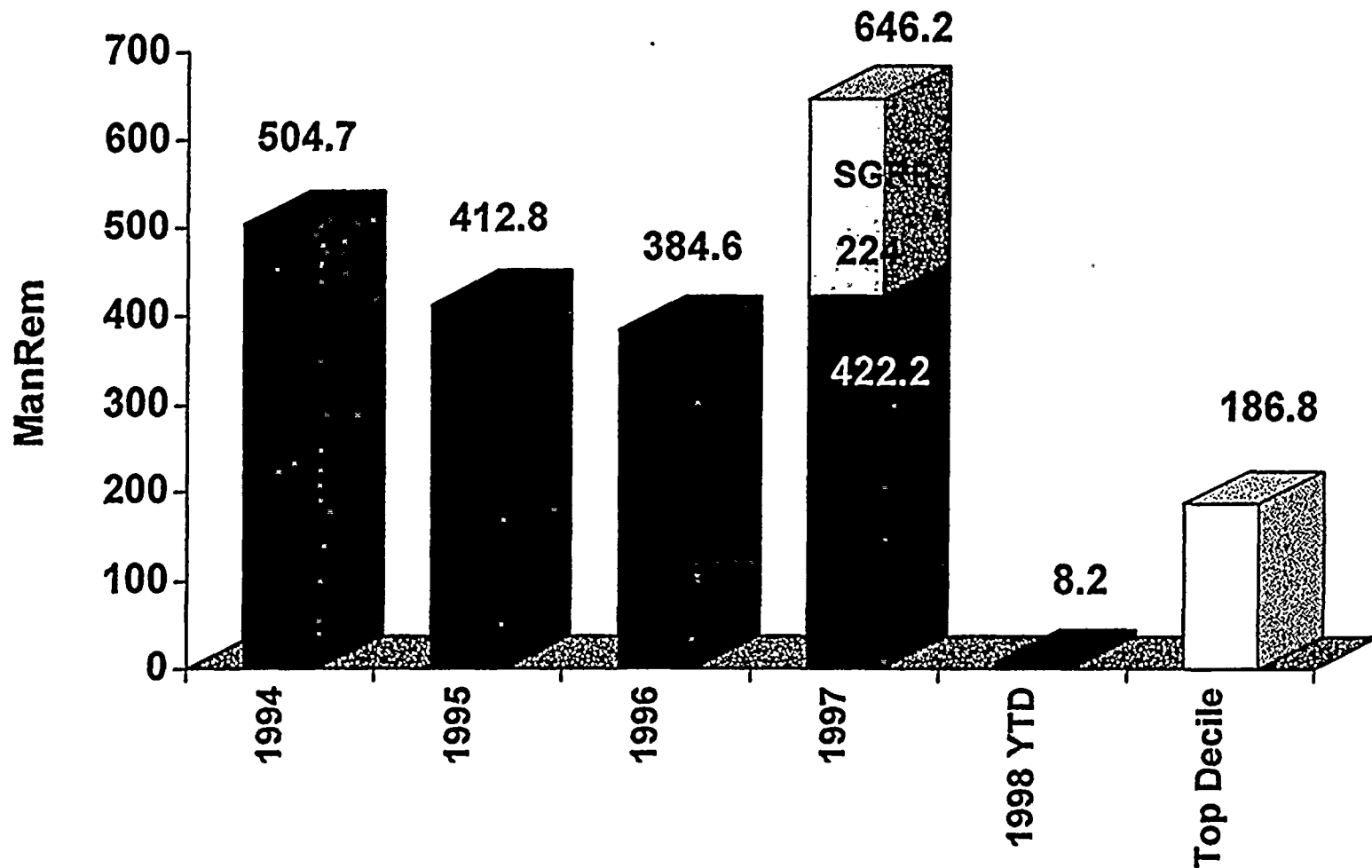
# PSL Operations Operator Work Arounds

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# PSL Operations Radiation Exposure





# PSL Operations Chemistry Initiatives

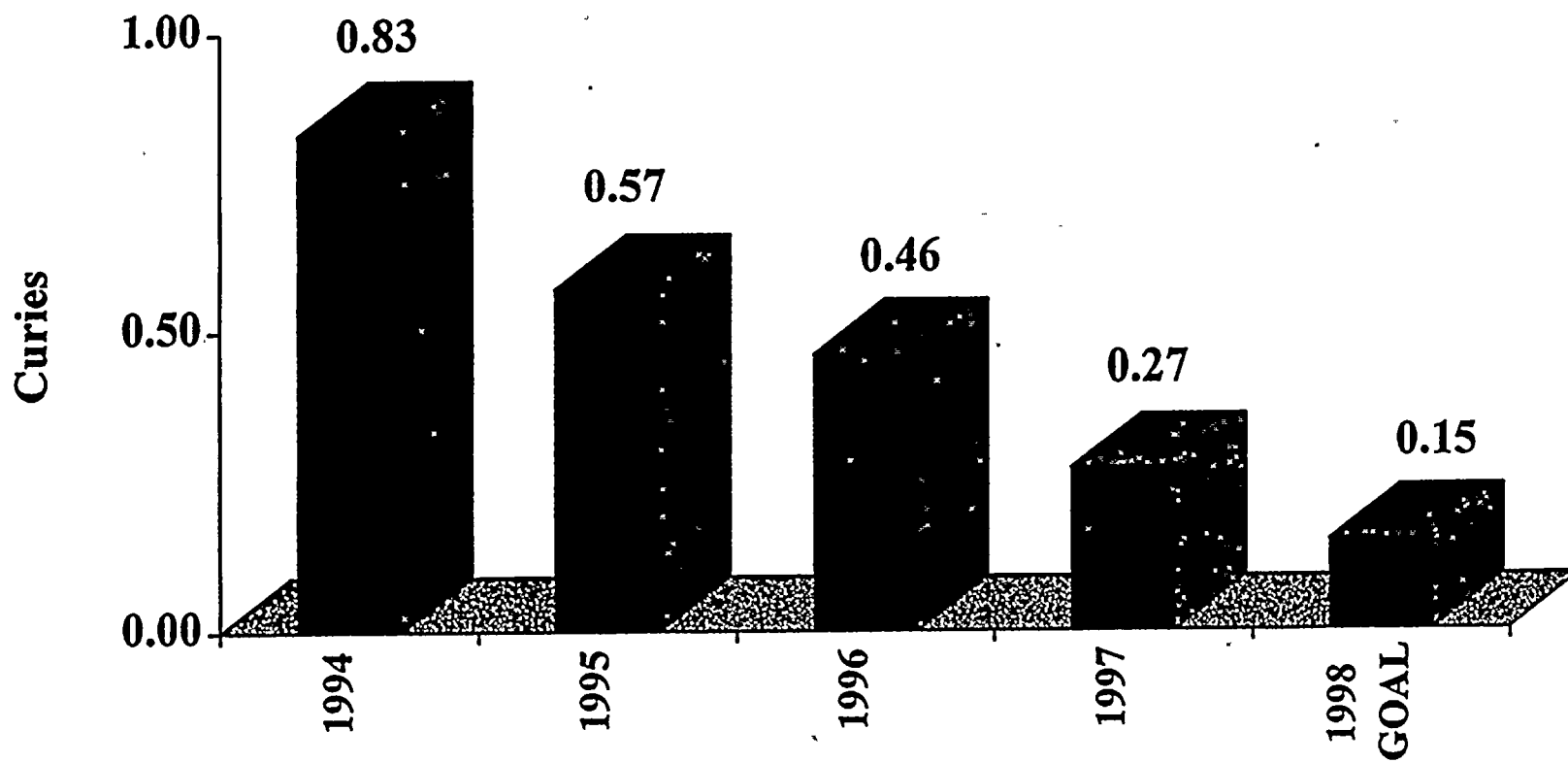
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- SECONDARY SYSTEM CORROSION MONITORING PROGRAM
  - Program Scope, Testing Procedures on Schedule for 3/13/98 Completion
  - Iron Transport Mass Balance for PSL 1 and PSL 2 on Schedule for 9/30/98 Completion
- ALTERNATE AMINE IMPLEMENTATION
  - Safety Evaluation in Engineering House for Approval Prior to FRG
  - DMA Implementation On Schedule for 6/30/98
- CLOSED COOLING WATER BIOCIDES/MONITORING PROGRAM
  - Iron, Copper, Ammonia and Nitrate Sampling Implemented
  - Safety Evaluation for Biocide 95% Complete
  - Biocide Treatment Will Commence When Safety Evaluation FRG Approved



# PSL Operations

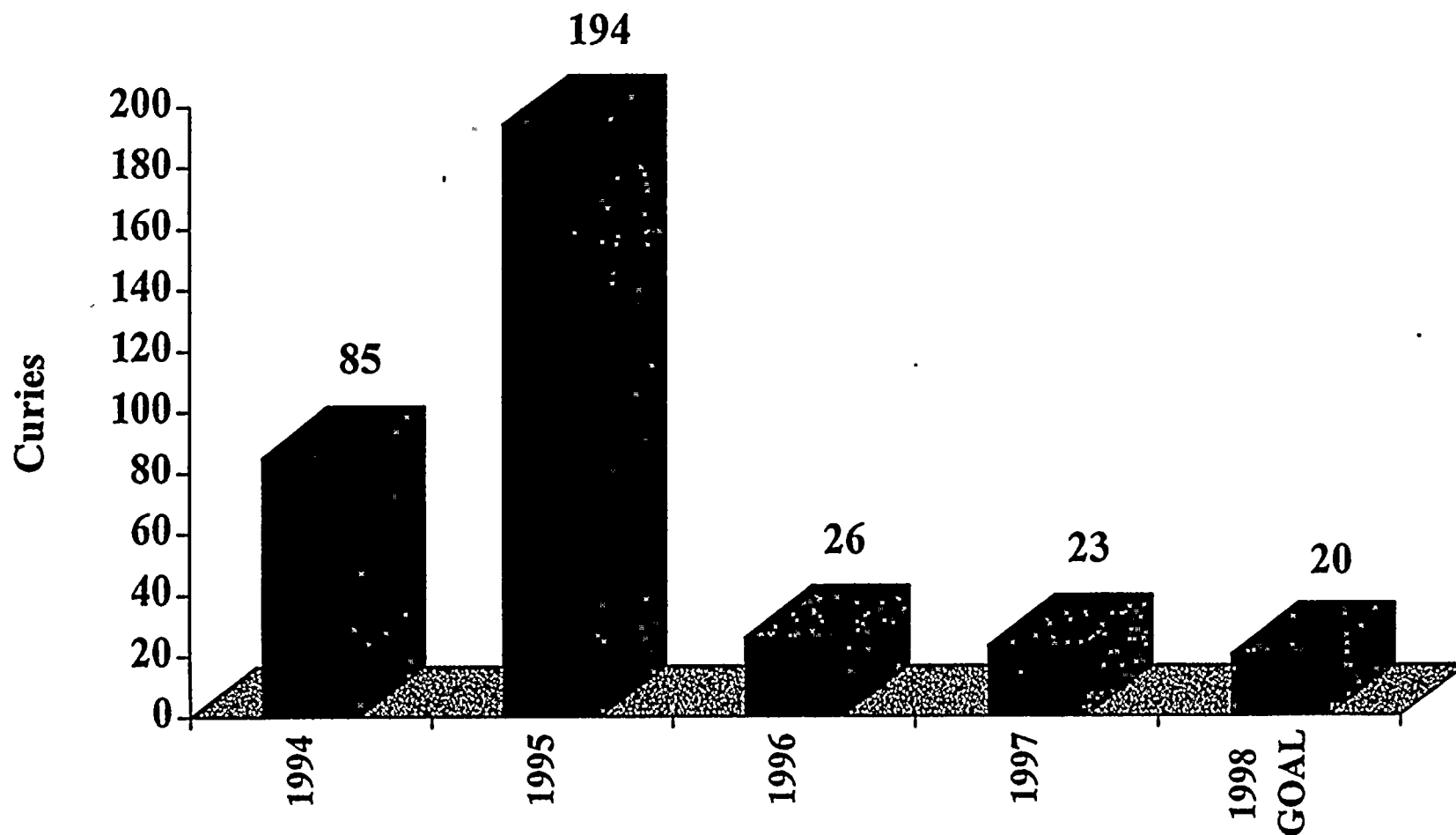
## Unit 1 & 2 Liquid Effluents





# PSL Operations

## Unit 1 & 2 Gaseous Effluents









# St. Lucie Nuclear Plant

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## Maintenance

J. Marchese



# PSL Maintenance PM Review Project

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- PURPOSE:
  - Review Preventative Maintenance Tasks (PM's)
    - Determine Basis/Justification of Each Activity
      - Regulatory Basis
      - Technical Basis
      - Cost Benefit
    - Direct and Adjust Current and Future Maintenance Activities Utilizing Information From:
      - Industry Experience
      - OEM Recommendations
      - Equipment History
      - Condition Monitoring Data



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# PSL Maintenance TMD Maintenance Assessment

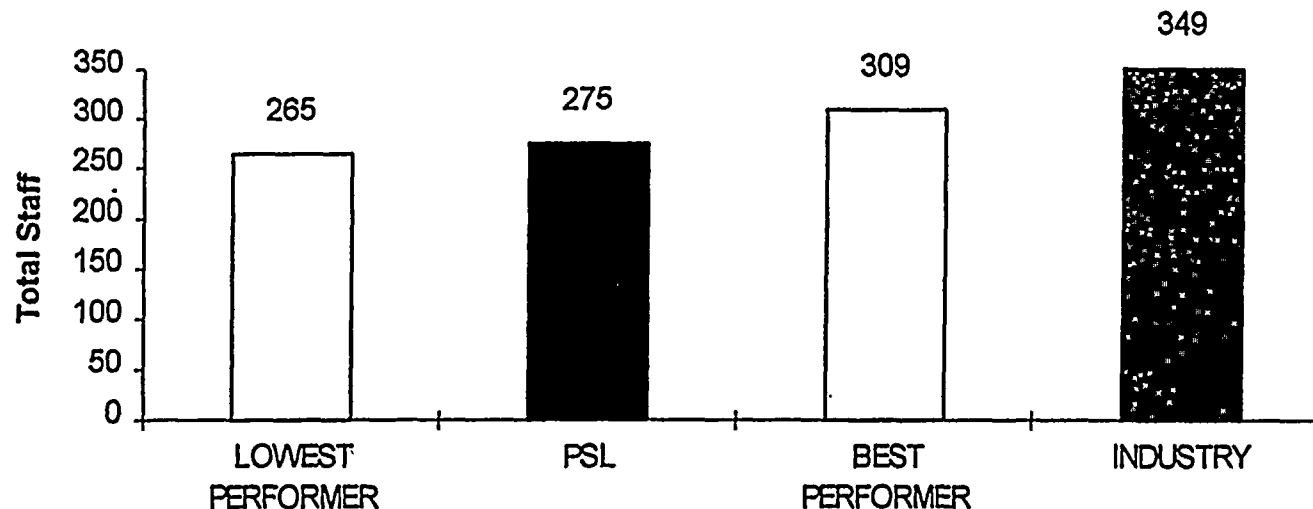
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**MAINTENANCE TOTAL STAFFING AT ST. LUCIE IS BELOW  
THE BEST PERFORMER BENCHMARK LEVEL**

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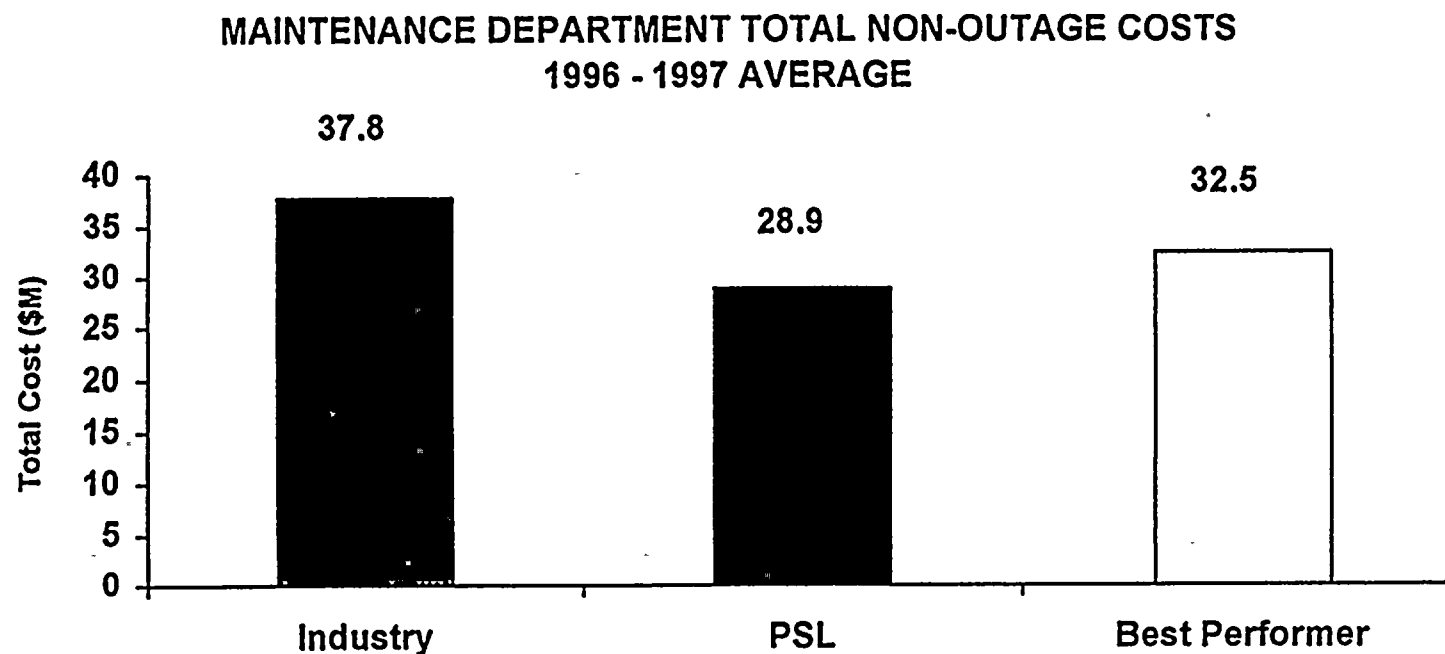
**MAINTENANCE PROCESS TOTAL STAFFING  
(UTILITY & LONG TERM CONTRACTORS)**





# PSL Maintenance TMD Maintenance Assessment

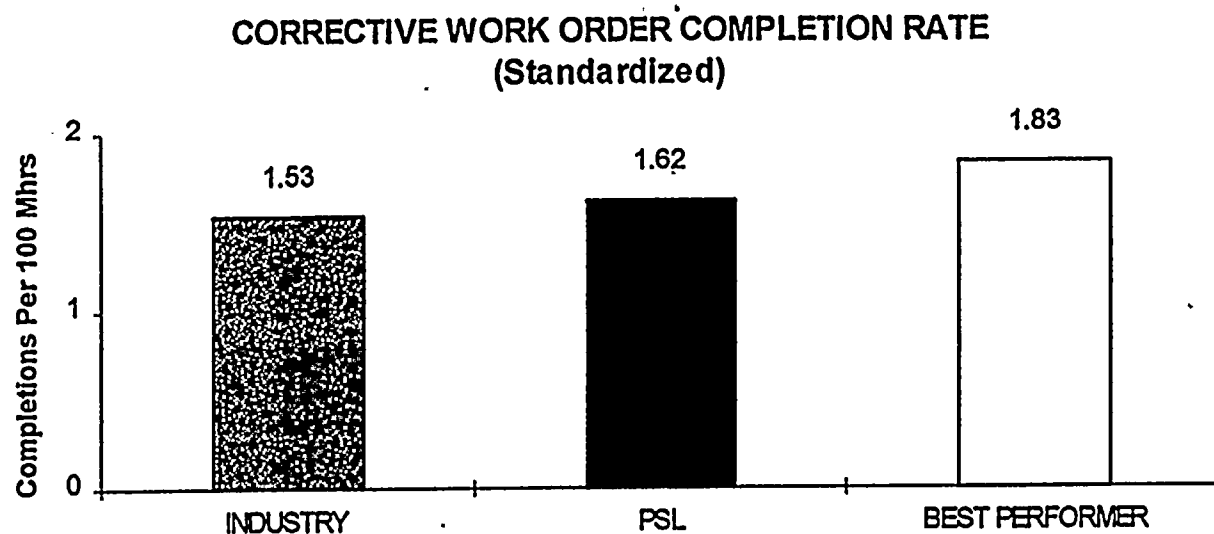
**MAINTENANCE DEPARTMENT TOTAL COSTS ARE LOWER  
THAN THE BEST PERFORMERS**





# PSL Maintenance TMD Maintenance Assessment

**ST LUCIE WORK ORDER COMPLETION RATE IS BETWEEN  
THE INDUSTRY AND THE BEST PERFORMERS**



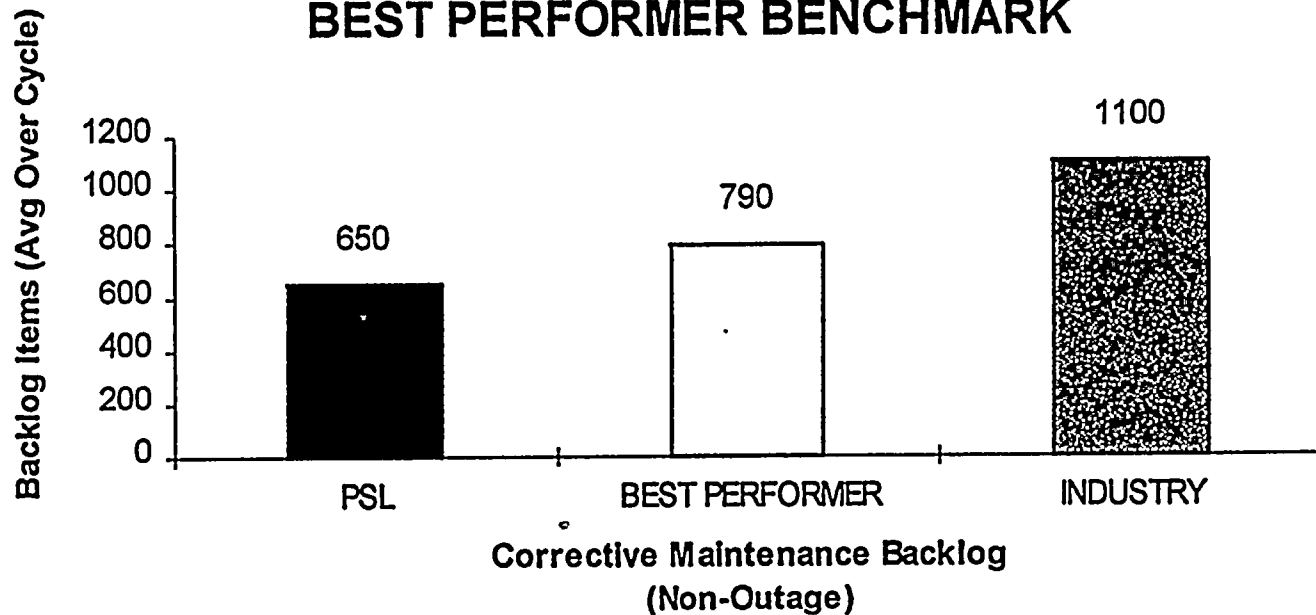
Note: Standardized to exclude PM's, ST's "tool pouch" items, scaffolding, etc.



**FPL**

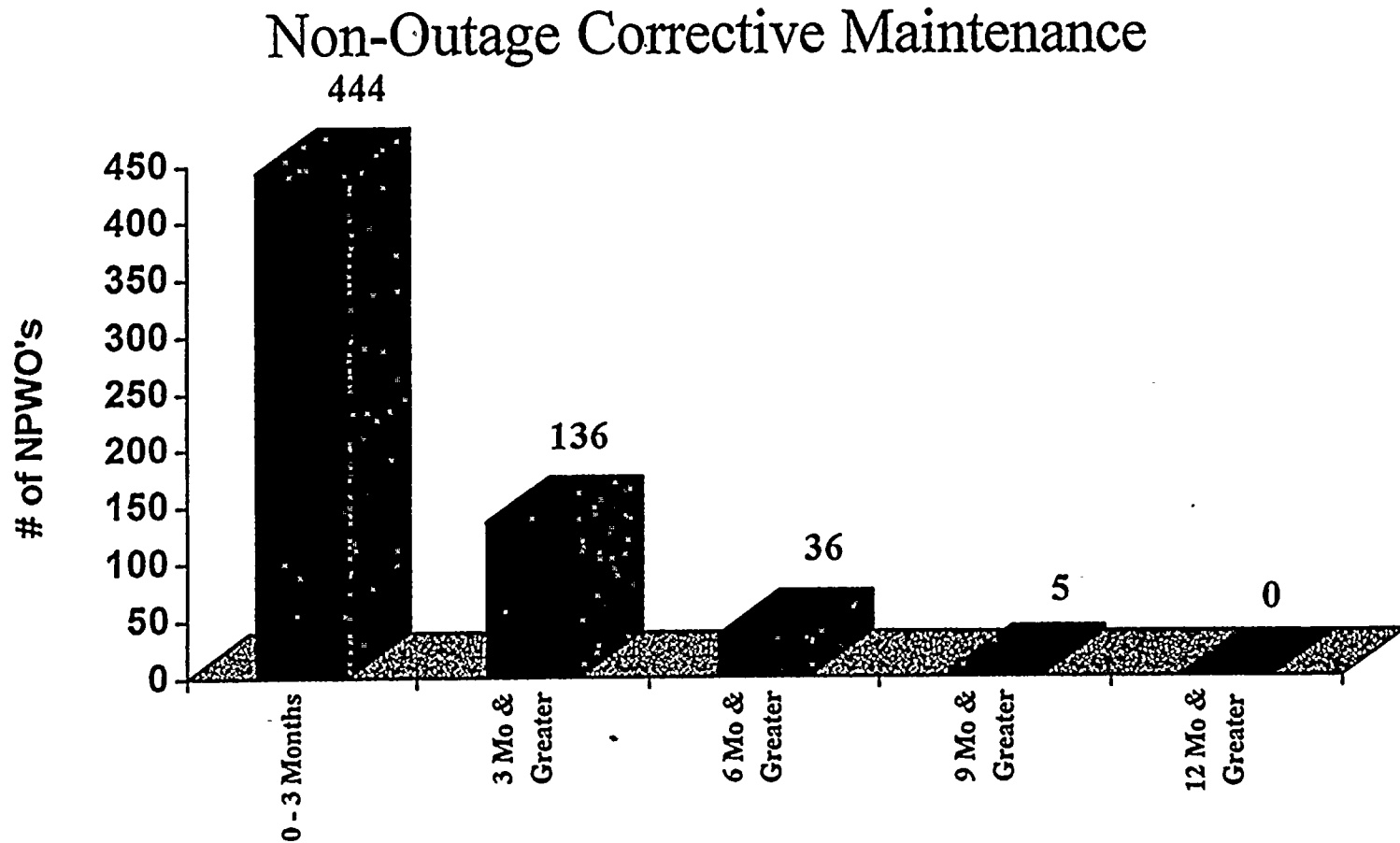
# PSL Maintenance TMD Maintenance Assessment

**ST. LUCIE NON-OUTAGE CORRECTIVE  
MAINTENANCE BACKLOG IS LOWER THAN THE  
BEST PERFORMER BENCHMARK**





# PSL Maintenance PWO Age





# St. Lucie Nuclear Plant

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## Work Control

C. Wood







# PSL Work Control

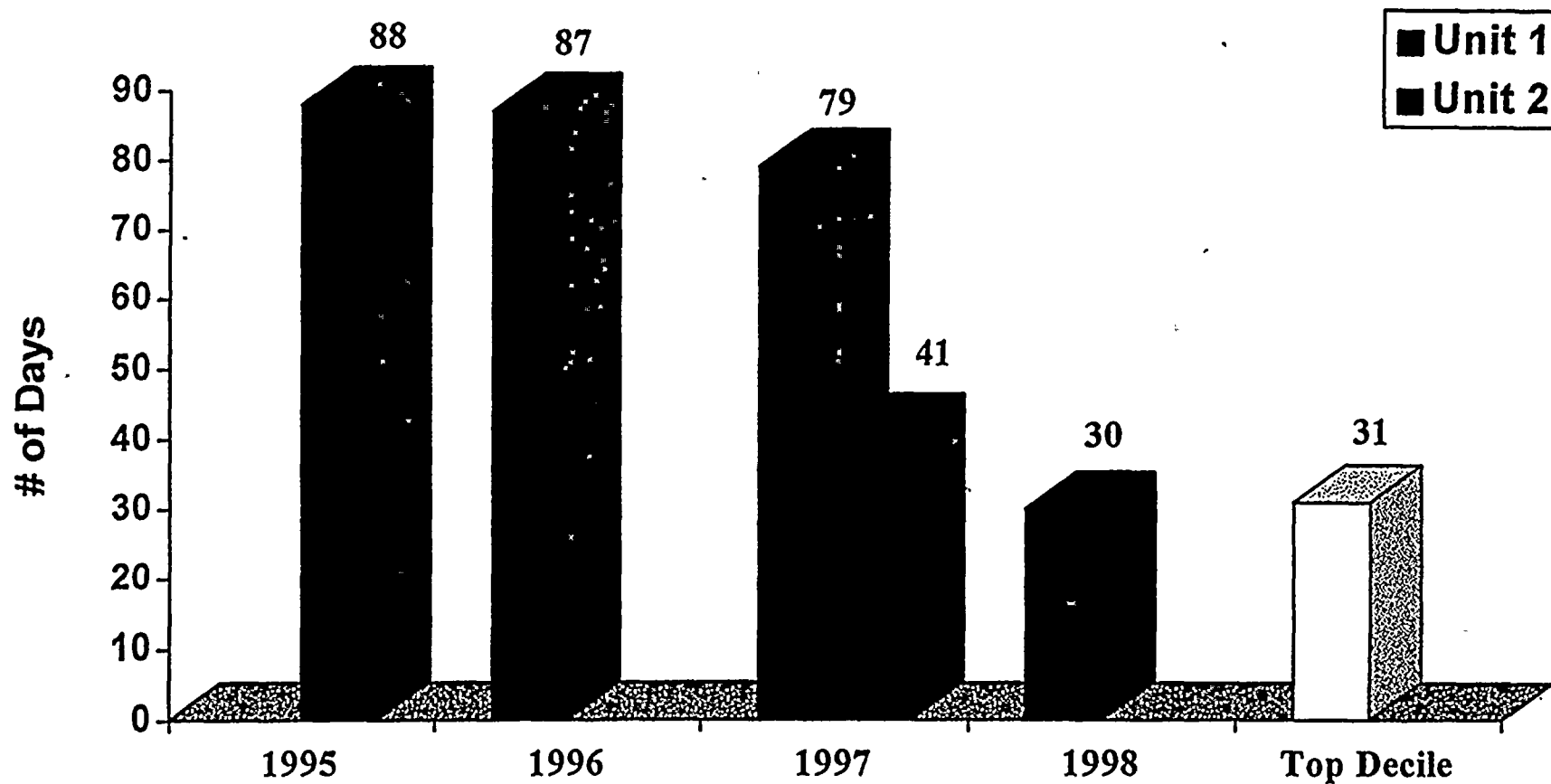
## Thirty Day Unit 2 Refueling Outage

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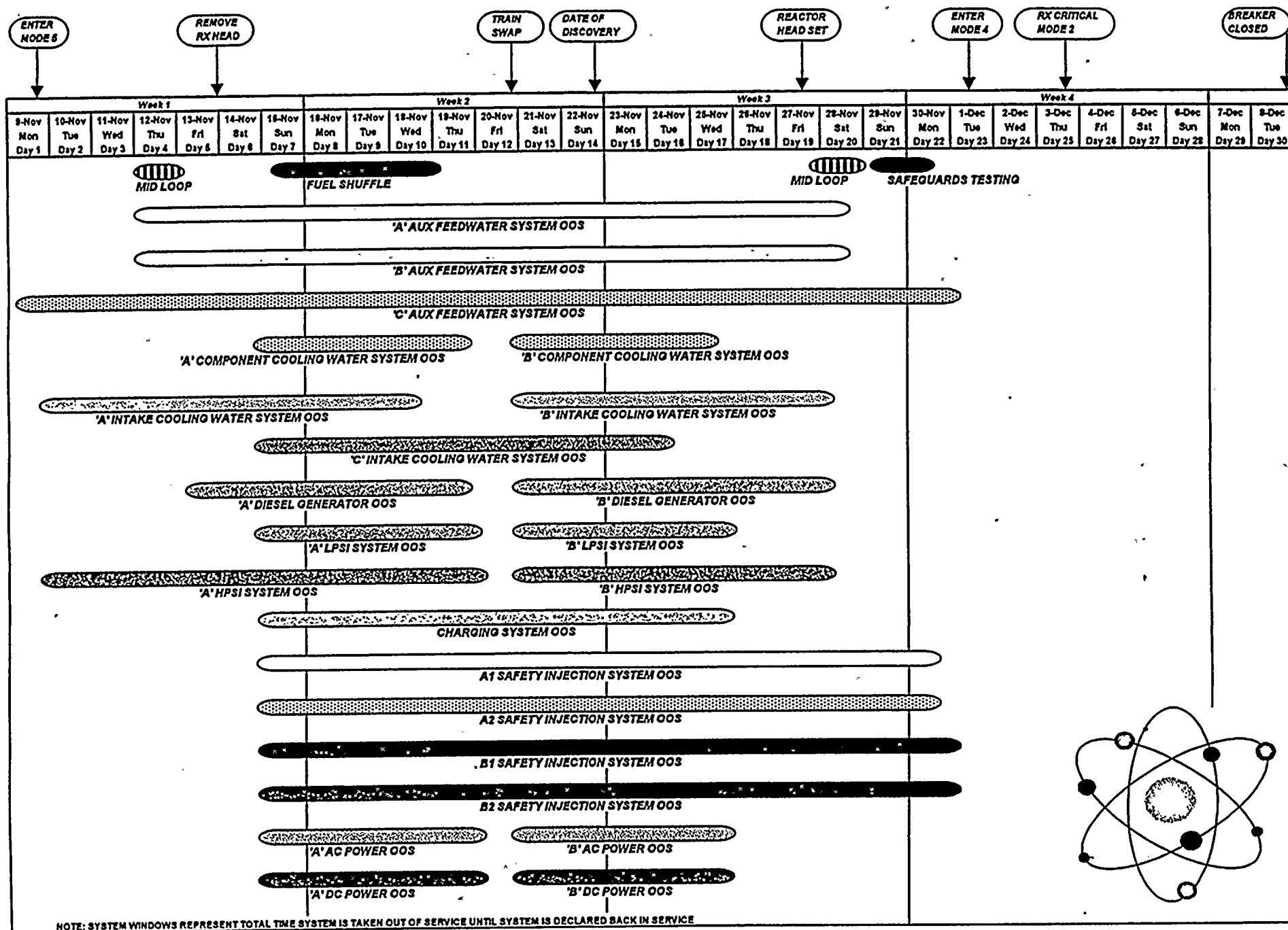
- PRE-OUTAGE MILESTONES
  - Transitioning Toward the INPO Model for Pre-Outage Milestones
  - Unit 2 Pre-Outage Milestones Most Aggressive to Date
  - Unit 1 Pre-Outage Milestones Will Meet the INPO Model
  
- OUTAGE SCOPE CONTROL
  - Regulatory Required Work
  - Corrective Maintenance Outage Work Orders
  - Five Year Plan PM's



# PSL Work Control Outage Duration



# SL2-11 OUTAGE TIMELINE SAFETY RELATED





# PSL Work Control On Line Maintenance (CMM)

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- Utilizing Critical Maintenance Management (CMM) to Increase Component Reliability and Decrease Outage Scope

Example:            Unit 2 CCW Hx Required Mid-Cycle Duration  
Removed 846 Work Hours of Outage Scope

- Currently Scheduled for 6 CMM'S in 1998
  - A CCW Heat Exchanger            UNIT 2
  - B CCW Heat Exchanger            UNIT 2
  - A Start Up Transformer            UNITS 1 & 2
  - B Start Up Transformer            UNITS 1 & 2
  - A Emergency Diesel Generator    UNIT 2
  - B Emergency Diesel Generator    UNIT 2



# PSL Work Control

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- 13 WEEK ROLLING SCHEDULE
  - Executed the INPO Model Rolling Schedule Approach in 1997
  - Direct Effect on PSL Maintenance Backlog
- WORK CONTROL INITIATIVES
  - Integrate the Scheduling Function
    - Scheduling Tools
      - Utilizing P3 Scheduling Software Accommodates the Needs of Outage and Daily Scheduling Functions
    - Cross Training of Outage and Daily Schedulers
  - Develop Long Term Plan
    - Input all Work Items Into the Passport System
    - Levelize Work Items to Facilitate Resource and Cost Management



# St. Lucie Nuclear Plant

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## Engineering

C. Bible

100-100000

100-100000

100-100000

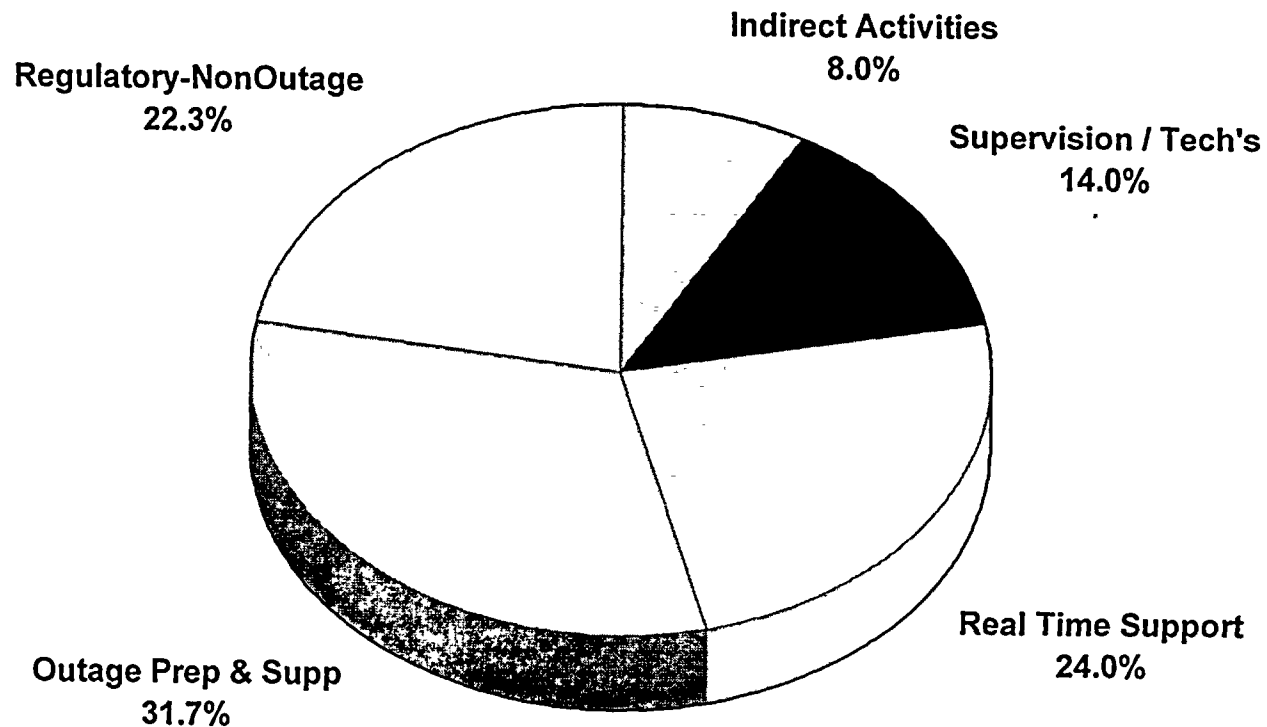




**FPL**

# PSL Engineering Engineering Effort January 1998

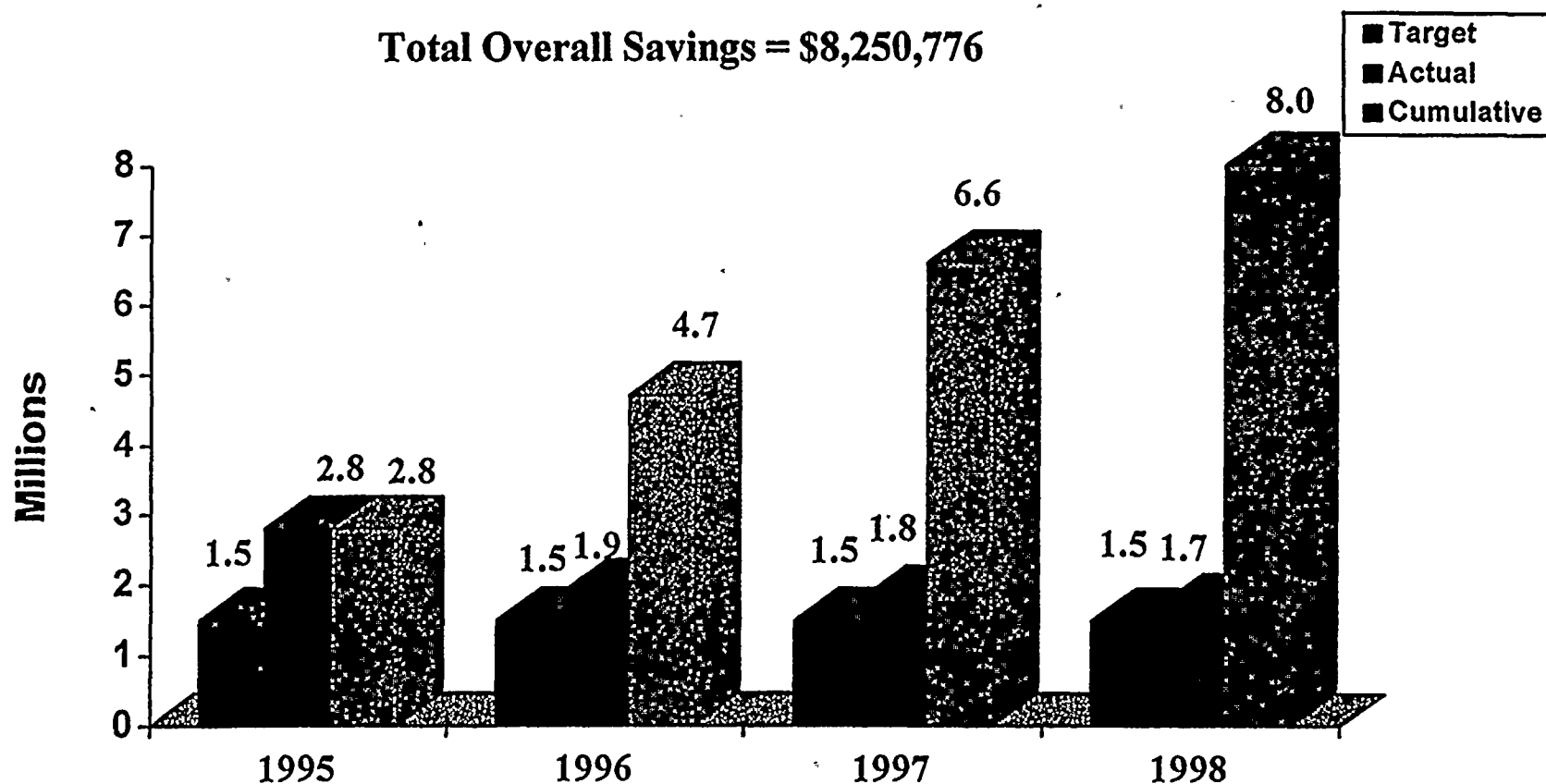
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# PSL Procurement Engineering Annual Cost Avoidance

Total Overall Savings = \$8,250,776





# PSL Engineering

## NRC Fire Protection Functional Inspection Engineering Plan

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- BACKGROUND

- PSL Selected by NRC (3rd of 4 Plants) to Undergo Pilot FPFi
- Inspection Focus
  - Cable Separation
  - PCM Process
  - Fire Detectors
  - Emergency Lights
  - Fire Walls
  - Hose Stations
  - Control of Combustibles
  - Operator Actions
  - Thermal Lag
  - Smoke Detectors
  - Fire Team Response/Training
- 2 Day Data Collection Trip Completed 2/10 - 2/11. NRC Concluding Comments Were Positive
- Start Date: March 9      Duration: 4 Weeks

- FPL STAFF AND RESOURCE EXPENDITURES

- 34 Engineering Personnel and the PSL Fire Protection Supervisor
- 15,000 Workhours Expended to Date

## 31



# PSL Engineering Year 2000 Project

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- Development of Nuclear Division and Site Teams
- Program Modeled After NUSMG/NEI NEI-97-07
- One Outage in Each Unit Prior to 2000
- Inventory Phase in Progress for Unit 2
  - 26,000 Components to be Reviewed
  - 8 Known Software Programs Affected
  - Unit 2 Outage Starts 10/98
- Assessment and Remediation Phase to Follow
- Joined CE Owners Group Initiative
- Monitoring Progress at Other Utilities
- NRC Generic Letter Expected



# PSL Engineering

## Major Plant Mods and Significant Projects

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- SL2-11 MAJOR PLANT MODIFICATIONS
  - Actuator GL 89-10 Program, Motor Operated Valve Upgrades
  - GL 96-06 Issues, Thermal Pressurization of Containment Penetrations
  - Year 2000 Software Issues
  - MSIV Bypass Valve Replacements (2)
  - Upgrade EDG Woodward Governors
- SIGNIFICANT PROJECTS
  - FSAR Review
  - Total Equipment Database Upgrade
  - Control Room Upgrades
  - Thermolag Resolution
  - Leading Edge Flowmeter Installation Unit 1
  - ECOLOCHEM Water Treatment
  - RCP N9000 Seals



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# St. Lucie Nuclear Plant

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## Services

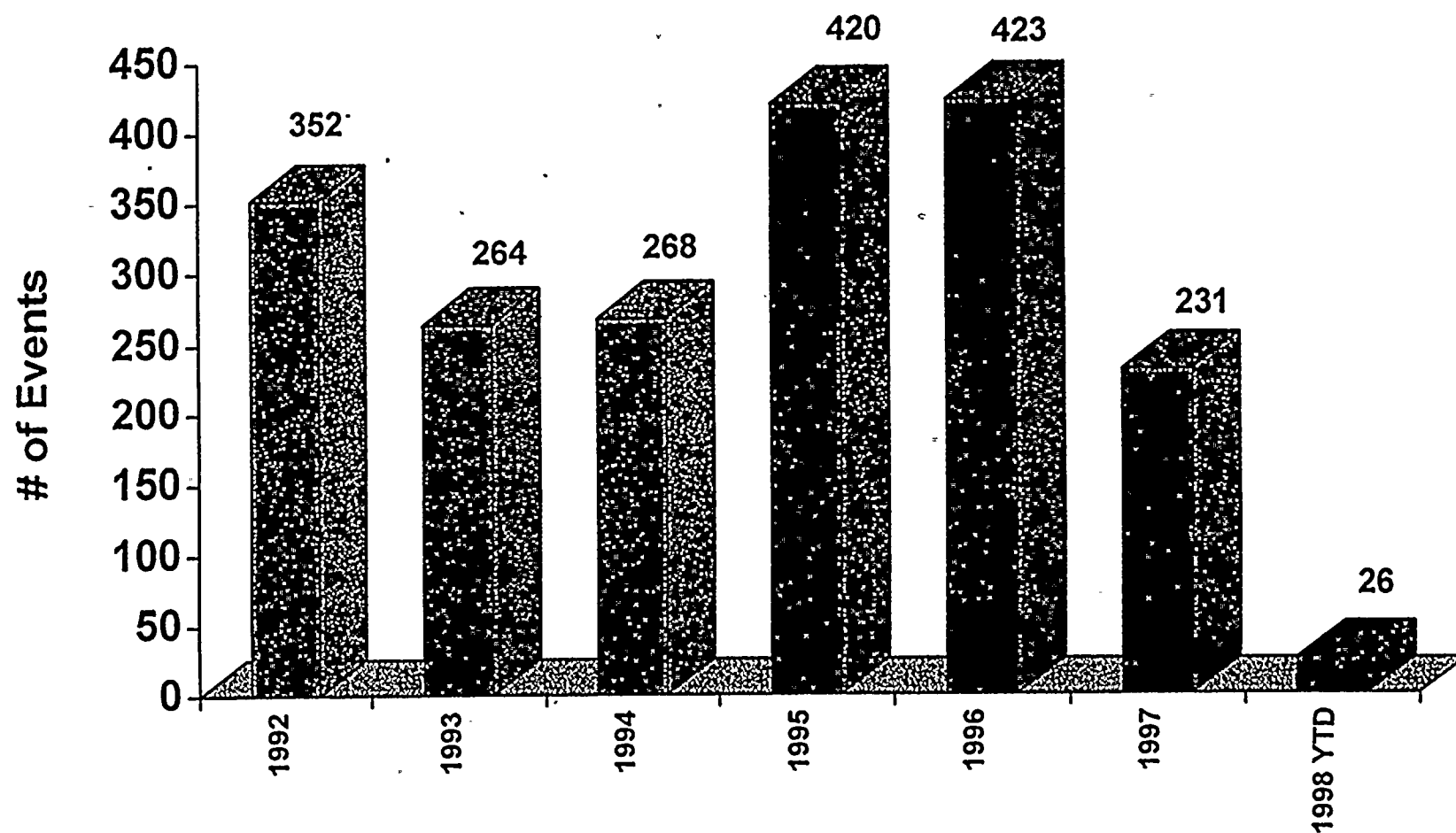
D. Fadden







# PSL Services Security Loggable Events





# PSL Services - Security

## Improving Personnel Inprocessing

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- Benchmarked Nine Other Nuclear Sites.
- Selected South Texas Project to Visit March 2-3, 1998
- Develop List of Inprocessing Improvements to Management for Their Consideration and Approval
- Develop Common Inprocessing Program at PTN and PSL
- Monitor Implementation at PTN



# PSL Services - Emergency Planning

## Emergency Planning Improvements

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- Implemented Quarterly Integrated Drills
- Conducted Self Assessments With Industry Participation
- Upgraded All EPIPs
- Enhanced Call-Out Process
- Redesigned TSC Organization and Facility
- Offsite Relations with Local Fire District
  - The Fire Board presentation on 2/18/98 was partially successful.
    - Fire Chief will participate in annual fire drills and emergency drills.
    - Fire District will not sign letter until the tax issue is resolved.  
A new letter is needed in 1999.



# PSL Services - Training

## Training Initiative - Human Error Reduction

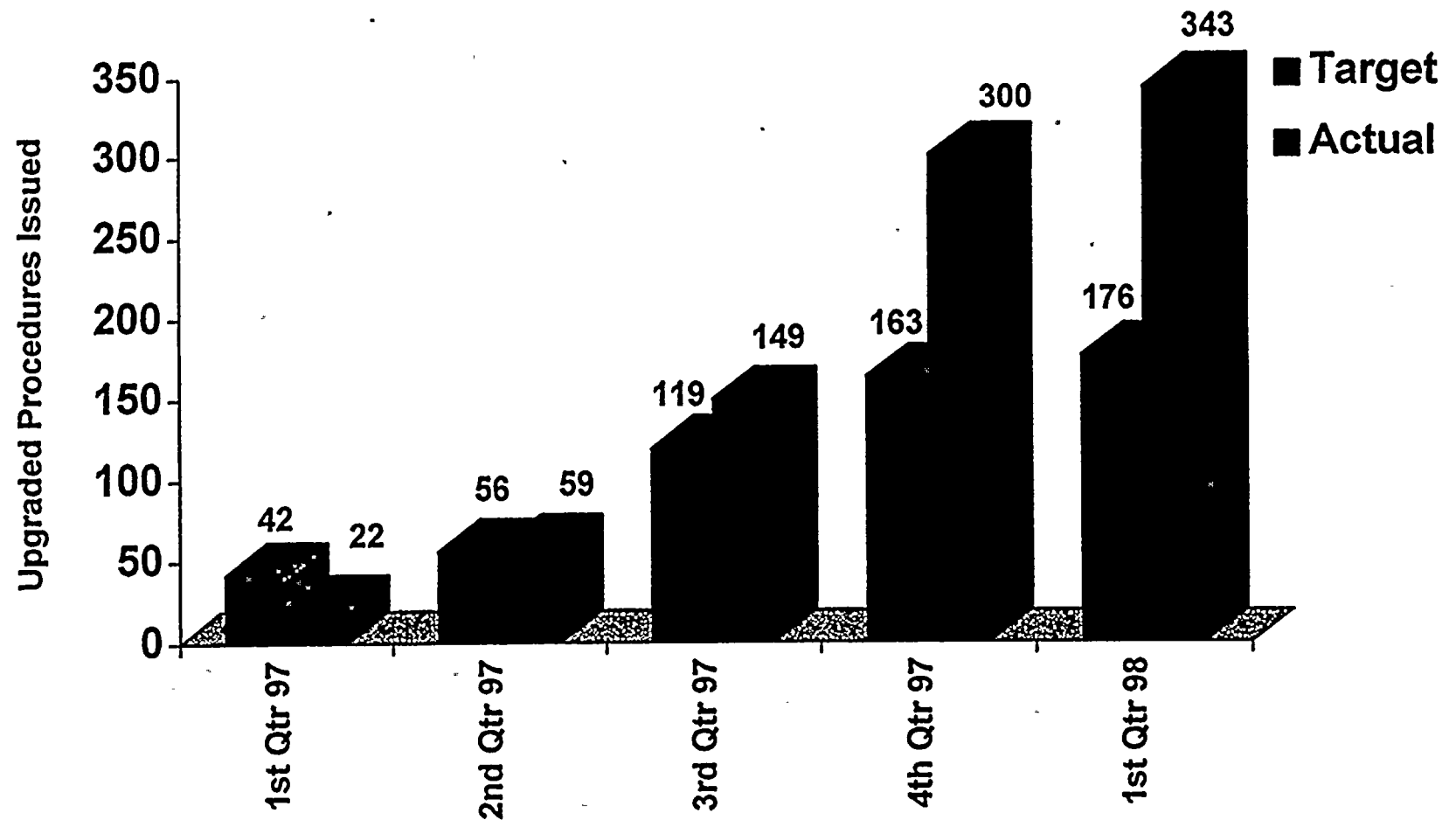
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- Peer Check Program
- Self Check Program
- 3-Way Communication
- Operations Expectations Video
- STAR Simulator
- Improved Simulator Evaluations
- Increased Management Observations
- Fostering Questioning Attitude
- INPO - Human Performance Training
- Tailboards
- Crew Briefs
- Self Assessments



# PSL Services

## Procedure Upgrade Program

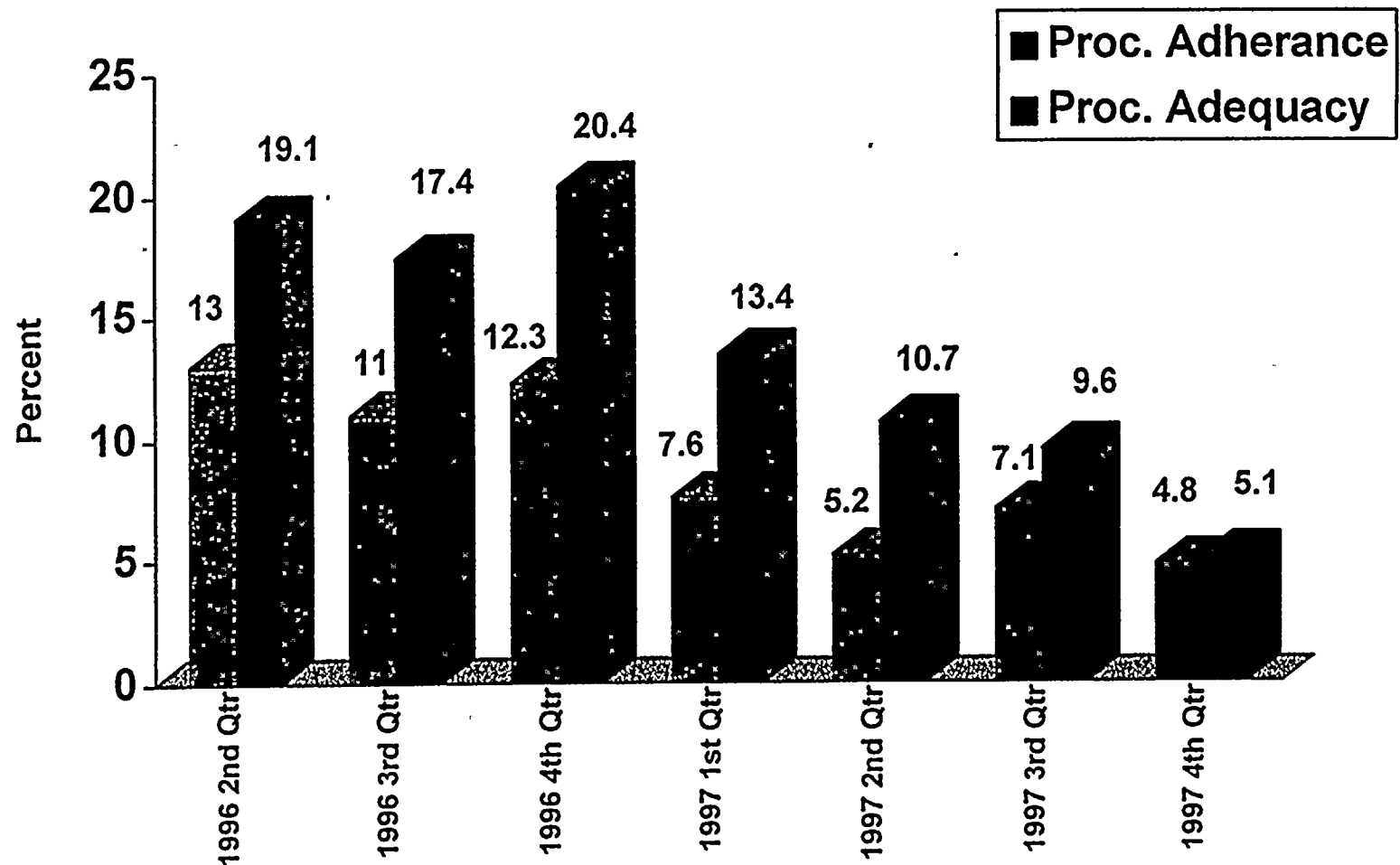




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# PSL Services

## Procedure Adherence/Procedure Adequacy Events





# St. Lucie Nuclear Plant

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## Materials Management

L. Rogers



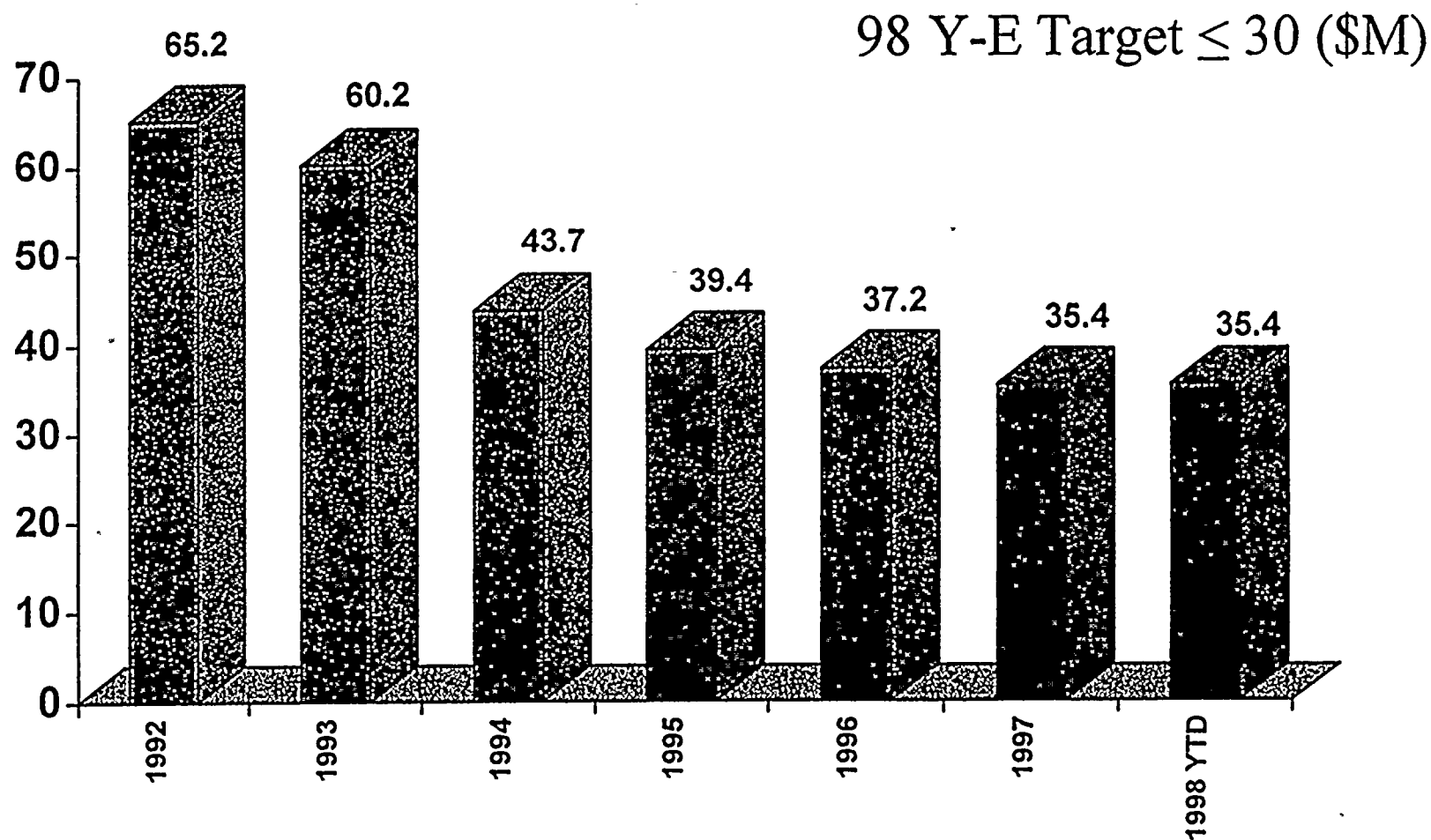




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# PSL Materials Management

## Inventory Value Account 154.300





# PSL Nuclear Materials Management Initiatives to Reduce Inventory

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- STOP INCREASING INVENTORY
  - Increase Visibility of Material Ordered and Not Used
    - Outage Report Card
    - Analyze and Prevent
  - REPAIR Versus REPLACE Culture
  - Reduce Contingencies - Take More Risk
- INVENTORY CONSOLIDATION PTN/PSL
  - Common Nuclear Division Goal
  - Common Specifications for Material (PE)
  - Phase I - Review 2000 Items Common to PTN/PSL
  - Phase II - Perform Model and Part Number Searches
  - Fastener Consolidation
  - PTN/PSL Restocking Reviews
- VENDOR CONSIGNMENT OR STOCKING AGREEMENTS
- CONTINUE TO IDENTIFY DORMANT MATERIAL FOR WRITE-OFF



# St. Lucie Nuclear Plant

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## Business Systems

R. Heroux





# PSL Business Systems

## Cost

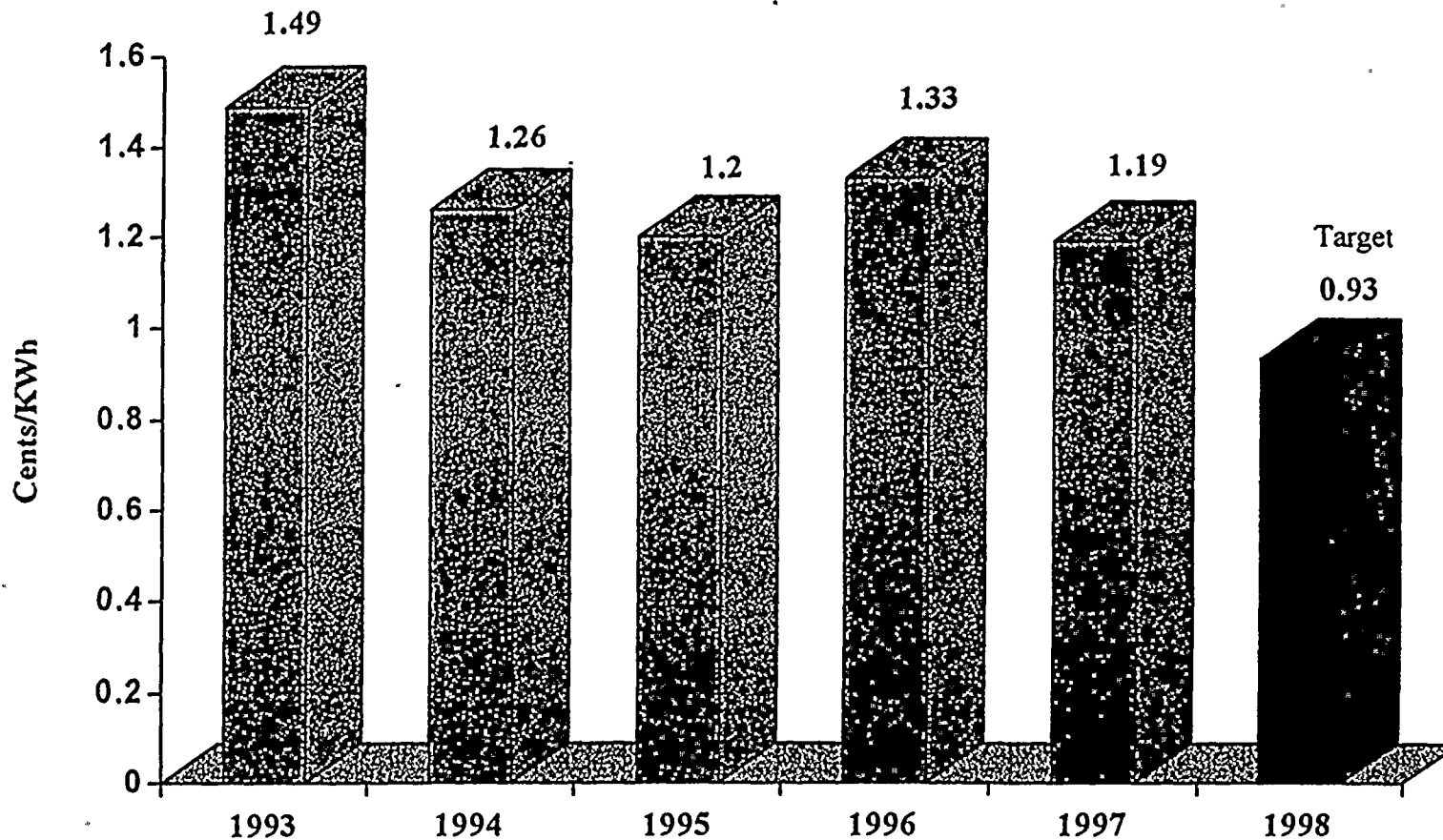
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- MONTHLY CENTS/KWh
  - Site Wide Communication
- ENHANCED REPORTING
  - More Layers Added
  - Check Book Style
  - “Tradeoffs” Not Used
- INCREASED ACCOUNTABILITY
  - Information Targeted to Reviewer’s “Horizon”
  - Formal Budget Reviews



**FPL**

# PSL Business Systems O&M Cents/KWh





# St. Lucie Nuclear Plant

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## Licensing

E. Weinkam



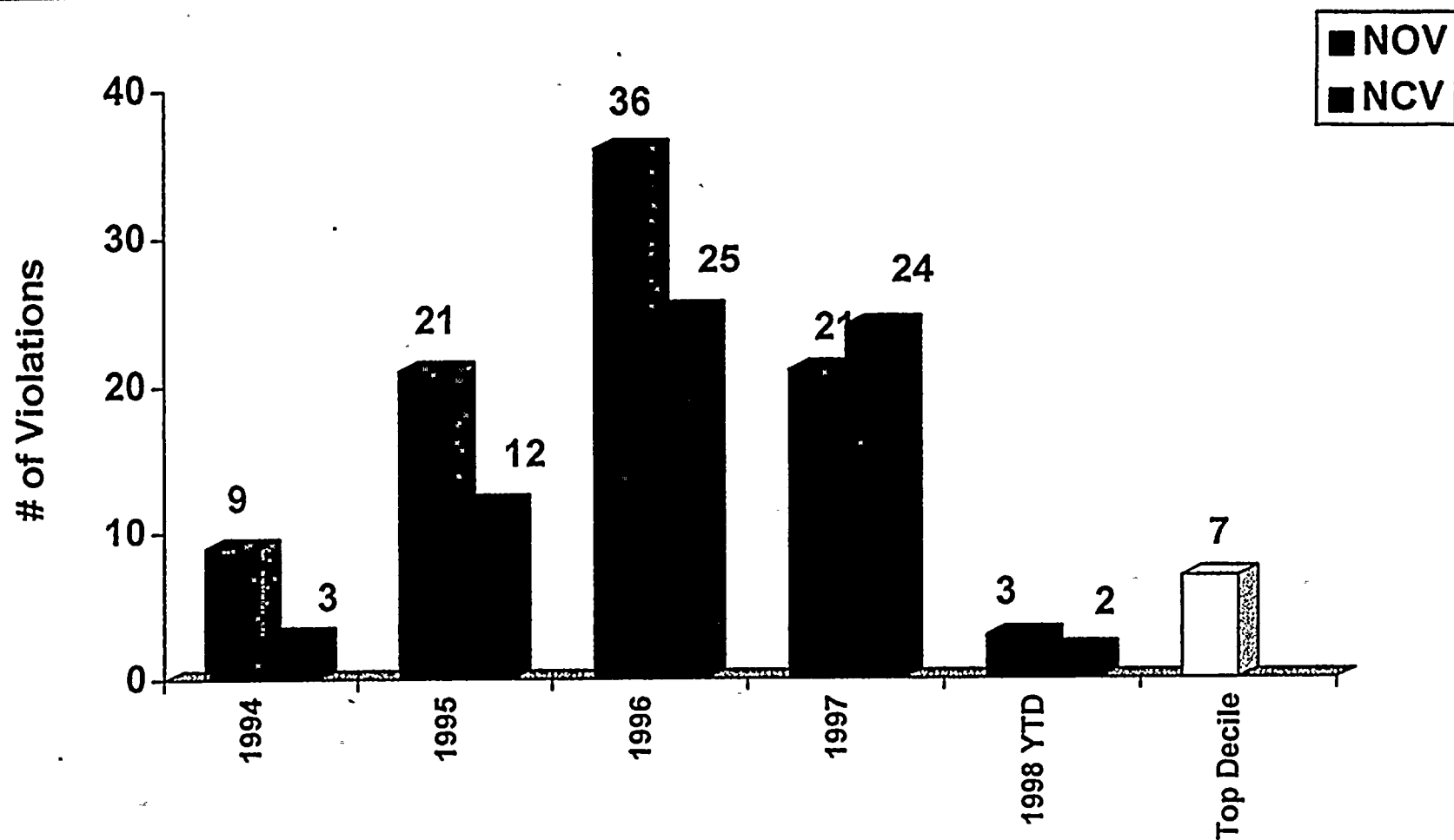




**FPL**

# St. Lucie Nuclear Plant

## NRC Violations Cited & Non-Cited





# PSL Licensing

## 1998 NRC Enforcement Status

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- APPARENT VIOLATIONS PENDING 3
  - Potential Escalated Enforcement
    - Refueling Water Tank Recirculation Actuation Setpoint Error (2 Apparent Violations)
    - Unauthorized Protected Area Access (1 Apparent Violation)
- POTENTIAL NON-CITED VIOLATIONS PENDING 2



# PSL Licensing Licensing Activities

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- SIGNIFICANT LICENSING ISSUES
  - Complete
    - Unit 1 Steam Generator Narrow Range Level Instrumentation
    - Testing of Safety Related Logic Circuits
  - In Process
    - Thermo-Lag
    - Operability of Equipment and Containment Integrity During DBA Conditions
    - Unit 1 Fuel Vendor Transition
  - Under Review
    - Unit 2 Spent Fuel Pool Boron Credit - Extends Full Core Off-Load Capability From 2001 to 2006
    - Assurance of Sufficient NPSH for ECCS and CS Pumps





# St. Lucie Nuclear Plant

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## Human Resources

L. Morgan





# PSL Human Resources 1997 Accomplishments

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- IMPROVED OUTAGE HIRING PROCESS
  - Verification of Temp Qualifications
  - Temp Performance Appraisals
  - Process Improvements
- RESPONSE TO TRAINING NEEDS
  - Completion of HPS for All Managers, Supervisors & Foremen
  - “Safely Speaking” for All Managers & Supervisors



# PSL Human Resources 1998 Initiatives

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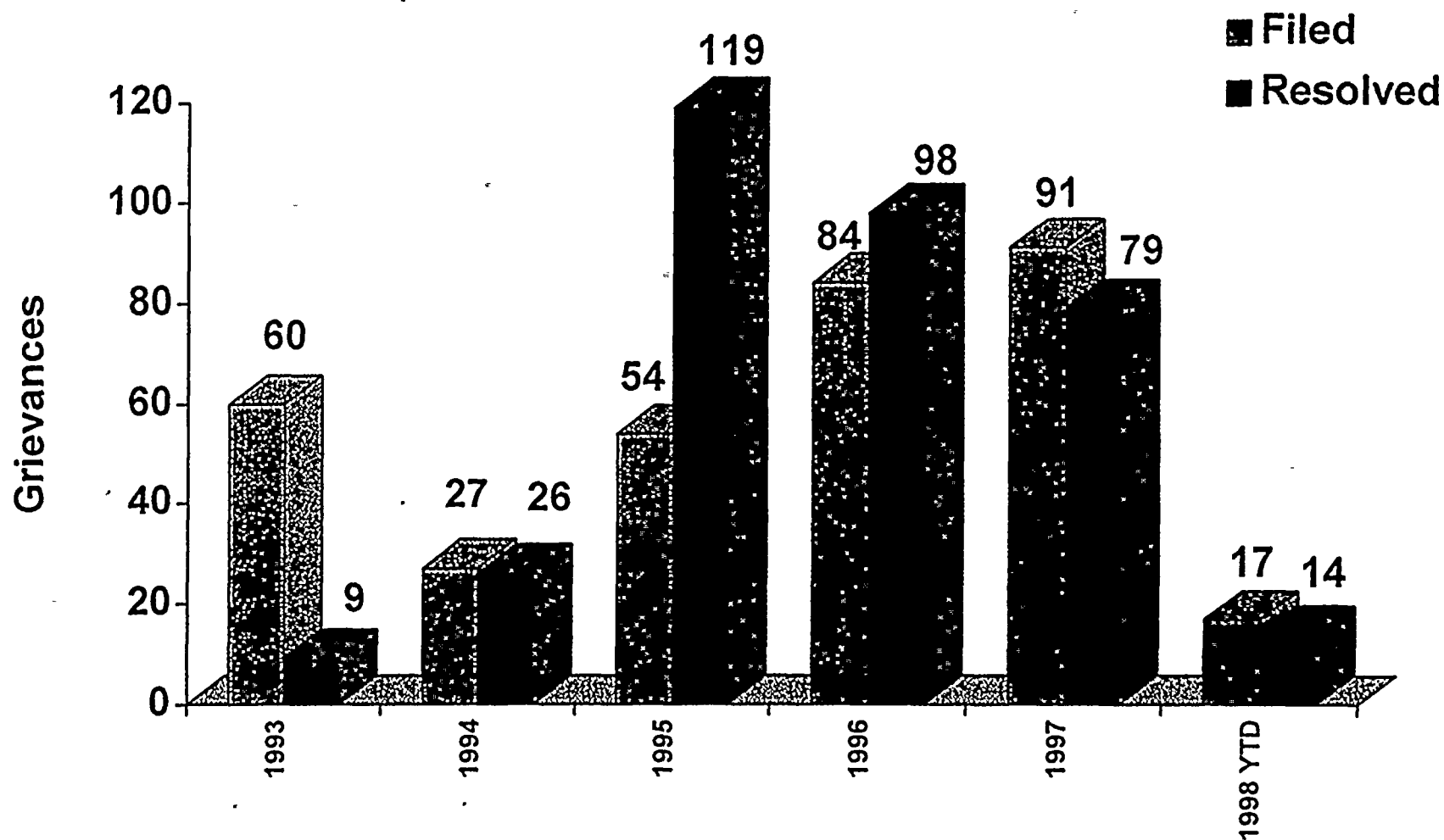
- INTEGRATED SITE TRAINING PLAN
  - Core Curriculum
  - Mini-Workshops
- QUALIFICATION FOR EMERGENCY RESPONSE ORGANIZATION





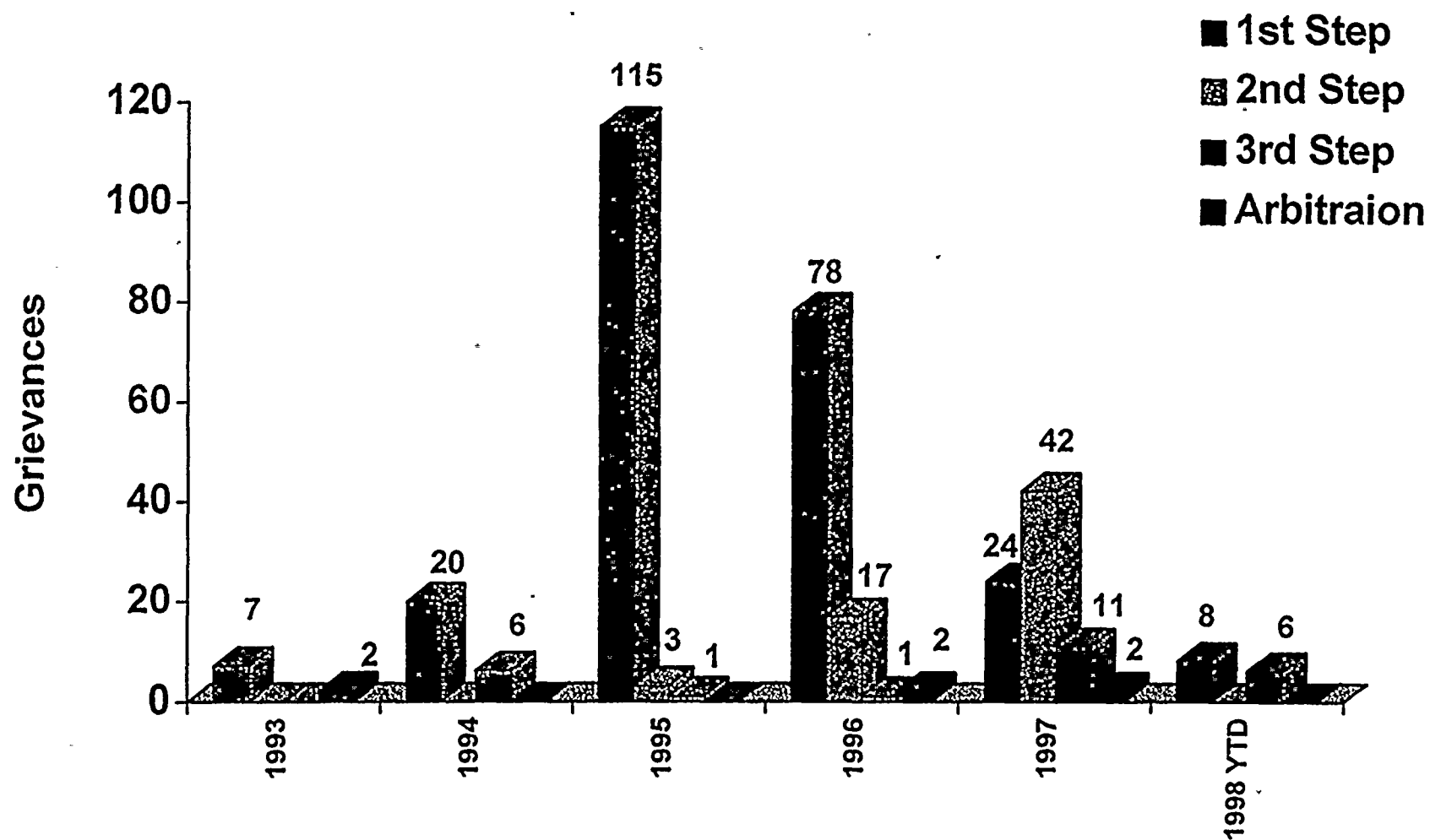
# PSL Human Resources

## Total Grievances





# PSL Human Resources Resolved Grievances





# St. Lucie Nuclear Plant

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## Nuclear Assurance

R. De La Espriella

**FPL**

# St. Lucie Plant Performance Windows Report 4th Quarter 1997

GREEN	Excellent Performance
WHITE	Satisfactory Performance
YELLOW	Improvement Needed
RED	Poor Performance

OPERATIONS	MAINTENANCE	ENGINEERING	SERVICES	MISCELLANEOUS
------------	-------------	-------------	----------	---------------

1qtr 1997 N/A	2qtr 1997 N/A	3qtr 1997 (GREEN)
Safety/Focus (GREEN)		

1qtr 1997 N/A	2qtr 1997 N/A	3qtr 1997 (WHITE)
Problem Identification and Correction (WHITE)		

1qtr 1997 N/A	2qtr 1997 N/A	3qtr 1997 (WHITE)
Quality of Operations (WHITE)		

1qtr 1997 N/A	2qtr 1997 N/A	3qtr 1997 (WHITE)
Programs/Processes and Procedures (WHITE)		

1qtr 1997 N/A	2qtr 1997 N/A	3qtr 1997 (GREEN)
Safety/Focus (GREEN)		

1qtr 1997 N/A	2qtr 1997 N/A	3qtr 1997 N/A
Problem Identification and Correction (WHITE)		

1qtr 1997 N/A	2qtr 1997 N/A	3qtr 1997 (YELLOW)
Quality of Maintenance (WHITE)		

1qtr 1997 N/A	2qtr 1997 N/A	3qtr 1997 (WHITE)
Work Management (WHITE)		

1qtr 1997 N/A	2qtr 1997 N/A	3qtr 1997 (WHITE)
Equipment Performance (WHITE)		

1qtr 1997 N/A	2qtr 1997 N/A	3qtr 1997 (GREEN)
Safety/Focus (GREEN)		

1qtr 1997 N/A	2qtr 1997 N/A	3qtr 1997 (WHITE)
Problem Identification and Correction (WHITE)		

1qtr 1997 N/A	2qtr 1997 N/A	3qtr 1997 (WHITE)
Quality of Engineering (WHITE)		

1qtr 1997 N/A	2qtr 1997 N/A	3qtr 1997 (WHITE)
Programs/Processes and Procedures (WHITE)		

1qtr 1997 N/A	2qtr 1997 N/A	3qtr 1997 (YELLOW)
Security (YELLOW)		

1qtr 1997 N/A	2qtr 1997 N/A	3qtr 1997 (YELLOW)
Training (WHITE)		

1qtr 1997 N/A	2qtr 1997 N/A	3qtr 1997 (WHITE)
Industrial Safety (WHITE)		

1qtr 1997 N/A	2qtr 1997 N/A	3qtr 1997 (WHITE)
Emergency Preparedness (WHITE)		

1qtr 1997 N/A	2qtr 1997 N/A	3qtr 1997 (YELLOW)
Fire Protection (YELLOW)		

1qtr 1997 N/A	2qtr 1997 N/A	3qtr 1997 (YELLOW)
Overtime (RED)		

1qtr 1997 N/A	2qtr 1997 N/A	3qtr 1997 (WHITE)
SGRP (WHITE)		

For Comments or Inputs  
Contact Quality Assurance

SOURCE:  
PSL Nuclear Assurance  
4th Quarter Quality Report



# PSL Nuclear Assurance Recent Audits

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- SPECIAL NUCLEAR MATERIALS
  - Knowledge of SNM Control and Accountability
  - 1 Finding
- FIRE PROTECTION
  - Design and Past Corrective Actions
  - 5 Findings
- INSERVICE TESTING
  - Pressure Testing and Test Records
  - 4 Findings