August 21, 1997

Tennessee Valley Authority
ATTN: Mr. Oliver D. Kingsley, Jr.
President, TVA Nuclear and
Chief Nuclear Officer
6A Lookout Place
1101 Market Street
Chattanooga, TN 37402-2801

SUBJECT: MEETING SUMMARY - TO DISCUSS PLANT PERFORMANCE AND ASSOCIATED ON-GOING ACTIVITIES - WATTS BAR DOCKET NO. 50-390

Dear Mr. Kingsley:

This letter refers to the management meeting conducted at your request at the Region II office August 18, 1996. The purpose of the meeting was to discuss plant performance and associated on-going activities.

It is our opinion that this meeting was beneficial and provided a better understanding of TVA's activities associated with the Watts Bar facility.

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

Should you have any questions concerning this letter, please contact me at (404) 562-4560.

Sincerely,

(Original Signed by M. S. Lesser)

Mark S. Lesser, Chief
Reactor Project Branch 6
Division Reactor Projects

Docket Nos. 50-390, 50-391
License No. NPF-90 and
Construction Permit No. CPPR-92

Enclosures: (See page 2)

Enclosures: 1. List of Attendees
2. Presentation Summary

cc w/encls:
Mr. O. J. Zeringue
Senior Vice President
Nuclear Operations
Tennessee Valley Authority
6A Lookout PL
1101 Market ST
Chattanooga, TN 37402-2801

Mr. J. A. Bailey, Vice President
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Mr. J. A. Scalice
Site Vice President
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Tennessee Valley Authority
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Mr. P. L. Pace, Manager
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Spring City, TN 37381

Michael H. Mobley, Director
Division of Radiological Health
3rd Floor, L and C Annex
402 Church Street
Nashville, TN 37243-1532

County Executive
Rhea County Courthouse
Dayton, TN 37321

County Executive
Meigs County Courthouse
Decatur, TN 37322

Distribution w/encls: (See page 3)

Distribution w/encls:
J. R. Johnson, RII
M. S. Lesser, RII
F. J. Hebdon, NRR
A. P. Hodgdon, OGC
B. K. Keeling, GPA/CA
N. F. Dudley, OEDO
R. E. Martin, NRR
P. A. Taylor, RII
W. C. Bearden, RII
C. F. Smith, RII
E. D. Testa, RII
D. H. Thompson, RII
J. H. Moorman, RII
PUBLIC

U.S. Nuclear Regulatory Commission
Watts Bar Nuclear Plant
1260 Nuclear Plant Road
Spring City, TN 37381

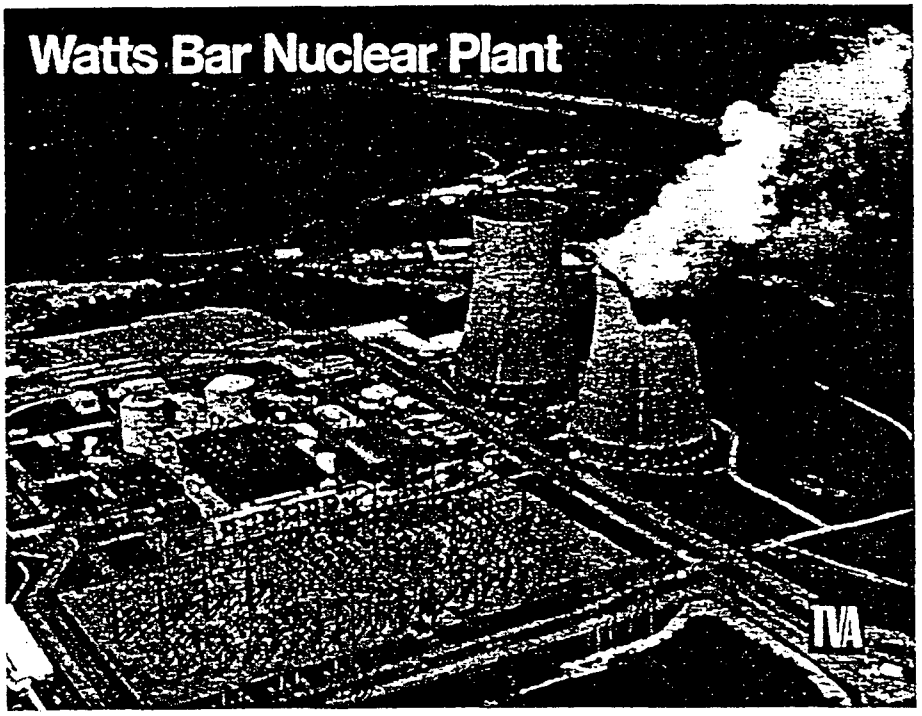
OFFICE	DRP/RII					
SIGNATURE						
NAME	PTaylor:vyg					
DATE	08 / 21 / 97	08 / / 97	08 / / 97	08 / / 97		
COPY?	YES NO	YES NO	YES NO	YES NO	YES NO	YES NO

OFFICIAL RECORD COPY DOCUMENT NAME: G:\BR6.WAT\MTG-SUM.818

Watts Bar Nuclear Plant

SELF-ASSESSMENT

Plant and Organizational Performance
Second Year Summary



NRC Presentation
August 18, 1997

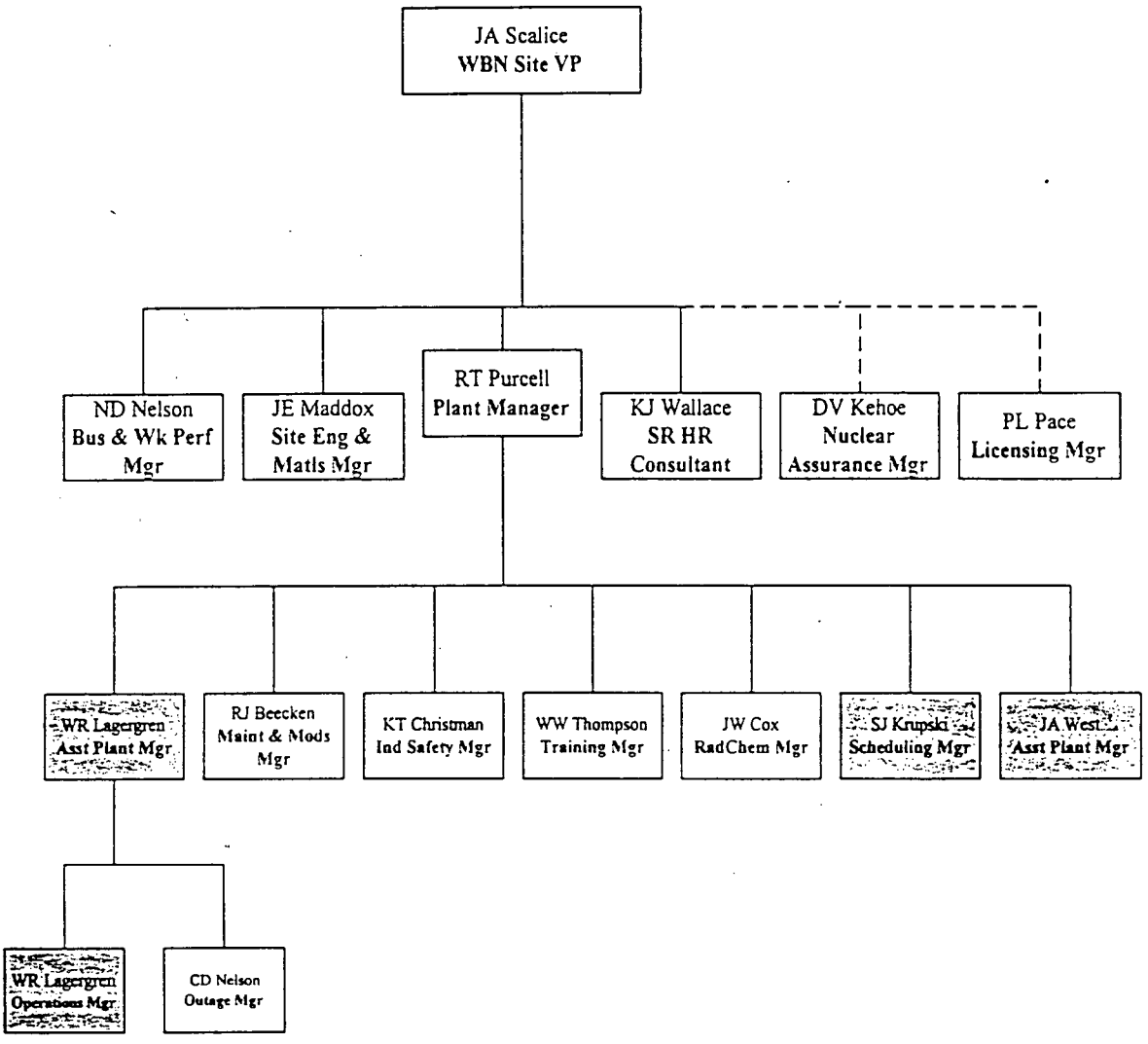
ENCLOSURE 2

AGENDA

• Introduction	J. SCALICE
• Management Initiatives for Continued Improvement	R. PURCELL
• Area Presentations	DEPARTMENT MANAGERS
• Cycle 1 Refueling Outage Preparations	R. PURCELL
• Conclusion	J. SCALICE

INTRODUCTION

- Management Organization



INTRODUCTION

1996 SALP: STRENGTHS CONTINUE - CHALLENGES ADDRESSED			
OPERATIONS: GOOD			
STRENGTHS		**CHALLENGES**	
• Operator knowledge, performance, and coordination with other groups	✓	• Industry operating experience lessons learned	✓
		- Procedure weaknesses	✓
• Control room conduct and professionalism	✓	- Administrative processes	✓
		- Configuration control issues	+
• Plant problems/design issues identified and resolved	✓	• Inattention to detail issues	✓
		• Alarm responses	+
• Smooth transition to full power operations	✓		
MAINTENANCE: SUPERIOR			
STRENGTHS		**CHALLENGES**	
• Strong management involvement	✓	• Minor equipment problems such as system leaks	✓
• Mid-cycle outage effectively planned and completed	✓	• Surveillance test missed/not performed	+
- operator workarounds reduced	✓		
- control black board achieved	✓		
- excellent risk management noted	✓	• Calibration/setpoint control	✓
• Maintenance activities well controlled with low backlogs	✓		
• Fix-it-Now process maintained plant in timely manner-	✓		
• Power ascension test program support	✓		

INTRODUCTION

1996 SALP: STRENGTHS CONTINUE - CHALLENGES ADDRESSED			
ENGINEERING: SUPERIOR			
STRENGTHS		**CHALLENGES**	
• Successful completion of initial plant startup and power ascension testing	✓	• Root cause identification	✓
• Transitioned well from construction to support of operations	✓	• Setpoint control	✓
• Maintained operations expertise in organization	✓		
• Knowledgeable system engineers	✓		
• Number of outage modifications noted	✓		
• License amendments technically comprehensive	✓		
PLANT SUPPORT: SUPERIOR			
STRENGTHS		**CHALLENGES**	
• Radiological control program performed well	✓	• RadChem procedure problems	+
• Effluent control program effective	✓	• Security issues	✓
• Chemistry control program functioned very well	✓		
• Emergency preparedness performance good	✓		
• Fire protection strong	✓		

INTRODUCTION

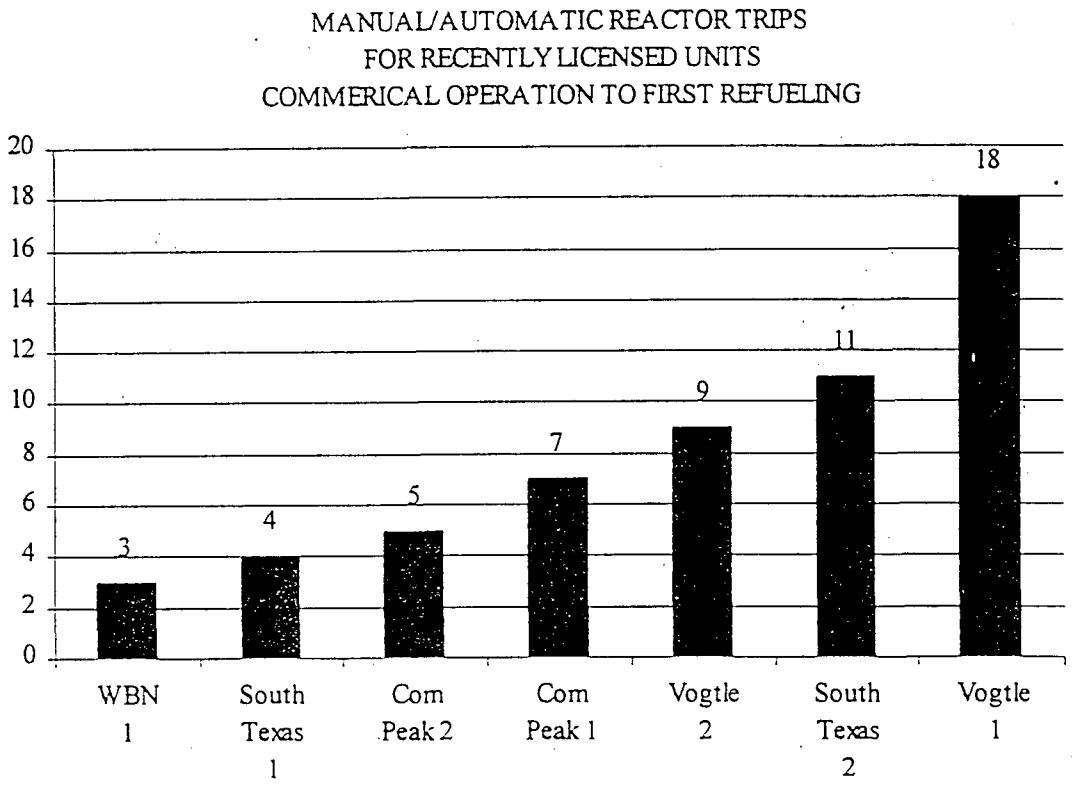
- Operational excellence in first cycle
  - June 2, 1996 to mid-cycle outage - 117 days
  - Mid-cycle outage to January 22, 1997 - 97 days
  - April 22, 1997 to present - 119 days
  - Unit capacity factor - 87.8%

- Plant material condition excellent and backlogs low

Backlog Item	Fuel Load (9/95)	9/96	7/97	Current Goal
Corrective Maintenance Work Orders	130	115	142	150
Total Non-Outage Work Orders	720	682	695	700
S-DCNs	43	44	58	50
NERs	42	31	21	40
SOERs	N/A	2	4	6
TOTAL	935	874	920	946

INTRODUCTION

- Continuing Challenges
  - Reactor trips higher than mature plant average



  - Human performance requires frequent reinforcement
  - Outage preparation and implementation
  - Operational experience still on learning curve
- Management team has high standards that are enforced
- Overall performance excellent - **ALWAYS** room for improvement

Management Initiatives For Continued Improvement - Aggressive Self-Assessment Program

- Ongoing self-assessment program
  - Line owned
  - Program based on INPO & NRC guidance
  - Management involved in program implementation and monitoring

- New initiatives instituted to become more self-critical and preclude complacency
  - New program attribute established for performance of structured self assessments

- Self-assessment effectiveness (types of problems found through self-assessment)

Management Initiatives For Continued Improvement - Human Performance

- Human performance brought into focus

- Management is engaged to improve human performance
  - Human Performance Steering Committee
  - Management Review Committee (MRC)
  - Use of working level input

- Initiatives
  - "Sleeping dogs"
  - Stop-Think-Act-Review (STAR) simulator
  - FPI culture index
  - "Watts Happening" - industry events lessons learned
  - Improving Human and Operational Performance (IHOP) program established

Management Initiatives For Continued Improvement - Other Key Areas

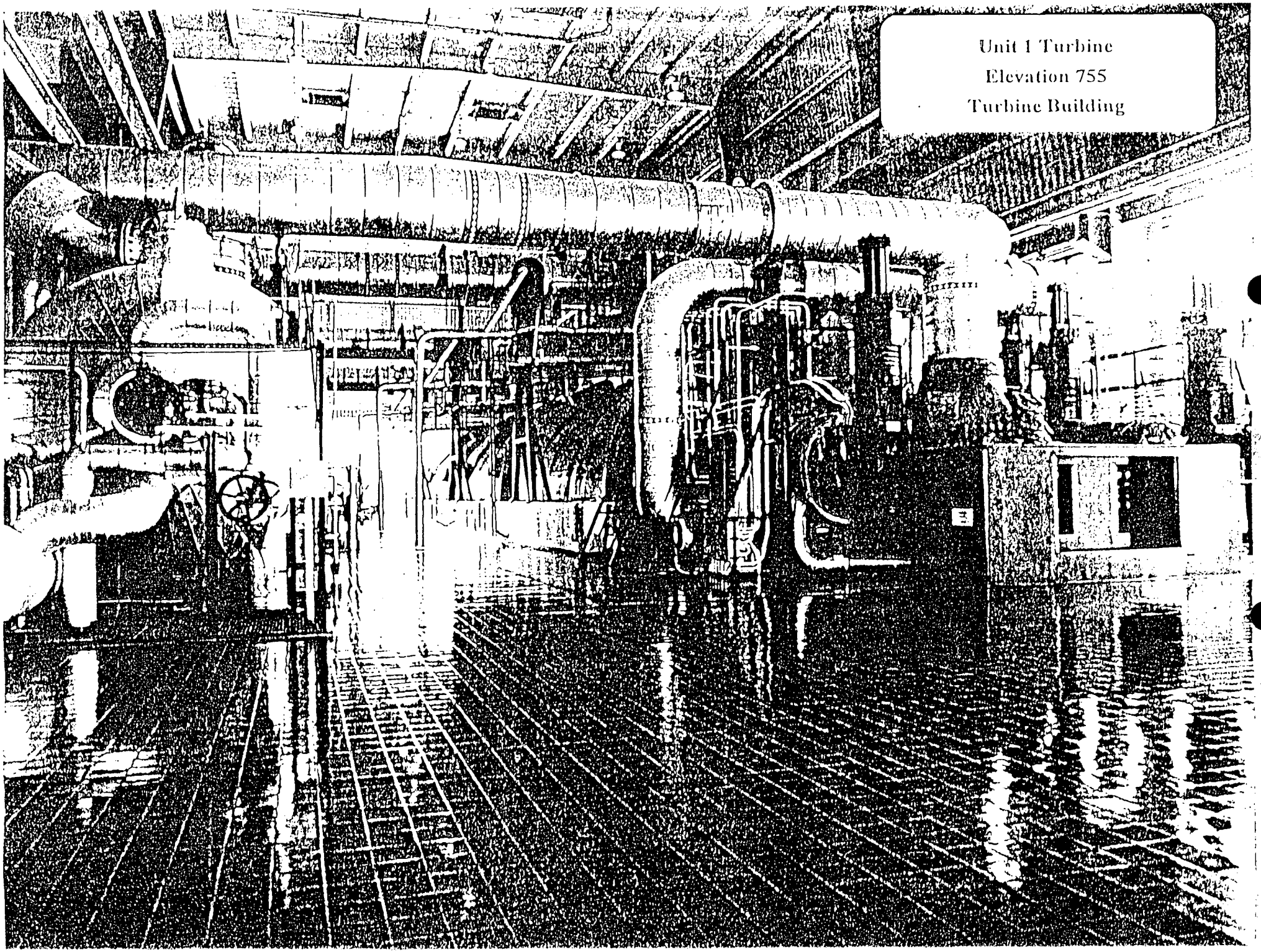
- Self-critical event critiques

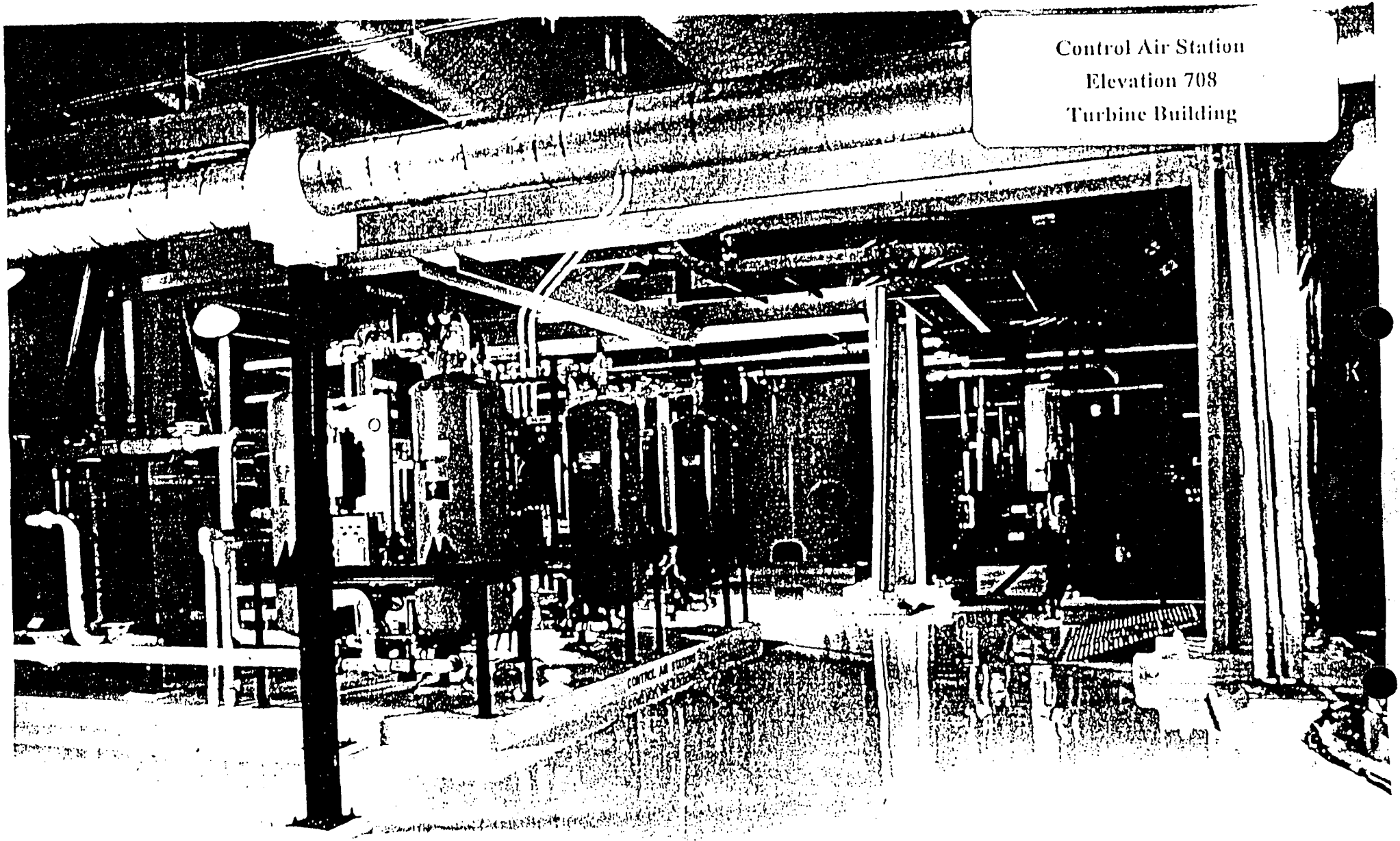
- Manager "SRO" Program
  - Operator knowledge enhances support for operations
  - SRO certification knowledge spread through site departments

- Teamwork, Ownership, and Pride
  - Reinforcement of housekeeping standards
  - T.E.A.M. meetings

- Broad Management Involvement
  - High standards
  - Management Review Committee
  - Operator rounds/field observation programs

- Summary
  - Number of initiatives
  - Reinforced expectations
  - Self critical


Unit 1 Turbine
Elevation 755
Turbine Building



Control Air Station
Elevation 708
Turbine Building

Operations
What We Are Doing Well

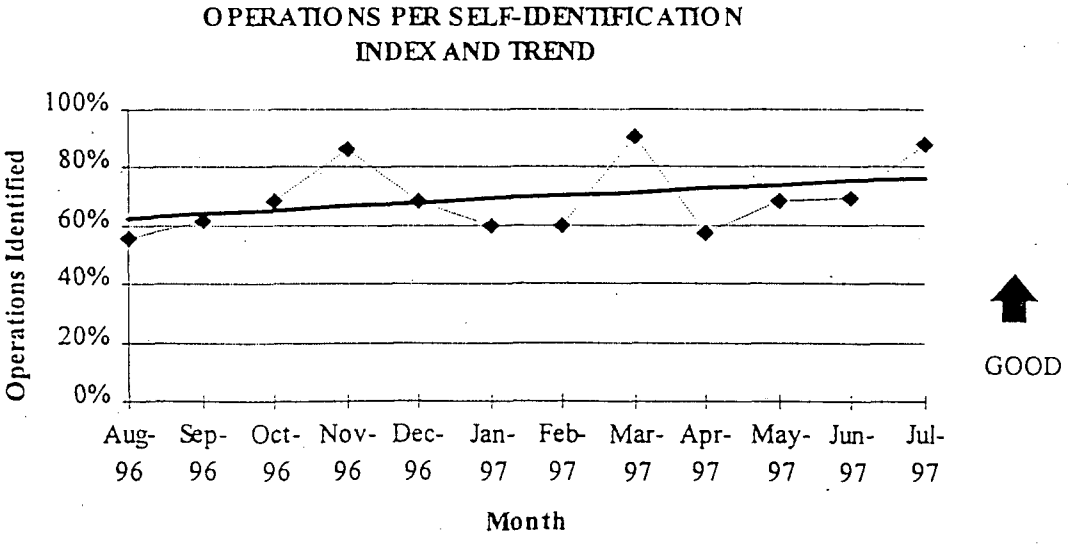
- Professional conduct of control room staff
- Integration of Shift Manager in management team
- Strong crew performance, normal operations and transients
- Strong command and control, all modes and transients
- Conservative decision making
- Quality briefings, turnovers, integration of site activities
- Self critical/corrective action
- Effective operator training
- Procedure quality/use
- Fire Protection (Plant Support Area)

Operations
What Is Showing Improvement

- Elimination of operator burdens

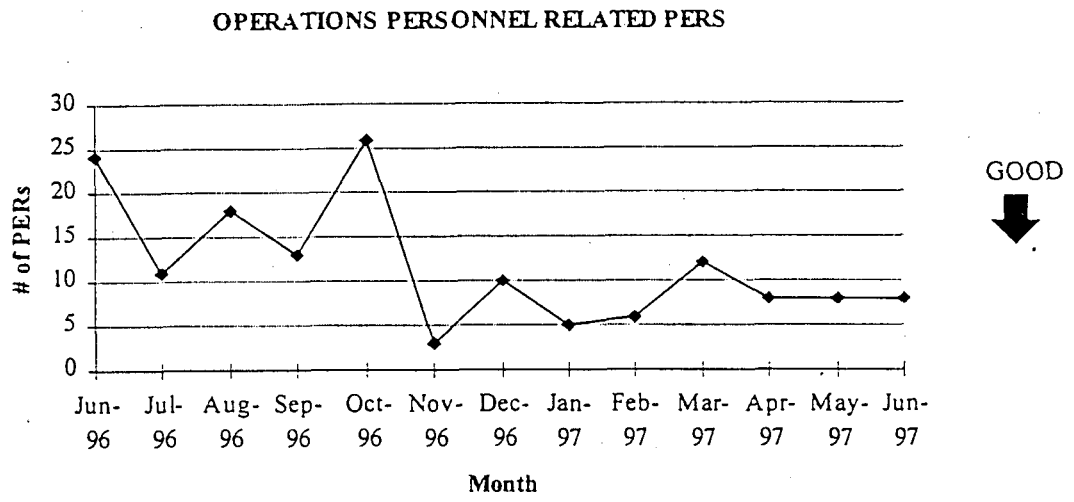
- Self-assessment/self-identification

SELF-ASSESSMENTS	
• Annunciator response • Configuration events/control • Mid-cycle outage critique • SOER 96-01 — Command and control — Control room distractions — Teamwork/ conservative decisions — Management expectations — Training — Integration of Shift Manager into management team	• Clearance process • Emergency Operating Instruction enhancements • Fire protection • Auxiliary Unit Operater watchstanding

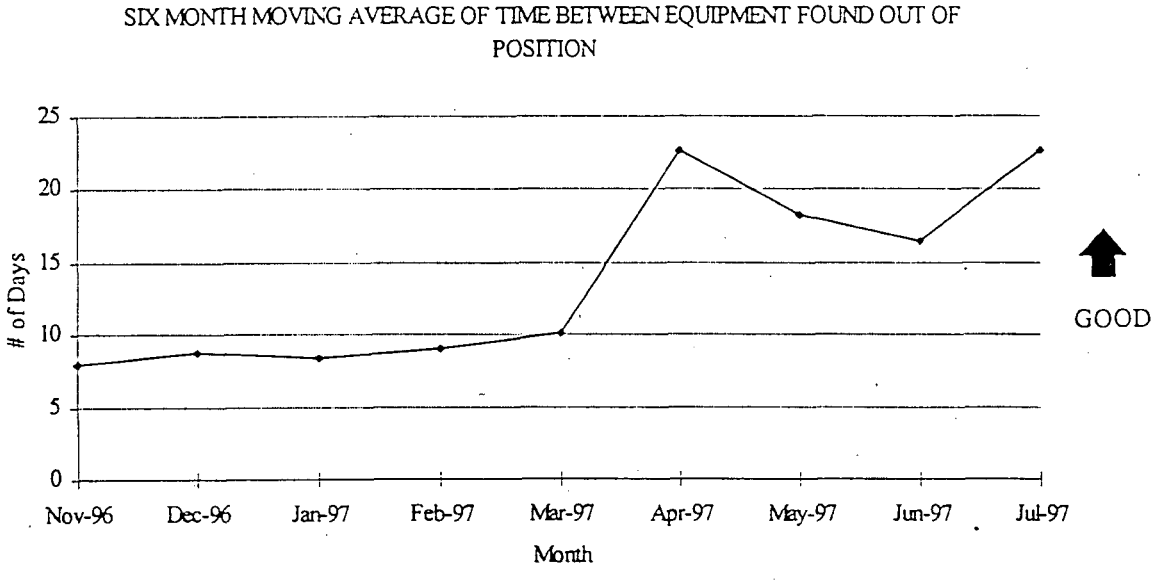


Operations
What Is Showing Improvement

- Human performance error rate



- Logkeeping
- Status control



- Plan of the Day/Management Review Committee
- Operating the Plant

Operations
Focus Areas

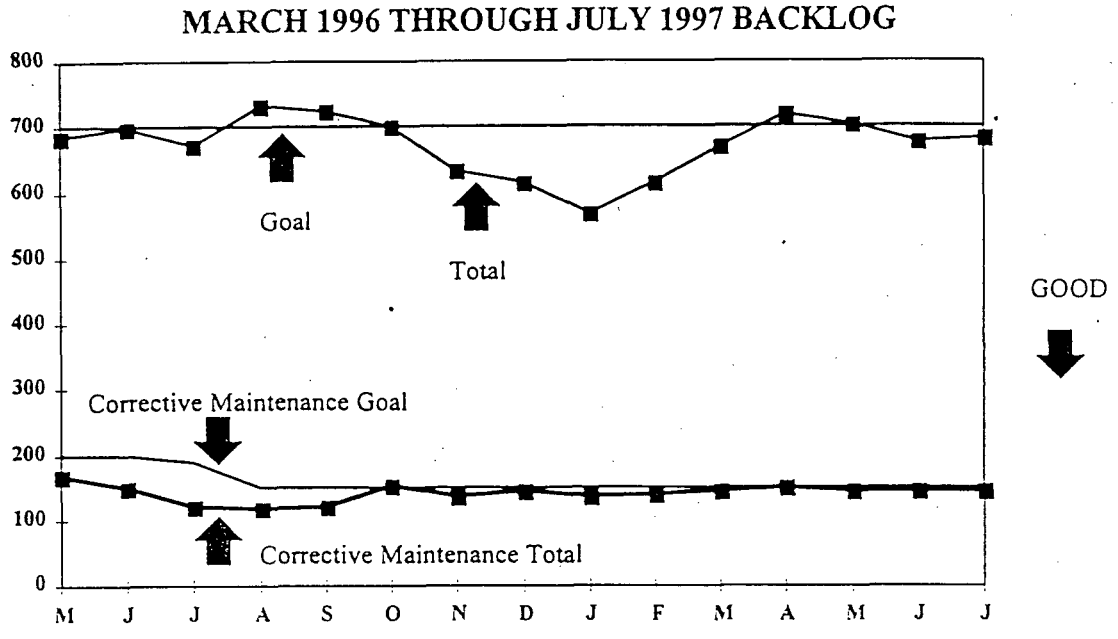
- Improvement in control of work
- Improvement in quality of document reviews
- First time refueling outage preparations

Operations Performance Summary

• Control and execution of activities directly related to Plant Operation	
– Plant Startup	Superior
– Power Operations	Superior
– Plant Shutdown	Good
– System Lineups	Good
– Monitoring and Logging Plant Conditions	Good
• Normal Operations	Superior
• Response to Transient and Off-Normal Conditions	Superior
• Adequacy and Implementation of Emergency Operating Procedures/ Abnormal Operating Procedures	Superior
• Manipulating the Reactor and Auxiliary Controls	Superior
• Control Room Professionalism	Superior
• Initial and Requalification of Licensed Operators	Superior
• Management Involvement/Management Review Committee	Superior
• Self-Assessment	Superior
• **Overall**	**Superior**

Maintenance & Surveillance What We Are Doing Well

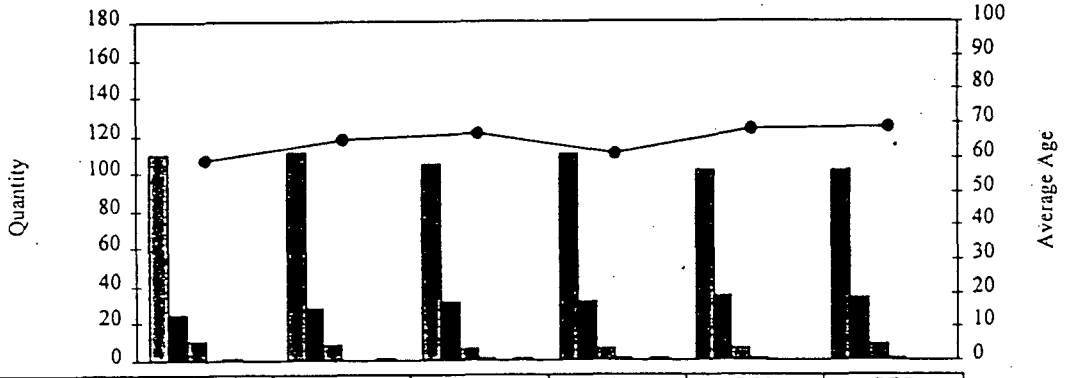
- Plant Material Condition
  - Consistently maintained low backlogs



  - Blackboard philosophy throughout plant
  - Control room operator and Auxiliary Unit Operator concerns addressed daily
  - Plant cleanliness
  - Zero leak program
  - Low tolerance for temporary repairs

Maintenance & Surveillance What We Are Doing Well

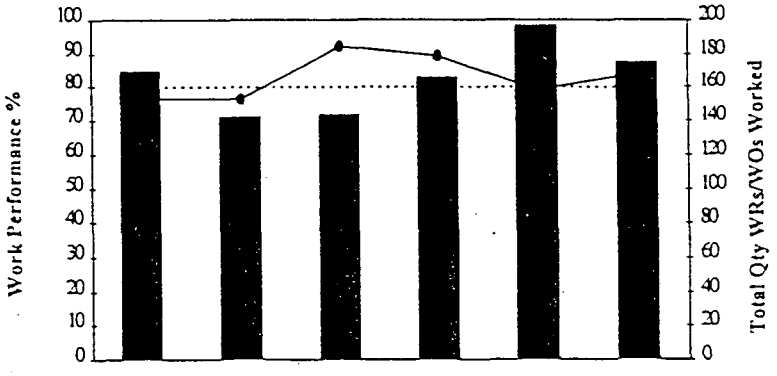
- Equipment Availability
  - Fast response to equipment issues



Week	6/22	6/29	7/6	7/13	7/20	7/27
<3 mo	110	111	105	110	101	101
3 mo	25	28	31	31	34	33
6 mo	11	9	7	6	7	9
9 mo	0	0	1	1	1	1
12 mo	1	0	0	0	0	0
>15 mo	0	1	1	1	0	0
Total	147	149	145	149	143	144
Avg Age	59	65	67	61	68	69

  - Effective risk management

  - Solid schedule performance
    <u>what we say</u>
    <u>we'll do</u>
    <u>we get done</u>

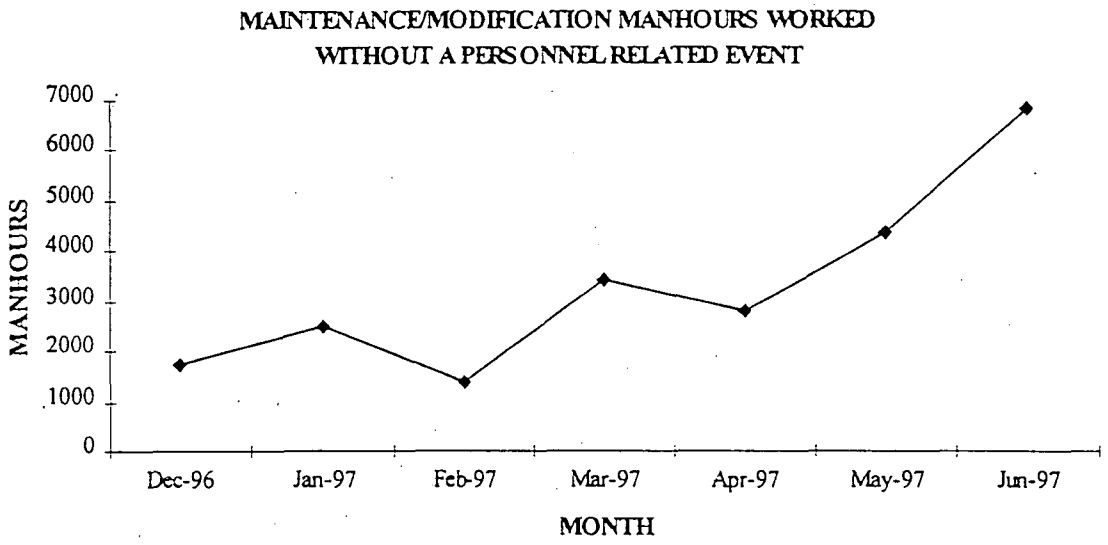


  - Calibration program is effective

Maintenance & Surveillance What We Are Doing Well

- High Quality Field Work
  - Inspection acceptance rate of 97%
  - Questioning attitude instilled
  - Involved supervisors

- Human Performance
  - Error rate has decreased by a factor of 4



- Modification Implementation Program
  - Strong management team with over 20 years of nuclear construction experience on average
  - 60 design changes scheduled for refueling outage
  - 55 design changes completed during mid-cycle
  - Innovative approaches to complex tasks

Maintenance & Surveillance What We Are Doing Well

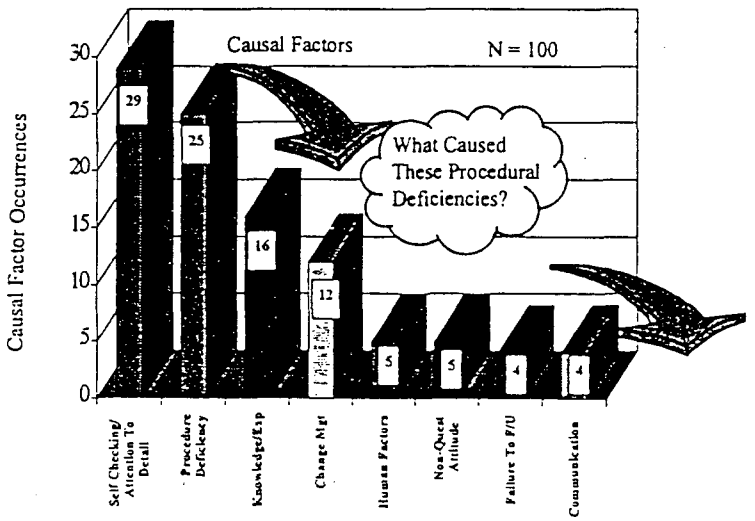
- Self-Assessments
  - 14 internal self-assessments completed this year
  - Performed by line organizations
  - Supplemented by industry peers, other site organizations and other TVA sites
  - Craft feedback used extensively to improve processes
  - Over 500 "on the spot" daily assessments this year

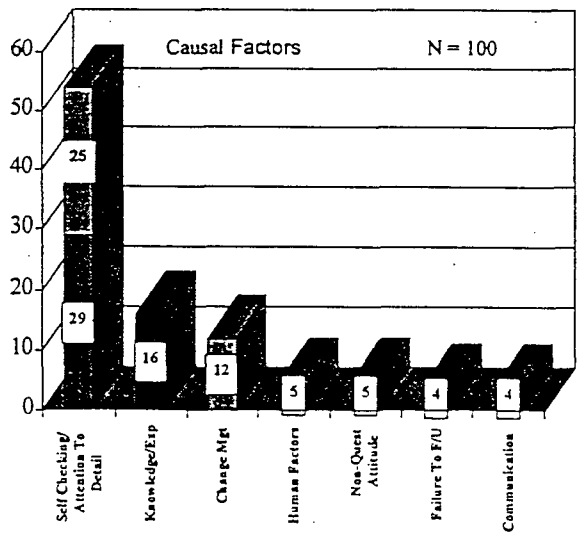
Maintenance & Surveillance What Is Showing Improvement

- Training and qualification
  - Over 450 new task qualifications completed this year
  - On-the-Job-Training (OJT) integrated with daily schedule
  - Weekly performance indicator reviewed with plant management
  - STAR simulator training completed for department
  - Supervisor program designed and implemented
  - "Just in time" training program developed for upcoming refueling outage
  - Manager SRO certification
  - Rotational assignments

Maintenance & Surveillance What Is Showing Improvement

- Surveillance Program Implementation
  - 4903 Surveillances performed this fiscal year
  - Successful performance rate up to 99.52% for the year
  - 47 Surveillance Instruction PERs this period

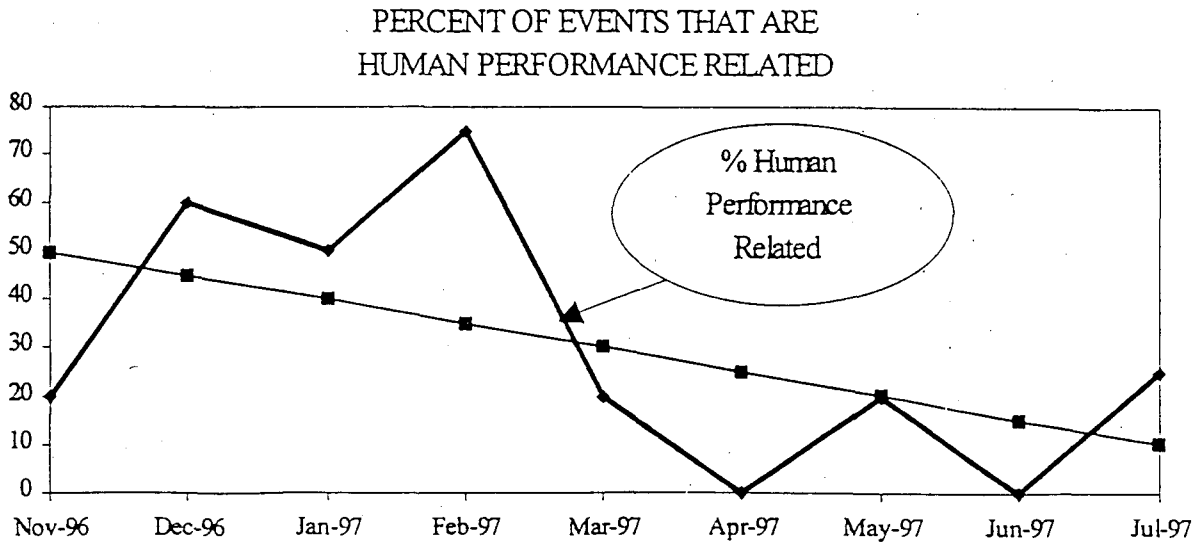




Self Checking/ Attention To Detail Was The Primary Cause Of Procedural Deficiencies

Maintenance & Surveillance What Is Showing Improvement

- Process/Procedural Initiatives
  - Scheduling Dry Run Activity For First Performance Of New Procedures and Revisions
  - GL 96-01 Review
- Human Performance Initiatives
  - Conducting FPI Culture Survey
  - Education and Communication
    - Implementing IHOP Program
    - Publishing WATTS HAPPENING Newsletter
    - STAR Simulator
  - Increased Feedback And Monitoring
  - Capturing Human Performance Enhancement System Information For All PERs
  - Pre-job briefing



Maintenance & Surveillance What Is Showing Improvement

- Troubleshooting Techniques
  - Troubleshooting course developed and provided to all disciplines
  - Onsite vendor training on high risk, complicated systems
  - Multiple noted inplant accomplishments as a result of the above

Maintenance & Surveillance Focus Areas

- Refueling outage preparations
- Radiation Monitoring

Engineering
What We Are Doing Well

- Aggressively resolving plant design issues
  - Operator work arounds
  - Darkboard concept
  - BOP single point failure study
  - SQN lessons learned program
  - Flow accelerated corrosion program
  - Switchyard design review

- Maintaining backlogs and cycle times within aggressive targets

TYPE	CURRENT TOTAL	TARGET
Modification Design Changes		
Issuance	31	Per Schedule
Closure	98	Per Schedule
Documentation Design Changes		
Issuance	27	Per Schedule
Closure	33	50
Problem Evaluation Reports (PERs)	111	0 Late Actions
NRC Commitment	28	0 Late
NRC Open Item	6	NA
Technical Operability Evaluations	3	10
Primary Drawings	0	<48 hrs
Secondary Drawings	18	<90 days
Vendor Manual Updates	54	50
• Recontacts	0	3 years
Procurement Engineering Packages	524	360
Nuclear Experience Review Items	13	Per Schedule
Drawing Deviations	19 - 0<30 days	<30 days
Temporary Alteration Control Forms	15	10
Trending Evaluation Data Sheets	8 - 2>60days	<60 days
Procedure Revisions	17	<90 days
WO's on AE or PE Hold	7	>30 days Total ⇒ 10/50

Engineering
What We Are Doing Well

- Strong engineering support in response to plant needs and events
- Strong planning & scheduling program for maintaining control of engineering workscope
- Identification & procurement of critical spare parts
- Strong System Engineering organization
  - Support for Operations and Maintenance
  - System health monitoring
  - Trending
- Plant design basis well documented

Engineering
What is Showing Improvement

- Maturing in 10 CFR 50.59 preparation and review
- Use of self-assessments to improve performance
  - NRC ASME Code action submittals
- Root cause analysis / troubleshooting
- Completing scheduled tasks

STATUS OF 1996 PRESENTATION ITEMS	
• Standardization of engineering processes across sites	Complete
• Margin recovery / analysis - reduce moisture carryover - complete best estimate LOCA analysis	Complete
• Darkboard concept	Complete
• Operator workarounds	Complete
• Improve secondary plant performance	Complete
• Maintenance rule implementation	Complete
• System engineer trouble shooting	Complete

- Operational experience

Engineering Focus Area

- Upcoming first FSAR update
- Refueling outage support
- Fine tuning of Balance of Plant

Plant Support - RadChem
What We Are Doing Well

Radiological Control

- Contamination Control Program - essentially zero square feet of contaminated floor space in RCA, including containment

- ALARA Control Program
  - 32 Man REM, FY 97 target
  - <95 Man REM, Refueling Outage Target
  - Strong ALARA committee

- Strong Radiological Waste Program - Less than one cubic meter of processed waste

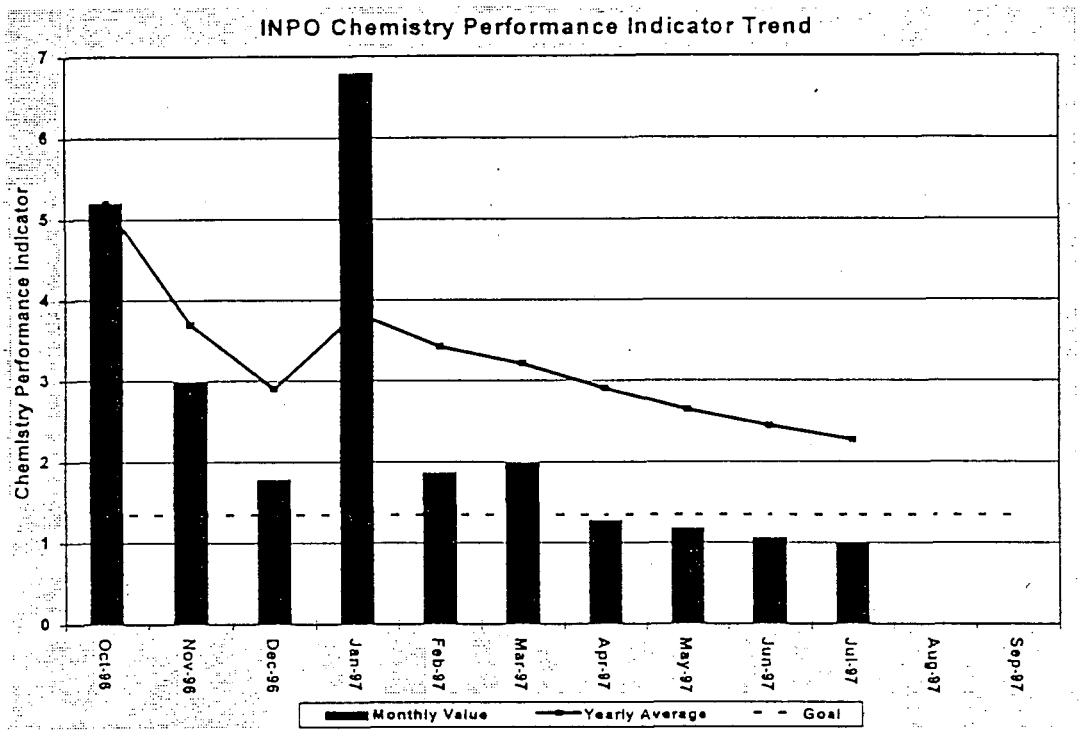
- Increased use of technology to reduce exposure

- Monitor results of electro-polishing of steam generator channel heads

Plant Support - RadChem What We Are Doing Well

Chemistry

- Secondary Chemistry
  - Has exceeded post construction chemistry expectations
  - Chemistry Performance Index past 3 months near or equal to one



- Primary Chemistry
  - Parameters well below EPRI guidelines
  - Tight Lithium control - reduces post shutdown activity levels
  - 0.2 micron filters in some reactor coolant system process streams - reduces hot particle transport
- Low gaseous and liquid effluent levels

Plant Support - RadChem
What Is Showing Improvement

Radiological Control

- Self-Assessment Efforts - Recent contamination self assessment
- Radcon management involvement and ownership
- Procedural adequacy and compliance

Chemistry

- Self-Assessment Efforts - Recent INPO 96-06 self-assessment
- Secondary Chemistry
  - Condensate polisher performance including resin change-out
  - Condenser tube staking
  - Organizational response and communication of priority issues

Plant Support - RadChem Focus Areas

Radiological Control

- Human Performance

- Unit 1 first refueling outage
  - Training
  - ALARA Preplans
  - Contamination Plan, educating personnel

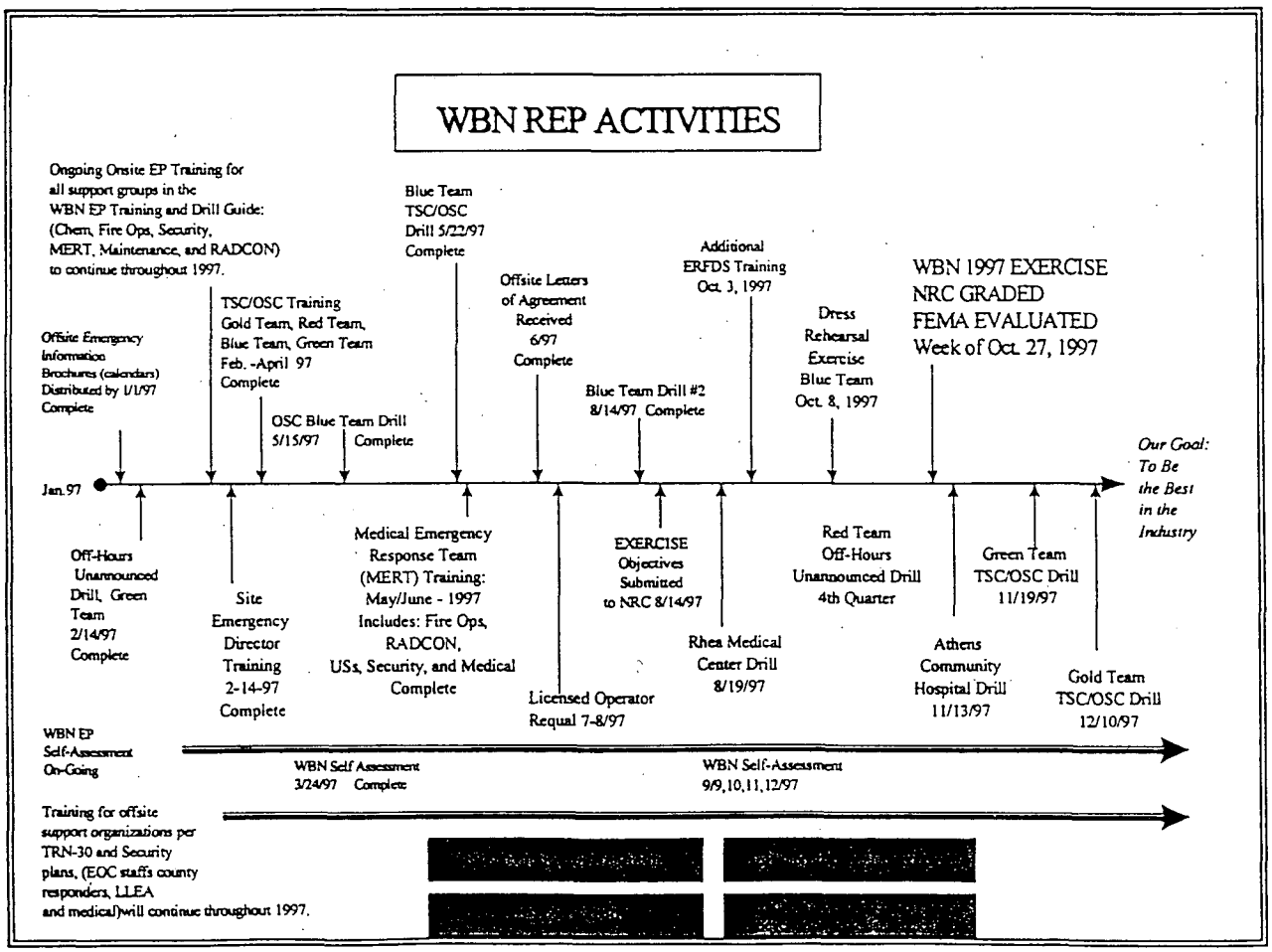
Chemistry

- Corrosion Product Transport
  - MSR
  - Condenser tubes
  - Aggressive chemical control

Plant Support - EP
What We Are Doing Well

Emergency Preparedness

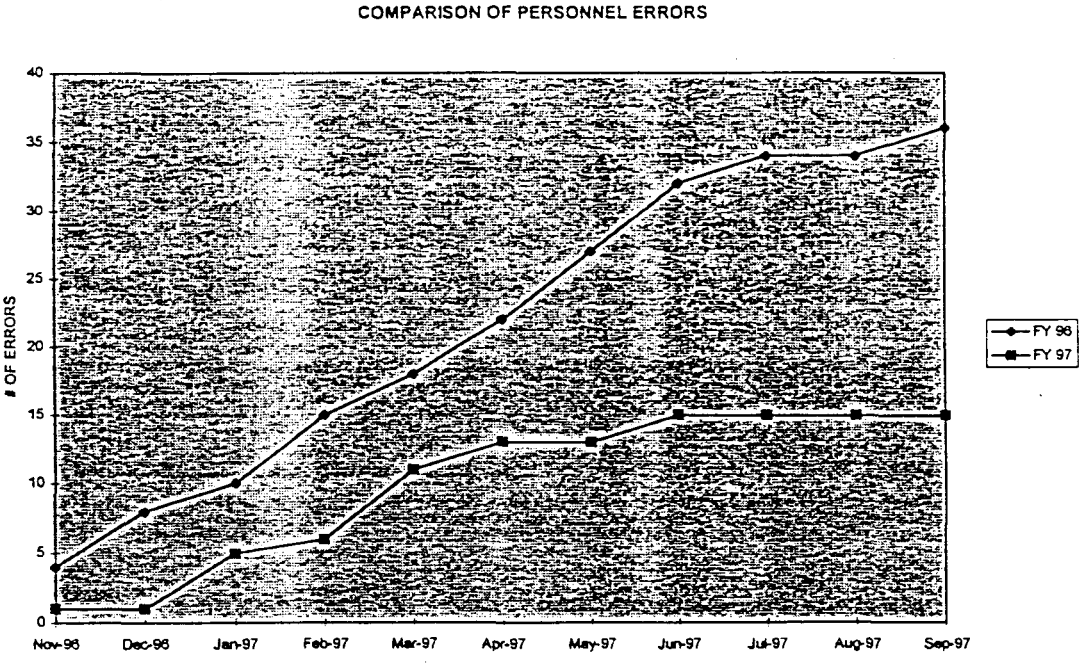
- EP program is effectively and efficiently organized, facilities and equipment well maintained
- Strengths in self-assessments, training on emergency action levels, dose assessment calculations on ERFDS
- Successful results from drills and exercises
- Improvements in communication equipment and communication skills training
- Effective response to first site "unusual event" using NUMARC's emergency action levels
- Severe Accident Management Guidelines (15 new procedures) are being written including new computational aids, status trees, and diagnostic flow-charts



Plant Support - Security
What We Are Doing Well

Security

- Access authorization, fitness for duty, training & qualification, and safeguard information programs performed well - no programmatic issues
- Indepth security event critiques and root cause analyses
- Computer system and other hardware reliability rates are good - minimum backlogs
- Self-assessment program is effective - low security system errors
- Security management



Plant Support - Security
What Is Showing Improvement

Security

- Security/operations interface for contingencies
- Contingency procedure improvement
- Tactical response drills quality and scope

Plant Support - EP/Security Focus Areas

Emergency Preparedness/Security

- Preparations for NRC graded EP exercise - 10/97
- Maintain high standards in EP and Security
- Security contract issue - ensure no impact to performance

Cycle 1 Refueling Outage

- Demonstrate through execution a well planned refueling outage with focus on Risk Management
- Implement 60 design changes directed at trip reduction, eliminating operator work arounds, improving plant reliability, and upgrading plant material condition
- Replace number 1 seals on 2 RCPs (2 previously done)
- Install 1 new Safety Injection pump element
- Replace 1 RHR Heat Exchanger
- Perform 719 preventative maintenance instructions of plant MOVs, breakers, AOVs, SOVs, valves, motors and other equipment
- Swap out 3 pressurizer safety valves and 2 power operated relief valves
- Perform 521 surveillance instructions
- Eliminate all open temporary alterations
- Clear all outage required site attention items
- Will report results after the outage

Conclusions

- WBN has maintained superior performance in Maintenance, Engineering, and Plant Support
- Performance in Operations has reached the superior level
- WBN has maintained a culture of self-assessment and thorough analysis of problems
- WBN key to success - Problems identified and promptly fixed