

August 26, 1996

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 - WATTS BAR - TO DISCUSS PLANT PERFORMANCE AND  
INSTRUMENTATION AND CALIBRATION PROGRAM ISSUES

Dear Mr. Kingsley:

This letter refers to the management meeting conducted at our request at the  
Watts Bar Site August 9, 1996. The purpose of the meeting was to discuss  
plant performance and instrumentation and calibration program issues.

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.

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: 1. List of Attendees  
2. Presentation Summary

cc w/encls: (See page 2)

9609090311 960826  
PDR ADOCK 05000390  
P PDR

1/1  
EE45

Distribution w/encls:

- S. D. Ebnetter, ORA/RII
- E. W. Merschoff, DRP/RII
- M. S. Lesser, DRP/RII
- F. J. Hebdon, NRR
- A. P. Hodgdon, OGC
- B. K. Keeling, GPA/CA
- G. M. Tracy, OEDO
- R. E. Martin, NRR
- P. A. Taylor, RII
- H. L. Whitener
- C. F. Smith, RII
- H. L. Whitener, RII
- D. W. Jones, RII
- D. H. Thompson, RII
- J. H. Moorman, RII
- G. A. Hallstrom, RII
- PUBLIC

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

OFFICE	DRP/RII					
SIGNATURE	<i>Pat</i>					
NAME	PTaylor:vyg					
DATE	08 / 24 / 96	08 / / 96	08 / / 96	08 / / 96	08 / / 96	08 / / 96
COPY?	<input checked="" type="checkbox"/> YES <input type="checkbox"/> NO	<input type="checkbox"/> YES <input type="checkbox"/> NO	<input type="checkbox"/> YES <input type="checkbox"/> NO	<input type="checkbox"/> YES <input type="checkbox"/> NO	<input type="checkbox"/> YES <input type="checkbox"/> NO	<input type="checkbox"/> YES <input type="checkbox"/> NO

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

Dr. Mark O. Medford, Vice President  
Technical Services  
Tennessee Valley Authority  
6A Lookout Place  
1101 Market Street  
Chattanooga, TN 37402-2801

Mr. J. A. Scalice  
Site Vice President  
Watts Bar Nuclear Plant  
Tennessee Valley Authority  
P. O. Box 2000  
Spring City, TN 37381

General Counsel  
Tennessee Valley Authority  
ET 10H  
400 West Summit Hill Drive  
Knoxville, TN 37902-1499

Mr. R. R. Baron, Manager  
Nuclear Licensing  
4G Blue Ridge  
1101 Market Street  
Chattanooga, TN 37402-2801

Mr. B. S. Schofield  
Site Licensing Manager  
Watts Bar Nuclear Plant  
Tennessee Valley Authority  
P. O. Box 2000  
Spring City, TN 37381

TVA Representative  
Tennessee Valley Authority  
One Massachusetts Avenue  
Suite 300  
Washington, DC 20001

The Honorable Billy R. Patton  
County Executive  
Rhea County Courthouse  
1475 Market Street  
Dayton, TN 37381

The Honorable Garland Lanksford  
County Executive  
Meigs County Courthouse  
Decatur, TN 37322

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

Ms. Jane A. Fleming  
8 Oceanwood Drive  
Duxbury, MA 02332

Distribution w/encls: (See page 3)

## LIST OF ATTENDEES

<u>Name</u>	<u>Title</u>
<u>NRC Staff</u>	
S. Ebnetter	Regional Administrator, Region II (RII)
R. Martin	Senior Project Manager, Watts Bar, Project Directorate II-3, Office of Nuclear Reactor Regulation (NRR)
J. Johnson	Acting Director, Division Reactor Projects (DRP), RII
M. Lesser	Chief, Reactor Project Branch 6, Watts Bar, DRP, RII
P. Vandoorn	Senior Resident Inspector, Branch 6, Watts Bar, DRP, RII
R. Hernan	Senior Project Manager, Sequoyah, Project Directorate II-3, NRR
K. Clark	Public Affairs Officer, RII
<u>TVA Staff</u>	
O. Kingsley	President and Chief Nuclear Officer
O. Zeringue	Senior Vice President, Nuclear Operations
J. Scalice	Vice President, Watts Bar Site
R. Purcell	Plant Manager
R. Barron	General Manager, Nuclear Assurance and Licensing
P. Pace	Acting Manager, Site Licensing
D. Kehoe	Manager, Nuclear Assurance and Licensing
J. Goodman	Manager, Customer Service
R. Beecken	Manager, Maintenance and Modifications
T. McGrath	Manager, Nuclear Safety Review Board
T. Tohill	Manager, Public Relations
D. Kulisek	Manager, Technical Support
T. Davis	Manager, Fire Protection
W. Thompson	Manager, Self Assessments
S. Spencer	Manager, Site Quality Assurance
J. Maddox	Manager, Site Engineering
A. Capozzi	Manager, Concerns Resolution Staff
K. Wallace	Manager, Human Resources
W. Stockdale	Superintendent, Operations
J. Carne	Superintendent, Modifications
D. Hall	Health Physicist, Radiological Controls
F. Koontz	Senior Engineer, Technical Specialist
B. Mayes	Licensing Engineer
K. Whittenburg	Public Relations, TVA
J. Collier	Field Engineering Supervisor, Modifications
G. Laurie	Manager, Modifications, Stone & Webster
M. Bajestani	TVA
L. Howard	Senior Instrument Mechanic

TVA Staff: (Continue on next page)

Enclosure 1

TVA Staff: (Continued)

B. Thomas	Assistant Unit Operator
G. Pickar	Assistant Unit Operator
B. Lawson	Assistant Unit Operator
T. Couch	Assistant Unit Operator
D. Moffett	Assistant Unit Operator
P. Harman	Unit Operator
M. O' Shaughnessy	Planning, Radiological Controls
L. Thomas	Radiological Controls
G. Vickery	Chemistry
J. Driver	Machinist
M. Douglas	Machinist
B. Godsey	Custodian
C. Seaman	Operations
W. Harris	Operations
L. Gibbs	Secretary, Site Licensing
A. White	Training
L. Goad	TVA
R. Haughton	TVA
W. Skiba	TVA

**AGENDA**  
**TVA/NRC MANAGEMENT MEETING**  
**AUGUST 9, 1996**

- |                                     |                     |
|-------------------------------------|---------------------|
| <b>I. INTRODUCTION</b>              | <b>J.A. SCALICE</b> |
| <b>II. GENERAL PLANT STATUS</b>     | <b>R.T. PURCELL</b> |
| <b>III. OPERATIONS</b>              | <b>R.T. PURCELL</b> |
| <b>IV. MAINTENANCE/SURVEILLANCE</b> | <b>R.J. BEECKEN</b> |
| <b>V. ENGINEERING</b>               | <b>J.E. MADDOX</b>  |
| <b>VI. RADCON/CHEMISTRY</b>         | <b>R.T. PURCELL</b> |
| <b>VII. NUCLEAR ASSURANCE</b>       | <b>D.V. KEHOE</b>   |
| <b>VIII. CLOSING REMARKS</b>        | <b>J.A. SCALICE</b> |

# INTRODUCTION

J.A. SCALICE

## WATTS BAR NUCLEAR PLANT

- **LAST MEETING MAY 10, 1996**
- **COMPLETED POWER ASCENSION TESTING MAY 23, 1996**
- **TESTED UNIT TRIP FROM 100% POWER**
- **TESTED CONTROL ROOM EVACUATION**
- **TVA BOARD DECLARED COMMERCIAL OPERATION  
MAY 27, 1996**
- **INPO EVALUATION JULY 1-12, 1996**
- **TODAY'S PRESENTATION**



# PLANT STATUS

R.T. PURCELL

## PLANT STATUS

COMMERCIAL OPERATION MAY 27, 1996

REACTOR POWER 99.5

CUMULATIVE CAPACITY FACTOR (MDC NET) 97.6

NUMBER OF DAYS ON LINE 67

CUMULATIVE FORCED OUTAGE RATE 0.6

CURRENT LCO ACTION STATEMENTS  
3.7.11 Electric Board Room Chiller B-B

# WBN Unit Fiscal Year 1996 Status Report

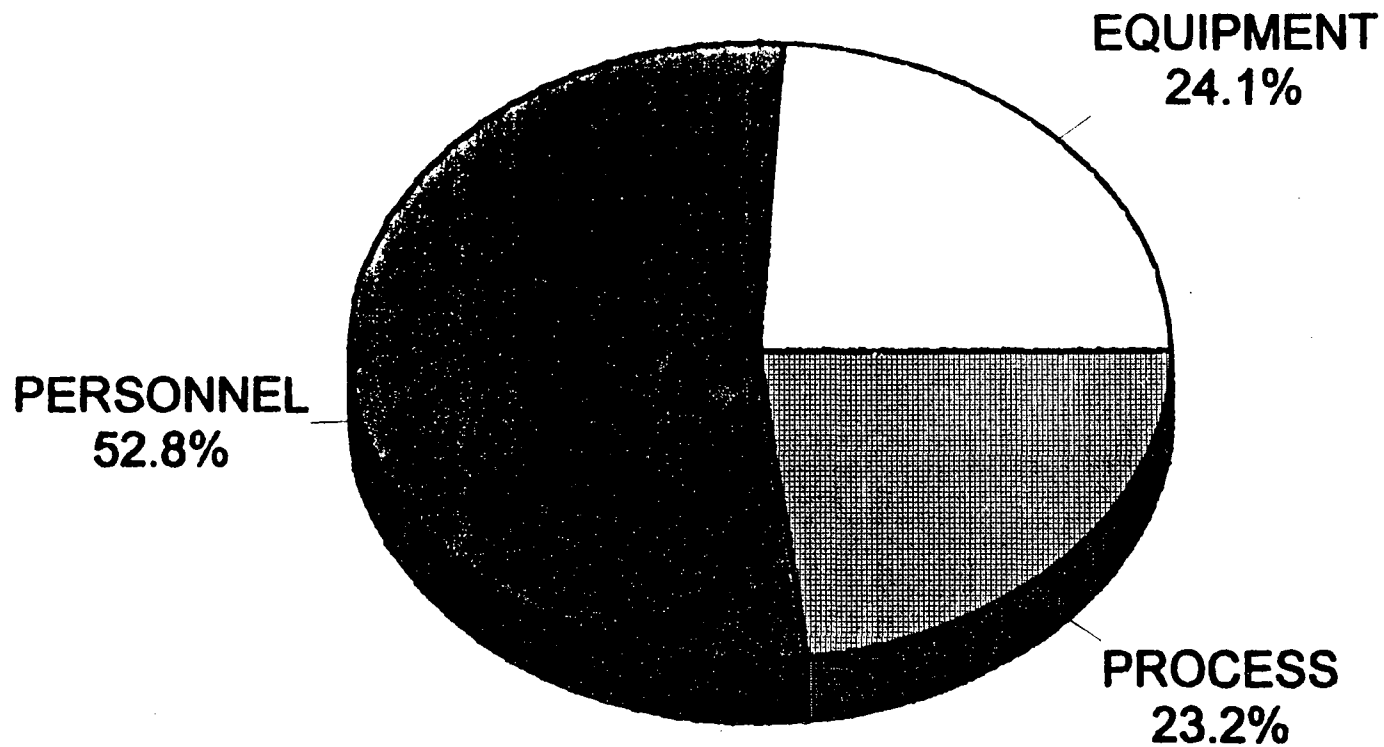
## INPO PERFORMANCE INDEX

PERFORMANCE INDICATOR	FY 1996 ALL INFO FROM C.O. 5/27/96		Comments
	Planned	Actual	
Unit Capability Factor	80.6	97.0	
Unplanned Capability Loss Factor	17.6	3.0	Since Commercial Operation, only one unplanned outage
Unplanned Auto Scrams No.	2	0	
Emergency AC HPSI AFW	0.023 0.013 0.01	0.0009 0.0013 0.0029	Measurement of fraction of time system is unavailable
Thermal Heat Rate	99	99.02	Based on data collected 8/1/96
Fuel Reliability	5.0E-3	1.0E-6	
Coll. Rad Exposure	40	3.24	Goal reduced to 3.40 based on actual source term data and maintenance history.
Low Level Radwaste	30	0.03	
Chemistry Index	1.2	2.64	System cleanup ongoing during operation. Index is monthly avg., recent daily values reflect improvement. Actual is for August as of 8/6.
Industrial Safety	0.65	2.12	Planned did not address restricted work injuries.
INPO Performance Index	58.8	83.66	

INPO DATA FOR 1ST YEAR NEW PWR UNITS ON-LINE = 68.75

INPO DATA FOR MEDIAN OF INDUSTRY UNITS ON LINE = 82

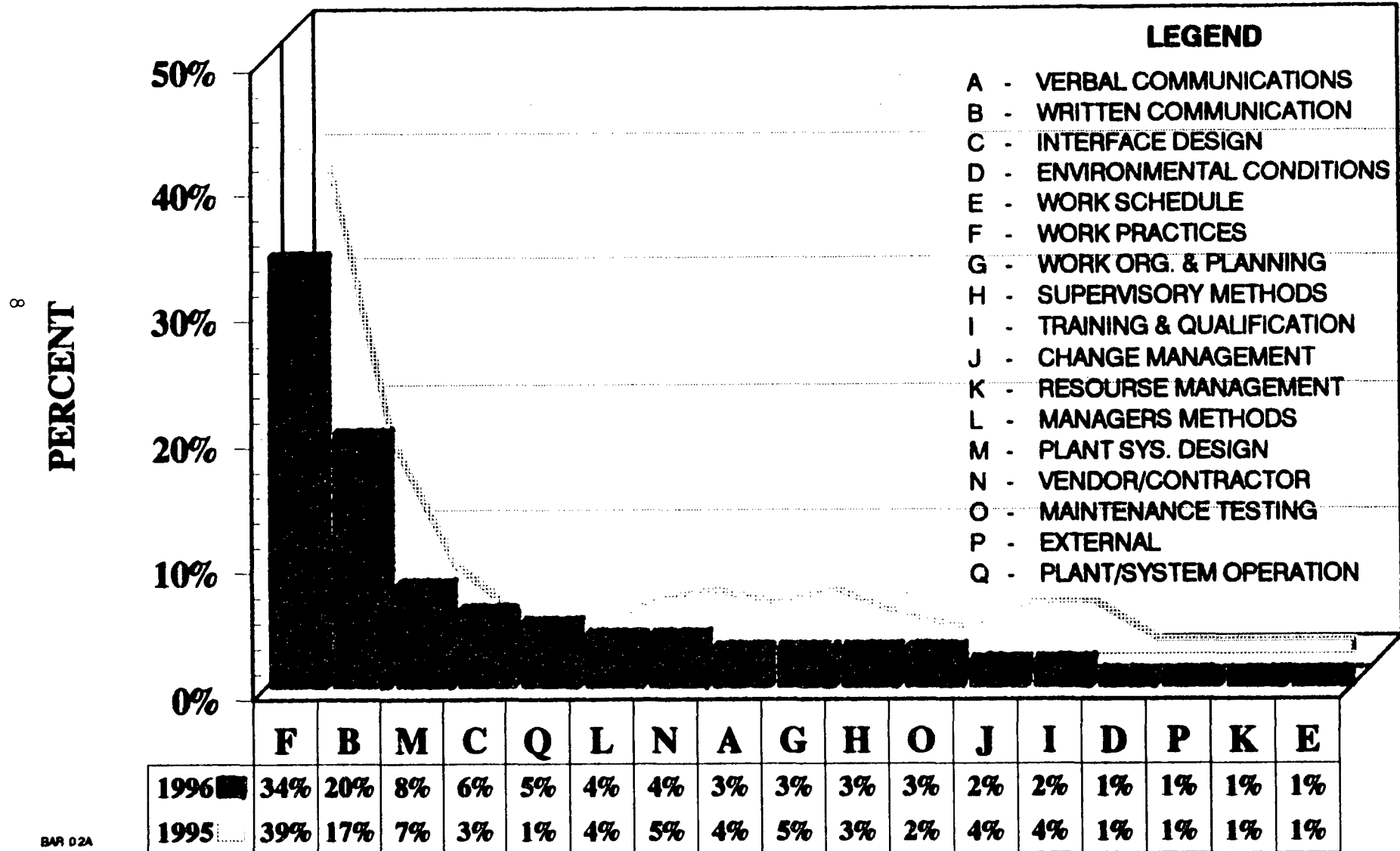
# PERs BY CAUSE CATEGORY FROM FUEL LOAD TO JULY 1996



# WATTS BAR NUCLEAR PLANT

## PERs BY CAUSAL FACTORS

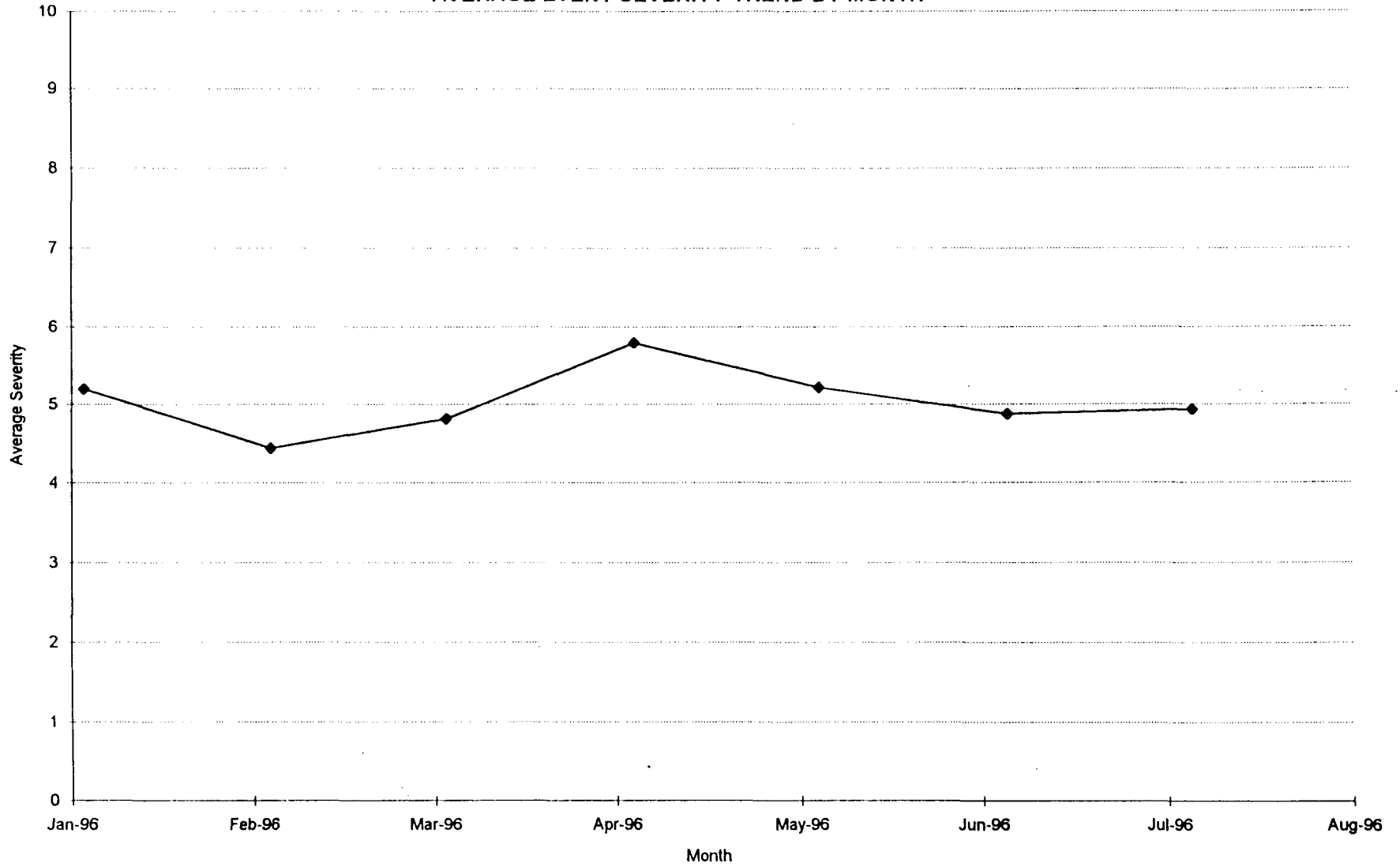
1995 vs 1996



## **HUMAN PERFORMANCE IMPROVEMENT PROGRAM**

- **ESTABLISHED HUMAN PERFORMANCE IMPROVEMENT TASK FORCE**
- **COMMUNICATION OF EXPECTATIONS**
  - **COMPREHENSIVE AND EFFECTIVE**
  - **INPO INDICATORS SHOW MESSAGE IS BEING RECEIVED**
- **ESTABLISHED SHIFT IMPROVEMENT PLAN BASED ON INDUSTRY "GOOD PRACTICES"**
  - **WBN PERSONNEL VISIT TO SALP 1 PLANT**
  - **PILOT PROGRAMS IN OPERATIONS AND ELECTRICAL SHOP**
- 
- **CORRECTIVE ACTION PROGRAM USING EVENT SEVERITY FOR MEASUREMENT OF PERFORMANCE**
- **CURRENT DATA INDICATES SEVERITY TREND IS DOWNWARD, BUT TOO EARLY TO JUDGE TREND**
- **CONTINUED MONITORING REQUIRED**

WBN  
PERSONNEL RELATED PERS  
AVERAGE EVENT SEVERITY TREND BY MONTH



10

# OPERATIONS

R.T. PURCELL



## **OPERATIONS STRENGTHS OR IMPROVING AREAS**

- **BOARD AWARENESS**
  
- **ANNUNCIATOR RESPONSE**
  
- **CONTROL ROOM TEAM PERFORMANCE**
  - **TRANSIENT RESPONSE**
  - **COMMAND AND CONTROL**
  - **TEAMWORK SKILL**
  - **TURNOVER/BRIEFINGS**
  
- **SELF-CRITICAL ATTITUDE**
  
- **LICENSED OPERATOR TRAINING**

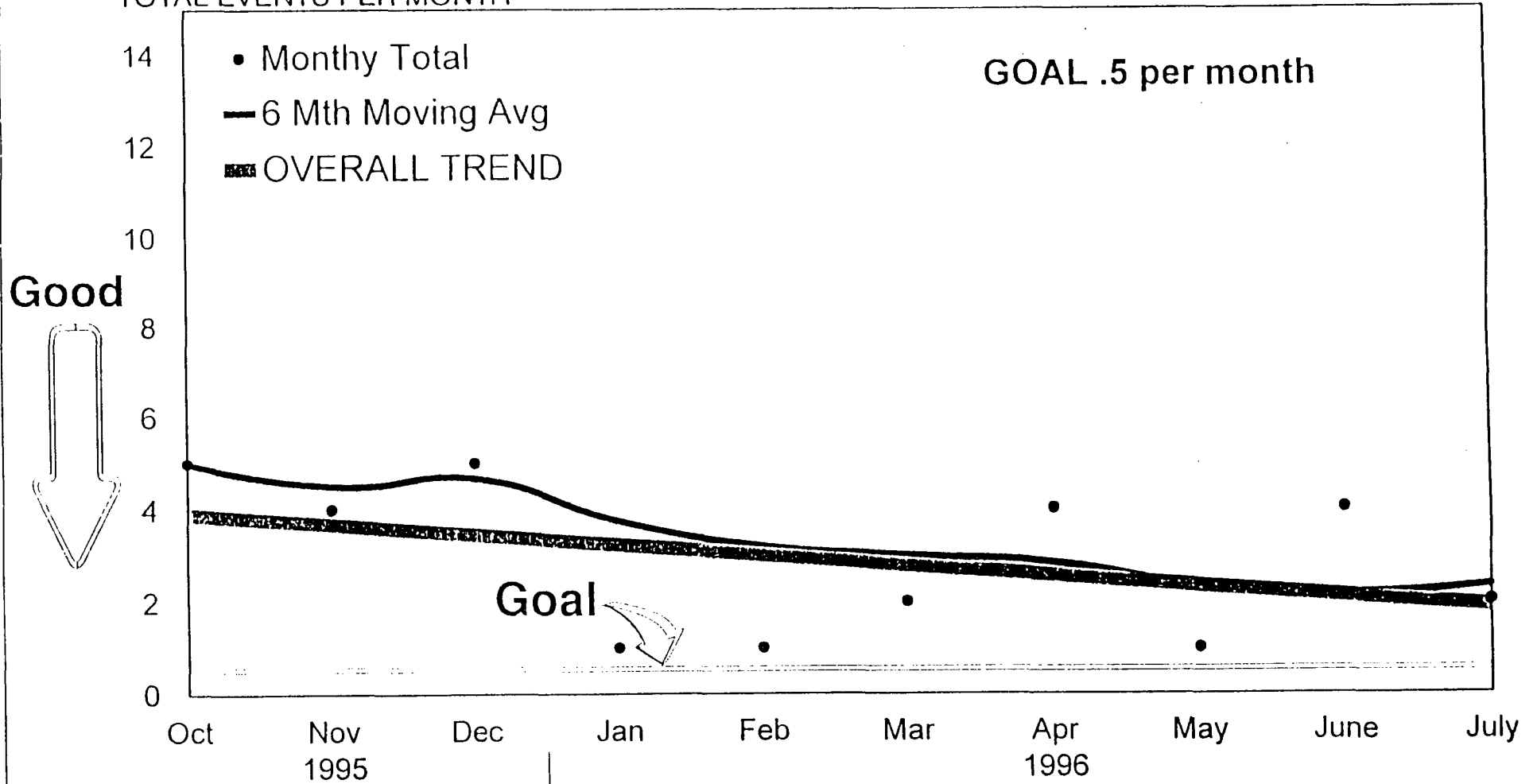
## **OPERATIONS FOCUS AREAS**

- **CONFIGURATION STATUS CONTROL**
- **SCHEDULE ADHERENCE (INCLUDING LCO  
MINIMIZATION)**
- **WORKAROUND REDUCTION**
- **DARK BOARD PHILOSOPHY**

# Configuration Events

## Frequency Trend

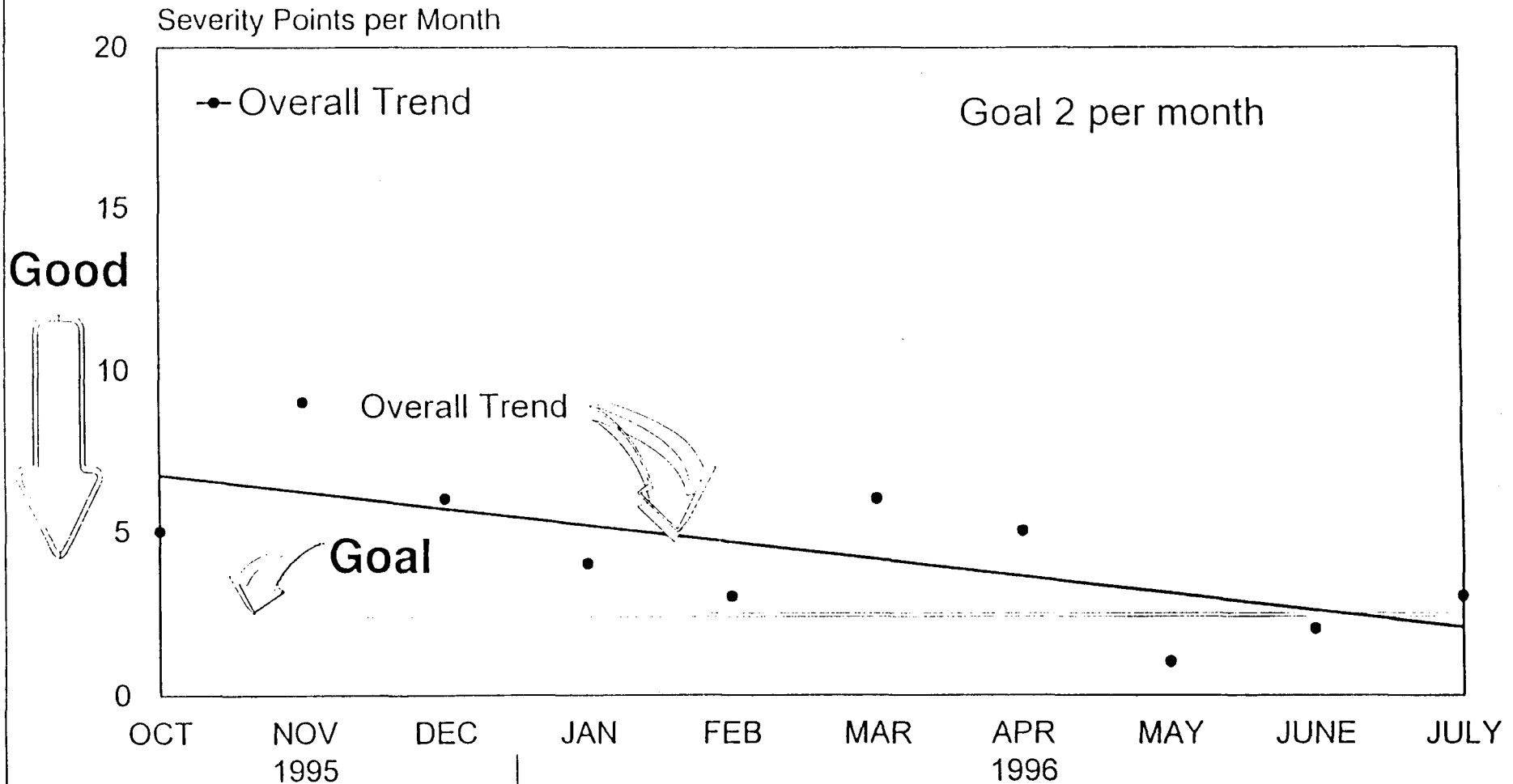
TOTAL EVENTS PER MONTH



Monthly total is tracked by events involving components out of position.

# Operational Events

## Severity and Frequency Trend



Each event is judged based on the severity of its consequences, with more points given to more severe events. Thus months with the more events and/or the more severe the events have more points.

# OPERATOR WORKAROUNDS

## PRIORITY 1

## STATUS

- FEEDWATER HEATER ISOLATION                               MODIFICATION  
MID-CYCLE
- MAIN FEEDWATER PUMP  
RECIRCULATION VALVES   MODIFICATION  
REFUELING
- COOLING TOWER OPERATION   MODIFICATION  
EVALUATING

## PRIORITY 2

- ERCW SURVEILLANCE TESTING   UNDER REVIEW
- DRAINING CONTAINMENT PENETRATIONS  
AFTER USE   EVALUATING
- MANUAL OPERATION OF WASTE  
GAS COMPRESSORS   MODIFICATION  
MID-CYCLE
- AUTOMATIC SWAPOVER OF TURBINE  
DRIVEN AFW PUMP STEAM SUPPLY   MODIFICATION  
MID-CYCLE
- PRESSURE REGULATOR FOR GLAND SEAL  
STEAM SPILLOVER VALVE   MODIFICATION  
REFUELING
- MAIN TURBINE CONTROLS IN MANUAL   MODIFICATION  
MID-CYCLE
- #3 AND #4 REACTOR COOLANT PUMP SEAL  
PROBLEMS   MODIFICATION  
MID-CYCLE

# **MAINTENANCE/SURVEILLANCE**

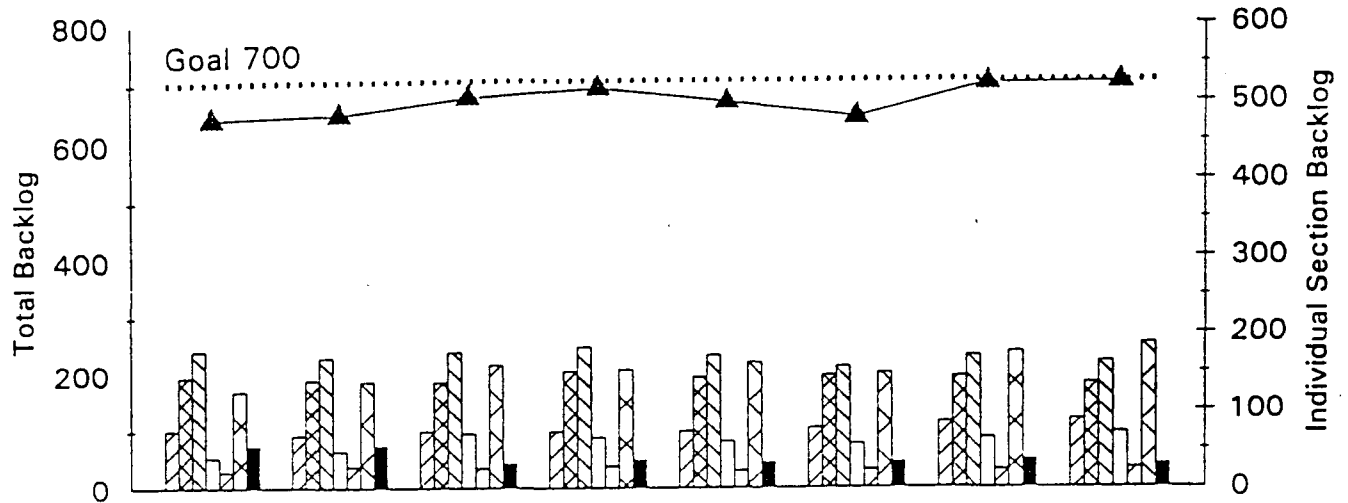
**R.J. BEECKEN**

## **MAINTENANCE AND MODIFICATIONS**

- **PERFORMANCE INDICATORS**
- **EQUIPMENT ISSUES**
- **MAJOR MAINTENANCE/MODIFICATIONS IN  
MID-CYCLE**
- **SELF-ASSESSMENT RESULTS**

# Maintenance/MODS WR/WO Backlog

Priorities < 4

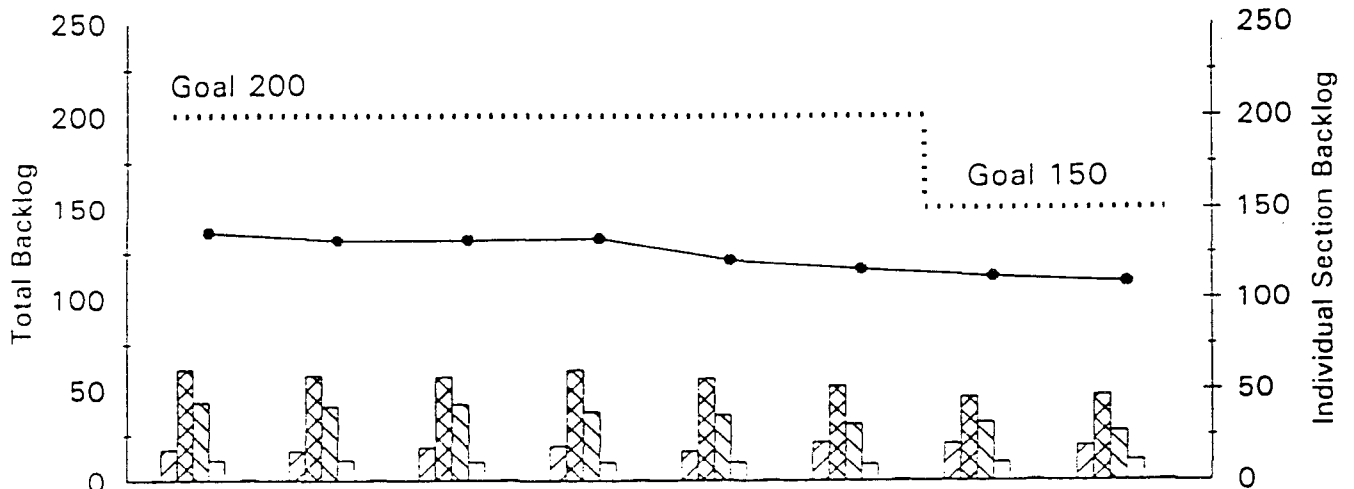


Week	6/16	6/23	6/30	7/7	7/14	7/21	7/28	8/7
MEG/CG	75	68	73	73	73	77	84	88
MIG	145	140	137	151	143	145	143	135
MMG	180	170	176	182	171	156	170	163
FIN	39	47	70	65	60	56	64	71
FPU/OTH	21	28	26	28	22	23	23	25
MM	126	138	159	153	162	148	175	186
MODS	55	55	32	36	33	33	36	30
Total	641	646	673	688	664	638	695	698

# Maintenance/MODS

## CM WR/WO Backlog

Priorities < 4

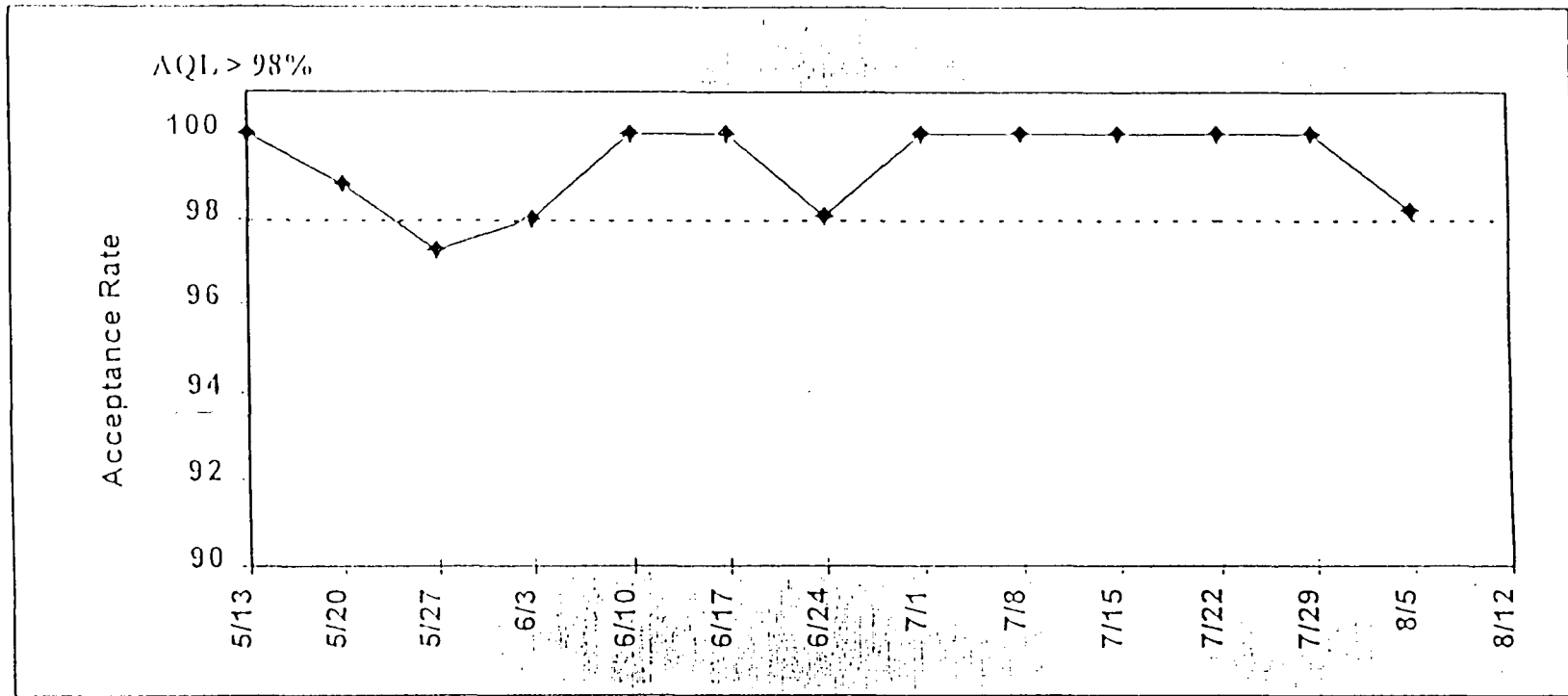


Week	6/16	6/23	6/30	7/7	7/14	7/21	7/28	8/7
MEG	17	16	18	19	16	21	20	19
MIG	61	58	57	61	56	52	46	47
MMG	43	41	42	38	36	31	32	27
FIN	11	11	10	10	10	9	10	11
CG/FPU/FCM	3	5	4	4	2	2	3	4
MODS	1	1	1	1	1	1	1	1
Total	136	132	132	133	121	116	112	109

MMB.DRW

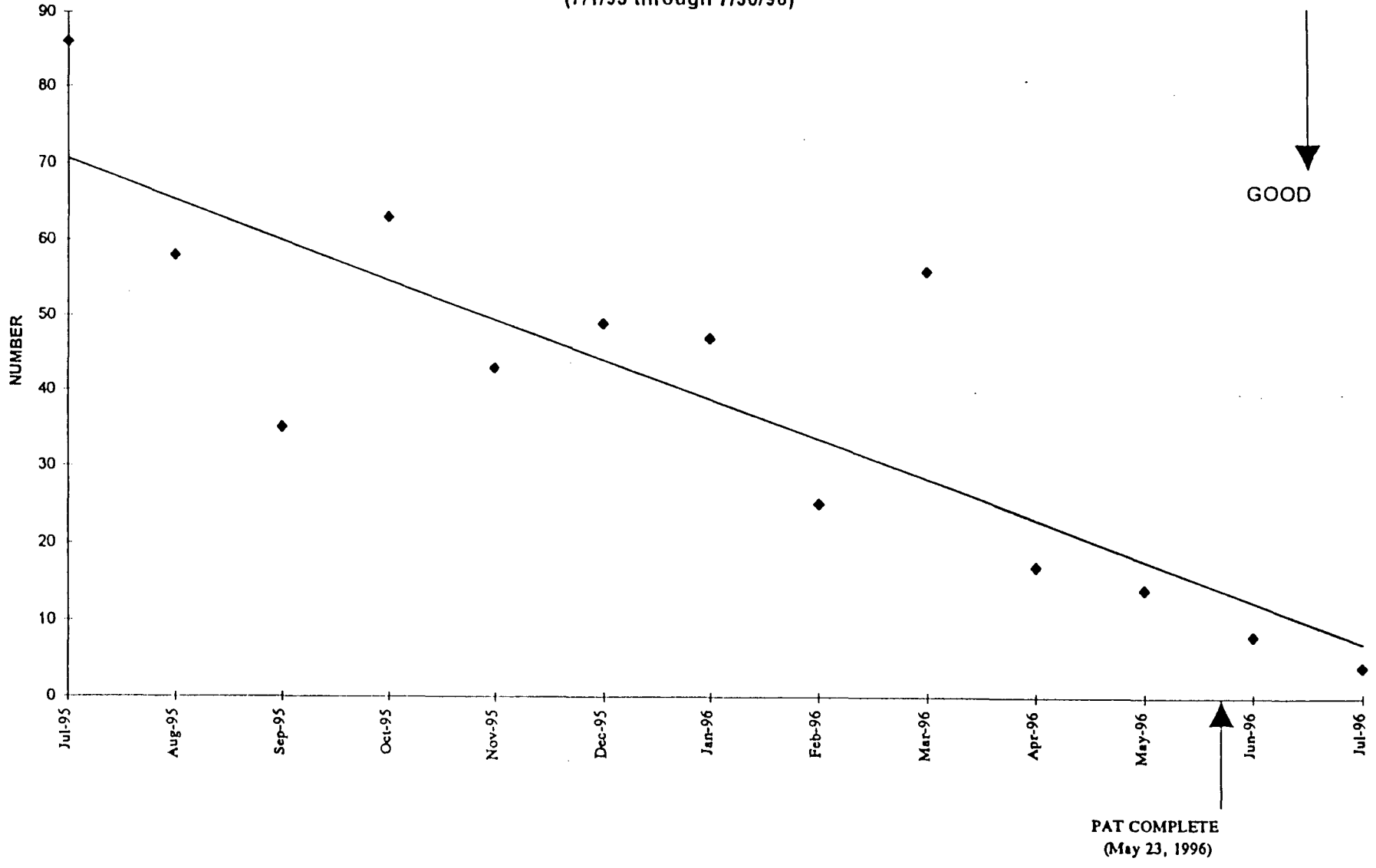


# Maintenance Inspections

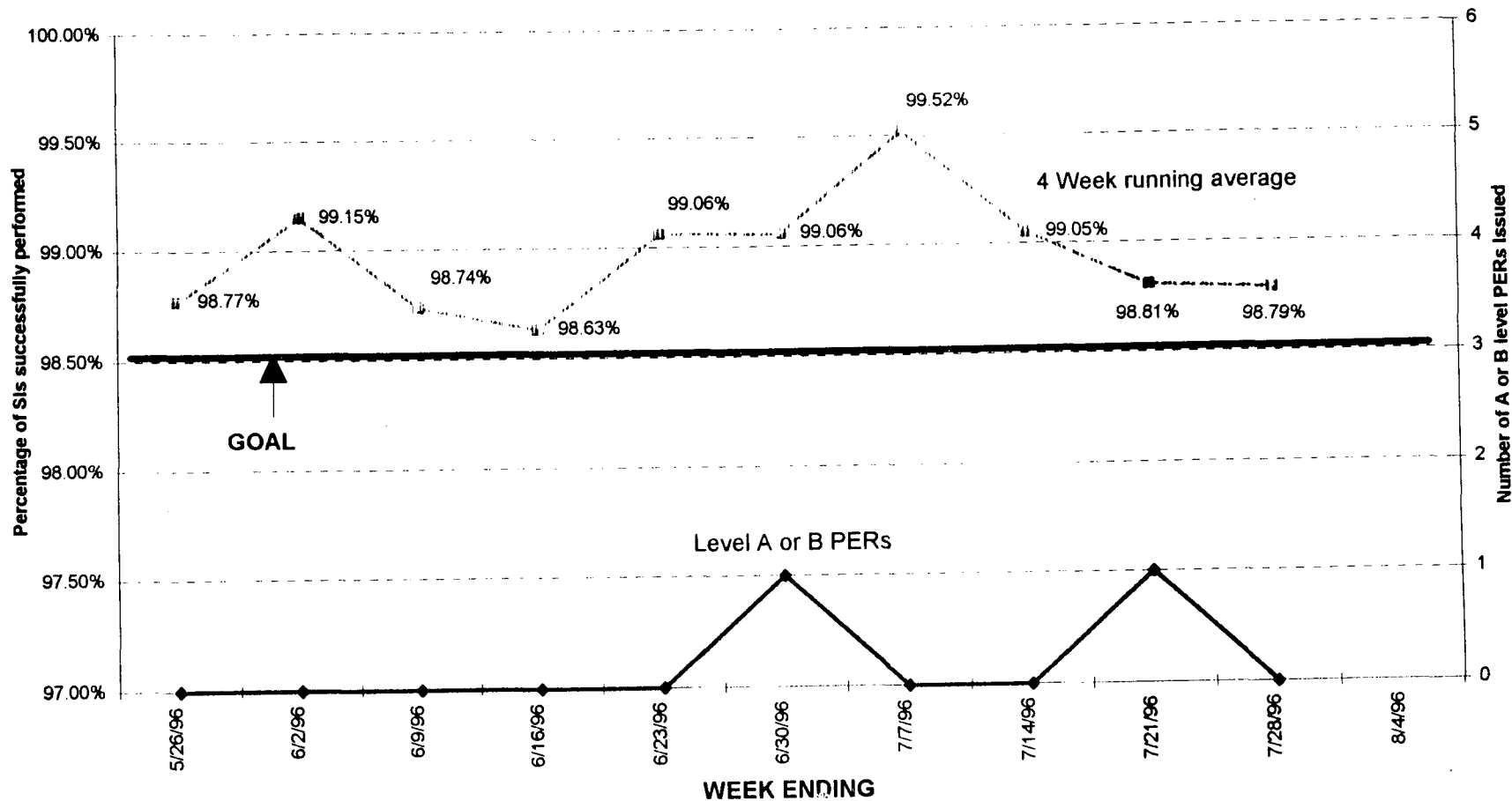


	5/13	5/20	5/27	6/3	6/10	6/17	6/24	7/1	7/8	7/15	7/22	7/29	8/5	8/12
Nb. Insp.	72	88	37	41	50	41	52	48	28	43	60	41	56	
Nb. Acc.	72	87	36	40	50	41	51	48	28	43	60	41	55	
Acc. Rate	100	98.8	97.3	98	100	100	98.1	100	100	100	100	100	98.2	

TREND OF OUT OF CALIBRATION WOs  
(7/1/95 through 7/30/96)



## WATTS BAR NUCLEAR PLANT SURVEILLANCE PROGRAM EFFECTIVENESS



**4 WEEK RUNNING AVERAGE:**  $[(\text{Week 1 Avg} + \text{Week 2 Avg} + \text{Week 3 Avg} + \text{Week 4 Avg}) / 4]$   
 $\text{Week Avg} = [(\text{SIs performed} - \text{PERs written}) / \text{SIs performed}]$   
**ACCEPTANCE CRITERIA:** eight continuous weeks above goal with no A or B level PERs  
**EQUIPMENT PROBLEMS EXCLUDED**

## **EQUIPMENT ISSUES**

- **REACTOR COOLANT PUMP SEAL LEAKOFF**
- **AIR IN-LEAKAGE**
- **SECONDARY PLANT LEAK REPAIRS**
- **CONDENSER TUBE LEAK**

## **MAJOR MAINTENANCE/MODIFICATIONS IN MID-CYCLE**

- **REACTOR COOLANT PUMP #3 AND #4 SEAL REPLACEMENT**
- **REMOVE STARTUP STRAINERS FROM MAIN TURBINE STOP VALVES**
- **SLUDGE LANCE STEAM GENERATORS**
- **REPLACE PRESSURIZER PORV**
- **SURVEILLANCE TESTING**
  - **RESPONSE TIME**
  - **ICE CONDENSER MAINTENANCE**
  - **CUSTOMER GROUP RELAY CALIBRATIONS**
- **MODIFICATIONS**
  - #2 HEATER TO CONDENSER TIE-IN**
  - STEAM SUPPLY TO AFW THERMAL LOCKING MODIFICATION**
  - ANNUNCIATOR MODIFICATIONS**
  - TURBINE CONTROL VALVE CIRCUITS**
  - COOLING TOWER PERFORMANCE ENHANCEMENTS**
  - CIRCULATING WATER TRASH RACKS**
  - MISCELLANEOUS THERMAL PERFORMANCE IMPROVEMENTS**
- **CIRCULATING WATER CLEANING (BASIN TUNNEL)**
- **TEMPORARY LEAK REPAIR RESTORATION**

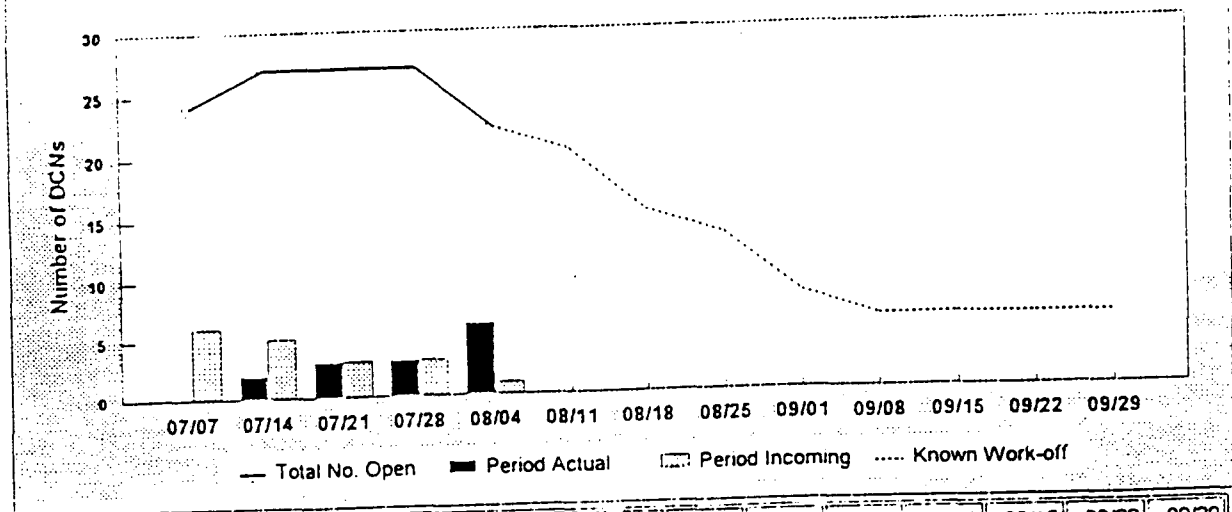
## **SELF-ASSESSMENTS MAINTENANCE/MODIFICATIONS**

- **11 AREAS COVERED**
  - **MAINTENANCE ACTIVITIES**
  - **MAINTENANCE PLANNING, SCHEDULING, AND COORDINATION**
  - **POST MAINTENANCE TESTING**
  - **MAINTENANCE PROCEDURES**
  - **PREVENTIVE MAINTENANCE**
  - **MATERIALS MANAGEMENT**
  - **MAINTENANCE FACILITIES, TOOLS, AND EQUIPMENT**
  - **MEASURING AND TEST EQUIPMENT**
  - **STATION MATERIAL CONDITION AND HOUSEKEEPING**
  - **MAINTENANCE TRAINING AND QUALIFICATION**
  - **MAINTENANCE ORGANIZATION AND ADMINISTRATION AND SUPERVISORY INVOLVEMENT**
  
- **677 OBSERVATIONS PERFORMED**
  
- **10 AREAS IDENTIFIED FOR IMPROVEMENT**
  - **4 PROBLEM EVALUATION REPORTS ISSUED**
  - **6 AREAS FOR IMPROVEMENTS**

# ENGINEERING

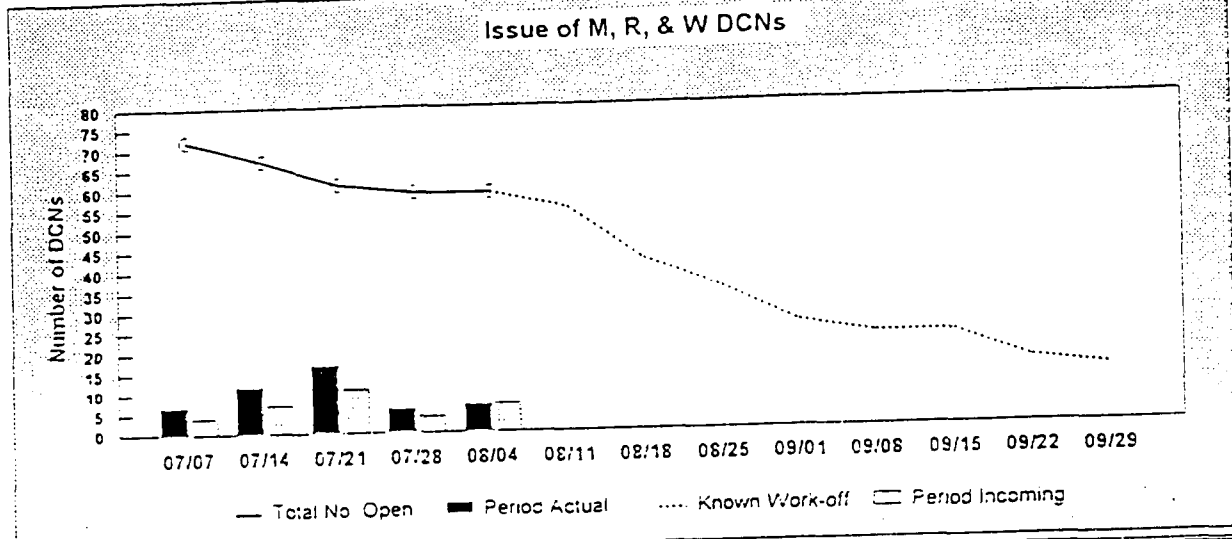
J.E. MADDOX

### Issue of S and F DCNs



Week Ending:	07/07	07/14	07/21	07/28	08/04	08/11	08/18	08/25	09/01	09/08	09/15	09/22	09/29
Total No. Open	24	27	27	27	22								
Known Work-off					22	20	15	13	8	6	6	6	6
Period Incoming	6	5	3	3	1								
Period Actual	0	2	3	3	6								

### Issue of M, R, & W DCNs



Week Ending:	07/07	07/14	07/21	07/28	08/04	08/11	08/18	08/25	09/01	09/08	09/15	09/22	09/29
Total No. Open	72	67	61	59	59								
Known Work-off					59	55	42	35	26	23	23	16	14
Period Incoming	4	7	11	4	7								
Period Actual	7	12	17	6	7								

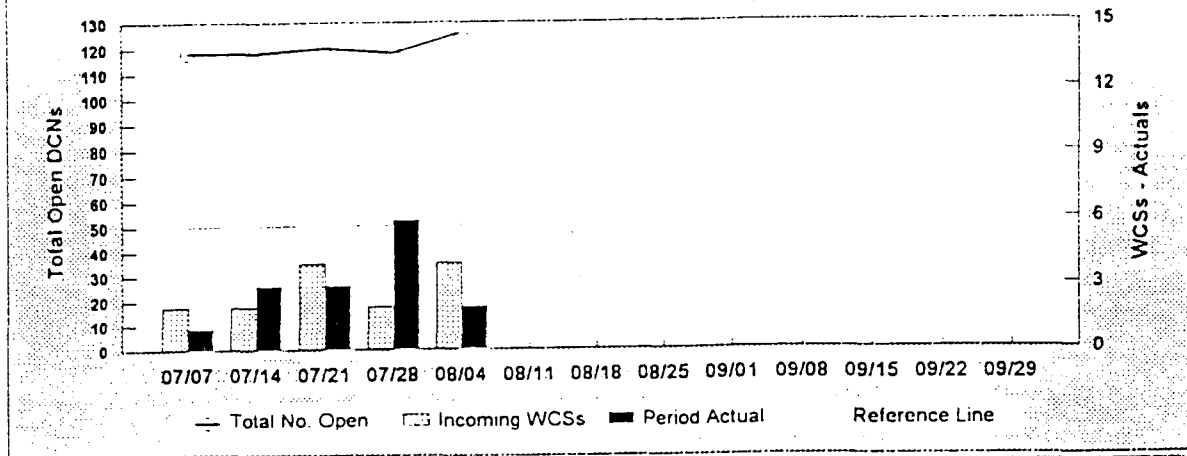
Total includes 5 anticipated dcns (no # vet)



**TVA/NRC  
MANAGEMENT MEETING**

**AUGUST 9, 1996**

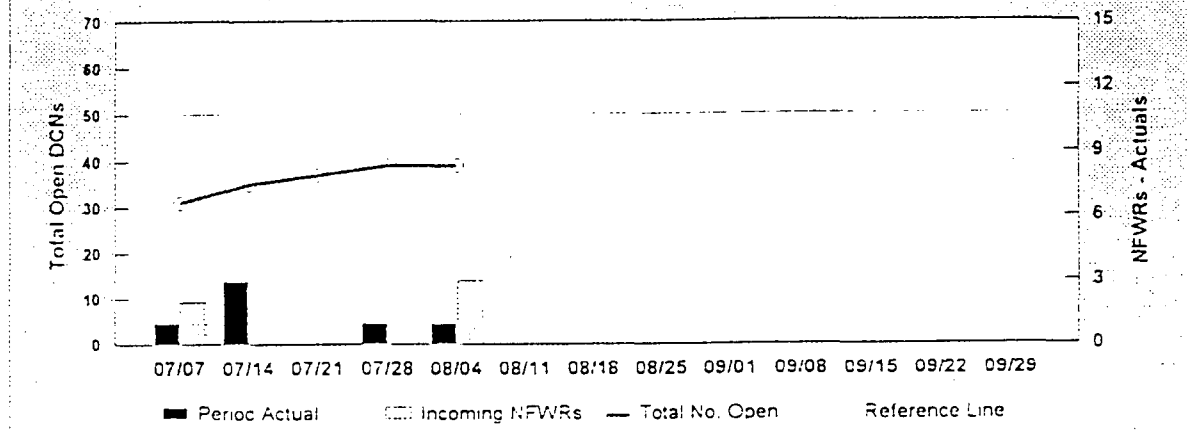
**M, R, & W DCN Closure**  
Responsible Manager - J. G. Adair X-1759



Week Ending	07/07	07/14	07/21	07/28	08/04	08/11	08/18	08/25	09/01	09/08	09/15	09/22	09/29
Total No. Open	118	118	120	118	126								
Available (INSTV)	2	3	2	2	4								
Period Actual	1	3	3	6	2								
Incoming WCSs	2	2	4	2	4								

Total includes 5 anticipated dcns ( no # yet)

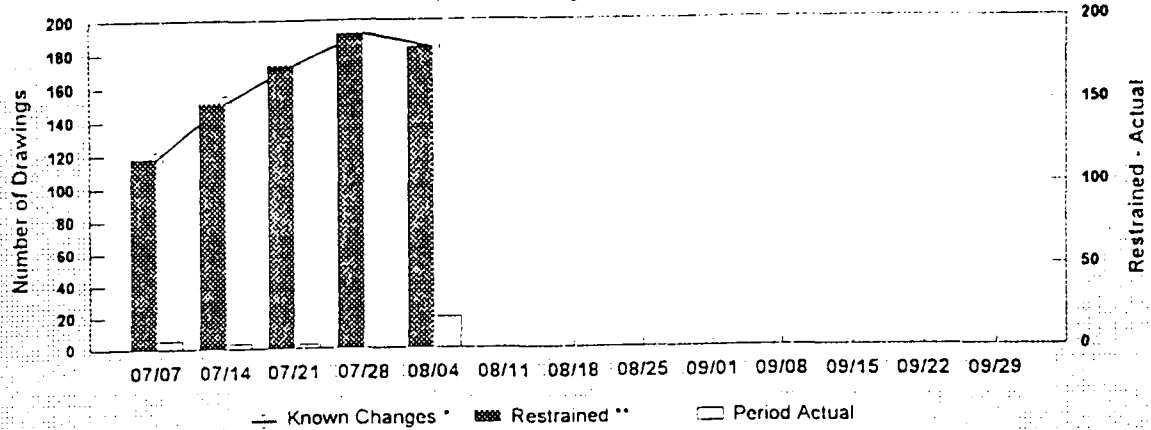
**S DCN Closure**  
Responsible Manager - J. G. Adair X-1759



Week Ending	07/07	07/14	07/21	07/28	08/04	08/11	08/18	08/25	09/01	09/08	09/15	09/22	09/29
Total No. Open	31	35	37	39	39								
Available (INSTV)	1	0	1	0	3								
Period Actual	1	3	0	1	1								
Incoming NFWRs	2	0	0	0	3								

C:\Week\INDCN\Cl

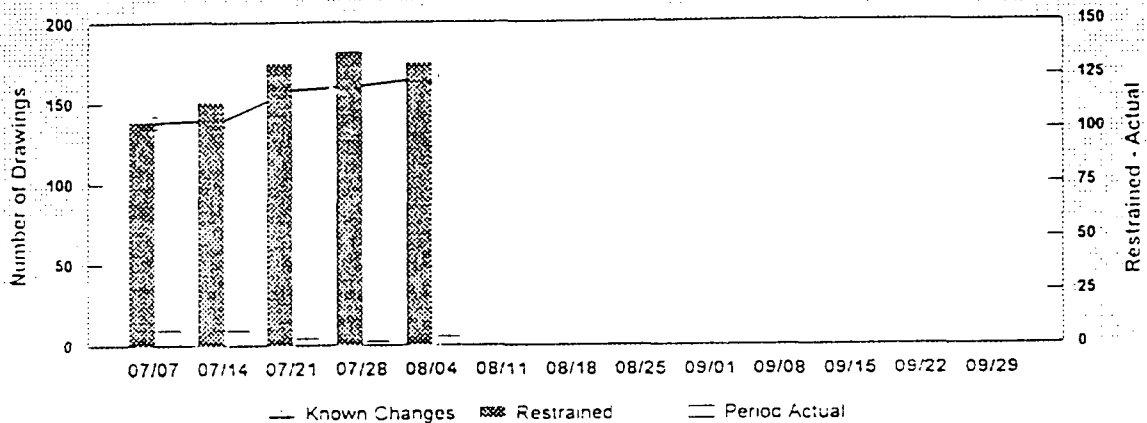
**Category 1 Drawings - Issue**  
Responsible Manager - D. L. Osborne X1080



Week Ending	07/07	07/14	07/21	07/28	08/04	08/11	08/18	08/25	09/01	09/08	09/15	09/22	09/29
Known Changes *	118	151	173	192	184								
Restrained **	118	151	173	192	184								
Period Added ***	0	36	24	19	11								
Period Actual	5	3	2	0	19								
Cycle Time (Days)	1.5	0.5	1	0	1								

- \* Drawings with issued DCAs, DDs, & TACFs
- \*\* Awaiting field implementation.
- \*\*\* Additional drawing revisions due to new DCNs

**Secondary Drawings**  
Responsible Manager - D. L. Osborne X1080



Week Ending	07/07	07/14	07/21	07/28	08/04	08/11	08/18	08/25	09/01	09/08	09/15	09/22	09/29
Known Changes	138	140	156	161	165								
Restrained	104	113	131	136	131								
Period Added	6	9	18	5	9								
Period Actual	7	7	3	2	4								
Cycle Time (Days)	11	26	27	46	7								

© WeekNDraw

## **PLANT PERFORMANCE ISSUES**

- **WATTS BAR SYSTEM STATUS REPORT**
- **PRIMARY SYSTEM PERFORMANCE**
  - **REACTOR COOLANT PUMP SEALS**
  - **T-HOT**
  - **BEST ESTIMATE LOCA ANALYSIS**
- **SECONDARY SYSTEM PERFORMANCE**
  - **MOISTURE CARRYOVER**
  - **CONDENSER CIRCULATION WATER INLET TEMPERATURE (COOLING TOWER PERFORMANCE)**



# SYSTEM STATUS WBN

3RD QTR  
FY96

## SYSTEM COLOR RATING MATRIX

SAFETY WHITE ↓	3B <sub>R/S</sub> AFW (a)(1) WHITE ↔	46B <sub>R/S</sub> AFW CTRL (a)(1) WHITE ↔	61 <sub>R/S</sub> ICE CONDENSER (a)(2) WHITE ↔	62 <sub>R</sub> CVCS (a)(2) YELLOW ↓	63 <sub>R/S</sub> SI (a)(2) WHITE ↔	65 <sub>R/S</sub> EGT (a)(2) WHITE ↔	67 <sub>R</sub> ERCW (a)(2) YELLOW ↔
	68 <sub>R</sub> RCS (a)(2) YELLOW ↓			74 <sub>R/S</sub> RHR (a)(2) WHITE ↓	82 <sub>R/S</sub> /18 <sub>R</sub> D/G (a)(2) WHITE ↔		84 <sub>S</sub> FLOOD MODE BORA'N (a)(2) WHITE ↔
INSTRUM'N YELLOW ↑	55 <sub>O</sub> MCR ANNUN (a)(2) WHITE ↔	85 <sub>O</sub> ROD CTRL (a)(2) WHITE ↔	92 <sub>O</sub> Nls (a)(2) WHITE ↔			261 PROCESS COMPUTER WHITE ↔	263/264 TSC COMPUTER WHITE ↑
MWe YELLOW ↑	1 <sub>OK</sub> MAIN STM (a)(2) WHITE ↔	1 MAIN TURBINE WHITE ↔		3A <sub>OK</sub> MFW (a)(2) WHITE ↑	5 <sub>O</sub> EXT STEAM (a)(2) WHITE ↔	6 <sub>O</sub> HTR DRAINS (a)(2) YELLOW ↑	35 <sub>O</sub> GEN CLG (a)(2) WHITE ↓
	46A <sub>O</sub> MFW CTRL (a)(2) WHITE ↑		244 <sub>O</sub> /58 <sub>O</sub> MAIN GEN (a)(2) WHITE ↔				
ELECT'L WHITE ↑					204/245/246 <sub>W/O</sub> SWITCHYARD (a)(2) WHITE ↔		
		236 <sub>R</sub> 125VDC VITAL (a)(2) WHITE ↔	237 120VAC INST WHITE ↑	238 120VAC PREF WHITE ↑	239 <sub>O</sub> 250VDC (a)(2) WHITE ↔		
RAD/CHEM WHITE ↓	14 <sub>O</sub> COND DEMIN (a)(2) YELLOW ↓	15 <sub>O</sub> SGBD (a)(2) WHITE ↔	43 <sub>O</sub> SAMPLING (a)(2) YELLOW ↔	77 <sub>O</sub> WASTE DISPOSAL (a)(2) WHITE ↔	90 <sub>O</sub> RAD MON (a)(1) WHITE ↔		
SUPPORT WHITE ↑				27 <sub>O</sub> CCW (a)(2) YELLOW ↔		31 <sub>OK</sub> AC SYS (a)(2) WHITE ↑	
		54 <sub>O</sub> INJ WTR (a)(2) WHITE ↔		78 <sub>O</sub> SFP CLG (a)(2) WHITE ↔	79 FUEL HANDL'G WHITE ↔	81 <sub>O</sub> PRIM M/U WTR (a)(2) WHITE ↓	234 <sub>O</sub> HEAT TRACE (a)(2) WHITE ↑
	600 <sub>O</sub> M RULE STRUCTURES (a)(2) WHITE ↔			PREVIOUS 4 QUARTERS (OLDEST ON LEFT) ABBREVIATIONS G: GREEN RATING    Δ: UP TREND    O: NOT IN SCOPE    2: (a)(2) RATING(GOOD) W: WHITE RATING    ↓: DOWN TREND    D: IN SCOPE ONLY    1: (a)(1) RATING(GOOD) Y: YELLOW RATING    ○: NEUTRAL TREND    R: RISK SIGNIFICANT    ? : NOT RATED YET R: RED RATING    ◆: SAFETY STANDBY -: BLUE-NO DATA    R/S: RISK SIG & SAFE STDBY -: SOME SYS FUNCTIONS HAVE DIFF IN RULE SCOPE			2W SYS # NAME M RULE SYS SYS RATING RATING TREND



# SYSTEM STATUS WBN

3RD QTR  
FY96

## SYSTEM COLOR RATING MATRIX

	W	W	W	7-1	7W	7W	7W	7-1	7W	7W	7W	7-1	7W	7W	7W	7-1	7W	7W	7W	7-1	7W	7W	7W	7-1	7W	7W	7W	7-1	7W	7W	7W
<b>SAFETY</b>  WHITE ↓	3B <sub>R/S</sub> AFW (#X1) WHITE ↔		46B <sub>R/S</sub> AFW CTRL (#X1) WHITE ↔		61 <sub>R/S</sub> ICE CONDENSER (#X2) WHITE ↔		62 <sub>R</sub> CVCS (#X2) YELLOW ↓		63 <sub>R/S</sub> SI (#X2) WHITE ↔		65 <sub>R/S</sub> EGT (#X2) WHITE ↔		67 <sub>R</sub> ERCW (#X2) YELLOW ↔																		
	68 <sub>R</sub> RCS (#X2) YELLOW ↓		70 <sub>R</sub> CCS GREEN ↔		72 <sub>R</sub> CSS GREEN ↔		74 <sub>R/S</sub> RHR (#X2) WHITE ↓		82 <sub>R/S</sub> /18 <sub>R</sub> D/G (#X2) WHITE ↔		83/238 R2 CTRL GREEN ↔		84 <sub>R</sub> FLOOD MODE BORA'N (#X2) WHITE ↔																		
<b>INSTRUM'N</b>  YELLOW ↑	55 <sub>O</sub> MCR ANNUN (#X2) WHITE ↔		85 <sub>O</sub> ROD CTRL (#X2) WHITE ↔		92 <sub>O</sub> NIS (#X2) WHITE ↔		96 INCORES GREEN ↔		261 PROCESS COMPUTER WHITE ↔		263/264 TSC COMPUTER WHITE ↑																				
	1 <sub>OE</sub> MAIN STM (#X2) WHITE ↔		1 MAIN TURBINE WHITE ↔		3A <sub>OE</sub> MFW (#X2) WHITE ↑		5 <sub>O</sub> EXT STEAM (#X2) WHITE ↔		6 <sub>O</sub> HTR DRAINS (#X2) YELLOW ↑		35 <sub>O</sub> GEN CLG (#X2) WHITE ↓																				
<b>MWe</b>  YELLOW ↑	46A <sub>O</sub> MFW CTRL (#X2) WHITE ↑		244 <sub>O</sub> /58 <sub>O</sub> MAIN GEN (#X2) WHITE ↔																												
	200 <sub>O</sub> /201 <sub>O</sub> /202 <sub>O</sub> /203 <sub>O</sub> /205 <sub>O</sub> /206 <sub>O</sub> 61/63KV GREEN ↔		203 <sub>O</sub> /205 <sub>O</sub> /212 <sub>O</sub> 180V SWITCHGEAR GREEN ↔		204/245/246 <sub>ALO</sub> SWITCHYARD (#X2) WHITE ↔		209/213/214/215/231/232 <sub>O</sub> 180V MTR CTRL CNTRS GREEN ↔																								
<b>ELECT'L</b>  WHITE ↑	235 <sub>O</sub> 120VAC VITAL GREEN ↔		236 <sub>R</sub> 125VDC VITAL (#X2) WHITE ↔		237 120VAC INST WHITE ↑		238 120VAC PREF WHITE ↑		239 <sub>O</sub> 250VDC (#X2) WHITE ↔		240 <sub>O</sub> 48VDC GREEN ↔		241 <sub>O</sub> 120VAC COMPUTER GREEN ↔																		
	14 <sub>O</sub> COND DEMIN (#X2) YELLOW ↓		15 <sub>O</sub> SGBD (#X2) WHITE ↔		43 <sub>O</sub> SAMPLING (#X2) YELLOW ↔		77 <sub>O</sub> WASTE DISPOSAL (#X2) WHITE ↔		90 <sub>O</sub> RAD MON (#X1) WHITE ↔																						
<b>RAD/CHEM</b>  WHITE ↓	20 <sub>O</sub> LUBEOIL GREEN ↔		24 <sub>O</sub> RAW CLG WTR GREEN ↔		26 <sub>O</sub> FIRE PROT GREEN ↔		27 <sub>O</sub> CCW (#X2) YELLOW ↔		30 <sub>O</sub> VENTSYS GREEN ↔		31 <sub>OE</sub> AC SYS (#X2) WHITE ↑		32 <sub>OE</sub> CTRL AIR GREEN ↔																		
	23 <sub>O</sub> CO2 SYS GREEN ↔		54 <sub>O</sub> INJ WTR (#X2) WHITE ↔		84/88/304 <sub>OE</sub> CNTR M/INTG GREEN ↔		78 <sub>O</sub> SFP CLG (#X2) WHITE ↔		79 FUEL HANDL'G WHITE ↔		81 <sub>O</sub> PRIM M/U WTR (#X2) WHITE ↓		234 <sub>O</sub> HEAT TRACE (#X2) WHITE ↑																		
<b>SUPPORT</b>  WHITE ↑	600 <sub>O</sub> M RULE STRUCTURES (#X2) WHITE ↔																														
	<p style="text-align: center; margin: 0;">PREVIOUS 4 QUARTERS (OLDEST ON LEFT) <span style="float: right;">MR</span></p> <p style="margin: 0;">ABBREVIATIONS <span style="float: right;">MAINTENANCE RULE (MR)</span></p> <p style="margin: 0;">G. GREEN RATING : UP TREND : NOT IN SCOPE 2. (#X2) RATING(GOOD)</p> <p style="margin: 0;">W. WHITE RATING : DOWN TREND O. IN SCOPE ONLY 1. (#X1) RATING(BAD)</p> <p style="margin: 0;">Y. YELLOW RATING : NEUTRAL TREND R. RISK SIGNIFICANT ? NOT RATED YET</p> <p style="margin: 0;">R. RED RATING : SAFETY STANDBY S. SAFETY STANDBY</p> <p style="margin: 0;">- BLUE: NO DATA R/S: RISK SIG &amp; SAFE STDBY</p> <p style="margin: 0;">: SOME SYS FUNCTIONS HAVE DIFF M RULE SCOPE</p>																														
<p style="margin: 0;">SYS #<sub>R</sub> NAME M RULE SYS SYS RATING RATING TREND</p>																															

## DESIGN ISSUES

- **STARTUP ISSUES (ALL ITEMS IN WORK TO COMPLETE DURING MIDCYCLE OUTAGE)**
  - #2 HEATER BYPASS LINE TO CONDENSER
  - AFW RECIRCULATION BYPASS LINE
  - AFW SWAPOVER (SG-1 TO SG-4)
  
- **NO NEW DESIGN ISSUES SINCE COMMERCIAL OPERATION THAT EFFECT PLANT PERFORMANCE**
  
- **ENHANCEMENTS**
  - DARKBOARD
  - SECONDARY SIDE INSTRUMENTATION (BOP STUDY)
  - THERMAL PERFORMANCE

## **SELF-ASSESSMENTS ENGINEERING & TECHNICAL SUPPORT**

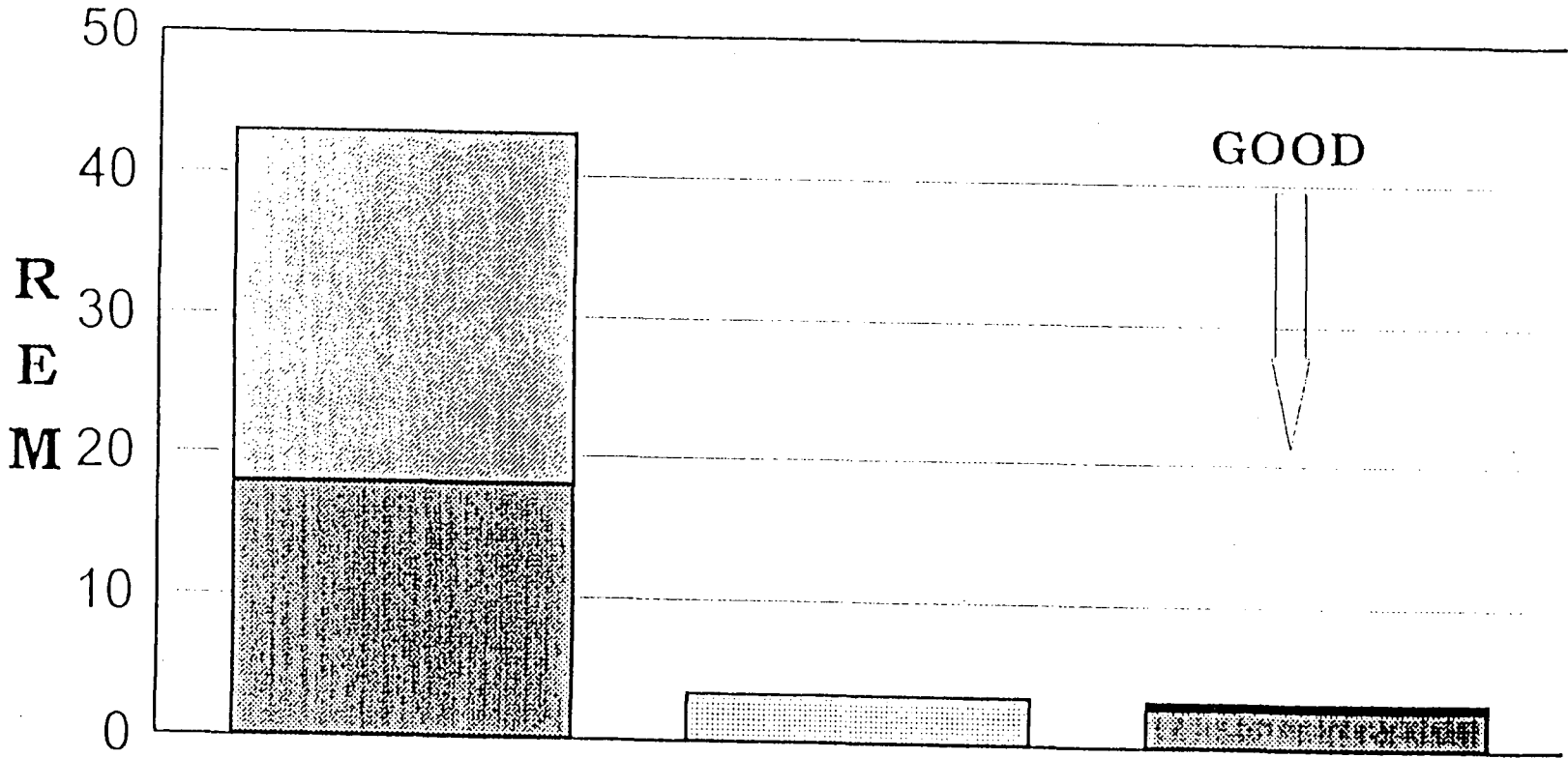
- **14 AREAS COVERED**
  - **ENGINEERING SUPPORT ORGANIZATION AND ADMINISTRATION**
  - **SURVEILLANCE TESTING AND IN-SERVICE INSPECTION PROGRAMS**
  - **PLANT MODIFICATIONS**
  - **REACTOR ENGINEERING**
  - **PLANT PERFORMANCE MONITORING**
  - **ENGINEERING SUPPORT PROCEDURES AND DOCUMENTATION**
  - **DOCUMENT CONTROL**
  - **ENGINEERING SUPPORT PERSONNEL KNOWLEDGE AND PERFORMANCE**
  - **EROSION CONTROL/MIC**
  - **ENVIRONMENTAL QUALIFICATION (EQ)**
  - **APPENDIX R**
  - **VENDOR MANUAL**
  - **DRAWING DEVIATIONS (DD)**
  - **DRAWING MAINTENANCE**
  
- **71 ISSUES IDENTIFIED**
  - **9 CATEGORY C & D PROBLEM EVALUATION REPORTS ISSUED**
  - **62 AREA ENHANCEMENTS IDENTIFIED**
  
- **88 ACTIONS ASSIGNED TO CORRECT/ADDRESS ISSUE**
  - **APPROXIMATELY 50% COMPLETE**
  - **REMAINING ACTIONS ARE SCHEDULED AND BEING TRACKED TO COMPLETION**



# **RADCON/CHEMISTRY**

**R.T. PURCELL**

# STATION DOSE GOAL FY96



35

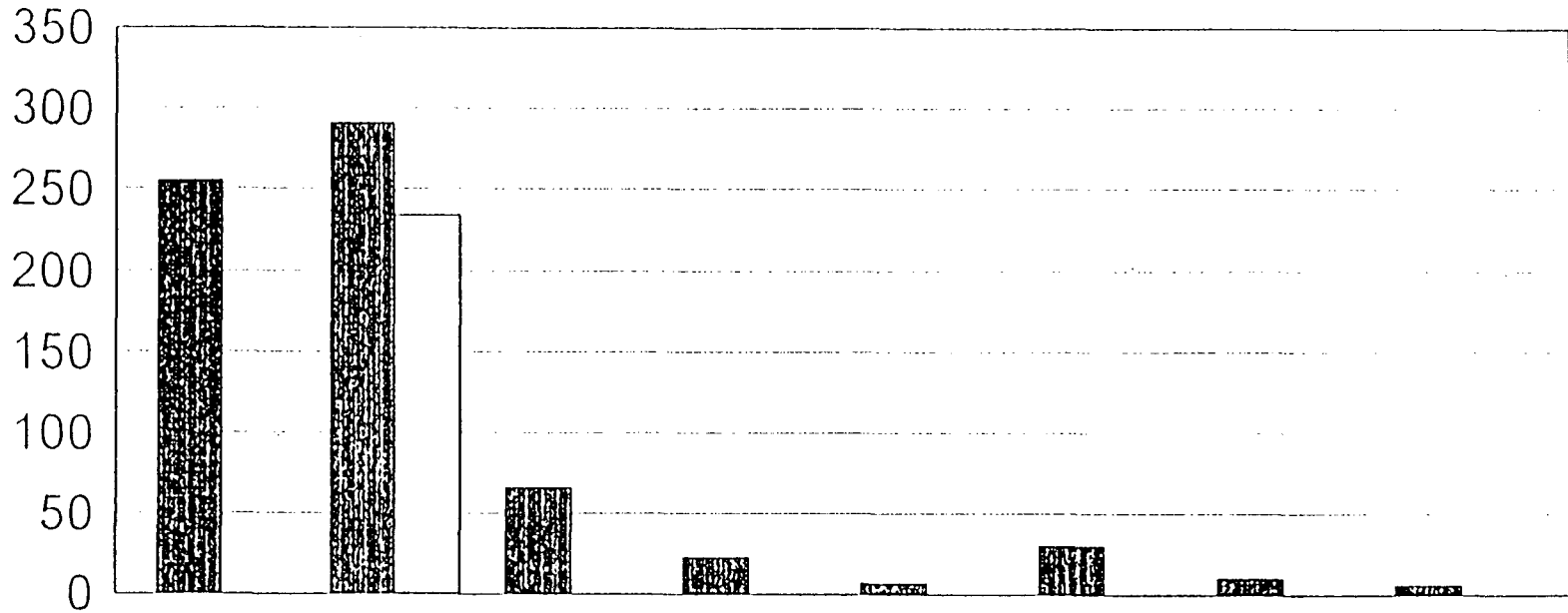
Week of 08/05/96	Initial Goal	Revised Goal	Actual
Start Up	18.00		2.80
Commercial Ops	25.00		0.42
Revised Goal		3.40	

# RWP Dose After Criticality

DATA AS OF 7/28/96

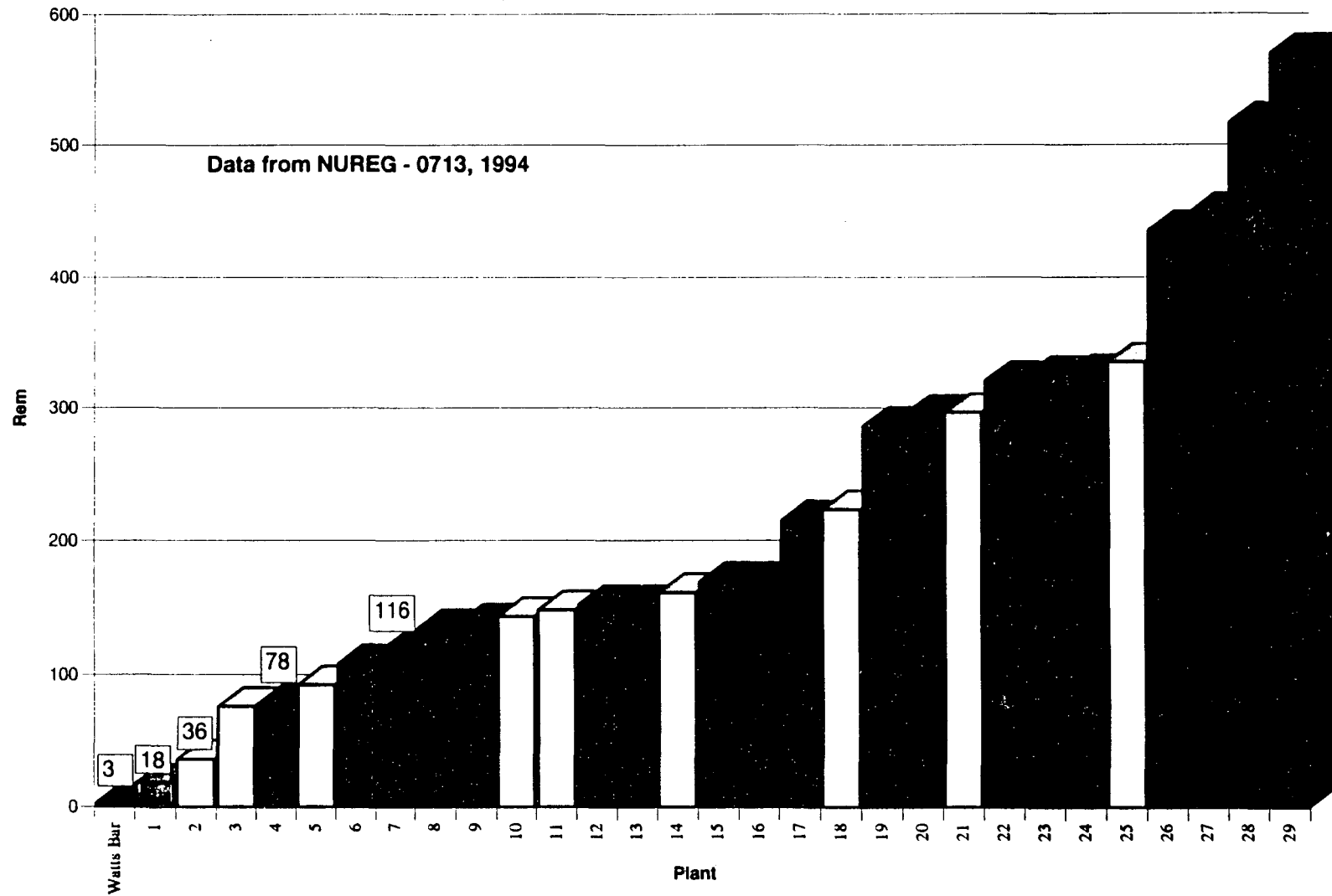
DOSE IS NOT CORRECTED FOR TLD RESULTS

Dose (mRem)



	Maintenance	RADCON	NRC	ISI	Multi-Site	OPS	RADWASTE	CHEM
POD Activities <input checked="" type="checkbox"/> TOTAL : 698 mRem	255	291	66	23	7	30	10	6
Start-up Surveys <input type="checkbox"/> TOTAL : 234 mRem		234						

# First Year After Commercial Ops Collective Dose

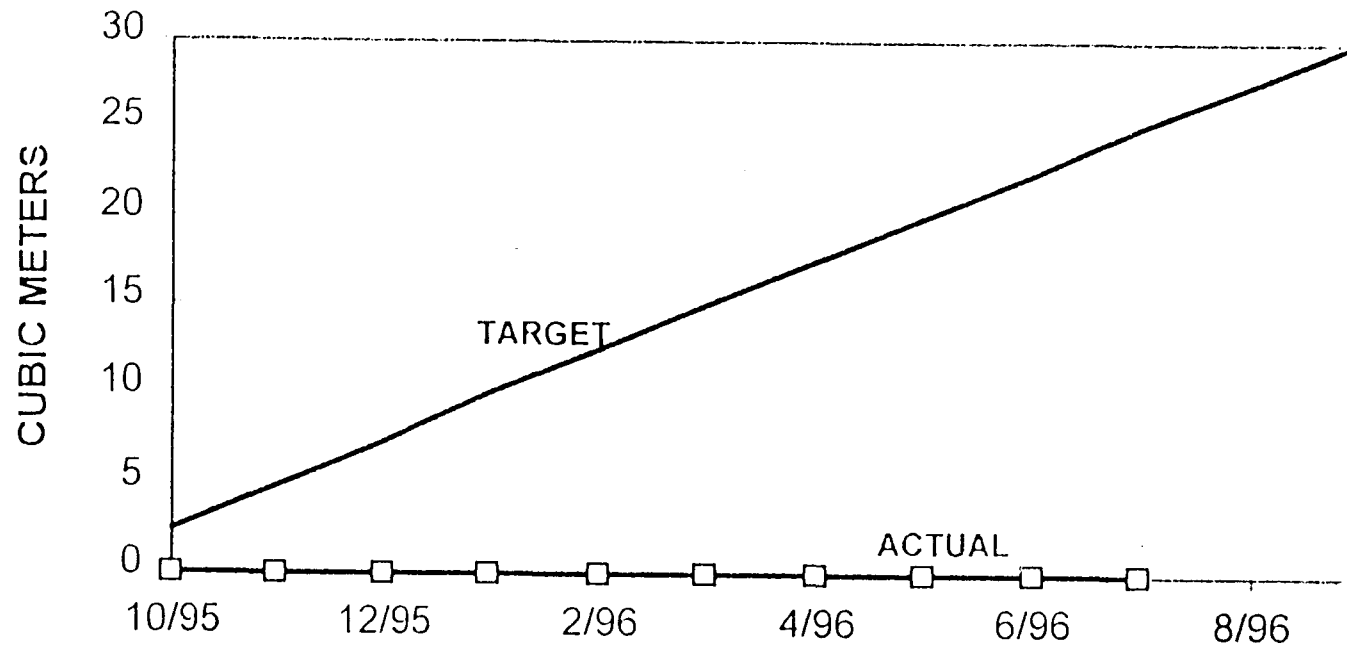


PURPLE = Lowest on record    RED = Region II    BLUE = Ice Condenser    YELLOW = Plants with first reporting year >1985

# RADWASTE

FY 96 TARGET  $\leq 30$

ACTUAL TO DATE = .03



↓  
GOOD

## **PRIMARY CHEMISTRY**

- **RCS CONTAMINANT LEVEL ROUTINELY WELL BELOW ESTABLISHED SPECIFICATIONS**
- **NO INDICATIONS OF PRIMARY TO SECONDARY LEAKAGE TO DATE**
- **RCS GROSS SPECIFIC ACTIVITY AND DOSE EQUIVALENT IODINE BELOW ESTABLISHED SPECIFICATIONS**

## SECONDARY CHEMISTRY

- SECONDARY PLANT CLEANUP DURING POWER ASCENSION TESTING COMPARED FAVORABLY TO OTHER RECENT PLANT STARTUPS
- MINOR CONDENSER TUBE LEAK IDENTIFIED
- AMMONIUM CHLORIDE ADDITION ESTABLISHED FOR STEAM GENERATOR BLOWDOWN MOLAR RATIO CONTROL
- EQUIPMENT AND PROCEDURES ARE IN PLACE FOR ETHANOLAMINE AND BORIC ACID ADDITION

# NUCLEAR ASSURANCE

D.V. KEHOE



## **NUCLEAR ASSURANCE**

- **QUALITY TREND INDICATORS**
- **CORRECTIVE ACTION TIMELINESS**
- **CONCERNS RESOLUTION**
- **QA FOCUS AREAS**

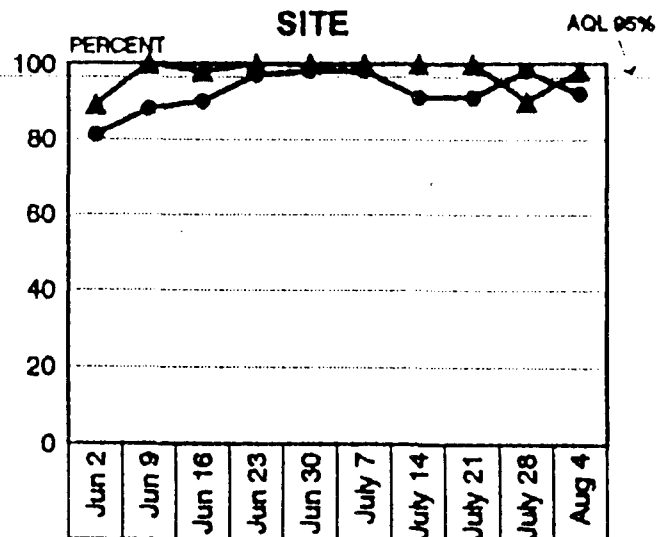
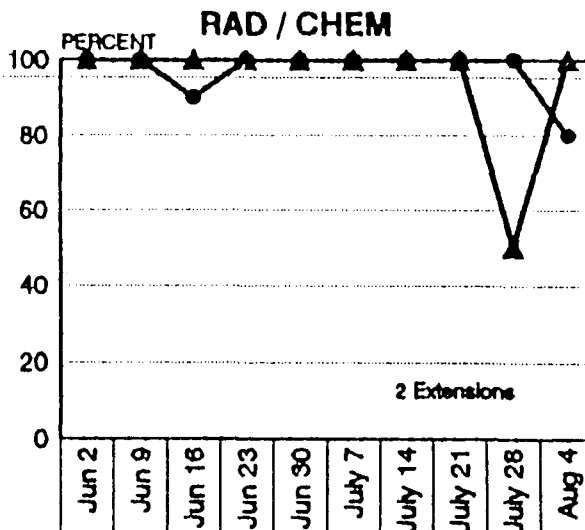
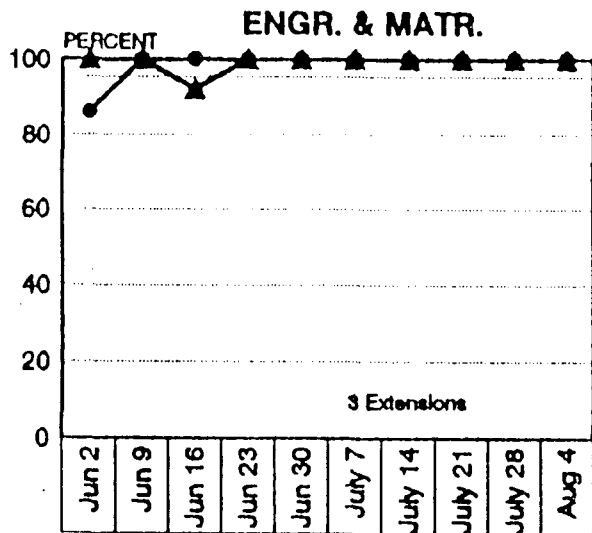
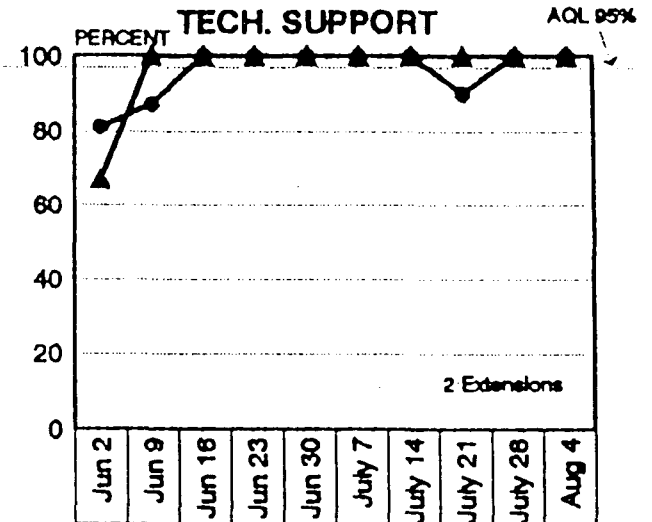
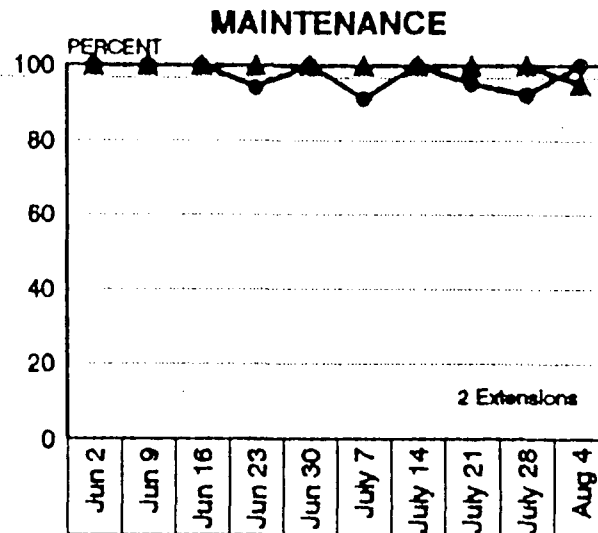
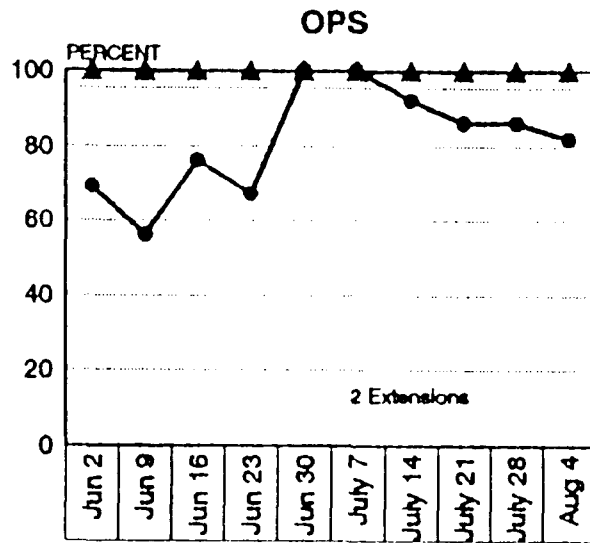
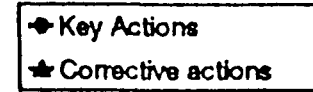
## TREND INDICATORS

- **QUARTERLY TREND REPORT**
  - **81 AREA PERFORMANCE TRENDS**
  - **73 AREAS SATISFACTORY**
  - **8 AREAS REQUIRE IMPROVEMENT**
  
- **AREAS REQUIRING IMPROVEMENT**
  - **5 AREAS IMPROVING:**  
**WORK CONTROL**  
**SURVEILLANCE**  
**OUTAGE PLANNING**  
**CONDUCT OF SECURITY**  
**MANAGEMENT INVOLVEMENT IN TRAINING**
  
  - **1 NEW AREA:**  
**CHEMISTRY**
  
  - **2 AREAS WITH NO CHANGE IN STATUS:**  
**PLANT STATUS CONTROL**  
**HUMAN RESOURCES**
  
- **OTHER INDICATORS**
  - **6 AREAS SATISFACTORY WITH EARLY INDICATORS OF WEAKNESSES:**  
**OPERATIONS PROCEDURES**  
**CONDUCT OF MAINTENANCE**  
**DOCUMENT CONTROL**  
**RADIOACTIVE EFFLUENTS**  
**CHEMISTRY PERSONNEL KNOWLEDGE AND PERFORMANCE**  
**CORRECTIVE ACTION PROGRAM**

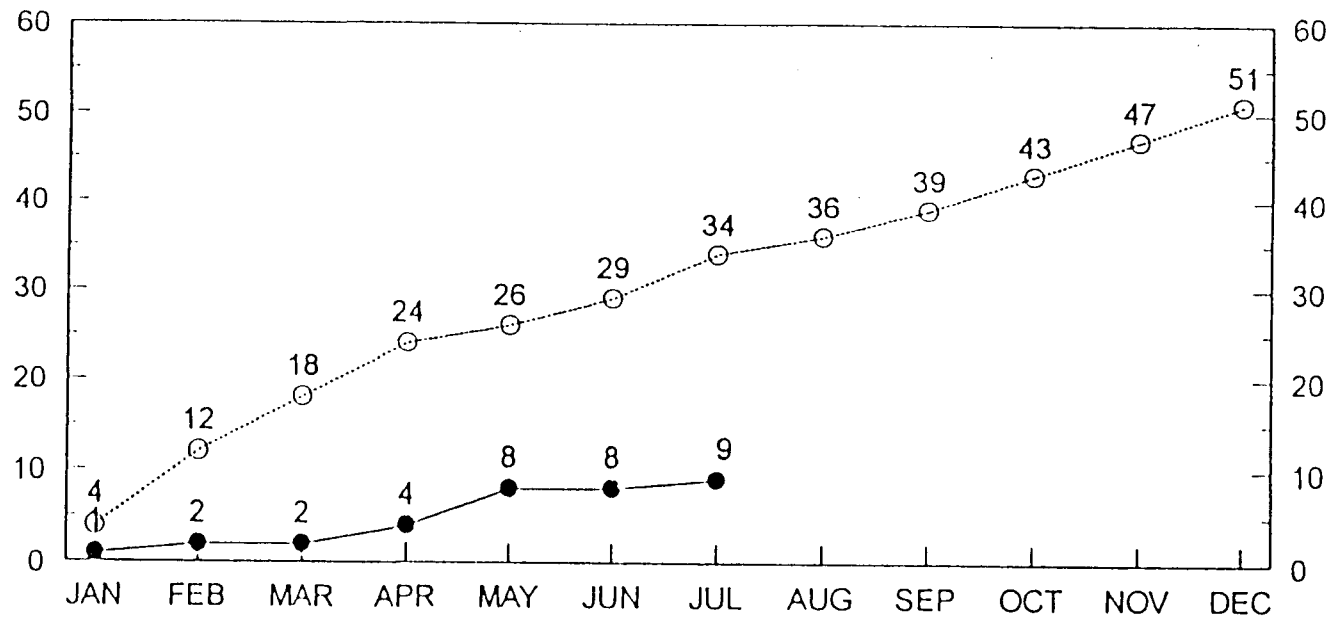
# Corrective Action Program

## Action Timeliness

\* NO DATA



# CONCERNS RESOLUTION STAFF CUMULATIVE ISSUES DOCUMENTED BY MONTH WATTS BAR

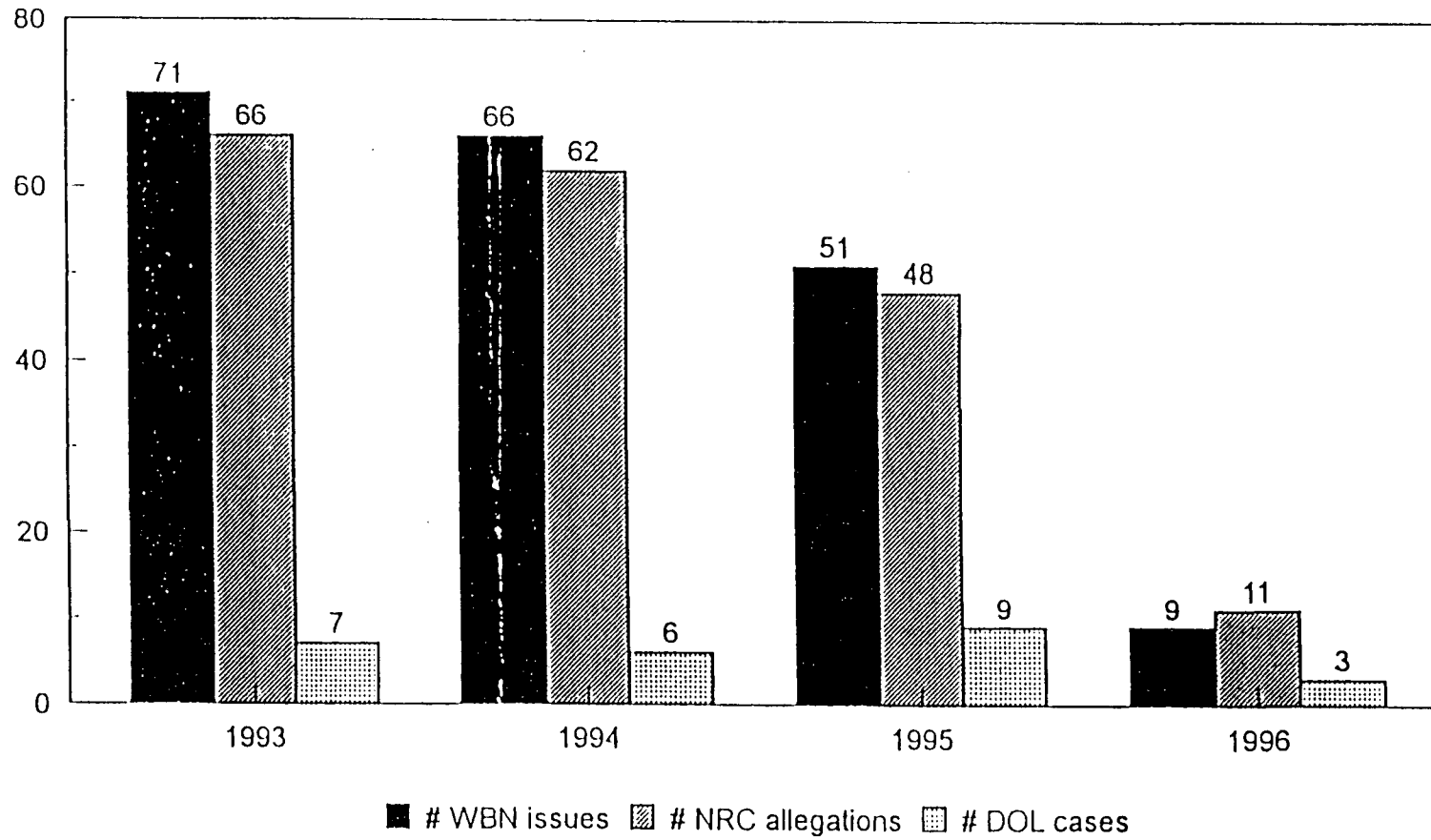


1996 Total Issues/Mo. 1995 Total issues/Mo.

—●—

—○—

# WATTS BAR NUCLEAR PLANT



Note: 1996 numbers current through July 31

## **QA FOCUS AREAS**

- **STATUS CONTROL**
- **SURVEILLANCE PERFORMANCE**
- **FSAR EVALUATION**
- **LINE SELF-ASSESSMENTS**
- **MODIFICATIONS ACTIVITIES**

# CLOSING REMARKS

J.A. SCALICE

## **CONCLUSION**

- **PLANT CONTINUING TO GAIN EXPERIENCE**
- **PROBLEMS BEING IDENTIFIED AND FIXED**
- **CONTINUING SELF-CRITICAL APPROACH TO OPERATION**