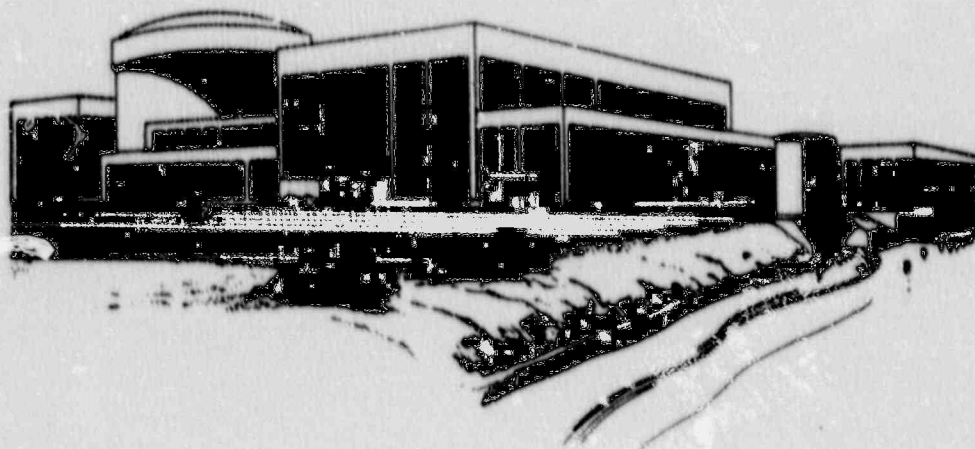


FORT CALHOUN STATION PERFORMANCE INDICATORS

JULY, 1990



Prepared by:

**Production Engineering Division
System Engineering**

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OMAHA PUBLIC POWER DISTRICT
FORT CALHOUN STATION
PERFORMANCE INDICATORS

PREPARED BY:
PRODUCTION ENGINEERING DIVISION
SYSTEM ENGINEERING

JULY, 1990

Pursuit of excellence is an attitude...

it involves wisdom and sound judgment...

it is a lifetime, career-long commitment...

it is a way of life...it is doing the job

right the first time, every time. It is

inner-directed, not the result of external

pressure, it is our own self worth—who

we are and the pride and satisfaction

that comes from being the right kind of

person, not just in doing the right things.

James J. O'Connor

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PREFACE

PERFORMANCE INDICATORS REPORT IMPROVEMENTS

Two indicators have been changed. The Check Valve Failure Rate Indicator is in the Maintenance Section and the In-Line Chemistry Instruments Out-of-Service Indicator is in the Chemistry and Radiological Protection Section.

The Check Valve Failure Rate Indicator found on page 43 has been changed. This indicator now shows the current Fort Calhoun Station check valve failure rate. Previously, the Fort Calhoun Station check valve failure rate was shown as three months behind the reporting month. The Check Valve Failure Rate Indicator still shows the industry check valve failure rate which is three months behind the Performance Indicators Report.

The In-Line Chemistry Instruments Out-of-Service Indicator found on page 47 has been changed. The Fort Calhoun goal of 3 out-of-service chemistry instruments has been changed to 6 out-of-service chemistry instruments. Six out-of-service chemistry instruments constitute 10% of all the chemistry instruments which are counted for this indicator.

PURPOSE

This program titled "Performance Indicators" is intended to provide selected Fort Calhoun plant performance information to OPPD's personnel responsible for optimizing unit performance. The information is presented in a way that provides ready identification of trends and a means to track progress toward reaching corporate goals. The information can be used for assessing and monitoring Fort Calhoun's plant performance, with emphasis on safety and reliability. Some performance indicators show company goals or industry information. This information can be used for comparison or as a means of promoting pride and motivation.

SCOPE

In order for the Performance Indicator Program to be effective, the following guidelines were followed while implementing this program:

Select the data which most effectively monitors Fort Calhoun's performance in key areas.

Present the data in a straight forward graphical format using averaging and smoothing techniques.

Include established corporate goals and industry information for comparison.

Develop formal definitions for each performance parameter. This will ensure consistency in future reports and allow comparison with industry averages where appropriate.

Comments and input are encouraged to ensure that this program is tailored to address the areas which are most meaningful to the people using the report.

ADVERSE TREND REPORT

The Adverse Trend Report explains the conditions under which certain indicators are showing adverse trends. An indicator that is defined as an Adverse Trend is one in which the data represented for three months is showing deficiencies for that particular indicator. Indicators which show an apparent three month decline, but are not considered an adverse trend, will display an explanation which defines the reason why an adverse trend does not exist.

Number of Out-of-Service Control Room Instruments Indicator - Page 36

The number of cut-of-service control room instruments has been increasing since May, 1990. The increase in the number of out-of-service control room instruments is due to an Engineering evaluation of the INPO definition of out-of-service control room instruments. The Fort Calhoun Station is now reporting out-of-service control room instruments as requested by the INPO definition. Another reason for the increase in the number of out-of-service control room instruments is the large number of instrument deficiencies being added each month.

Personnel Turnover Rate - Page 78

The turnover rate for the Nuclear Operations Division (NOD) and the Production Engineering (PED) are higher than the OPPD corporate turnover rate. These high turnover rates are due to 28 resignations from NOD which occurred within the last 12 months and 9 resignations from PED which occurred within the last 12 months.

INDICATORS NEEDING INCREASED MANAGEMENT ATTENTION

This section lists the indicators which show inadequacies as compared to the OPPD goal and indicators which show inadequacies as compared to the industry upper quartile. The indicators will be compared to the industry upper quartile as relevant to that indicator.

Unplanned Safety System Actuations - Page 18

The Fort Calhoun Station has experienced an unplanned safety system actuation during 1990. This unplanned actuation was a start and load of DG-2 due to an inadvertent trip of backup lockout relay 86/2BF5. The Fort Calhoun goal for unplanned safety system actuations during 1990 was set at zero actuations.

Gross Heat Rate - Page 19

The year to date gross heat rate for the Fort Calhoun Station is currently above the Fort Calhoun goal of 10,200 BTU/KWH. The gross heat rate values for January and February were high due to the fact that the first stage of the high pressure turbine was removed during the months of January and February. During the months of May and June, startup from the 1990 Refueling Outage and various derates caused the gross heat rate values for these months to be higher than the Fort Calhoun goal.

Equivalent Availability Factor - Page 20

The 12 month average equivalent availability factor (EAF) is currently below the Fort Calhoun goal of 65.4%. The time in which the plant was unavailable for electricity generation due to the 1990 Refueling Outage has caused the 12 month average EAF to slide below the Fort Calhoun goal. The 12 month average EAF is expected to increase as the time that the plant is available for electricity generation increases.

DG Reliability Last 100 Demands - Page 29

The diesel generator start and load reliability of DG-1 and DG-2 is currently below the Fort Calhoun goal of 95%. This is due to the fact that diesel generator DG-1 has experienced 7 start and load failures in its last 100 demands and diesel generator DG-2 has experienced 6 start and load failures in the last 100 demands on the unit.

DG Reliability Last 20 Demands - Page 30

The start and load reliability of diesel generator DG-1 is below the Fort Calhoun goal of 95% reliability. This low start and load reliability for diesel generator DG-1 is due to two start and load failures which occurred in July, 1990. These two failures were caused by high engine coolant temperature problems.

INDICATORS NEEDING INCREASED
MANAGEMENT ATTENTION (CONTINUED)

Number of Out-of-Service Control Room Instruments - Page 36

The number of out-of-service control room instruments has been above the Fort Calhoun goal of 7 out-of-service control room instruments and above the industry upper quartile value of 7 out-of-service control room instruments since November of 1989.

Check Valve Failure Rate - Page 43

The Fort Calhoun check valve failure rate is currently above the industry check valve failure rate. The reason for the high check valve failure rate is that the plant is performing maintenance on check valves which have not been checked for failures before. The check valve failure rate is expected to decrease as the check valves are maintained and monitored through the Check Valve Program.

Secondary System Chemistry - Page 44

The Secondary System Chemistry Performance Index (CPI) for the month of June is above the industry upper quartile value of 0.20. The high CPI for June was due to startup after the 1990 Refueling Outage and various power fluctuations which occurred during June. The CPI for the Fort Calhoun Station may also be higher than the industry upper quartile value because the plant uses morpholine for pH control.

Total Skin and Clothing Contaminations - Page 50

The total number of skin and clothing contaminations has been above the Fort Calhoun goal of 150 contaminations since the month of April, 1990. The total number of skin and clothing contaminations has been above the industry upper quartile value of 129 contaminations since the month of March, 1990. The high number of skin and clothing contaminations during the months of March and April, 1990, was due to increased activity in the Radiation Controlled Area (RCA) associated with the 1990 Refueling Outage.

Gaseous Radioactive Waste Being Discharged to the Environment - Page 54

A total of 164.4 curies of gaseous radioactive waste was released to the environment from January through December of 1989. The Fort Calhoun goal is 145 curies for this indicator.

Temporary Modifications (Excluding Scaffolding) - Page 72

The number of temporary modifications which are installed in the plant is currently above the Fort Calhoun goal of 15 temporary modifications. The number of temporary modifications which are installed in the plant has been decreasing and is expected to keep decreasing.

SAFETY ENHANCEMENT PROGRAM (SEP)
PERFORMANCE INDICATORS

The purpose of the Safety Enhancement Program (SEP) Performance Indicators pages is to list the indicators related to the SEP items with parameters that can be trended.

<u>SEP Reference Number 15</u> - Increase HPES and IR Accountability Through Use of Performance Indicators	<u>Page</u>
Procedural Noncompliance Incidents (Maintenance)	38
Total Skin and Clothing Contaminations	50
Recordable Injury Cases Frequency Rate	76
Number of Personnel Errors Reported in LER's	77
CAR's Issued versus Significant CAR's Issued versus NRC Violations Issued versus LER's Reported	91
<u>SEP Reference Number 20</u> - Quality Audits and Surveillance Programs are Evaluated, Improved in Depth and Strengthened	
CAR's Issued versus Significant CAR's Issued versus NRC Violations Issued versus LER's Reported	91
<u>SEP Reference Number 21</u> - Develop and Conduct Safety System Functional Inspections	
CAR's Issued versus Significant CAR's Issued versus NRC Violations Issued versus LER's Reported	91
<u>SEP Reference Number 24</u> - Complete Staff Studies	
Staffing Level	79
<u>SEP Reference Number 26</u> - Evaluate and Implement Station Standards for Safe Work Practice Requirements	
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<u>SEP Reference Number 36</u> - Reduce Corrective Non-Outage Backlog	
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<u>SEP Reference Number 41</u> - Develop and Implement a Preventive Maintenance Schedule	
Ratio of Preventive to Total Maintenance	34
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SAFETY ENHANCEMENT PROGRAM (SEP)
PERFORMANCE INDICATORS
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SEP Reference Number 43 - Implement the Check Valve Test Program

Check Valve Failure Rate 43

SEP Reference Number 44 - Compliance With and Use of Procedures

Procedural Noncompliance Incidents (Maintenance) 38

SEP Reference Number 52 - Establish Supervisory Accountability for
Workers Radiological Practices

Radiological Work Practices Program. 52

SEP Reference Number 54 - Complete Implementation of Radiological
Enhancement Program

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Volume of Low-Level Solid Radioactive Waste. 23

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Decontaminated Auxiliary Building. 51

SEP Reference Number 58 - Revise Physical Security Training and
Procedure Program

Loggable/Reportable Incidents (Security) 56

Security Incident Breakdown 57

Security System Failures 58

SEP Reference Number 60 - Improve Controls Over Surveillance Test Program

Number of Missed Surveillance Tests Resulting in
Licensee Event Reports 40

SEP Reference Number 61 - Modify Computer Program to Correctly Schedule
Surveillance Tests

Number of Missed Surveillance Tests Resulting in
Licensee Event Reports 40

SEP Reference Number 62 - Establish Interim System Engineers

Temporary Modifications. 72

Engineering Assistance Request Priority Breakdown. 73

SAFETY ENHANCEMENT PROGRAM (SEP)
PERFORMANCE INDICATORS
(CONTINUED)

SEP Reference Number 62 - Establish Interim System Engineers (Continued)

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SEP Reference Number 71 - Improve Controls over Temporary Modifications

Temporary Modifications 72

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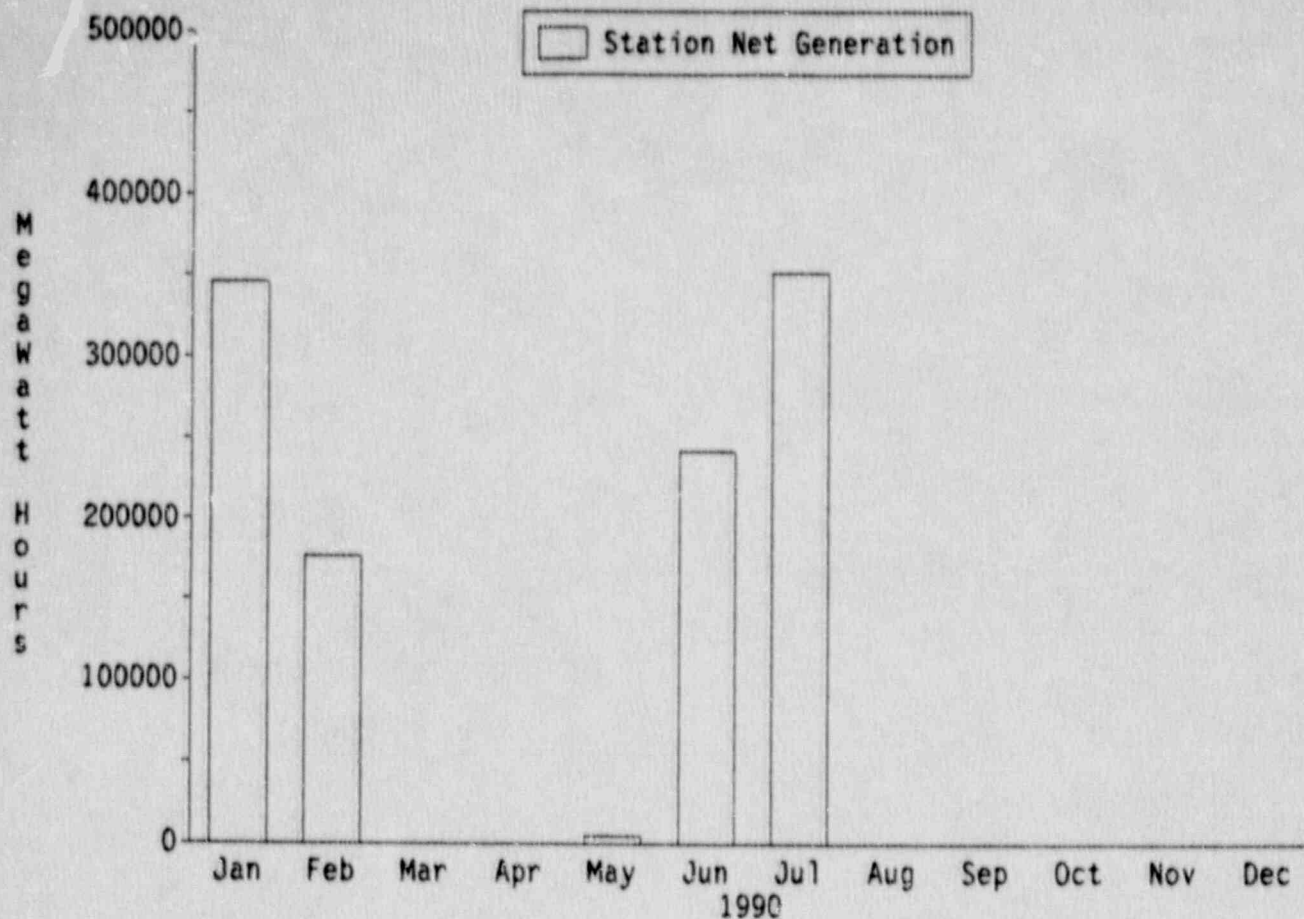
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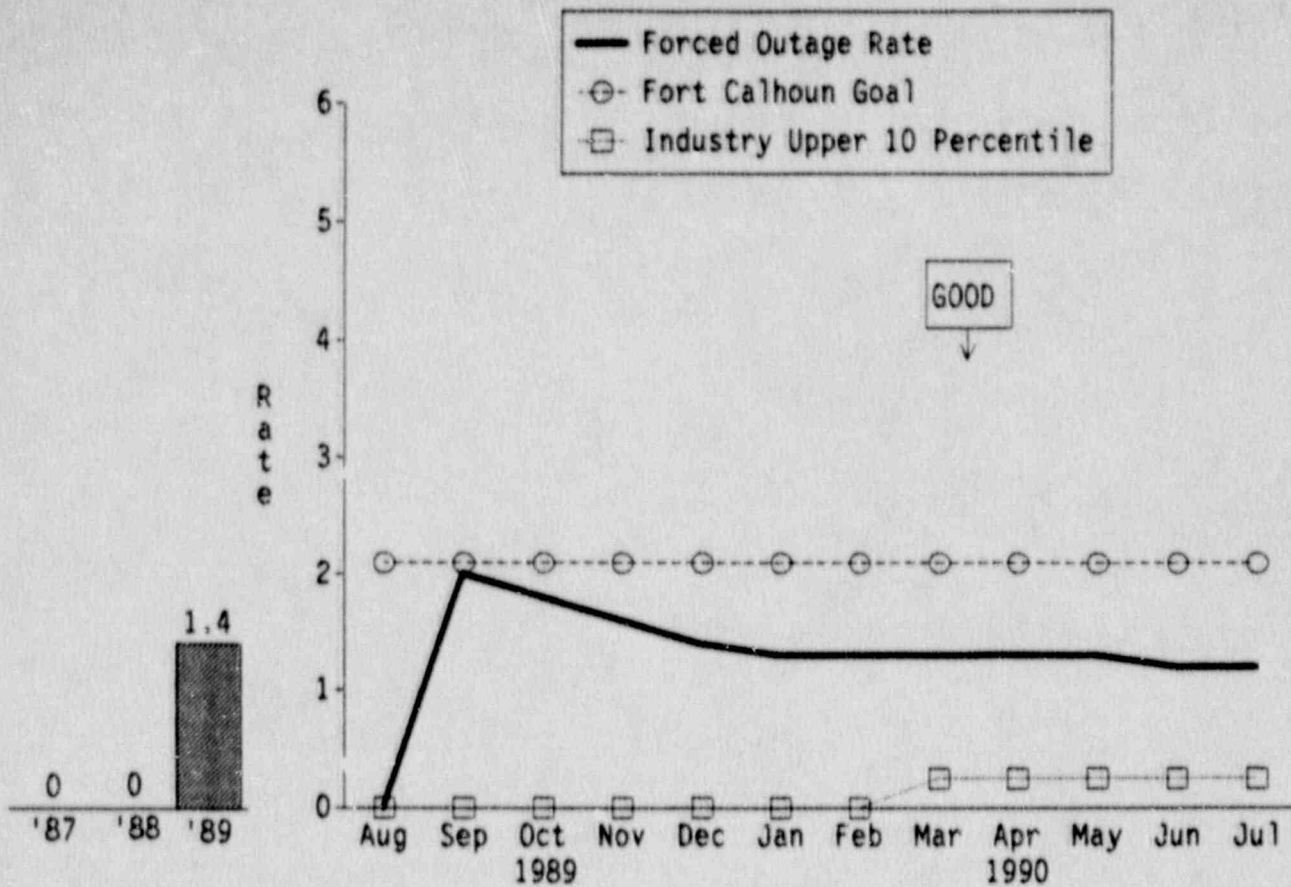
STATION NET GENERATION

This indicator shows the net generation of the Fort Calhoun Station for the reporting month.

During the month of July, 1990, a net total of 350,967.2 MWh was generated by the Fort Calhoun Station.

The net generation totals for the months of March and April were zero and the net generation total for the month of May was low due to the plant being shutdown for the 1990 Refueling Outage.

Adverse Trend: None



FORCED OUTAGE RATE

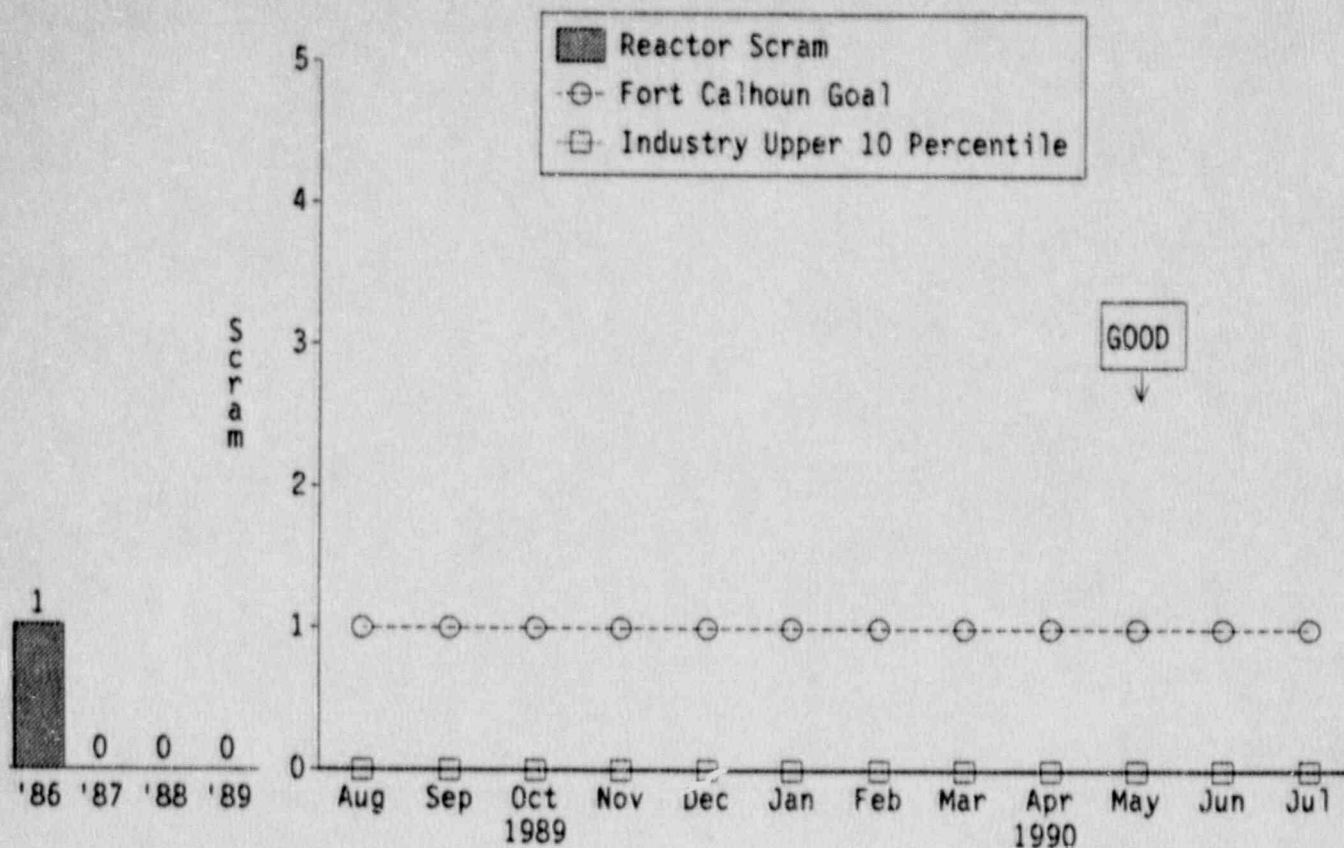
The forced outage rate was reported as 1.2% for the month of July, 1990.

The last forced outage at Fort Calhoun occurred in September of 1989.

The industry upper ten percentile value for the forced outage rate is 0.25%.

The 1990 goal for forced outage rate is 2.4% and is based on seven days of forced outage time. The basis for establishing the 1990 performance goals can be found on page 107.

Adverse Trend: None



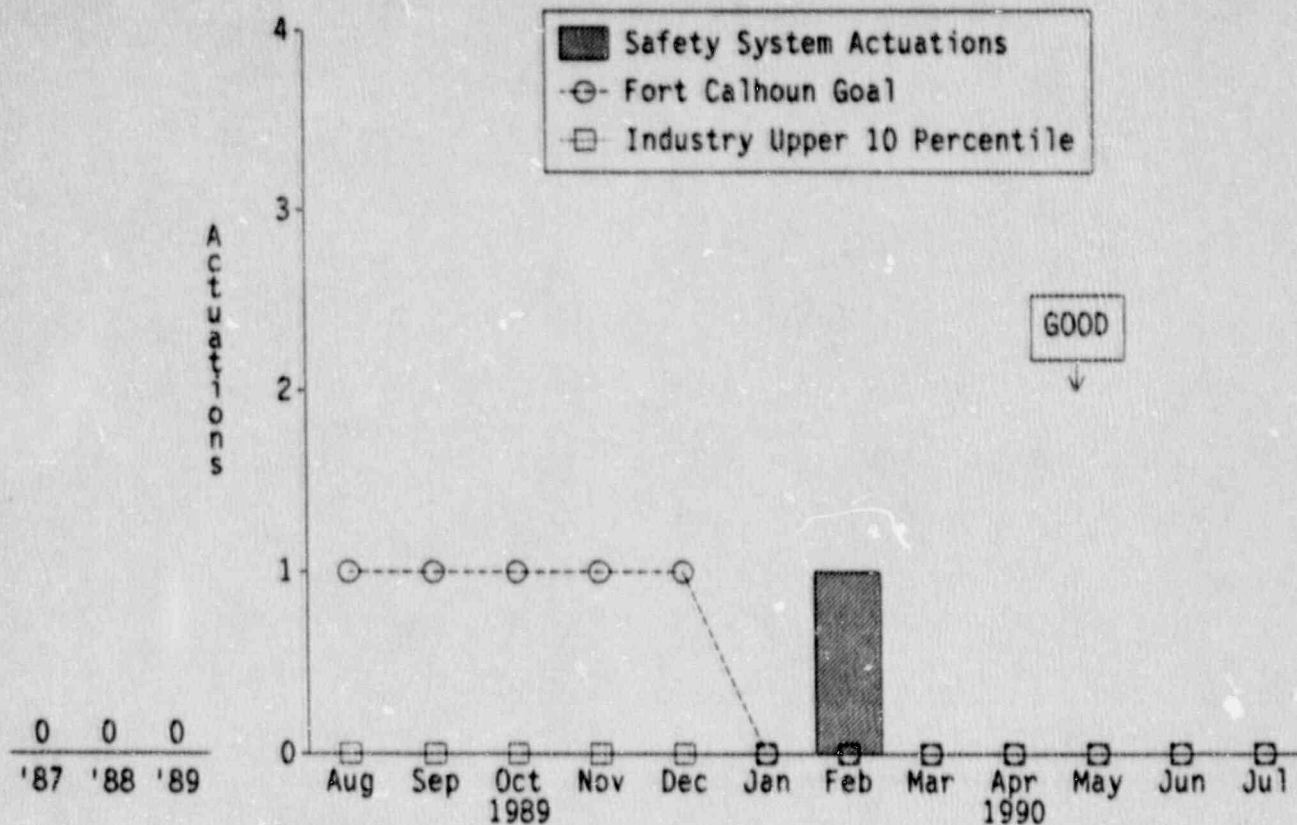
UNPLANNED AUTOMATIC REACTOR SCRAMS
WHILE CRITICAL

There were no unplanned automatic reactor scrams in July. It has been 1,490 days since the last unplanned automatic reactor scram which occurred on July 2, 1986.

The 1990 goal for unplanned automatic reactor scrams while critical has been set at 1.

The industry upper ten percentile value is zero scrams per unit on an annual basis. The Fort Calhoun Station is currently in the upper ten percentile of nuclear plant performance in this area.

Adverse Trend: None



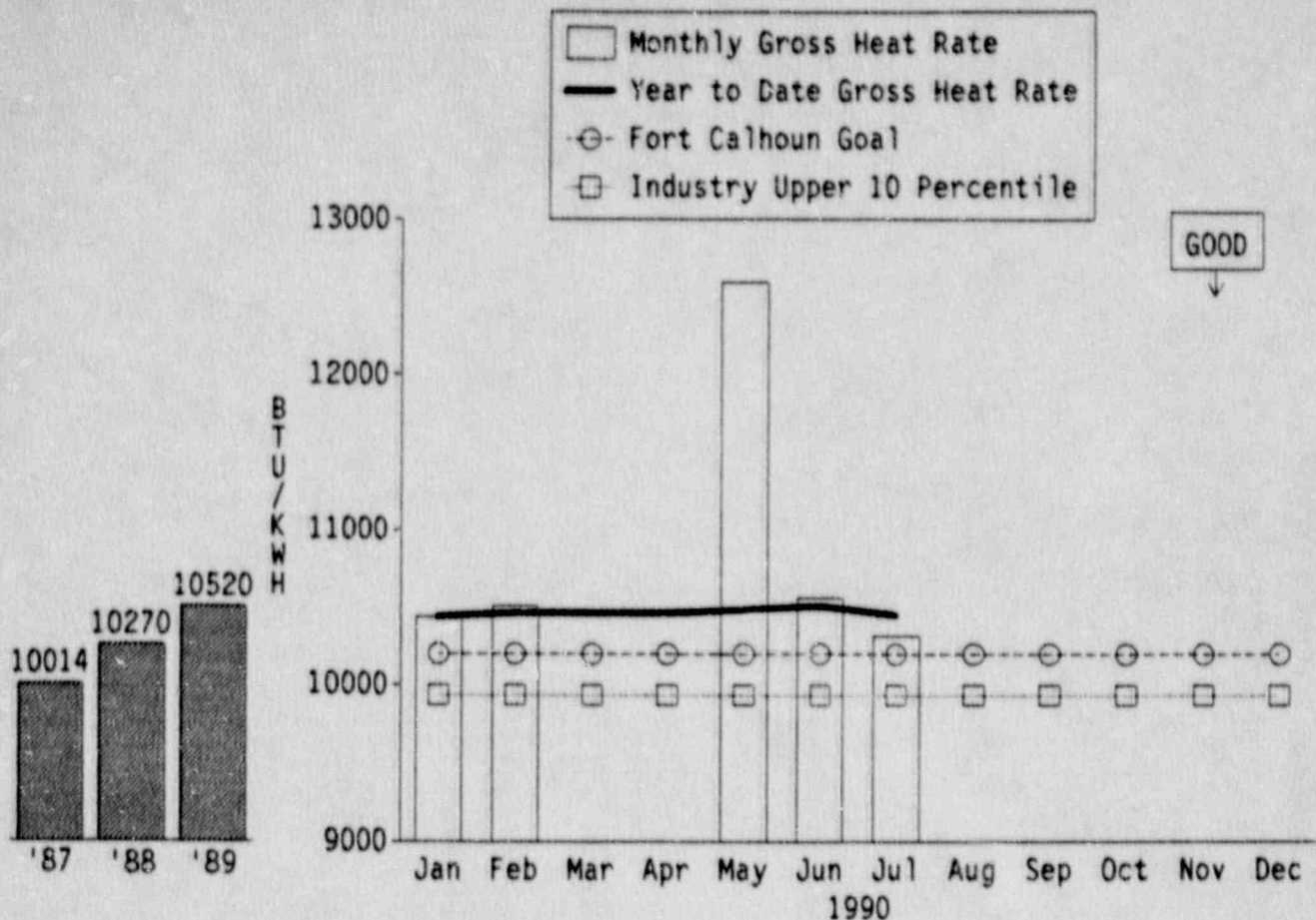
UNPLANNED SAFETY SYSTEM ACTUATIONS

There were no unplanned safety system actuations during the month of July, 1990.

The 1990 goal for the number of unplanned safety system actuations is zero. This goal is based on past performance at the Fort Calhoun Station.

The industry upper ten percentile value for the number of unplanned safety system actuations per year is zero.

Adverse Trend: None



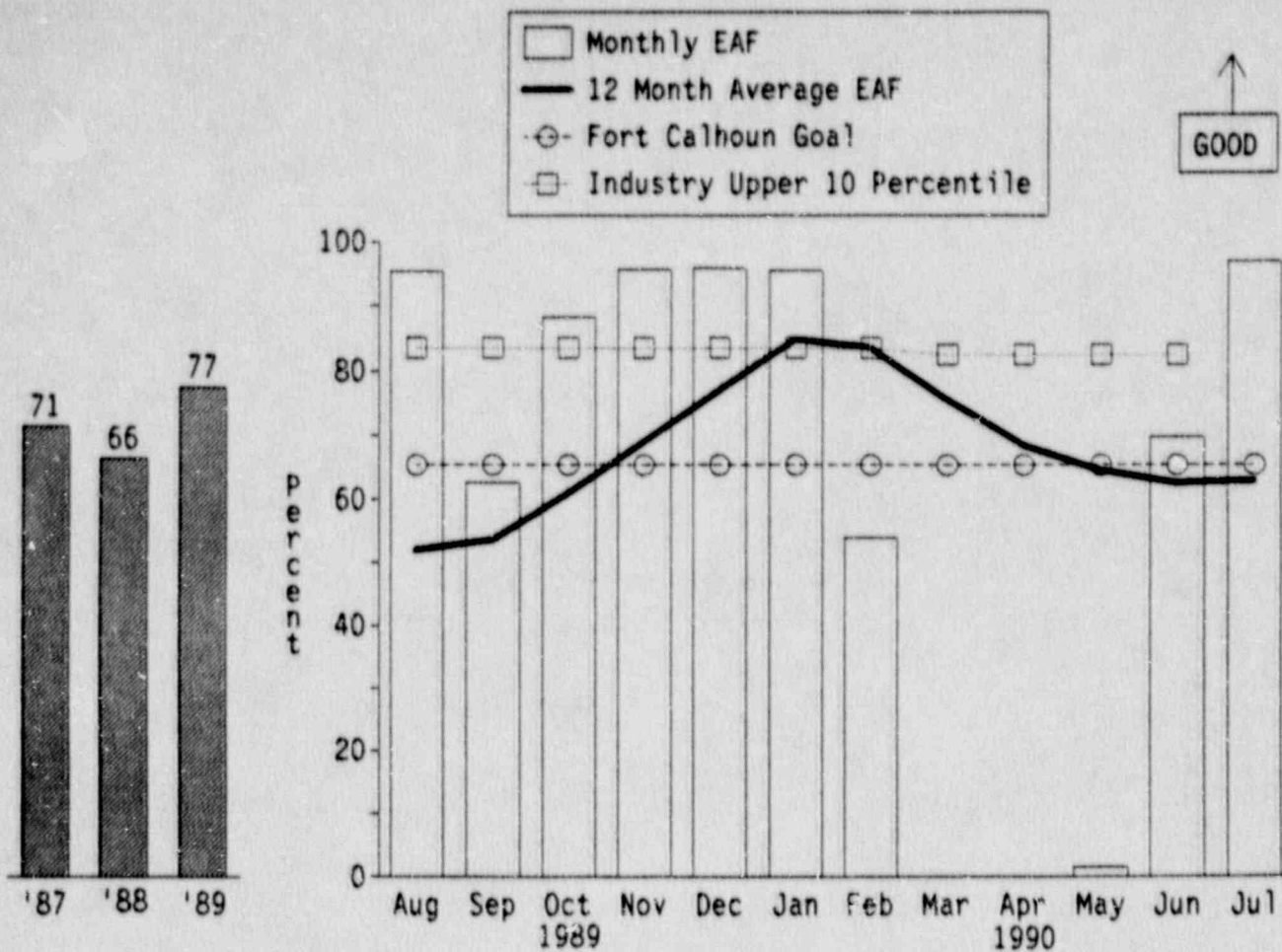
GROSS HEAT RATE

The gross heat rate for the Fort Calhoun Station was reported as 10,315 BTU/KWH during the month of July. The gross heat rate for the month of July was above the Fort Calhoun goal of 10,200 BTU/KWH due to seasonal river water temperature increases.

The 1990 year to date gross heat rate value is 10,447 BTU/KWH. The 1990 goal is 10,200 BTU/KWH. The year to date gross heat rate is above the Fort Calhoun goal due to the fact that the first stage of the high pressure turbine was removed during the months of January, 1990, and February, 1990. Additionally, the gross heat rate values for the months of May, June, and July, 1990, were high due to startup after the 1990 Refueling Outage, various derates, and season river water temperature increases. The year to date gross heat rate value is expected to decrease as the river water temperature decreases.

The gross heat rate industry upper ten percentile value is 9,935 BTU/KWH.

Adverse Trends: None



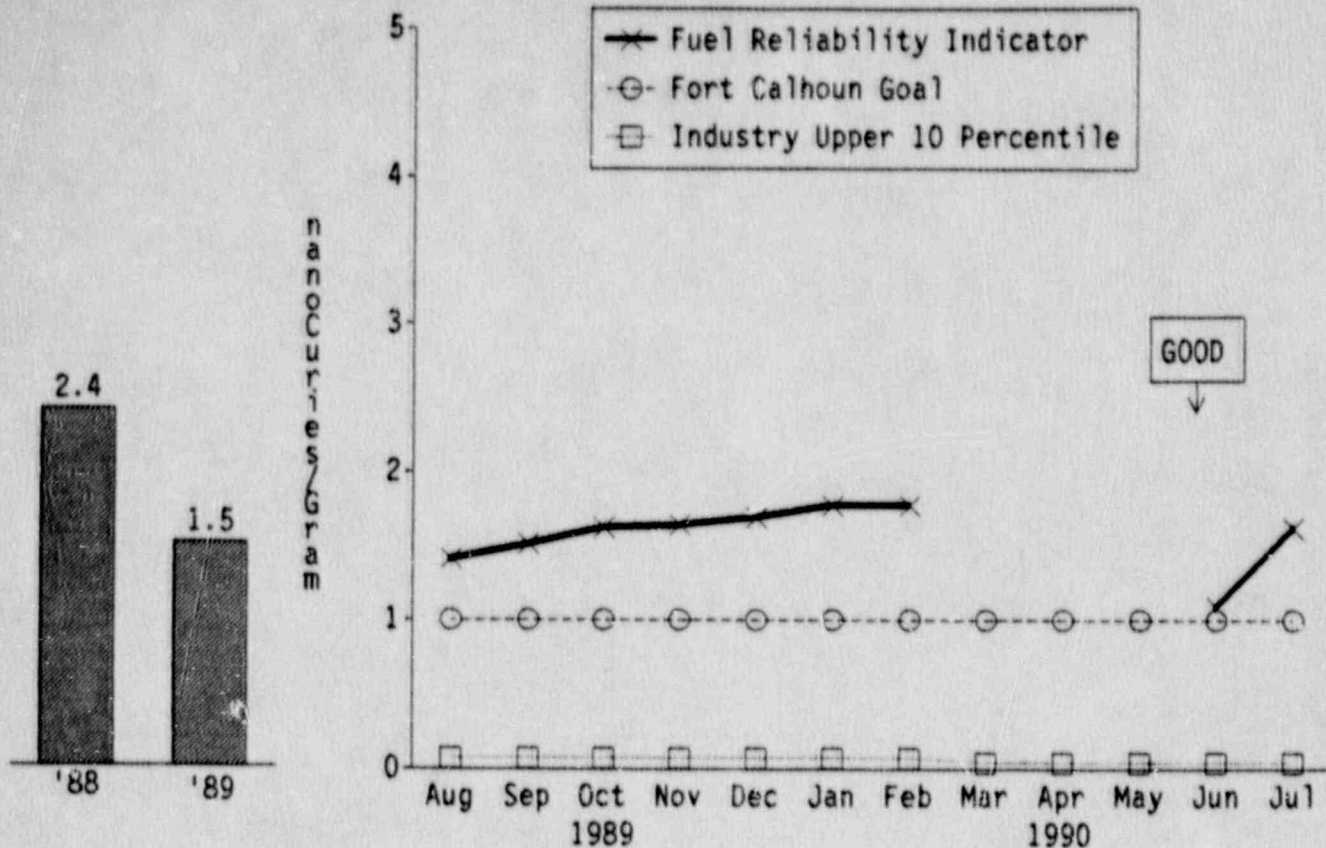
EQUIVALENT AVAILABILITY FACTOR

The Equivalent Availability Factor (EAF) was reported as 97.0% for the month of July.

The 1990 EAF goal is 65.4% while the present 12 month average EAF for Fort Calhoun is 62.9%.

The EAF industry upper ten percentile value is 82.5%.

Adverse Trends: None



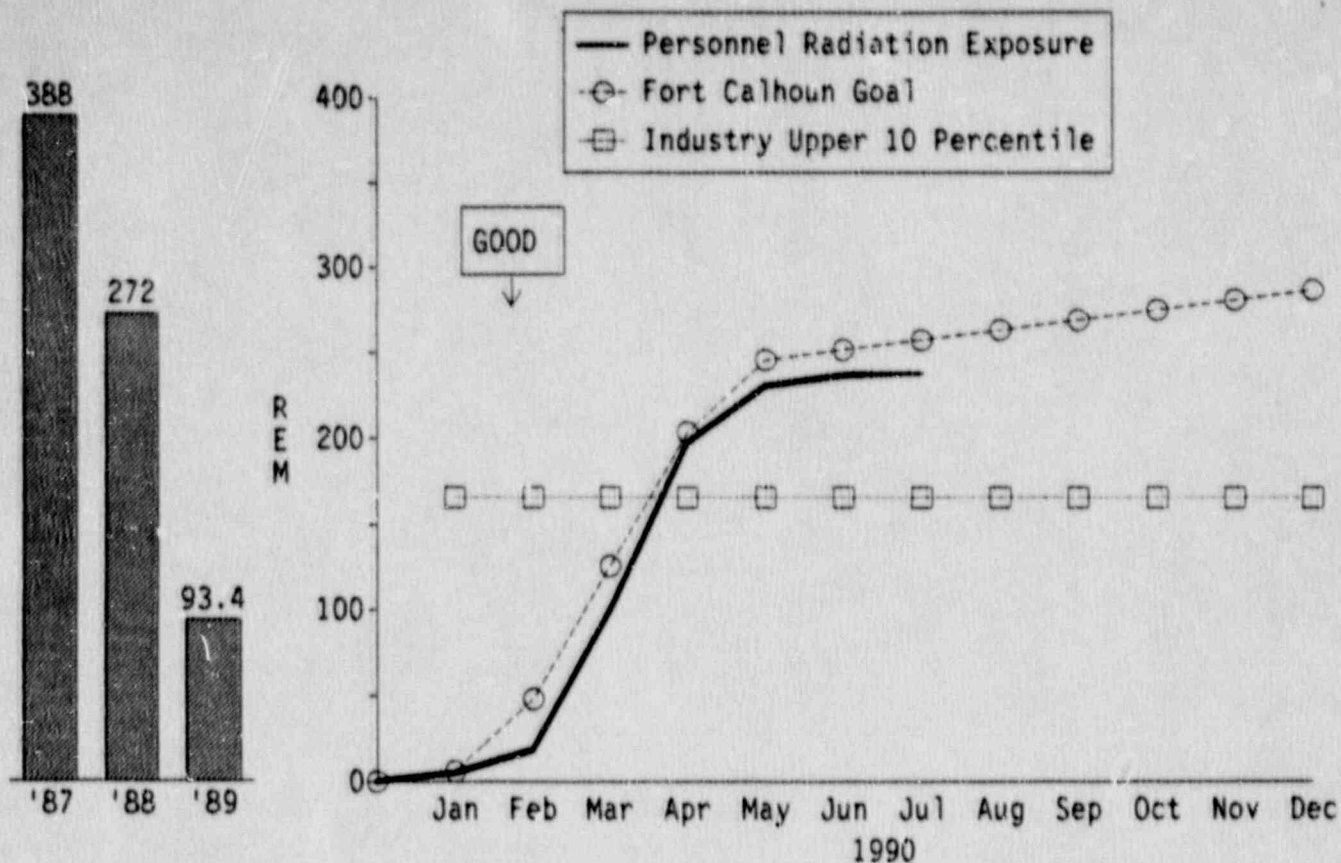
FUEL RELIABILITY INDICATOR

The Fuel Reliability Indicator (FRI) is calculated using an industry normalized purification rate instead of the plant's actual purification rate. The FRI was reported as 1.62 nanocuries/gram for the month of July. This high FRI value was due to high levels of Iodine 131 and Iodine 134 which were detected during July.

The 1990 fuel reliability goal has been set at 1.0 nanocuries/gram.

The fuel reliability indicator industry upper ten percentile value is 0.04 nanocuries/gram.

Adverse Trend: None



PERSONNEL RADIATION EXPOSURE
(CUMULATIVE)

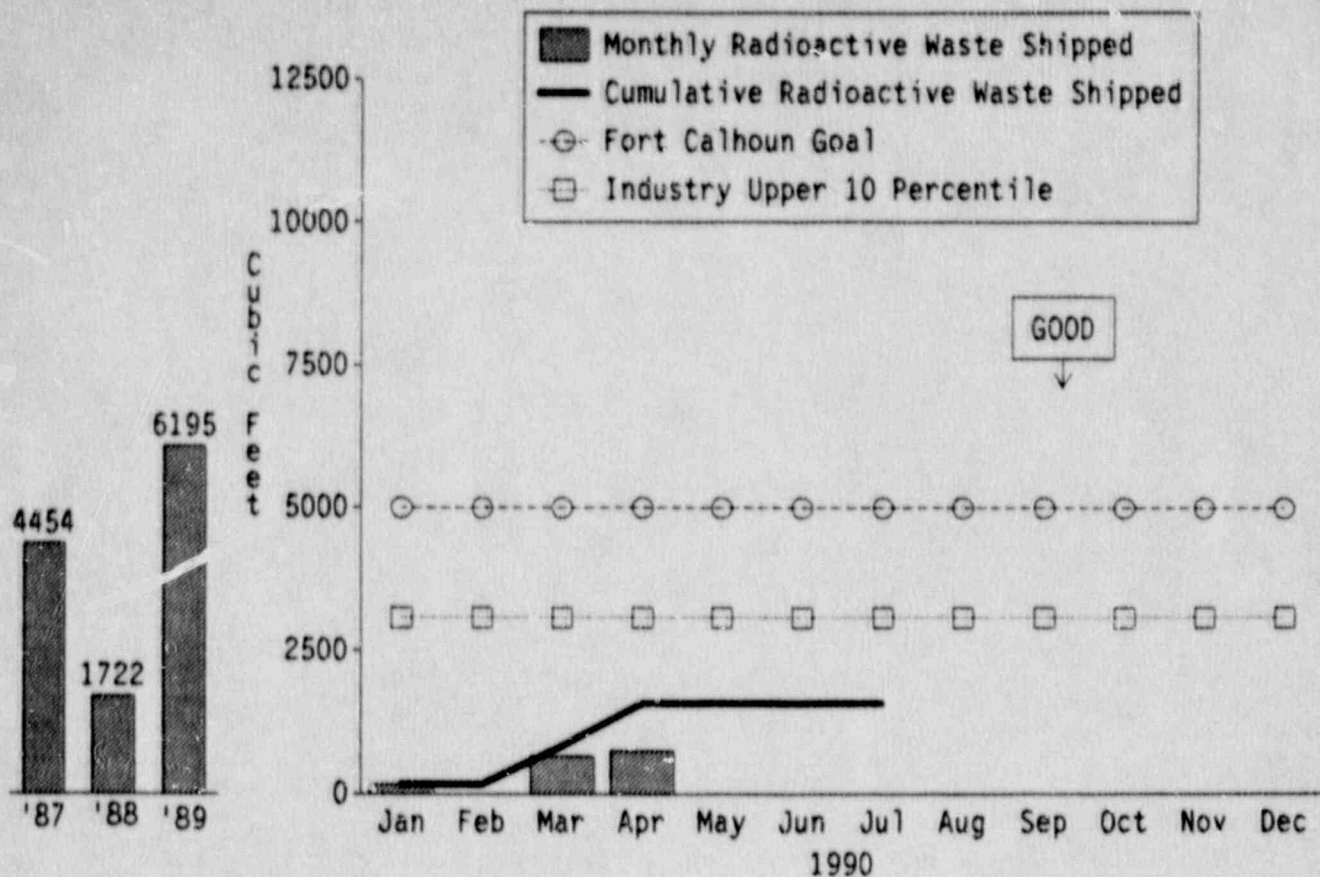
During July, 1990, 2.4 man-rem was recorded by TLD's worn by personnel while working at the Fort Calhoun Station.

The monthly cumulative exposure goal for July was 257.5 man-rem while the actual cumulative exposure through July totaled 238.7 man-rem. The exposure cumulated in 1990 has been high due to the increased activity in the Radiation Controlled Area (RCA) associated with the 1990 Refueling Outage.

The personnel radiation exposure industry upper ten percentile is 166 man-rem per unit per year.

Adverse Trend: None

SEP 54



VOLUME OF LOW-LEVEL SOLID RADIOACTIVE WASTE

The above graph shows the amount of low-level radioactive waste shipped off-site for disposal. The table below lists the amount of waste actually shipped off-site for disposal plus the change in inventory of waste in on-site storage in final form ready for burial.

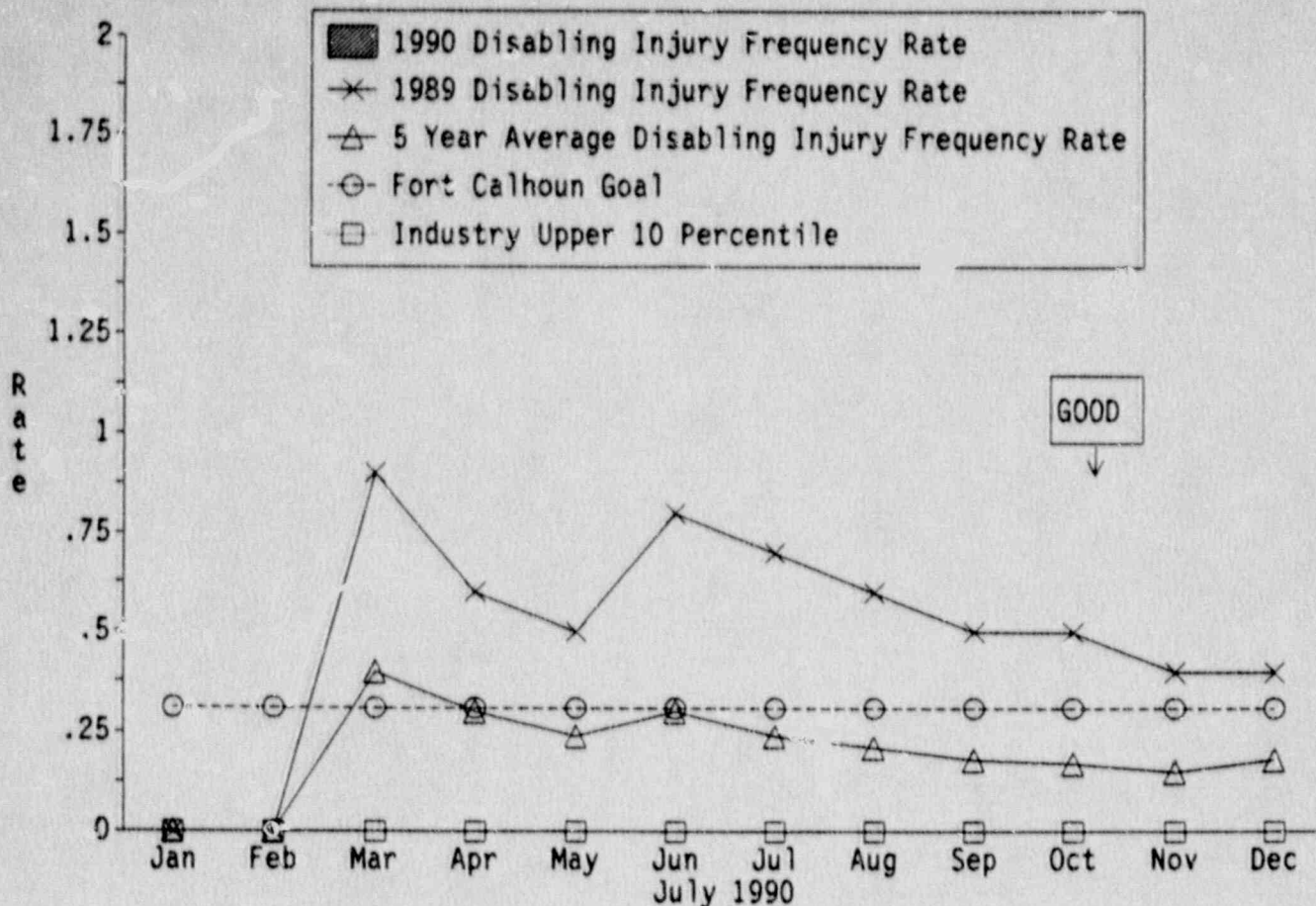
The volume of solid radioactive waste is (cubic feet):

Amount Shipped in July	-	0.0
Amount in Temporary Storage	-	983.0
1990 Cumulative Amount Shipped	-	1568.6
1990 Goal	-	5000.0

The industry upper ten percentile value is 3,072 cubic feet per unit per year. The Fort Calhoun Station was in the upper ten percentile of nuclear plants for this indicator in 1986, 1987 and 1988.

Adverse Trend: None

SEP 54



DISABLING INJURY FREQUENCY RATE
(LOST TIME ACCIDENT RATE)

This indicator shows the current monthly disabling injury rate in column form. The 1989 disabling injury frequency rate and the Fort Calhoun Station 5 year average disabling injury frequency rate are also shown. There were zero disabling injuries reported at the Fort Calhoun Station in July. The total number of disabling injuries in 1990 is zero.

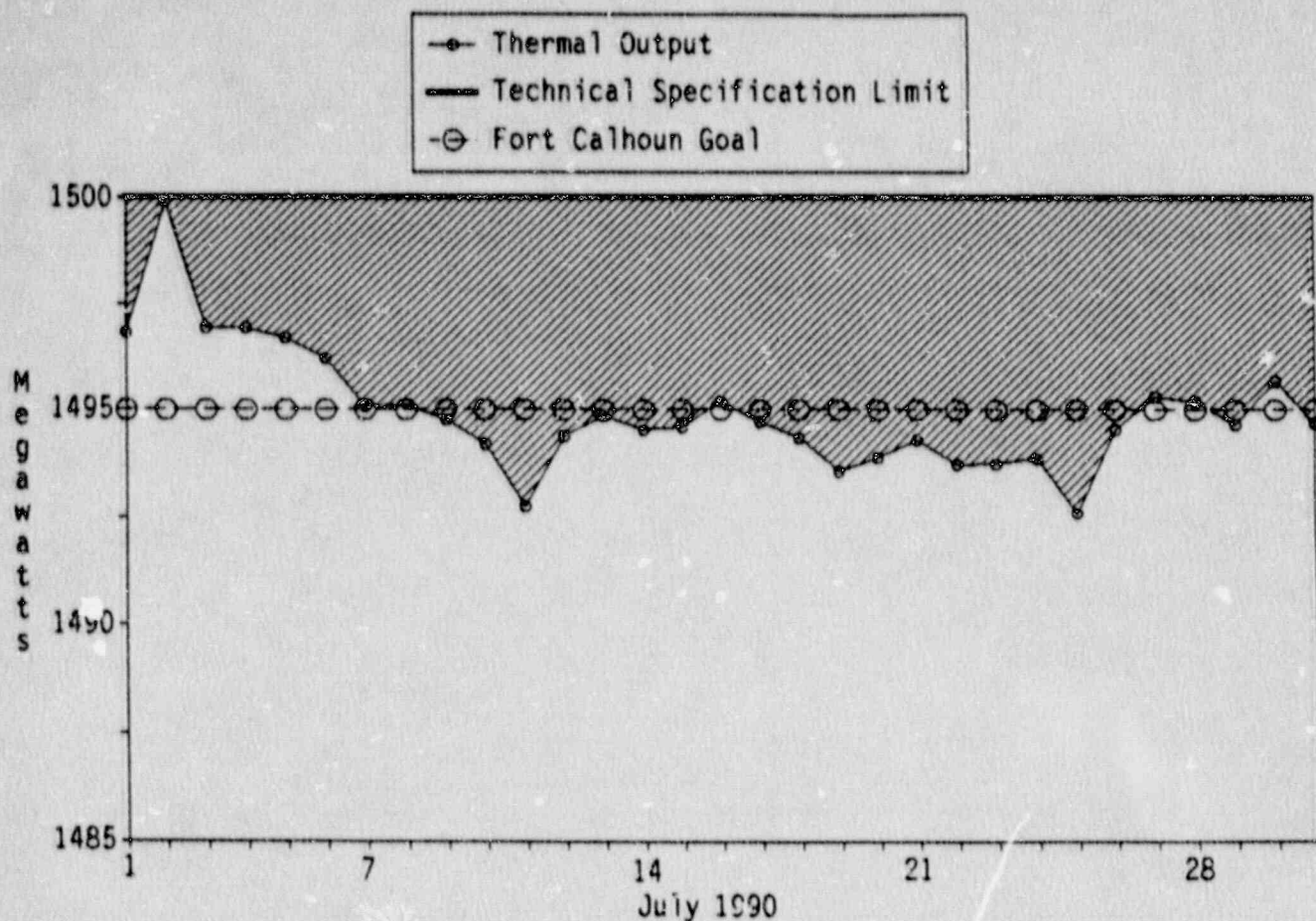
The 1990 disabling injury frequency rate goal was set at 0.31% and was based on one disabling injury occurring in 1990.

The industry upper ten percentile disabling injury frequency rate is 0%. The Fort Calhoun Station is currently performing in the upper ten percentile of nuclear power plants for this indicator.

The year end disabling injury frequency rates for 1987, 1988, and 1989 were 0.6, 1.6, and 0.4 respectively.

Adverse Trend: None

SEP 26

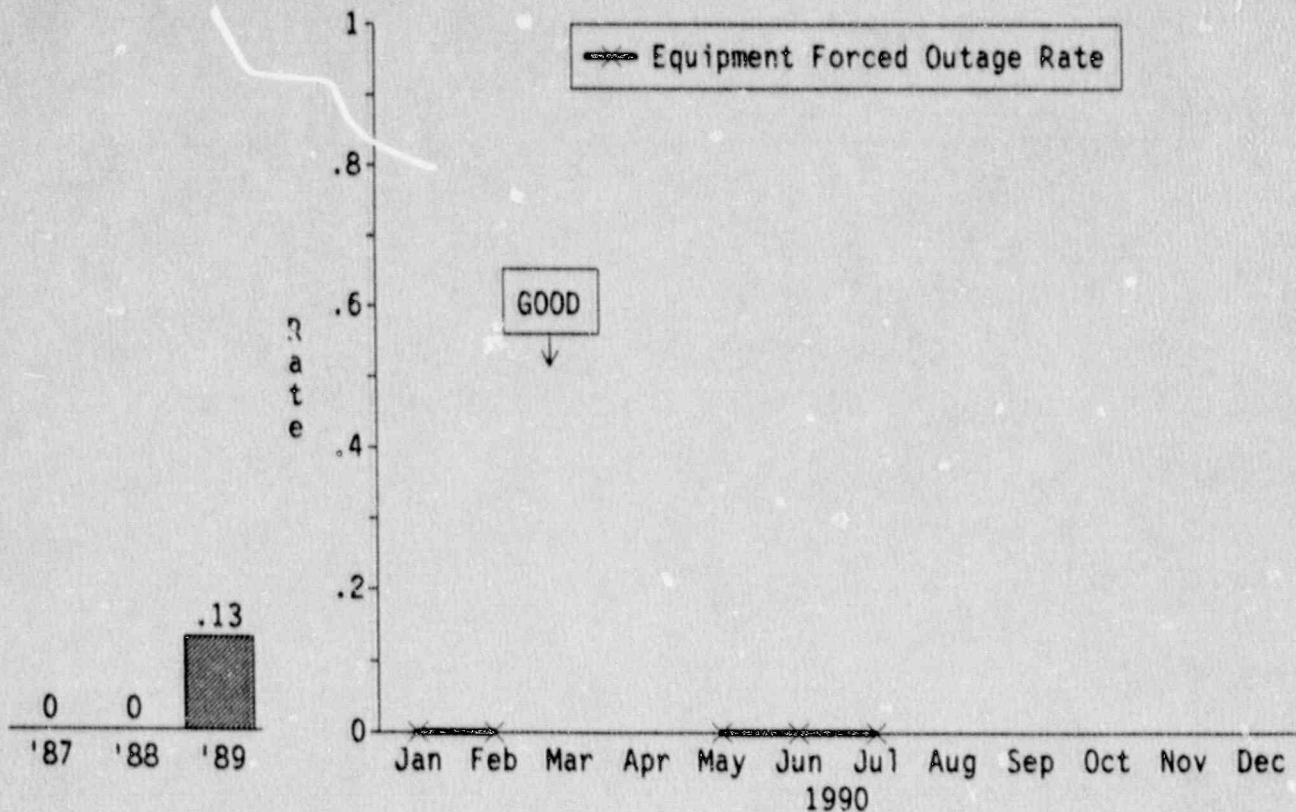


DAILY THERMAL OUTPUT

The above thermal output graph displays the daily operating power level, the 1500 thermal megawatt average technical specification limit, and the 1495 thermal megawatt Fort Calhoun goal. The cross hatched area represents the difference between the maximum allowable operation and the actual plant operation.

The percent power operation of the Fort Calhoun Station for the month of July was reported as approximately 100%.

Adverse Trend: None

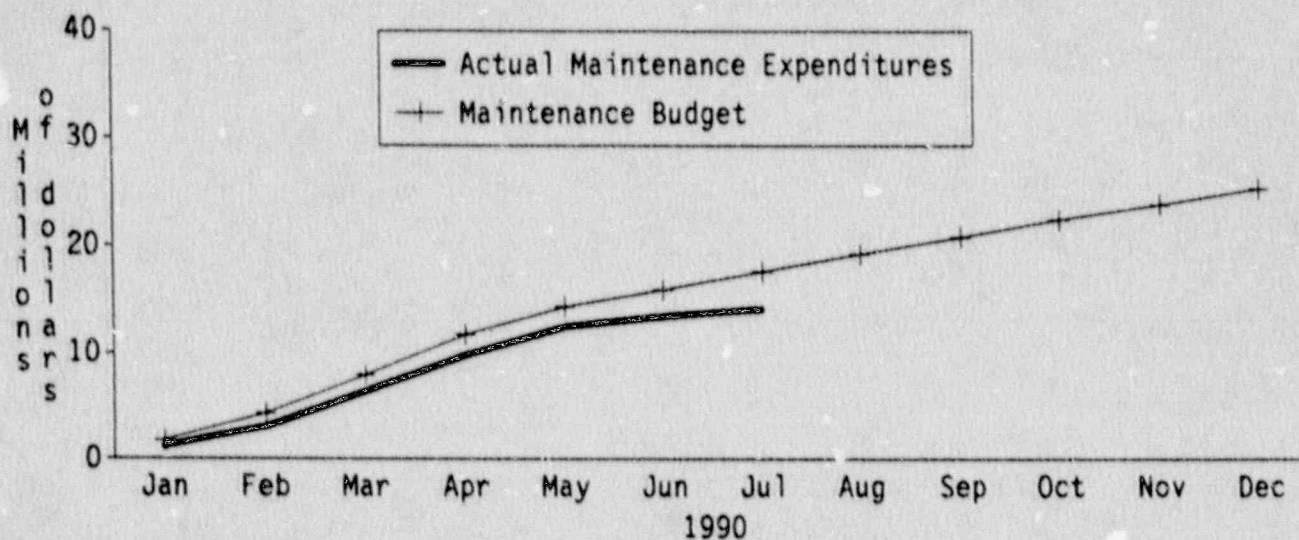
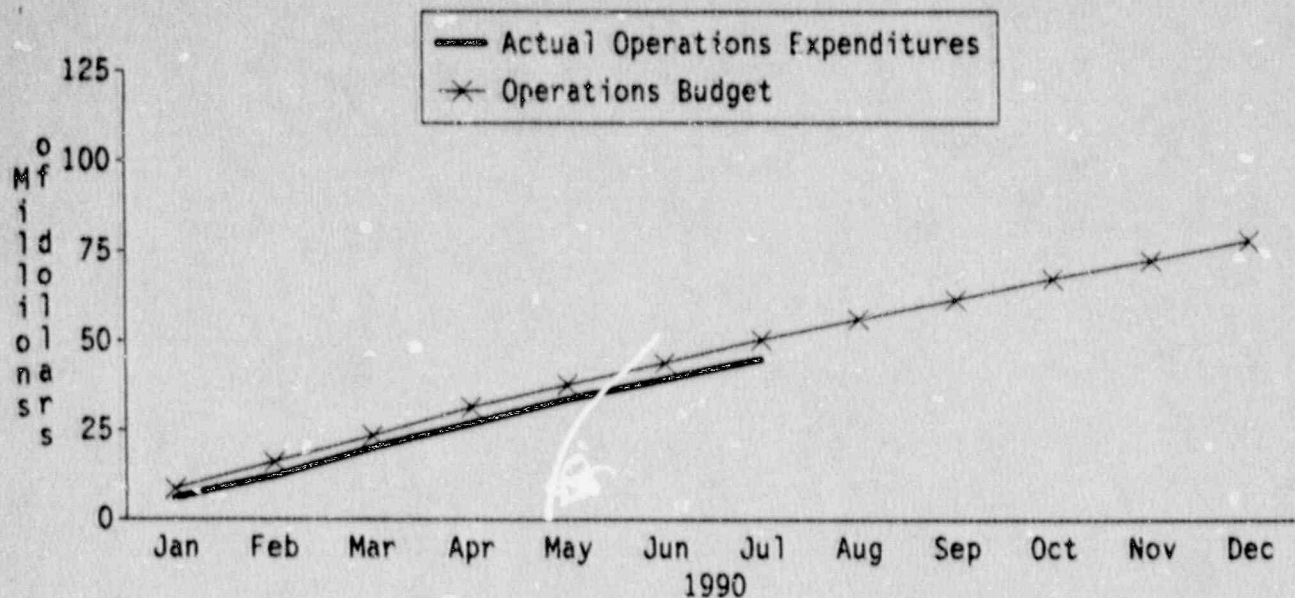


EQUIPMENT FORCED OUTAGES
PER 1000 CRITICAL HOURS

There were no equipment forced outage hours reported during the month of July, 1990.

The last equipment forced outage occurred in September of 1989 and was due to a cable problem with the resistive temperature detector on reactor coolant pump motor RC-3A.

Adverse Trend: None



OPERATIONS AND MAINTENANCE BUDGET

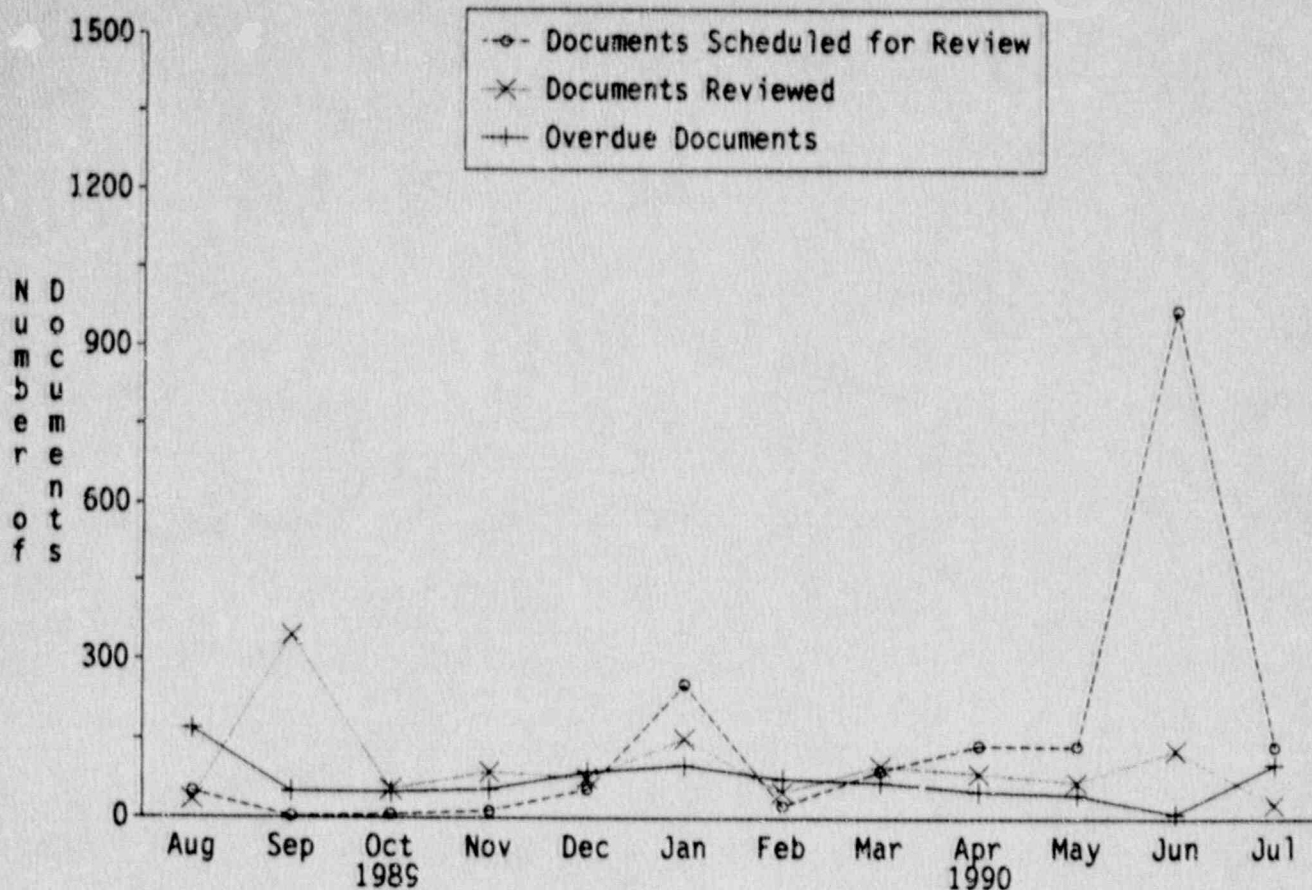
The Operations and Maintenance Budget Indicator shows the budget year to date as well as the actual expenditures for operations and maintenance for the Fort Calhoun Station.

The budget year to date for Operations was 50.1 million dollars for July while the actual cumulative expenditures through July totaled 44.7 million dollars.

The budget year to date for Maintenance was 17.6 million dollars for July while the actual cumulative expenditures through July totaled 14.1 million dollars.

Although Operations and Maintenance are currently 8.9 million dollars under budget, a cost variances study from January through June, 1990, predicts that Operations and Maintenance will be approximately 5.7 million dollars under budget at year end 1990.

Adverse Trends: None



DOCUMENT REVIEW

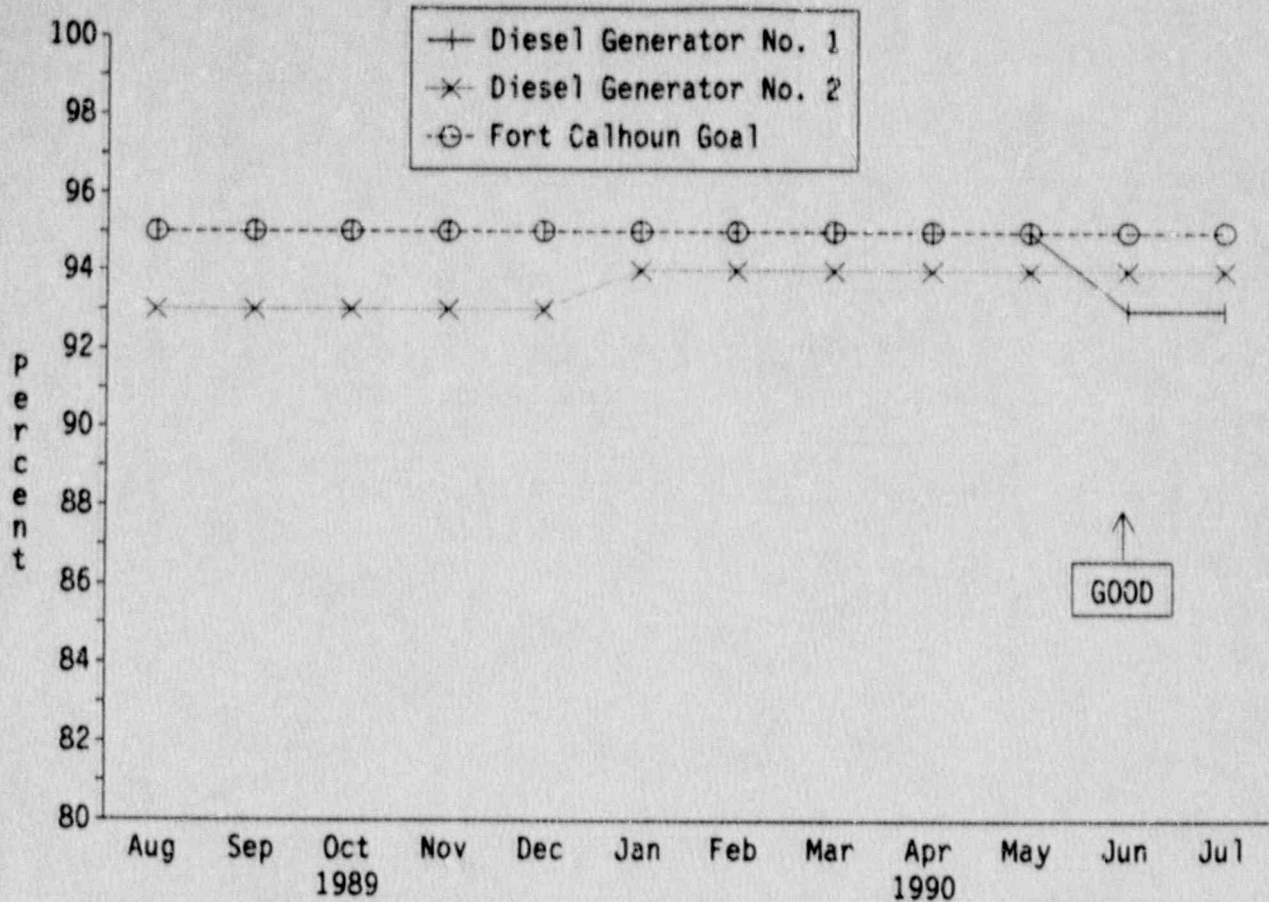
This indicator shows the number of biennial reviews completed during the reporting month, the number of biennial reviews scheduled for the reporting month, and the number of biennial reviews that are overdue. These document reviews are performed in house and include Special Procedures, the Site Security Plan, Maintenance Procedures, Preventive Maintenance, and the Operating Manual.

During July there were 27 document reviews completed while 138 document reviews were scheduled. At the end of July, there were 103 document reviews overdue. The overdue document reviews at the end of July consisted primarily of maintenance documents.

During the month of July there were 15 new or renamed documents reviewed. These new or renamed documents will need to be reviewed again in 1992.

The high number of documents scheduled for review for the month of June, 1990, was due to the high number of document reviews that were completed during the month of June, 1988. The reviews that were completed during June, 1988, are now due to be reviewed.

Adverse Trend: None



DG RELIABILITY
LAST 100 DEMANDS

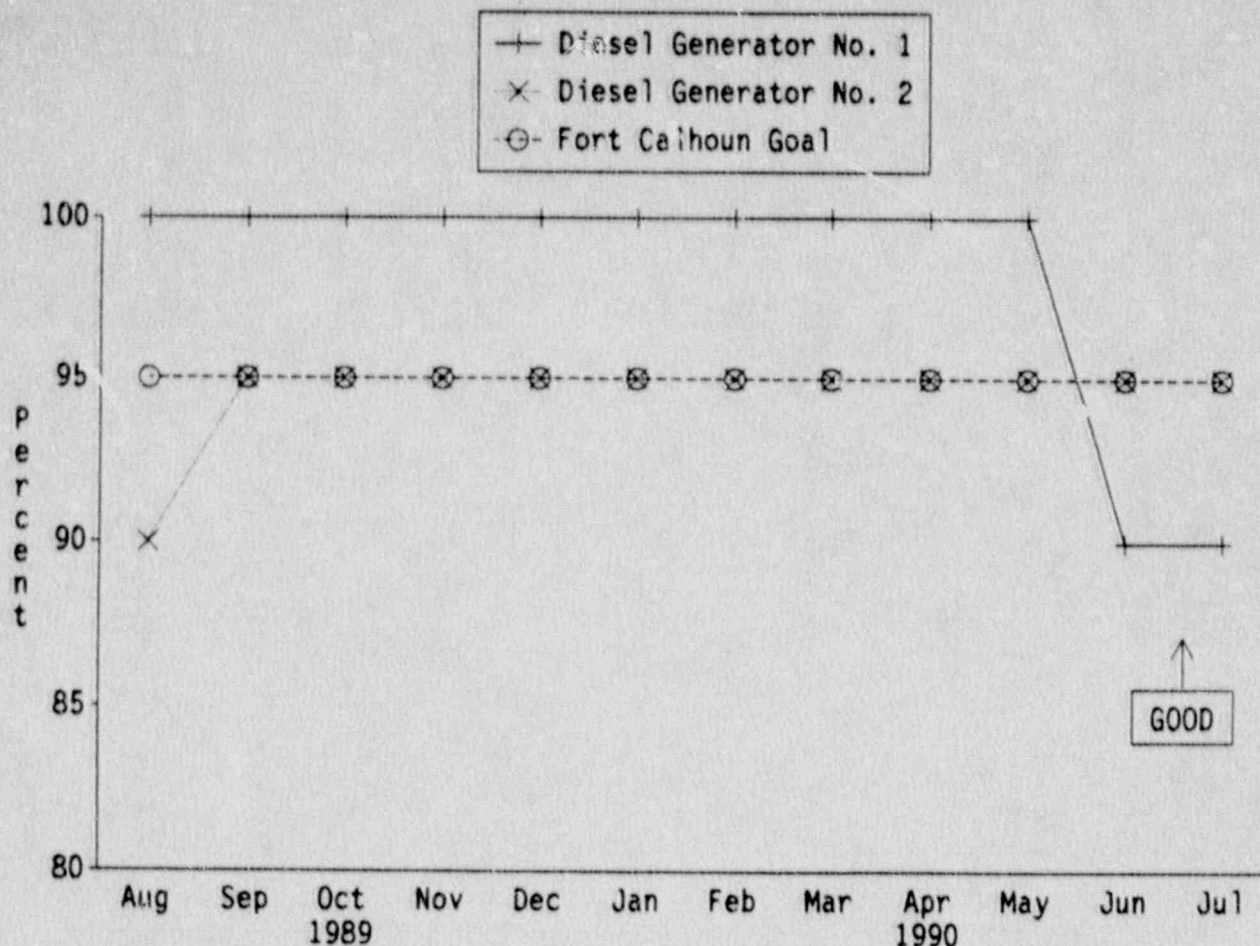
The June, 1990, Performance Indicators Report stated that diesel generator D-1 had one load failure during the month of June due to an inoperable static exciter. Diesel generator D-1 actually had two load failures during the month of June, 1990, due to engine coolant temperature problems. This change results in an actual percent reliability for diesel generator D-1 of 93% for the last 100 valid demands.

Diesel generator D-1 did not have a start and load failure during July, 1990. Diesel generator D-1 has a 93 percent reliability factor over the last 100 valid demands.

Diesel generator D-2 did not have a start and load failure during July, 1990. Diesel generator D-2 has a 94 percent reliability factor over the last 100 valid demands.

The Fort Calhoun goal for the diesel generator reliability is 95%.

Adverse Trend: None



DG RELIABILITY LAST 20 DEMANDS

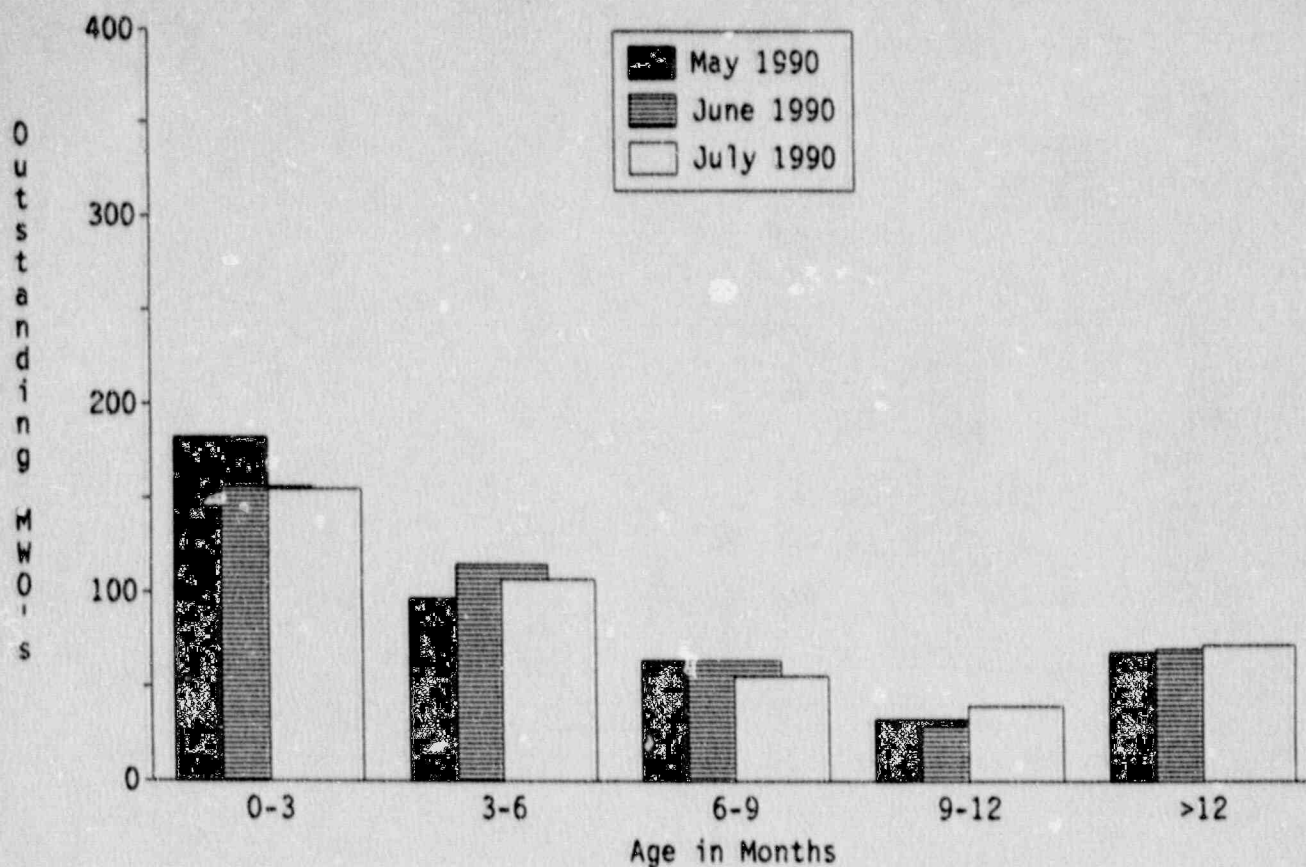
The June, 1990, Performance Indicators Report stated that diesel generator D-1 had one load failure during the month of June due to an inoperable static exciter. Diesel generator D-1 actually had two load failures during the month of June, 1990, due to engine coolant temperature problems. This change results in an actual percent reliability for diesel generator D-1 of 90% for the last 20 valid demands.

Diesel generator D-1 did not have a start and load failure during July, 1990. Diesel generator D-1 has a 90 percent reliability factor over the last 20 valid demands.

Diesel generator D-2 did not have a start and load failure during July, 1990. Diesel generator D-2 has a 95 percent reliability factor over the last 20 valid demands.

The Fort Calhoun goal for the diesel generator reliability for the last 20 demands is set at 95%. Diesel D-2 presently meets this goal.

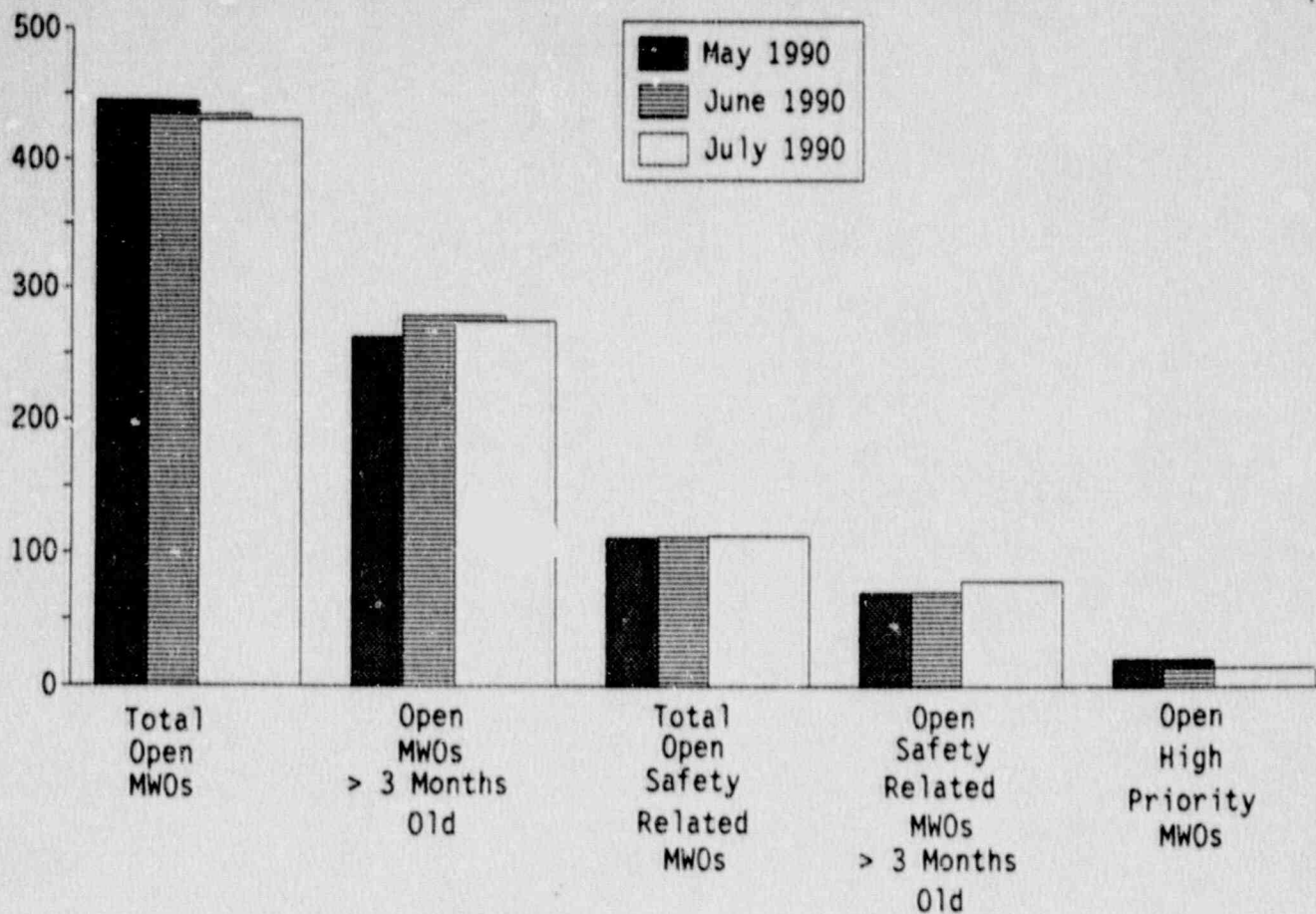
Adverse Trend: None



AGE OF OUTSTANDING MAINTENANCE WORK ORDERS
(CORRECTIVE NON-OUTAGE)

This indicator shows the age of corrective non-outage maintenance work orders (MWO's) remaining open at the end of the reporting month.

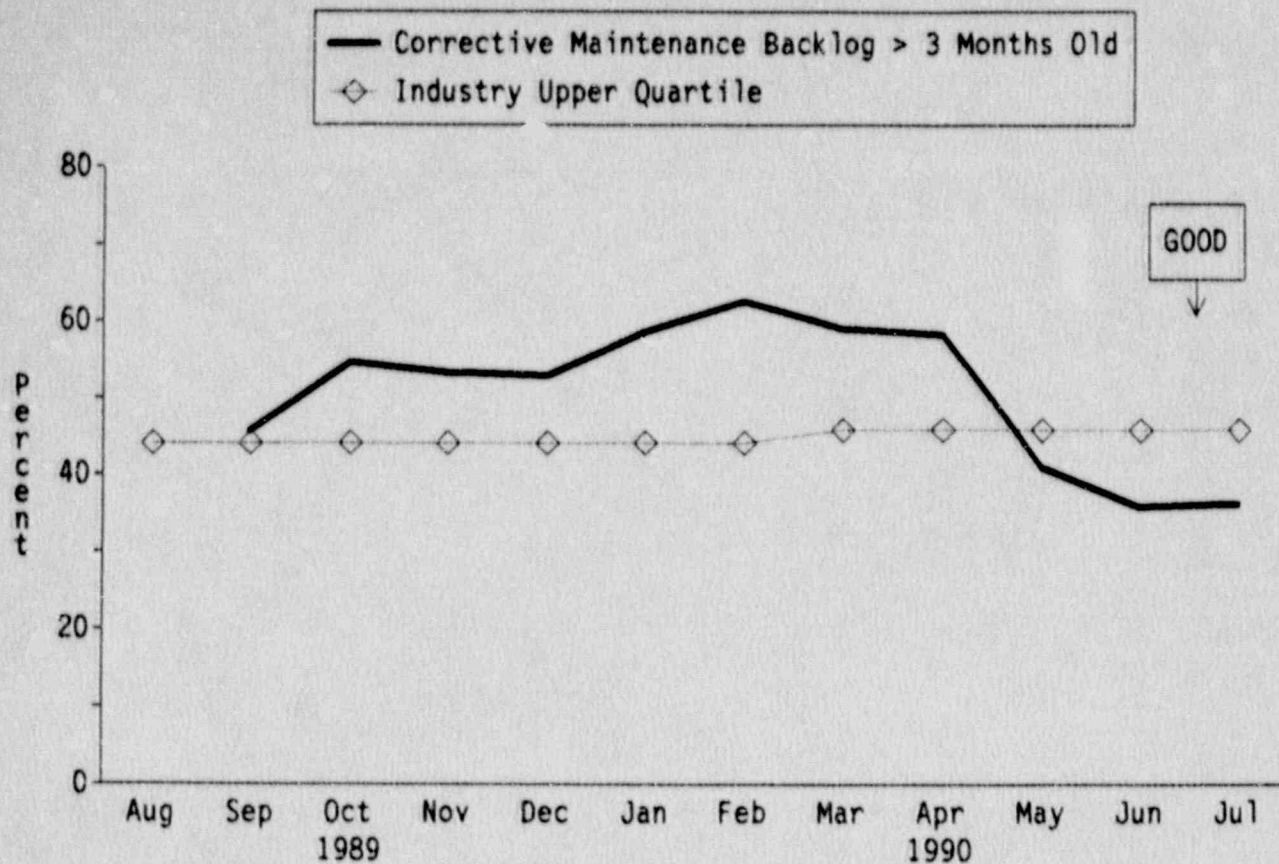
Adverse Trend: None



MAINTENANCE WORK ORDER BREAKDOWN
(CORRECTIVE NON-OUTAGE)

This indicator shows the total number of corrective non-outage MWO's remaining open at the end of the reporting month, along with a breakdown by several key categories.

Adverse Trend: None



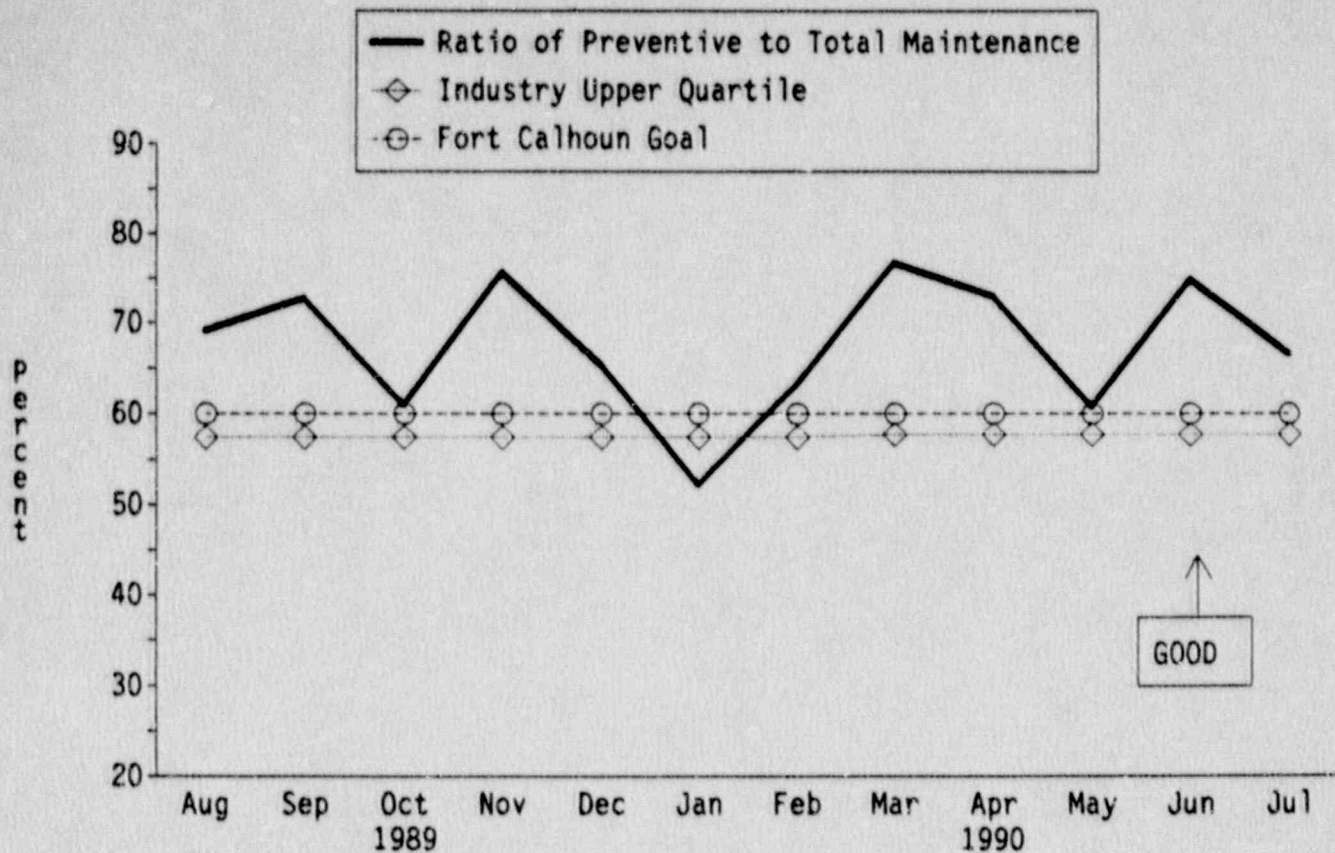
CORRECTIVE MAINTENANCE BACKLOG
GREATER THAN 3 MONTHS OLD
 (NON-OUTAGE)

This indicator shows the percentage of open corrective non-outage maintenance work orders that are greater than three months old at the end of the reporting month.

The percentage of open corrective non-outage maintenance work orders that are greater than three months old at the end of July was reported as 36.3%

The industry upper quartile value for corrective maintenance backlog greater than 3 months old is 45.8%. The Fort Calhoun Station is currently operating in the upper quartile of nuclear power plants for this indicator.

Adverse Trend: None



RATIO OF PREVENTIVE TO TOTAL MAINTENANCE
(NON-OUTAGE)

The ratio of preventive to total maintenance indicator shows the ratio of completed non-outage preventive maintenance to total completed non-outage maintenance.

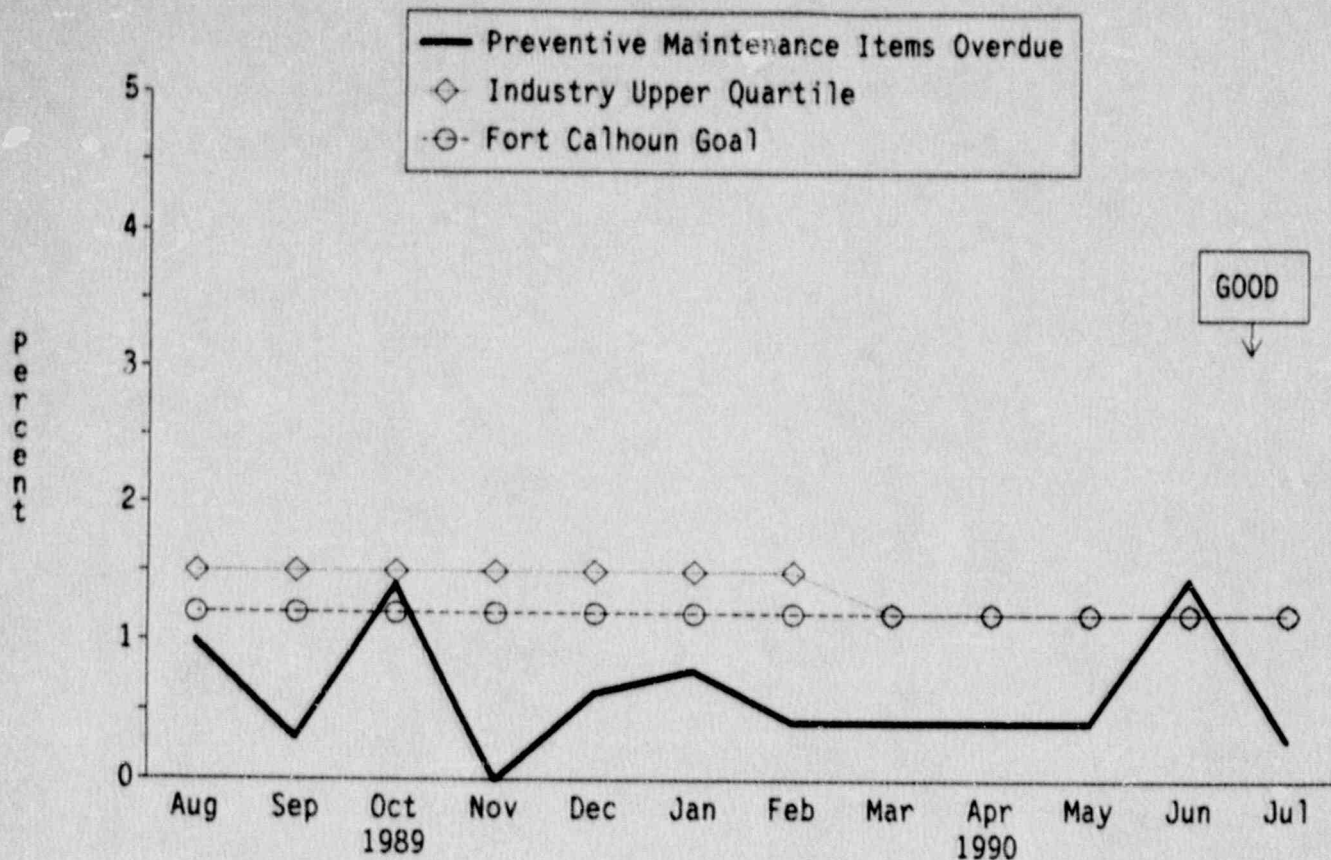
The ratio of preventive to total maintenance at the Fort Calhoun Station decreased to 66.7% in July.

The Fort Calhoun goal is to have a ratio of preventive to total maintenance greater than 60%.

The industry upper quartile value for the ratio of preventive to total maintenance is 57.7%. The Fort Calhoun Station is currently performing in the upper quartile of nuclear power plants in this area.

Adverse Trend: None

SEP 41



PREVENTIVE MAINTENANCE ITEMS OVERDUE

The purpose of this indicator is to monitor progress in the administration and execution of preventive maintenance programs. A small percentage of preventive maintenance items overdue indicates a station commitment to the preventive maintenance program and an ability to plan, schedule, and perform preventive maintenance tasks as programs require.

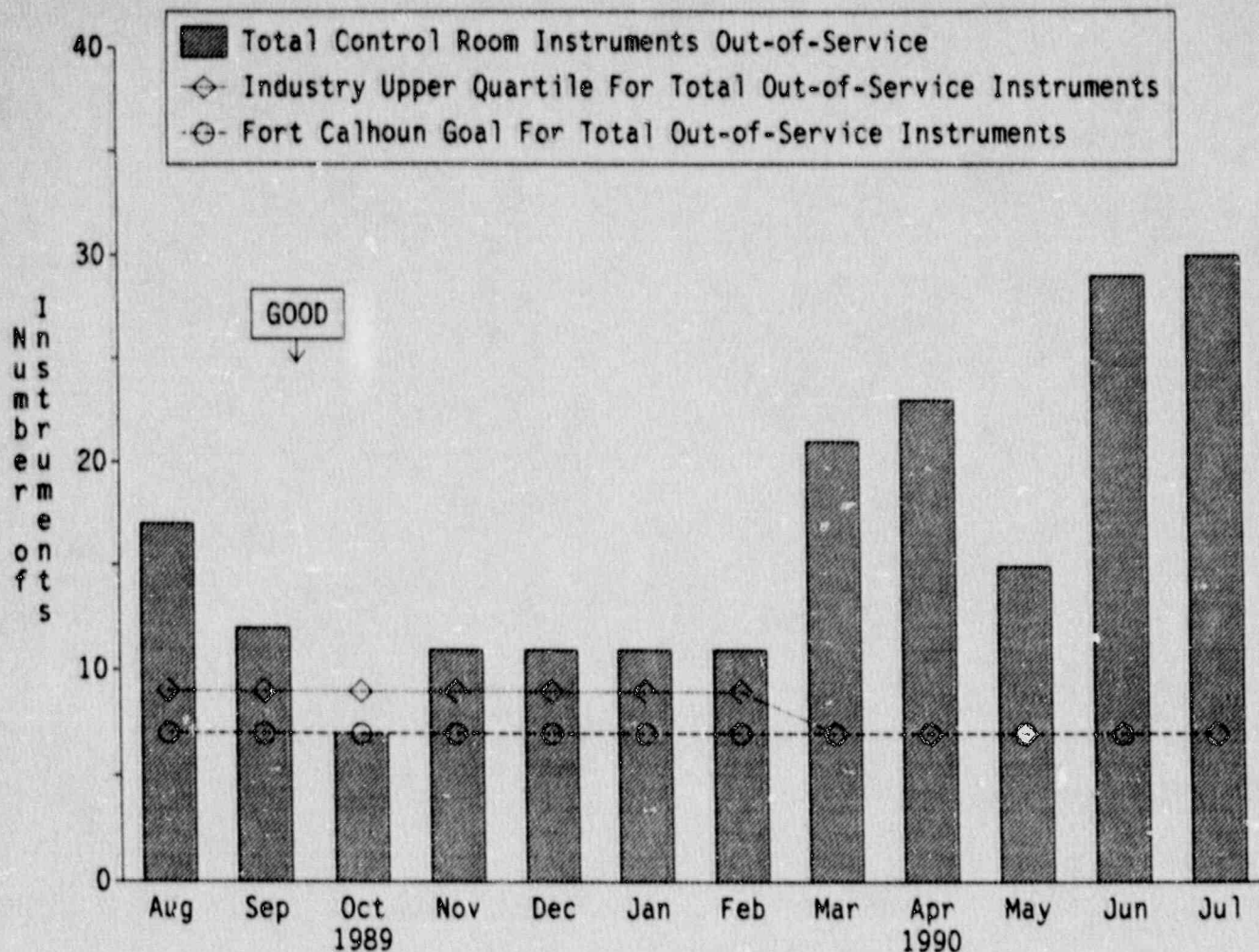
This indicator reflected 2.1% for PM's that were overdue for the months of February through May, 1990. During July, the outstanding refueling outage preventive maintenance items were closed. The backlog of overdue items has been reduced from 86 to 17. This change in the number of overdue PM items reduced the percent of overdue PM's to 0.42% for the months of February through May, 1990.

During July, 1990, 678 PM items were completed. A total of 2 PM items were not completed within the allowable grace period.

The Fort Calhoun goal is to have less than 1.2% preventive maintenance items overdue. The industry upper quartile for preventive maintenance items overdue is 1.2%. The Fort Calhoun Station is currently performing in the industry upper quartile for this indicator.

Adverse Trend: None

SEP 41



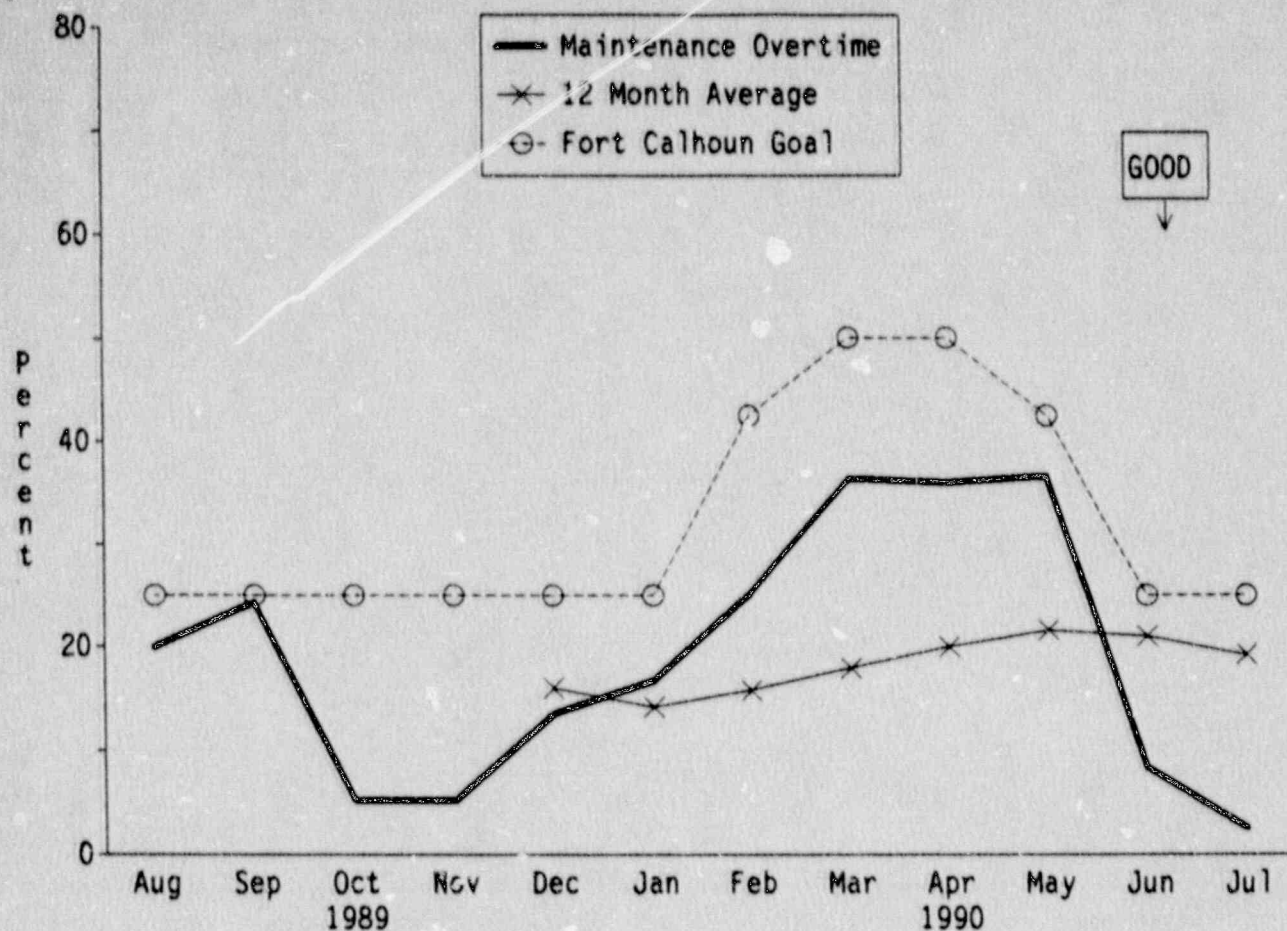
NUMBER OF OUT-OF-SERVICE
CONTROL ROOM INSTRUMENTS

This indicator shows the number of out-of-service control room instruments, the industry upper quartile for this indicator, and the Fort Calhoun goal.

There was a total of 30 out-of-service control room instruments at the end of July. The increase in the number of out-of-service control room instruments is due to an Engineering evaluation of the INPO definition of out-of-service control room instruments. The Fort Calhoun Station is now reporting out-of-service control room instruments as requested by the INPO definition. Another reason for the high number of out-of-service instruments is due to the high number of control room instrument deficiencies being added each month.

The Fort Calhoun goal is to have less than 7 out-of-service control room instruments. The industry upper quartile value for the number of out-of-service control room instruments is 7.

Adverse Trend: The number of out-of-service control room instruments has been increasing since May, 1990. This increase is due to changes being made to this indicator and to the large amount of deficiencies being added to the out-of-service control room instruments list each month.



MAINTENANCE OVERTIME

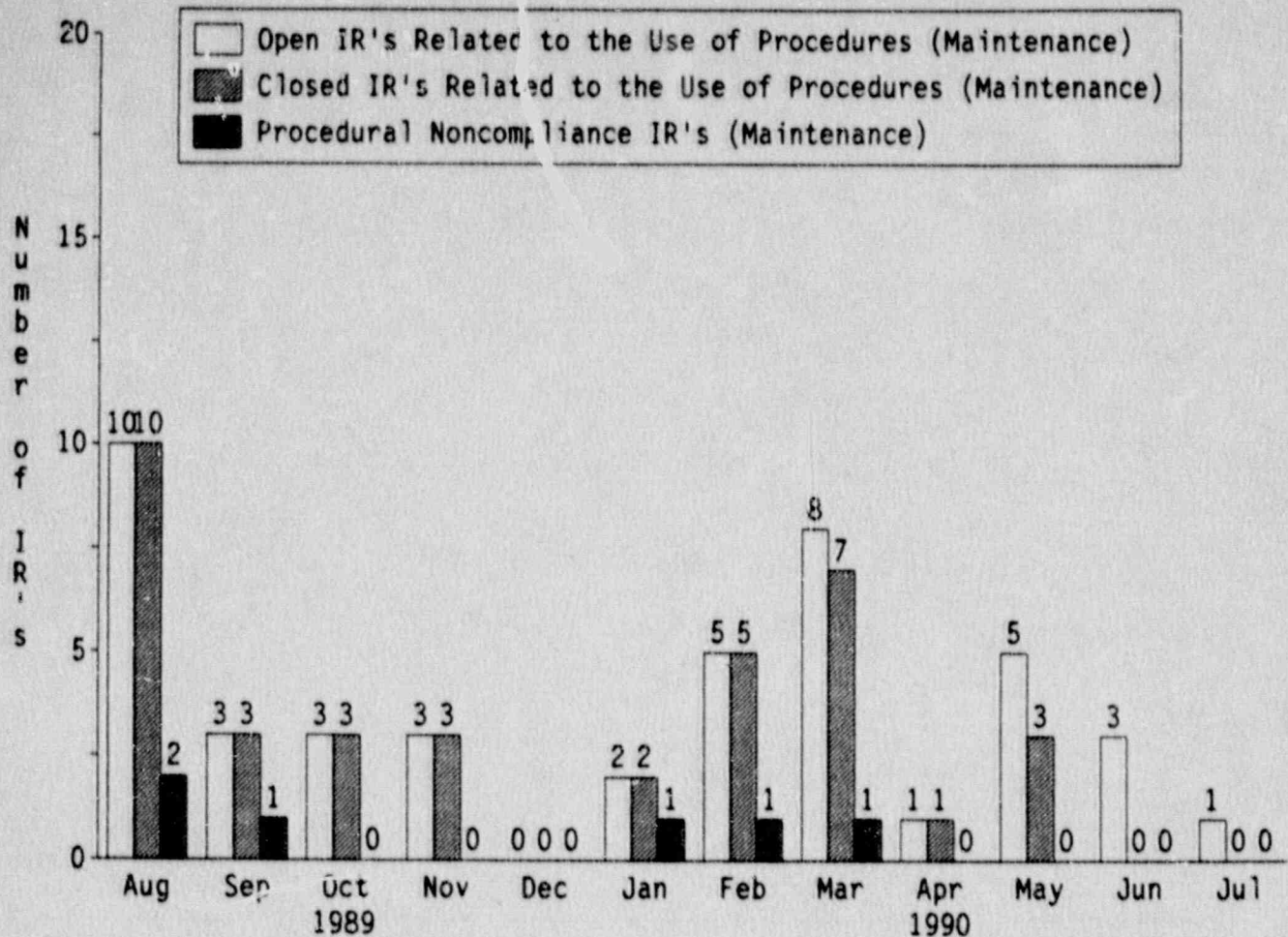
The Maintenance Overtime Indicator monitors the ability to perform the desired maintenance activities with the allotted resources. Excessive overtime indicates insufficient resource allocation and can lead to errors due to fatigue.

The percent of overtime hours with respect to normal hours was reported as 2.6% during the month of July, 1990. The 12 month average percentage of overtime hours with respect to normal hours was reported as 19.2%.

The high percentage of overtime hours reported for the months of February, 1990, through May, 1990, was due to increased maintenance support associated with the 1990 Refueling Outage.

The Fort Calhoun goal for the percent of maintenance overtime hours worked has been set at 25% for non-outage months and 50% for outage months.

Adverse Trend: None



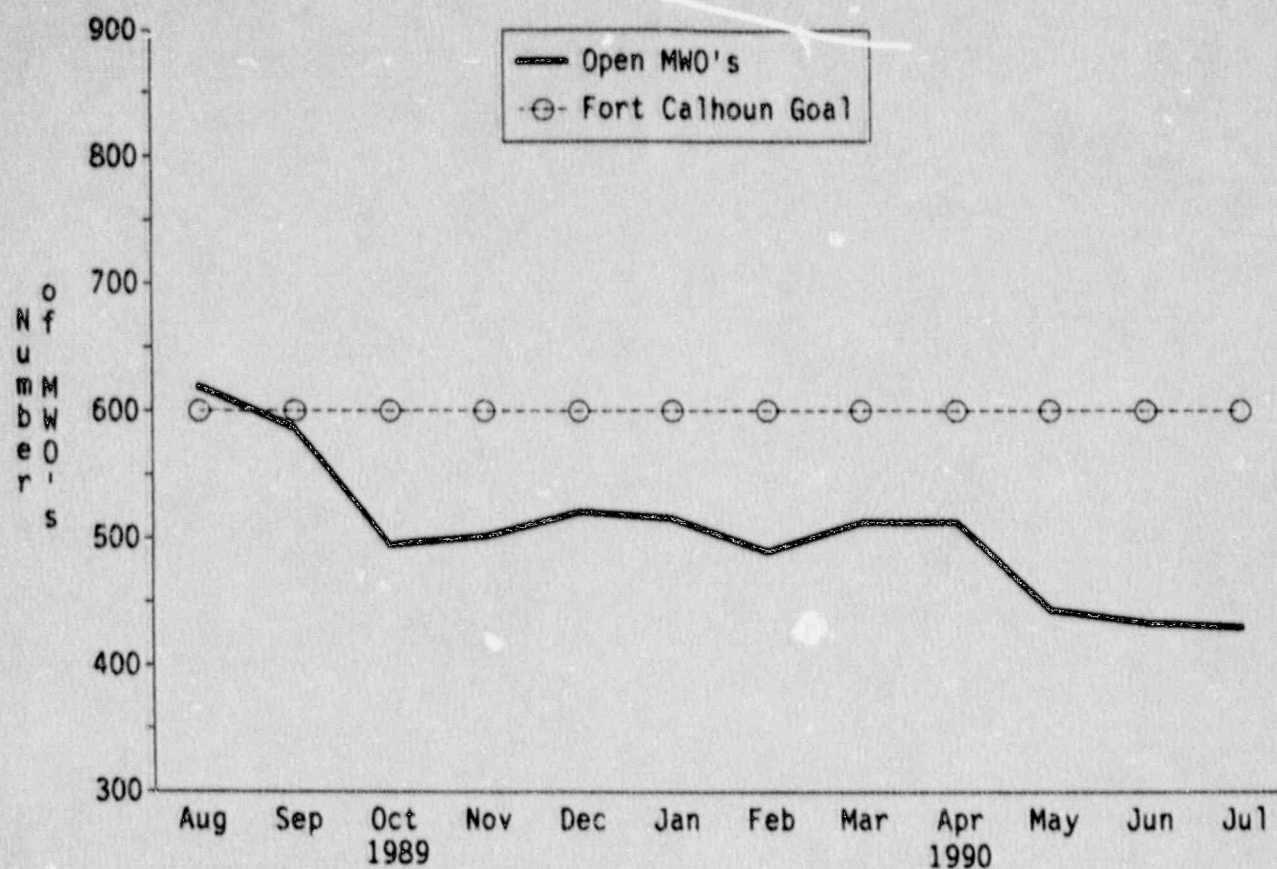
PROCEDURAL NONCOMPLIANCE INCIDENTS (MAINTENANCE)

This indicator shows the number of identified Maintenance Incidents Reports (IR's) that are related to the use of procedures, the number of closed IR's that are related to the use of procedures (includes IR's that were caused by procedural noncompliance), and the number of closed IR's that were caused by procedural noncompliance.

It should be noted that the second and third columns will lag behind the first column until the IR's are closed. This reporting method is due to the process in which IR's receive category codes. IR's receive their category codes when they are closed.

Adverse Trend: None

SEP 15 & 44



MAINTENANCE WORK ORDER BACKLOG
(CORRECTIVE NON-OUTAGE MAINTENANCE)

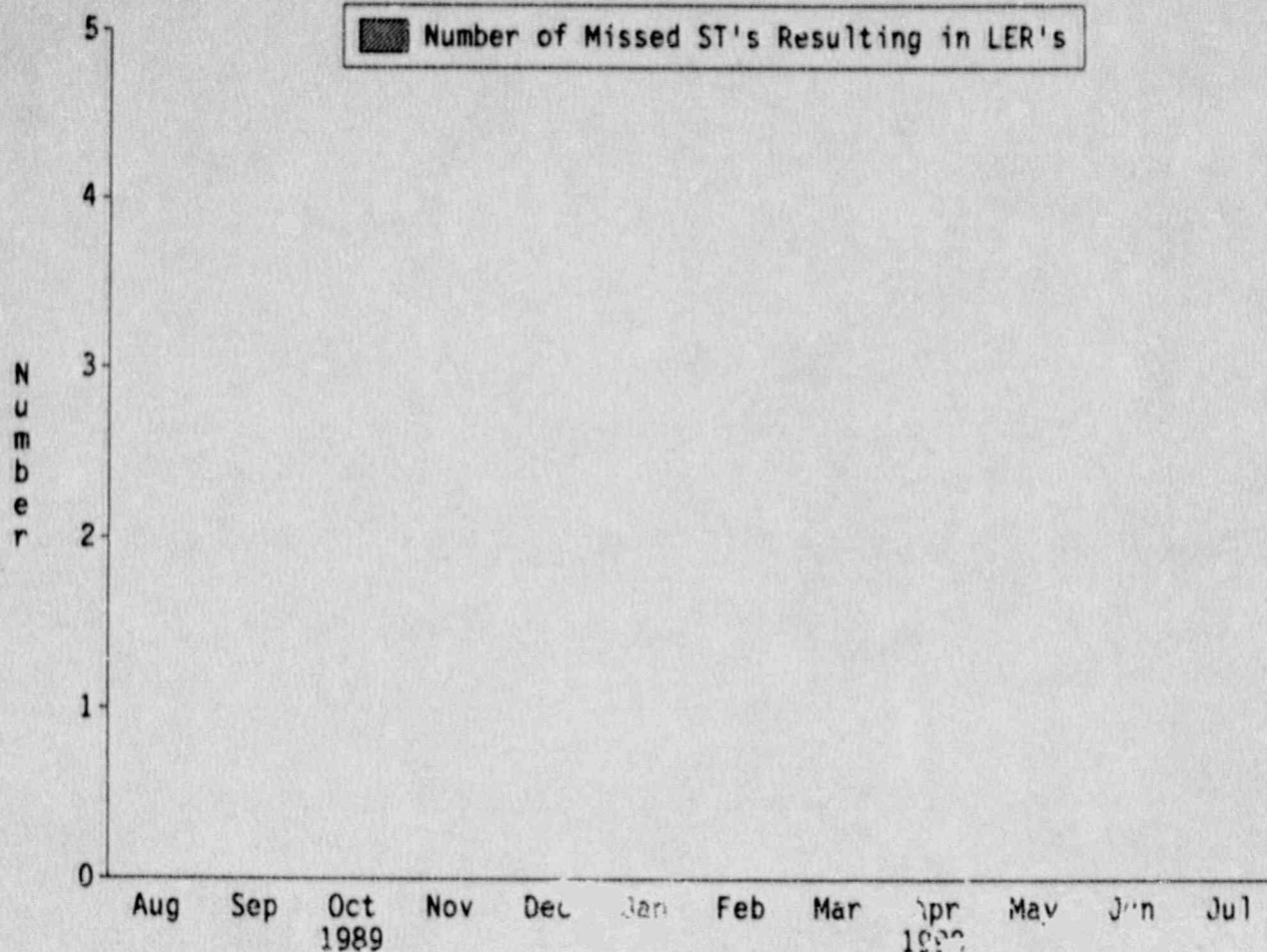
This indicator shows the number of corrective non-outage maintenance work orders that are open at the end of the reporting month.

At the end of July, 1990, there were 430 corrective non-outage maintenance work orders remaining open.

The goal for this indicator is to have less than 600 corrective non-outage maintenance work orders remaining open.

Adverse Trend: None

SEP 36



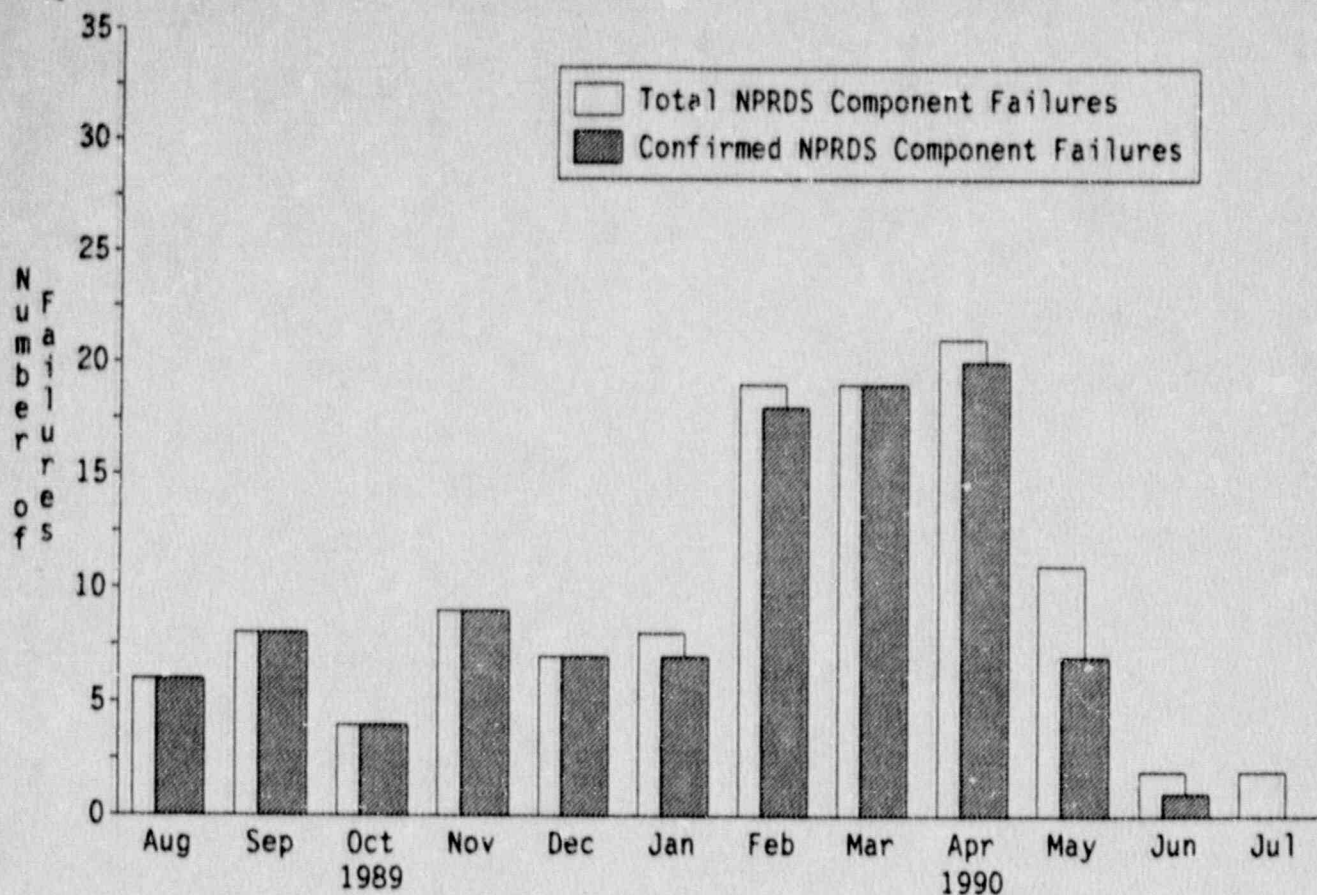
NUMBER OF MISSED SURVEILLANCE TESTS
RESULTING IN LICENSEE EVENT REPORTS

This indicator shows the number of missed Surveillance Tests (ST's) that result in Licensee Event Reports (LER's) during the reporting month.

During the month of July, 1990, there were no missed ST's that resulted in LER's.

Adverse Trend: None

SEP 60 & 61

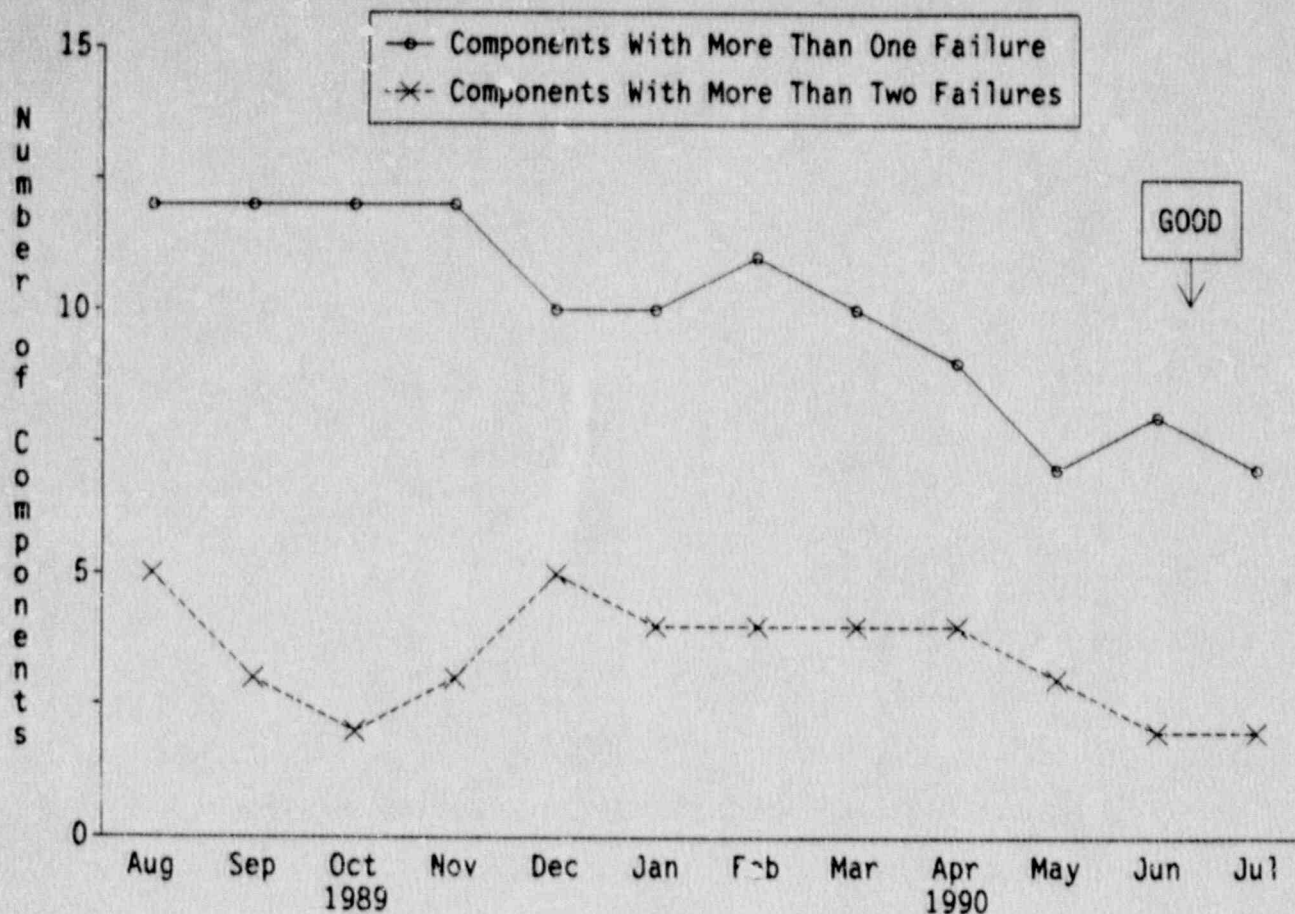


NUMBER OF NUCLEAR PLANT RELIABILITY
DATA SYSTEMS (NPRDS)
REPORTABLE FAILURES

This indicator shows the total number of NPRDS component failures and the number of confirmed NPRDS component failures. The total number of NPRDS component failures is based upon the number of failure reports sent to INPO. The number of confirmed NPRDS component failures is based upon the number of failure reports that have been accepted by INPO. The difference of these two figures is the number of failure reports still under review by INPO.

During July, 1990, there was a total of zero confirmed NPRDS component failures.

Adverse Trend: None



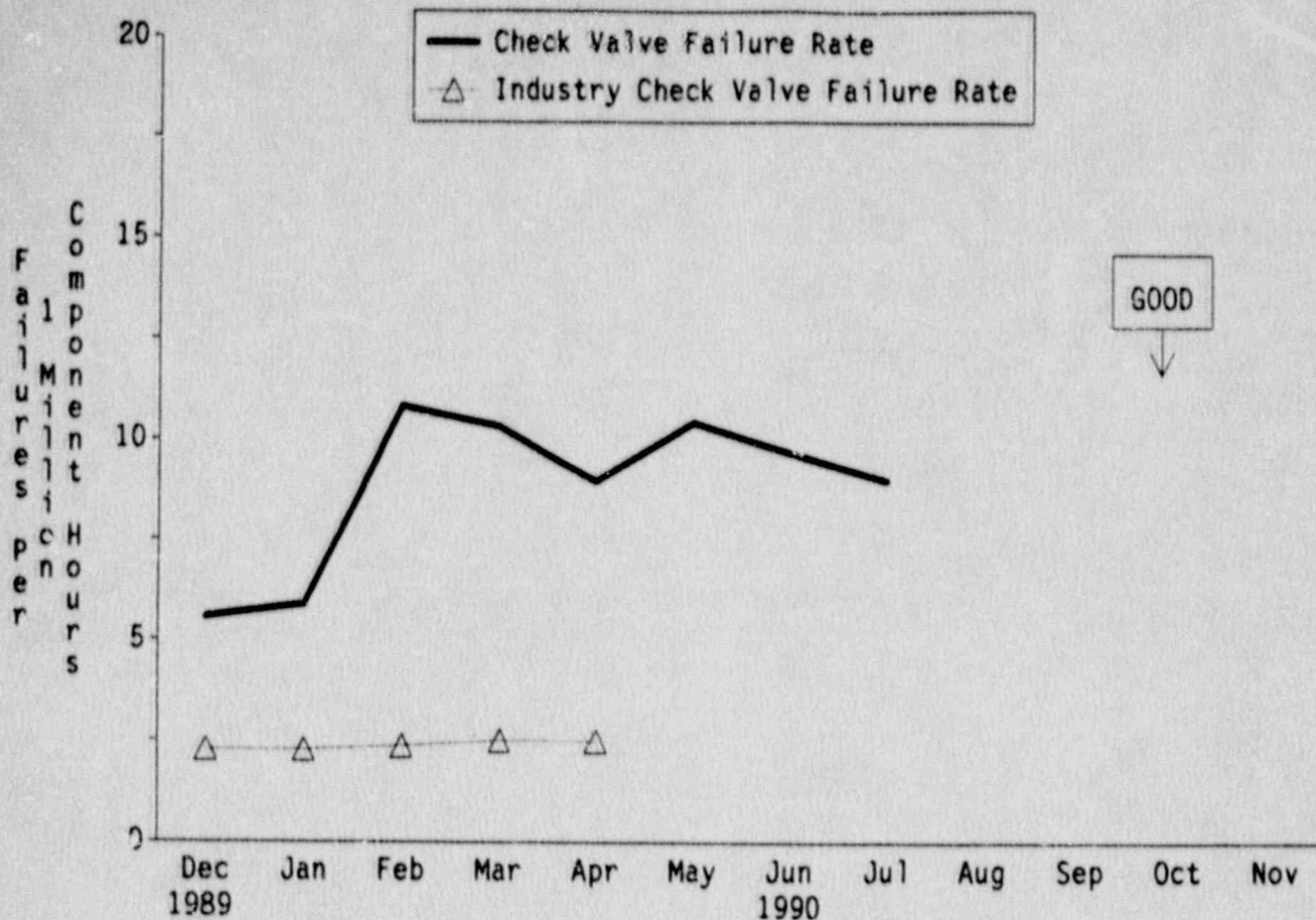
MAINTENANCE EFFECTIVENESS

The Maintenance Effectiveness Indicator was developed following guidelines set forth by the Nuclear Regulatory Commission's Office for Analysis and Evaluation of Operational Data (NRC/AEOD). The NRC/AEOD is currently developing and verifying a maintenance effectiveness indicator using the Nuclear Plant Reliability Data System (NPRDS) component failures.

This indicator shows the number of NPRDS components with more than one failure during the last twelve months and the number of NPRDS components with more than two failures during the last twelve months. The number of NPRDS components with more than two failures in a twelve-month period should indicate the effectiveness of plant maintenance.

During July, 1990, there were 7 NPRDS components with more than one failure and 2 NPRDS components with more than two failures. The tag numbers of the 2 NPRDS components with more than two failures in the last twelve months include: CH-1B and CH-1C.

Adverse Trend: None



CHECK VALVE FAILURE RATE

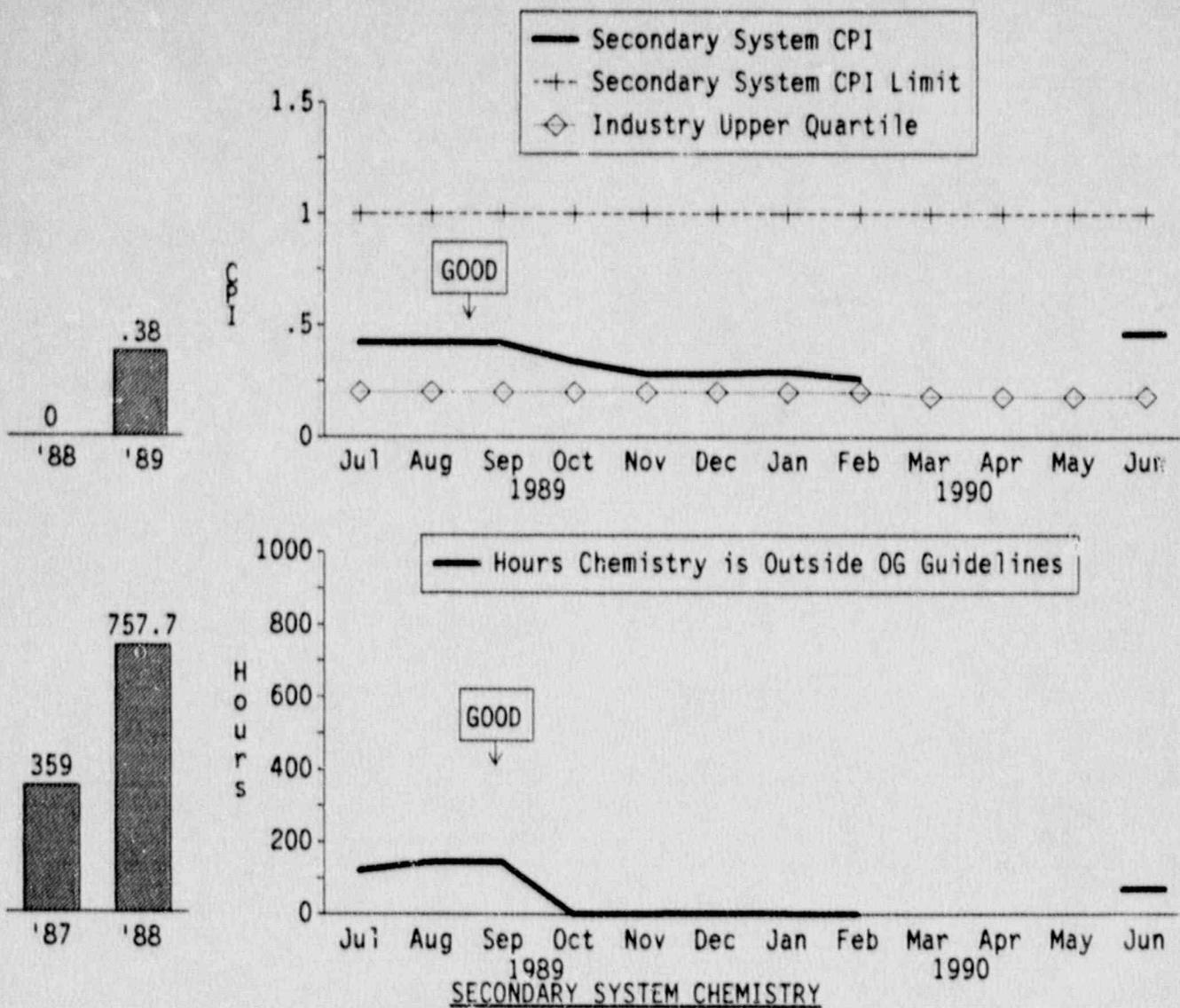
The Check Valve Failure Rate Indicator has been changed to reflect the current Fort Calhoun Station check valve failure rate. This indicator shows the Fort Calhoun check valve failure rate and the industry check valve failure rate.

The data for the industry check valve failure rate is three months behind the Performance Indicators Report reporting month due to the time involved in collecting and processing the data. The industry failure rate is based upon failures that have occurred in the previous 18 month interval.

For April, 1990, the Fort Calhoun Station reported a check valve failure rate of $10.4E-6$ while the industry reported a failure rate of $2.5E-6$. At the end of July, the Fort Calhoun Station reported a check valve failure rate of $8.99E-6$. At this present time, the check valve failure rate for Fort Calhoun is high. The reason for the high check valve failure rate is that the plant is performing maintenance on check valves which have not been checked for failures before. As time goes on, the check valve failure rate is expected to decrease due to the fact that the check valves are now being maintained through the Check Valve Program.

Adverse Trend: None

SEP 43



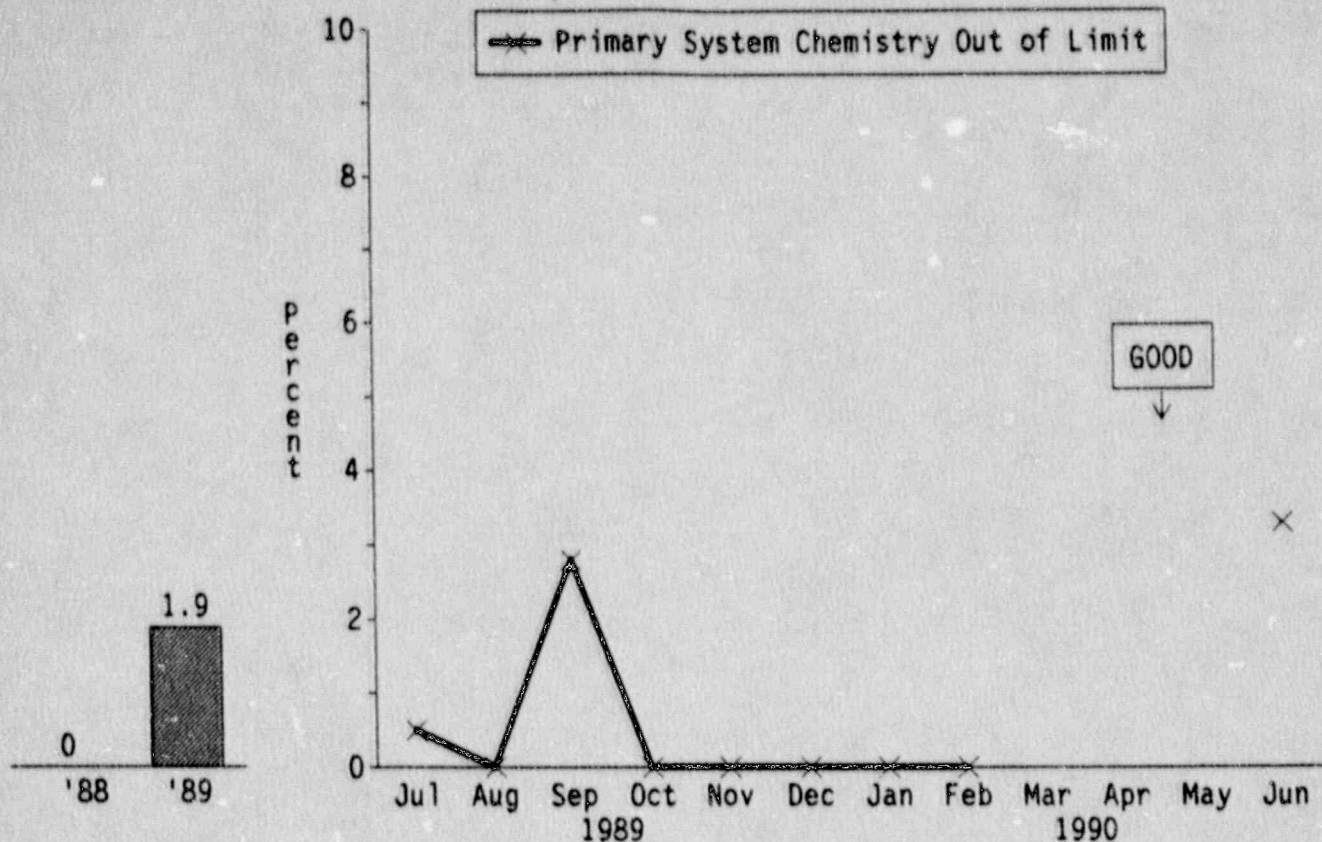
The top graph, Secondary System Chemistry Performance Index (CPI), is calculated using three parameters. The three parameters used include; cation conductivity in steam generator blowdown, sodium in steam generator blowdown, and condensate pump discharge dissolved oxygen. The CPI was reported as 0.47 for the month of June. The industry upper quartile value for this indicator is 0.20.

The bottom graph, Hours Chemistry is Outside Owners Guidelines, tracks the total hours of 13 parameters exceeding guidelines during power operation. The number of hours outside owners group guidelines was reported as 67.8 hours for the month of June.

The high CPI value and the high amount of hours outside owners group guidelines for the month of June was due to startup after the 1990 Refueling Outage and various power fluctuations which occurred during June.

The above two chemistry indicators are one month behind the reporting period due to the time needed for data collection and evaluation of the station chemistry data.

Adverse Trends: None

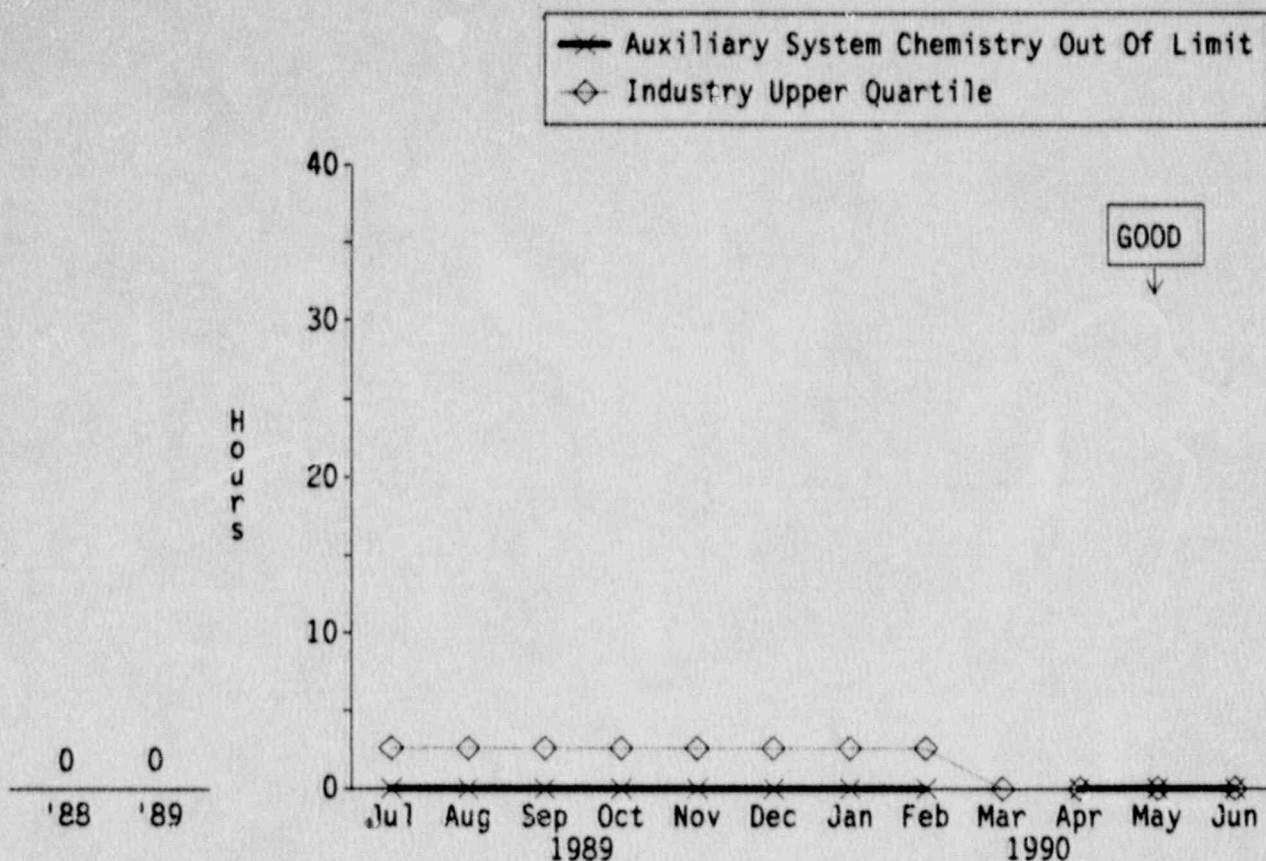


PRIMARY SYSTEM CHEMISTRY
PERCENT OF HOURS OUT OF LIMIT

The Primary System Chemistry - Percent of Hours Out of Limit indicator tracks the primary system chemistry performance by monitoring six key chemistry parameters.

The Primary System Chemistry Percent of Hours Out of Limit was reported as 3.3% for the month of June. The high percent of hours out of limit for the primary system was due to startup after the 1990 Refueling Outage and various power fluctuations which occurred during June. 100% equates to all six parameters being out of limit for the month.

Adverse Trend: None



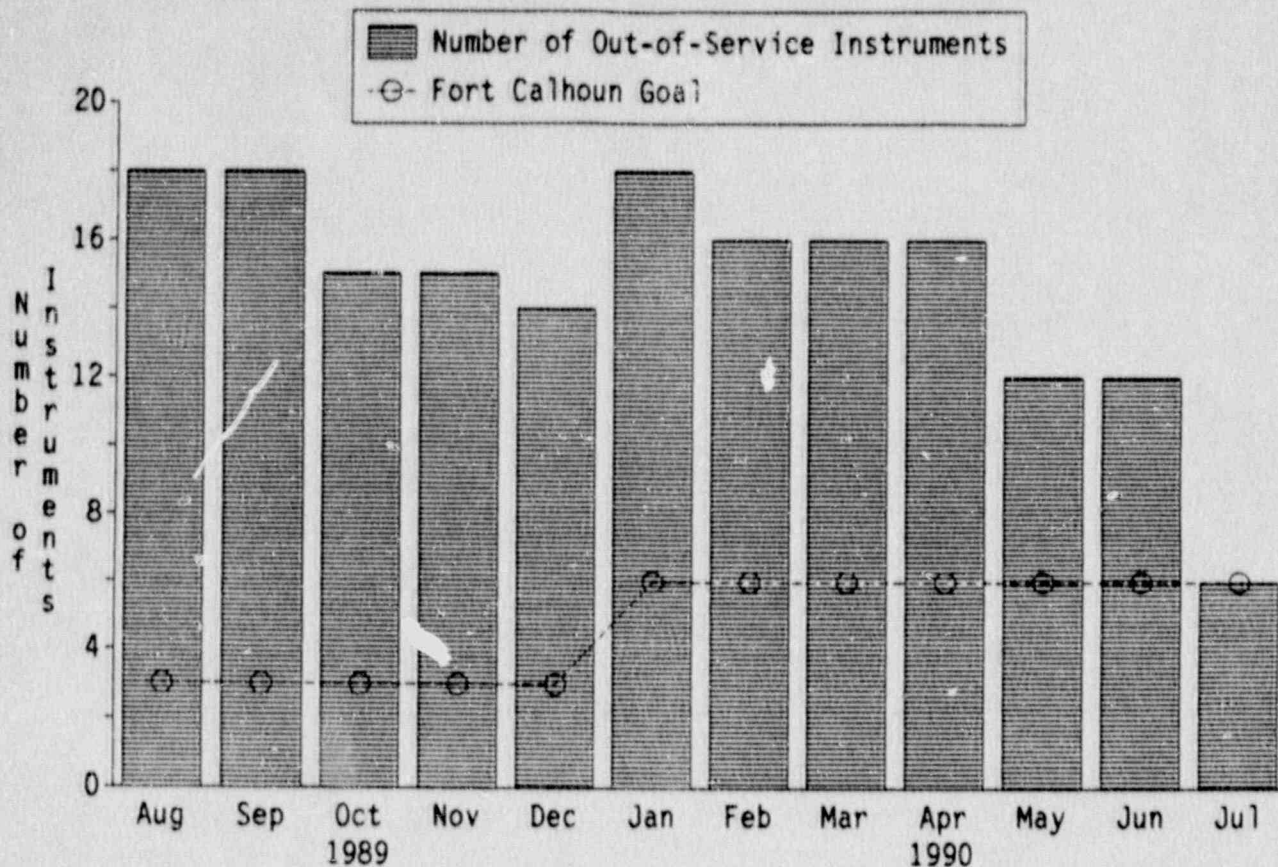
AUXILIARY SYSTEM (CCW) CHEMISTRY HOURS OUTSIDE STATION LIMITS

The Auxiliary System Chemistry Hours Outside Station Limits indicator tracks the monthly hours that the Component Cooling Water (CCW) system is outside the station chemistry limit. The above chemistry indicator is one month behind the reporting period due to the time needed for data collection and evaluation of the chemistry data for the station.

The auxiliary system chemistry hours outside station limits was reported as zero for the month of June.

The industry upper quartile value for auxiliary systems chemistry hours outside station limits is 2.6 hours. The Fort Calhoun Station is currently performing in the upper quartile of all nuclear power plants for this indicator.

Adverse Trend: None



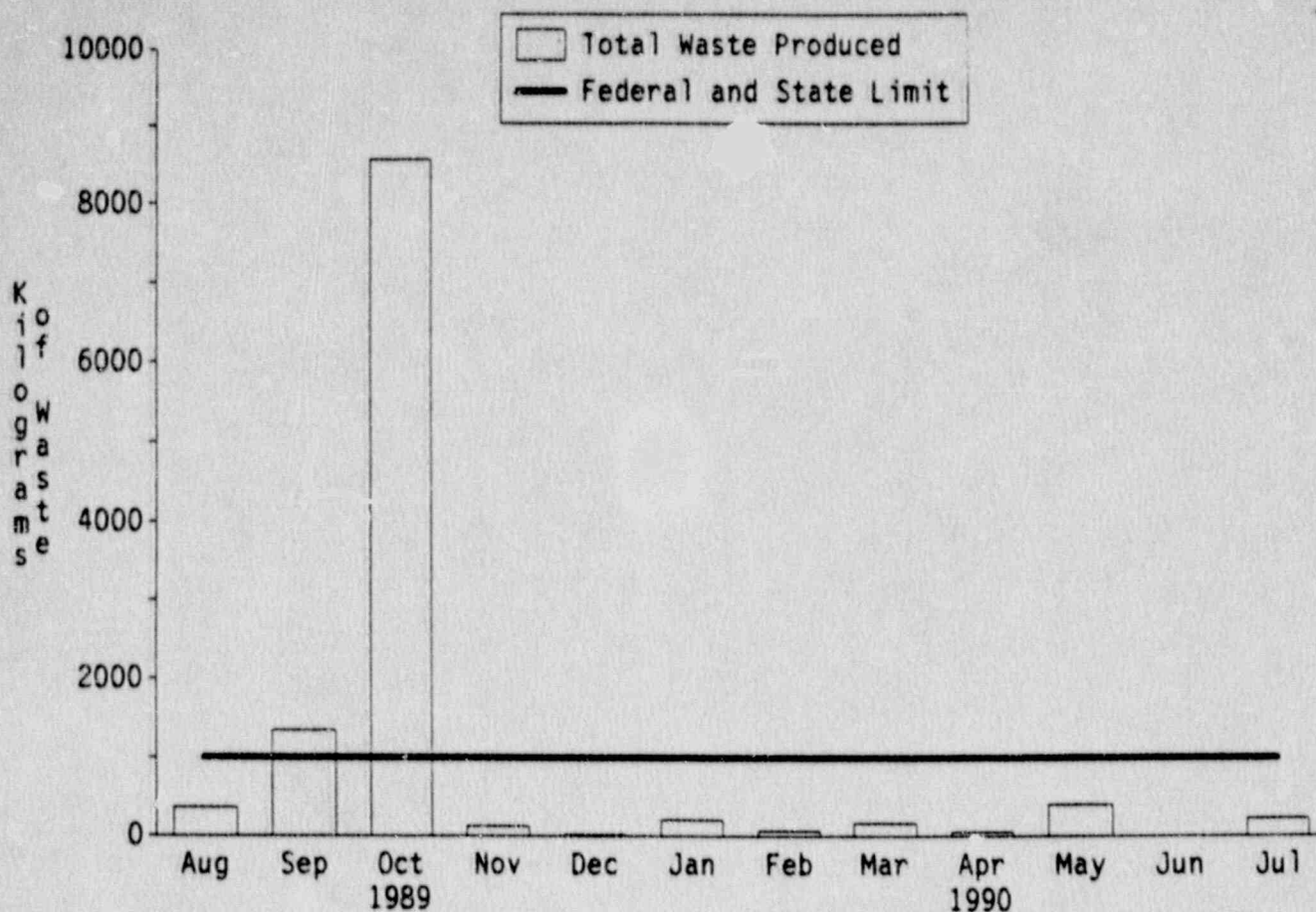
IN-LINE CHEMISTRY INSTRUMENTS OUT-OF-SERVICE

This indicator shows the total number of in-line chemistry system instruments that are out-of-service at the end of the reporting month. The chemistry systems involved in this indicator include the Secondary System and the Post Accident Sampling System (PASS).

At the end of July there were a total of 6 in-line chemistry instruments that were out-of-service. Four of these instruments were from the Secondary System and two were from PASS.

The Fort Calhoun goal for the number of in-line chemistry system instruments that are out-of-service has been changed from 3 to 6 out-of-service chemistry instruments. Six out-of-service chemistry instruments make up 10% of all the chemistry instruments which are counted for this indicator.

Adverse Trend: None



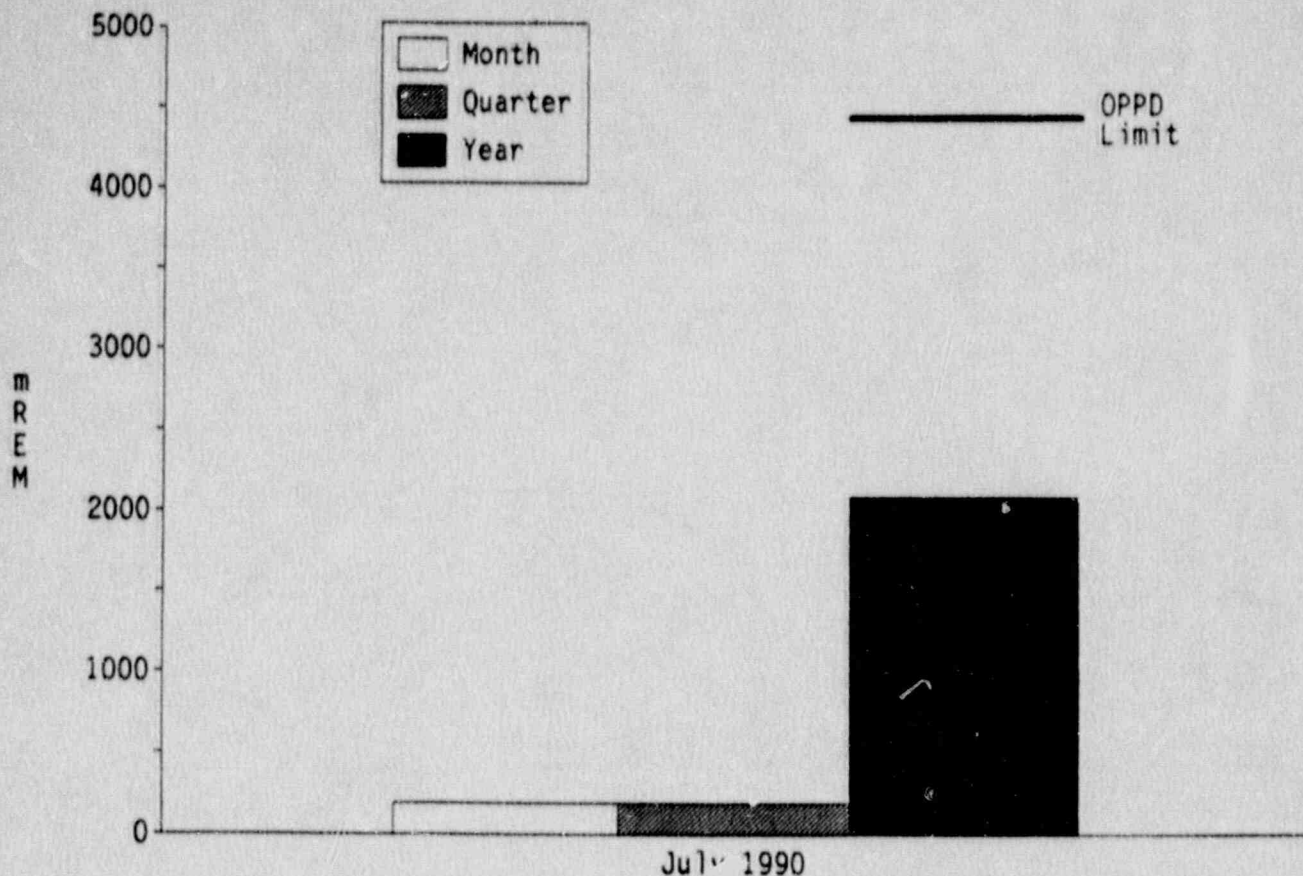
HAZARDOUS WASTE PRODUCED

This indicator shows the total amount of hazardous waste produced by Fort Calhoun each month. This hazardous waste consists of non-halogenated hazardous waste, halogenated hazardous waste, and other hazardous waste produced. The amount of waste oil produced by the Fort Calhoun Station is no longer shown.

During the month of July, 0.0 kilograms of non-halogenated hazardous waste was produced, 222.2 kilograms of halogenated hazardous waste was produced, and 0.0 kilograms of other hazardous waste was produced.

The large amount of hazardous waste produced during the months of September and October, 1990, was caused by a mercury spill at the sulfuric acid tank located on the east side of the service building.

Adverse Trend: None



MAXIMUM INDIVIDUAL RADIATION EXPOSURE

During July, 1990 an individual accumulated 193 mRem which was the highest individual exposure for the month.

The maximum individual exposure to date for the third quarter of 1990 has been 193 mRem.

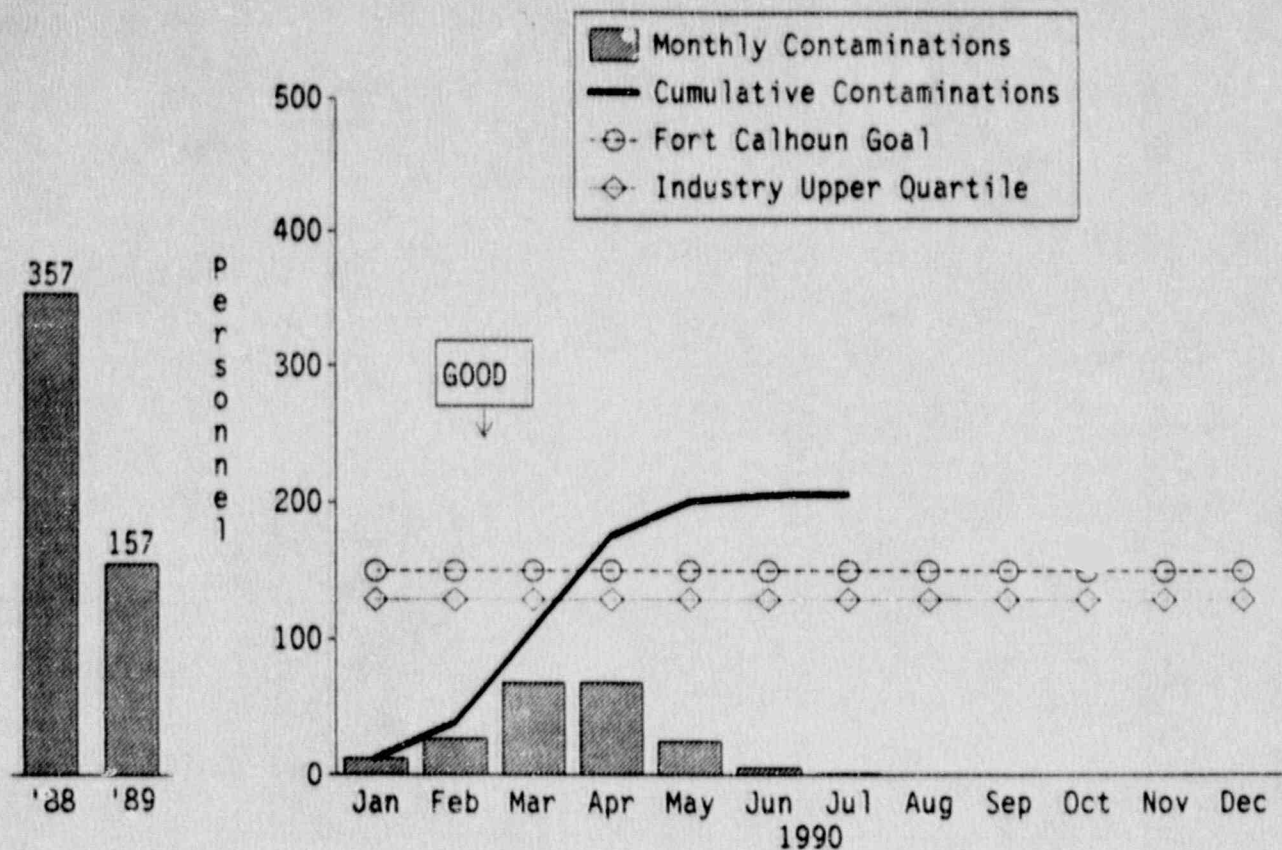
The maximum individual exposure reported to date for 1990 has been 2,090 mRem.

The high maximum individual exposure reported so far for the 1990 year to date value was due to increased activities in the Radiation Controlled Area (RCA) associated with the 1990 Refueling Outage.

The maximum accumulated 1989 individual exposure was 1,165 mRem, received by a Health Physicist.

The OPPD limit for the maximum yearly individual radiation exposure is 4,500 mRem/year.

Adverse Trend: None



TOTAL SKIN AND CLOTHING CONTAMINATIONS

There was a total of one skin and clothing contamination reported for the Fort Calhoun Station during July, 1990. There has been a total of 206 skin and clothing contaminations so far in 1990. The high number of skin and clothing contaminations which occurred during the months of March and April, 1990, were related to increased activity in the Radiation Controlled Area (RCA) during the 1990 Refueling Outage.

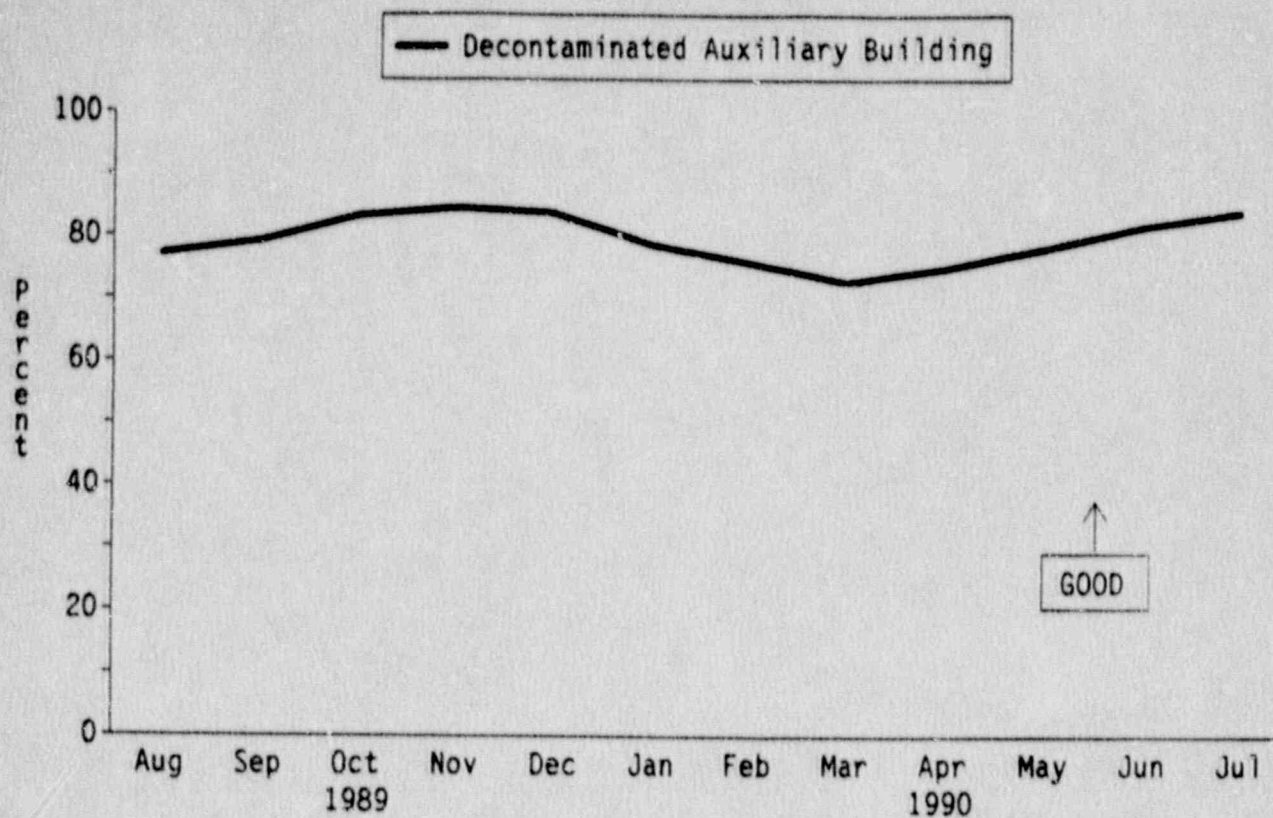
There was a total of 157 skin and clothing contaminations in 1989.

The 1990 goal for skin and clothing is 150 contaminations. This 1990 goal of 150 contaminations includes a Fort Calhoun goal of 23 skin contaminations.

The industry upper quartile value for total skin and clothing contaminations is 129 per unit annually.

Adverse Trend: None

SEP 15 & 54



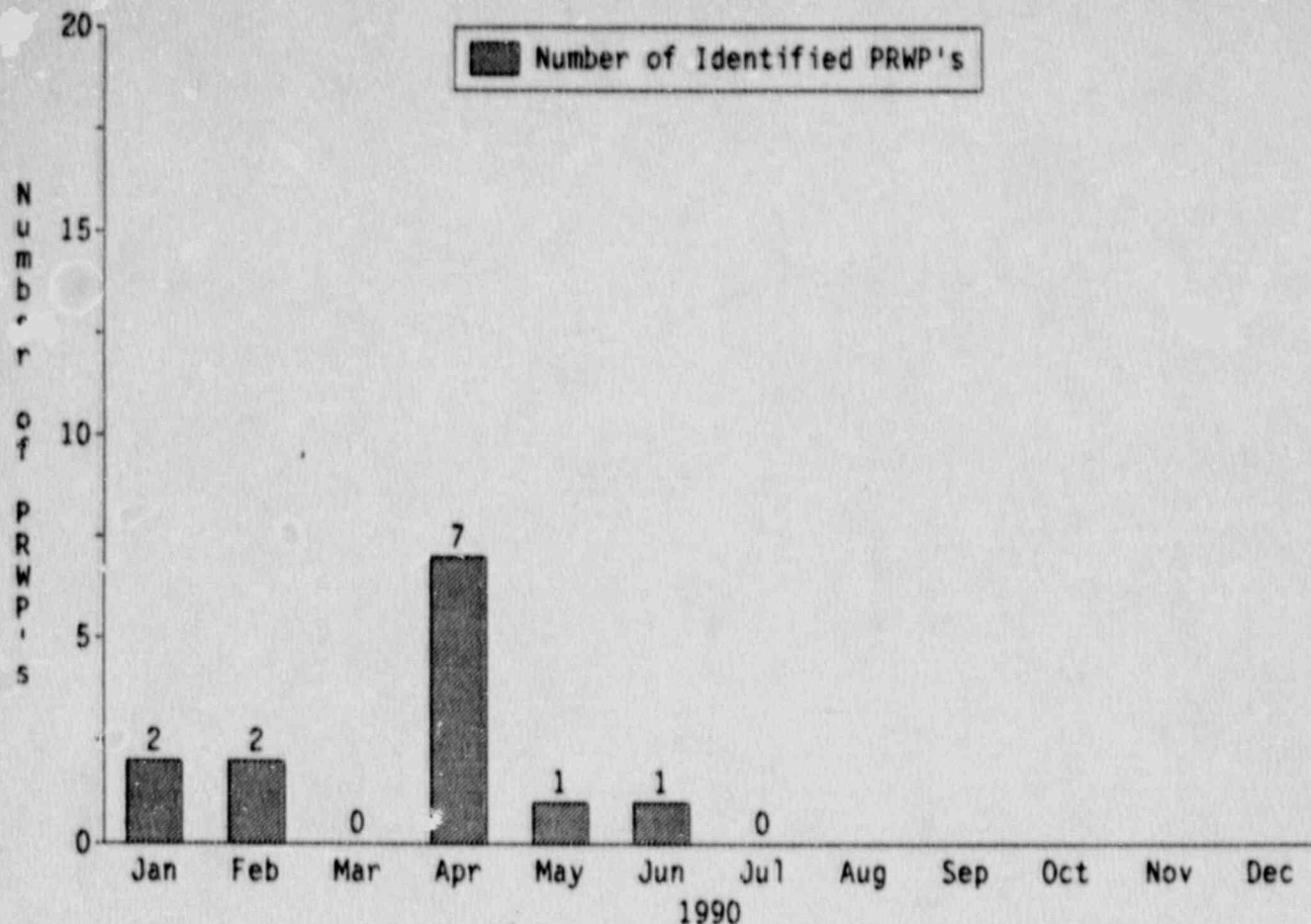
DECONTAMINATED AUXILIARY BUILDING

This graph shows the percentage of the auxiliary building which is decontaminated (clean) based on the total square footage.

As of July 31, 1990, 84% of the total square footage of the auxiliary building was decontaminated.

Adverse Trend: None

SEP 54



RADIOLOGICAL WORK PRACTICES PROGRAM

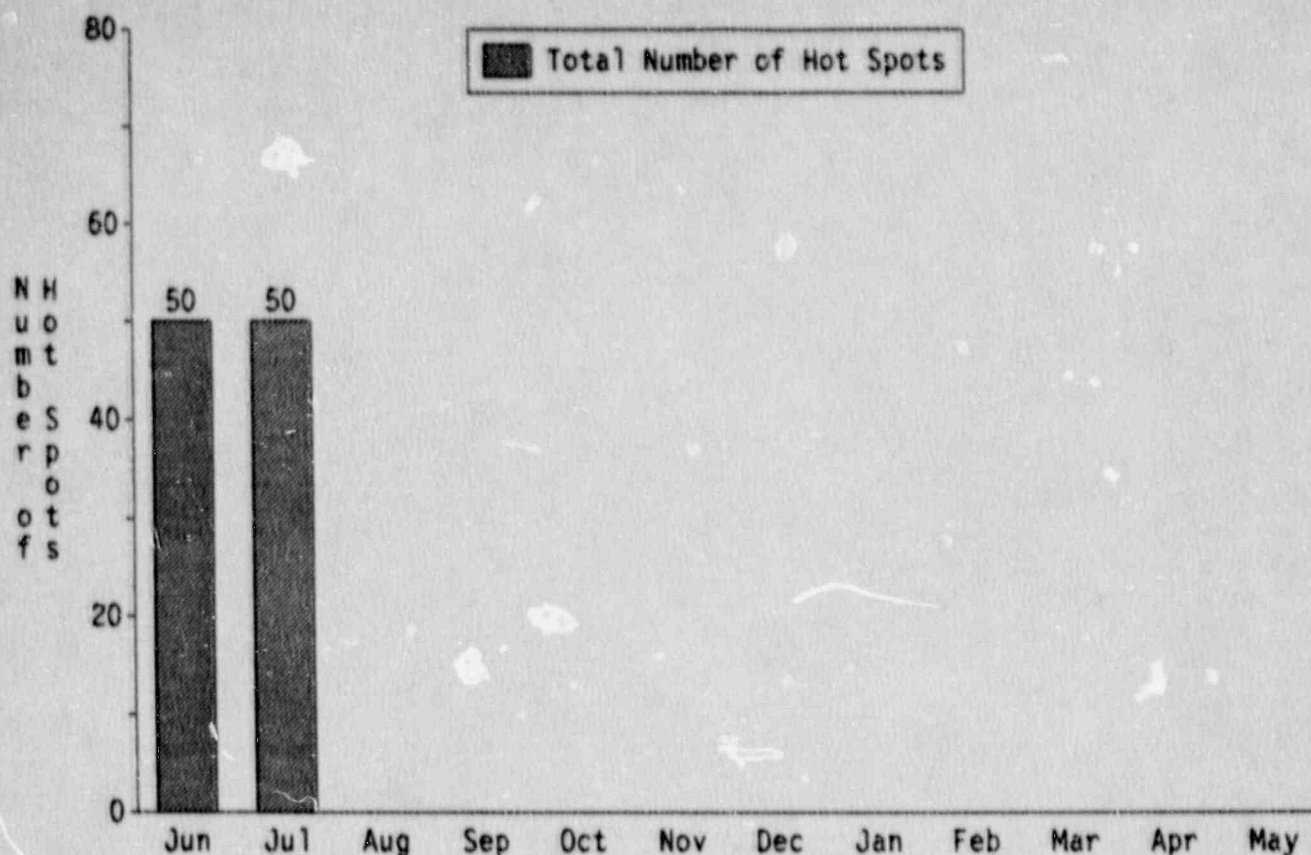
The Radiological Work Practices Program Indicator shows the number of Poor Radiological Work Practices (PRWP's) which were identified during the reporting month.

The number of PRWP's which are identified each month should indirectly provide a means to qualitatively assess supervisor accountability for their workers' radiological performance.

During the month of July, 1990, zero PRWP's were identified.

Adverse Trend: None

SEP 52



NUMBER OF HOT SPOTS

This indicator shows the total number of hot spots which have been identified to exist in the Fort Calhoun Station and have been documented through the use of a hot spot identification sheet.

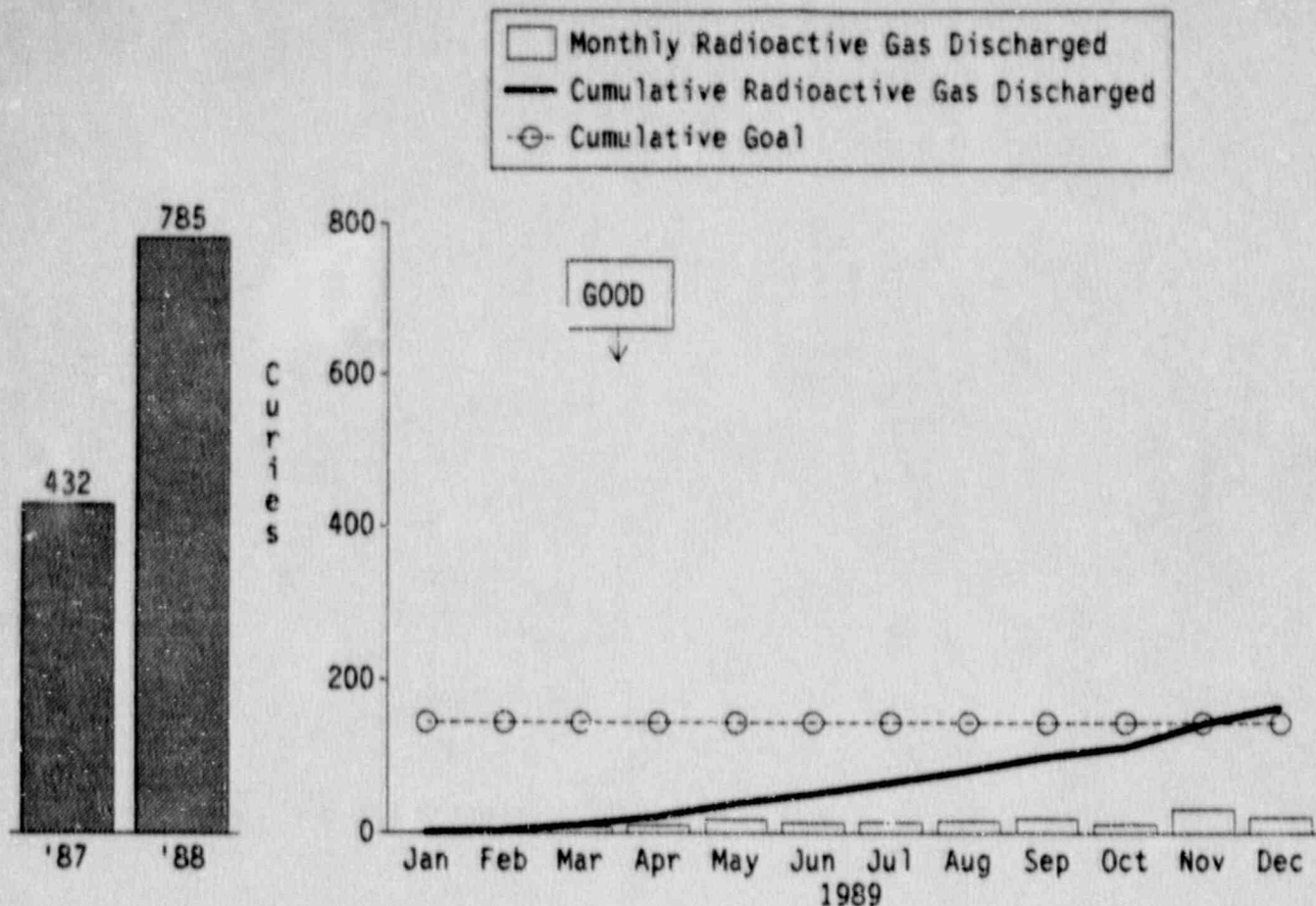
A hot spot is defined as a small localized source of high radiation. A hot spot occurs when the contact dose rate of an item or piece of equipment is at least 5 times the General Area dose rate and the item or piece of equipment's dose rate is equal to or greater than 100 mRem/hour.

Since January 1, 1990, 16 identified and documented hot spots have been removed from the Fort Calhoun Station. The removal of these hot spots reduced the total number of hot spots from 60, at the beginning of January, 1990, to 50 at the end of July, 1990.

At the end of July, 50 hot spots were identified and documented to exist in the Fort Calhoun Station. During the month of July, one hot spot was removed from the Fort Calhoun Station.

The Station ALARA committee established a goal to eliminate at least 5 hot spots during 1990. The Fort Calhoun Station has exceeded this goal.

Adverse Trend: None

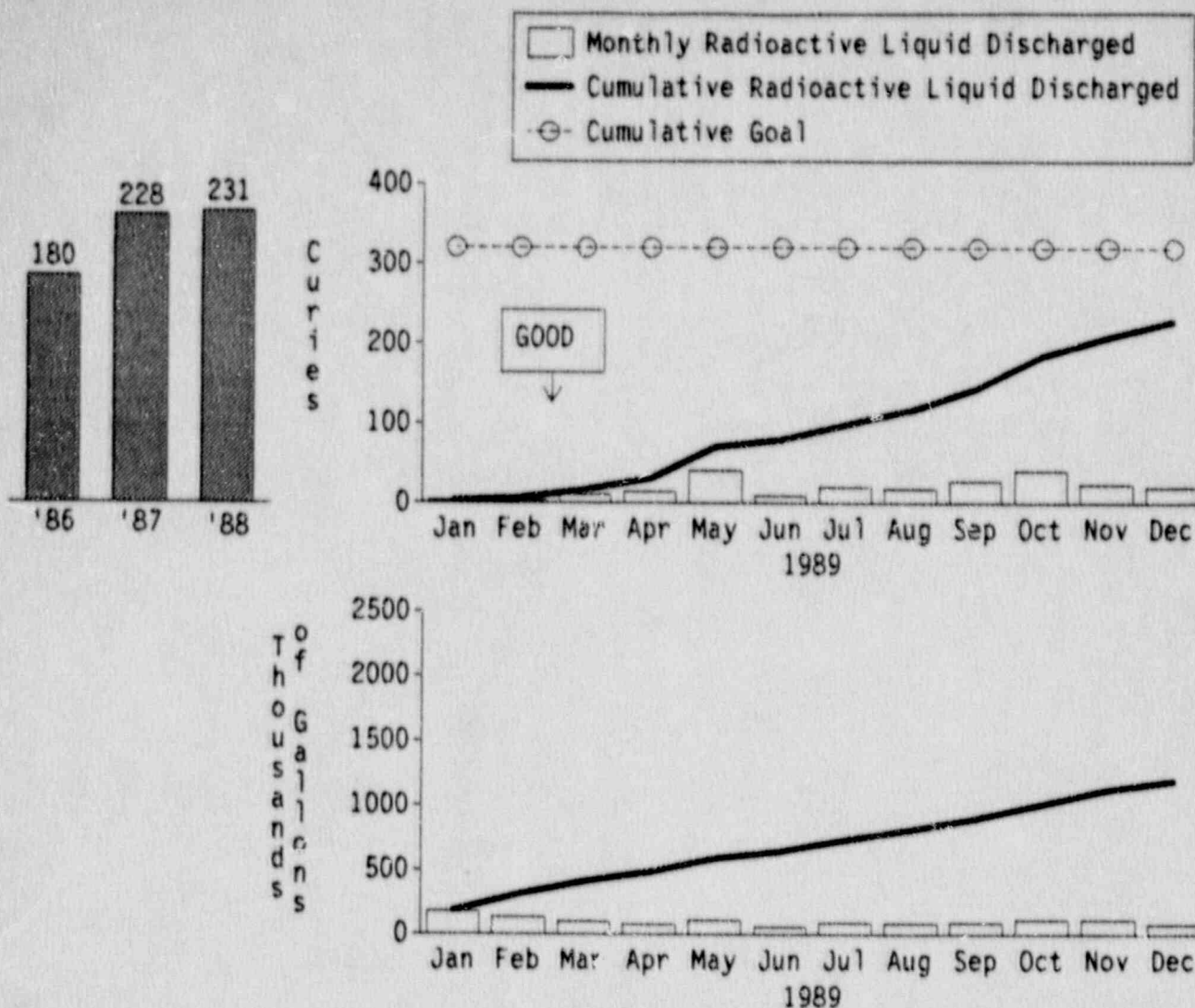


GASEOUS RADIOACTIVE WASTE BEING
DISCHARGED TO THE ENVIRONMENT

The gaseous radioactive waste being discharged to the environment is shown for 1989. A total of 164.4 curies have been released to the environment from January through December of 1989. The Fort Calhoun Station goal is 145 curies for this indicator.

The gaseous radioactive waste being discharged to the environment is calculated every six months.

Adverse Trend: None



LIQUID RADIOACTIVE WASTE BEING
DISCHARGED TO THE ENVIRONMENT

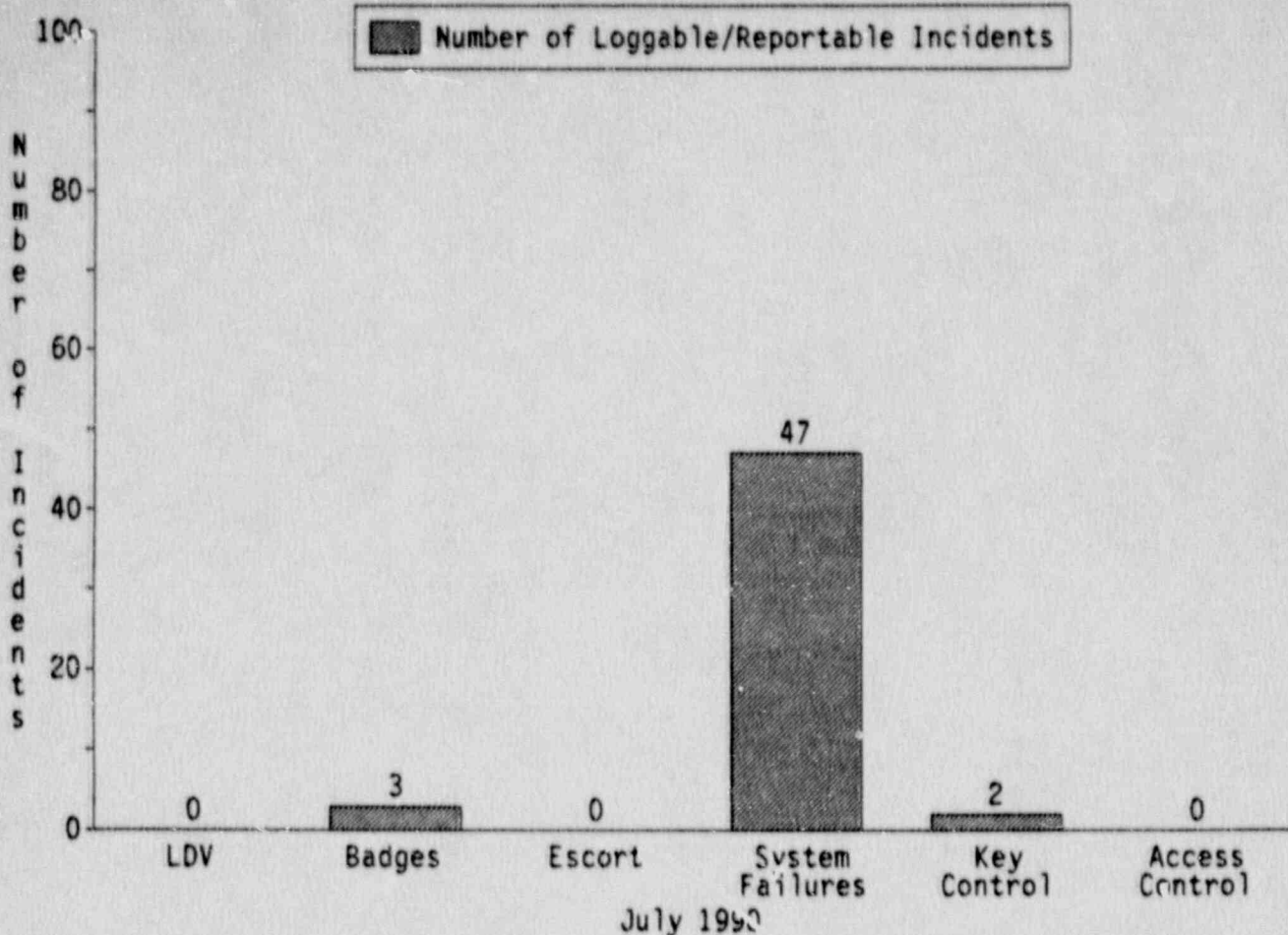
The liquid radioactive waste being discharged to the environment is shown for 1989. The liquid radioactive waste that was discharged to the environment from all sources totaled 227.7 curies from January through December 1989.

The Fort Calhoun Station goal for 1989 is 320 curies.

The bottom graph shows the volume of liquid radioactive waste that has been released from the radioactive waste monitor tanks. The volume of liquid radioactive waste discharged to the environment from the radioactive waste monitor tanks totaled 1.2 million gallons from January through December, 1989.

The liquid radioactive waste being discharged to the environment is calculated every six months.

Adverse Trend: None



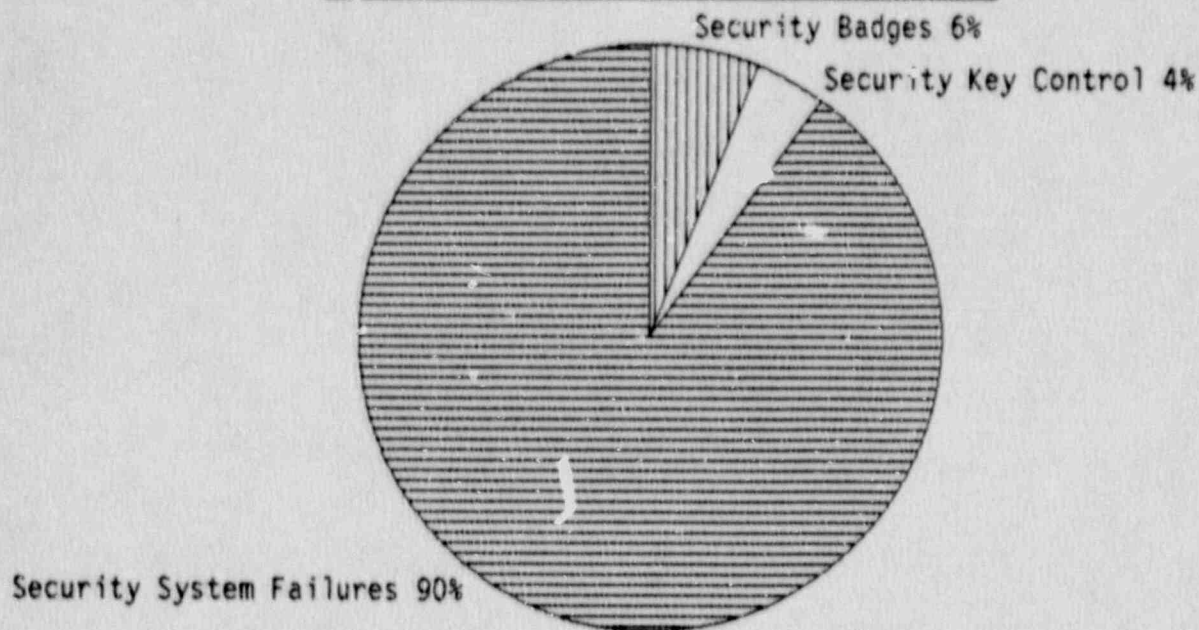
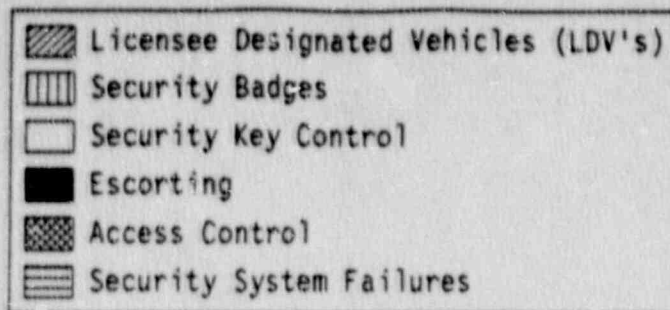
LOGGABLE/REPORTABLE INCIDENTS
(SECURITY)

The Loggable/Reportable Incidents (Security) Indicator shows the total number of loggable/reportable incidents concerning Licensee Designated Vehicles (LDV's), security badges, security key control, escorting, access control, and security system failures for the reporting month.

During the month of July, 1990, there were 52 loggable/reportable incidents identified compared with 79 loggable/reportable incidents the previous month. Security system failures accounted for 47 of the loggable/reportable incidents (90%) reported during July, 1990. Environmental conditions (sunspots, fog, shadowing, and heavy rains) were the major causes of the CCTV and Alarm failures. Increased attention by security and maintenance personnel is currently underway to correct these environmental problems.

Adverse Trend: None

SEP 58



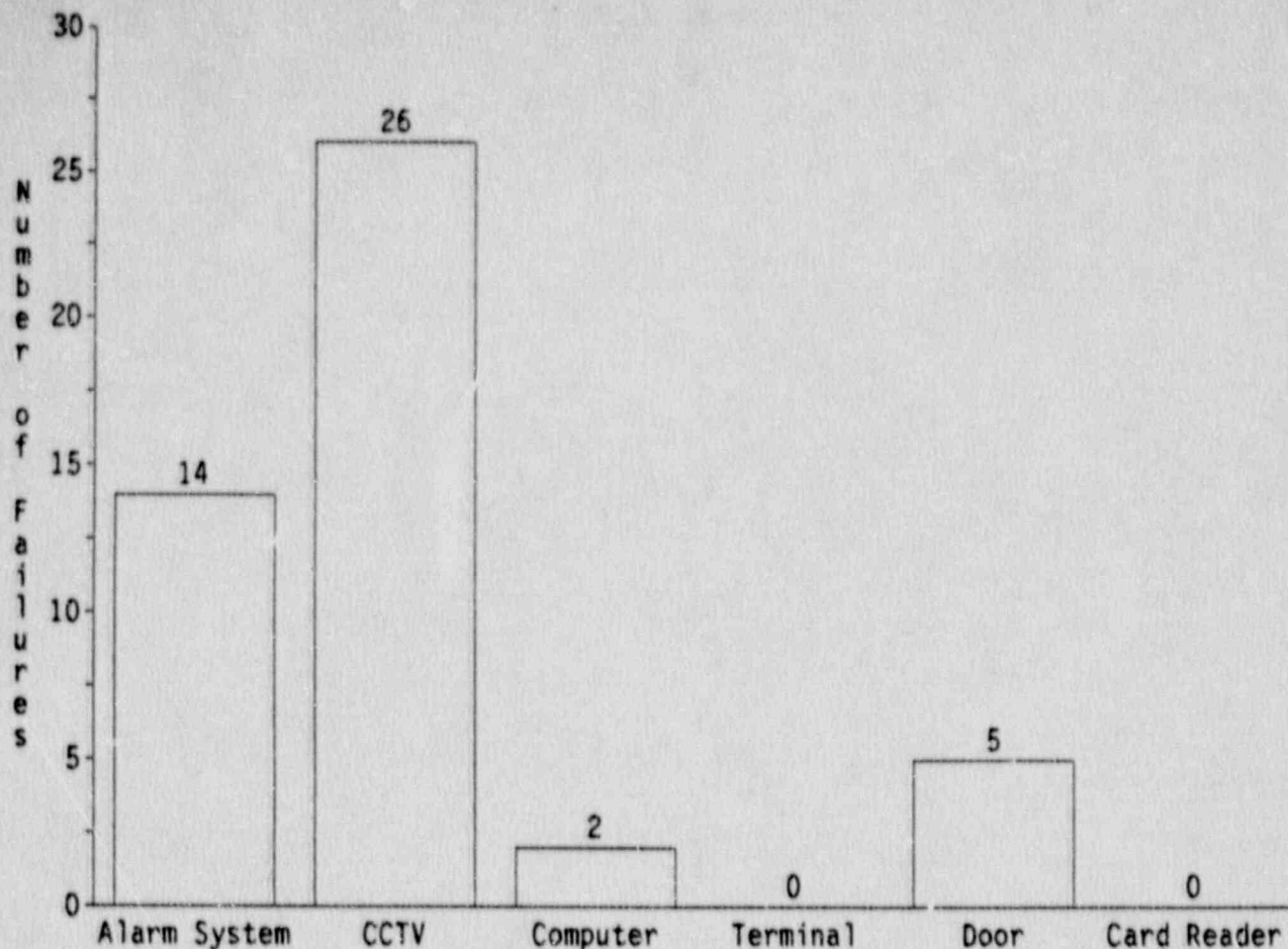
SECURITY INCIDENT BREAKDOWN

The Security Incident Breakdown Indicator shows the percentage of incidents concerning the following items for the reporting month. These items include: Licensee Designated Vehicles (LDV's), security badges, security key control, escorting, access control, and security system failures.

<u>Security Items</u>	<u>Number of Incidents</u>	
	<u>JUL 1990</u>	<u>JUN 1990</u>
Licensee Designated Vehicles (LDV's)	0	2
Security Badges	3	0
Security Key Control	2	3
Escorting	0	1
Access Control	0	0
Security System Failures	47	73
Total	52	79

Adverse Trend: None

SEP 58



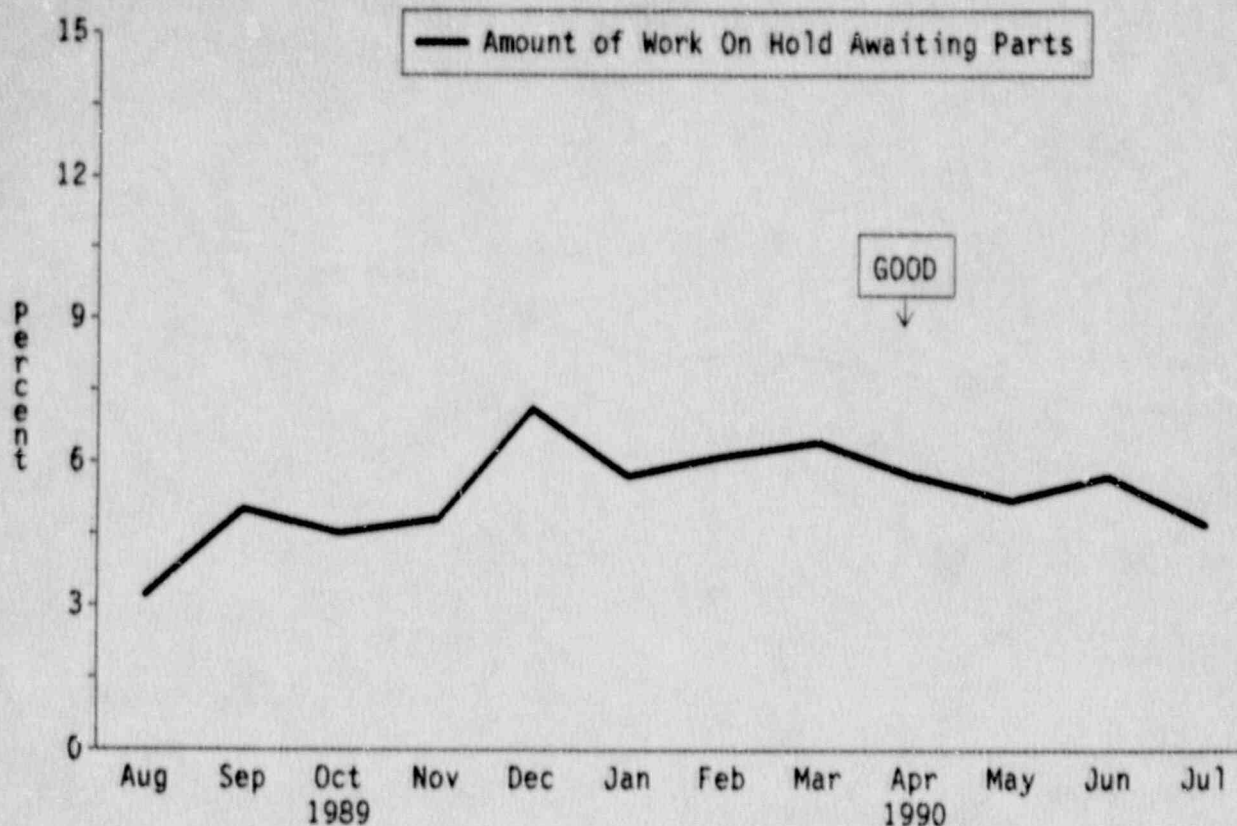
SECURITY SYSTEM FAILURES

The Security System Failures Indicator shows the number of incidents concerning the following items for the reporting month. These items include: alarm system failures, CCTV failures, security computer failures, terminal failures, door equipment failures, and card reader failures.

<u>System Failures</u>	<u>Number of Incidents</u>	
	<u>JUL 90</u>	<u>JUN 90</u>
Alarm Systems	14	43
CCTV	26	19
Computer	2	3
Terminal	0	0
Door Equipment	5	8
Card Reader	0	0
Total	47	73

Adverse Trend: None

SEP 58



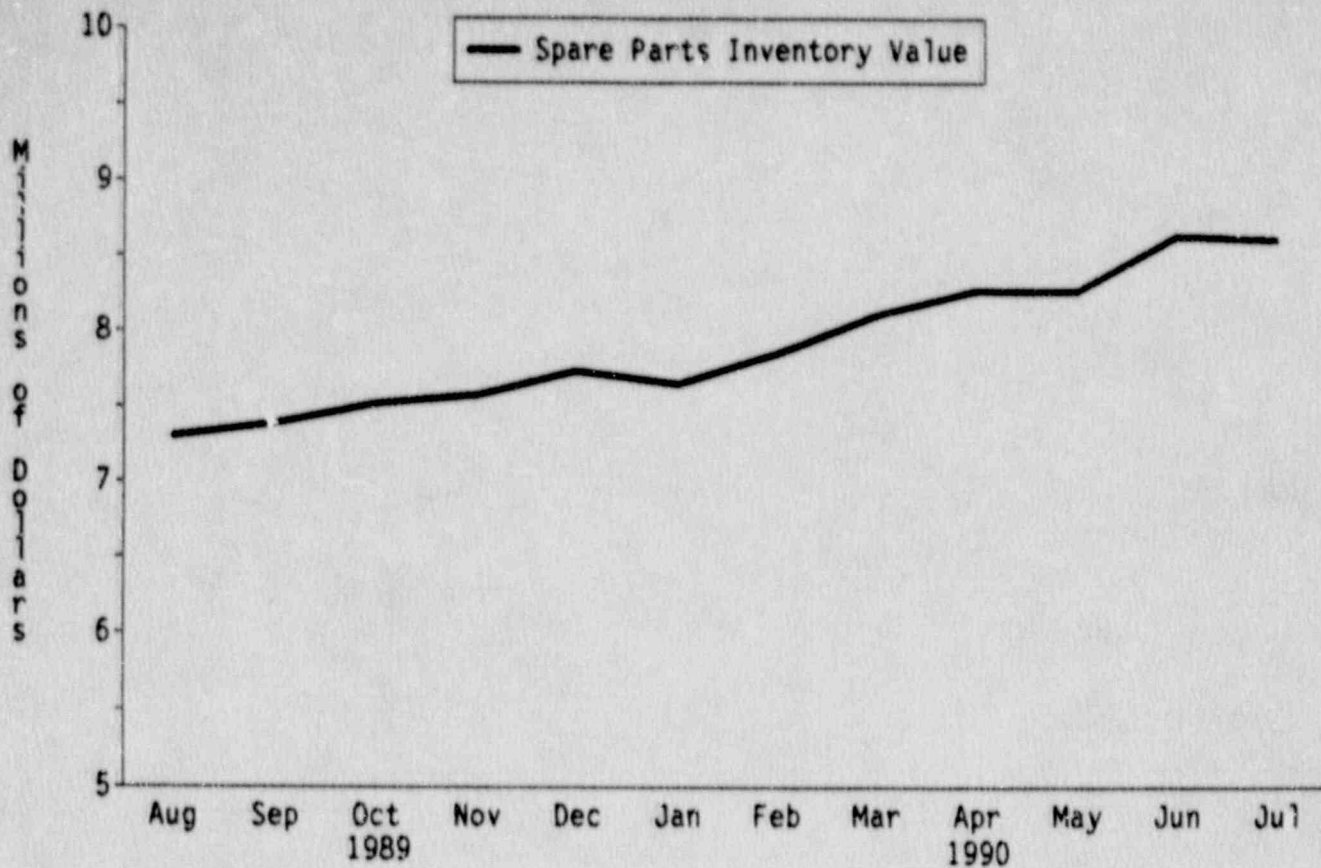
AMOUNT OF WORK ON HOLD AWAITING PARTS
(NON-OUTAGE)

This procurement indicator displays the amount of open, non-outage, maintenance items that are on hold awaiting parts, to the total amount of open, non-outage, maintenance items, expressed as a percentage.

The percentage of work on hold awaiting parts decreased to 4.7% in July.

As of July 31, 1990, there were a total of 1,123 open, non-outage, maintenance items with 53 of these items on hold awaiting parts.

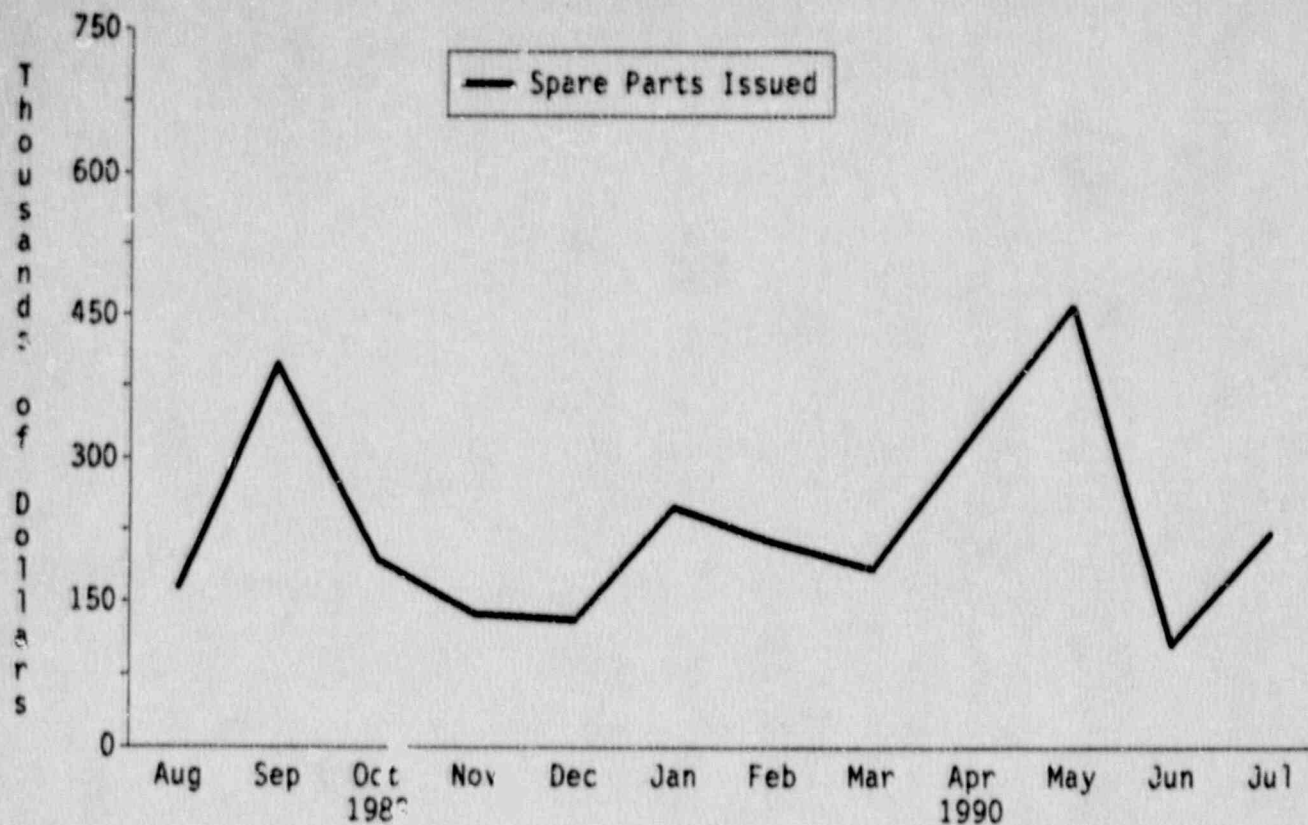
Adverse Trend: None



SPARE PARTS INVENTORY VALUE

The spare parts inventory value at the Fort Calhoun Station at the end of July, 1990 was reported as \$8,607,700.

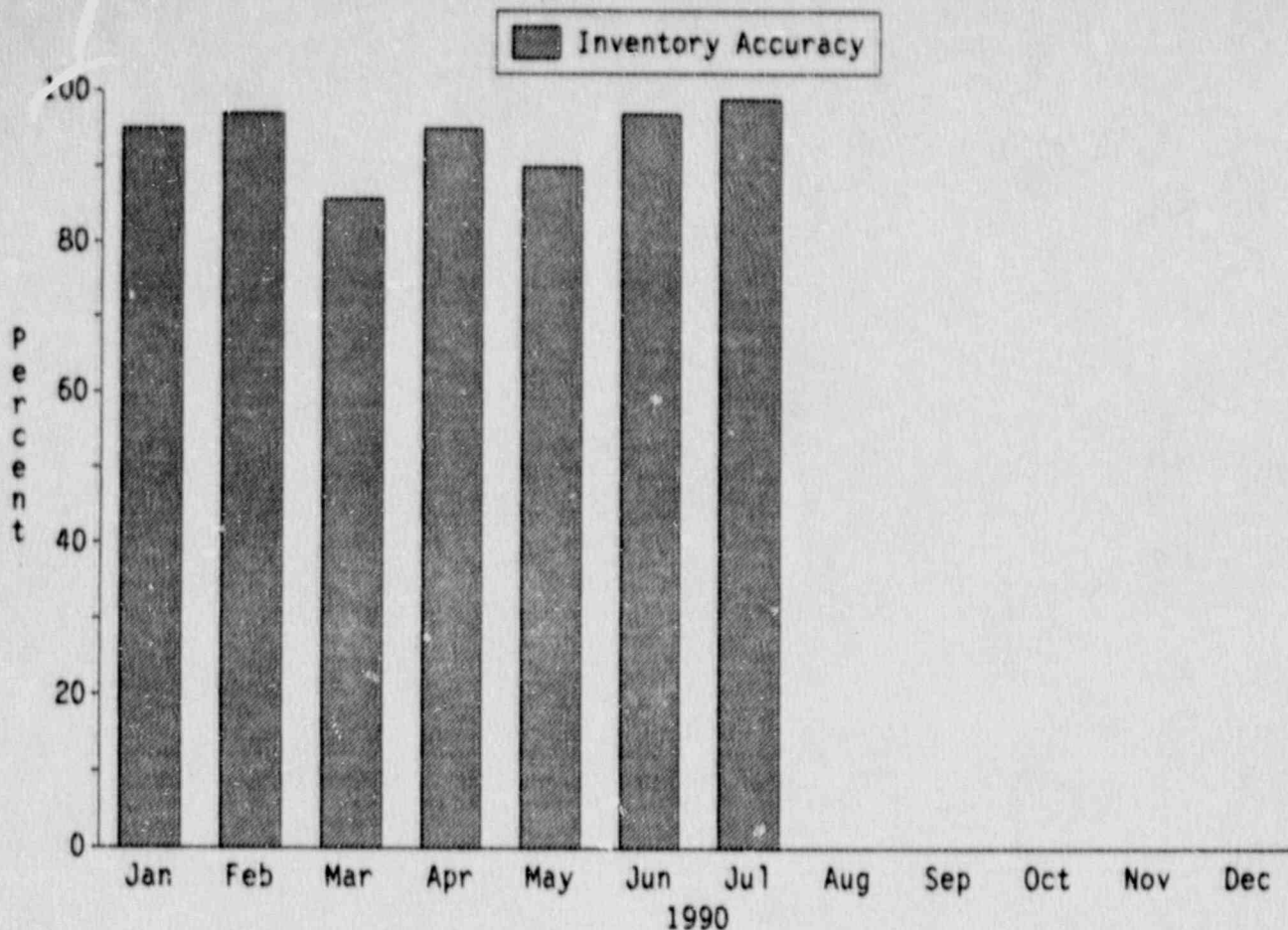
Adverse Trend: None



SPARE PARTS ISSUED

The value of the spare parts issued during July, 1990, totaled \$220,789.

Adverse Trend: None

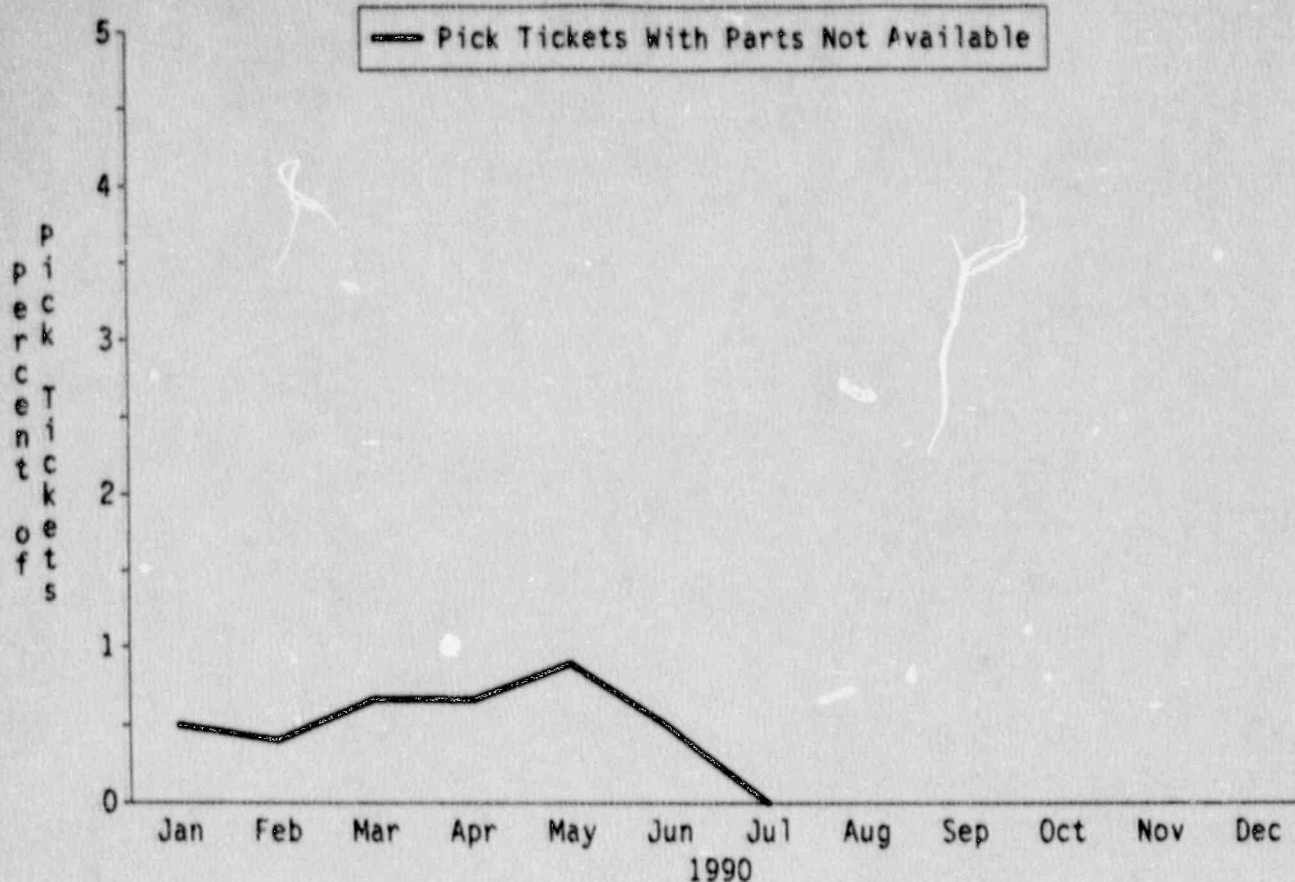


INVENTORY ACCURACY

This indicator shows the accuracy of the actual parts count for the warehouse compared to the counts contained in the MMIS computer system for the reporting month.

During July, 425 different line items were counted in the warehouse. Of the 425 line items counted 5 items needed count adjustments. The inventory accuracy for the month of July was reported as 99%.

Adverse Trend: None

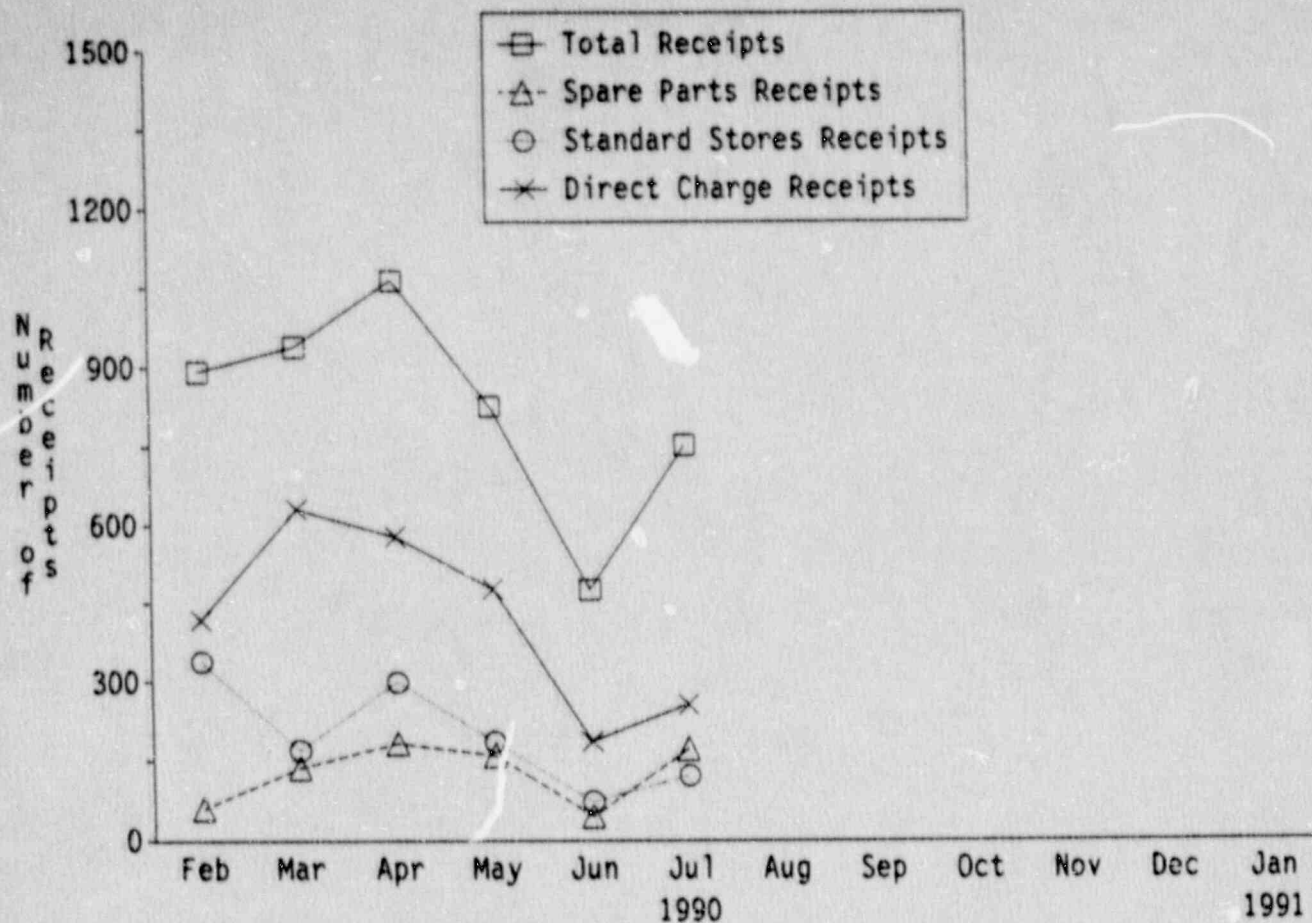


STOCKOUT RATE

This indicator shows the percentage of the number of Pick Tickets generated with no parts available during the reporting month.

During the month of July, a total of 1,078 Pick Tickets were generated. Of the 1,078 Pick Tickets generated, zero Pick Tickets were generated with no parts available.

Adverse Trend: None

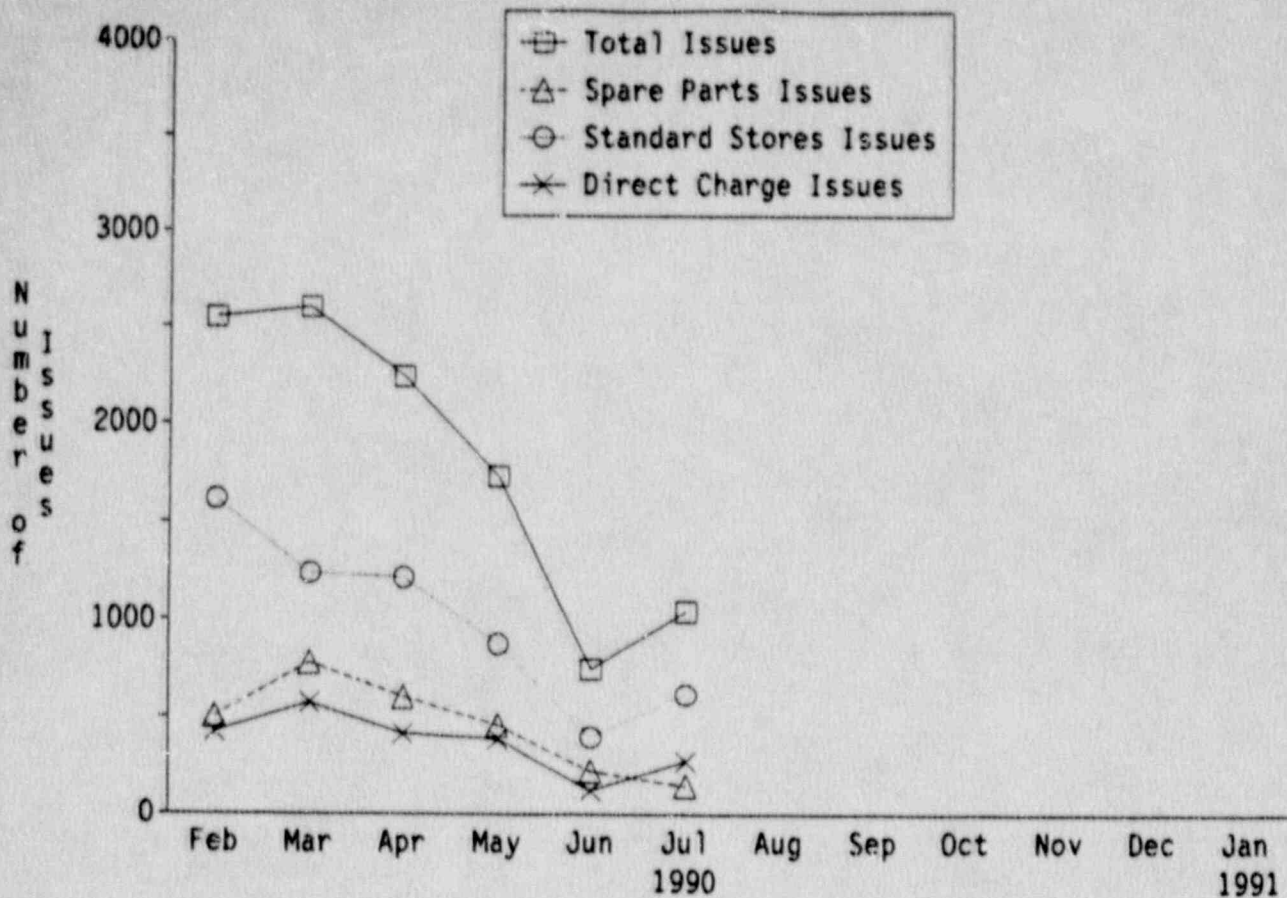


WAREHOUSE RECEIPTS

This indicator shows the total number of warehouse receipts, the number of spare parts receipts, the number of standard stores receipts, and the number of direct charge receipts during the reporting month.

During July the warehouse received a total of 751 receipts. Of the 751 receipts received, 173 were spare parts receipts, 122 were standard stores receipts, and 257 were direct charge receipts.

Adverse Trend: None

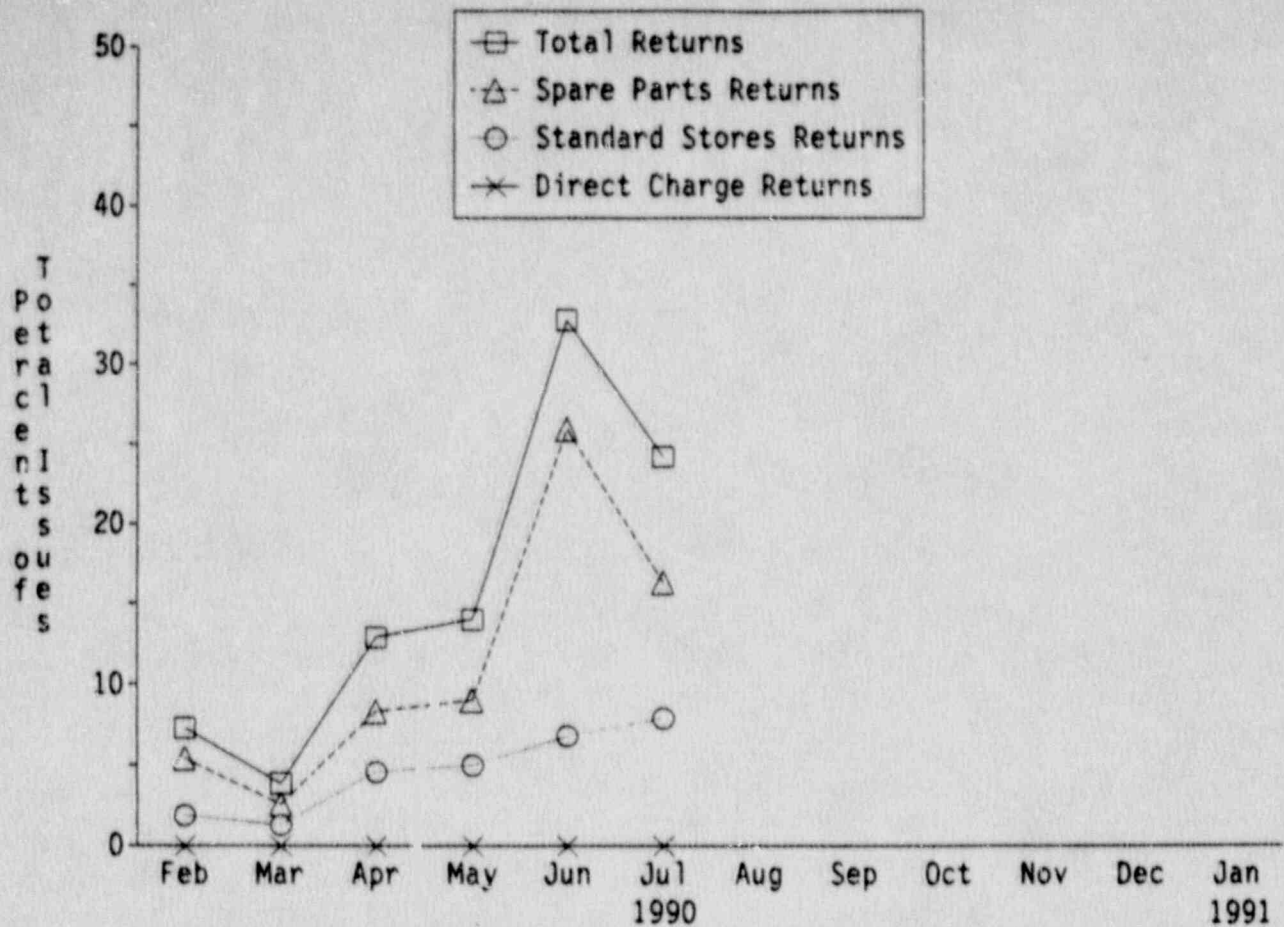


WAREHOUSE ISSUES

This indicator shows the total number of warehouse issues, the number of spare parts issues, the number of standard stores issues, and the number direct charge issues for the reporting month.

During July the warehouse completed a total of 1,043 issues. Of the 1,043 issues completed, 149 were spare parts issues, 618 were standard stores issues, and 276 were direct charge issues.

Adverse Trend: None

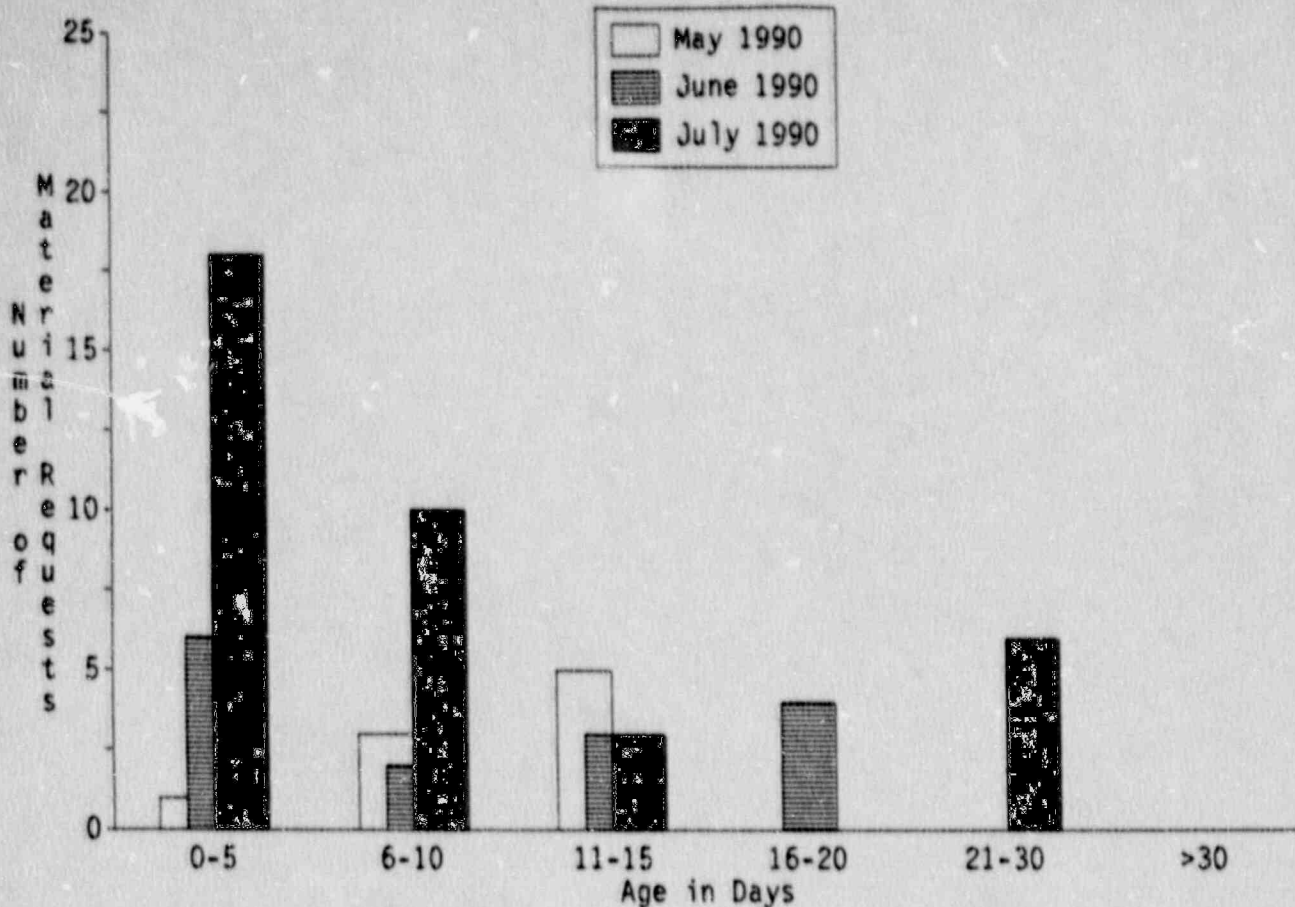


WAREHOUSE RETURNS

The Warehouse Returns Indicator shows the percentage of the total number of warehouse returns, the number of spare parts returns, the number of standard stores returns, and the number of direct charge returns compared to the total number of warehouse issues during the reporting month.

During the month of July there were a total of 1,043 warehouse issues. Of the 1,043 issues, there were 252 total returns. These returns consisted of 170 spare parts returns, 82 standard stores returns, and zero direct charge returns.

Adverse Trend: None

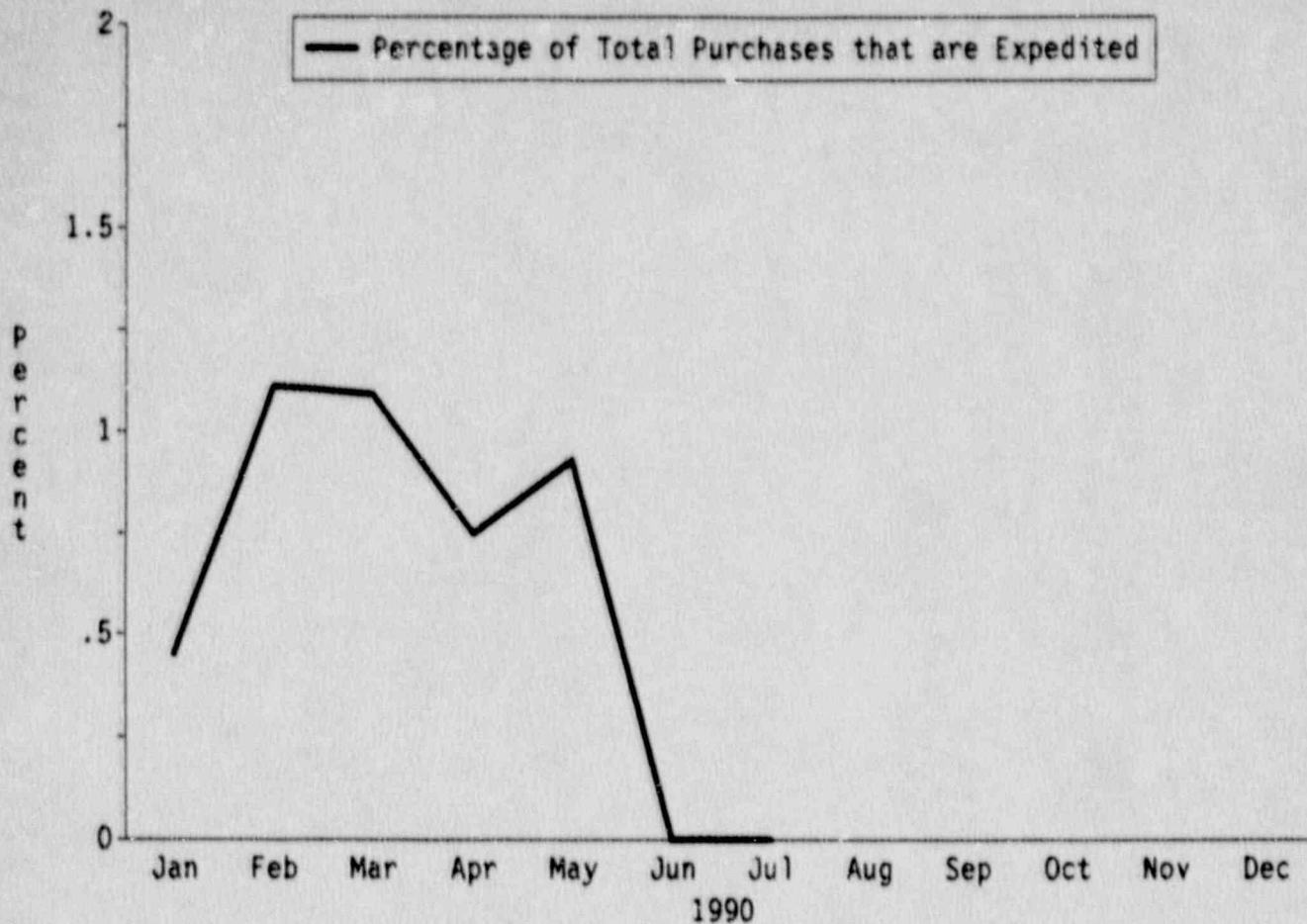


MATERIAL REQUESTS AWAITING APPROVAL

This indicator shows the number of material requests awaiting approval at the end of the reporting month broken down into their age by days.

At the end of July, 37 material requests were awaiting approval.

Adverse Trend: None

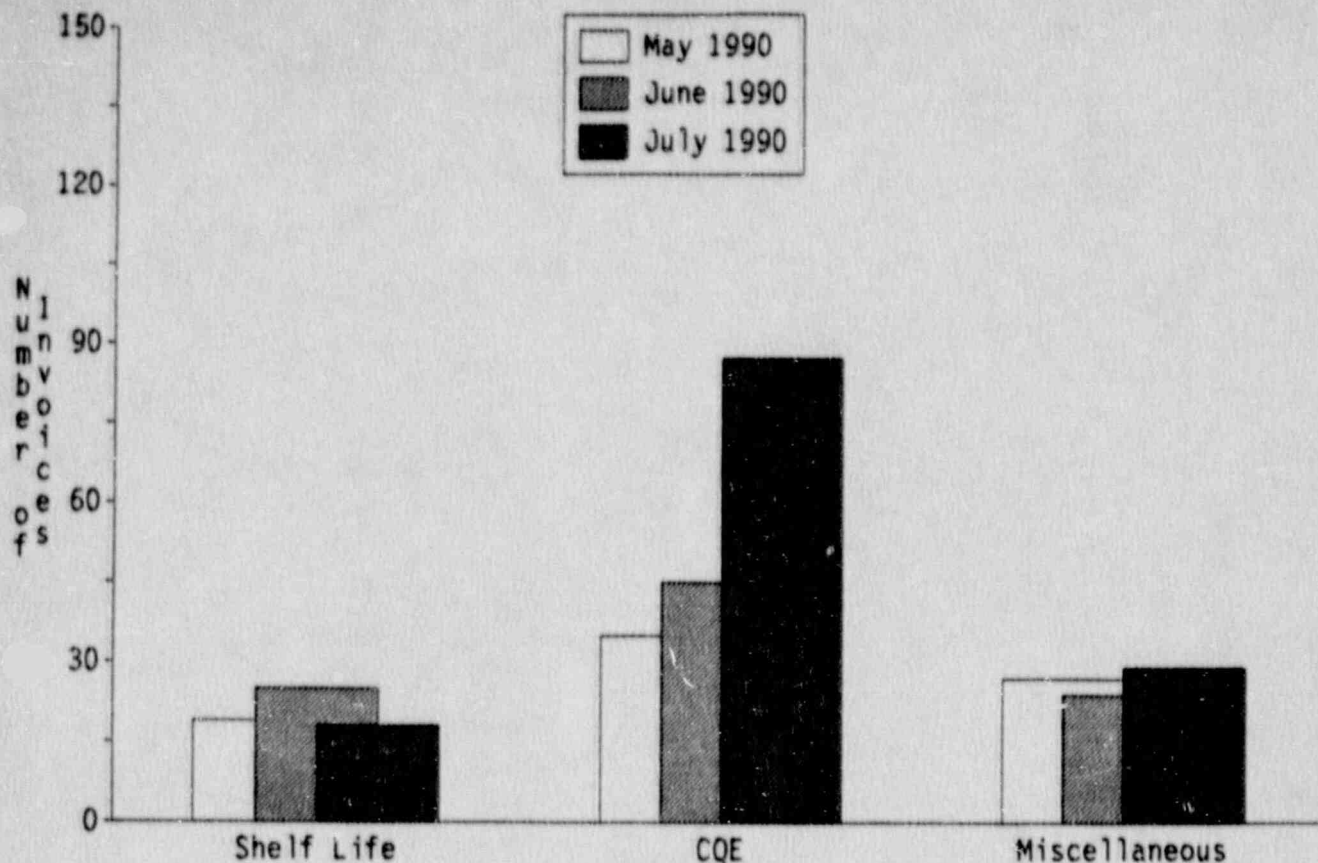


EXPEDITED PURCHASES

This indicator shows the percentage of expedited purchases compared to the total number of purchase orders generated during the reporting month.

During July, there was a total of 255 purchase orders generated. Of the 255 purchase orders generated, there were no expedited purchases.

Adverse Trend: None

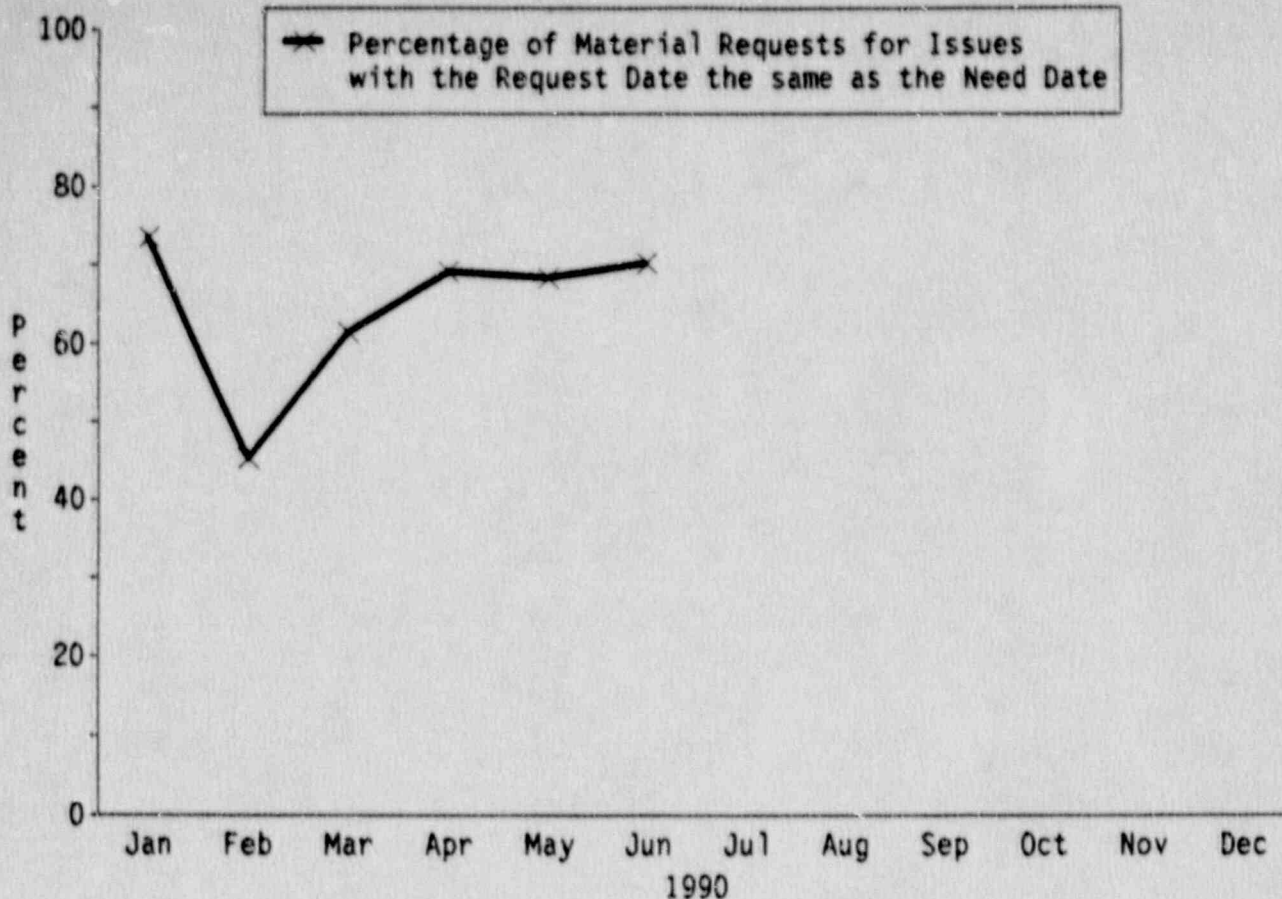


INVOICE BREAKDOWN

This indicator shows the number of invoices that are on hold at the end of the reporting month due to shelf life, CQE, and miscellaneous reasons.

At the end of July, 18 invoices were on hold due to shelf life reasons, 87 invoices were on hold due to CQE reasons, and 29 invoices were on hold due to miscellaneous reasons.

Adverse Trend: None

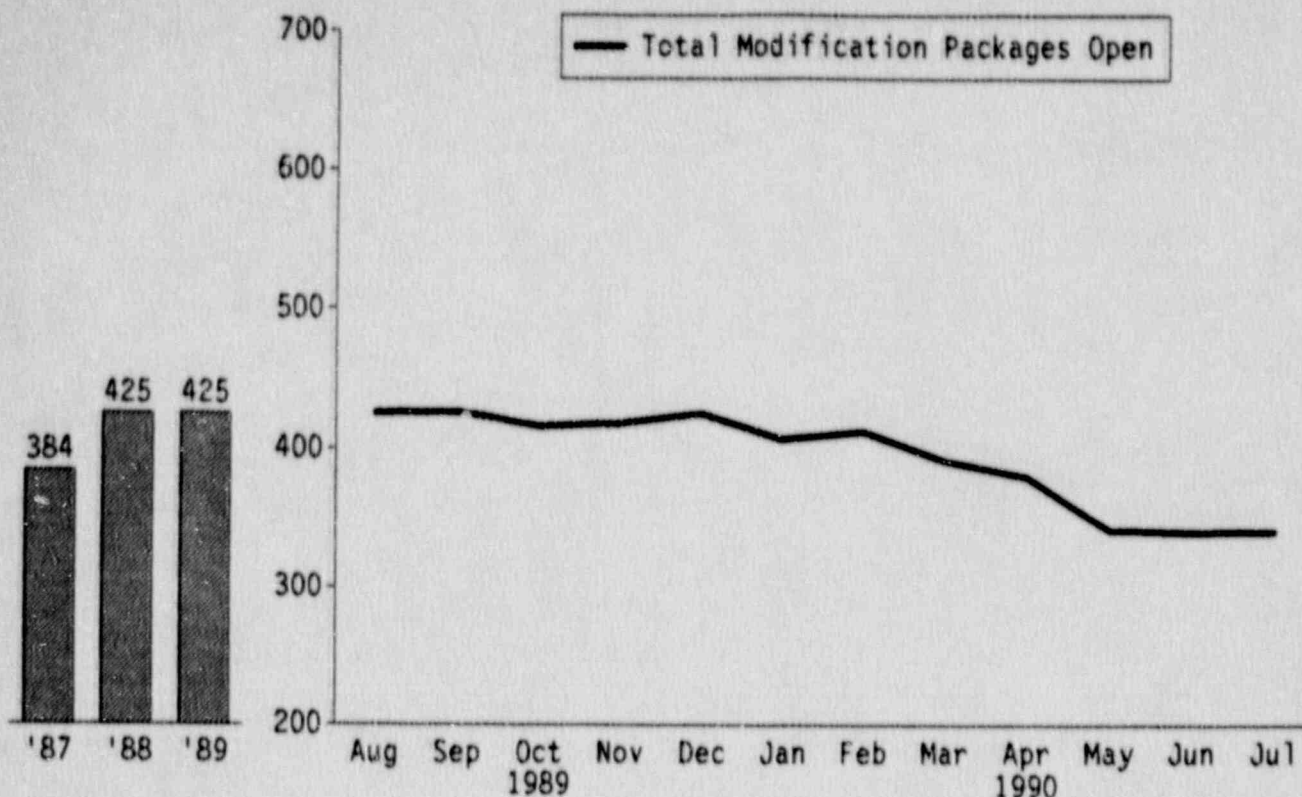


MATERIAL REQUEST PLANNING

This indicator shows the percent of material requests (MR's) for issues with their request date the same as their need date compared to the total number of MR's for issues for the reporting month.

During the month of May, a total of 1,078 MR's were received by the warehouse. Of the 1,078 total MR's received by the warehouse, 756 MR's were for issues with their request date the same as their need date.

Adverse Trend: None



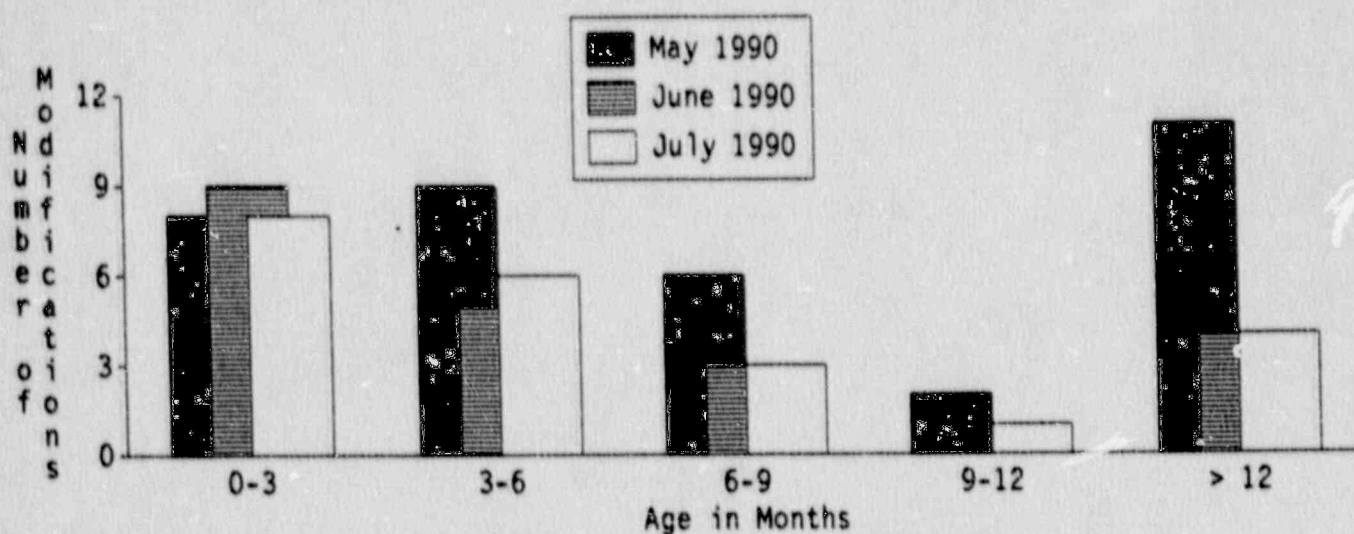
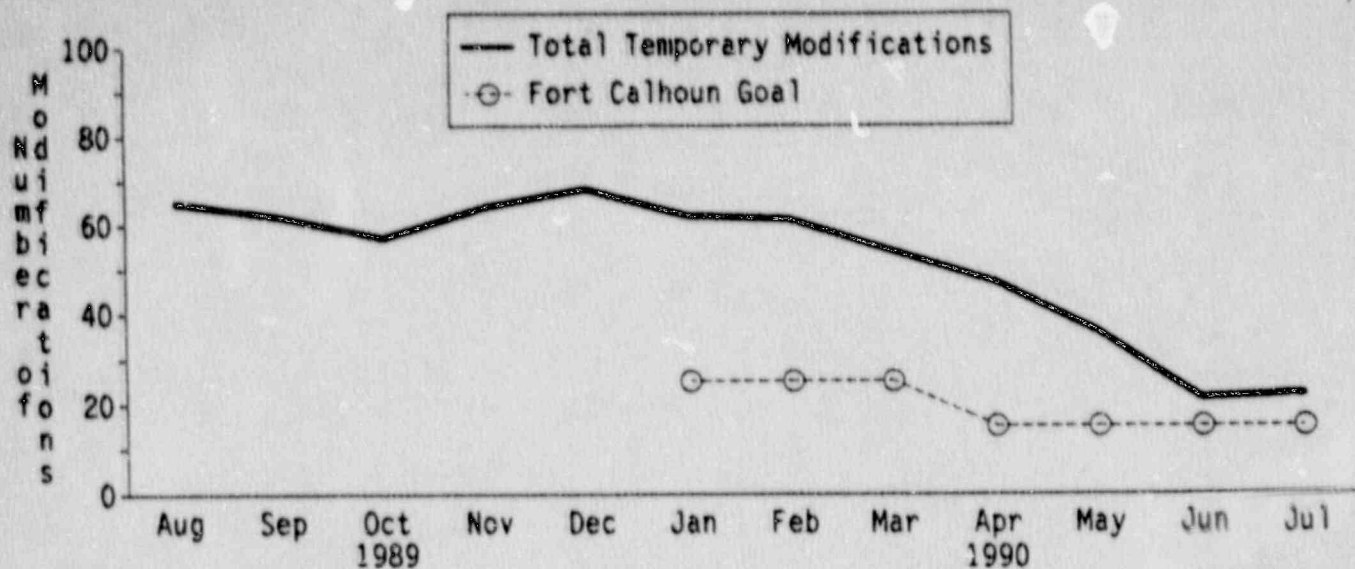
OUTSTANDING MODIFICATIONS

The total number of outstanding modifications increased by one during the month of July.

<u>CATEGORY</u>	<u>JUN 90</u>	<u>JUL 90</u>
Form FC-1133 Backlog/In Progress	17	13
Mod Requests Being Reviewed	106	109
Design Engr. Backlog/In Progress	119	117
Construction Backlog/In Progress	50	42
<u>Design Engr. Update Backlog/In Progress</u>	<u>48</u>	<u>60</u>
Total	340	341

As of the end of July 44 additional modification requests have been issued this year and 12 modification requests have been cancelled. The Nuclear Projects Review Committee (NPRC) has completed 89 backlog modification request reviews this year. The Nuclear Projects Committee (NPC) has completed 62 backlog modification request reviews this year. The number of reviews completed is high due to the fact that some of these requests were reviewed more than once.

Adverse Trend: None



TEMPORARY MODIFICATIONS (EXCLUDING SCAFFOLDING)

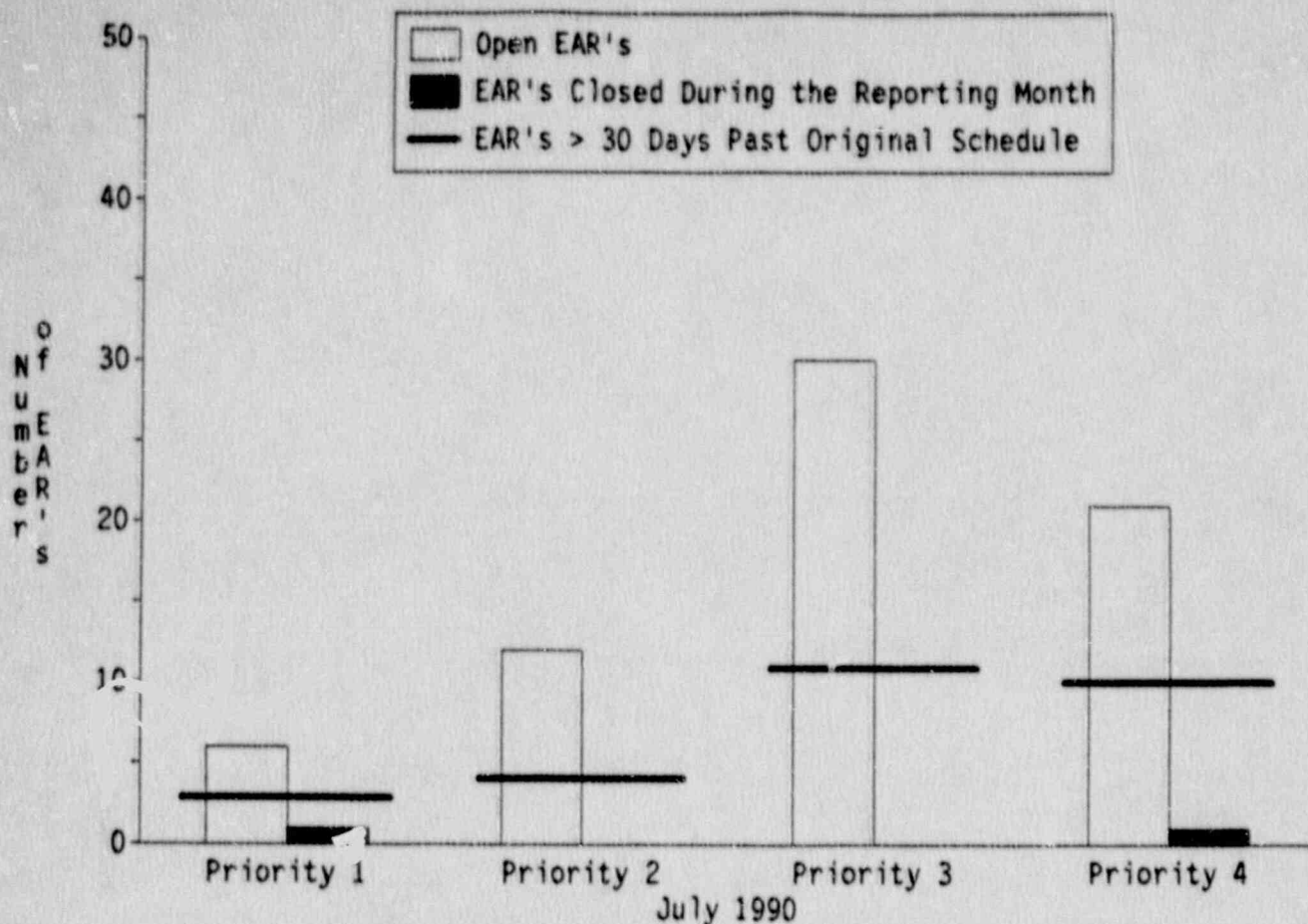
The top graph shows the total number of temporary modifications installed in the Fort Calhoun Station and a Fort Calhoun goal. The number of electrical temporary modifications and the number of mechanical temporary modifications have been deleted from this indicator because the Plant no longer categorizes temporary modifications in this manner.

At the end of July, there was a total of 22 temporary modifications installed in the Fort Calhoun Station. The Fort Calhoun goal for the total number of installed temporary modifications is less than 15 installed temporary modifications.

The bottom graph, Age of Temporary Modifications, displays the age of all temporary modifications by months installed in the plant.

Adverse Trend: None

SEP 62 & 71



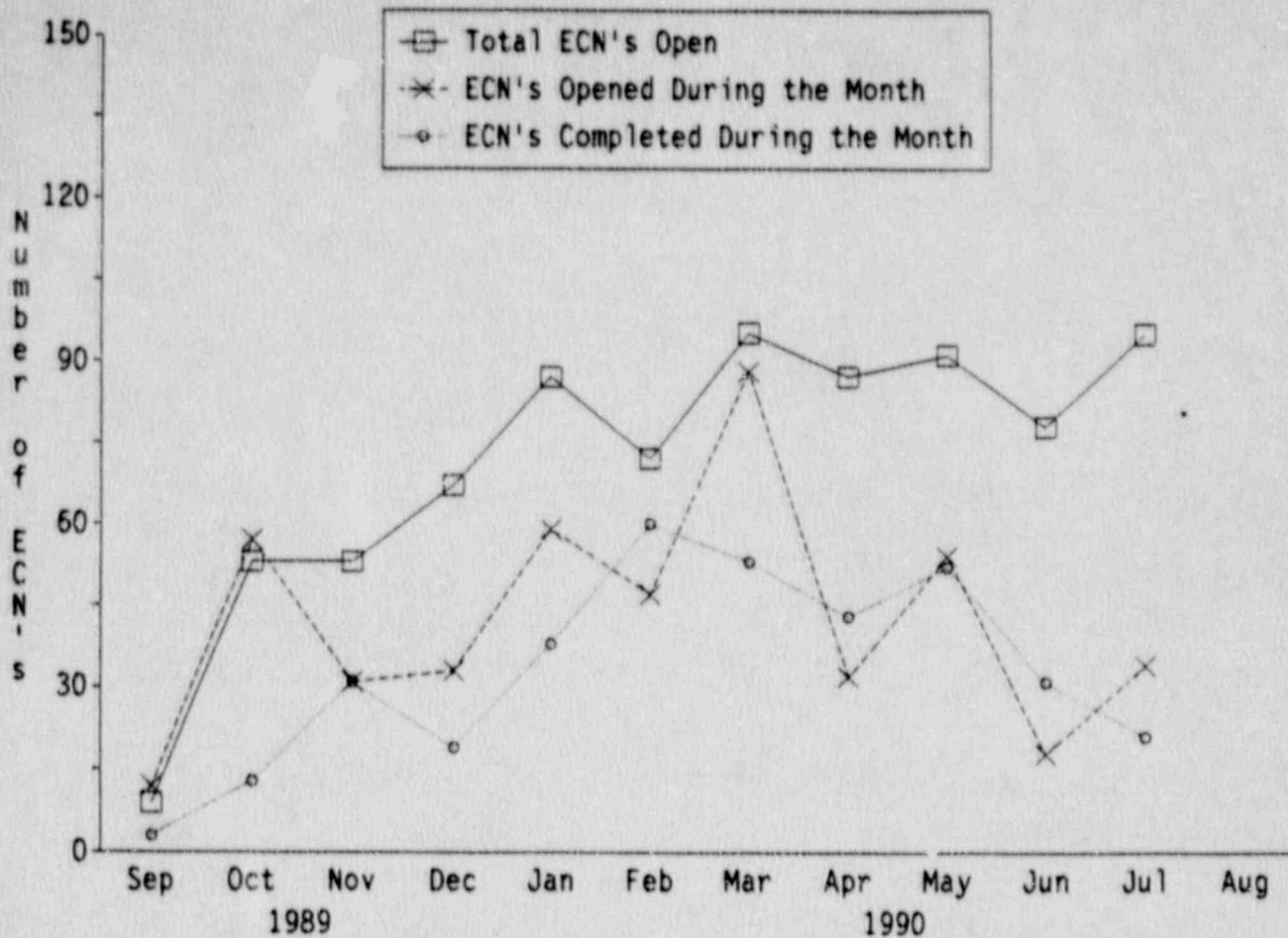
ENGINEERING ASSISTANCE REQUEST PRIORITY BREAKDOWN

This indicator shows the number of open and closed Engineering Assistance Requests (EAR's) broken down into priorities at the end of the reporting month. Along with the priority breakdown, the number of EAR's remaining open 30 days past the original schedule are shown for each priority category.

Priority	Open			Closed			>30 Days Past Original Schedule		
	May	Jun	Jul	May	Jun	Jul	May	Jun	Jul
Priority 1	13	7	6	0	1	1	12	6	3
Priority 2	19	12	12	4	3	0	14	2	4
Priority 3	14	27	30	5	4	0	11	11	11
Priority 4	13	21	21	2	3	1	11	10	10
Total	59	67	69	11	11	2	48	29	28

Adverse Trend: None

SEP 62



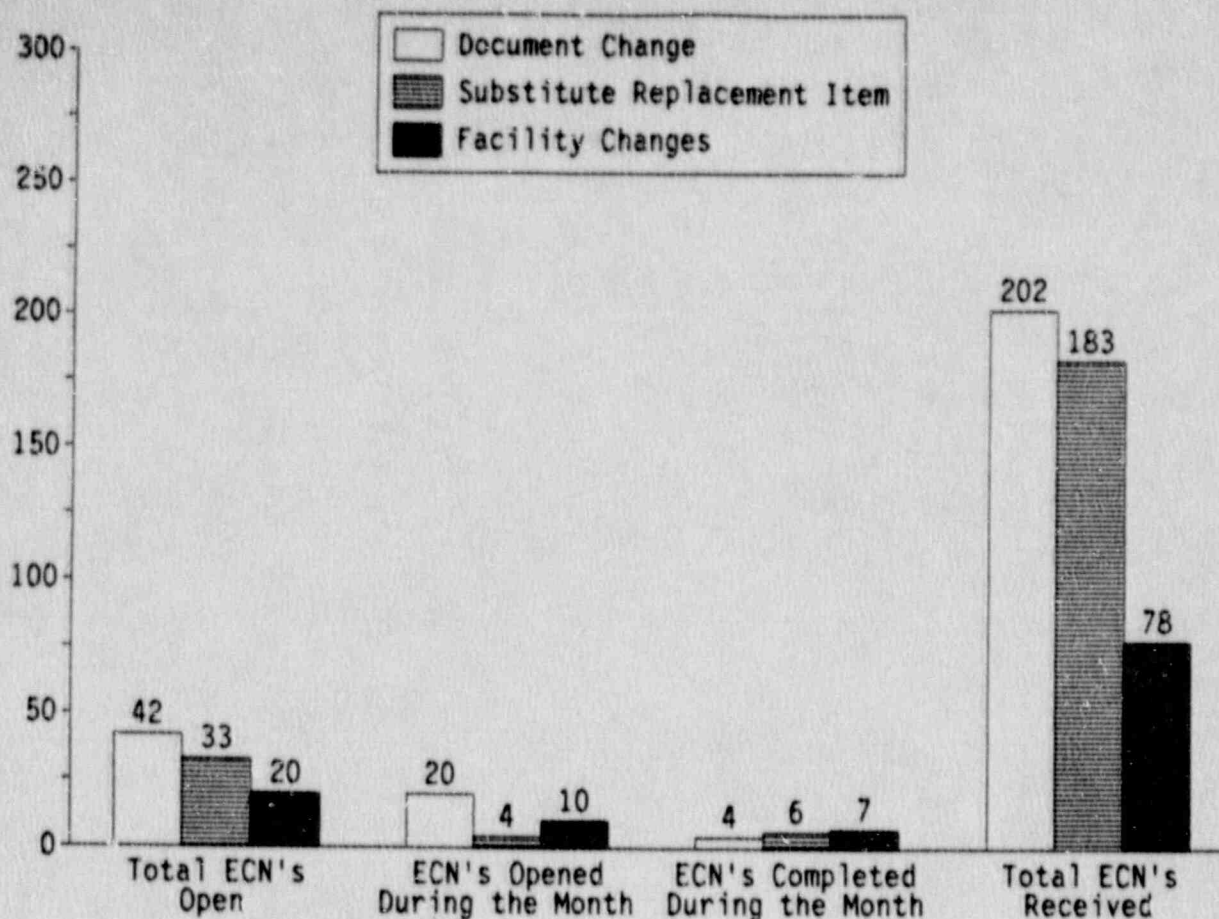
ENGINEERING CHANGE NOTICE STATUS

The indicator shows the total number of open Engineering Change Notices (ECN's), the number of ECN's opened during the reporting month, and the number of ECN's completed during the reporting month.

At the end of July, 1990, there was a total of 95 open ECN's. During the month of July, 34 ECN's were opened, and 21 ECN's were completed.

Adverse Trend: None

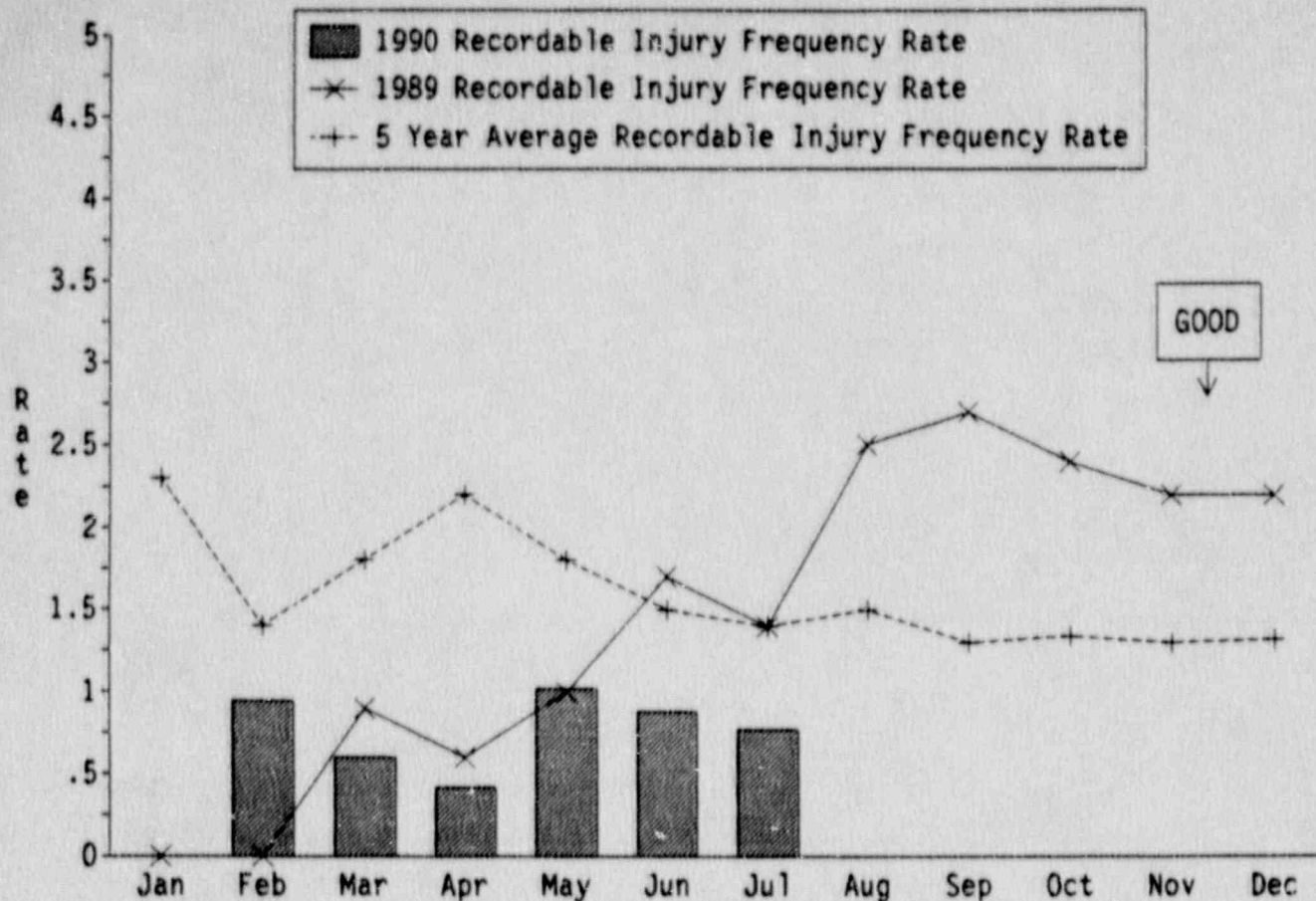
SEP 62



ENGINEERING CHANGE NOTICE BREAKDOWN

This indicator breaks down the total number of Engineering Change Notices (ECN's) that remain open at the end of the reporting month, the number of ECN's that were opened during the reporting month, the number of ECN's that were completed during the reporting month, and the number of ECN's received by Design Engineering during the reporting month into several categories. These categories include: ECN's requiring a document change to complete, ECN's requiring substitute replacement items to complete, and ECN's requiring facility changes to complete.

	Total Open	Opened	Completed	Received
Document Changes	42	20	4	202
Substitute Replacement	33	4	6	183
Facility Changes	20	10	7	78
<u>Adverse Trend:</u> None				SEP 62



RECORDABLE INJURY CASES FREQUENCY RATE

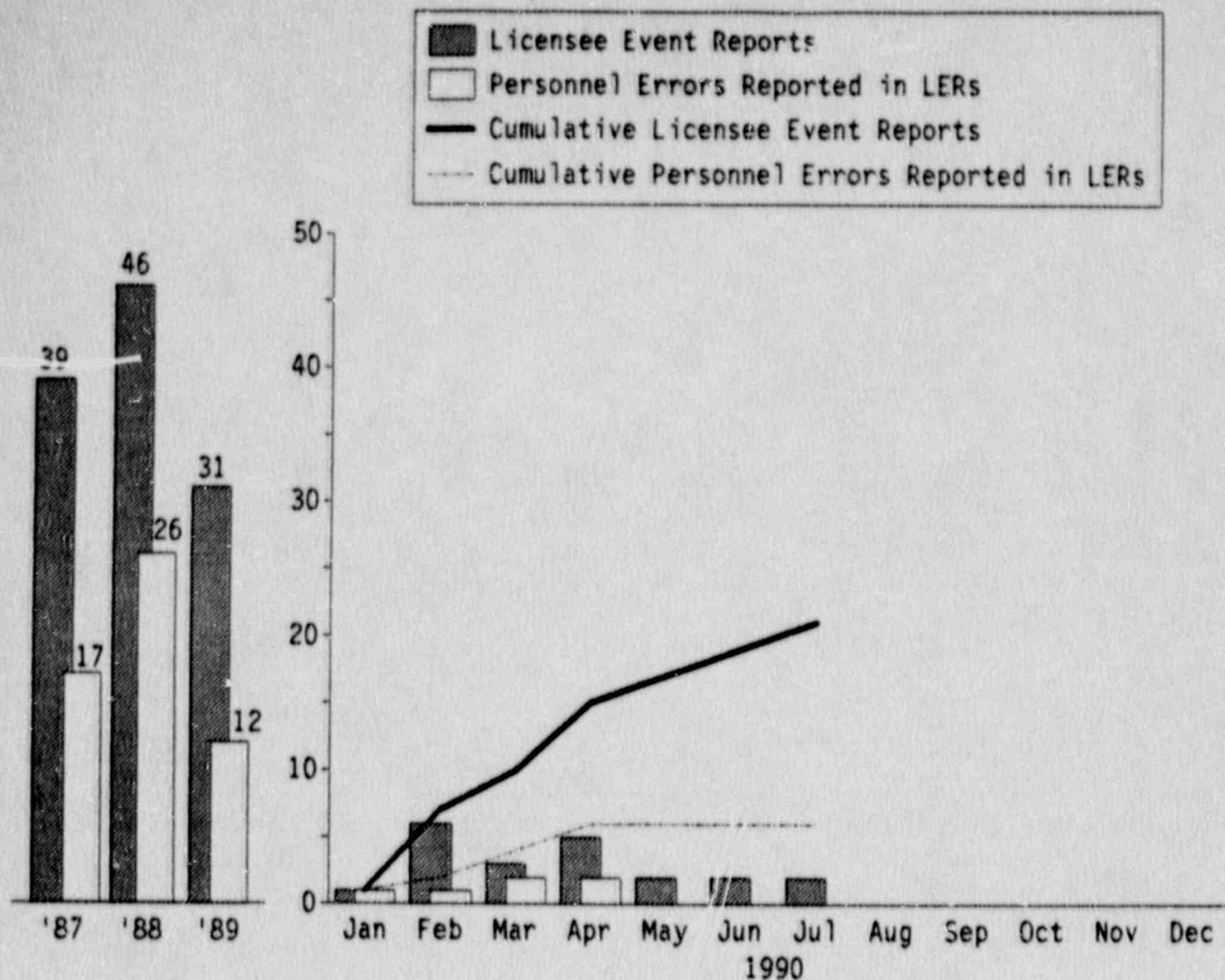
This indicator shows the monthly recordable injury cases frequency rate in column form. The above graph also includes the 1989 recordable injury cases frequency rate and the Fort Calhoun Station 5 year average recordable injury cases frequency rate.

A recordable injury case is reported if Nuclear Operations Division personnel are injured on the job and require corrective medical treatment. The recordable cases frequency rate is computed on a year-to-date basis. There were zero recordable injury cases reported during the month of July. There has been a total of three recordable injury cases so far in 1990.

There were eleven recordable cases reported in 1989, eleven reported in 1988, and eight reported in 1987. The year end recordable injury frequency rates for 1987, 1988, and 1989 were 2.5, 2.6, and 2.2 respectively.

Adverse Trend: None

SEP 15 & 26



NUMBER OF PERSONNEL ERRORS
REPORTED IN LER'S

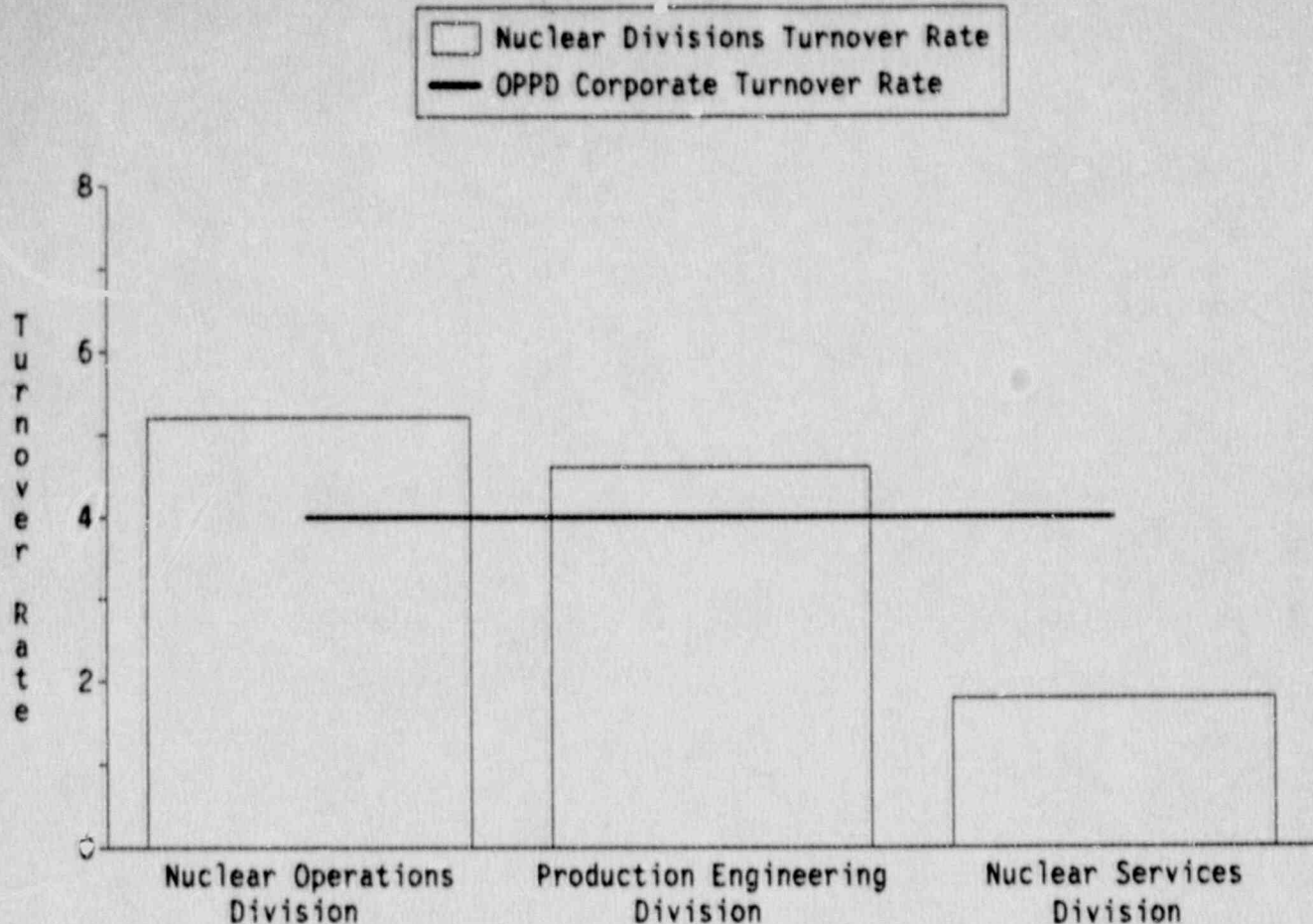
The Number of Personnel Errors Reported in LER's Indicator reports the Licensee Event Reports (LER's) by their event date.

In July, 1990 there were 2 LER's reported. Out of the 2 LER's which occurred, there were zero LER's attributable to personnel error.

There have been 21 LER's reported so far in 1990 and 6 LER's have been attributable to personnel errors.

Adverse Trend: None

SEP 15

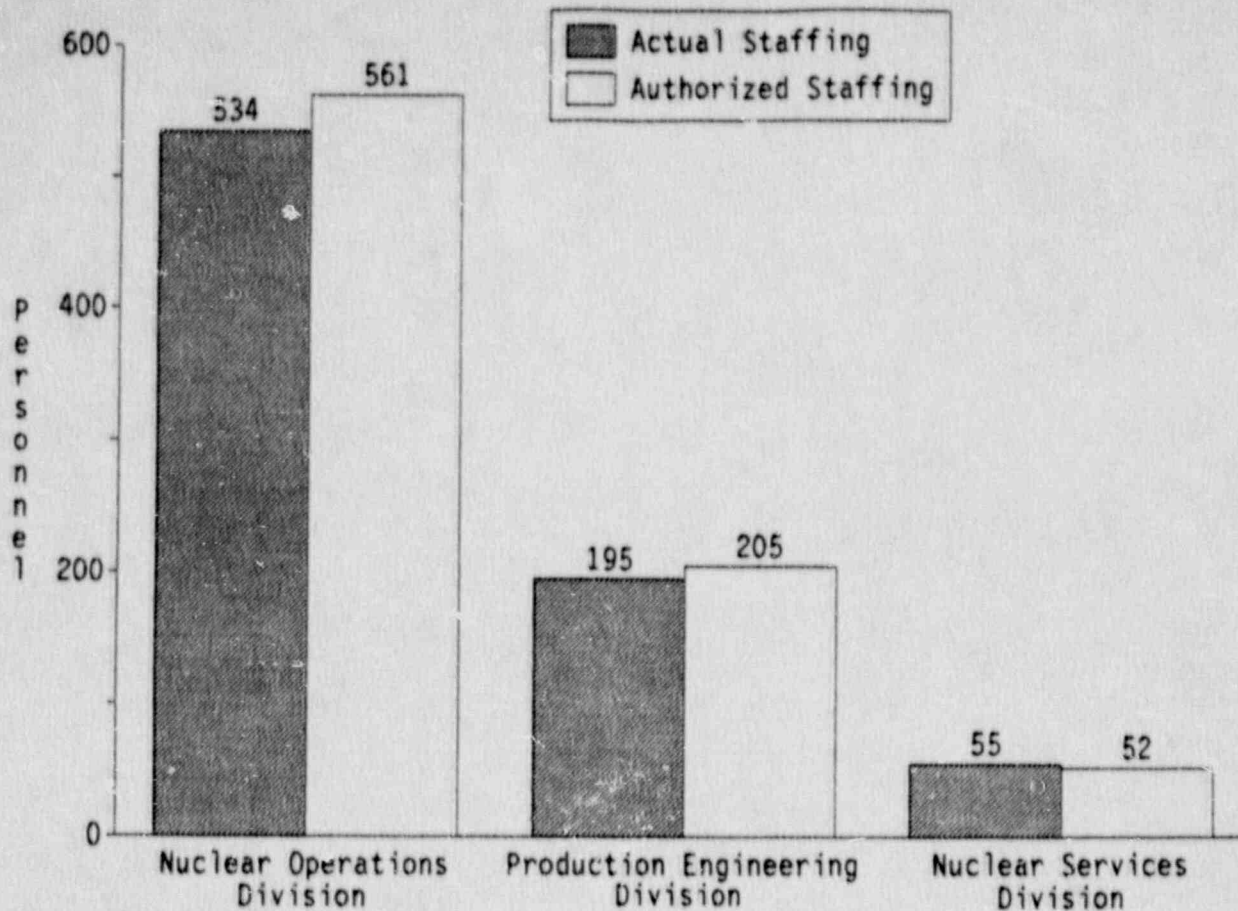


PERSONNEL TURNOVER RATE

The turnover rate for three Nuclear Divisions is shown for the last twelve months.

The personnel turnover rate is plotted against the OPPD corporate turnover rate of 4.0%. This OPPD corporate turnover rate is based on the turnover rate over the last three years.

Adverse trend: The turnover rate for the Nuclear Operations Division (NOD) and the Production Engineering Division (PED) are higher than the OPPD corporate turnover rate. These high turnover rates are due to 28 resignations from NOD which occurred within the last twelve months and 9 resignations from PED which occurred within the last twelve months.

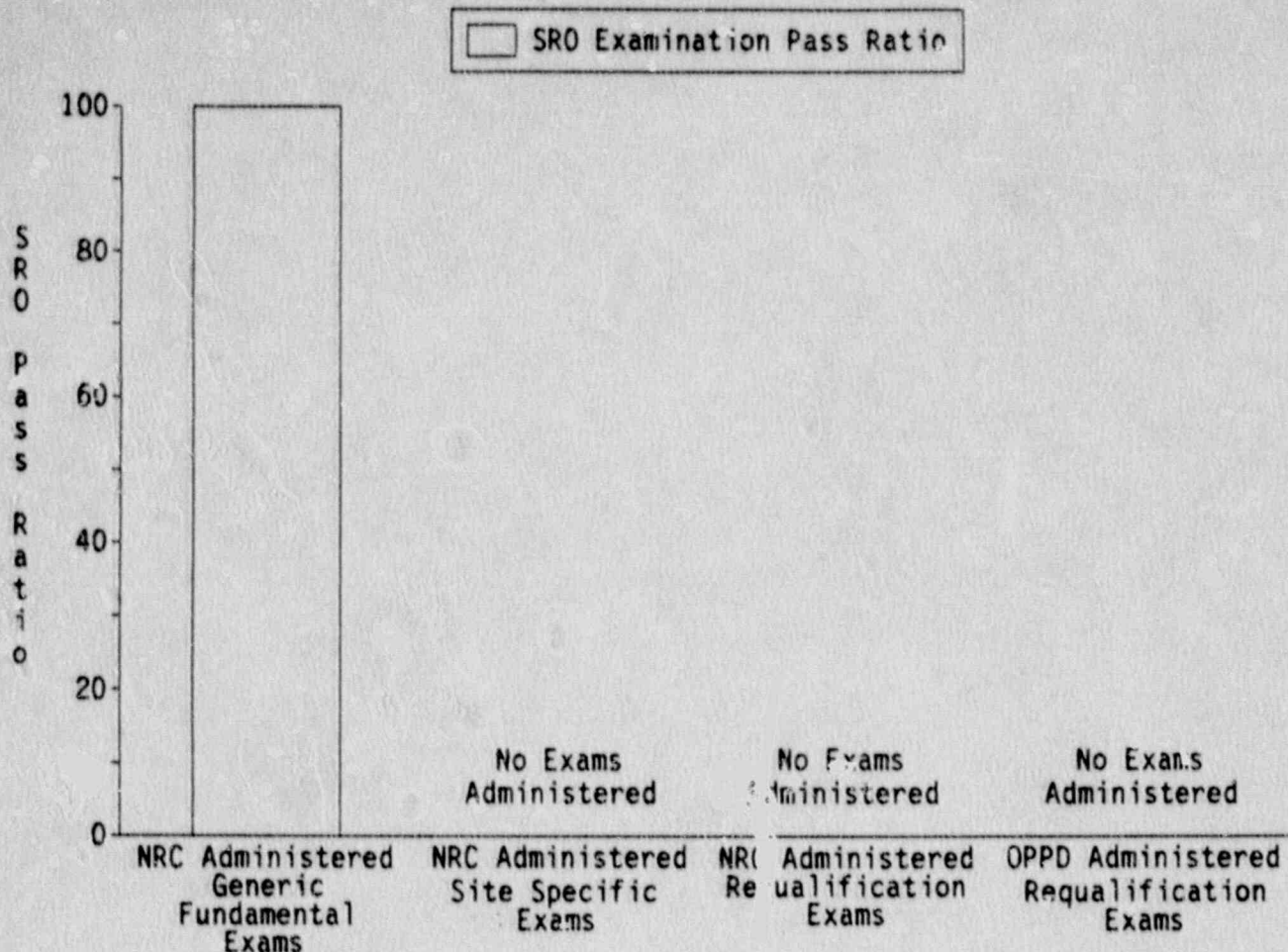


STAFFING LEVEL

The authorized and actual staffing levels are shown for the three Nuclear Divisions.

Adverse Trend: None

SEP 24



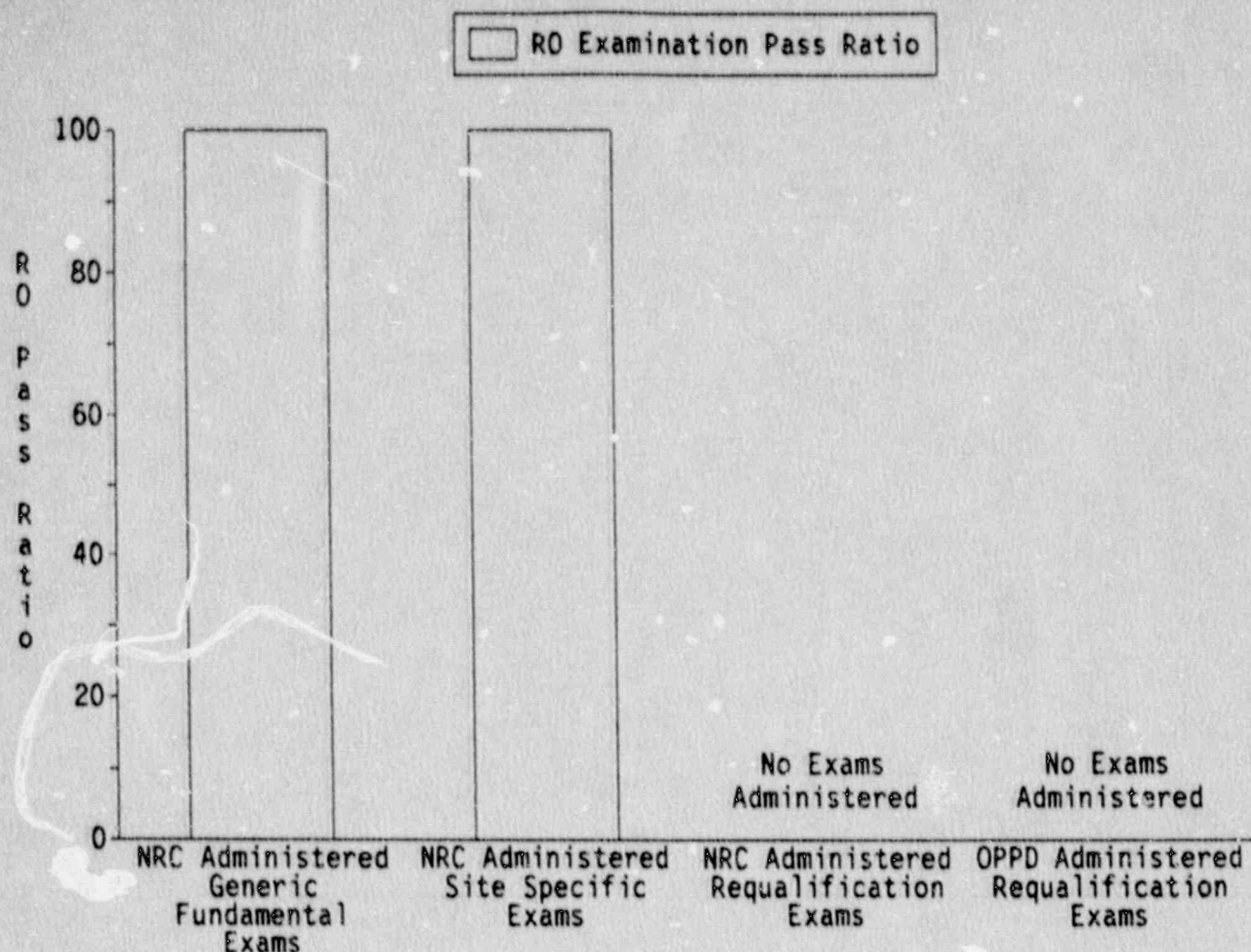
SRO LICENSE EXAMINATION PASS RATIO

The SRO License Examination Pass Ratio Indicator shows the number of NRC administered Generic Fundamentals Exams (GFE's), the number of NRC administered Site Specific Exams, the number of NRC administered license requalification exams, and the number of OPPD administered license requalification exams.

No SRO License examinations were administered during July, 1990. The table below lists the examination pass ratio for examinations which have been taken during 1990.

	<u>OPPD ADMINISTERED</u>		<u>NRC ADMINISTERED</u>	
	Requal	Generic Fund.	Site Spec.	Requal.
<u>DATE</u>	<u>% PASS RATIO</u>	<u>% PASS RATIO</u>	<u>% PASS RATIO</u>	<u>% PASS RATIO</u>
Feb 1990	-	100	-	-

Adverse Trend: None



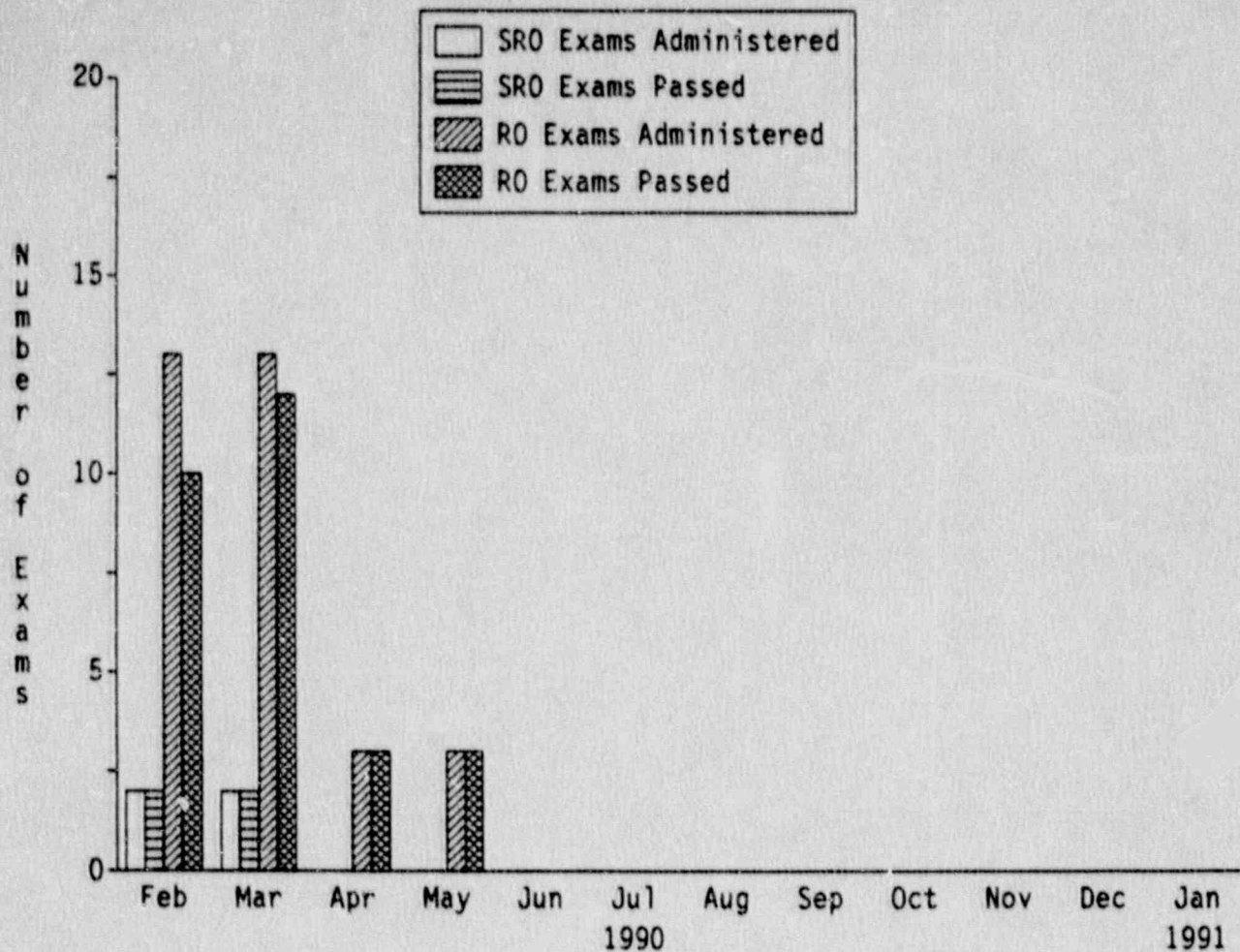
RO LICENSE EXAMINATION PASS RATIO

The RO License Examination Pass Ratio Indicator shows the number of NRC administered Generic Fundamentals Exams (GFE's), the number of NRC administered Site Specific Exams, the number of NRC administered license requalification exams, and the number of OPPD administered license requalification exams.

No RO License examinations were administered during the month of July, 1990. The table below lists the examination pass ratio for examinations which have been taken during 1990.

<u>DATE</u>	<u>OPPD ADMINISTERED</u>	<u>NRC ADMINISTERED</u>		
	Requal	Generic Fund.	Site Spec.	Requal.
	<u>% PASS RATIO</u>	<u>% PASS RATIO</u>	<u>% PASS RATIO</u>	<u>% PASS RATIO</u>
Feb 1990	-	100	-	-
May 1990	-	-	100	-

Adverse Trend: None



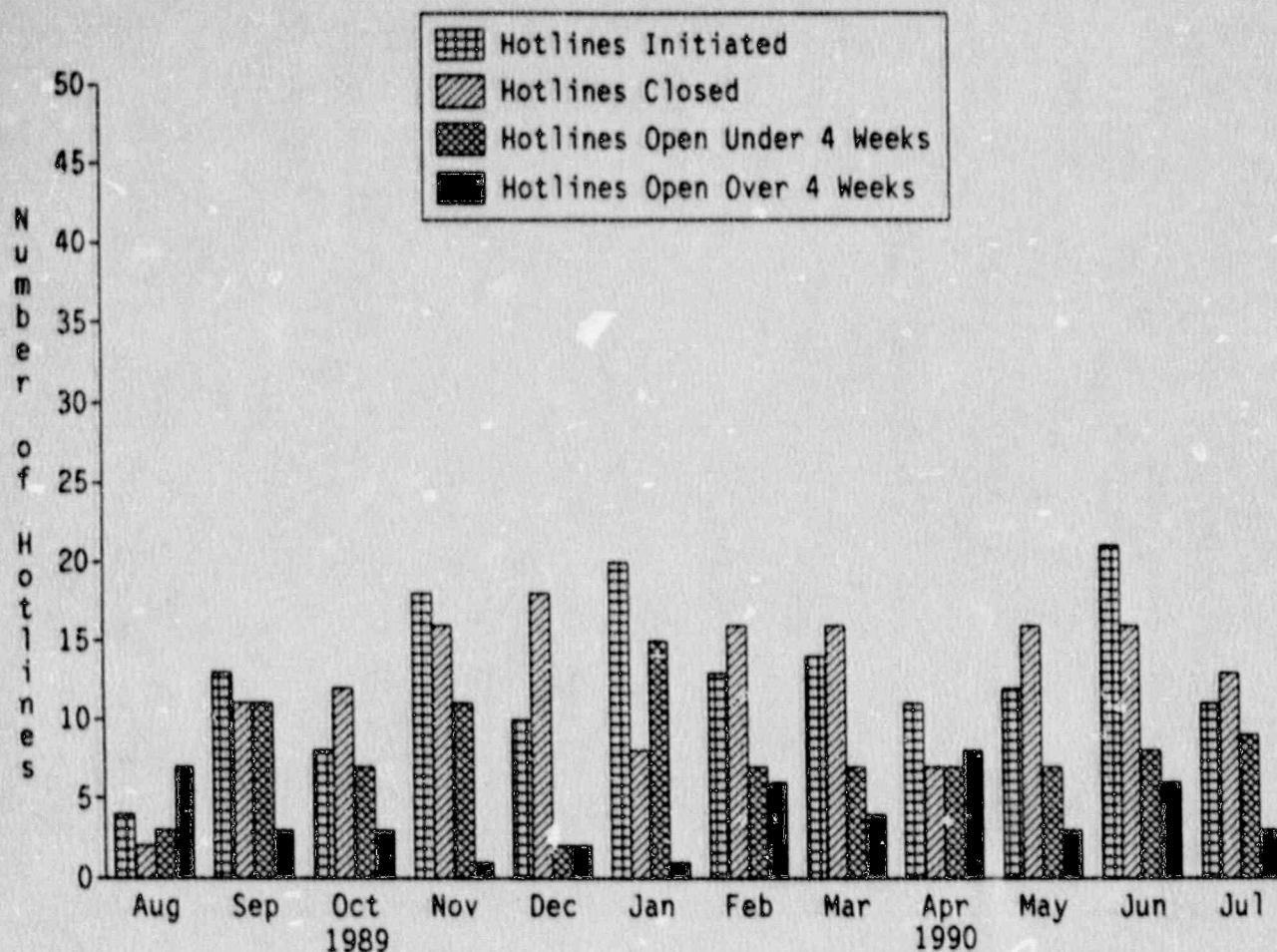
LICENSE CANDIDATE EXAMS

This indicator shows the number of SRO and RO quizzes and exams taken and passed each month. These internally administered quizzes and exams are used to plot the SRO and RO candidates' monthly progress.

During the month of July, 1990, no SRO exams were administered.

During the month of July, 1990, no RO exams were administered.

Adverse Trend: None

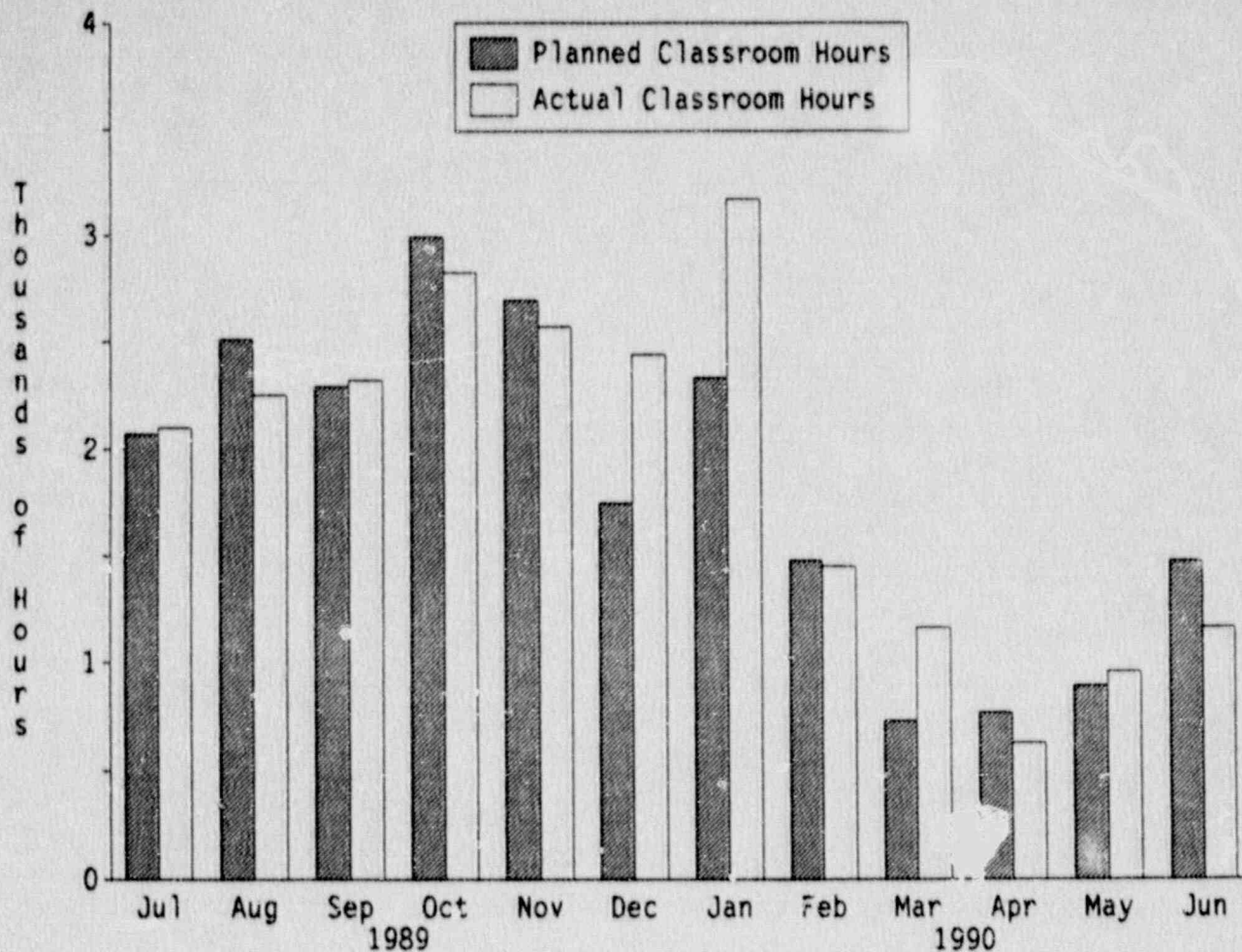


HOTLINES

This indicator shows the number of Hotlines initiated during the reporting month, the number of Hotlines closed during the reporting month, the number of Hotlines that remain open and are less than four weeks old, and the number of Hotlines that remain open and are older than four weeks old.

During the month of July, 1990, there were 11 Hotlines initiated, 13 Hotlines closed, 9 Hotlines that remained open and were less than four weeks old, and 3 Hotlines that remained open and were older than four weeks old.

Adverse Trend: None

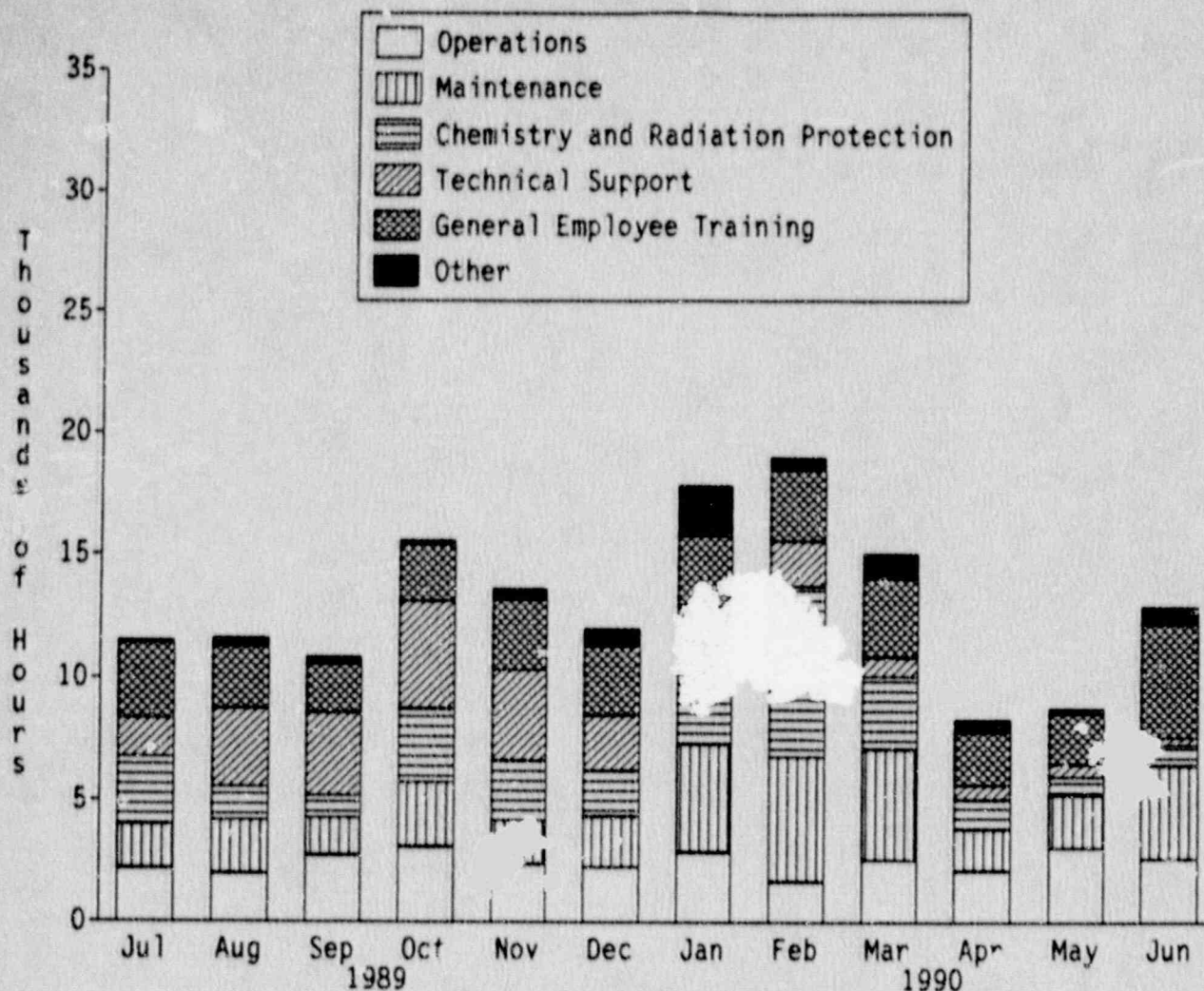


CLASSROOM (INSTRUCTOR) HOURS

This indicator displays the number of planned classroom hours and the number of actual classroom hours for the Fort Calhoun Station.

This indicator is one month behind the reporting month due to the time to collect and process the needed information.

Adverse Trend: None



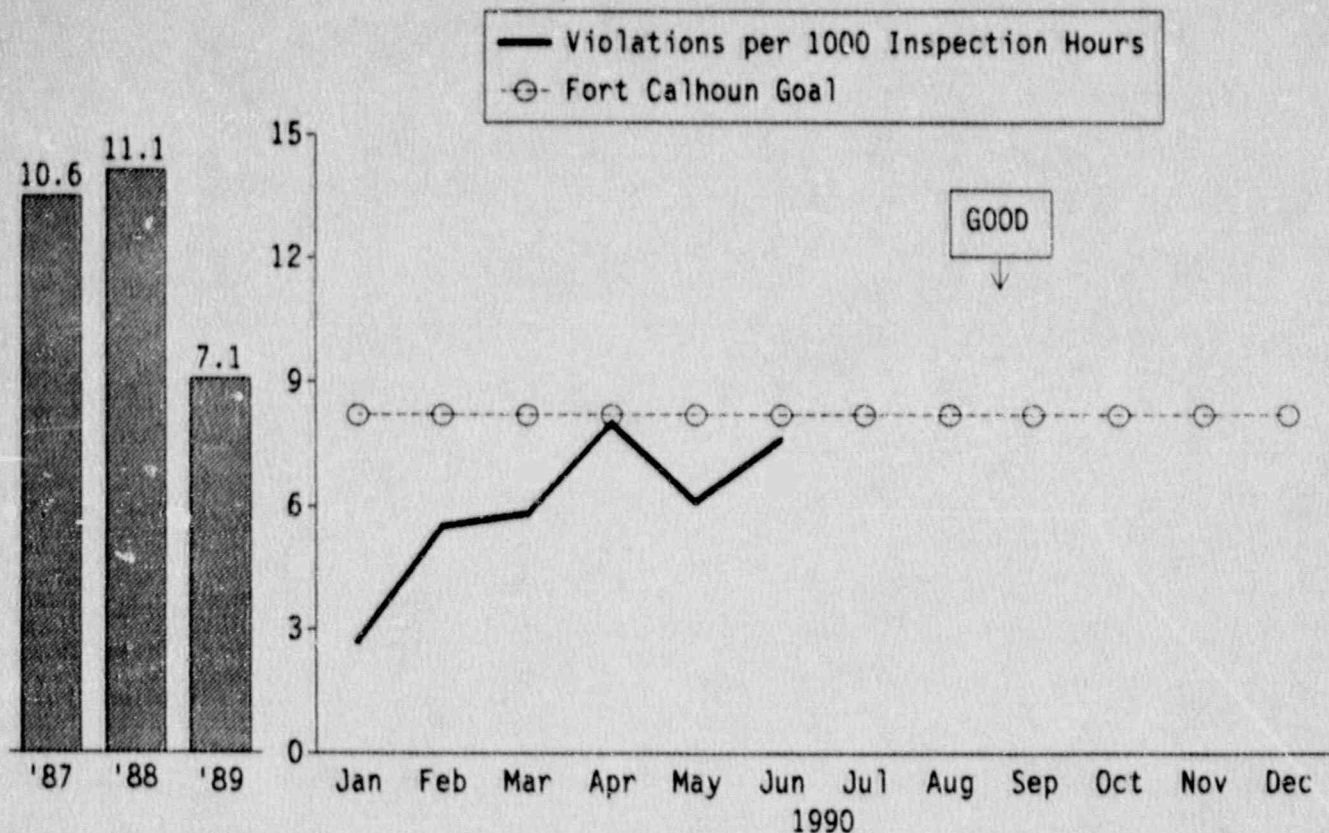
TOTAL HOURS OF STUDENT TRAINING

This indicator shows the total number of student hours for Operations, Maintenance, Chemistry and Radiation Protection, Technical Support, General Employee Training, and Other training conducted for the Fort Calhoun Station.

This indicator is one month behind the reporting month due to the time needed to collect and evaluate the data.

<u>TRAINING</u>	<u>Total Hours</u>	
	<u>MAY 1990</u>	<u>JUN 1990</u>
Operations	3,082	2,623
Maintenance	2,169	3,843
Chemistry and Radiation Protection	725	826
Technical Support	555	301
General Employee Training	2,028	4,604
Other	194	722
<u>Total</u>	<u>8,753</u>	<u>12,919</u>

Adverse Trend: None



VIOLATIONS PER 1000 INSPECTION HOURS

This indicator displays the number of NRC violations cited in inspection reports per 1000 NRC inspection hours. This indicator was calculated using the number of violations and the number of inspection hours from submitted inspection reports. These inspection reports consisted of reports from the months of January, 1990, through June, 1990.

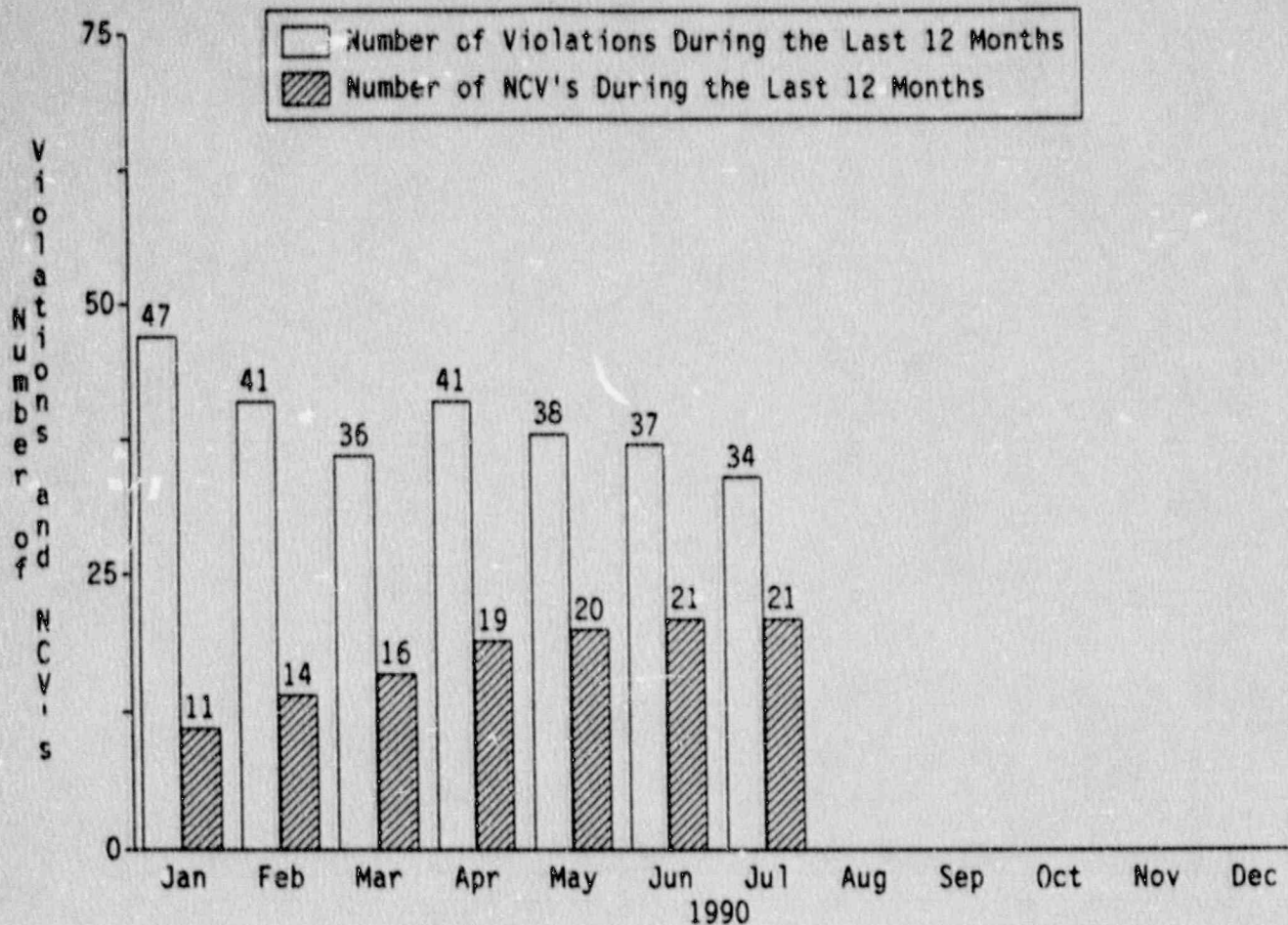
This indicator is one month behind the reporting month due to the time involved with collecting and processing the data.

The violations per 1000 inspection hours indicator was reported as 7.6 for the month of June, 1990.

There have been a total of 1,972 inspection hours in 1990 which have resulted in 15 violations.

The goal for the number of violations per 1000 inspection hours is less than 8.2.

Adverse Trend: None

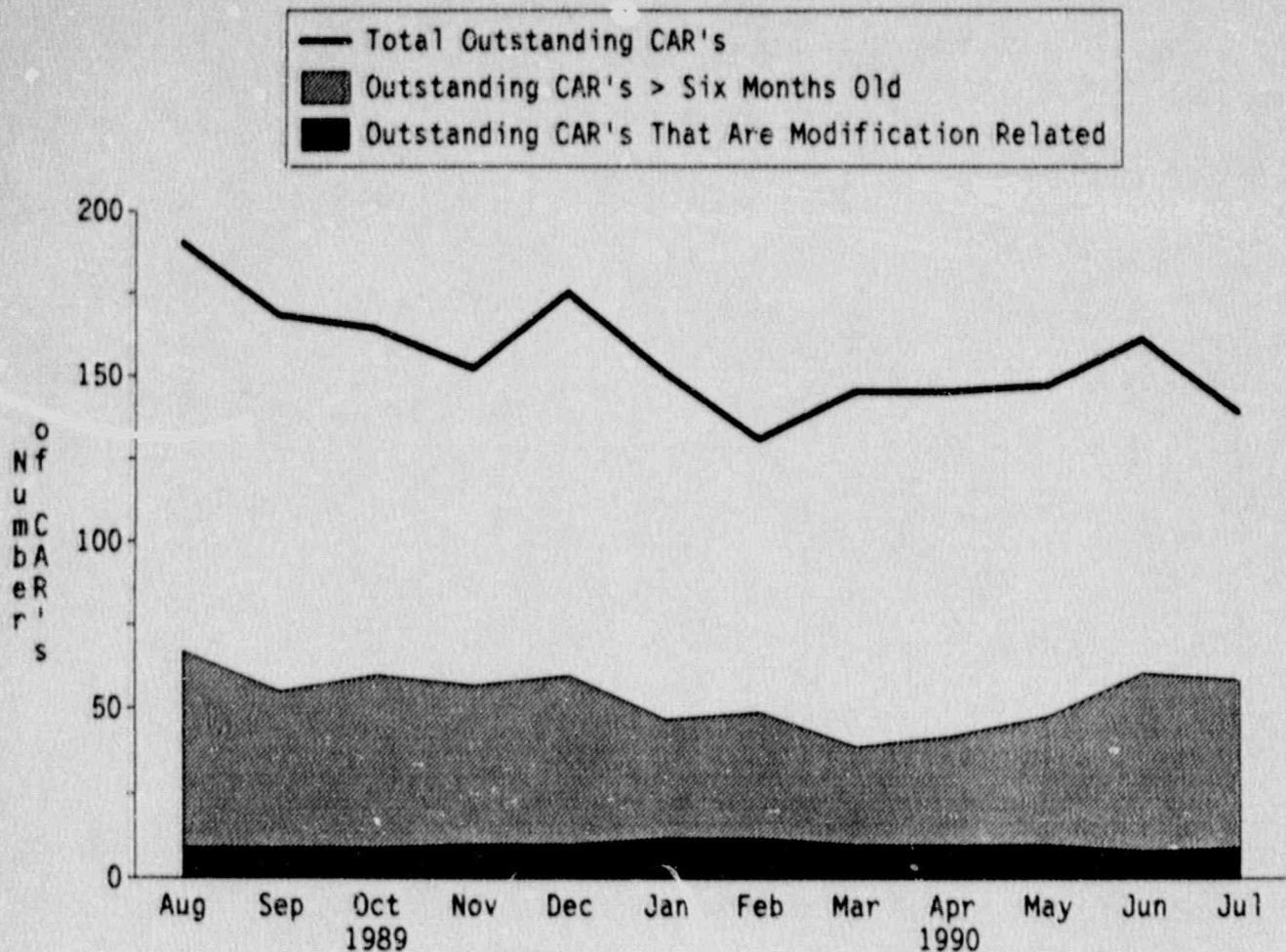


CUMULATIVE VIOLATIONS AND NCV's
(TWELVE-MONTH RUNNING TOTAL)

The Cumulative Violations and Non-Cited Violations (NCV's) Indicator shows the cumulative number of violations for the last twelve months and the cumulative number of NCV's for the last twelve months.

During the last twelve months, 34 violations have been identified and 21 NCV's have been identified.

Adverse Trend: None

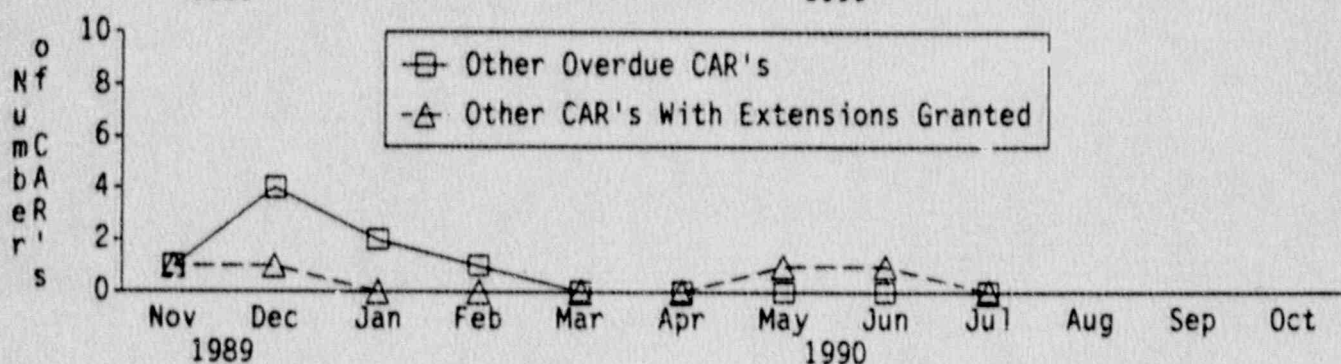
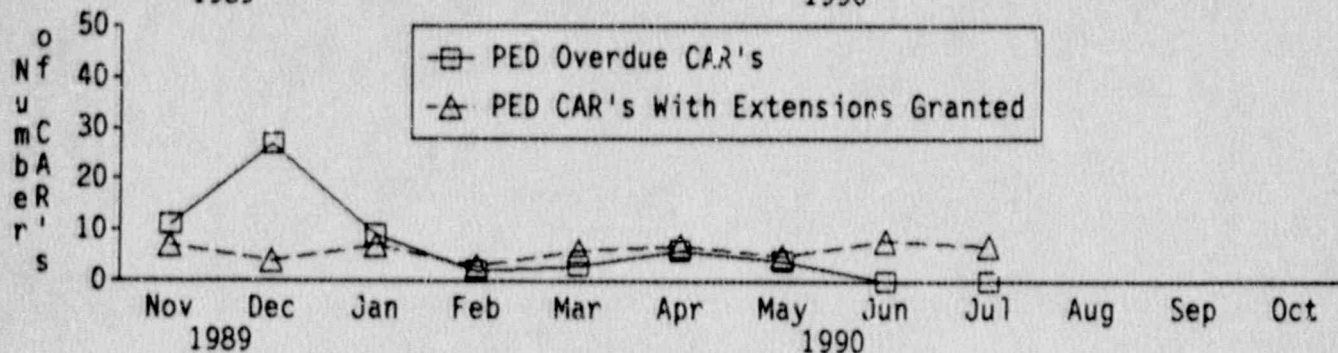
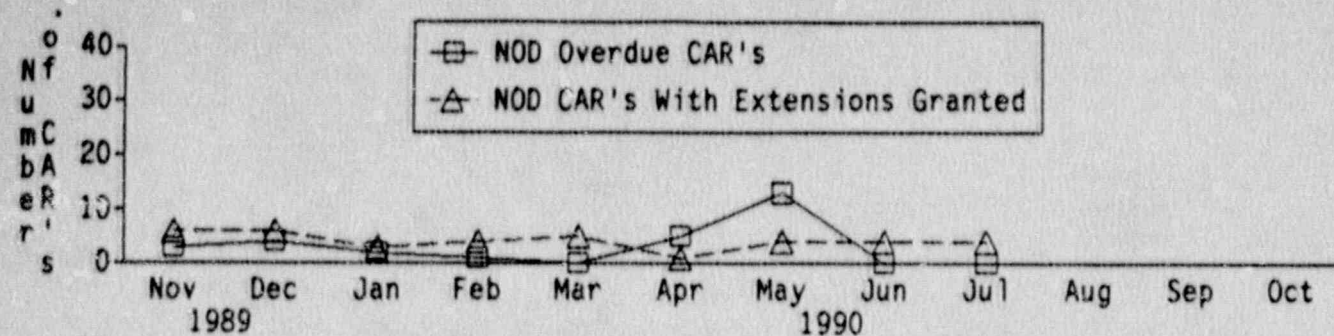


OUTSTANDING CORRECTIVE ACTION REPORTS

This indicator shows the total number of outstanding Corrective Action Reports (CAR's), the number of outstanding CAR's that are greater than six months old, and the number of outstanding CAR's that are modification related.

As of the end of July, 1990 there were 139 outstanding CAR's reports, 59 CAR's that are greater than six months old, and 9 CAR's that are modification related.

Adverse Trend: None



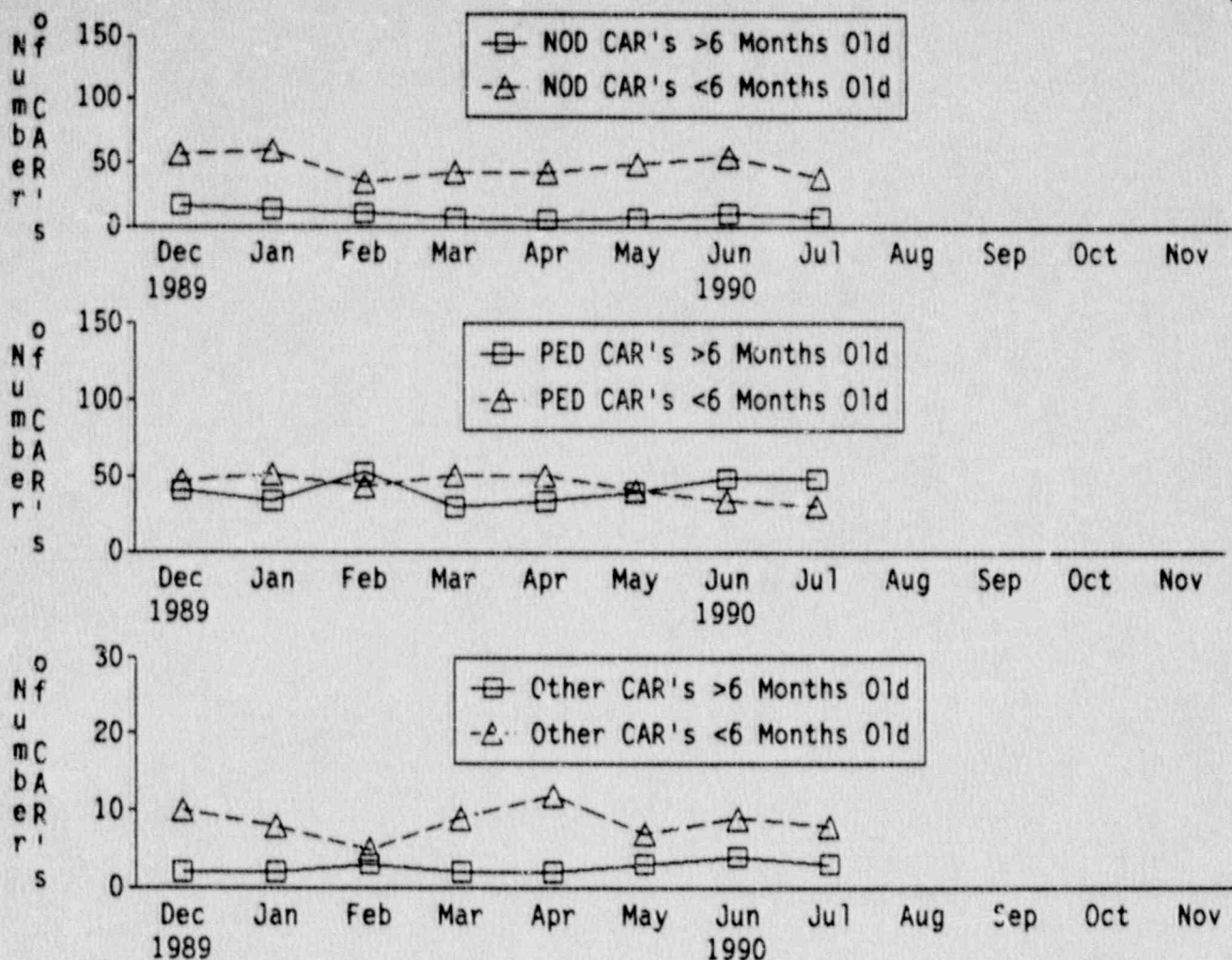
OVERDUE AND EXTENDED CORRECTIVE ACTION REPORTS

This indicator shows the number of overdue CAR's and the number of CAR's which received extensions broken down by organization.

ORGANIZATION	OVERDUE CAR's		
	MAY 90	JUN 90	JUL 90
NOD	13	0	0
PED	4	0	0
Others	0	0	0
Total	17	0	0

ORGANIZATION	CAR's WITH EXTENSIONS GRANTED		
	MAY 90	JUN 90	JUL 90
NOD	4	4	4
PED	5	8	7
Others	1	1	0
Total	10	13	11

Adverse Trend: None



CORRECTIVE ACTION REPORTS CURRENT STATUS

This indicator shows the number of CAR's that are older than 6 months and the number of CAR's that are less than 6 months old broken down by organization.

CAR's GREATER THAN 6 MONTHS OLD			
ORGANIZATION	MAY 90	JUN 90	JUL 90
NOD	7	10	8
PED	40	49	49
Others	3	4	3
Total	50	63	60

CAR's LESS THAN 6 MONTHS OLD			
ORGANIZATION	MAY 90	JUN 90	JUL 90
NOD	49	55	39
PED	41	34	31
Others	7	9	8
Total	97	98	78

Adverse Trend: None

SALP FUNCTIONAL AREA	1989				1990				
	OPPD CAR's	SIGNIFICANT CAR's	NRC VIOLATIONS	LER'S	OPPD CAR's	SIGNIFICANT CAR's	NRC VIOLATIONS	LER'S	
A. Plant Operations	11	0	8	2	30 (4)	0	1	9 (1)	
B. Radiological Controls	30	1	2	1	21	2	0	0	
C. Maintenance/ Surveillance	140	8	2	10	150 (13)	6 (1)	5 (1)	4 (1)	
D. Emergency Preparedness	8	0	0	0	6	0	2	0	
E. Security	26	2	6	10	19 (6)	0	4	1	
F. Engineering/ Technical Support	134	2	7	7	78 (6)	1	2	7	
G. Safety Assessment/ Quality Verification	68	0	1	0	11 (1)	0	0	0	
H. Other	0	0	0	1	1 (1)	0	0	0	
Total	417	13	26	31	316 (31)	9 (1)	14 (1)	21 (2)	

CAR'S ISSUED VERSUS SIGNIFICANT CAR'S VERSUS NRC VIOLATIONS ISSUED VERSUS LER'S REPORTED

The above matrix shows the number of Corrective Action Reports (CAR's) issued by the Nuclear Services Division versus the number of Significant CAR's issued by the Nuclear Services Division versus the number of violations issued by the Nuclear Regulatory Commission (NRC) for the Fort Calhoun Station in 1989 and 1990. Included in this table is the number of Licensee Event Reports (LER's) identified by the station each year. The number of NRC violations reported are one month behind the reporting month due to the time involved in collecting and processing the violations.

In July, 1990, there were 31 CAR's issued, one Significant CAR issued, and 2 LER's identified. During June one NRC violation was issued. This violation was not attributable to personnel error. The monthly distribution of CAR's, Significant CAR's, NRC violations, and LER's are shown in parentheses.

SEP 15, 20 & 21

SIGNIFICANT ITEMS OF INTEREST

This section is intended to provide information on events which are significant to the Fort Calhoun Station and will give a "heads-up" look at what is scheduled in the coming months.

- The NRC Emergency Operating Procedures (EOP) Review is scheduled for August 20 through August 31, 1990.
- The Procedure Upgrade Project and the Plant have approved and issued 811 safety related procedures. This meets a Safety Enhancement Program (SEP) Item Number 48 milestone commitment.
- The NRC Maintenance Inspection Team follow-up review has been rescheduled until November, 1990.
- The 56 day 1991 Refueling Outage is planned to start 9/28/91 and finish 11/22/91.
- The 1990 Emergency Preparedness Graded Exercise is planned for the week of 11/26/90.
- Two management meetings were held with the NRC during the month of July, 1990. One management meeting was held to discuss the results of the last Systematic Assessment of Licensee Performance (SALP) period which ended April 30, 1990. The other management meeting was held concerning security.

FORT CALHOUN PERFORMANCE PARAMETER DEFINITIONS

AGE OF OUTSTANDING MAINTENANCE WORK ORDERS

This indicator tracks the total number of outstanding corrective non-outage Maintenance Work Orders at the Fort Calhoun Station versus their age in months.

AMOUNT OF WORK ON HOLD AWAITING PARTS

This indicator is defined as the percentage of open, non-outage, maintenance work orders that are on hold awaiting parts, to the total number of open, non-outage, maintenance work orders.

AUXILIARY SYSTEMS CHEMISTRY HOURS OUTSIDE STATION LIMITS

The cumulative hours that the Component Cooling Water system is outside the station chemistry limit. The hours are accumulated from the first sample exceeding the limit until additional sampling shows the parameter to be back within limits.

CHECK VALVE FAILURE RATE

The Fort Calhoun check valve failure rate and the industry check valve failure rate (failures per 1 million component hours). The data for the industry failure rate is three months behind the Performance Indicators Report reporting month. This indicator tracks performance for SEP item 43.

CLASSROOM (INSTRUCTOR) HOURS

The number of planned classroom hours and the number of actual classroom hours for the Fort Calhoun Station.

CORRECTIVE ACTION REPORT CURRENT STATUS

The number of Corrective Action Reports (CAR's) that are older than 6 months and the number of CAR's that are less than 6 months old broken down by organization for the last 6 months.

CORRECTIVE MAINTENANCE BACKLOG GREATER THAN 3 MONTHS OLD

The percentage of total outstanding corrective maintenance items, not requiring an outage, that are greater than three months old at the end of the period reported.

FORT CALHOUN PERFORMANCE PARAMETER DEFINITIONS (CONTINUED)

CUMULATIVE VIOLATIONS AND NON-CITED VIOLATIONS (TWELVE-MONTH RUNNING TOTAL)

The cumulative number of violations and Non-Cited Violations for the last 12 months.

DAILY THERMAL OUTPUT

The daily core thermal output as measured from computer point XC105 in thermal megawatts.

DIESEL GENERATOR RELIABILITY

A Diesel Generator (DG) unit consists of the engine, generator, combustion air system, cooling water system, fuel supply system, lubricating oil system, starting air system, autostart controls, manual controls, and diesel generator breaker.

Reliability of each DG unit will be reported for two situations, one for the last 20 demands and one for the last 100 demands. Reliability is the ratio of the number of successful runs to the number of demands, for each individual DG unit.

A successful run is defined as a start of a DG unit and the loading of this unit to a minimum of 50% rated load (1250 KW) for a minimum time period of 60 minutes.

A failure is defined as the failure to start, accelerate, and assume the design rated load for the given time period as specified for an emergency or a valid test.

The total number of demands (or valid tests) will be equal to the sum of the failures and the successful runs.

This definition of DG Reliability was taken from the U.S. Nuclear Regulatory Commission "Regulatory Guide 1.108, Revision 1". This is the definition being applied in calculating the diesel generator reliability at the Fort Calhoun Station.

DISABLING INJURY FREQUENCY RATE (LOST TIME ACCIDENT RATE)

This indicator is defined as the number of accidents for all utility personnel permanently assigned to the station, involving days away from work per 200,000 man-hours worked (100 man-years). This does not include contractor personnel. This indicator tracks personnel performance for Safety Enhancement Program (SEP) Item 26.

FORT CALHOUN PERFORMANCE PARAMETER DEFINITIONS (CONTINUED)

DOCUMENT REVIEW (BIENNIAL)

The Document Review Indicator shows the number of documents reviewed during the reporting month, the number of documents scheduled for review during the reporting month, and the number of document reviews that are overdue.

ENGINEERING ASSISTANCE REQUEST (EAR's) PRIORITY BREAKDOWN

The number of open and closed EAR's broken down into priorities at the end of the reporting month. This indicator tracks performance for SEP item 62.

ENGINEERING CHANGE NOTICE (ECN) BREAKDOWN

The breakdown of the total number of open ECN's, the number of ECN's that were opened during the reporting month, the number of ECN's that were completed during the reporting month, and the number of ECN's received during the reporting month into three categories. These categories include; 1) document changes are required to complete the ECN's, 2) substitute or replacement items are required to complete the ECN's, or 3) facility changes are required to complete the ECN's. This indicator tracks performance for SEP item 62.

ENGINEERING CHANGE NOTICE (ECN) STATUS

The number of ECN's that remain open at the end of the reporting month, the number of ECN's that were opened during the reporting month, and the number of ECN's that are completed during the reporting month. This indicator tracks performance for SEP item 62.

EQUIPMENT FORCED OUTAGES PER 1000 CRITICAL HOURS

Equipment forced outages per 1000 critical hours is the inverse of the mean time between forced outages caused by equipment failures. The mean time is equal to the number of hours the reactor is critical in a period (1000 hours) divided by the number of forced outages caused by equipment failures in that period.

EQUIVALENT AVAILABILITY FACTOR

This indicator is defined as the ratio of gross available generation to gross maximum generation, expressed as a percentage. Available generation is the energy that can be produced if the unit is operated at the maximum power level permitted by equipment and regulatory limitations. Maximum generation is the energy that can be produced by a unit in a given period if operated continuously at maximum capacity.

EXPEDITED PURCHASES

The percentage of expedited purchases which occurred during the reporting month compared to the total number of purchase orders generated.

FORT CALHOUN PERFORMANCE PARAMETER DEFINITIONS (CONTINUED)

FORCED OUTAGE RATE

This indicator is defined as the percentage of time that the unit was unavailable due to forced events compared to the time planned for electrical generation. Forced events are failures or other unplanned conditions that require removing the unit from service before the end of the next weekend. Forced events include startup failures and events initiated while the unit is in reserve shutdown (i.e., the unit is available but not in service).

FUEL RELIABILITY INDICATOR

This indicator is defined as the steady-state primary coolant I-131 activity, corrected for the tramp uranium contribution and normalized to a common purification rate.

Tramp uranium is fuel which has been deposited on reactor core internals from previous defective fuel or is present on the surface of fuel elements from the manufacturing process.

Steady state is defined as continuous operations above 85 percent power for at least seven days.

GASEOUS RADIOACTIVE WASTE BEING DISCHARGED TO THE ENVIRONMENT

This indicator displays the total number of Curies of all gaseous radioactive nuclides released from the Fort Calhoun Station.

GROSS HEAT RATE

Gross heat rate is defined as the ratio of total thermal energy in British Thermal Units (BTU) produced by the reactor to the total gross electrical energy produced by the generator in kilowatt-hours (KWH).

HAZARDOUS WASTE PRODUCED

The total amount (in Kilograms) of non-halogenated hazardous waste, halogenated hazardous waste, and other hazardous waste produced by the Fort Calhoun Station each month.

HOTLINES

The number of Hotlines that are initiated, closed, overdue, and open for a given month. A Hotline is a training document sent out for immediate review. The Hotline should be reviewed and signed within 5 days of receipt of the Hotline.

FORT CALHOUN PERFORMANCE PARAMETER DEFINITIONS (CONTINUED)

HOURS CHEMISTRY IS OUTSIDE OWNERS GROUP GUIDELINES

Total hours for 13 secondary side chemistry parameters exceeding guidelines during power operation. Power operation is defined as greater than 30% power. The 13 parameters tracked are steam generator pH, cation conductivity, boron silica, chloride, sulfate, sodium, feed water pH, dissolved oxygen, hydrazine, iron, copper, and condensate pump discharge dissolved oxygen.

IN-LINE CHEMISTRY INSTRUMENTS OUT-OF-SERVICE

Total number of in-line chemistry instruments that are out-of-service in the Secondary System and the Post Accident Sampling System (PASS).

INVENTORY ACCURACY

The percentage of line items that are counted each month by the warehouse which need count adjustments.

INVOICE BREAKDOWN

The number of invoices that are on hold due to shelf life, CQE, and miscellaneous reasons.

LICENSE CANDIDATE EXAMS

This indicator shows the number of SRO and/or RO quizzes and exams that are administered and passed each month.

LIQUID RADIOACTIVE WASTE BEING DISCHARGED TO THE ENVIRONMENT

This indicator displays the volume of liquid radioactive waste released from the radioactive waste monitor tanks. The curies from all releases from the Fort Calhoun Station to the Missouri River are also shown.

LOGGABLE/REPORTABLE INCIDENTS (SECURITY)

The total number of security incidents for the reporting month. This indicator tracks security performance for Safety Enhancement Program Item Number 58.

MAINTENANCE EFFECTIVENESS

The number of Nuclear Plant Reliability Data System (NPRDS) components with more than one failure and the number of NPRDS components with more than two failures during the last twelve months.

FORT CALHOUN PERFORMANCE PARAMETER DEFINITIONS (CONTINUED)

MAINTENANCE WORK ORDER BACKLOG

The number of corrective non-outage maintenance work orders that remain open at the end of the reporting month. This indicator was added to the Performance Indicators Report to trend open corrective non-outage maintenance work orders as stated in Safety Enhancement Program (SEP) Item No. 36.

MAINTENANCE WORK ORDER BREAKDOWN

This indicator is a breakdown of corrective non-outage maintenance work orders by several categories that remain open at the end of the reporting month.

MAINTENANCE OVERTIME

The percentage of overtime hours compared to normal hours for maintenance. This includes OPPD personnel as well as contract personnel.

MATERIAL REQUEST PLANNING

The percent of material requests (MR's) for issues with their request date the same as their need date compared to the total number of MR's.

MATERIAL REQUESTS AWAITING APPROVAL

The number of material requests awaiting approval at the end of the reporting month broken down by their age in days.

MAXIMUM INDIVIDUAL RADIATION EXPOSURE

The total maximum amount of Gamma and Neutron (Whole Body) radiation received by an individual person working at the Fort Calhoun Station on a monthly, quarterly, and annual basis.

NUMBER OF HOT SPOTS

The number of radiological hot spots which have been identified and documented to exist at the Fort Calhoun Station at the end of the reporting month. A hot spot is a small localized source of radiation. A hot spot occurs when the contact dose rate of an item is at least 5 times the General Area dose rate and the item's dose rate is equal to or greater than 100 mRem/hour.

FORT CALHOUN PERFORMANCE PARAMETER DEFINITIONS (CONTINUED)

NUMBER OF NUCLEAR PLANT RELIABILITY DATA SYSTEM (NPRDS) FAILURE REPORTS SUBMITTED

The data plotted is the total number of NPRDS component failures (confirmed and possible) and the number of confirmed NPRDS component failures. The total number of NPRDS component failures are based on the number of failure reports that have been sent to the Institute of Nuclear Operations (INPO).

Confirmed NPRDS component failures are based upon failure reports that have been accepted by INPO. Possible NPRDS component failures are based upon failure reports that are still under review by INPO.

NPRDS is the Nuclear Plant Reliability Data System, and is a utility industry users group program which has been outlined by INPO and implemented at the Fort Calhoun Station.

NUMBER OF OUT-OF-SERVICE CONTROL ROOM INSTRUMENTS

A control room instrument that cannot perform its design function is considered as out-of-service. A control room instrument which has had a Maintenance Work Order (MWO) written for it and has not been repaired by the end of the reporting period is considered out-of-service and will be counted. The duration of the out-of-service condition is not considered.

Computer CRTs are not considered as control room instruments.

NUMBER OF PERSONNEL ERRORS REPORTED IN LER'S

The number of Licensee Event Reports (LERs) attributed to personnel error on the original LER submittal. This indicator trends personnel performance for SEP Item No. 15.

NUMBER OF MISSED SURVEILLANCE TESTS RESULTING IN LICENSEE EVENT REPORTS

The number of Surveillance Tests (ST's) that result in Licensee Event Reports (LER's) during the reporting. This indicator tracks missed ST's for Safety Enhancement Program (SEP) Item Numbers 60 and 61.

OPERATIONS AND MAINTENANCE BUDGET

The year to date budget compared to the actual expenditures for operations and maintenance.

OUTSTANDING CORRECTIVE ACTION REPORTS

This indicator displays the total number of outstanding Corrective Action Reports (CAR's), the number of CAR's that are older than six months and the number of modification related CAR's.

FORT CALHOUN PERFORMANCE PARAMETER DEFINITIONS (CONTINUED)

OUTSTANDING MODIFICATIONS

The number of Modification Requests (MR'S) in any state between the issuance of a Modification Number and the completion of the drawing update.
Form FC-1133 Backlog/In Progress

The Form FC-1133 has not been plant approved.

Modification Requests Being Reviewed

This category includes:

- 1.) * Modification Requests that are not yet reviewed
- 2.) * Modification Requests being reviewed by the Nuclear Projects Review Committee (NPRC)
- 3.) * Modification Requests being reviewed by the Nuclear Projects Committee (NPC)

* These Modification Requests may be reviewed several times before they are approved for accomplishment or cancelled. Some of these Modification Requests are returned to Engineering for more information, some approved for evaluation, some approved for study, and some approved for planning. Once planning is completed and the scope of the work is clearly defined, these Modification Requests may be approved for accomplishment with a year assigned for construction or they may be cancelled. All of these different phases require review.

Design Engineering Backlog/In Progress

Nuclear Planning has assigned a year in which construction will be completed and design work may be in progress.

Construction Backlog/In Progress

The Construction Package has been issued or construction has begun but the modification has not been accepted by the System Acceptance Committee (SAC).

Design Engineering Update Backlog/In Progress

PED has received the Modification Completion Report but the drawings have not been updated.

OVERDUE AND EXTENDED CORRECTIVE ACTION REPORTS

The number of overdue Corrective Action Reports (CAR's) and the number of CAR's which received extensions broken down by organization for the last 6 months.

FORT CALHOUN PERFORMANCE PARAMETER DEFINITIONS (CONTINUED)

PERSONNEL RADIATION EXPOSURE (CUMULATIVE)

Collective radiation exposure is the total external whole-body dose received by all on-site personnel (including contractors and visitors) during a time period, as measured by the thermoluminescent dosimeter (TLD). Collective radiation exposure is reported in units of man-rem. This indicator tracks radiological work performance for Safety Enhancement Program (SEP) Item Number 54.

PERSONNEL TURNOVER RATE

The ratio of the number of turnovers to average employment. A turnover is a vacancy created by voluntary resignation from the company. Retirement, death, termination, transfers within the company, and part-time employees are not considered in turnover.

PREVENTIVE MAINTENANCE ITEMS OVERDUE

This indicator is defined as the percentage of preventive maintenance items in the month that were not completed by the scheduled date plus a grace period equal to 25 percent of the scheduled interval. This indicator tracks preventive maintenance activities for Safety Enhancement Program (SEP) Item Number 41.

PRIMARY SYSTEM CHEMISTRY - PERCENT OF HOURS OUT OF LIMIT

The percent of hours out of limit are for six primary chemistry parameters divided by the total number of hours possible for the month. The key parameters used are: Lithium, Chloride, Hydrogen, Dissolved Oxygen, Fluoride, and Suspended Solids. EPRI limits are used.

PROCEDURAL NONCOMPLIANCE INCIDENTS (MAINTENANCE)

The number of identified incidents concerning maintenance procedural problems, the number of closed IR's related to the use of procedures (includes the number of closed IR's caused by procedural noncompliance), and the number of closed procedural noncompliance IR's. This indicator trends personnel performance for SEP Item Numbers 15 and 41.

RADIOLOGICAL WORK PRACTICES PROGRAM

The number of identified poor radiological work practices (PRWP) for the reporting month. This indicator tracks radiological work performance for Safety Enhancement (SEP) Item Number 52.

RATIO OF PREVENTIVE TO TOTAL MAINTENANCE

The ratio of preventive maintenance (including surveillance testing and calibration procedures) to the sum of non-outage corrective maintenance and preventive maintenance completed over the reporting period. The ratio, expressed as a percentage, is calculated based on man-hours. This indicator tracks preventive maintenance activities for Safety Enhancement Program (SEP) Item Number 41.

FORT CALHOUN PERFORMANCE PARAMETER DEFINITIONS (CONTINUED)

RECORDABLE INJURY CASES FREQUENCY RATE (RECORDABLE INJURY RATE)

The number of injuries requiring more than normal first aid per 200,000 manhours worked. This indicator trends personnel performance for SEP Item No. 15 and SEP Item 26.

RO LICENSE EXAMINATION PASS RATIO

The RO license examination pass ratio for NRC administered Generic Fundamentals Exams (GFE's), NRC administered Site Specific Exams, NRC administered license requalification exams, and OPPD administered license requalification exams.

SECONDARY SYSTEM CHEMISTRY PERFORMANCE INDEX

The Chemistry Performance Index (CPI) is a calculation based on the concentration of key impurities in the secondary side of the plant. These key impurities are the most likely cause of deterioration of the steam generators. The chemistry parameters are reported only for the period of time greater than 30 percent power.

The following equation is how the CPI is calculated:

$$\text{CPI} = ((\text{Ka}/0.8) + (\text{Na}/20) + (\text{O}_2/10)) / 3$$

Where the following parameters are monthly averages of;

Ka = average blowdown cation conductivity

Na = average blowdown sodium concentration

O₂ = average condensate pump discharge dissolved oxygen concentration

SECURITY INCIDENTS BREAKDOWN

This indicator shows a percentile breakdown of the types of Security incidents for the reporting month.

The following items are the types of Security incidents represented in this indicator.

Licensee Designated Vehicles (LDV's)

Incidents related to the use of LDV's, e.g. keys left in the vehicle, loss of keys, or failure to return keys.

Security Badges

Incidents involving lost/unattended badges, badges removed from site, or failure to wear badges.

Escorting

FORT CALHOUN PERFORMANCE PARAMETER DEFINITIONS (CONTINUED)

SECURITY INCIDENTS BREAKDOWN (CONTINUED)

Incidents involving escort responsibilities, e.g. improper control or escort of a visitor(s).

Security System Failures

Incidents involving alarm system failures, CCTV failures, security computer failures, terminal failures, door equipment failures, and card reader failures.

Security Key Control

Incidents involving Security key control, e.g. lost Security keys, Security keys removed from site, or failure to return Security keys. This type of incident does not reflect incidents concerning LDV keys.

Access Control

Incidents involving the inspection and control of personnel, packages, and vehicles, e.g. failure to properly search personnel, packages, and vehicles. This item also includes the introduction of contraband or prohibited items into the Protected Area, or the attempted introduction of such items.

This indicator tracks security performance for Safety Enhancement Program (SEP) Item Number 58.

SECURITY SYSTEM FAILURES

The number of Security incidents concerning alarm systems failures, CCTV failures, security computer failures, terminal failures, door equipment failures, and card reader failures. This indicator tracks security performance for Safety Enhancement Program (SEP) Item Number 58.

SPARE PARTS INVENTORY VALUE

The dollar value of the spare parts inventory at the end of the reporting period.

SPARE PARTS ISSUED

The dollar value of the spare parts issued for the Fort Calhoun Station during the reporting period.

SRO OPERATOR LICENSE EXAMINATION PASS RATIO

The SRO license examination pass ratio for NRC administered Generic Fundamentals Exams (GFE's), NRC administered Site Specific Exams, NRC administered license requalification exams, and OPPD administered license requalification exams.

FORT CALHOUN PERFORMANCE PARAMETER DEFINITIONS (CONTINUED)

STAFFING LEVEL

The actual staffing level and the authorized staffing level for the Nuclear Operations Division, the Production Engineering Division, and the Nuclear Services Division.

STATION NET GENERATION

The net generation (sum) produced by the Fort Calhoun Station during the reporting month.

STOCKOUT RATE

The total number of Pick Tickets that were generated during the reporting month and the total number of Pick Tickets that were generated during the reporting month with no parts available.

TEMPORARY MODIFICATIONS

The number of temporary mechanical and electrical configurations to the plant's systems.

Temporary configurations are defined as electrical jumpers, electrical blocks, mechanical jumpers, or mechanical blocks which are installed in the plant operating systems and are not shown on the latest revision of the P&ID, schematic, connection, wiring, or flow diagrams.

Jumpers and blocks which are installed for Surveillance Tests, Maintenance Procedures, Calibration Procedures, Special Procedures, or Operating Procedures are not considered as temporary modifications unless the jumper or block remains in place after the test or procedure is complete. Jumpers and blocks installed in test or lab instruments are not considered as temporary modifications.

Scaffolding is not considered a temporary modification. Jumpers and blocks which are installed and for which EEAR's have been submitted, will be considered as a temporary modifications until final resolution of the EEAR and the jumper or block is removed or is permanently recorded on the drawings.

This indicator tracks temporary modifications for Safety Enhancement Program (SEP) Item Number 62 & 71.

TOTAL HOURS OF STUDENT TRAINING

The total number of student hours of training for Operations, Maintenance, Chemistry and Radiation Protection, Technical Support, General Employee Training, and Other training conducted for the Fort Calhoun Station.

FORT CALHOUN PERFORMANCE PARAMETER DEFINITIONS (CONTINUED)

TOTAL SKIN AND CLOTHING CONTAMINATIONS

Reportable skin and clothing contaminations above background levels greater than 5000 dpm/100 cm squared. This indicator trends personnel performance for SEP Item No. 15.

UNPLANNED AUTOMATIC REACTOR SCRAMS WHILE CRITICAL

This indicator is defined as the number of unplanned automatic scrams (reactor protection system logic actuations) that occur while the reactor is critical. The indicator is further defined as follows:

- Unplanned means that the scram was not part of a planned test or evolution.
- Scram means the automatic shutdown of the reactor by a rapid insertion of all control rods that is caused by actuation of the reactor protection system. The scram signal may have resulted from exceeding a setpoint or may have been spurious.
- Automatic means that the initial signal that caused actuation of the reactor protection system logic was provided from one of the sensors monitoring plant parameters and conditions, rather than the manual scram switches (or pushbuttons) in the main control room.
- Critical means that during the steady-state condition of the reactor prior to the scram, the effective multiplication factor (k_{eff}) was equal to one.

UNPLANNED SAFETY SYSTEM ACTUATIONS

This indicator is defined as the sum of the following safety system actuations:

- the number of unplanned Emergency Core Cooling System (ECCS) actuations that result from reaching an ECCS actuation setpoint or from a spurious/inadvertent ECCS signal
- the number of unplanned emergency AC power system actuations that result from a loss of power to a safeguards bus

An unplanned safety system actuation occurs when an actuation setpoint for a safety system is reached or when a spurious or inadvertent signal is generated (ECCS only), and major equipment in the system is actuated. Unplanned means that the system actuation was not part of a planned test or evolution.

The ECCS actuations to be counted are actuations of the high pressure injection system, the low pressure injection system, or the safety injection tanks.

FORT CALHOUN PERFORMANCE PARAMETER DEFINITIONS (CONTINUED)

VIOLATIONS PER 1000 INSPECTION HOURS

This indicator is defined as the number of violations cited in NRC inspection reports for the Fort Calhoun Station per 1000 NRC inspection hours. The violations are reported in the year that the inspection was actually performed and not based on when the inspection report is received. The hours reported for each inspection report are used as the inspection hours.

VOLUME OF LOW-LEVEL SOLID RADIOACTIVE WASTE

This indicator is defined as the volume of low-level solid radioactive waste produced, in final form ready for burial, during a given period. It is calculated using the amount of waste actually shipped for disposal, plus the change in inventory of waste in on-site storage in final form ready for burial. The volume of radioactive waste that is not yet in final form ready for shipment is not included. Low-level solid radioactive waste consists of dry active waste, sludges, resins, and evaporator bottoms generated as a result of nuclear power plant operation and maintenance.

Dry active waste includes contaminated rags, cleaning materials, disposable protective clothing, plastic containers, and any other material to be disposed of at a low-level radioactive waste disposal site, except resin, sludge, or evaporator bottoms. Low-level refers to all radioactive waste that is not spent fuel or a by-product of spent fuel processing.

This indicator tracks radiological work performance for Safety Enhancement Program (SEP) Item Number 54.

WAREHOUSE ISSUES

The total number of warehouse issues, the number of non-CQE stock issues, the number of CQE stock issues, the number of direct charge non-CQE issues, and the number of direct charge CQE issues which occurred during the reporting month.

WAREHOUSE RECEIPTS

The total number of warehouse receipts, the number of non-CQE stock receipts, the number of CQE stock receipts, the number of direct charge non-CQE receipts, and the number of direct charge CQE receipts which occurred during the reporting month.

WAREHOUSE RETURNS

The percentage of the total number of warehouse returns, the number of spare parts returns, the number of standard stores returns, and the number of direct charge returns compared to the total number of warehouse issues.

BASIS FOR ESTABLISHING 1990 PERFORMANCE INDICATOR GOALS

This section will explain the basis used in establishing the 1990 performance goals.

FORCED OUTAGE RATE AND EQUIVALENT AVAILABILITY FACTOR

The Forced Outage Rate (FOR) and Equivalent Availability Factor (EAF) goals have been established from 1990 to 1992. The following table is a breakdown of the hours allotted for each category over the next three years.

<u>YEAR</u>	<u>GENERATOR ON LINE (HOURS)</u>	<u>FORCED OUTAGE (HOURS)</u>	<u>STARTUP OUTAGE TIME (HOURS)</u>	<u>PLANNED OUTAGE (HOURS)</u>	<u>PERIOD (HOURS)</u>	<u>EAF (%)</u>	<u>FOR (%)</u>
1990(*)	6356	168	172	2064	8760	65.4	2.4
1991(*)	6956	168	172	1464	8760	75.9	2.3
1992	8520	240	0	0	8760	92.9	2.7

(*) Refueling Outage Years

UNPLANNED AUTOMATIC REACTOR SCRAMS WHILE CRITICAL

The 1990 goal for Unplanned Automatic Reactor Scrams While Critical has been set at one. The Fort Calhoun Station has had one unplanned automatic reactor scram in the past four years of operation.

UNPLANNED SAFETY SYSTEM ACTUATIONS

The Unplanned Safety System Actuations goal for 1990 has been established at zero. The Fort Calhoun Station did not have an unplanned safety system actuation for six years.

GROSS HEAT RATE

The 1990 Gross Heat Rate goal for the Fort Calhoun Station has been set at 10,200 BTU/KWH. This heat rate goal is based on 10,435 BTU/KWH for the month of January, 10,450 BTU/KWH for the month of February, 10,325 BTU/KWH for the month of May, 10,225 BTU/KWH for the month of June, 10,325 BTU/KWH for the month of July, 10,250 BTU/KWH for the month of August, 10,125 BTU/KWH for the month of September, 10,050 BTU/KWH for the month of October, 10,000 BTU/KWH for the month of November, and 9,975 BTU/KWH for the month of December.

BASIS FOR ESTABLISHING 1990 PERFORMANCE INDICATOR GOALS

(CONTINUED)

FUEL RELIABILITY INDICATOR

The 1990 Fuel Reliability Indicator (FRI) goal has been set at 1.0 nanocuries/gram. This level allows for approximately one to two fuel pin failures. Although Cycle 11 was completed without any apparent fuel pin failures, there are a number of Advanced Nuclear Fuels Corporation (ANF) assemblies entering into a third or fourth cycle of operation. When a fuel pin has been used for three or four fuel cycles there is an increased probability of fuel failure. The Failed Fuel Action Plan, Standing Order 0-43, allows for approximately four fuel pin failures prior to implementing any increased action levels.

PERSONNEL RADIATION EXPOSURE (CUMULATIVE)

The 1990 Personnel Radiation Exposure (Cumulative) goal is 287 man-rem. This goal was based on 234 man-rem of cumulative exposure for the 1990 Refueling Outage and approximately 5.9 man-rem of cumulative exposure for each non-outage month.

VOLUME OF LOW-LEVEL SOLID RADIOACTIVE WASTE

The 1990 Volume of Low-Level Solid Radioactive Waste goal is 5,000 cubic feet. This goal was based on a recommendation made by the Fort Calhoun ALARA Committee and approved by the Division Manager of the Nuclear Production Division.

DISABLING INJURY FREQUENCY RATE

The Disabling Injury Frequency Rate 1990 goal has been set at 0.31. This goal allows for one lost time accident in the Nuclear Production Division during 1990.

FORT CALHOUN STATION
OPERATING CYCLES AND REFUELING OUTAGE DATES

<u>EVENT</u>	<u>FROM - TO</u>	<u>PRODUCTION (MWH)</u>	<u>CUMULATIVE (MWH)</u>
Cycle 1	09/26/73 - 02/01/75	3,299,639	3,299,639
First Refueling	02/01/75 - 05/09/75		
Cycle 2	05/09/75 - 10/01/76	3,853,322	7,152,961
Second Refueling	10/01/76 - 12/13/76		
Cycle 3	12/13/76 - 09/30/77	2,805,927	9,958,888
Third Refueling	09/30/77 - 12/09/77		
Cycle 4	12/09/77 - 10/14/78	3,026,832	12,985,720
Fourth Refueling	10/14/78 - 12/24/78		
Cycle 5	12/24/78 - 01/18/80	3,882,734	16,868,454
Fifth Refueling	01/18/80 - 06/11/80		
Cycle 6	06/11/80 - 09/18/81	3,899,714	20,768,168
Sixth Refueling	09/18/81 - 12/21/81		
Cycle 7	12/21/81 - 12/06/82	3,561,866	24,330,034
Seventh Refueling	12/06/82 - 04/07/83		
Cycle 8	04/07/83 - 03/03/84	3,406,371	27,736,405
Eighth Refueling	03/03/84 - 07/12/84		
Cycle 9	07/12/84 - 09/28/85	4,741,478	32,477,893
Ninth Refueling	09/28/85 - 01/16/86		
Cycle 10	01/16/86 - 03/07/87	4,356,753	36,834,646
Tenth Refueling	03/07/87 - 06/08/87		
Cycle 11	06/08/87 - 09/27/88	4,936,859	41,771,505
Eleventh Refueling	09/27/88 - 01/31/89		
Cycle 12	01/31/89 - 02/17/90	3,817,954	45,589,459
Twelfth Refueling	02/17/90 - 05/29/90		

FORT CALHOUN STATION
OPERATING CYCLES AND REFUELING OUTAGE DATES
 (CONTINUED)

<u>EVENT</u>	<u>FROM - TO</u>	<u>PRODUCTION</u> <u>(MWH)</u>	<u>CUMULATIVE</u> <u>(MWH)</u>
Cycle 13	05/29/90 - 09/28/91*		
Thirteenth Refueling	09/28/91*- 11/22/91*		
Cycle 14	11/22/91*- 02/12/93*		
Fourteenth Refueling	02/12/93*- 05/06/93*		
Cycle 15	05/06/93*- 09/30/94*		
Fifteenth Refueling	09/30/94*- 11/26/94*		

* - Planned Dates

FORT CALHOUN STATION
PRODUCTION AND OPERATION RECORDS

The following seven items are the current production and operation "records" for the Fort Calhoun Station.

1. First Sustained Reaction. August 5, 1973 (5:47 p.m.)
2. First Electricity Supplied to the System. August 25, 1973
3. Commercial Operation (180,000 KWH). September 26, 1973
4. Achieved Full Power (100%). May 4, 1974
5. Longest Run (477 days). June 8, 1987 - Sept. 27, 1988
6. Highest Monthly Net Generation (364,468,800 KWH). October 1987
7. Most Productive Fuel Cycle (4,936,859 MWH). . . . June 8, 1987 - Sept. 27, 1988
(Cycle 11)

PERFORMANCE INDICATOR DATA SOURCES

<u>PERFORMANCE INDICATOR</u>	<u>MANAGER/INDIVIDUAL</u>
Age of Outstanding Maintenance Work Orders	Peterson/Schmitz
Amount of Work On Hold Awaiting Parts	Peterson/CHAMPS
Auxiliary Systems Chemistry Hours Outside Station Limits	Franco/Glantz
CAR's Current Status	Orr/Gurtis
CAR's Issued Versus NRC Violations Issued	Orr/Gurtis
Classroom (Instructor) Hours	Gasper/Newhouse
Corrective Maintenance Backlog > 3 Months Old	Peterson/Schmitz
Cumulative Violations and NCV's	Chase/Simmons
Daily Thermal Output	Holthaus/Gray
Decontaminated Auxiliary Building	Peterson/Gundal
Diesel Generator Reliability	DG Log
Disabling Injury Frequency Rate	Sorenson/Skaggs
Document Review	Peterson/McKay
Engineering Assistance Requests Priority Breakdown	Jaworski/Van Osdel
Engineering Change Notice Breakdown	Phelps/Bera
Engineering Change Notice Status	Phelps/Bera
Equipment Forced Outages per 1000 Critical Hours	Holthaus/Gray
Equivalent Availability Factor	Dietz/Kulisek
Expedited Purchases	Willrett/Fraser
Forced Outage Rate	Holthaus/Gray
Fuel Reliability Indicator	Holthaus/Lofshult
Gaseous Radioactive Waste Discharged to the Environment	Franco/Stultz
Gross Heat Rate	Holthaus/Gray
Hazardous Waste Produced	Peterson/Sayre

PERFORMANCE INDICATOR DATA SOURCE
(CONTINUED)

Hotlines	Gasper/Newhouse
In-Line Chemistry Instruments Out-of-Service	Peterson/Renaud
Inventory Accuracy	Willrett/Fussell
Invoice Breakdown	Willrett/Fussell
License Candidate Exams	Gasper/Lazar
Liquid Radioactive Waste Discharged to the Environment	Franco/Stultz
Loggable/Reportable Security Incidents	Sefick/Woerner
Maintenance Effectiveness	Jaworski/Dowdy
Maintenance Work Order Backlog (Corrective Non-Outage)	Peterson/Schmitz
Maintenance Work Order Breakdown	Peterson/Schmitz
Maintenance Overtime	Peterson/Schmitz
Material Request Planning	Willrett/Fussell
Material Requests Awaiting Approval	Willrett/Fraser
Maximum Individual Radiation Exposure	Peterson/Mattice
Number of Hot Spots	Peterson/Mattice
Number of NPRDS Reportable Failures	Jaworski/Dowdy
Number of Out-of-Service Control Room Instruments	Peterson/Adams
Number of Personnel Errors Reported in LER's	Chase/Simmons
Number of Missed ST's Resulting in LER's	Plant LER's
Operations and Maintenance Budget	Gleason/Parent
Outstanding CAR's	Orr/Gurtis
Outstanding Modifications	Jaworski/Turner
Overdue and Extended CAR's	Orr/Gurtis
Personnel Radiation Exposure (Cumulative)	Peterson/Mattice

PERFORMANCE INDICATOR DATA SOURCE
(CONTINUED)

Personnel Turnover Rate	Sorenson/Burke
Preventive Maintenance Items Overdue	Peterson/Linden
Primary System Chemistry - Percent Hours Out of Limits	Franco/Glantz
Procedural Noncompliance Incidents (Maintenance)	Peterson/McKav
Radiological Work Practices Program	Peterson/Mattice
Ratio of Preventive to Total Maintenance	Peterson/Schmitz
Recordable Injury Cases Frequency Rate	Sorenson/Skaggs
RO License Examination Pass Ratio	Gaspar/Lazar
Secondary System Chemistry	Franco/Stultz
Security Incident Breakdown	Sefick/Woerner
Security System Failures	Sefick/Woerner
Spare Parts Inventory Value	Steele/Huliska
Spare Parts Issued	Steele/Miser
SRO License Examination Pass Ratio	Gaspar/Lazar
Staffing Level	Sorenson/Burke
Stockout Rate	Willrett/Fussell
Temporary Modifications	Jaworski/Turner
Total Hours of Student Training	Gaspar/Newhouse
Total Skin and Clothing Contaminations	Peterson/Mattice
Unplanned Automatic Reactor Scrams While Critical	Holthaus/Gray
Unplanned Safety System Actuations	Holthaus/Gray
Violations per 1000 Inspection Hours	Chase/Simmons
Volume of Low-level Solid Radioactive Waste	Peterson/Breuer
Warehouse Issues	Willrett/Fussell
Warehouse Receipts	Willrett/Fussell
Warehouse Returns	Willrett/Fussell

INPO Good Practices OA-102, "Performance Monitoring - Management Information"

IEEE Standard 762, "IEEE Trial Use Standard Definitions for Use in Reporting Generating Unit Reliability, Availability and Productivity"

INPO Report Dated November 1984, "Nuclear Power Plant Operational Data"

U.S. Nuclear Regulatory Commission "Regulatory Guide 1.108"