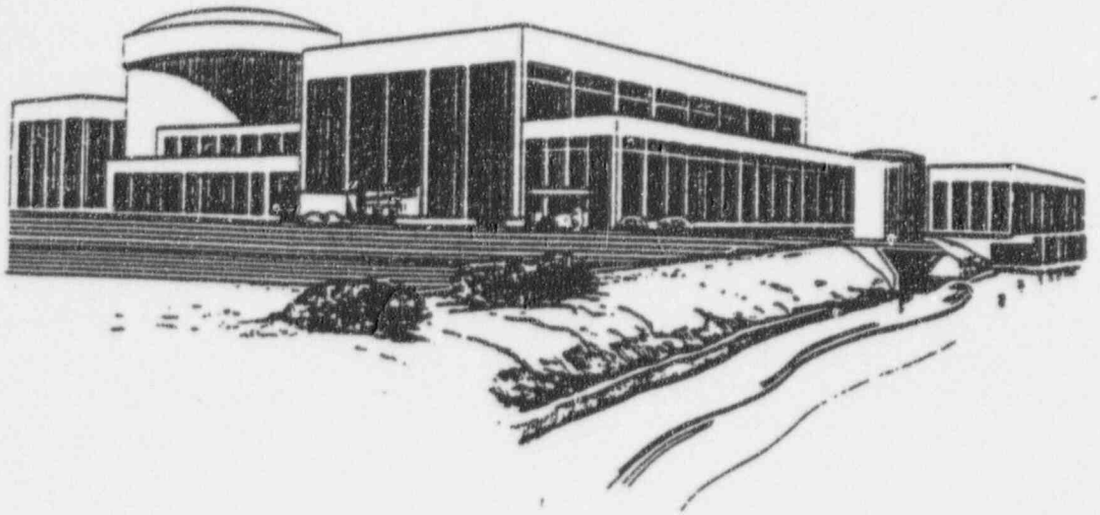
FORT CALHOUN STATION
PERFORMANCE INDICATORS



May 1997

SAFE OPERATIONS
PERFORMANCE EXCELLENCE
COST EFFECTIVENESS

9707070068 970630
PDR ADOCK 05000285
P PDR

OMAHA PUBLIC POWER DISTRICT

FORT CALHOUN STATION

PERFORMANCE INDICATORS REPORT

May
1997

Engineering and Operations Support Division
Nuclear Licensing

FORT CALHOUN STATION

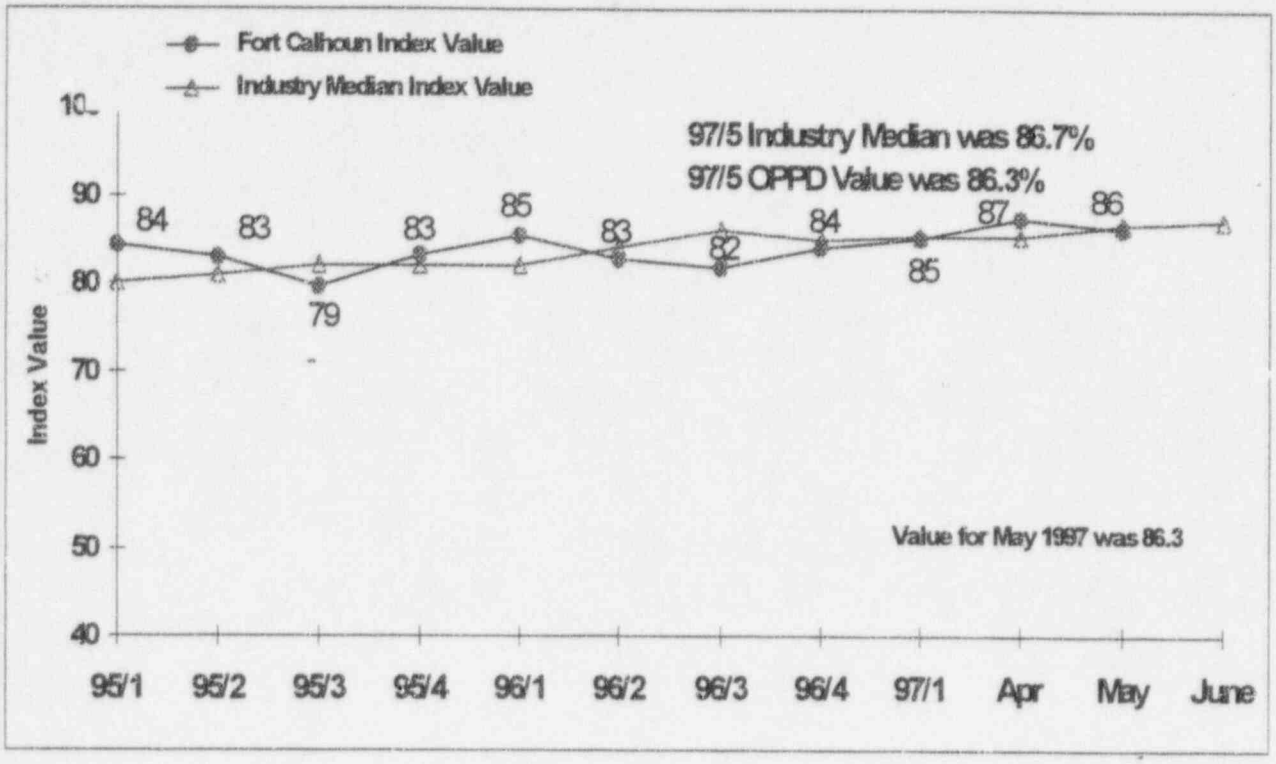
MAY 1997

Monthly Operating Report

OPERATIONS SUMMARY

The Fort Calhoun Station (FCS) operated at a nominal 100% power level until April 21, 1997 when the reactor was manually tripped by the Control Room operators due to a ruptured extraction steam line. The determination was made to proceed to Cold Shutdown to make repairs to the Extraction Steam piping and other equipment. Plant startup commenced on May 11, 1997 at 2157 hours and stabilized at 30% reactor power, until May 14, 1997 at 1245 hours. Reactor power was then increased and reached 100% power on May 19,1997 at 0300 hours.

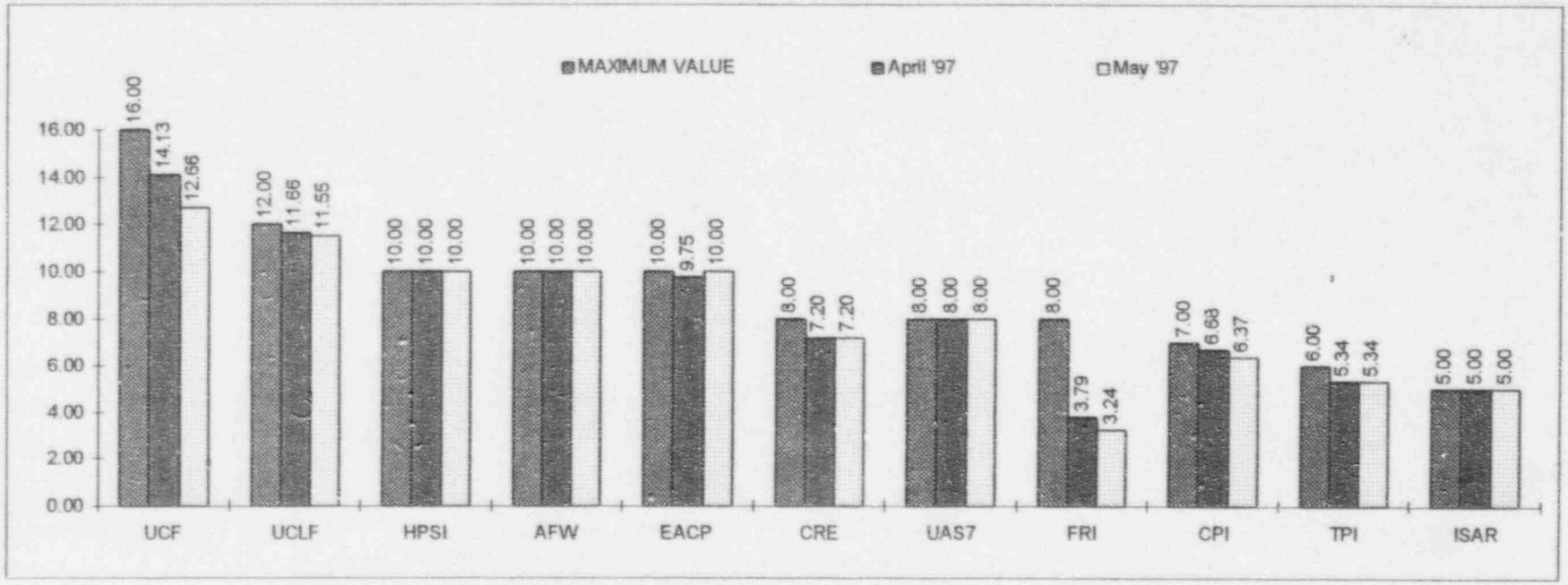
FCS experienced a second steam leak which caused the operators to reduce reactor power to 10 percent. An investigation determined that a circumferential cracked weld down stream of a moisture separator occurred due to high system stress. The reactor remained critical while repairs were made on-line. On May 30, 1997 at 0600 hours reactor power was returned to 100% for the remainder of the month.



PERFORMANCE INDEX TREND

The performance index trend calculation is made up of eleven variables each weighted to arrive at an overall index value. The thermal performance, secondary system chemistry, and industrial safety accident rate values are calculated for a one-year period. Fuel reliability is calculated on a quarterly basis. The remaining values (unit capability factor, unplanned (unit) capability loss factor, unplanned automatic scrams per 7000 hours critical, safety system performance, and collective radiation exposure) are calculated for a two-year period. This method allows the index trend to be more responsive to changes in plant performance.

INPO no longer uses the volume of low-level radioactive waste as a plant indicator. The value will still be tracked, but the value will no longer be used in calculating the Station's Performance Index.



This graph shows the difference between the Maximum No. of points for each WANO indicator and the actual value achieved by Fort Calhoun. The current graph shows the difference between **April '97** and **May '97.**

UCF	Unit Capability Factor	TPI	Thermal Performance Indicator
UCLF	Unplanned Capability Loss Factor	CPI	Secondary Chemistry Indicator
HPSI	High Pressure Safety Injection	ISAR	Industrial Safety Accident Rate
AFW	Auxiliary Feedwater		
EACP	Emergency AC Power		
UAS7	Unplanned Auto Scrams/ 7000 Hours		
CRE	Collective Radiation Exposure		
FRI	Fuel Reliability Indicator		

Per INPO, the Performance Indicator for the Volume of Low Level Radioactive Waste buried, will no longer be used in calculating the Station's Performance Index. All other parameters have been adjusted to reflect this change

FORT CALHOUN STATION PERFORMANCE INDICATORS REPORT
May 1997-SUMMARY

POSITIVE TREND REPORT

A performance indicator with data representing three consecutive months of improving performance or three consecutive months of performance that is superior to the stated goal is exhibiting a positive trend per Nuclear Operations Division Quality Procedure 37 (NOD-QP-37).

The following performance indicators exhibited positive trends for the reporting month:

ADVERSE TREND REPORT

A performance indicator with data representing three consecutive months of declining performance or three consecutive months of performance that is trending toward declining as determined by the Manager - Nuclear Licensing, constitutes an adverse trend per Nuclear Operations Division Quality Procedure 37 (NOD-QP-37). A supervisor whose performance indicator exhibits an adverse trend by this definition may specify in written form (to be published in this report) why the trend is not adverse.

The following performance indicators exhibited adverse trends for the reporting month:

INDICATORS NEEDING INCREASED MANAGEMENT ATTENTION REPORT

A performance indicator with data for the reporting period that is inadequate when compared to the OPPD goal is defined as "Needing Increased Management Attention" per (NOD-QP-37).

WANO INDICATOR VALUES

(As compared to previous month)

Unit Capability Factor	Decreasing
Unplanned Capability Loss Factor	Decreasing
High Pressure Safety Injection	No Change
Aux. Feedwater System	No Change
Emergency AC Power	Increasing
Collective Radiation Exposure	Decreasing
Unplanned Automatic Reactor Scrams	No Change
Fuel Reliability	Decreasing
Chemistry Indicator	Increasing
Thermal Performance	No Change
Industrial Safety Accident Rate	No Change

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NUCLEAR PROGRAM

1997 GOALS AND OBJECTIVES

FUTURE FOCUS and RELATIONSHIP to CHANGE

The nation's electric utility industry is passing through a period of significant organizational, financial and cultural changes. In this new era, change is inevitable, progress and success are not. Fort Calhoun must react to these changes while improving capacity, SALP ratings and INPO ratings.

We must KNOW OUR COSTS to CONTROL COSTS. Understanding cost is essential to controlling it, and controlling cost is essential to competing in today's market.

We are a learning organization. We must BUILD ON OUR HIGH PERFORMANCE CULTURE. Individuals at all levels must take responsibility for their actions and must be committed to improve their own performance.

OUR CULTURE MUST SUPPORT THE NEW STRATEGIES. We must continue to develop and implement strategies that will allow us to effectively compete in the evolving market while still maintaining the highest levels of safety and reliability. Communicating is our key to improving. Follow up and feedback must be candid, forthright and timely.

We recognize that change causes disruption of work and work flow. That change requires increased management direction. We need IN-DEPTH, RELENTLESS ATTENTION to our NEW FOCUS/STRATEGIES.

VISION

To be recognized as the best nuclear organization in the world and to preserve nuclear energy as a viable future energy source.

MISSION

The safe, reliable and cost effective generation of electricity for OPPD customers through conservative decision making and the professional use of nuclear technology. We will conduct these operations to assure the health, safety, and protection of our personnel, the general public, and the environment.

GOALS

Goal 1: SAFE OPERATIONS

Supports: April 1996 Corporate Strategic Plan Goal 3, Objective: 3 & 4

A proactive, self-critical and safety conscious culture is exhibited throughout the nuclear organization. Individuals demonstrate professionalism through self-ownership and personal initiative and open communication.

1997 Priorities:

- Achieve an overall SALP Rating of "1" in 1997.
- Focus on Achieving an INPO Rating of "1" in 1998.
- Reduce 1997 NRC violations with no violations more severe than level 4.
- No unplanned automatic reactor scrams or safety system actuations.

Objectives to support SAFE OPERATIONS.

OBJECTIVE 1-1:

No challenges to a nuclear safety systems.

OBJECTIVE 1-2:

Comply with applicable policies, technical specs, procedures, standing orders and work instructions.

OBJECTIVE 1-3:

Identify conditions BEFORE they affect plant safety and reliability. Address every safety concern.

OBJECTIVE 1-4:

Achieve all safety-related 1997 performance indicator goals in the Performance Indicator Report.

OBJECTIVE 1-5:

Zero Lost Time Injuries and recordable injuries rate BELOW 1.5 percent.

OPPD NUCLEAR ORGANIZATION GOALS
1997 Priorities

Goal 2: **PERFORMANCE**

Supports: April 1996 Corporate Strategic Plan Goal 3, Objective: 2; G-4, Objective: 1, 2, & 3; G-5, Objective: 2

Nuclear teamwork achieves high performance at Fort Calhoun Station as exhibited by safe, reliable and cost effective power production.

1997 PRIORITIES:

- Improve Quality, Professionalism and Teamwork.
- Maintain High Plant Reliability.
- Pursue efficient, cost-effective work processes.
- Meet or exceed INPO key parameters.
- Reduce the number of Human Performance errors.
- Identify Programmatic performance problems through effective self assessment.
- Maintain a high level of readiness in the ERO.

Objectives to support PERFORMANCE:

OBJECTIVE 2-1:

Achieve an annual plant capacity factor of 92.7% and a unit capability factor of 96.0%.

OBJECTIVE 2-2:

Training meets the needs of the plant and the National Academy accreditation objectives.

- Line managers use training to present, discuss & reinforce performance standards.
- Line managers monitor and assess personnel performance to determine how well standards are met.
- Line managers through personal involvement in training emphasize the importance of conducting activities within approved procedures/practices.
- Executive Training Committee:
    - invites line supervisors to discuss the direction training is going for their specific area.
    - invites the line and training supervisors responsible for each accredited program to provide a status of internal accreditation assessments.
    - ensures items such as training attendance, attentiveness, punctuality, etc. are uniformly emphasized.

OPPD NUCLEAR ORGANIZATION GOALS
1997 Priorities

Goal 2: PERFORMANCE (Continued)

OBJECTIVE 2-3:

Achieve all performance-related 1997 performance indicator goals in the Performance Indicator Report. Focus on performing basic skills well, while pursuing efficient, cost-effective work processes. Identify the barriers to excellence and resolve them.

OBJECTIVE 2-4:

Plan for the completion of the 1998 refueling outage in 42 days of less.

OBJECTIVE 2-5:

Teamwork is evident by improved plant reliability, an effective emergency response organization, reduced number of human performance errors and effective self assessment.

Goal 3: COSTS

Supports: April 1996 Corporate Strategic Plan Goal 2, Objective: 1, 3, and Goal 5, Objective: 1

Operate Fort Calhoun cost effectively to contribute to OPPD's "bottom line". Cost consciousness is exhibited at all levels of the organization.

1997 Priorities:

- Maintain total O&M and Capital Expenditures within budget.
- Streamline work process to improve cost effectiveness.
- Implement Opportunity Review recommendations.

Objectives to support COSTS:

OBJECTIVE 3-1:

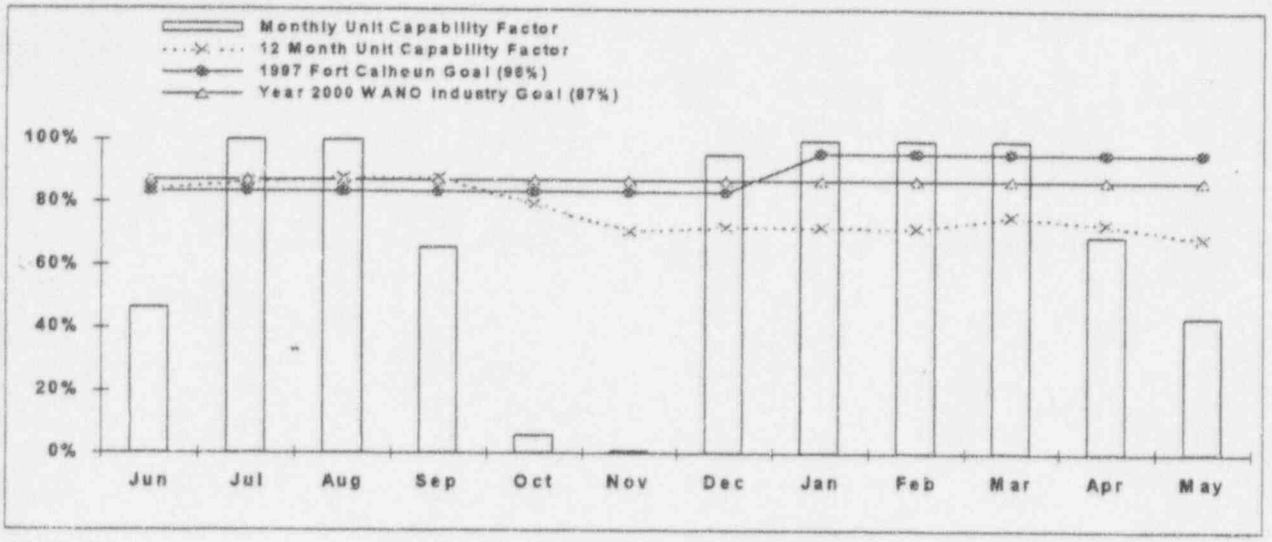
Conduct the nuclear programs, projects, and activities within the approved Capital and O&M budgets.

OBJECTIVE 3-2:

Significantly reduce operating costs through full support of Utilities Service Alliance initiatives by maximizing sharing of resources, leveraging of buying power and elimination or reduction of redundant support services.

Goals Source: Lounsberry (Manager)

WANO PERFORMANCE INDICATORS



UNIT CAPABILITY FACTOR

This indicator shows the plant monthly Unit Capability Factor (UCF) value, a rolling 12-month average, the OPPD goal, and the WANO 2000 goal. UCF is defined as the ratio of the available energy generation over a given period of time to the reference energy generation over the same time period, expressed as a percentage.

The UCF for **May 1997** was reported as **43.7%**. The year-to-date UCF was also reported as **92.4%**, the UCF for the last 12 months **(June 1996 through May 1997)** was **69%**, and the 36-month average **(June 1994 through May 1997)** was reported as **81.5%.**

Energy losses, from May 28 thru May 29, circumferential cracking of a weld down stream of a moisture separator due to high system stresses.

Energy losses from April through mid May were attributed to a steam leak in the fourth stage eextraction steam system.

Energy losses for April 1997 are attributed to a steam leak in the fourth stage extraction steam system

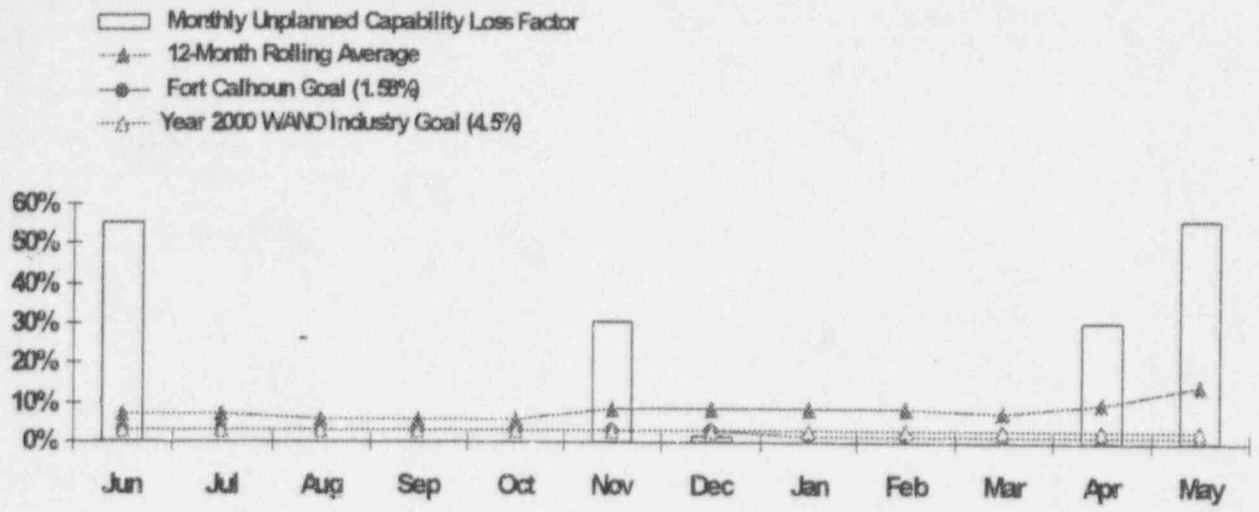
Energy losses for June 1996 are due to a forced outage when the Anti-Rotation Device on Reactor Coolant Pump RC-3B-M failed.

Energy losses for Sept., Oct., & Nov., 1996 due to the scheduled Refueling Outage.

Energy losses for Dec. 1996 are due to MOV-CV leakage

The Year 2000 WANO industry goal is 87% and the industry current best quartile value is approximately 85%. The 1997 Fort Calhoun annual goal for this indicator is a minimum of 96.0%. The maximum index point value for this indicator is **16**. At the end of the **May** 1997, the FCS Value was **12.66**. This compares to the previous month's value **14.13.**

Data Source: Generation Totals Report & Monthly Operating Report
Accountability: Chase
Trend: Increased Management Attention



UNPLANNED CAPABILITY LOSS FACTOR

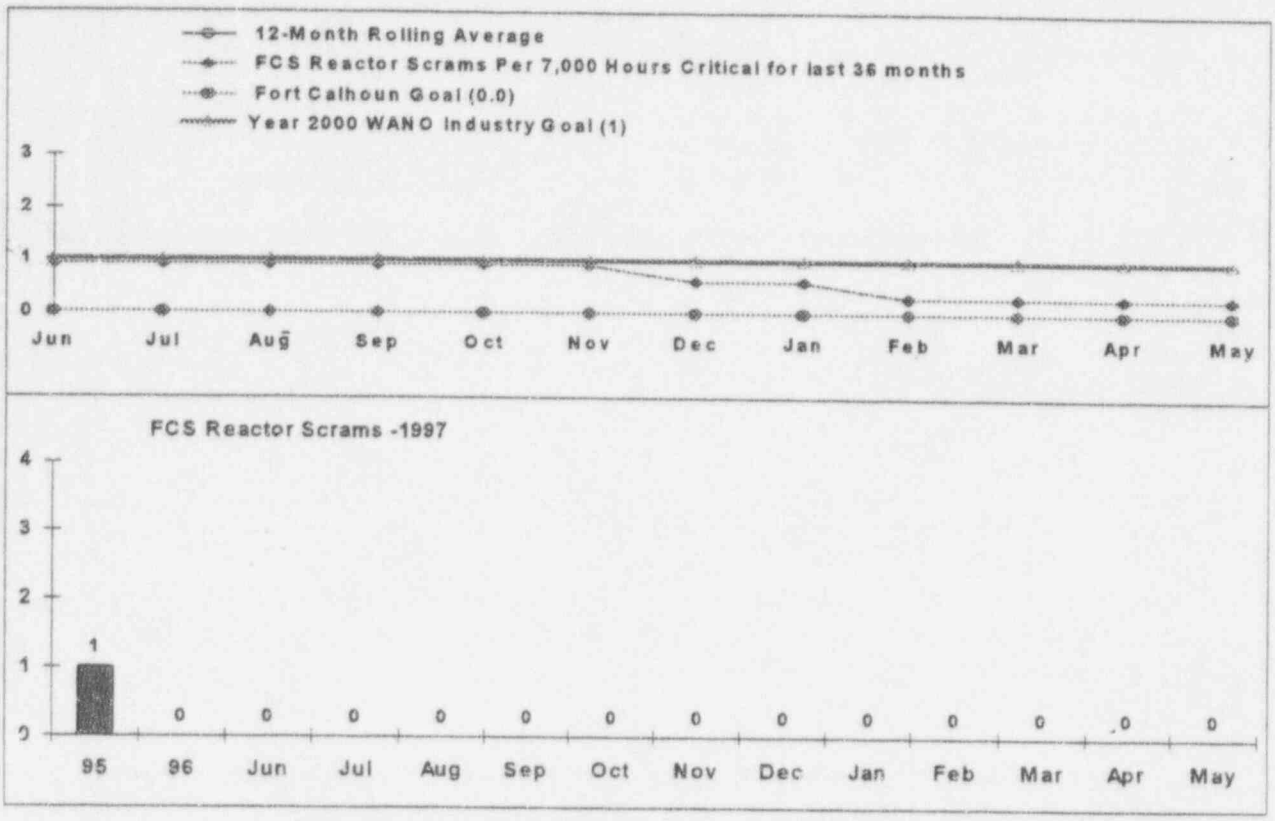
This indicator shows the plant monthly Unplanned Capability Loss Factor (UCLF), a rolling 12-month average, the OPPD goal, and the Year 2000 WANO goal. UCLF is defined as the ratio of the unplanned energy losses during a given period of time, to the reference energy generation expressed as a percentage. Unplanned energy loss is defined as energy not produced as a result of unscheduled shutdowns, outage extensions, or load reductions due to causes under plant management control. Energy losses are considered to be unplanned if they are not scheduled at least four weeks in advance.

The UCLF for the month of **May 1997** was reported as **56.3%.** The year-to-date UCLF was 7.63%, the UCLF for the last 12 months **(June 1996 through May 1997)** was **14.48%,** and the 36-month average UCLF **(June 1994 through May 1997)** was reported as **8.5%** at the end of the month.

The Year 2000 WANO industry goal is 3.0% and the industry current best quartile value is approximately 3.2%. The 1997 Fort Calhoun Station year-end goal for this indicator is a maximum value of 1.58%.

The maximum index point value for this indicator is **12.** At the end of **May 1997** the FCS Value was **11.55.** This compares to the previous month's value of **11.66.**

Data Source: Generation Totals Report & Monthly Operating Report
Accountability: Chase
Trend: Increased Management Attention



UNPLANNED AUTOMATIC REACTOR SCRAMS PER 7000 HOURS CRITICAL

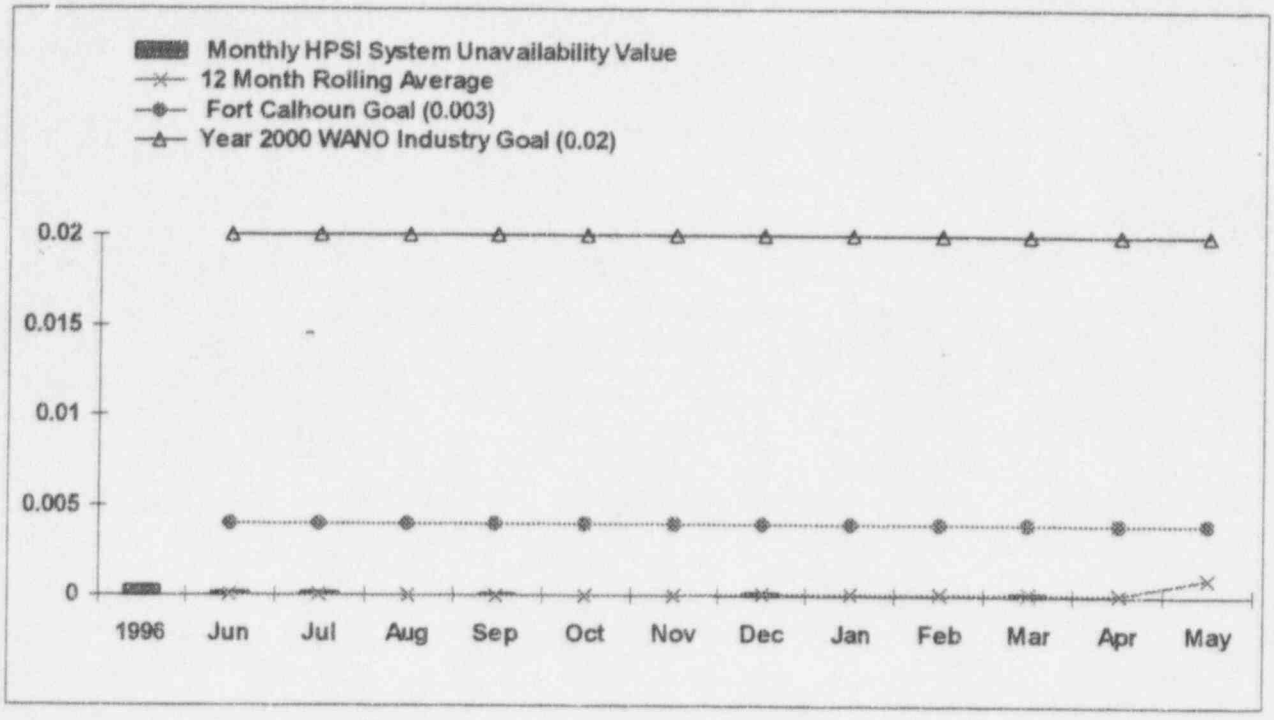
The upper graph shows the 12-month rolling average, the 36-month average, the OPPD goal for 1997 and the Year 2000 WANO goal. The lower graph shows the number of unplanned automatic reactor scrams that occurred during the last 12 months. This indicator is defined as the number of unplanned automatic scrams that occur per 7,000 hours of critical operation.

There were **no** unplanned automatic reactor scrams during the month of **May 1997.** The 12-month rolling average **(June 1996 through May 1997)** was **0.** The 36-month value **(June 1994 through May 1997)** was **0.311.**

The 1997 Fort Calhoun Station goal for this indicator is 0. The Year 2000 WANO industry goal is a maximum of one unplanned automatic reactor scram per 7,000 hours critical.

The maximum index point value for this indicator is **8**. At the end of the **May 1997,** the FCS Value was **8.0**. This compares to the previous month's value of **8.0.**

Data Source: Monthly Operating Report & Plant Licensee Event Reports (LERs)
Accountability: Chase
Trend: None



HIGH PRESSURE SAFETY INJECTION SYSTEM
SAFETY SYSTEM PERFORMANCE

This indicator shows the High Pressure Safety Injection (HPSI) System unavailability value, as defined by INPO in the Safety System Performance Indicator Definitions, for **May 1997.**

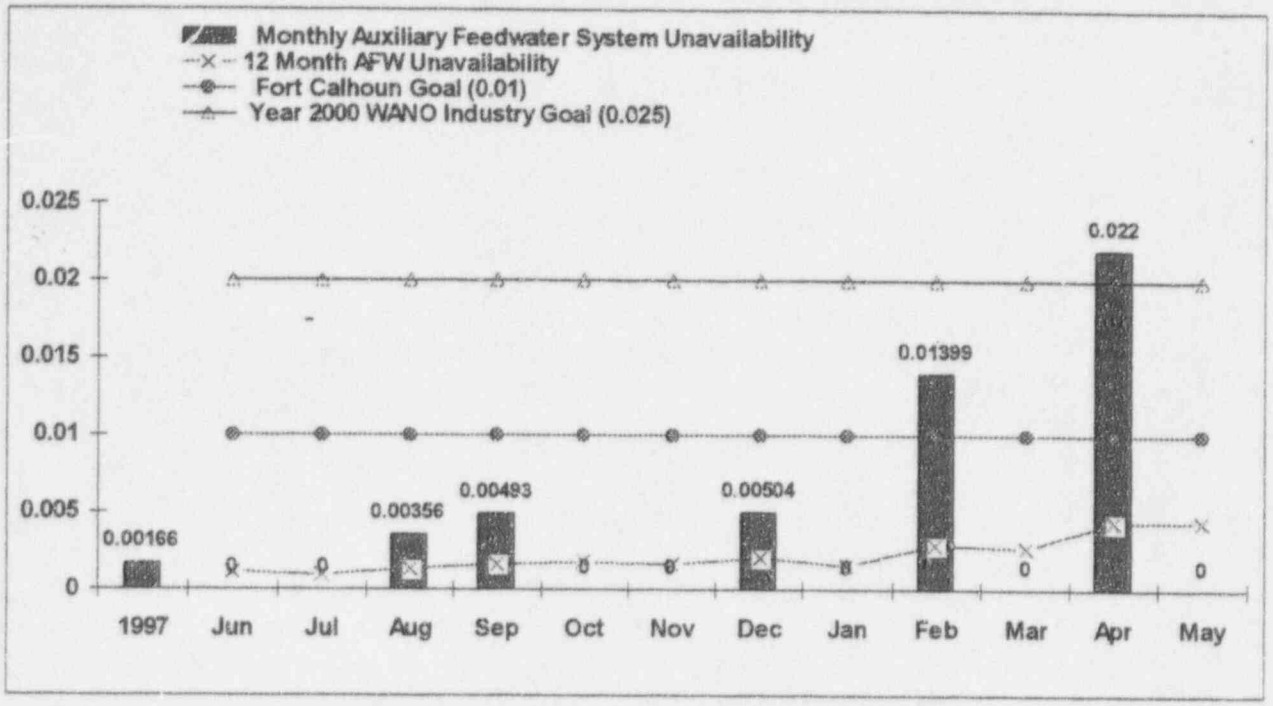
The HPSI System unavailability value for the month of **May 1997** was **0.0041**. There were **9.2** hours of planned unavailability, and **0** hours of unplanned unavailability, during the month. The 12 month rolling average was **(June 1996 through May 1997)** was **7.9E-5,** and the year-to-date HPSI unavailability value was **1.020E-3** at the end of the month.

For the previous year there was a total of **1.2** hours of planned unavailability and **0.0** hours of unplanned unavailability for the HPSI system.

The 1997 Fort Calhoun year-end goal for this indicator is a maximum value of 0.003. The Year 2000 WANO industry goal is 0.02 .

The maximum index point value for this indicator is **10**. At the end of **May 1997** the FCS Value was **10**. This compares to the previous month's value of **10.**

Data Source: Phelps/Schaffer (Manager/Source)
Accountability: Phelps/Schaffer
Trend: Positive



AUXILIARY FEEDWATER SYSTEM
SAFETY SYSTEM PERFORMANCE

This indicator shows the Auxiliary Feedwater (AFW) System Unavailability value, as defined by INPO in the Safety System Performance Indicator Definitions, for the month of **May 1997.**

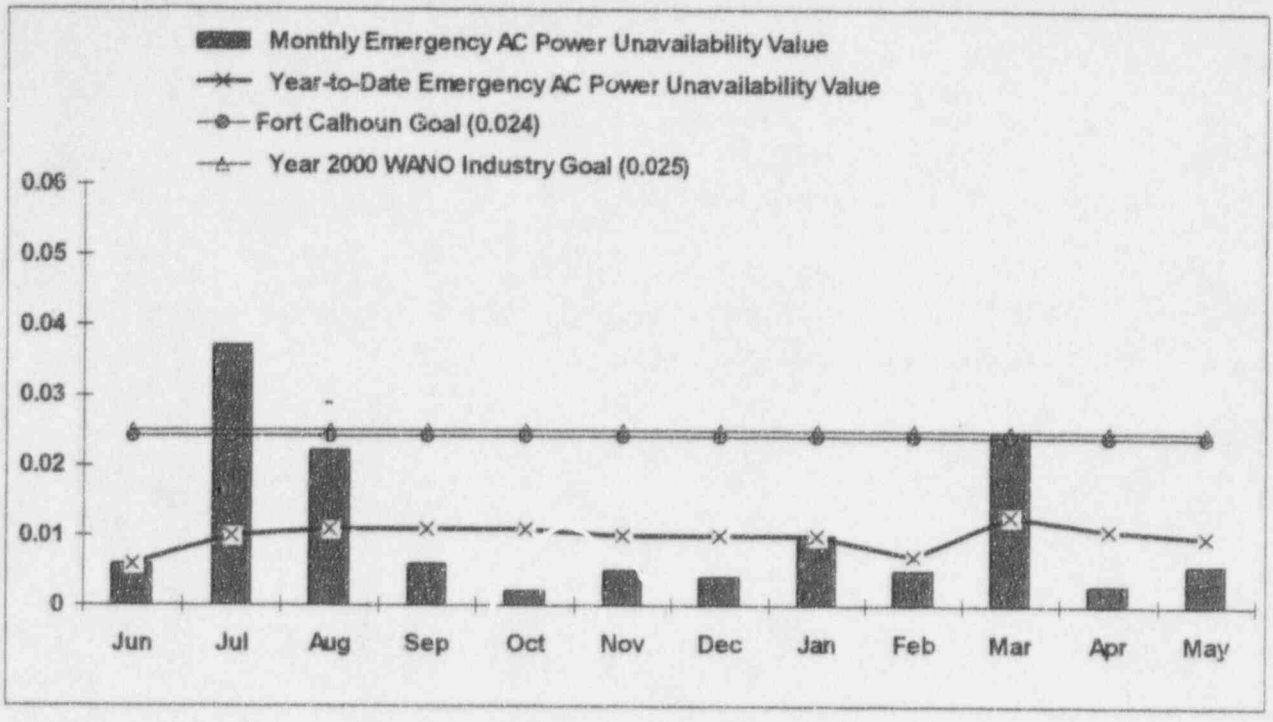
The AFW System Unavailability Value for **May 1997** was **0.0 hours**. There were **0.0** hours of planned and **0.00** hours of unplanned unavailability during the month. The 12 month rolling average **(June 1996 through May 1997)** was **0.00435,** and the year-to-date unavailability value was **0.00607** at the end of **May 1997.**

The 1997 Fort Calhoun Station year-end goal for this indicator is a maximum value of 0.01.

The Year 2000 WANO industry goal is 0.025.

The maximum index point value for this indicator is **10**. At the end of **May 1997,** the FCS Value was **10**. This compares to the previous month's value of **10.**

Data Source: Phelps/Fritts (Manager/Source)
Accountability: Phelps/Fritts
Trend: None



EMERGENCY AC POWER SYSTEM SAFETY SYSTEM PERFORMANCE

This indicator shows the Emergency AC Power System unavailability value, as defined by WANO in the Safety System Performance Indicator Definitions, for the month of **May 1997**.

The Emergency AC Power System unavailability value for **May 1997** was **0.006.** During the month, there were **8.9** hours of planned unavailability, and **0.0** hours of unplanned unavailability for testing and repairs. The Emergency AC Power System unavailability value year-to-date was **0.010** and the value for the last 12 months **(June 1996 through May 1997)** was **0.011.**

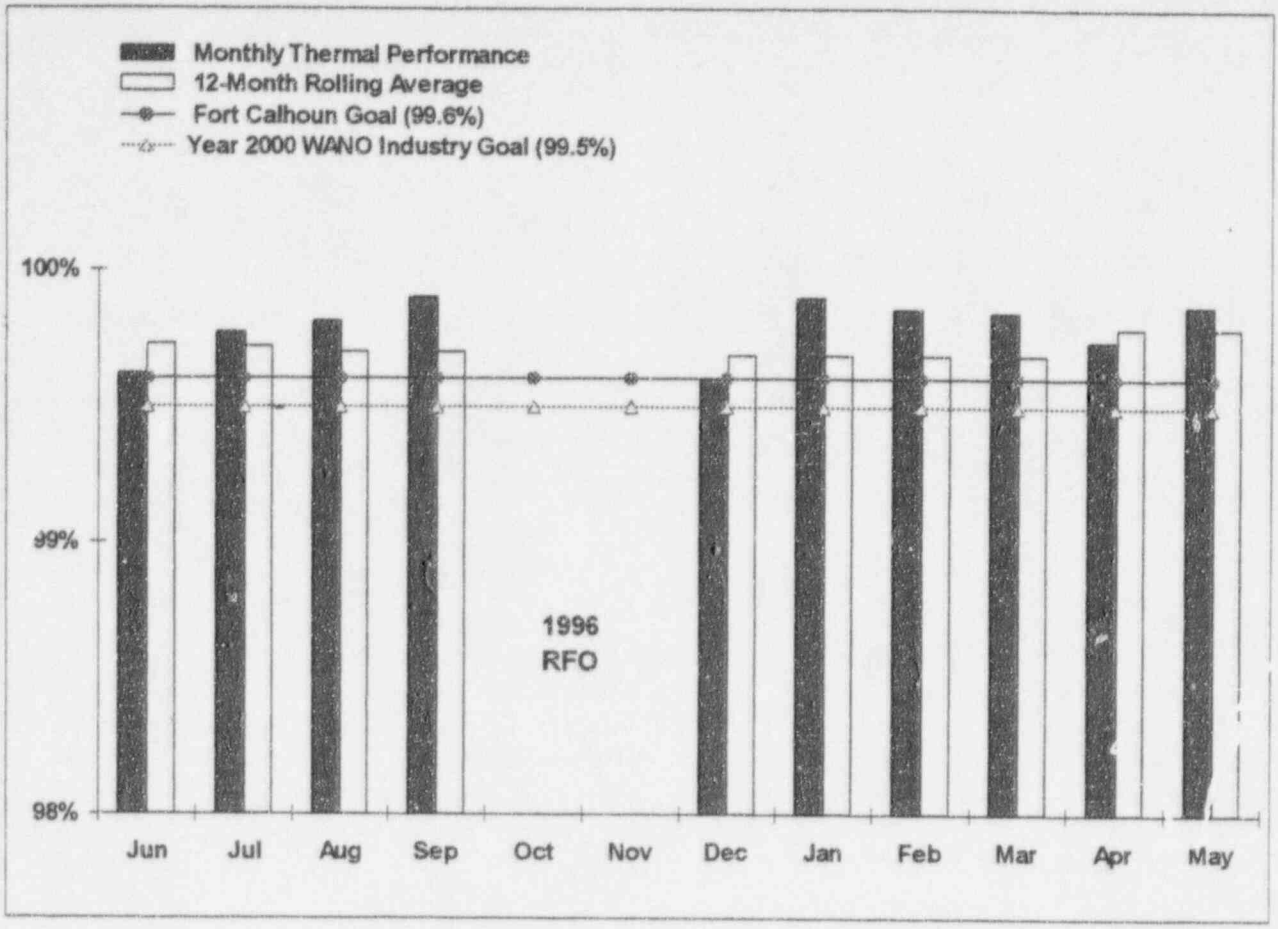
There have been **71.2** hours (36.75 for DG-1 and 34.45 for DG-2) of planned unavailability and **0.0** hours of unplanned unavailability for the emergency AC power system in 1997.

There were a total of **163.5** hours of planned unavailability and **3.7** hours of unplanned unavailability for the emergency AC power system in 1996.

The 1997 Fort Calhoun year-end goal for this indicator is a maximum value of 0.024. The Year 2000 WANO industry goal is 0.025.

The maximum index point value for this indicator is **10**. At the end of **May 1997,** the FCS Value was **10.** This compares to the previous month's value of **10.**

Data Source: Phelps/Ronning (Manager/Source)
Accountability: Phelps/Ronning
Trend: None



THERMAL PERFORMANCE

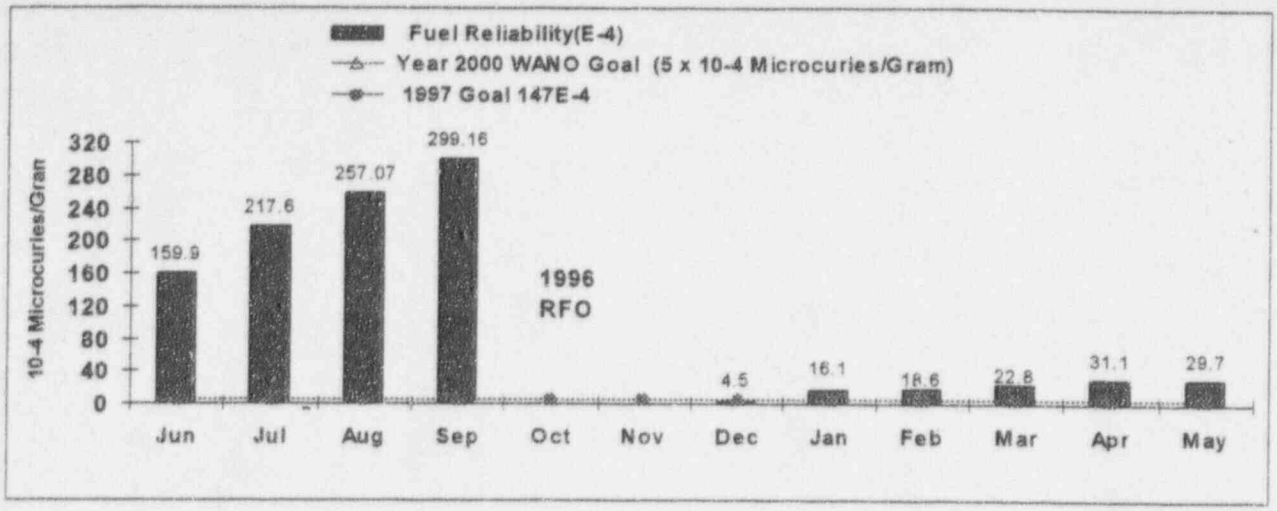
This indicator shows the monthly Thermal Performance Value, the rolling 12-month average, the OPPD goal, and the Year 2000 WANO goal.

The thermal performance value for the month of **May 1997** was **99.87%.**
The year to date value was reported as **99.8%**.
The 12 month rolling average **(June 1996 through May 1997)** was reported as **99.8%**.

The 1997 Fort Calhoun year-end goal for this indicator is an index value which is > 99.7%.
The Year 2000 WANO industry goal is 99.5%.

The maximum index point value for this indicator is **6**. At the end of **May 1997,** the FCS Value was **5.34** This compares to the previous month's value of **5.34.**

Data Source: Phelps/Naser(Manager/Source)
Accountability: Phelps/Naser
Trend: Positive



FUEL RELIABILITY INDICATOR

The FUEL RELIABILITY INDICATOR (FRI) for **May 1997** was **29.7 E-4** microcuries/gram. This FRI value is trending similar to the April 1997 FRI of 31.1 E-4 microcuries/gram. Only the steady state data at 100% power and an average letdown flow of 33.67 gpm from May 22 through 27 was used in the calculation of the May FRI. The plant was manually tripped at approximately 8:23 p.m. on April 21 and did not return to 100% power until May 19. On May 27 power was also reduced for a steam line repair with a return to 100% power during the evening of May 31. The Cycle 17 FRI in the first six months of operation continues to trend similar to the Cycle 16 FRI values.

Based on the coolant chemistry data through the end of May 28, there is no change to the April 1997 Westinghouse fuel failure prediction of 8 to 14 leaking rods at lower core power levels (i.e.,<50% or 3 to 5 leaking rods at core average power. During May, most isotopics did not have time to obtain an equilibrium state due to the plant trip and a power reduction. It typically takes a minimum of three weeks at 100% power to obtain an equilibrium state for the I-131 and Xe-133 isotopics.

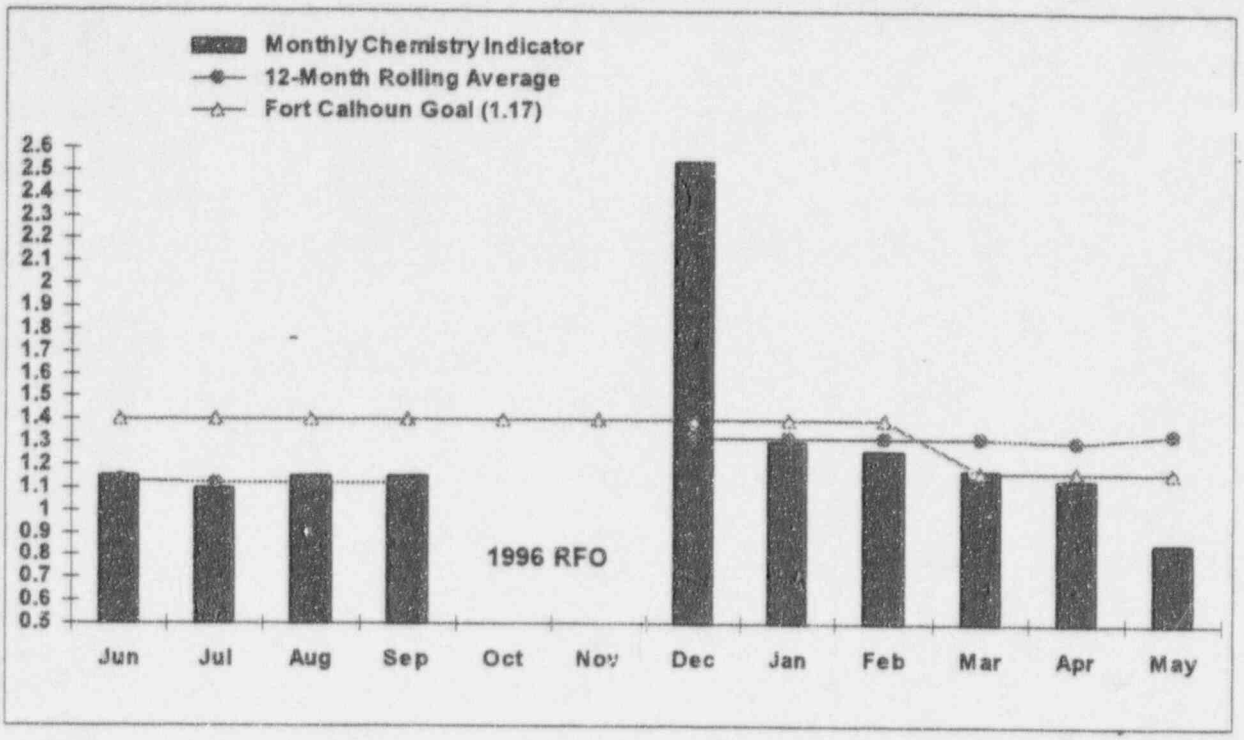
The purpose of the FRI is to monitor industry progress in achieving and maintaining a high level of fuel integrity. An effective fuel integrity and performance monitoring program provides a means to detect fuel failures and assess the fuel failure number, physical condition, exposure, mechanism, and location.

The purpose of the FRI is to monitor industry progress in achieving and maintaining a high level of fuel integrity. An effective fuel integrity and performance monitoring program provides a means to detect fuel failures and assess the fuel failure number, physical condition, exposure, mechanism, and location.

The 1997 Fort Calhoun Station FRI Performance Indicator goal is to maintain FRI below 147 x 10-4 microcuries /gram. This goal is based upon previous cycles fuel performance, results of the most recent fuel inspection and reconstitution campaigns, and an improved fuel failure resistant grid design in the new assemblies (Batch U) in the Cycle 17 core.

The maximum index point value for this indicator is **8**. At the end of the **May 1997,** the FCS Value was **3.24.** This compares to the previous month's value of **3.79.**

Data Source:	Guinn/Guliani
Accountability:	Chase/Stafford
Trend:	Increased Management Attention



SECONDARY SYSTEM CHEMISTRY

Criteria for calculating the Secondary System Chemistry Performance Index (CPI) are as follows:

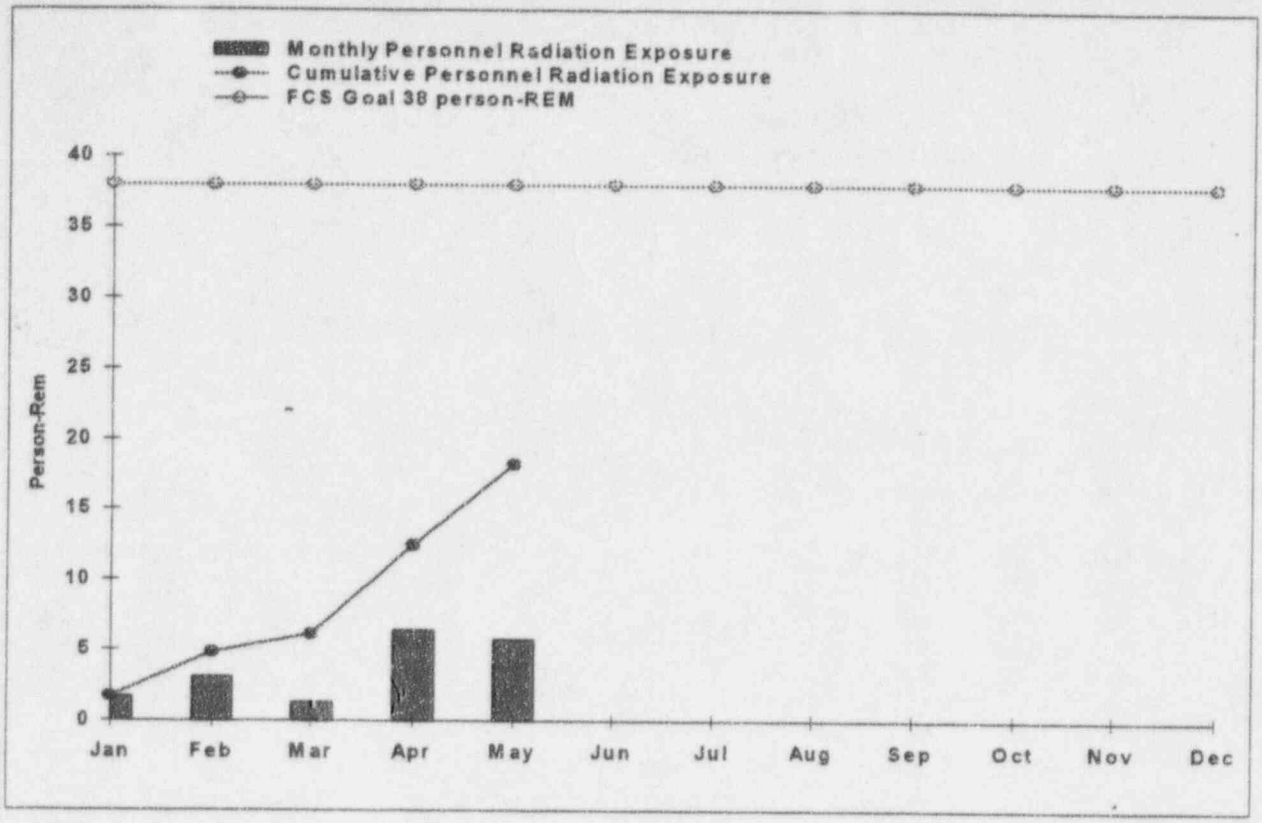
1) the plant is at greater than 30% power.
2) the power is changing at less than 5% per day.

The CPI for **May 1997** was **0.86**. The CPI value for the past 12 months **(June 1996 through May 1997)** was **1.29.** In order to place the FCS in the industry's upper quartile, the 1997 goal has been changed from a CPI value < 1.4 to the CPI value < 1.17.

Six parameters are used in the CPI calculation. Four of the parameters were below the INPO mean value which are as follows: 1) steam generator chloride, 2) sulfate,
3) feedwater iron, and condensate pump discharge dissolved oxygen. Steam Generator sodium was above the mean value and has remained unchanged from the previous month. FH-6 copper remains above the INPO mean but is lower than the previous months value.

The maximum index point value for this indicator is 7. At the end of **May 1997,** the FCS Value was **6.68.** This compares to the previous month's value of **6.37.**

Data Source: Hamilton/Ostien (Manager/Source
Accountability: Hamilton
Trend : Positive



COLLECTIVE RADIATION EXPOSURE

The 1997 Fort Calhoun goal for collective radiation exposure is set at 38.0 person-REM.

The exposure for **May 1997** was **5.753** Person-Rem (ALNOR).

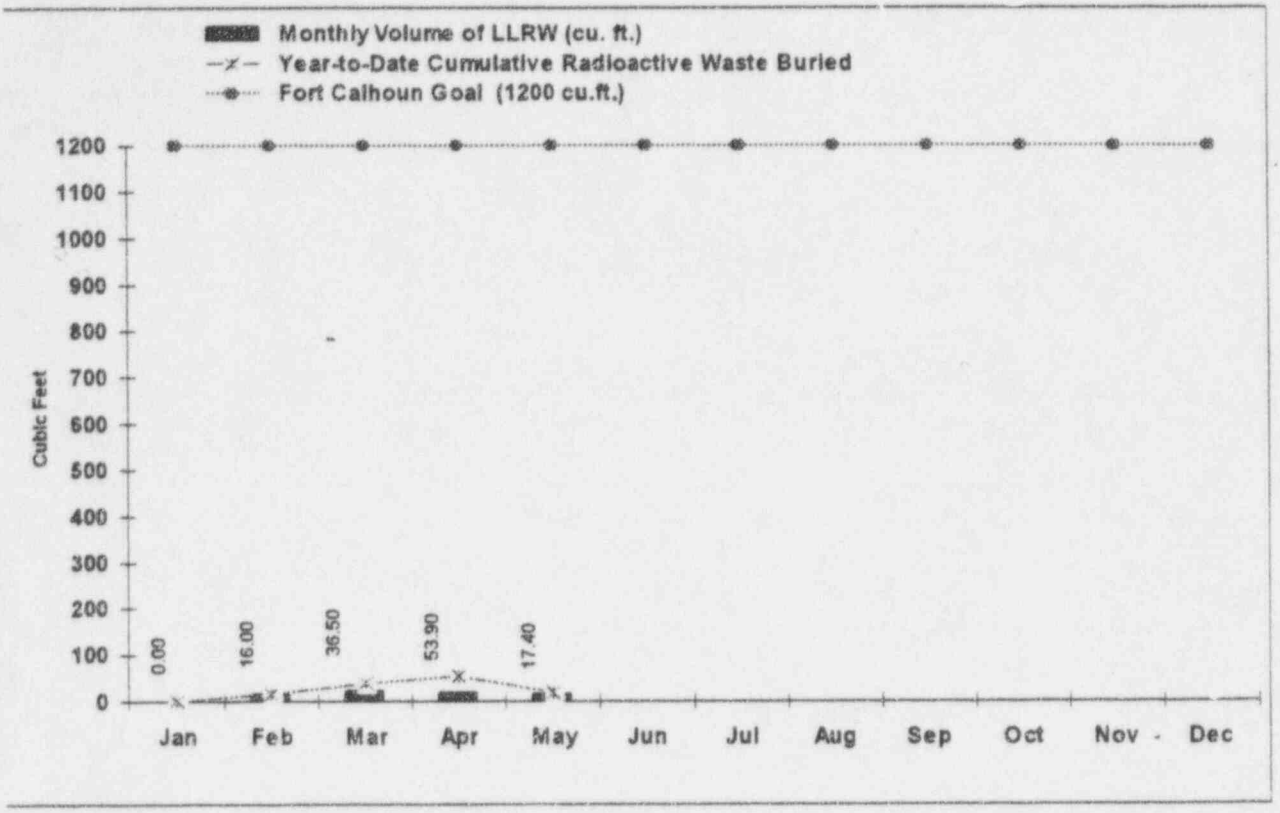
The year-to-date exposure through the end of **May 1997** was **18.214** Person-Rem (ALNOR).

This indicator is a "COLLECTIVE" indicator. WANO does not differentiate between on-line and outage exposure.

The Year 2000 WANO industry goal for collective radiation exposure is 120 person-rem per year. For the three year period **(June 1994 through May 1997),** the collective radiation exposure was **401.317** person-rem (ALNOR). This gives a Fort Calhoun Station a three year average of **133.7723** person-rem per year (ALNOR).

The maximum index point value for this indicator is **8**. At the end of **May 1997** the FCS Value was **7.2**. This compares to the previous month's value of **7.2.**

Data Source: Chase/Williams (Manager/Source)
Accountability: Chase/Gebers
Trend: None SEP 54



VOLUME OF LOW-LEVEL RADIOACTIVE WASTE

This indicator shows the volume of the monthly radioactive waste buried, the cumulative year-to-date radioactive waste buried, and the Fort Calhoun goal.

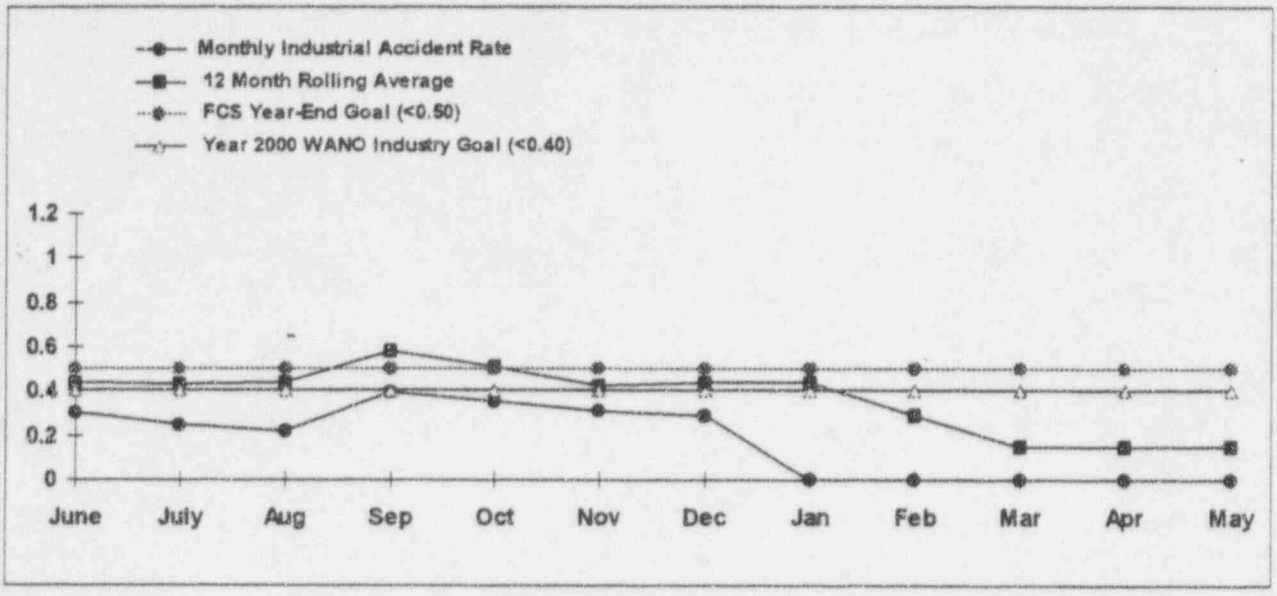
	Cu.Ft.
Amount of solid radwaste shipped off-site for processing during current month	00.0
Volume of solid radwaste buried during **May 1997**	17.4
Cumulative volume of solid radioactive waste buried in 1996	16.0
Amount of solid radwaste in temporary storage	136.3

The 1997 Fort Calhoun Station goal for the volume of solid radioactive waste (buried) is 1200 cubic feet. The Year 2000 WANO industry goal is 45 cubic meters (1,589 cubic feet) per year. The industry upper ten percentile value is approximately 27.33 cubic meters (965.3 cubic feet) per year.

This indicator is no longer used by INPO. The indicator will still be tracked, but will no longer be used in computing the Station's Index Number.

Data Source: Chase/Breuer (Manager/Source)
Accountability: Chase/Gebers
Trend: None

SEP 54



INDUSTRIAL SAFETY ACCIDENT RATE

The purpose of this indicator is to monitor progress in improving industrial safety performance for utility personnel permanently assigned to the station. Contractor man-hours are not included in the indicator. This indicator is defined as the number of accidents per 20,000 man-hours worked for all utility personnel permanently assigned to the station that result in any of following:

- One or more days of restricted work (excluding the day of the accident).
- One or more days away from work (excluding the day of the accident).
- Fatalities.

$$ISAR = \frac{\text{(number of restricted-time accidents + lost-time accidents + fatalities) x 200,000}}{\text{(number of station person-hours worked)}}$$

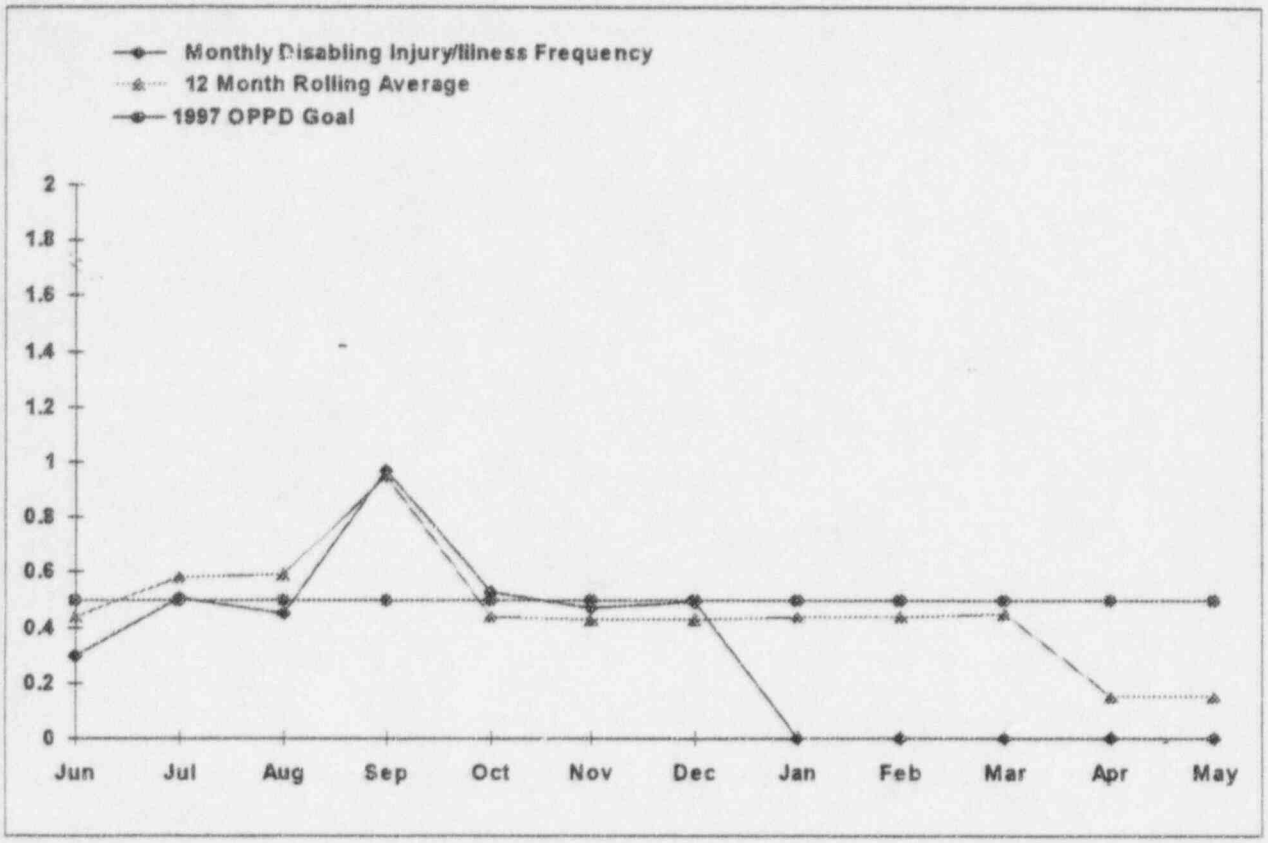
The Fort Calhoun Station industrial safety accident rate for the month of **May 1997** was **0.00.** The 12 month rolling average **(June 1996 through May 1997)** was **0.1502.** The year to date value was **0.00** at the end of **May 1997.**

There were **no** restricted-time and **no** lost-time accidents in **May 1997.** The 1997 Fort Calhoun year-end goal is ≤0.50. The Year 2000 WANO industry goal is ≤0.40. The maximum index point value for this indicator is **5**. At the end of **May 1997,** the FCS Value was **5.0** This compares to the previous month's value of **5.0.**

Data Source:	Sorensen/Blumenthal (Manager/Source)
	Chase/Booth (Manager/Source)
Accountability:	Chase/Bishop
Trend:	Positive

SAFE OPERATIONS

Goal: A proactive, self-critical and safety conscious culture is exhibited throughout the nuclear organization. Individuals demonstrate professionalism through self-ownership and personal initiative and open communication.



DISABLING INJURY/ILLNESS FREQUENCY RATE (LOST-TIME ACCIDENT RATE)

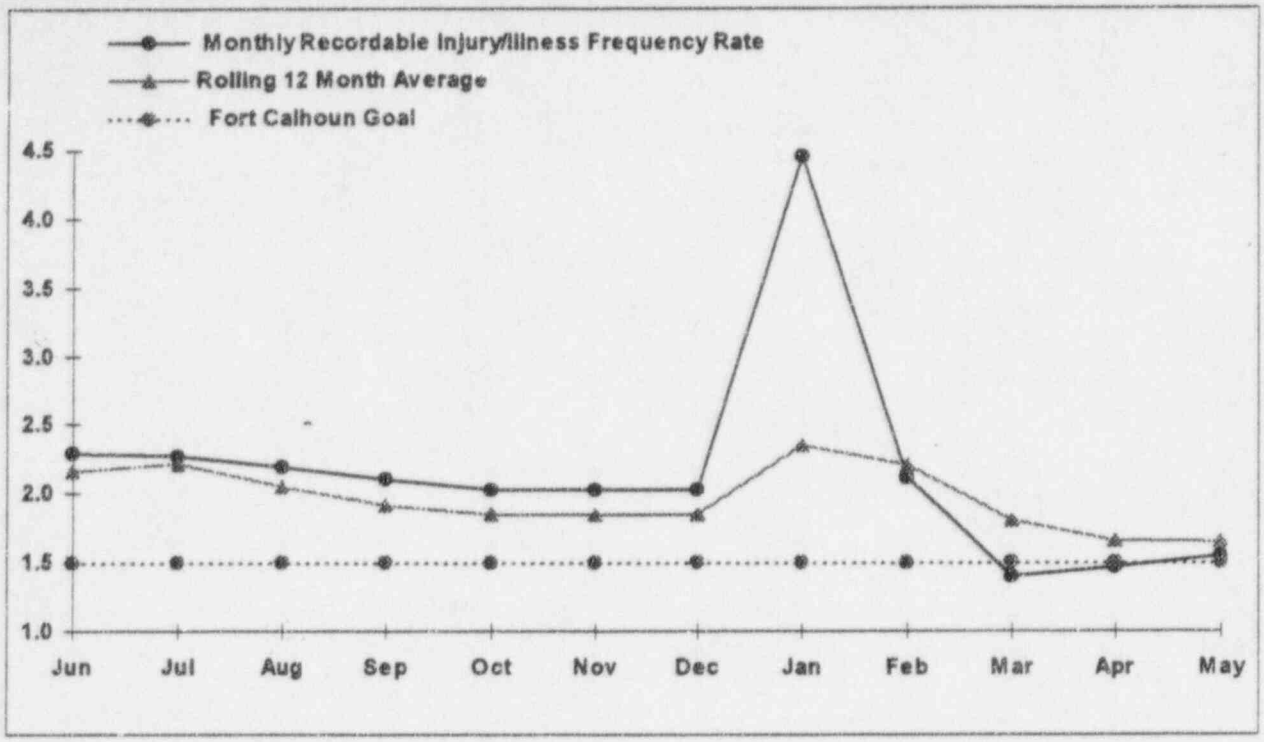
This indicator shows the **May 1997** disabling injury/illness frequency rate and the disabling injury/illness rate for the past 12 months (rolling average).

For the month of **May 1997** the disabling injury/illness frequency rate was **0.00.** For the 12 month period **(June 1996 through May 1997)** the disabling injury/illness rate was **0.15.** There were **no** disabling injury/illness cases reported for **May 1997**.

The 1997 Fort Calhoun Station year-end goal for this indicator is a maximum value of 0.5.

Data Source: Sorensen/Blumenthal (Manager/Source)
Accountability: Chase/Bishop
Trend: None

SEP 25, 26 & 27



RECORDABLE INJURY/ILLNESS FREQUENCY RATE

This indicator shows the monthly recordable injury/illness frequency rate, a rolling 12 month average, and the OPPD goal. A recordable injury/illness case is reported if personnel from any of the Nuclear Divisions are injured on the job and require corrective medical treatment beyond first aid. The recordable injury/illness cases frequency rate is computed on a rolling 12 month average.

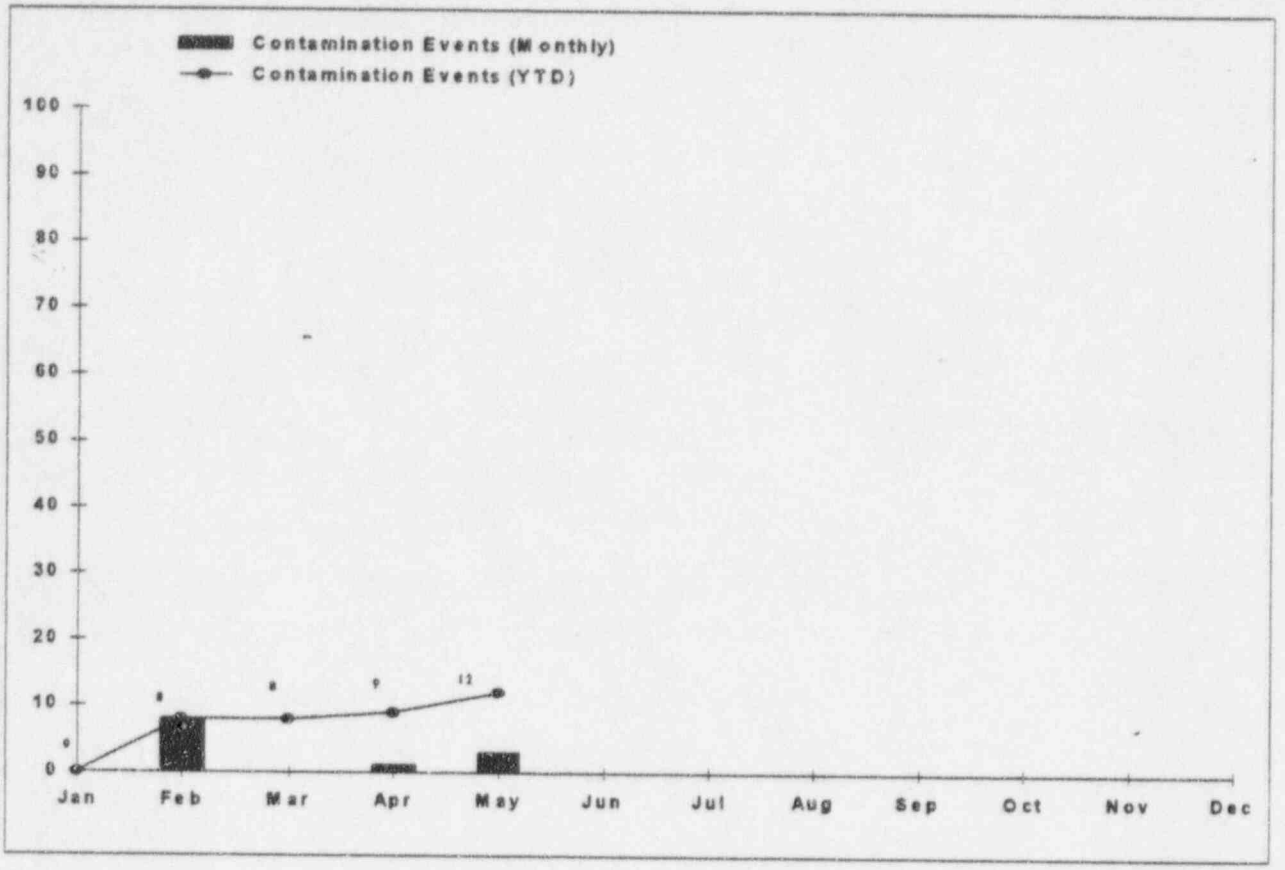
The recordable injury/illness frequency rate for the month of **May 1997** was **1.55.**
The recordable injury/illness frequency rate for the past 12 months **(June 1996 through May 1997)** was **1.65.**

During the month of **May 1997,** there was 1 recordable injury in which an employee reported, while welding. Slag fell between the welding jacket sleeve and shirt sleeve which resulted in the employee receiving first, second, and third degree burns to the left forearm.

There have been a total of 4 recordable injury/illness cases in 1997.

The 1997 Fort Calhoun Station year-end goal for this indicator is a maximum value of 1.5.

Data Source: Sorensen/Blumenthal (Manager/Source)
Accountability: Bishop
Trend: None SEP 15, 25, 26 & 27



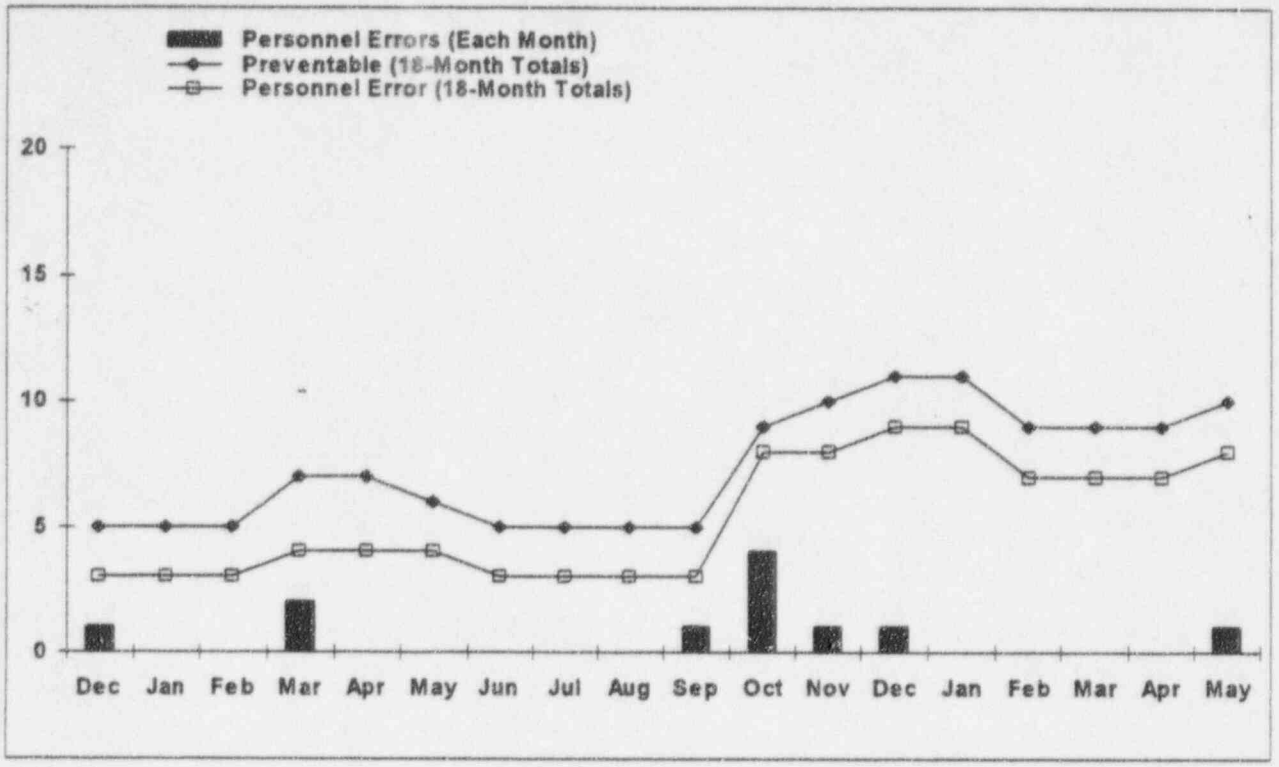
CLEAN CONTROLLED AREA CONTAMINATIONS
≥1,000 DISINTEGRATIONS/MINUTE PER PROBE AREA

This indicator shows the Personnel Contamination Events in the Clean Controlled Area for contaminations ≥1,000 disintegrations/minute per probe area for **May 1997**.

There was **3** contamination events in **May 1997**. There have been **12** contamination events in 1997 through the end of **May 1997**.

Data Source: Chase/Williams (Manager/Source)
Accountability: Chase/Gebers
Trend: Needs Management Attention

SEP 15 & 54



PREVENTABLE/PERSONNEL ERROR LERs

This indicator depicts 18-month totals for numbers of "Preventable" and "Personnel Error" LERs.

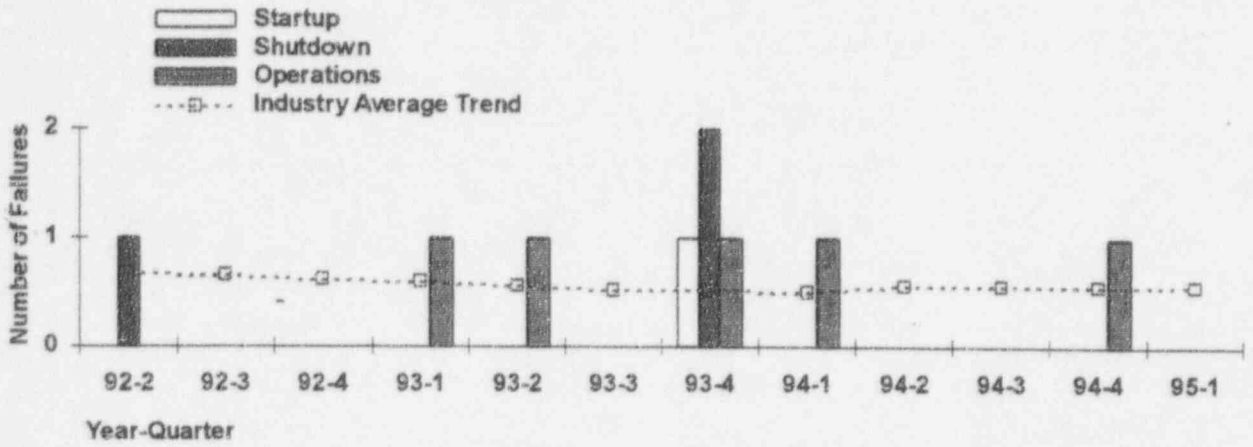
The graph shows the 18-month totals for preventable LERs, the 18-month totals for Personnel Error LERs, and the Personnel Error totals for each month. The LERs are trended based on the LER event date as opposed to the LER report date. Due to the manner in which documentation is closed out, data for this Performance Indicator lags by one month.

In **May 1997**, there were **two** events which were subsequently reported as an LER. **One** LER was categorized as Preventable and one LER was categorized as Personnel Error for the month of **May.** The total LERs for the year 1997 is **four.** The total Personnel Error LERs for the **year 1997** is **one**.

The 1997 goal for this indicator is that the year-end values for the 18-month totals not exceed 12 Preventable and 5 Personnel Error LERs.

Data Source: Tills/Cavanaugh (Manager/Source)
Accountability: Chase
Trend: None

SEP 15



SAFETY SYSTEM FAILURES

This indicator illustrates the number of NRC Safety System Failures as reported by the Nuclear Regulatory Commission's Office for Analysis and Evaluation of Operational Data in the biannual "Performance Indicators for Operating Commercial Nuclear Power Reactors" report.

The following safety system failures occurred between the 2nd quarter of 1992 and the 1st quarter of 1995:

1st Quarter 1993: The SG low pressure scram signal block reset values, for all 4 channels of both SGs, were greater than the allowed limits. This rendered the scram input inoperable at certain operating conditions.

2nd Quarter 1993: A section of the piping configuration for the borated water source of the safety injection system was not seismically qualified. This could have resulted in a failure of the system to meet design requirements during a seismic event.

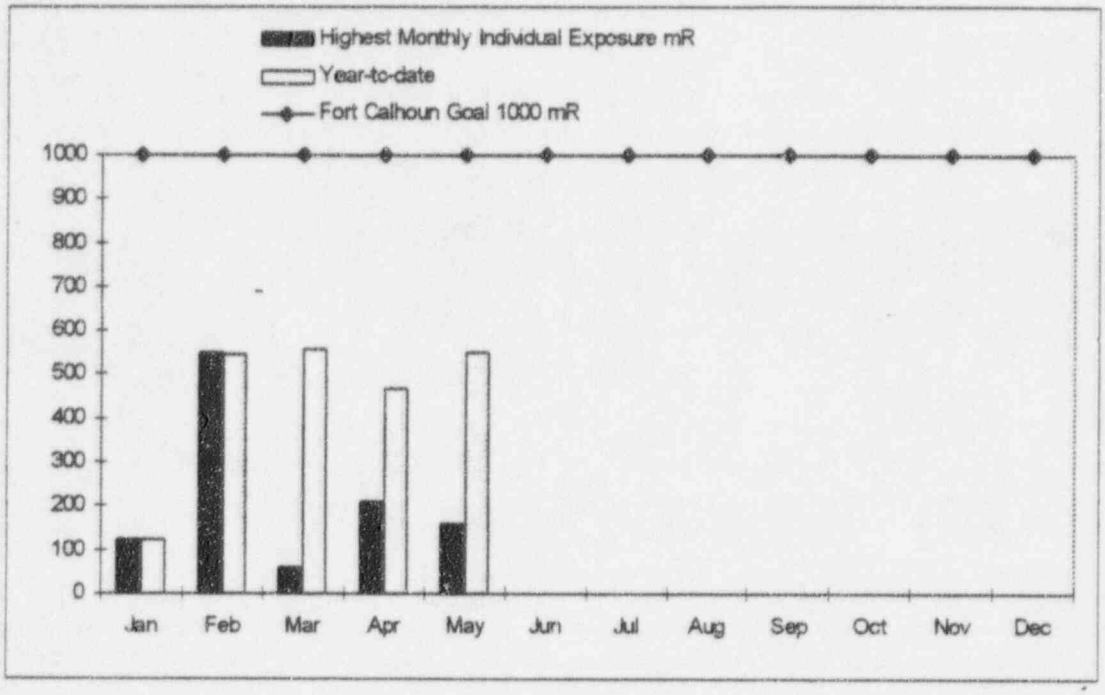
4th Quarter 1993: 1) During surveillance testing, both PORVs for the LTOP system failed to open during multiple attempts. The failures were a result of differential expansion caused by a loop seal, excessive venting line back pressure, and cracked valve disks; 2) Calibration errors of the offsite power low signal relays could have prevented offsite power from tripping and the EDGs from starting in the required amount of time during a degraded voltage condition; 3) Both AFW pumps were inoperable when one was removed from service for testing and the control switch for the other pump's steam supply valve was out of the auto position.4) Only one train of control room ventilation was placed in recirc when both toxic gas monitors became inoperable. Later during surveillance testing, the other train auto-started and brought outside air into the control room for a six-minute period.

1st Quarter 1994: A design basis review determined that an ESF relay could result in loss of safety injection and spray flow, due to premature actuation of recirculation flow.

4th Quarter 1994: An accident scenario was identified that could result in the inoperability of both control room air conditioning units. Following certain accident conditions, CCW temperature could rise causing compressor rupture disc failure and a release of freon.

There were no safety system failures since the 4th quarter of 1995.

Data Source:	Nuclear Regulatory Commission
Accountability:	Chase
Trend:	None



MAXIMUM INDIVIDUAL RADIATION EXPOSURE

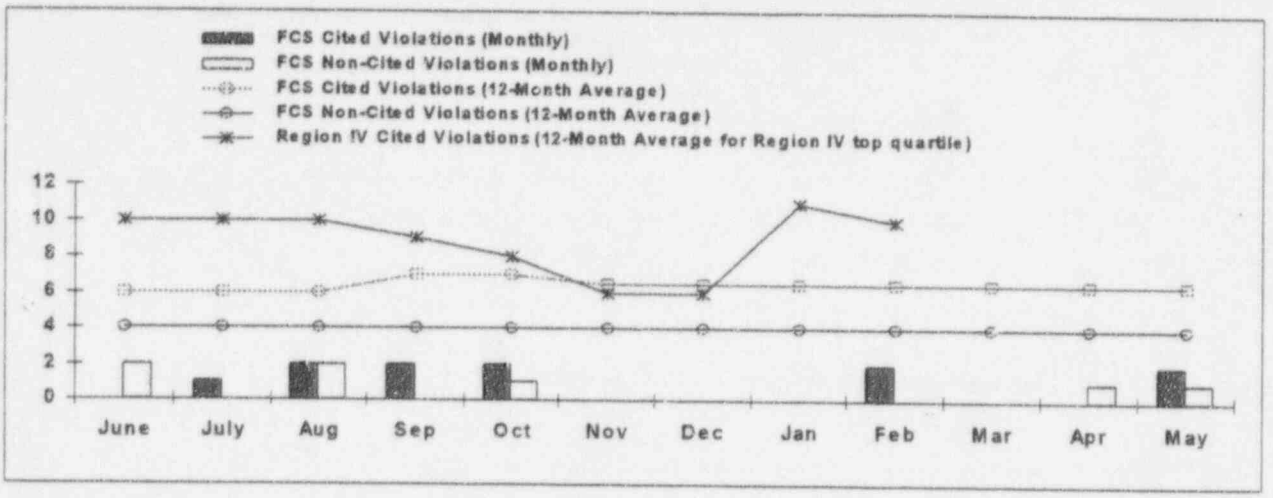
This indicator shows the highest exposure for an individual during January 1997.

For the month of **May 1997**, an individual accumulated **157millirem**, which was the highest individual exposure for the month.

For the year to date, an individual has accumulated a total of **549 millirem (TLD).** The 549 mR is down from the previous reading of 556 mR due to TLDs being read. The 556 mR came from ALNOR readings, and in general, are higher than TLD readings.

The OPPD limit for the maximum yearly individual radiation exposure is 4,000 mRem/year. The 1997 Fort Calhoun Station year-end goal is a maximum of 1,000 mRem.

Data Source: Chase/ Williams (Manager/Source)
Accountability: Chase/Gebers
Trend: None



VIOLATION TREND

This indicator illustrates a 12-month trend for Fort Calhoun Station Cited Violations, Non-Cited Violations and Cited Violations for the Top Quartile plants in Region IV. Additionally, the Fort Calhoun Station Cited and Non-Cited Violations for the past 12 months will be illustrated monthly. The 12-month trend for the Region IV top quartile lags 2-3 months behind the Fort Calhoun Station trend. This lag is necessary to compile information on other Region IV plants.

The following inspections were completed during **May 1997**:

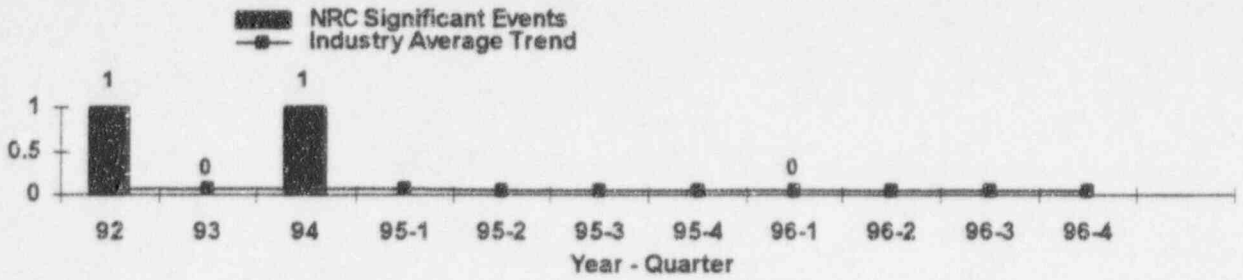
IER No.	Title
97-01	Initial Operator Exams
97-02	Emergency Program Plan
97-06	Engineering & Technical Support Team Inspection
97-07	Resident Monthly
97-08	Physical Security Program
97-09	Special Inspection-Steam Line Rupture
97-11	Special Inspection-Incorrect Estimate to Criticality

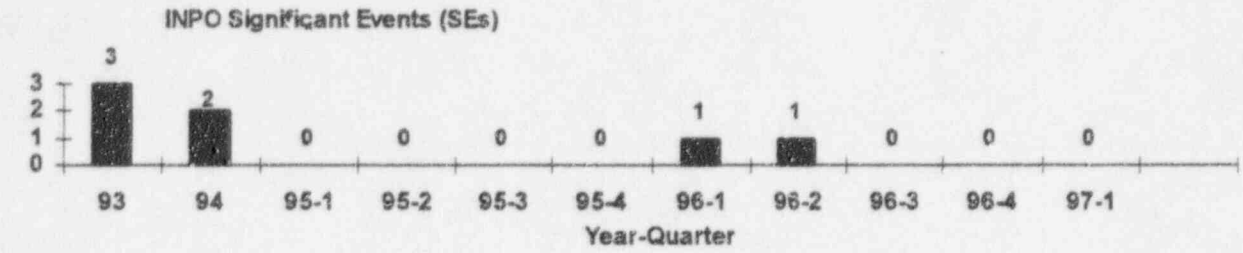
To date, OPPD has received **six** violations from inspection reports received in 1997.

Level III Violations	0
Level IV Violations	4
Non-Cited Violations	2
Total	**6**

The 1997 Fort Calhoun Station Goal for this performance indicator is to be at or below the cited violation trend for the top quartile plants in Region IV.

Data Source: Tills/Cavanaugh (Manager/Source)
Accountability: Tills
Trend: None





SIGNIFICANT EVENTS

NRC SIGNIFICANT EVENTS

The following SEs were identified between the 2nd Quarter of 1992 and the 1st quarter of 1995 (as reported in the NRC's '*Performance Indicators for Operating Nuclear Power Reactors*' report dated June 30, 1995):

3rd Quarter 1992: The failure of a Pressurizer Code Safety Valve to reseat initiated a LOCA with the potential to degrade the reactor coolant pressure boundary.

4th Quarter 1994: A potential accident scenario involving a large break LOCA or a main steam line break inside containment could result in the inoperability of both control room A.C. units.

INPO SIGNIFICANT EVENTS

The following SEs have been identified since 2nd Quarter of 1992 by INPO:

2nd Quarter 1992: Intake of transuranics during letdown filter change-out.

3rd Quarter 1992: Safety Valve malfunction (RC-142).

1st Quarter 1993: Inoperability of Power Range Nuclear Instrumentation Safety Channel D.

2nd Quarter 1993: Inadequate control of Switchyard activities.

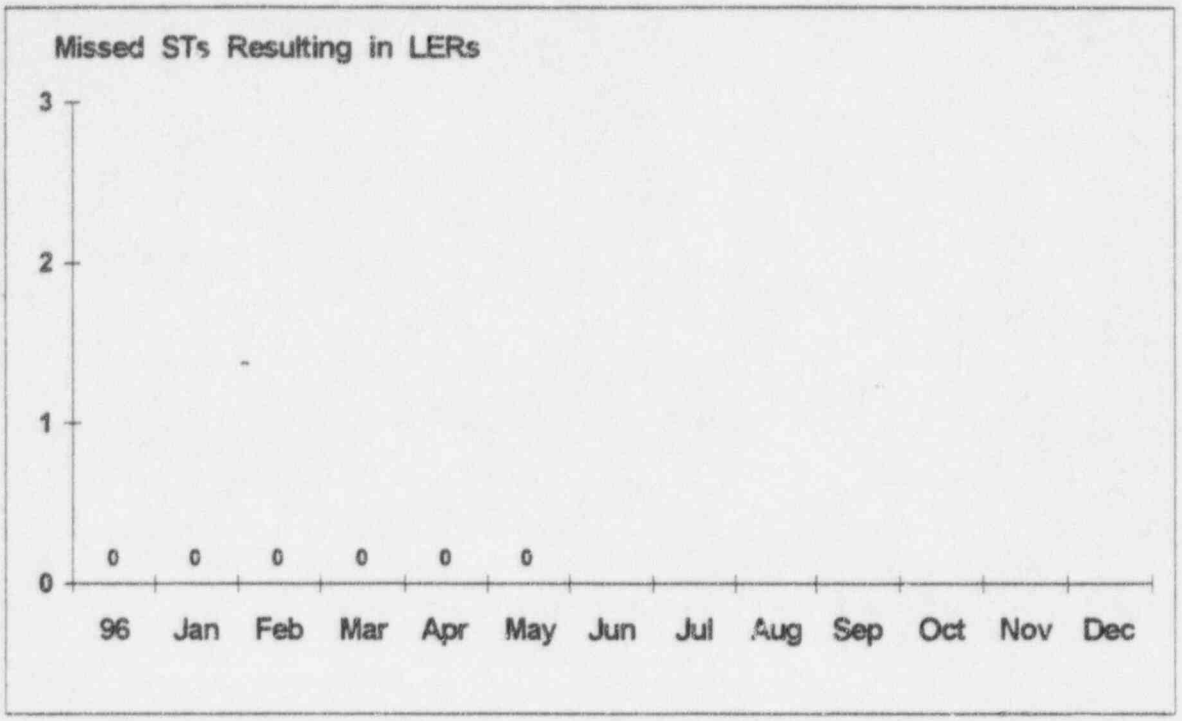
3rd Quarter 1993: Loss of reactor coolant due to malfunction of Pressurizer Safety Valve.

1st Quarter 1994:
1) Unexpected CEA withdrawal. (Event occurred November 13, 1993 but was not identified as an SE until 1st Quarter 1994).
2) Unplanned dilution of Boron concentration in the Reactor Coolant System.

1st Quarter 1996: During pressurizer solid plant operation, the Low Temperature Overpressurization (LTOP) protection for the RCS was inadvertently disabled.

2nd Quarter 1996: RC Pump Anti-Reverse Rotation Device (ARD) failure.
No SE reports have been received from INPO on the 1996 SEs as of August 1, 1996.

Data Source: Nuclear Regulatory Commission & INPO
Accountability: Chase
Trend: None



NUMBER OF MISSED SURVEILLANCE TESTS RESULTING IN LICENSEE EVENT REPORTS

This indicator shows the number of missed Surveillance Tests (STs) that resulted in Licensee Event Reports (LERs) during **May 1997.**

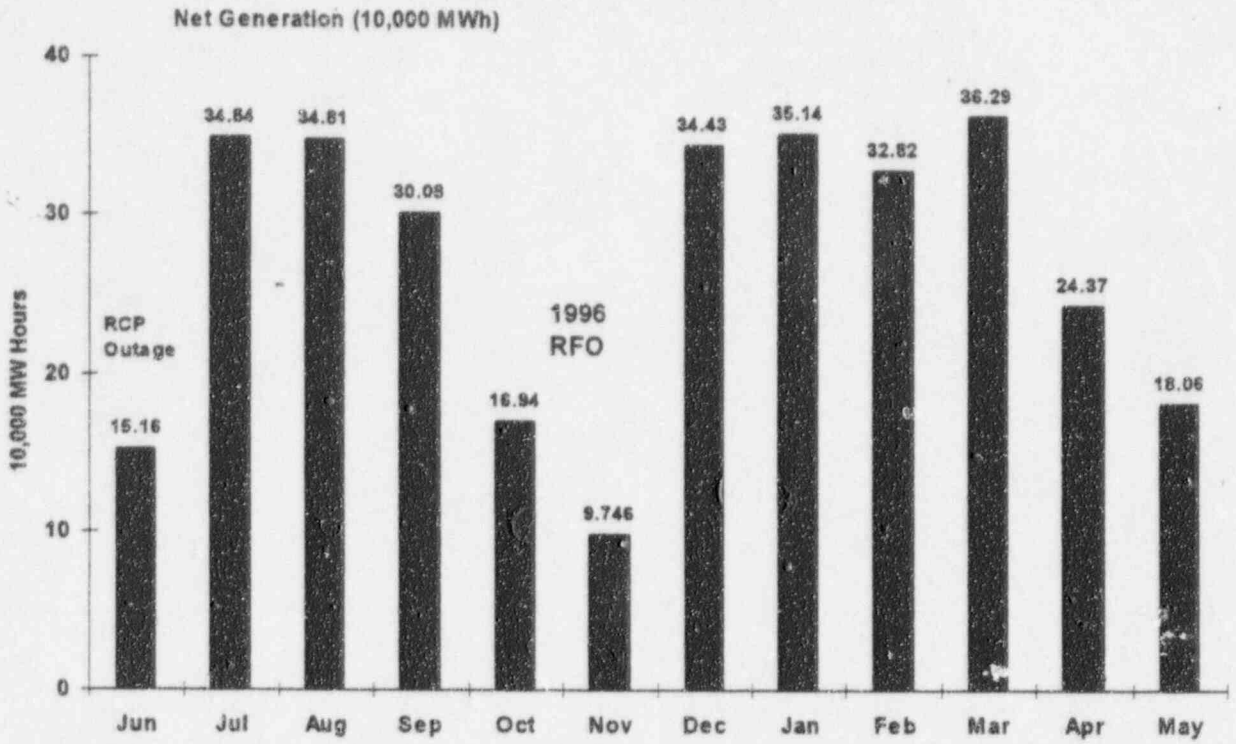
There were **no** missed surveillance tests resulting in LERs during **May 1997**.

The 1997 Fort Calhoun monthly goal for this indicator is 0.

Data Source: Monthly Operating Report & Plant Licensee Event Reports (LERs)
Accountability: Chase/Phelps
Trend : None SEP 60 & 61

PERFORMANCE

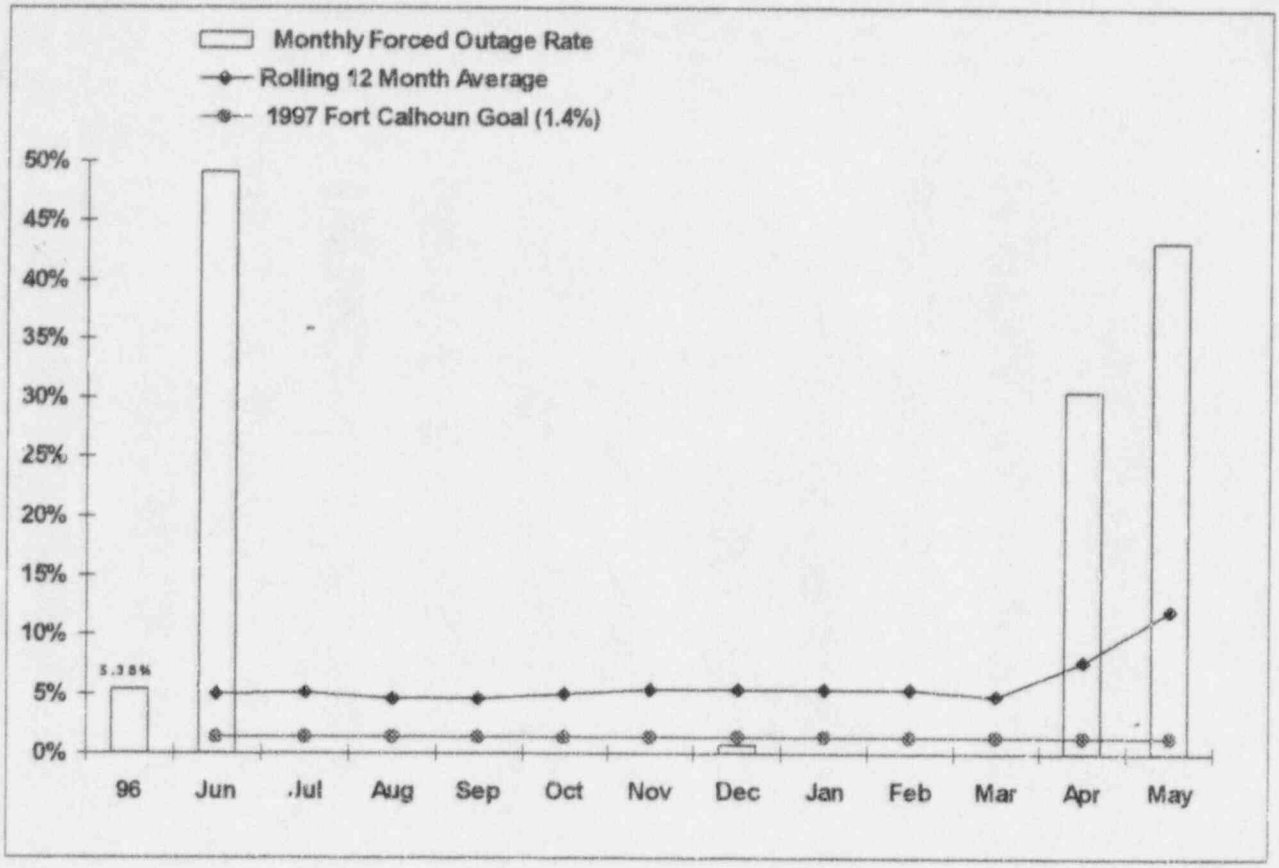
Goal: To strive for Excellence in Operations utilizing the highest standards of performance at Fort Calhoun Station that result in safe, reliable plant operation in power production.



STATION NET GENERATION

During the month of **May 1997**, a net total of **165945.2 MWh** were generated by the Fort Calhoun Station. Cumulative net generation for Cycle 16 was **5,418,326.6 MWh** . Cumulative net generation for Cycle 17 was **1,806,389.7 MWh** at the end of **May 1997.**

Data Source: Station Generation Report
Accountability: Chase
Trend: None



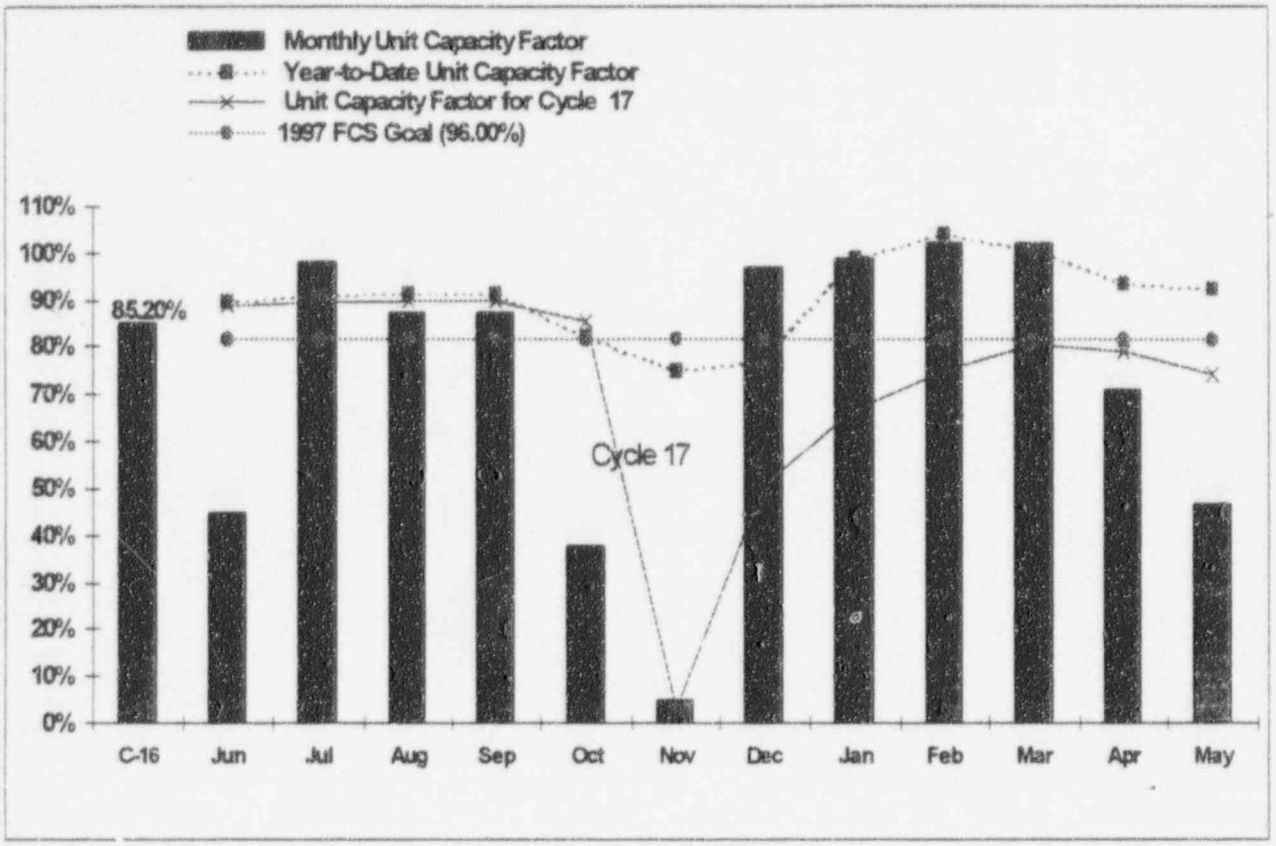
FORCED OUTAGE RATE

The forced outage rate (*FOR*) for the month of **May 1997** was **43.3 %.** The forced outage rate for the previous 12 months **(June 1996 through May 1997)** was **12.02%.** The 1997 year-to-date FOR was **15.0%** at the end of **May 1997.**

Energy Losses are described in the "Unit Capability Factor" indicator, page 2 of this report.

The 1997 Fort Calhoun Station year-end goal for this indicator is a maximum value of 1.4%.

Date Source: Monthly Operating Report
Accountability: Chase
Trend: Increased Management Attention



UNIT CAPACITY FACTOR

This indicator shows the plant monthly Unit Capacity Factor, the Unit Capacity Factor for the current fuel cycle, the year-to-date, and the 1997 OPPD Station goal.

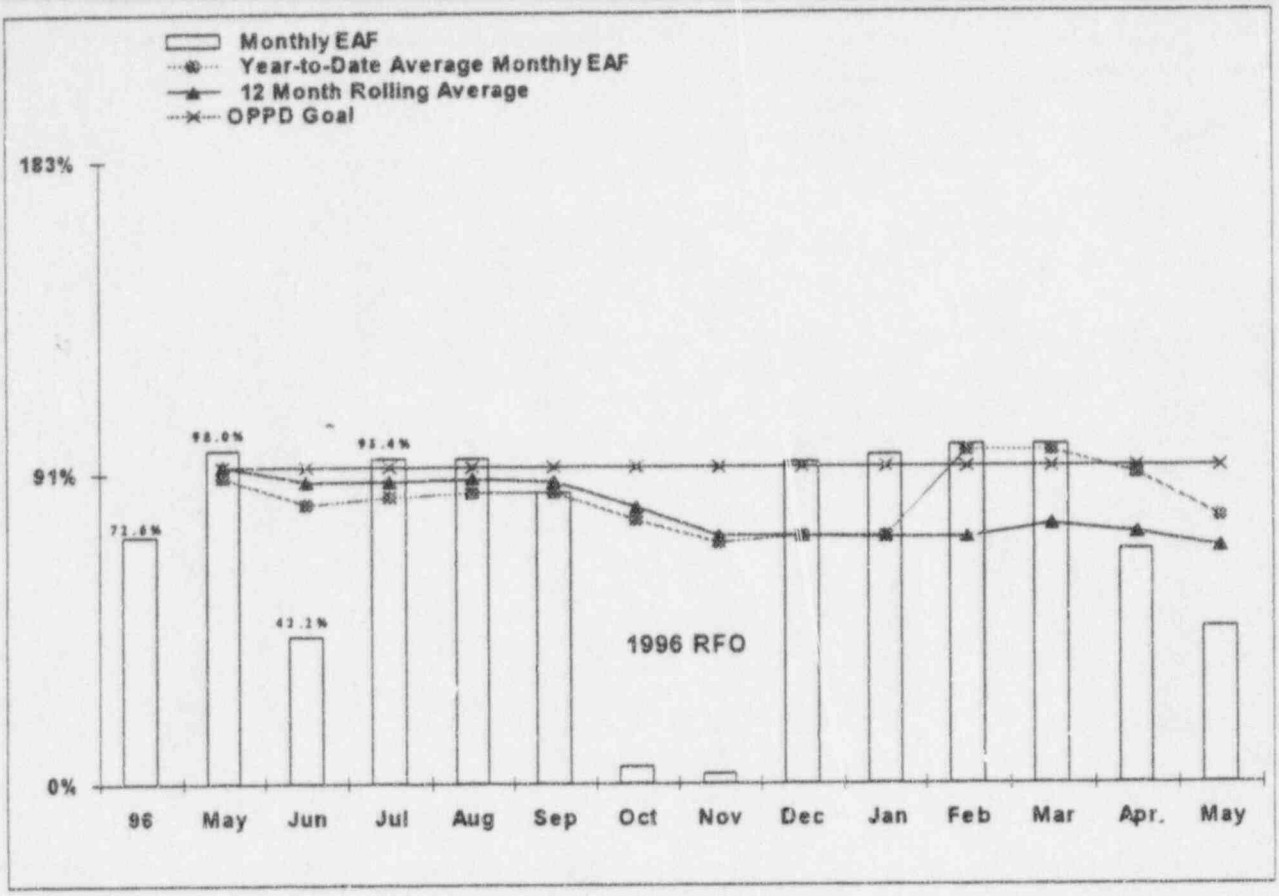
$$\text{Unit Capacity Factor} = \frac{\text{Net Electrical Energy Generated (MWH)}}{\text{Max. Dependable Capacity (MWe) X Gross Hours in the Reporting Period}}$$

Cycle 16 Unit Capacity factor was **85.23%.**

At the end of **May 1997,** the Cycle 17 Unit Capacity Factor was **70.82%.** The Unit Capacity Factor for the last 36 months **(June 1994 through May 1997)** was **81.5%**. The 1997 Fort Calhoun annual goal for this indicator is 96.00%.

The year-to-date value is **92.4%.**

Data Source: Monthly Operating Report
Accountability: Chase
Trend: None



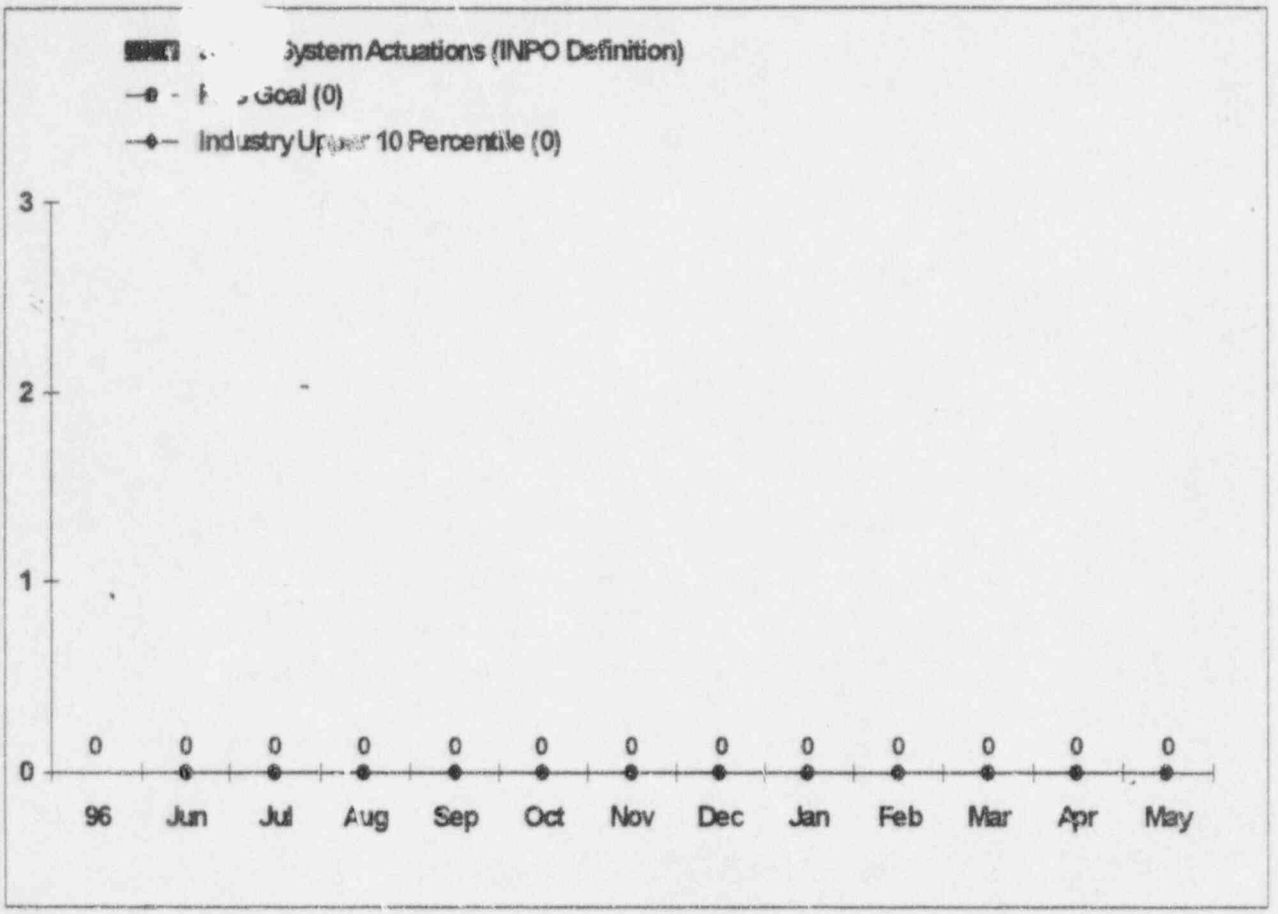
EQUIVALENT AVAILABILITY FACTOR

This indicator shows the plant monthly Equivalent Availability Factor (EAF), the year-to-date average monthly EAF, the 12 month rolling average, and the OPPD goal.

The EAF for **May 1997** was **45.7 %**. The 12 month rolling average **(June 1996 through May 1997)** was **69.29%.** The equivalent availability factor for the past three years **(June 1994 through May 1997)** was **82.98%.**

The Fort Calhoun Station goal for this indicator is an EAF of **93.00%**.

Data Source: Dietz/Vandervort/Mikkelsen (Managers/Source)
Accountability: Chase
Trend: None



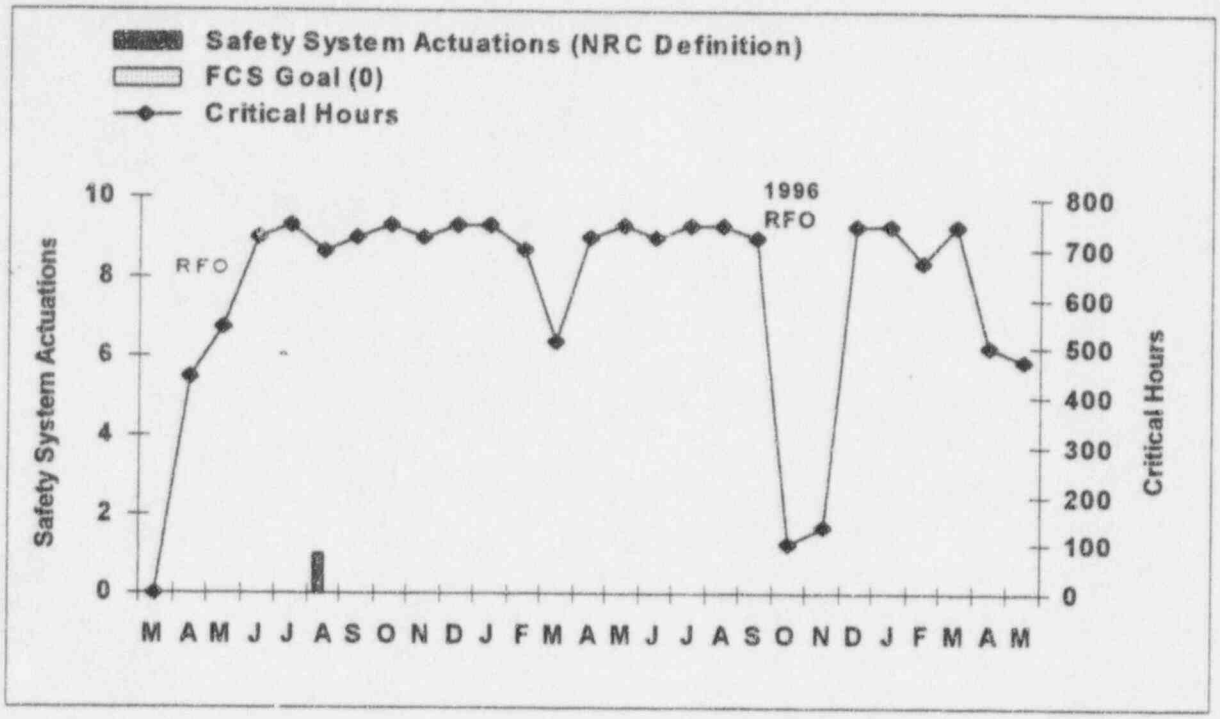
UNPLANNED SAFETY SYSTEM ACTUATIONS - (INPO DEFINITION)

There were no WANO unplanned safety system actuations during the month.

There were no WANO unplanned safety system actuations during 1996.

The 1997 Fort Calhoun goal for this indicator is 0.

Data Source: Monthly Operating Report & Plant Licensee Event Reports
Accountability: Phelps/Foley
Trend: None

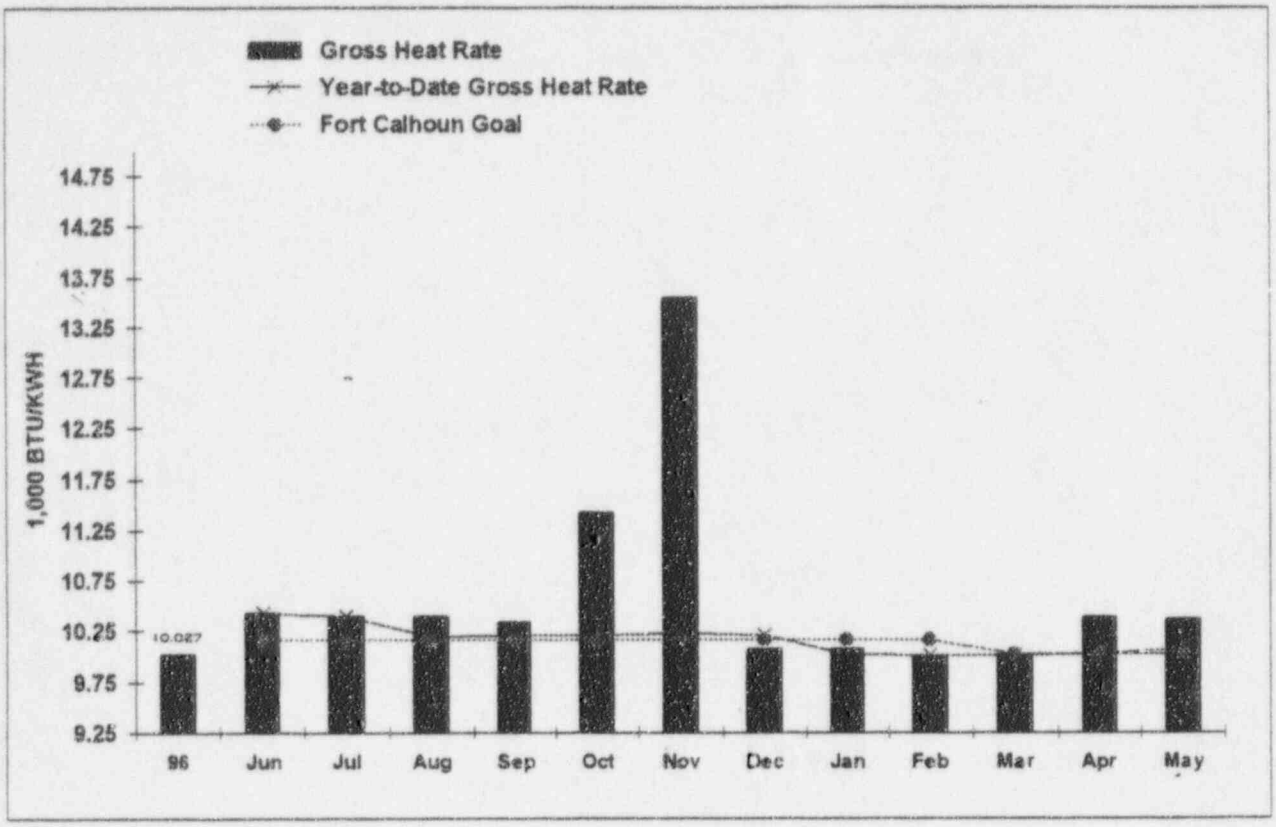


UNPLANNED SAFETY SYSTEM ACTUATIONS - (NRC DEFINITION)

This indicator shows the number of unplanned safety system actuations (SSAs), which includes the High and Low Pressure Safety Injection Systems, the Safety Injection Tanks, and the Emergency Diesel Generators. The NRC classification of SSAs includes actuations when major equipment is operated and when the logic systems for these safety systems are challenged.

There have been no unplanned safety system actuations in the last 12 months. The 1997 Fort Calhoun goal for this indicator is 0.

Data Source: Monthly Operating Report & Plant Licensee Event Reports (LERs)
Accountability: Phelps/Foley
Trend: None



GROSS HEAT RATE

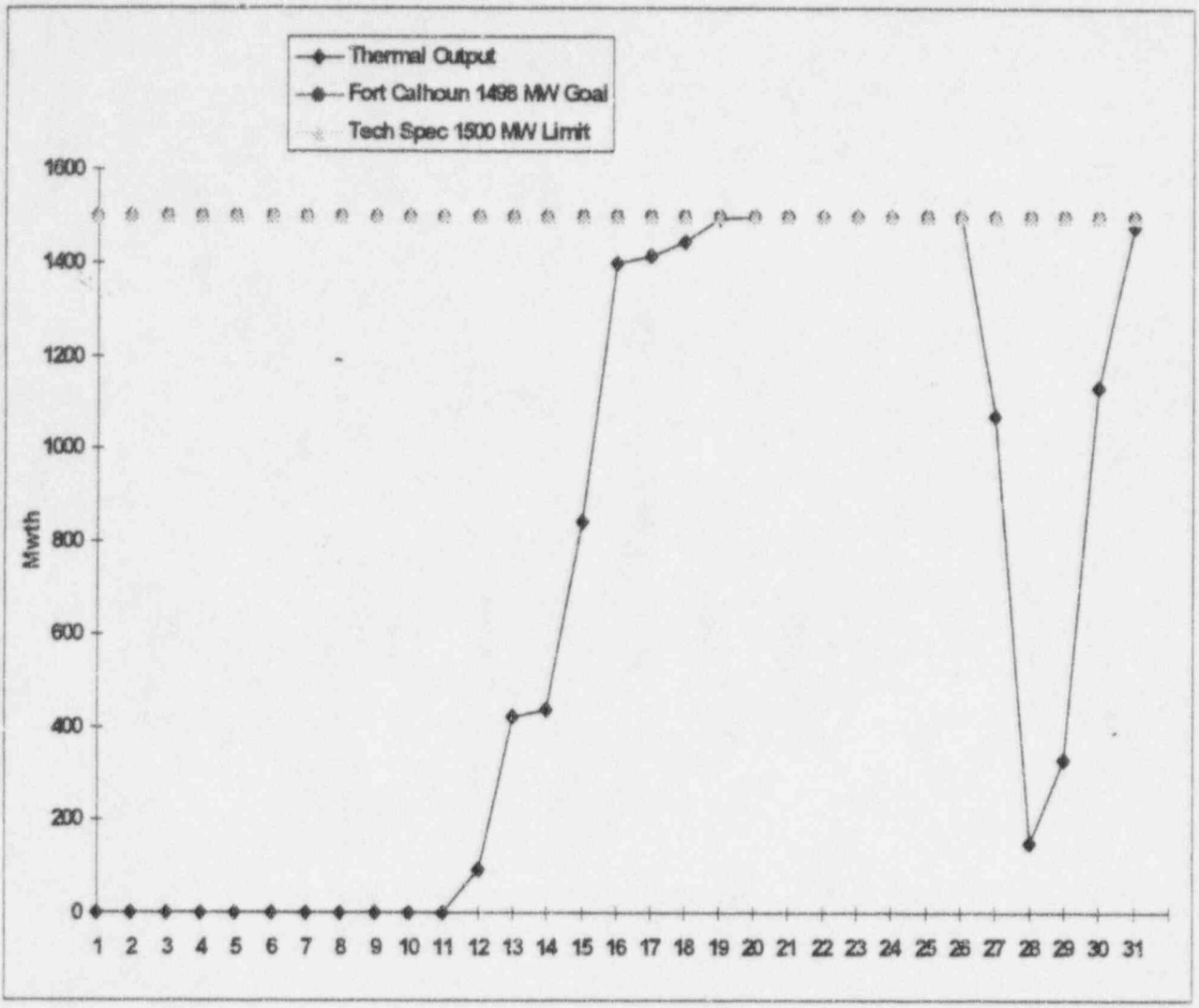
This indicator shows the Gross Heat Rate (GHR) for the reporting month, the year-to-date GHR, the goals, and the year-end GHR for the previous three years.

The gross heat rate for Fort Calhoun Station was **10,038 BTU/kWh** for the month of **May 1997**. The 1997 year-to-date GHR was **10,025 BTU/kWh** at the end of the month.

The GHR varies with fluctuations in river water temperature. In general, the GHR improves during the winter months and degrades during the summer. This is because the gross heat rate is not normalized to the design river water temperature of 60 degrees Fahrenheit.

The 1997 Fort Calhoun year-end goal for this indicator is **10,166 BTU/kWh**.

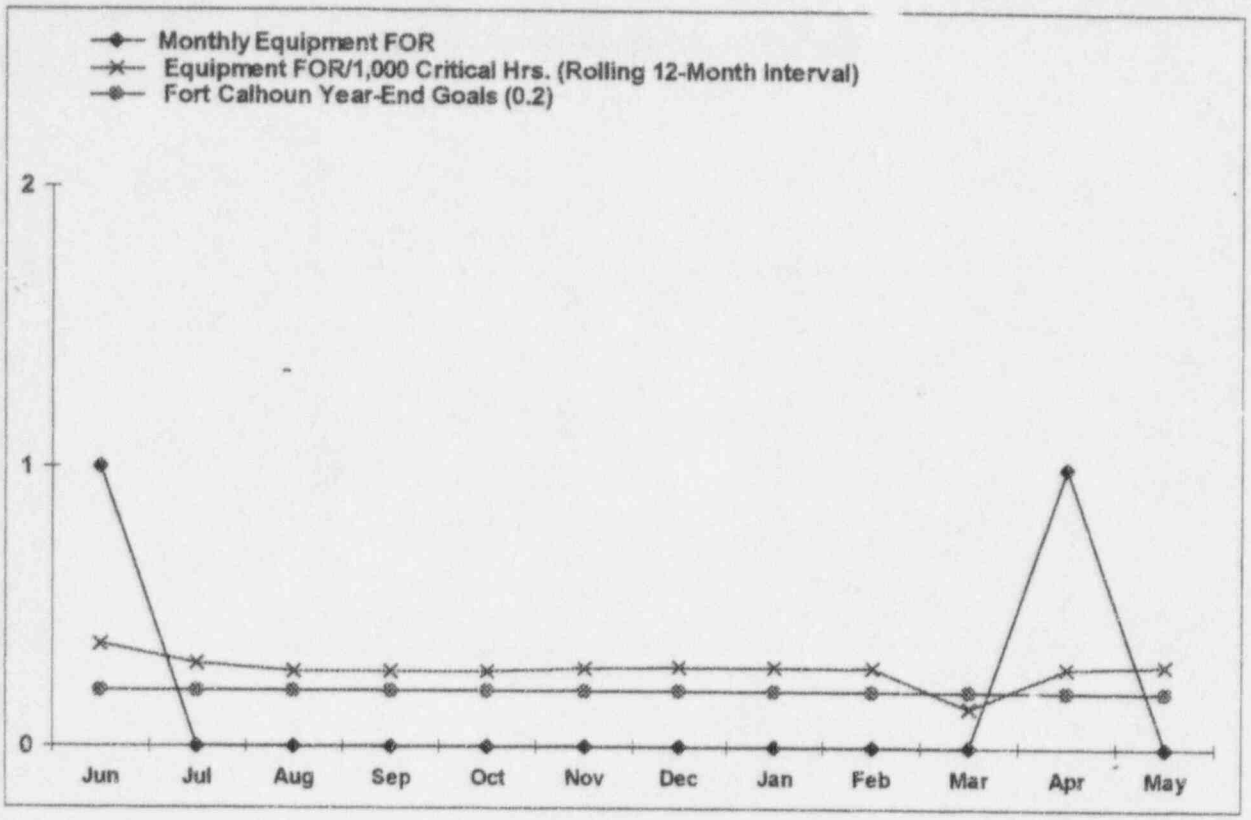
Data Source: Guinn/Schawe (Manager/Source)
Accountability: Chase/Skiles
Trend: None



DAILY THERMAL OUTPUT

The thermal output graph displays the daily operating power level during **May 1997,** the 1500 thermal megawatt average technical specification limit, and the 1498 thermal megawatt Fort Calhoun goal.

Data Source: Guinn/Schawe (Manager/Source)
Accountability: Chase/Short
Trend: None



EQUIPMENT FORCED OUTAGES
PER 1,000 CRITICAL HOURS

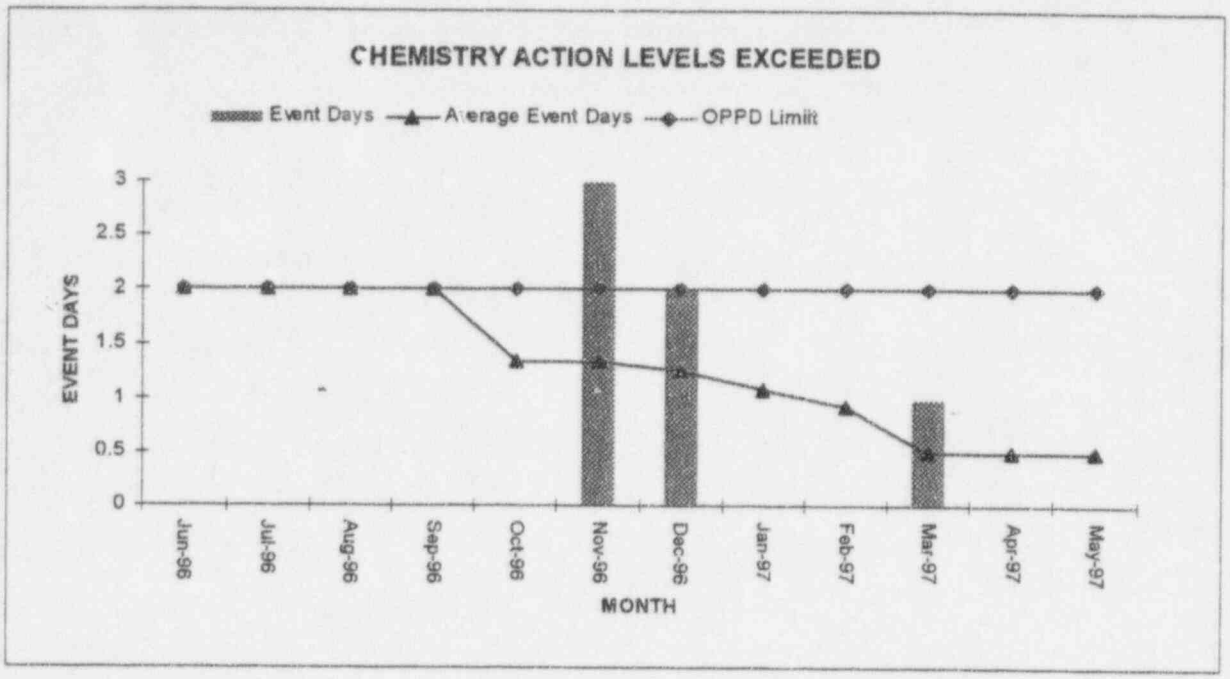
The equipment forced outage rate per 1,000 critical hours for the 12 months from **June 1, 1996,** through **May 31, 1997**, was **0.289**. The year-to-date rate per 1,000 critical hours for the months from **February 1, 1997** through **May 31, 1997** was **0.376**.

An equipment forced outage occurred during the month of June 1996, due to the failure of the Anti-Rotation Device associated with RC-3B-M.

The equipment forced outage that occurred April 21, 1997 was attributed to the rupture of a fourth stage extraction steam pipe. A second outage occurred on May 24 due to weld crack which caused reactor power to be reduced to 10% while repairs were made on-line.

The 1997 Fort Calhoun year-end goal for this indicator is a maximum value of 0.20.

Data Source: Monthly Operating Report & Plant Licensee Event Reports (LERs)
Accountability: Chase/Phelps
Trend: None



CHEMISTRY ACTION LEVELS EXCEEDED - EVENT DAYS

The Chemistry Action Levels Exceeded indicator tracks the number of days in which chemistry parameters exceeded a corresponding action level for the reporting month, as well as a 12-month average of days an action level is exceeded. The parameter action levels are delineated in Chemistry procedure CH-AD-0003, "Plant System Chemical Limits and Corrective Actions".

An action level is considered to have been exceeded for the purpose of this indicator, whenever the parameter exceeds the CH-AD-0003 action level for the current system mode, with the exception of the SteamGenerators during Mode 1.

The Steam Generators are considered to have exceeded an action level in Mode 1 when the plant power is greater than 30% and the power is changing less than 5% per day.

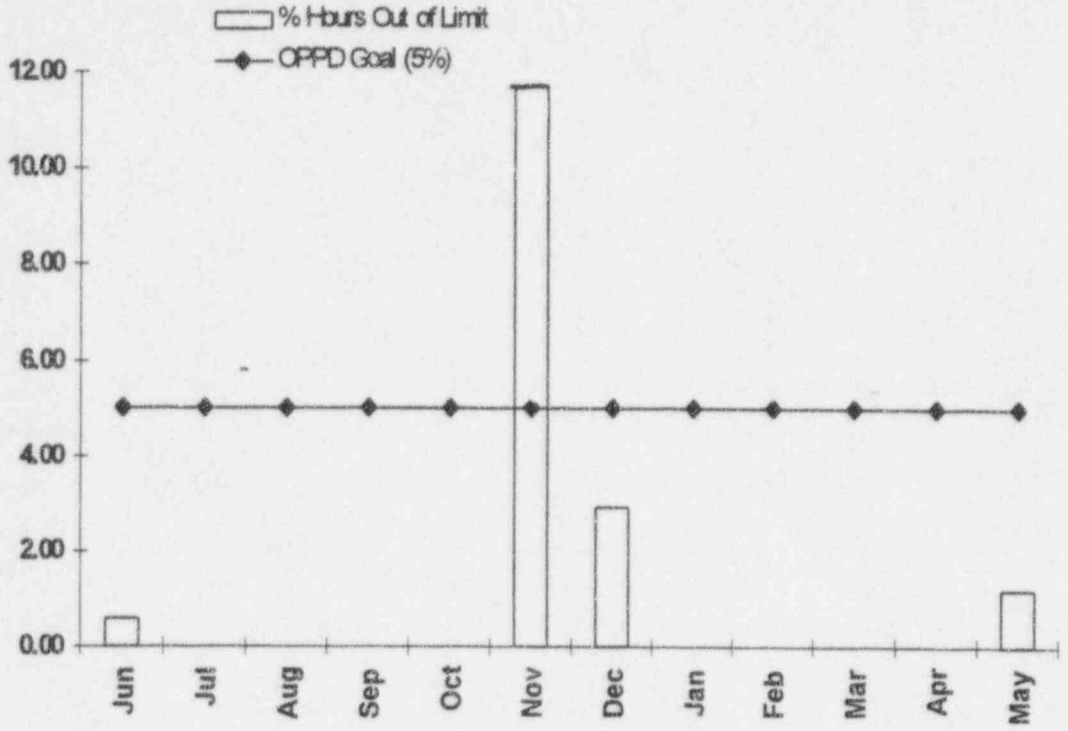
The number of event days can exceed the number of days in a month since each event is counted separately and there can be multiple events per day.

The 1997 Fort Calhoun goal for this indicator is the 12-month average of two event days per month. There is no goal established for the number of event days per individual month.

Historical data is used to calculate the monthly average event days. The 12-month average was calculated by dividing the number of event days by the number of preceding months, until twelve months were reached.

There were no event days in **May.**

Data Source: Chase/Hamilton (Manager/Source)
Accountability: Hamilton
Trend: Positive



PRIMARY SYSTEM LITHIUM % HOURS OUT OF LIMIT

The Primary System Lithium Percent Hours Out of Limit indicator tracks the hours per month that the primary system lithium is out of specification.

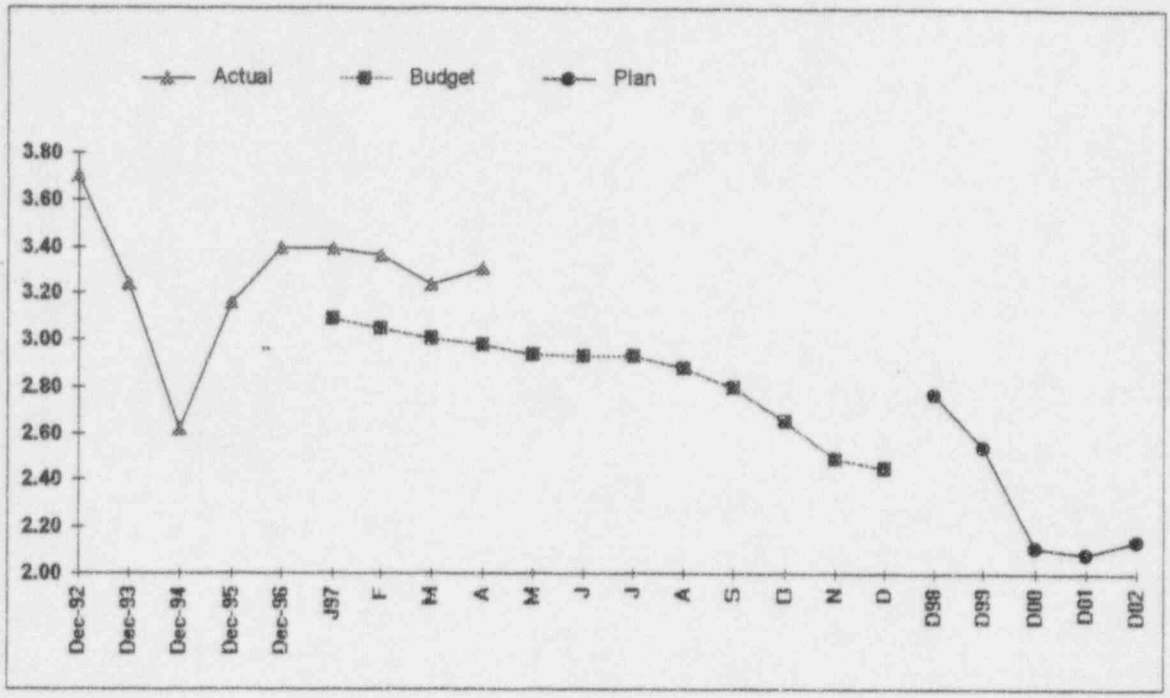
The Primary System Lithium Percent Hours Out of Limit was **1.21%** for the month of **May 1997.**

The 1997 Fort Calhoun Station monthly goal for this indicator is a maximum of 5% hours out of limit.

Data Source: Chase/Hamilton (Manager/Source)
Accountability: Hamilton
Trend: Postive

COST

Goal: Operate Fort Calhoun Station in a manner that cost effectively maintains nuclear generation as an economically viable contribution to OPPD's bottom line. Cost consciousness is exhibited at all levels of the organization.



CENTS PER KILOWATT HOUR
April 1997

The purpose of this indicator is to quantify the economical operation of Fort Calhoun Station.

The cents per kilowatt hour indicator represents the budget and actual cents per kilowatt hour on a 12-month rolling average for the current year. The basis for the budget curve is the approved 1996 and 1997 revised budgets. The basis for the actual curve is the Financial and Operating Report.

The December 31 amounts are also shown for the prior years 1992 through 1996. In addition, the report shows the plan amounts for the years 1998 through 2002 for reference. The basis for the dollars are the Nuclear Long Range Financial Plan and the 1997 Corporate Planning and Budget Review. The basis for the generation is provided by Nuclear Fuels.

The 12-month rolling average unit price(period of **March,** 1996 through **April,** 1997) averaged above the budget due to 12-month rolling expenses exceeding the budget and the 12 month rolling average (**3**/96 through **4**/97) is 3.24 cents per kilowatt hour.

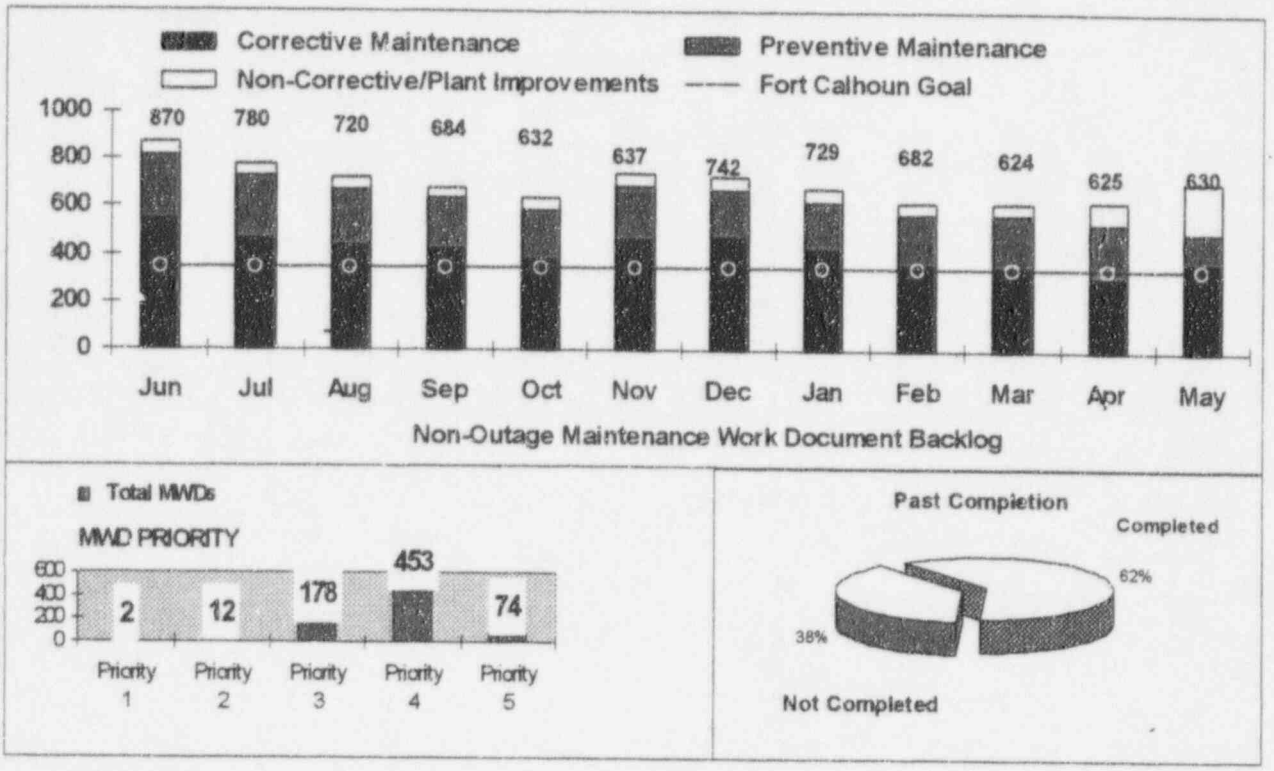
The year-to-date average is trending in a negative direction.

Cents per KWH	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
Budget Y-T-D	2.83	2.66	2.58	2.55	2.31	2.50	2.51	2.49	2.48	2.48	2.46	2.45
Actual Y-T-D	2.89	2.60	2.54	2.75	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00

Data Source: Lounsberry/Dent (Manager/Source)
Accountability: Lounsberry
Trend: Increased Management Attention

DIVISION AND DEPARTMENT PERFORMANCE INDICATORS

Goal: Achieve high standards at Fort Calhoun Station resulting in safe, reliable and cost effective power production.



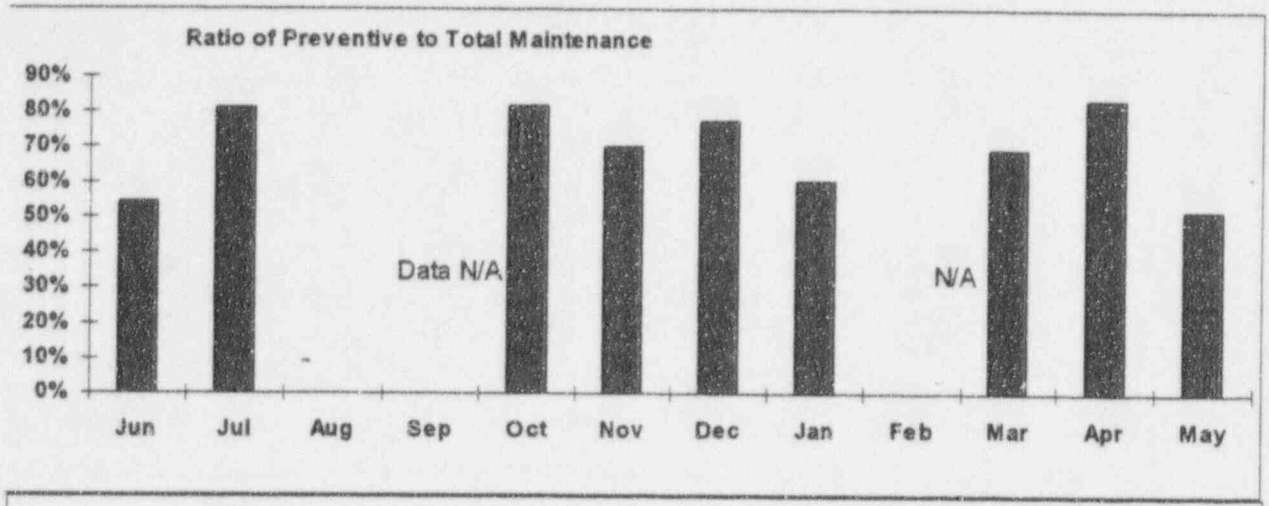
MAINTENANCE WORKLOAD BACKLOG

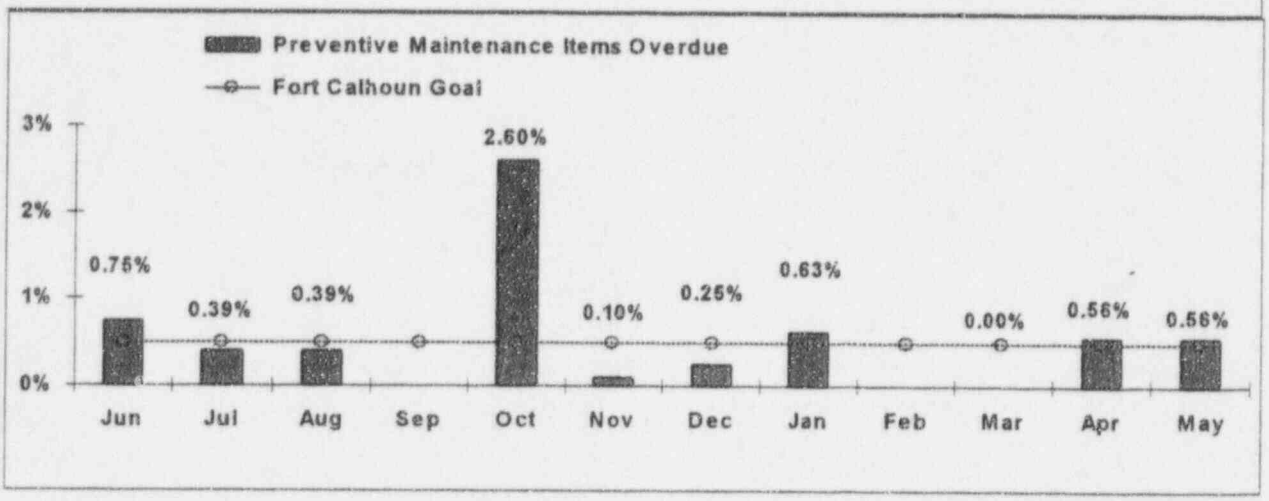
This indicator shows the backlog of non-outage Maintenance Work Documents remaining open at the end of the reporting month. It also includes a breakdown by maintenance classification and priority. The 1997 goal for this indicator is 350 non-outage corrective maintenance MWDs. The current backlog of corrective MWDs is **379.** To ensure that the MWD backlog is worked in a timely manner, non-outage maintenance completion goals have been established as follows:

		Goal
Priority 1	Immediate Action	24 hours
Priority 2	Urgent	5 days
Priority 3	Operational Concerns	21 days
Priority 4	Routine Corrective	90 days
Priority 5	Non-Essential	180 days

Data Source: Chase/Johnson (Manager/Source)
Accountability: Chase/Faulhaber
Trend: Adverse

SEP 36





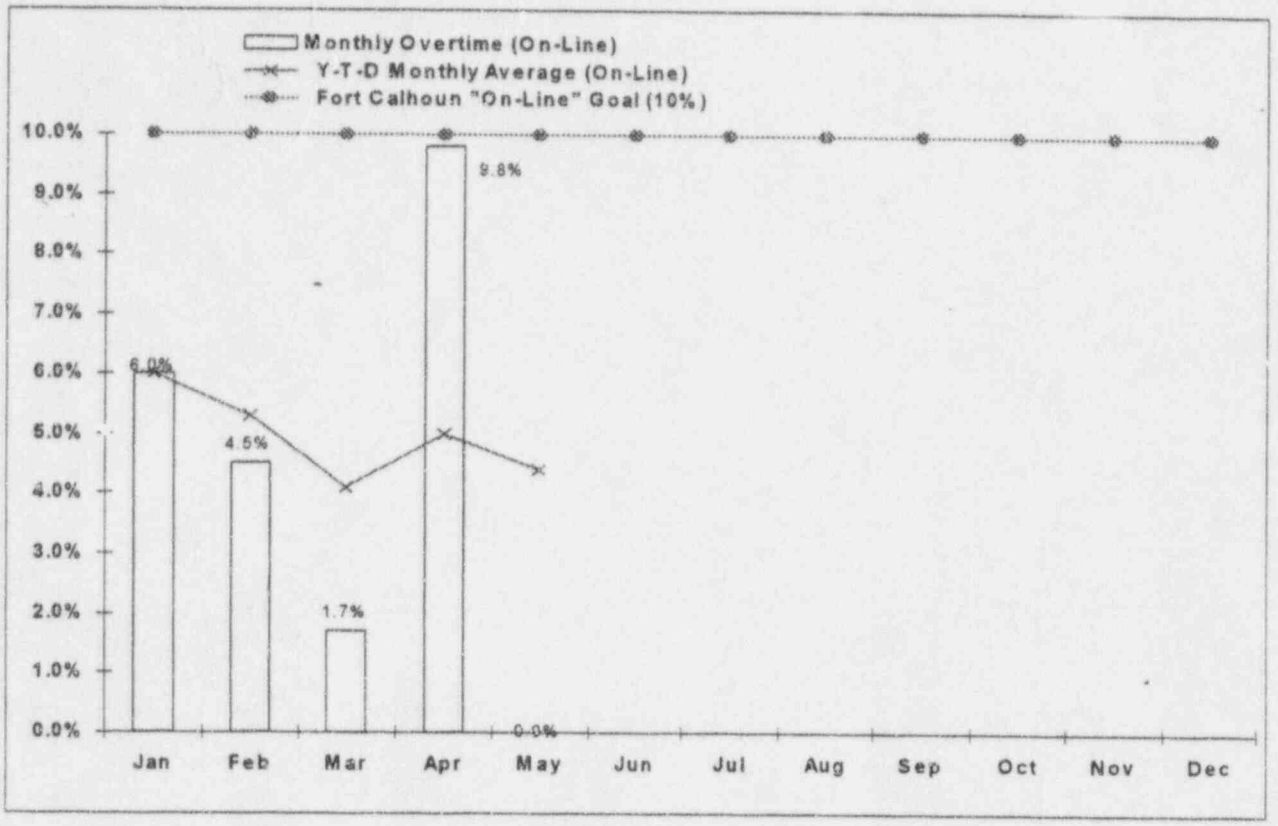
RATIO OF PREVENTIVE TO TOTAL MAINTENANCE
PREVENTIVE MAINTENANCE ITEMS OVERDUE

The top graph shows the ratio of completed non-outage preventive maintenance to total completed non-outage maintenance. The ratio was **83.6%** for the month of **May 1997.**

The lower graph shows the percentage of scheduled preventive maintenance items that are overdue. During **May 1997, 356** PM items were completed.

The 1997 Fort Calhoun monthly goal for the percentage of preventive maintenance items overdue is a maximum of 0.5%.

Data Source:	Chase/Johnson (Manager/Sources)	
Accountability:	Chase/Faulhaber	
Trend:	Increased Management Attention	SEP 41 & 44



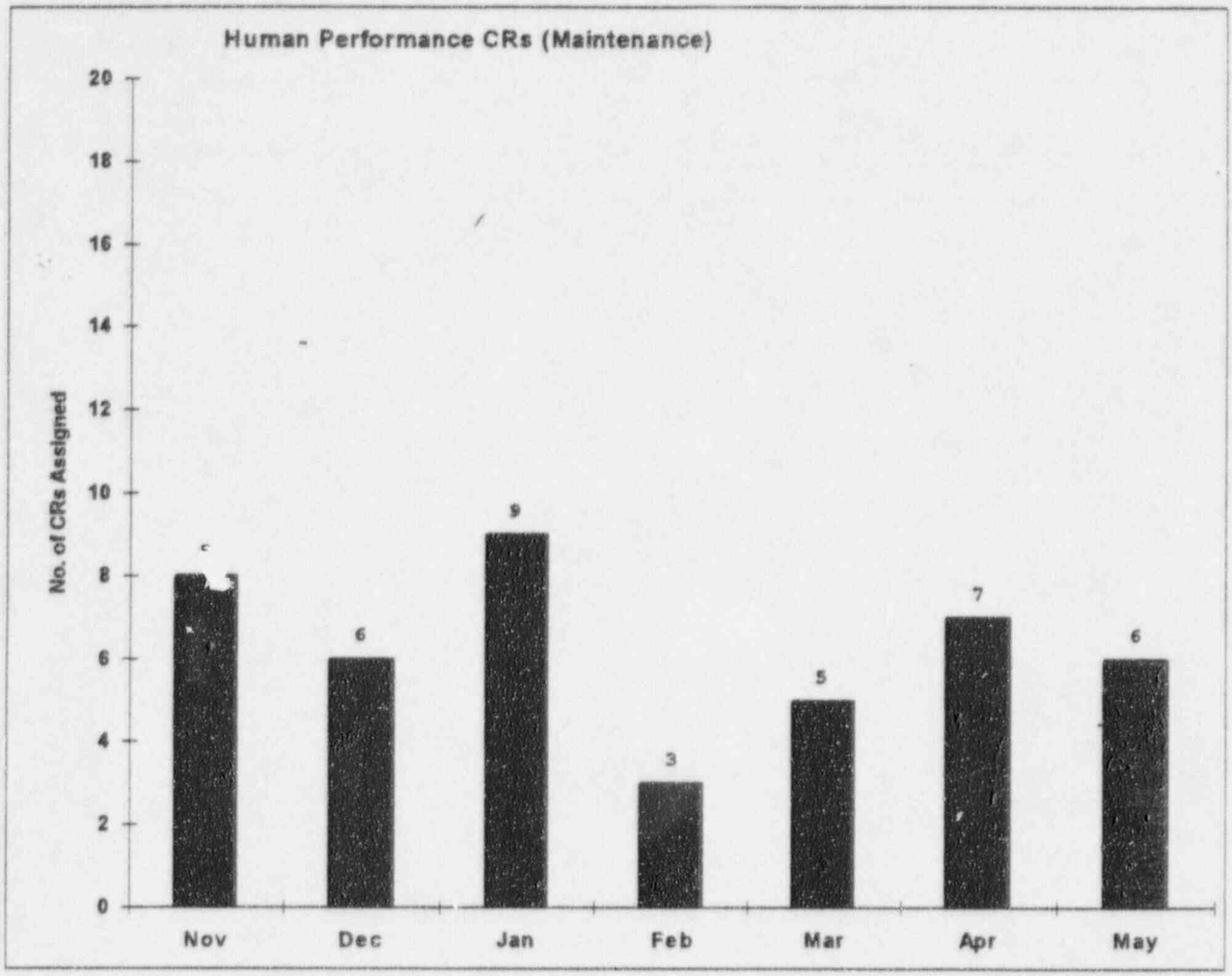
MAINTENANCE ONLINE OVERTIME

The Maintenance Overtime Indicator monitors the ability to perform the desired maintenance activities with the allotted resources while on-line.

The percent of overtime hours with respect to normal hours was reported as **0%** for the month of **May 1997**. Forced outage overtime was 35.5%, therefore on-line overtime was zero for the month.

The 1997 Fort Calhoun monthly **"on-line"** goal for this indicator is a maximum value of 10%.

Data Source: Chase/Johnson (Manager/Source)
Accountability: Chase/Faulhaber
Trend: None

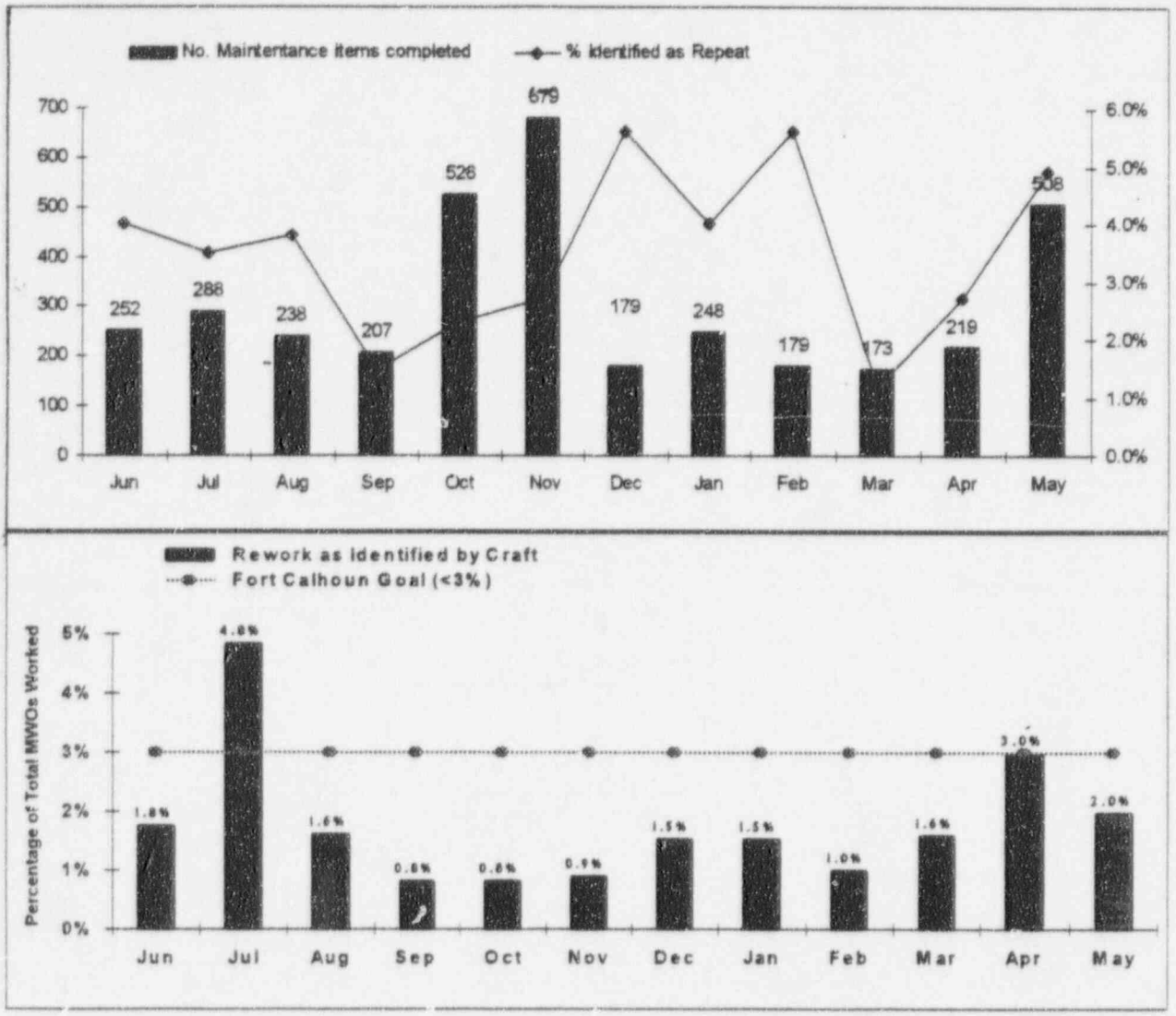


PROCEDURAL NONCOMPLIANCE INCIDENTS (MAINTENANCE)

This indicator shows the number of Condition Reports related to procedural noncompliance incidents assigned to the Maintenance Department.

Data Source: Faulhaber
Accountability: Chase/Faulhaber
Trend: None

SEP 15, 41 & 44



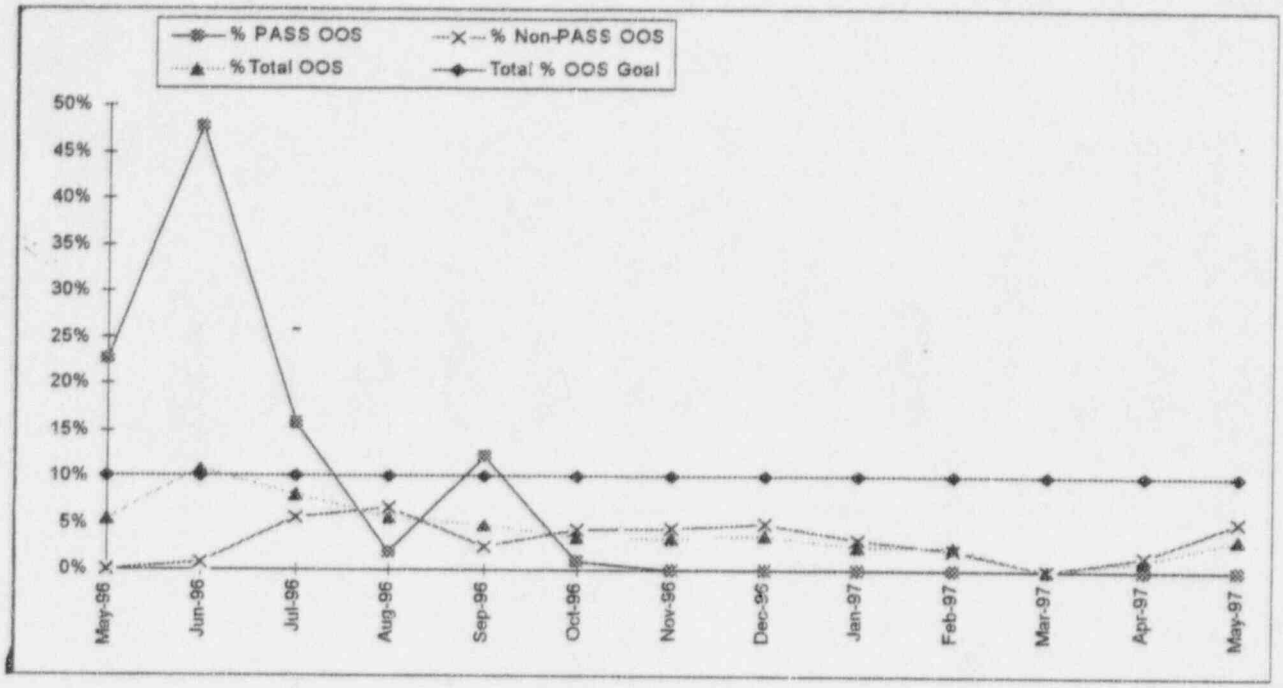
PERCENTAGE OF TOTAL MWDs COMPLETED PER MONTH IDENTIFIED AS REWORK/REPEAT

This graph indicates the percentage of total MWDs completed per month identified as rework. Rework activities are identified by maintenance planning and craft.

This indicator is calculated from the 15th of April to the 15th of May, due to the delay in closing open MWDs at the end of each month.

The Fort Calhoun monthly goal for this indicator is <3%. A detailed review is conducted of rework items each month to identify generic concerns.

Data Source: Faulhaber/Johnson (Manager/Source)
Accountability: Chase/Faulhaber
Trend: None



IN-LINE CHEMISTRY INSTRUMENTS OUT-OF-SERVICE

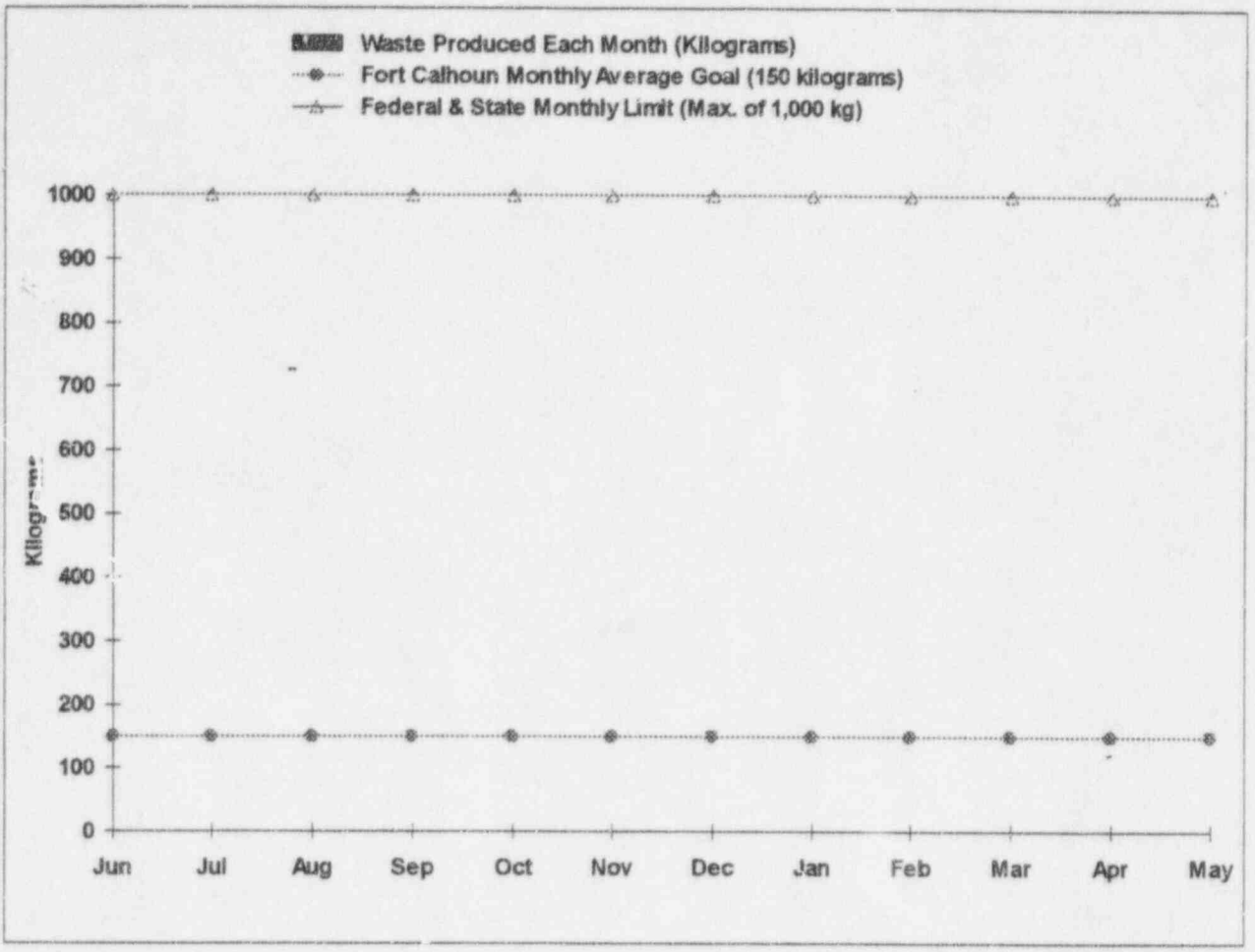
This indicator shows the percentage of hours the in-line chemistry system instruments are inoperable for the reporting month. The chemistry systems involved in this indicator include the Secondary System and the Post Accident Sampling System (PASS). At the end of **May 1997**, the percentage of hours the in-line chemistry system instruments were inoperable was **3.46%**. The following instrument was out of service for the current month:

1. % PASS HOURS OUT OF SERVICE - NONE

2. % NON-PASS HOURS OUT OF SERVICE
   AI-[illegible]10 Hydrogen was out of service from 4/12 thru 5/31 1997.

The entire instrument channel is considered inoperative if: 1) the instrument is inoperative, 2) the chart recorder associated with the instrument is inoperative, or 3) the alarm function associated with the instrument is inoperative. If any of the functions listed above are not operational, then the instrument is not performing its intended function.

Data Source: Chase/Ostien (Manager/Source
Accountability: Chase/Skiles
Trend: Positive



HAZARDOUS WASTE PRODUCED

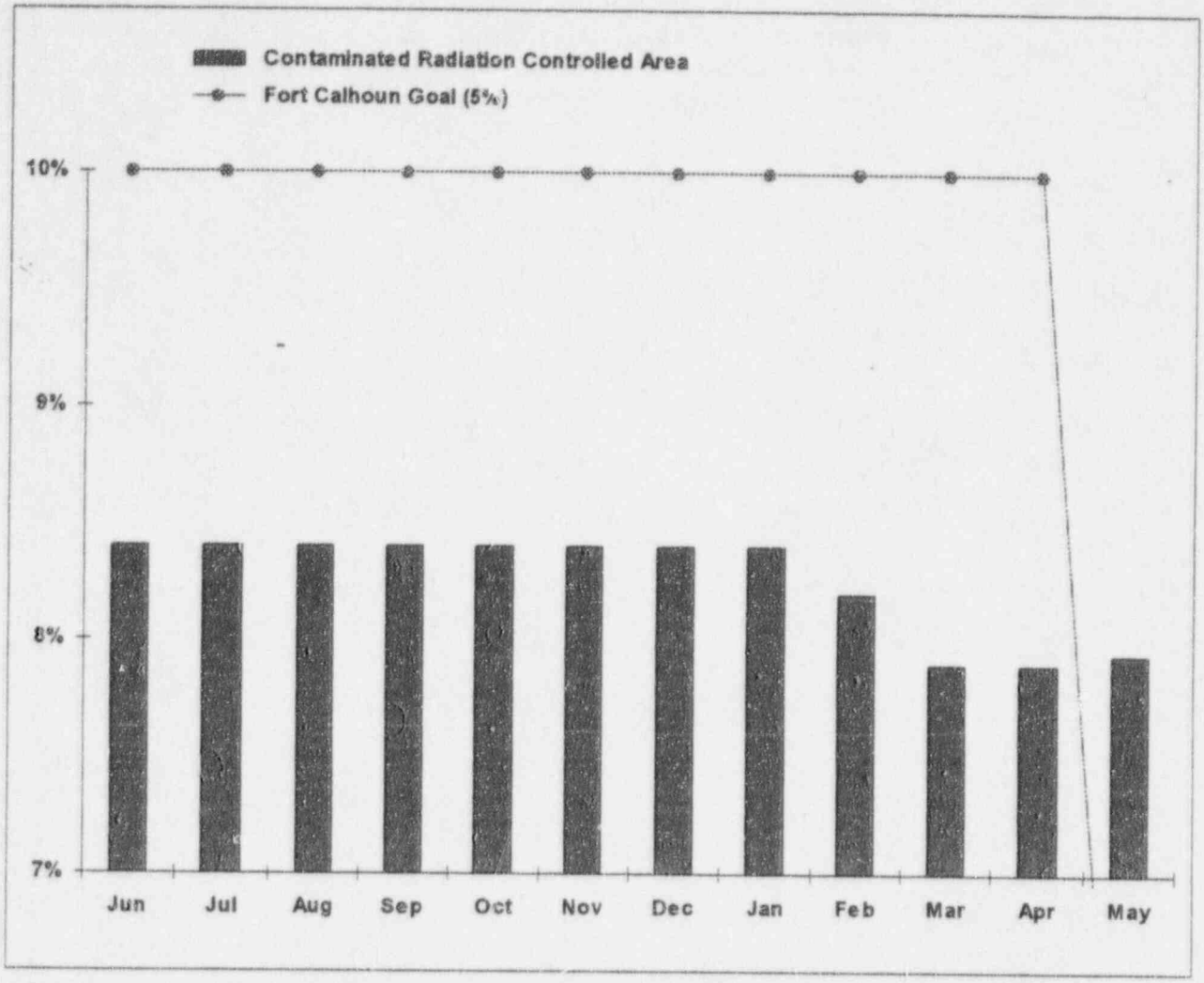
This indicator shows the total amount of hazardous waste produced by the Fort Calhoun Station each month, the monthly average goal and the monthly average total for hazardous waste produced during the last 12 months. This hazardous waste consists of non-halogenated hazardous waste, halogenated hazardous waste, and other hazardous waste produced.

During the month of **May 1997**, **0.0** kilograms of non-halogenated, **0.0** kilograms of halogenated and **0.0** kilograms of other hazardous waste were produced.

Hazardous waste is counted based upon a full drum of waste.

The 1997 Fort Calhoun monthly average goal for hazardous waste produced is a maximum of 150 kilograms.

Data Source: Chase/Shubert (Manager/Source)
Accountability: Chase/Hamilton
Trend: Positive

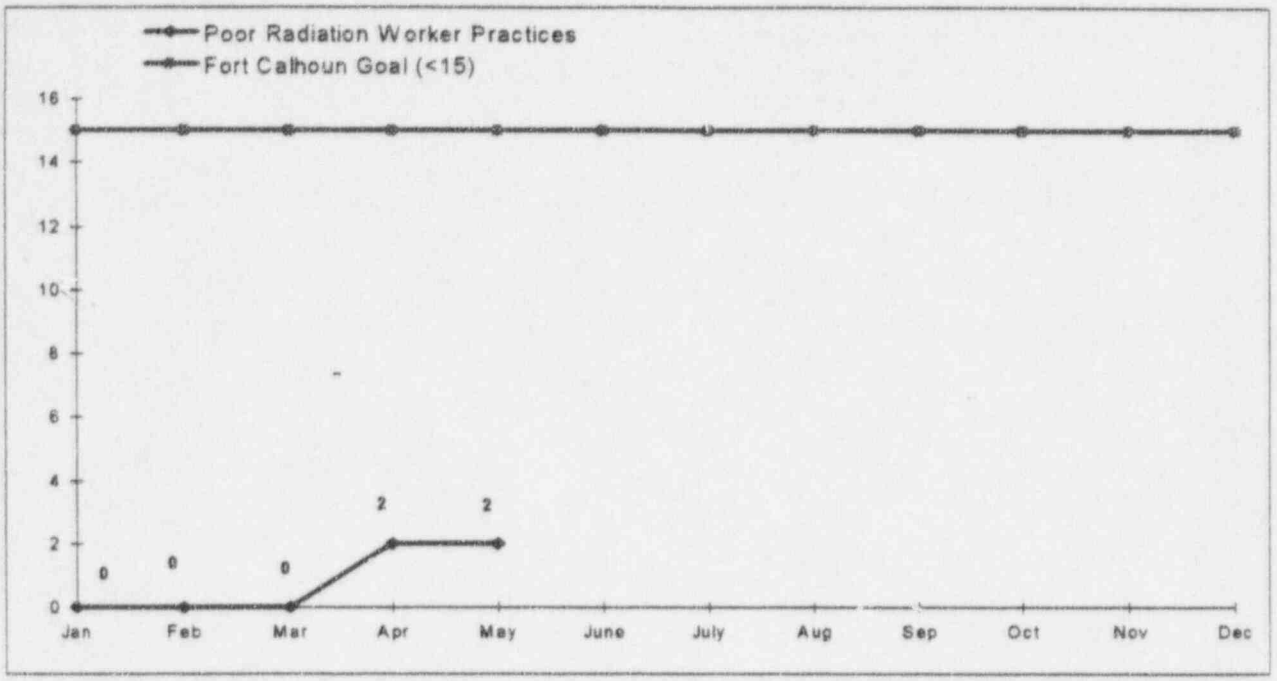


CONTAMINATED RADIATION CONTROLLED AREA

This indicator shows the percentage of the Radiologically Controlled Area that is contaminated based on the total square footage. The 1997 monthly non-outage goal is a maximum of 5.0% contaminated RCA.

At the end of **May 1997**, the percentage of the total square footage of the RCA that was contaminated was **7.9%.**

Data Source:	Chase/Williams (Manager/Source)		
Accountability:	Chase/Gebers		
Trend:	Needs Increased Management Attention	SEP	54



RADIOLOGICAL WORK PRACTICES PROGRAM

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

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

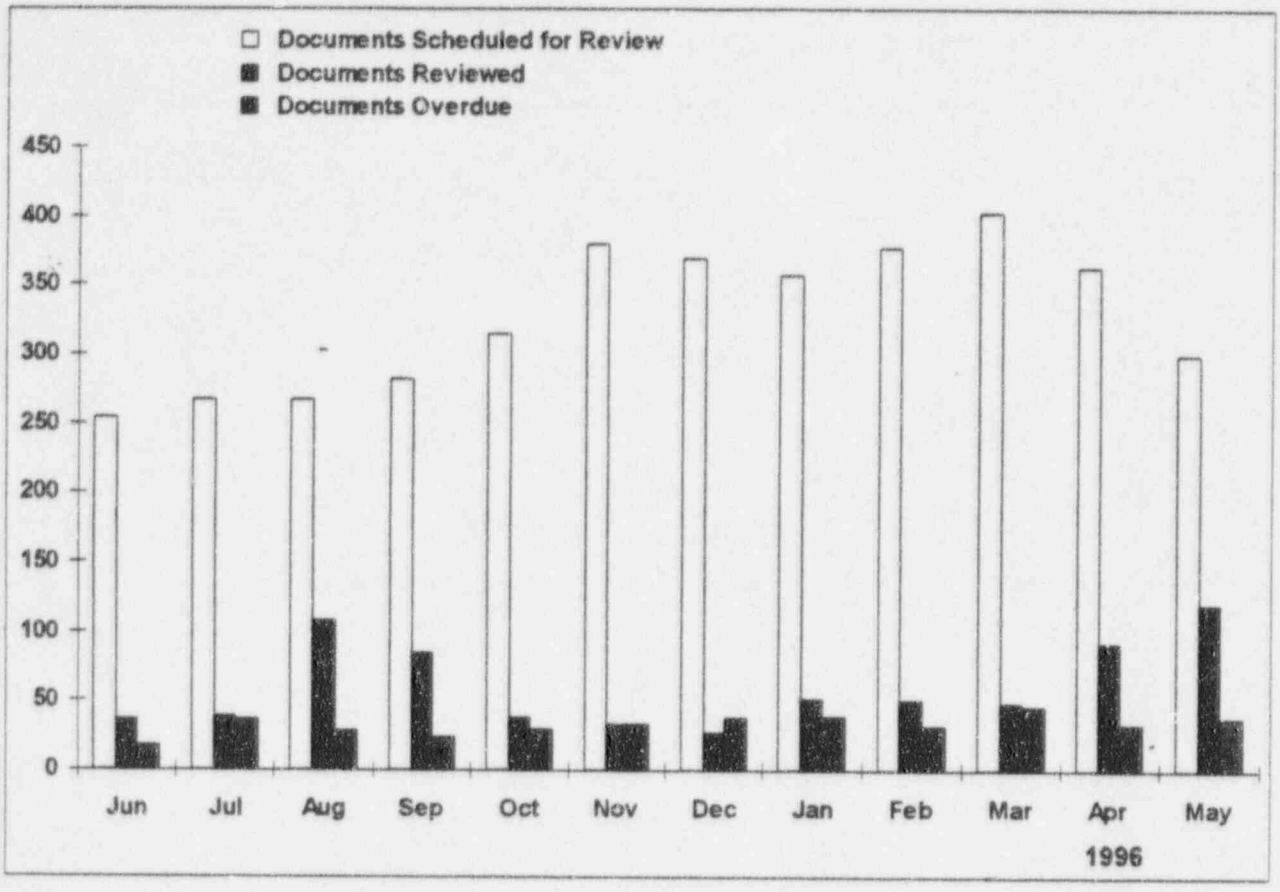
During the month of **May 1997**, there were **2** PRWP identified.

There have been a total of **4** Poor Radiation Worker Practices in 1997.

The Fort Calhoun Station year-end goal for PRWPs is a maximum of 15.

Data Source: Chase/Hamilton (Manager/Source)
Accountability: Chase/Gebers
Trend: None

SEP 52



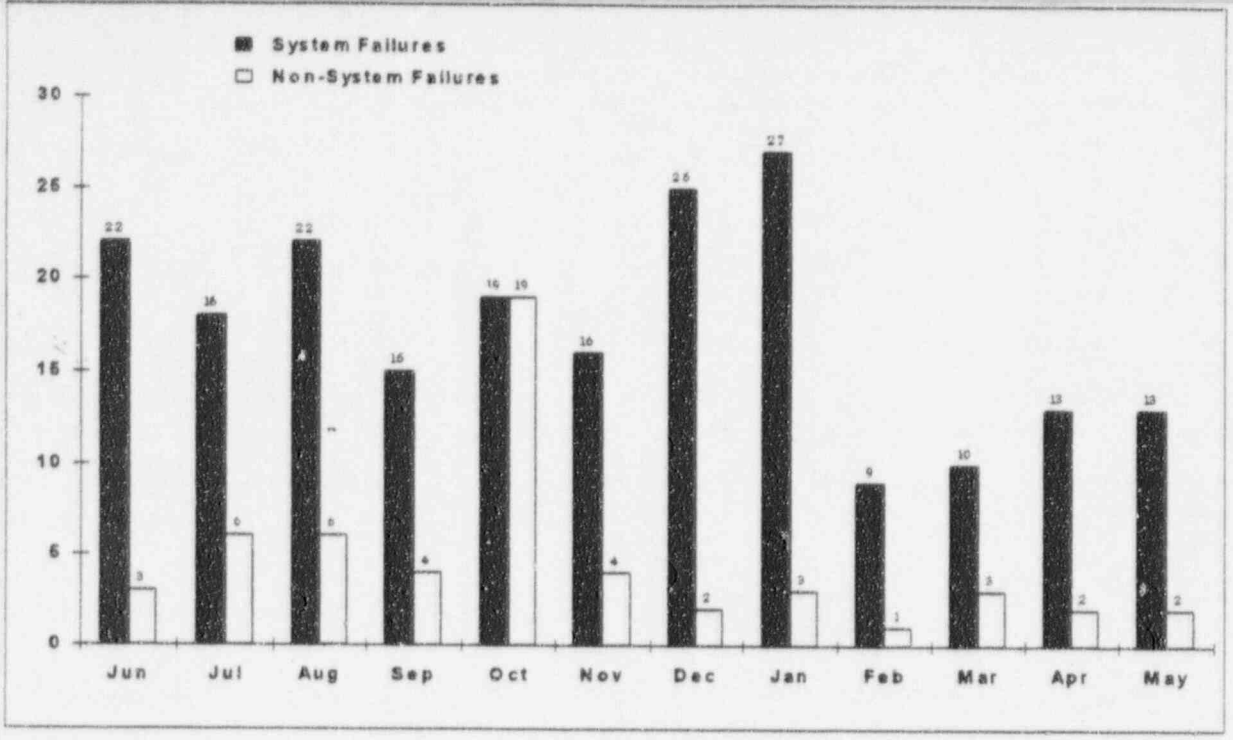
DOCUMENT REVIEW

The Document Review indicator shows the number of completed, scheduled, and overdue (greater than 6 months past the scheduled due date) biennial reviews for the reporting month. The documents reviews are performed in-house and include Special Procedures, the Site Security Plan, Maintenance Procedures, Preventive Maintenance Procedures, and the Operating Manual.

During **May 1997**, there were **300** document reviews scheduled, while **120** reviews were completed. At the end of the month, there were **37** document reviews more than 6 months overdue. There was **7** new documents initiated during **May 1997.**

Data Source: Chase/Plath
Accountability: Chase/Skiles
Trend: None

SEP 46



LOGGABLE/REPORTABLE INCIDENTS (SECURITY)

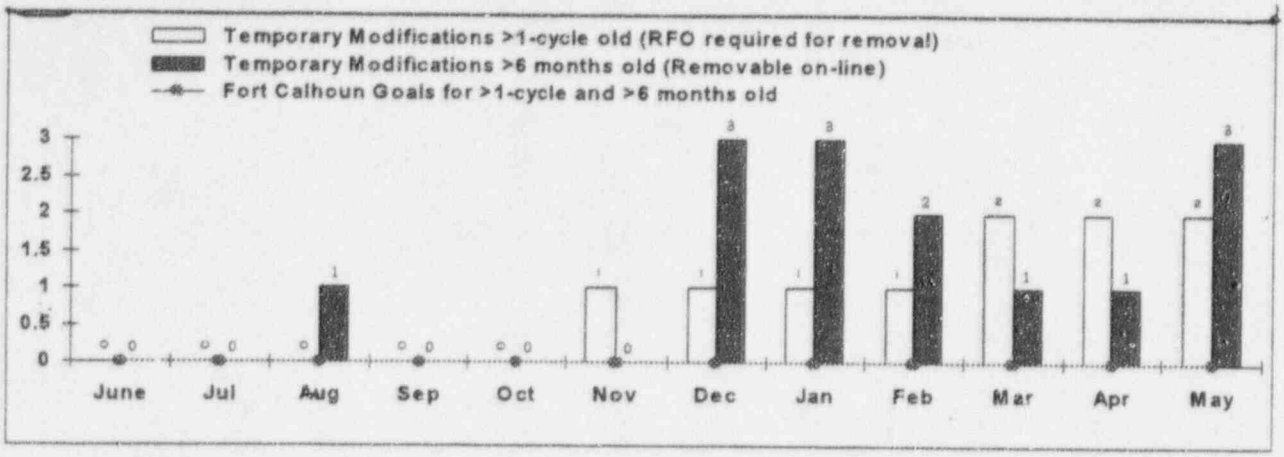
The Loggable/Reportable Incidents (Security) Indicator is depicted in the above graphics display. The graph depicts the total number of loggable/reportable non-system failures and system failures which occurred during the reporting month.

During the month of **May 1997**, there were **15** loggable/reportable incidents identified. System failures accounted for 87% of the total failures. Six (6) of the thirteen (13) non-environmental system failures (47%), involved the x-ray machine. I&C technicians are currently working with the vendor attempting to solve the problem. There were no environmental failures during the reporting month. The two non-system failures consisted of one security force error, and one error involving visitor control.

This indicator provides information on security performance for Safety Enhancement Program (SEP) Item No. 58.

Data Source: Sefick/Woerner (Manager/Source)
Accountability: Sefick
Trend: None

SEP 58



TEMPORARY MODIFICATIONS

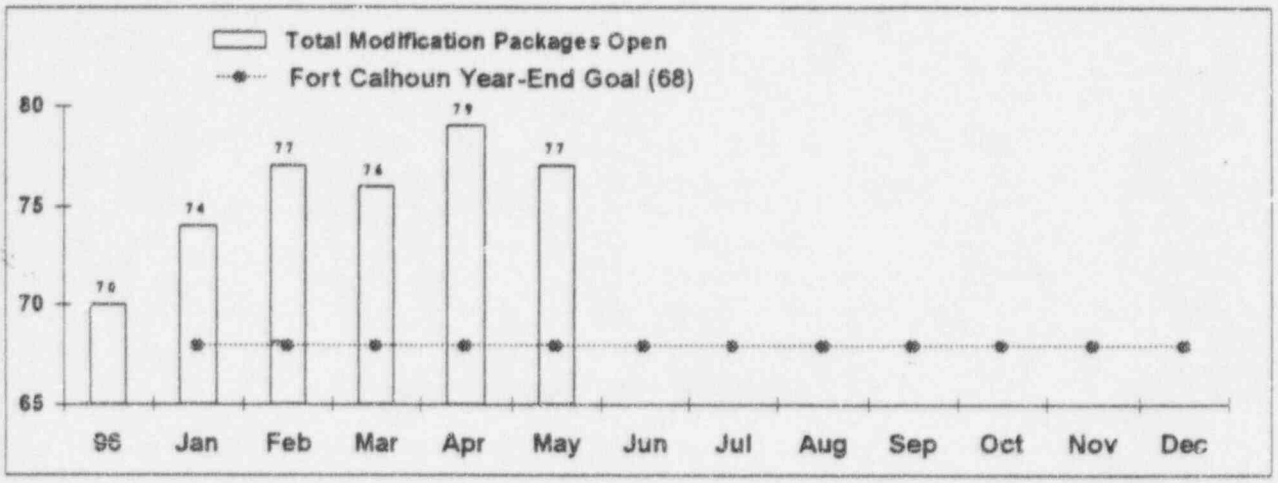
This indicator provides information on the number of temporary modifications (TMs) greater than one fuel cycle old requiring a refueling outage (RFO) for removal and the number of temporary modifications removable on-line that are greater than six months old. The 1997 Fort Calhoun monthly goals for this indicator are zero.

There are currently **two (2)** temporary modifications that are greater than one-fuel cycle old requiring an outage for removal. TM 96-014, Reactor Coolant Gas Vent Line Pressure High Alarm. Repairs for this temporary modification were completed during the 1996 RFO, but the reactor coolant gas vent line pressure is still high. MR-FC-97-011 was initiated to solve this problem and currently DEN is developing a planning estimate for this modificaton. TM 96-018, equipment drain header soft rubber patch. MWO 963468 is ready to work for removal of this TM. MWO 963468 is expected to be completed during the 1998 RFO. TM 96-046 was still installed at the end of **May 1997**,but was removed on June 2, 1997.

At the end of **May 1997**, there were three **(3)** TMs installed That were greater than six months old that could be removed on-line. TM 96-022 containment low flow purge, was installed on June 14, 1996. ECN 96-450 was initiated to allow this TM to be a permanent installation. ECN 96-450 is expected to be completed and TM 96-022 removed by July 15, 1997. TM 96-039, Railroad Siding/Corridor 26 door. Was installed November 1. 1996. System Engineering is required to initiate closing ducumentation for this TM. TM 96-039 is expected to be removed by September 1, 1997. TM 96-046, SI-7B charging valve was installed November 26, 1996.

At the end of May 1997, there was a total of **11 TMs** in the Fort Calhoun Station. **Six (6)** of the **11** installed TMs require an outage for removal and **5** are removable on-line. In 1997, a total of **9** temporary modifications have been installed. At the end of **May 1997**, there were **two (2)** procedural or maintenance configuration alterations (temporary modifications) installed using PRC approved procedures. These procedural or maintenance configuration alterations are controlled by Standing Order O-25

Data Source: Phelps/Frank (Manager/Source)
Accountability: Phelps/Core
Trend: Increased Management Attention SEP 62 & 71



OUTSTANDING MODIFICATIONS

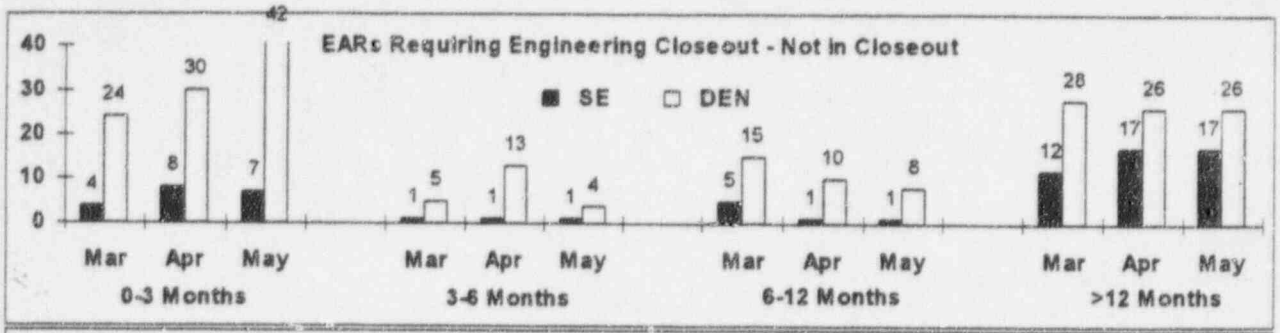
This indicator shows the total number of outstanding modifications (excluding outstanding modifications which are proposed to be cancelled).

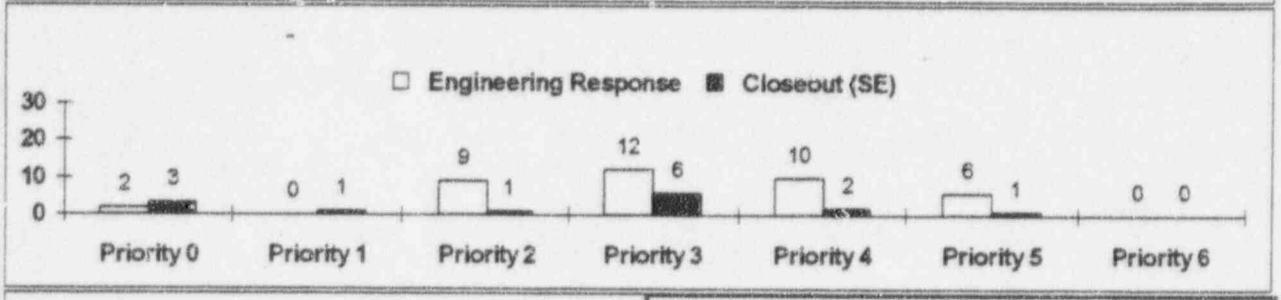
Category	'94	'95	'96	'97	'98	'99	Reporting Month
Form FC-1133 Backlog/In Progress	0	0	0	1	0	0	1
Mod. Requests Being Reviewed	0	0	0	2	4	5	11
Design Engr. Backlog/In Progress	0	0	0	0	18	0	18
Construction Backlog/In Progress	4	2	11	3	1	0	21
Design Engr. Update Backlog/In Progress	3	11	12	0	0	0	26
Totals	7	13	23	6	23	5	77
(Outage + OnLine)	(0+2)	(5+8)	(14+9)	(2+4)	(21+2)	(3+2)	

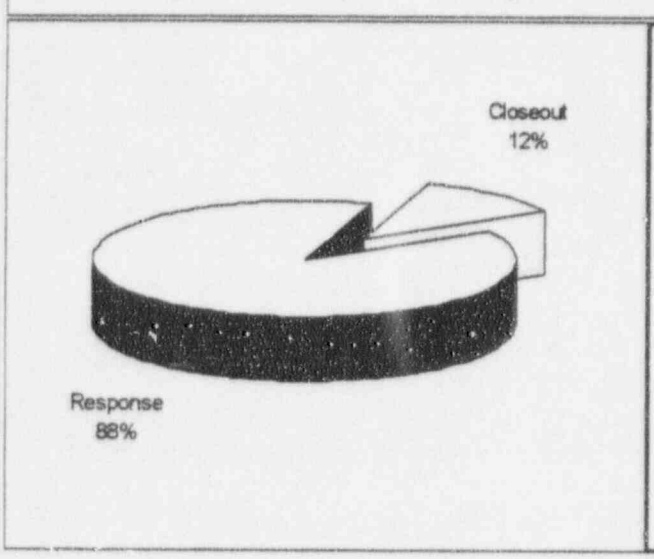
At the end of **May 1997**, **22** modification requests have been issued this year and **2** modification requests have been cancelled. The Nuclear Projects Review Committee (NPRC) has conducted **50** backlog modification request reviews this year. The Nuclear Projects Committee (NPC) has completed **0** backlog modification request reviews this year.

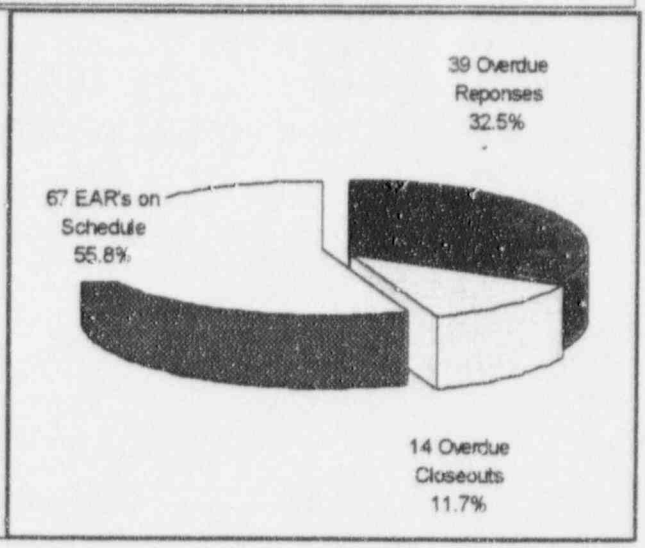
The 1997 year-end Fort Calhoun goal for this indicator is a maximum of 68 outstanding modifications.

Data Source: Jaworski/Walling (Manager/Source)
Lounsberry/Belek (Manager/Source)
Accountability: Lounsberry/Jaworski
Trend: None









ENGINEERING ASSISTANCE REQUEST BREAKDOWN

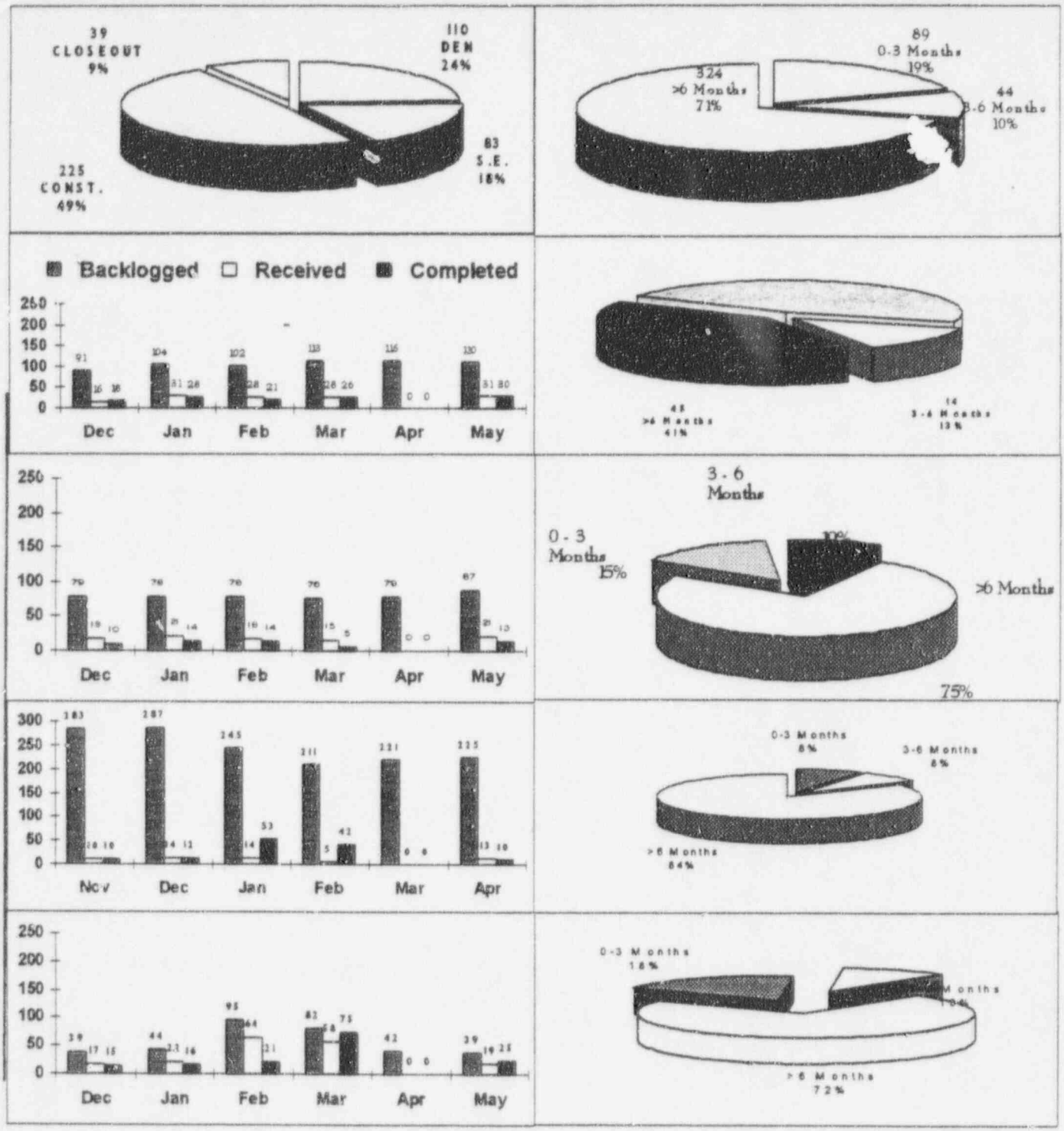
This indicator shows a breakdown of the number of EARs assigned to Design Engineering and System Engineering. The 1997 year-end goal for this indicator is a maximum of 140 outstanding EARs.

The Total EAR breakdown is as follows:

EARs opened during the month	9
EARs closed during the month	13
Total EARs open at the end of the month	120

Data Source: Jaworski/Livingston (Manager/Source)
Accountability: Phelps/Jaworski
Trend: None

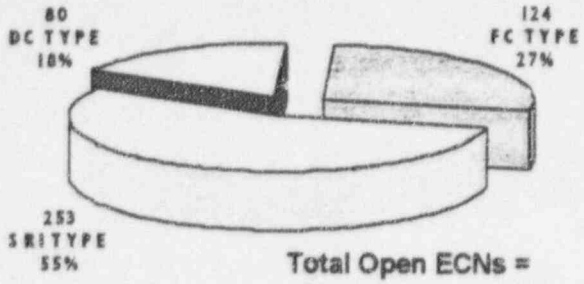
SEP62



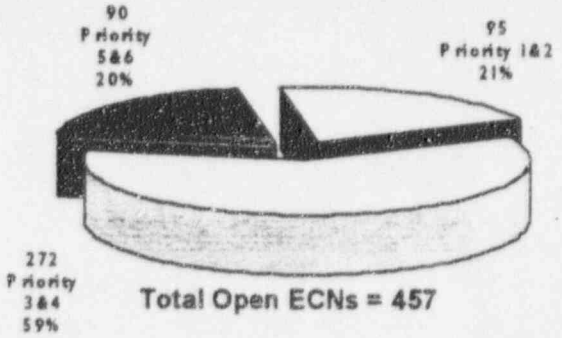
ENGINEERING CHANGE NOTICE STATUS

Data Source: Jaworski/Livingston (Manager/Source)
Accountability: Jaworski/Phelps
Trend: None

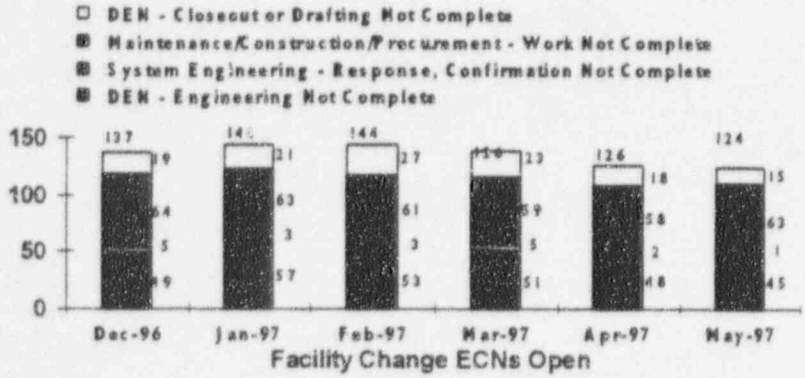
SEP 62



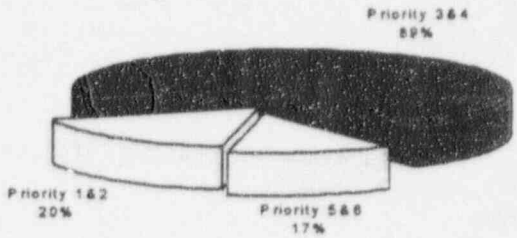
Total Open ECNs = 457

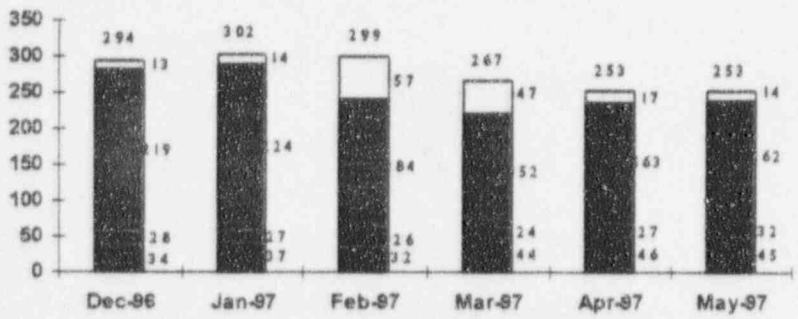


Total Open ECNs = 457

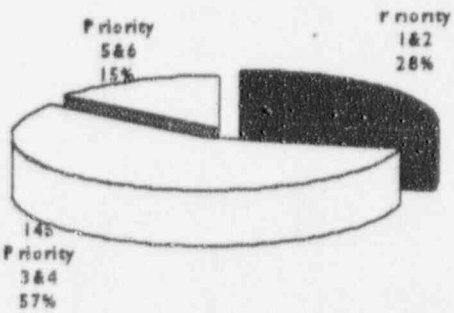


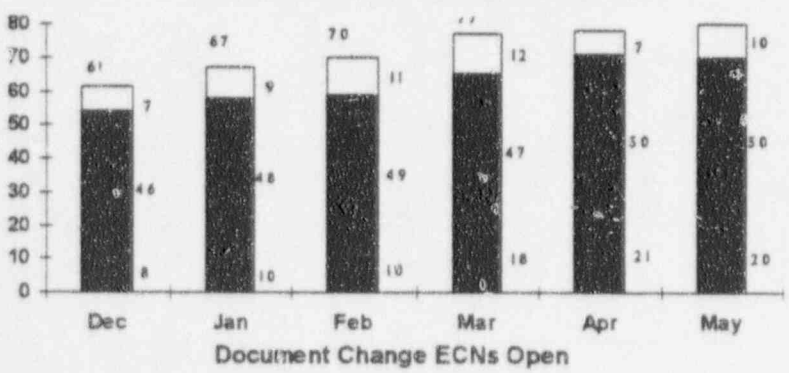
Facility Change ECNs Open



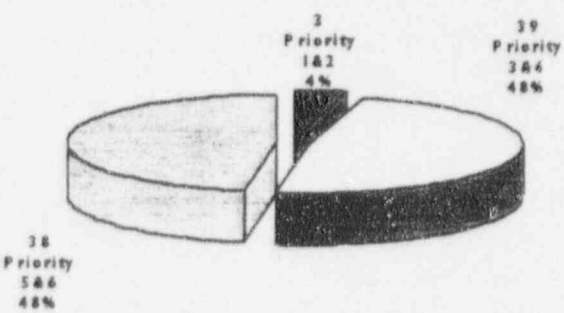


Substitute Replacement Item ECNs Open





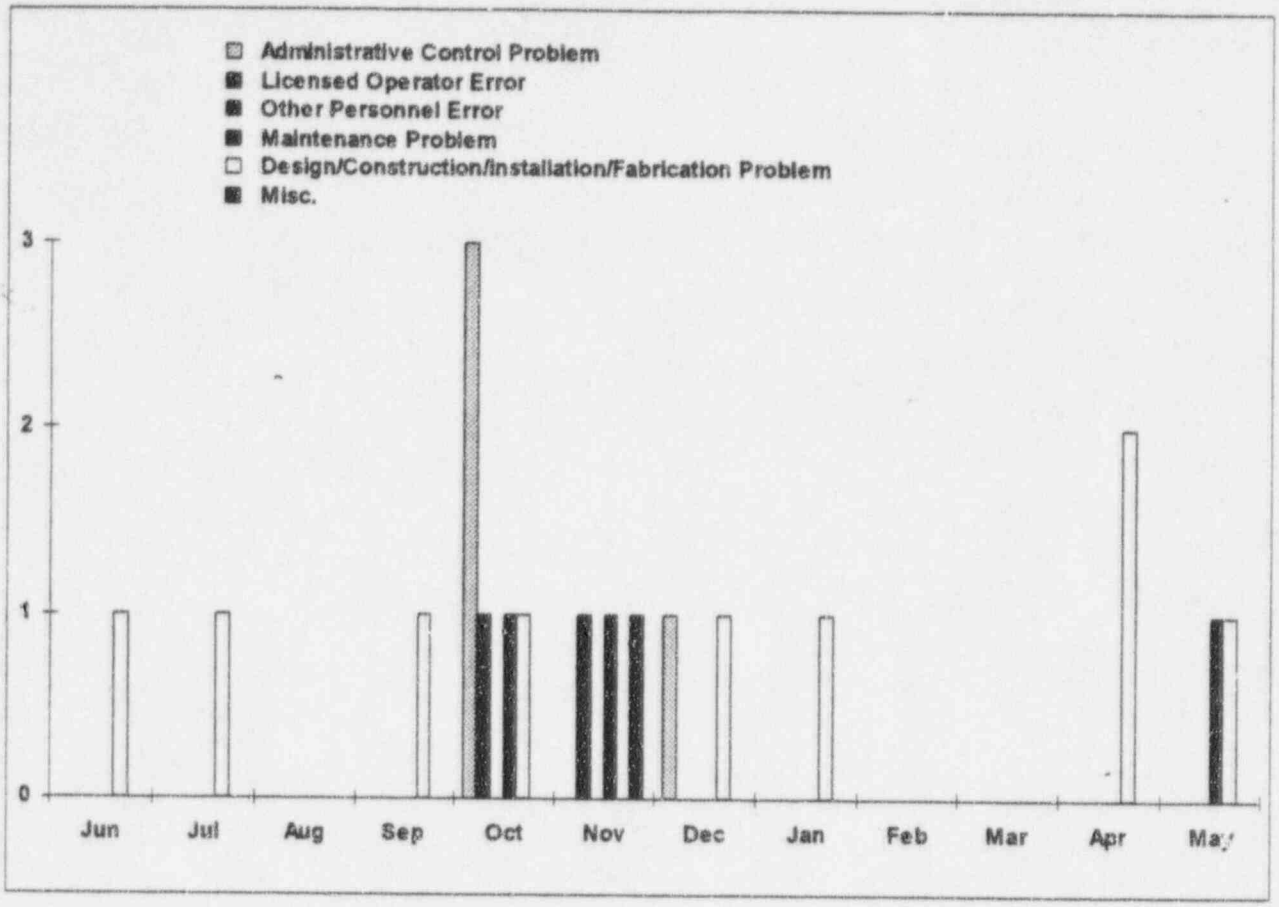
Document Change ECNs Open



ENGINEERING CHANGE NOTICES OPEN

Data Source: Jaworski/Livingston (Manager Source)
Accountability: Phelps/Jaworski
Trend: None

SEP 62



LICENSEE EVENT REPORT (LER) ROOT CAUSE BREAKDOWN

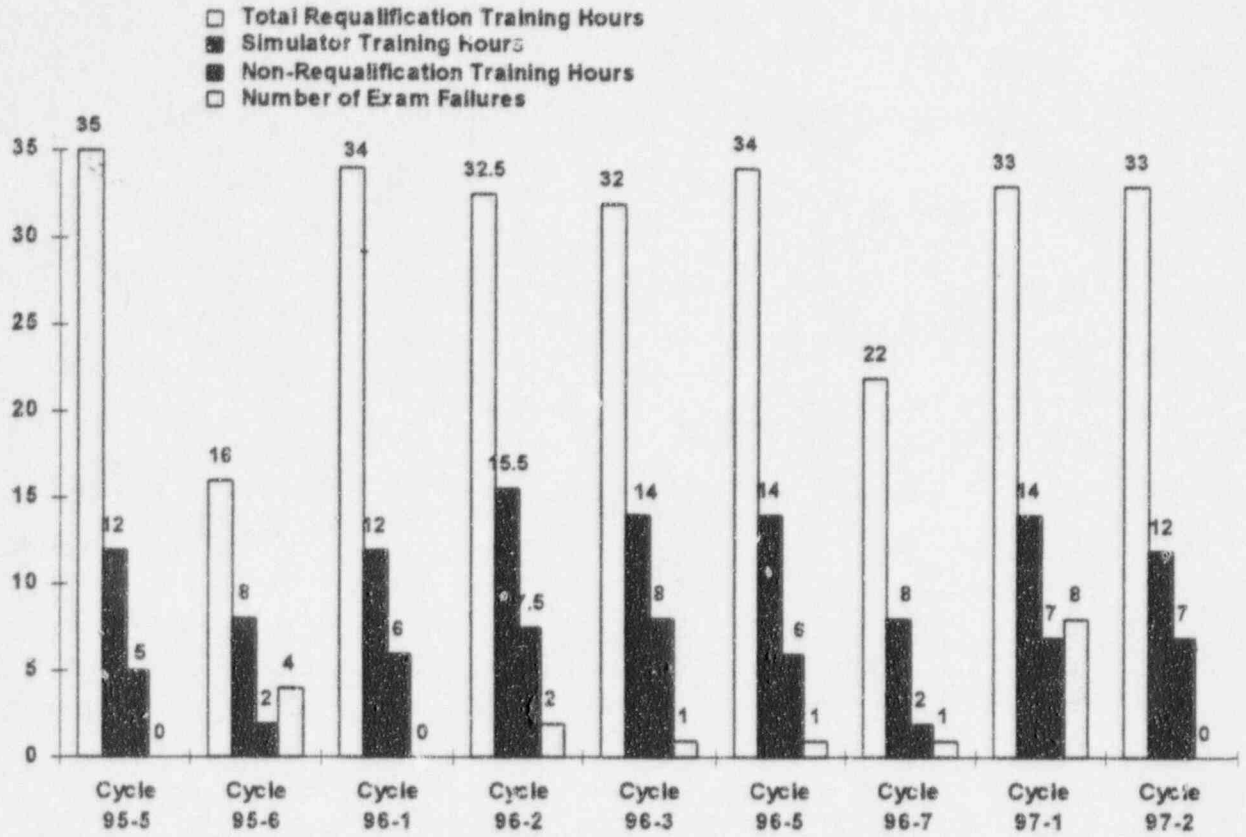
This indicator shows the LERs by event date broken down by Root Cause Code for each of the past twelve months from **June 1, 1996**, through **May 31, 1997**. To be consistent with the Preventable/Personnel Error LERs indicator, this indicator is reported by the LER event date, as opposed to the LER report date.

The cause codes are intended to identify possible programmatic deficiencies. For detailed descriptions of these codes, see the "Performance Indicator Definitions" section of this report.

NOTE: Due to the way LERs are tracked & reported, this indicator is one-month behind.

There were **two** events in **May 1997** that resulted in a LER.

Data Source:	Tills/Cavanaugh (Manager/Source)
Accountability:	Chase
Trend:	None



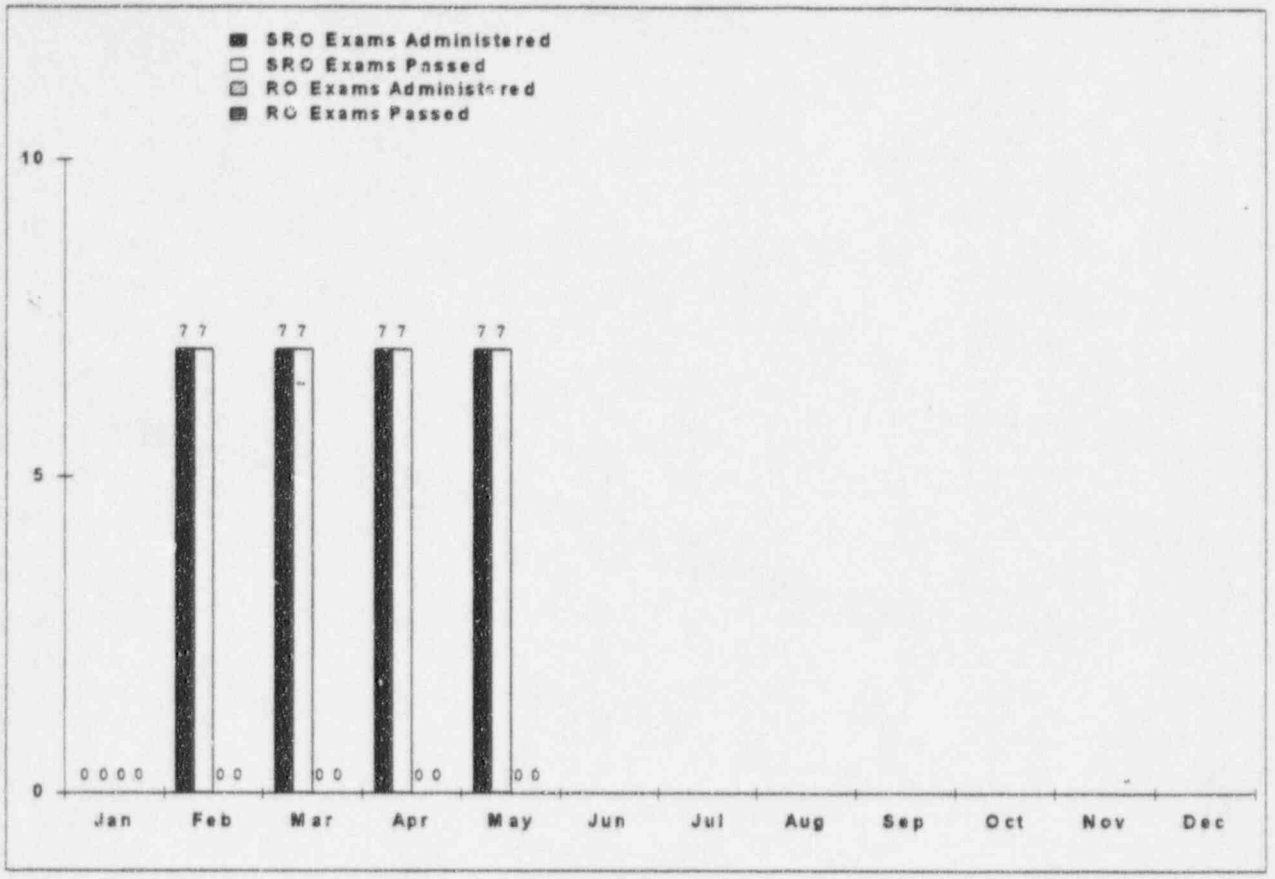
LICENSED OPERATOR REQUALIFICATION TRAINING

This indicator provides information on the total number of hours of training given to each crew during each cycle. The simulator training hours shown on the graph are a subset of the total training hours. Non-Requalification Training Hours are used for AOP/EOP verification & validation, INPO commitments, GET, Fire Brigade, Safety Meetings, and Division Manager lunches.

Exam failures are defined as failures in the written, simulator, and Job Performance Measures (JPMs) segments of the Licensed Operator Requalification Training.

Data Source: Conner/Guliani (Manager/Source)
Accountability: Conner/Guliani
Trend: None

SEP 68



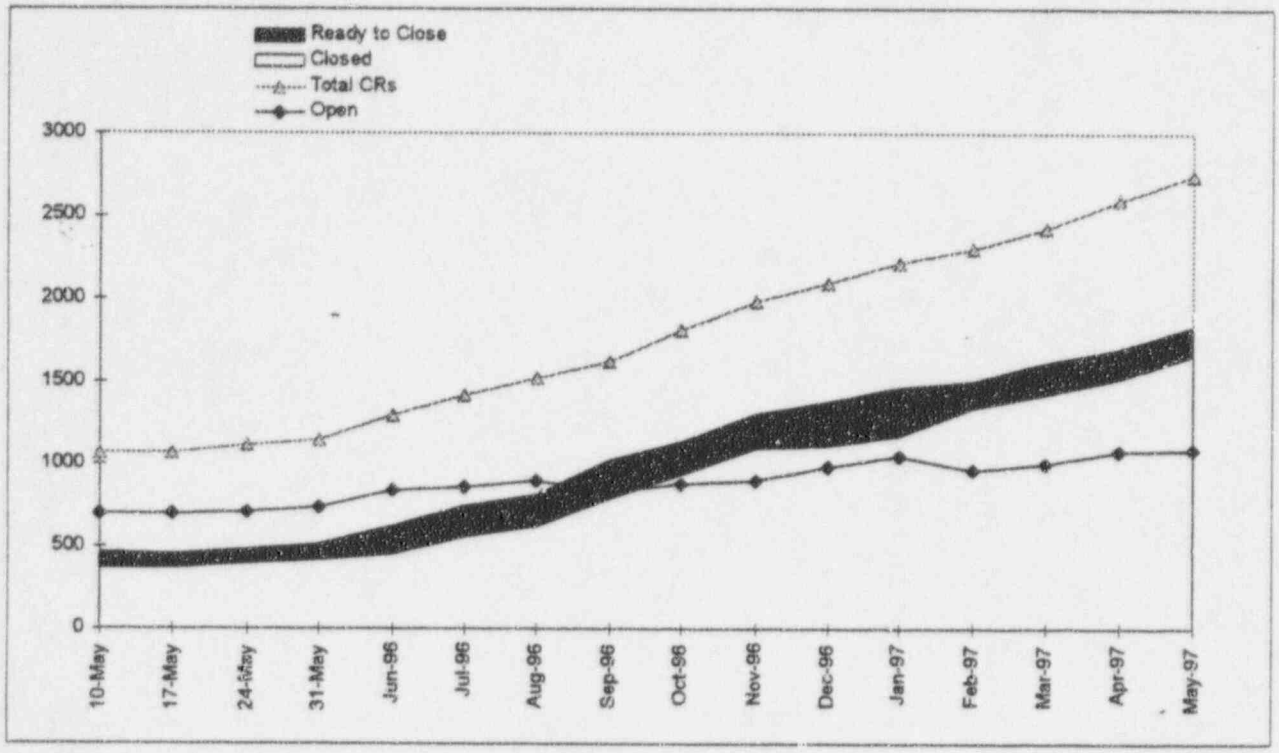
LICENSE CANDIDATE EXAMS - 1997

This indicator shows the number of Senior Reactor Operator (SRO) and Reactor Operator (R0) 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 **May 1997,** there were **7 individuals who passed SRO** comprehensive written exams.

Data Source: Conner/Guliani (Manager/Source)
Accountability: Conner/Guliani
Trend: None

SEP 68



CONDITION REPORTS BY LEVEL

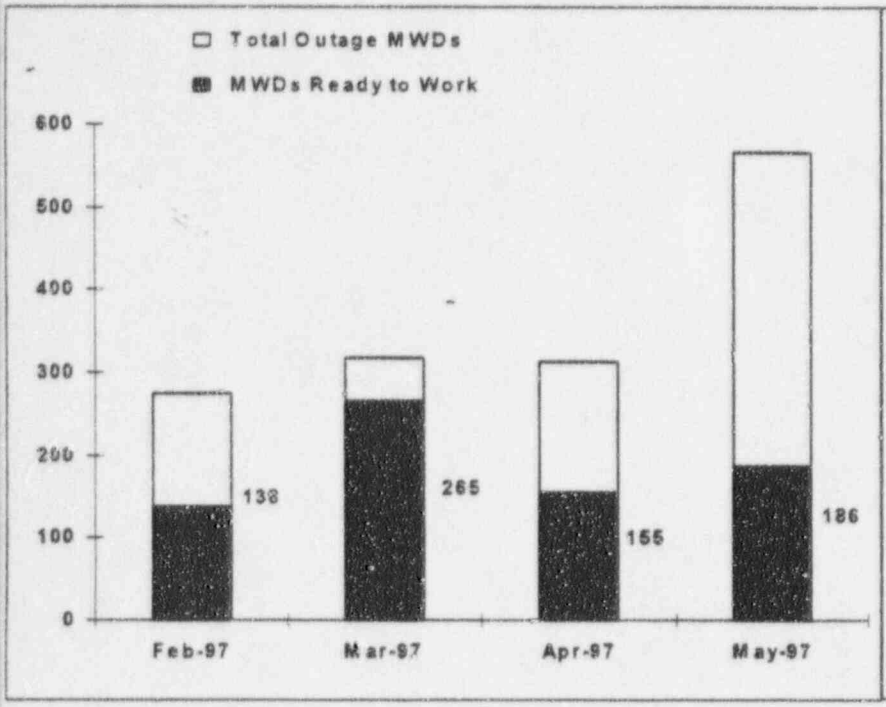
This indicator shows the total number of Condition Reports which are Closed, Ready to Close, Open and the Total Number of Condition Reports to date.

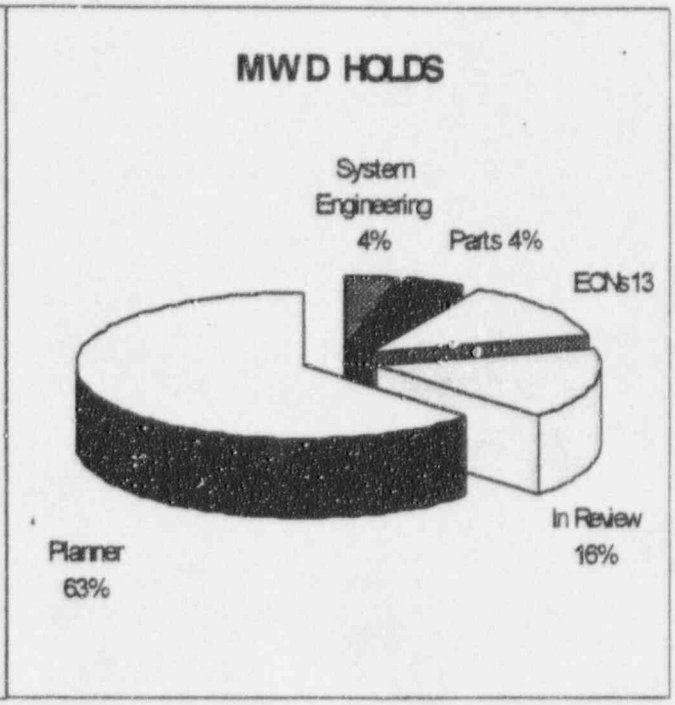
	Level 1	Level 2	Level 3	Level 4	Level 5	Level 6	Total
Open	23	13	109	842	24	67	1088
Closed	11	4	93	985	423	144	1660

168 Condition Reports are classified as READY to CLOSE.

At the end of February 1997, all **"OPEN"** Incident Reports are closed.

Data Source: Tesar/Burggraf (Manager/Source)
Accountability: Andrews/Gambhir
Trend : None





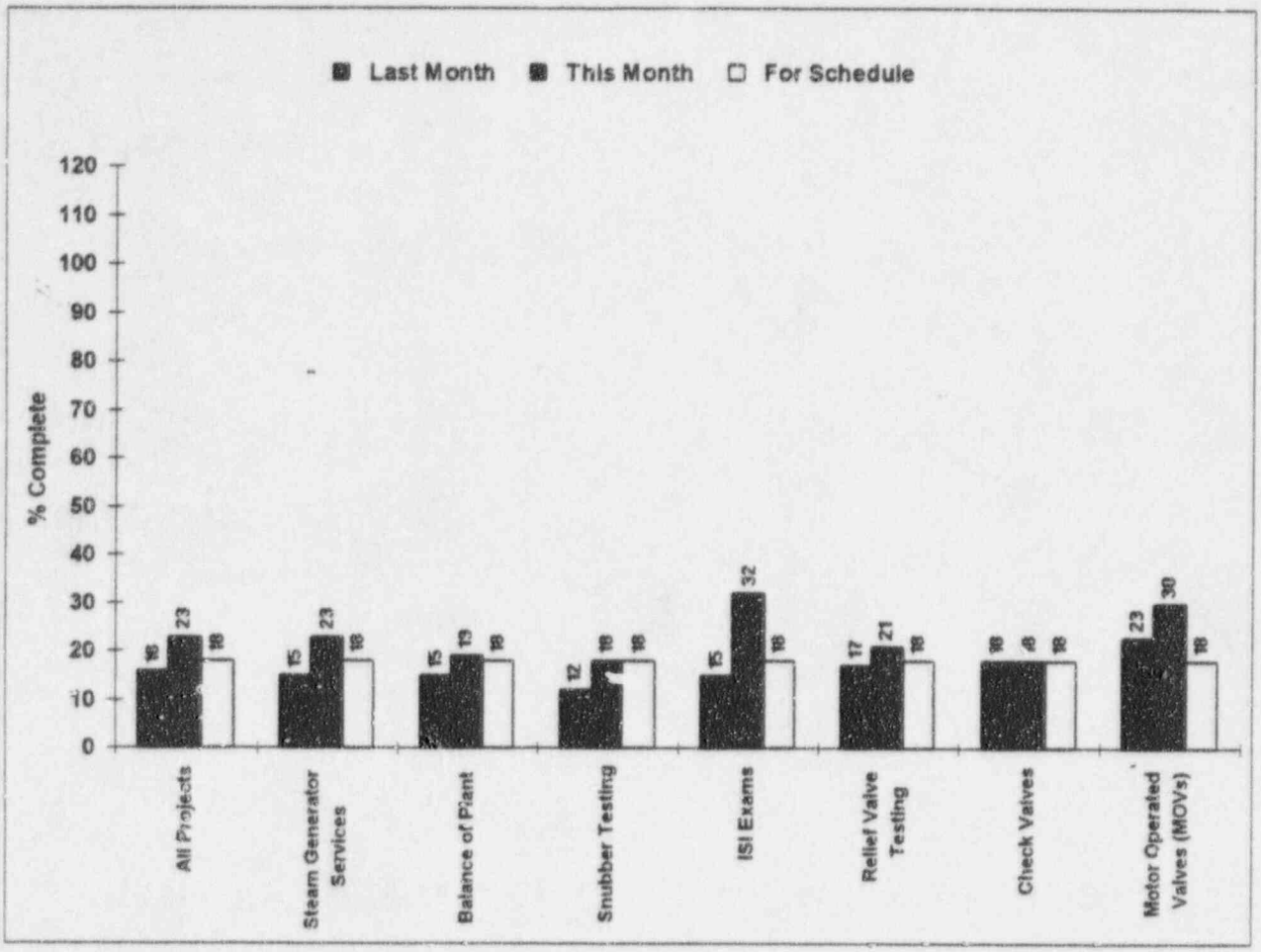
MWD PLANNING STATUS (CYCLE 18 REFUELING OUTAGE)

This indicator shows the total number of Maintenance Work Requests (MWRs) and Maintenance Work Documents (MWDs) that have been approved for inclusion in the Cycle 18 Refueling Outage. This graph indicates:

- Parts Holds - Planning Complete, Awaiting Parts
- System Engineering Holds - Awaiting System Engineering Input to Planning
- Planner Holds - Maintenance Planner has not completed planning the work package.
- ECN Hold - Awaiting Substitute Replacement Items ECN from DEN.

Data Source: Chase/Johnson (Manager/Source)
Accountability: Chase/Herman
Trend: None

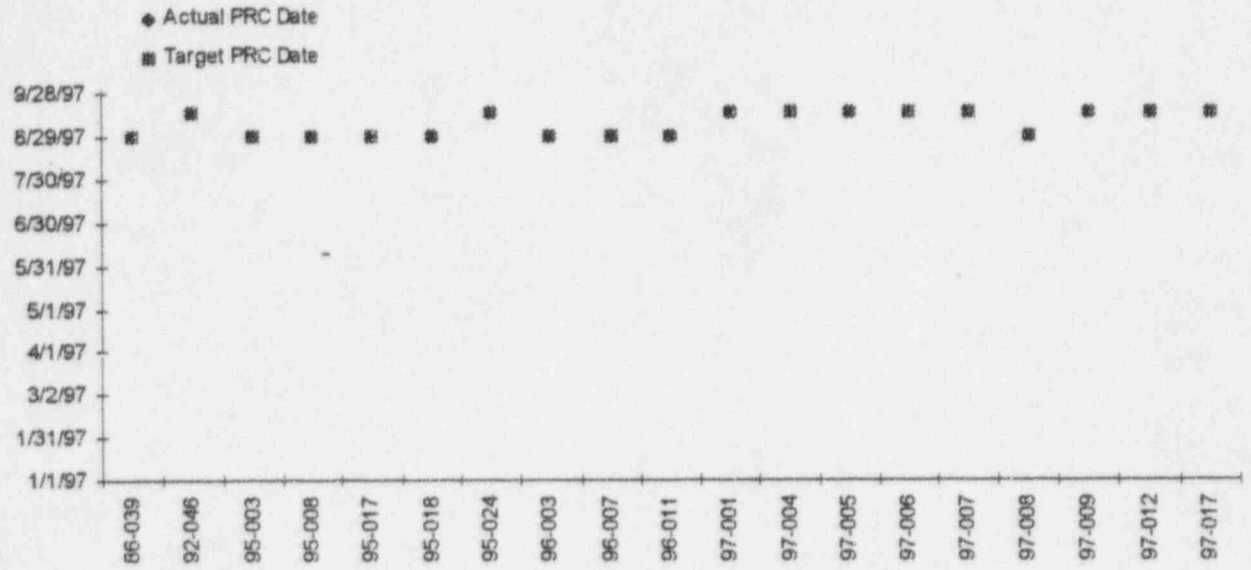
SEP 31



SPECIAL SERVICES ENGINEERING DEPARTMENT
1998 OUTAGE PROJECTS STATUS REPORT
1-June-97

Data Source: Phelps/Swearngin (Manager/Source)
Accountability: Phelps/Boughter
Trend: None

SEP 31



PROGRESS OF 1998 REFUELING OUTAGE MODIFICATIONS CYCLE 18

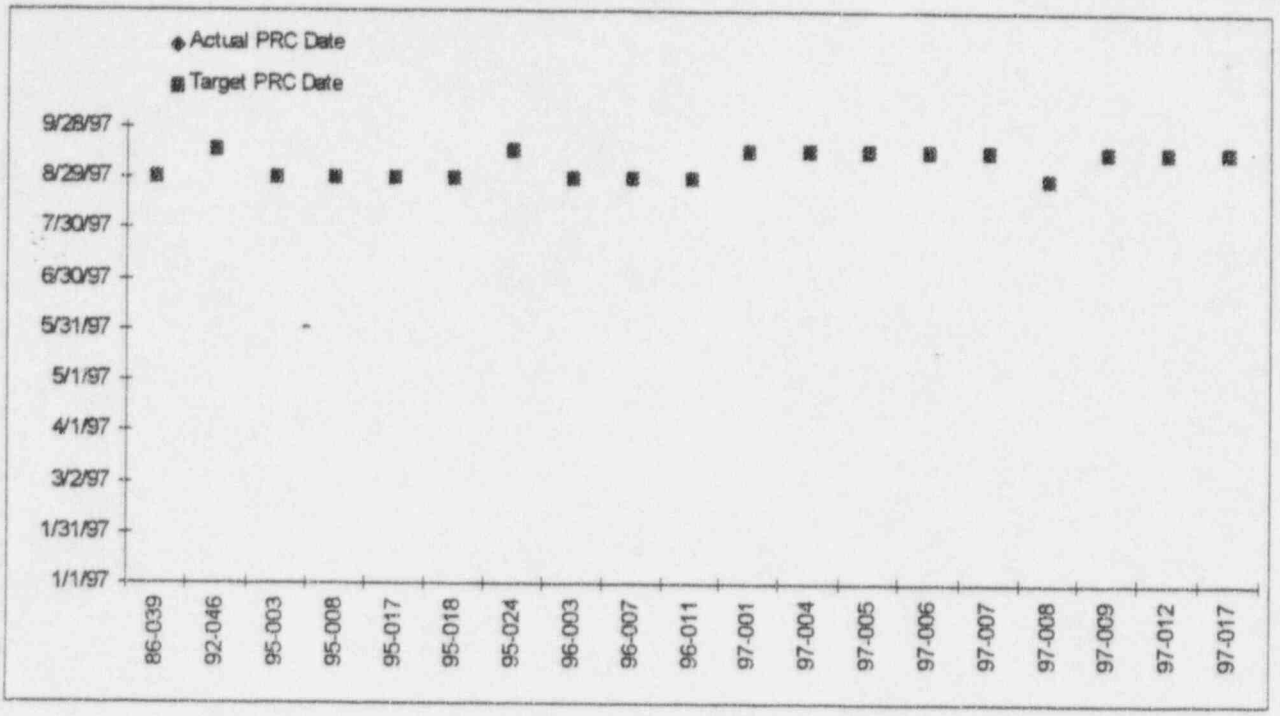
This indicator shows the status of Modifications approved for installation during the Cycle 18 Refueling Outage (March 1998).

The goal for this indicator is to have all modification packages which were identified prior to March 20, 1997, PRC approved by September 15, 1997.

May 1997 Modifications added: **0** Deleted = **0**

Data Source: Jaworski/Walling (Manager/Source)
Accountability: Gambhir/Jaworski
Trend: None

SEP 31



PROGRESS OF CYCLE 18 OUTAGE
MODS ADDED TO '98 REFUELING OUTAGE AFTER FREEZE DATE

This indicator will show the status of modifications approved for installation during the Cycle 18 Refueling Outage. Since the baseline schedule has yet to be established, there is no information available at this time. The goal for this indicator is to have all modification packages PRC approved by their target date.

May 1997

Modifications Added: **= 1** Deleted = **0**

Data Source: Jaworski/Walling (Manager/Source)
Accountability: Gambhir/Jaworski
Trend: None

SEP 31

No Data Available

PROGRESS OF 1997 ON-LINE MODIFICATION PLANNING

This indicator shows the status of modifications approved or in review for approval for on-line installation during 1997. Modifications added to the on-line list after March 20, 1997 freeze date are FC 97-D16 (tornado venting) and FC 97-003 (supplemental cooling for FW-3). No PRC target approval date available, requires planning estimate.

The goal for this indicator is to have all modification packages PRC approved by their scheduled date.

May 1997
Modifications Added: **2** Deleted = **0**

Data Source: Jaworski/Walling (Manager/Source)
Accountability: Gambhir/Jaworski
Trend: None

SEP 33

ACTION PLANS

Action Plans

This section lists action plans that have been developed for the performance indicators cited as Adverse Trends during the month preceding this report. Also included are Action Plans for indicators that have been cited in the preceding month's report as Needing Increased Management Attention for three (3) consecutive months.

In accordance with Revision 3 of NOD-QP-37, the following performance indicators would require action plans based on three (3) consecutive months of performance cited as "Needing Increased Management Attention":

- **Maintenance Workload Backlogs** (page 39)

A Work Management System improvement project is currently in progress. The purpose of this project is to stream line the maintenance process at Fort Calhoun Station. This will significantly improve our "WRENCH TIME" by removing inefficiencies and related hurdles that prevent work from being accomplished in a timely manner. In addition, it is expected that schedule compliance will also increase and our maintenance backlog will decrease. This project is scheduled to be fully implemented by July 1997.

PERFORMANCE INDICATOR DEFINITIONS

AUXILIARY FEEDWATER SYSTEM SAFETY SYSTEM PERFORMANCE

The sum of the known (planned and unplanned) unavailable hours and the estimated unavailable hours for the auxiliary feedwater system for the reporting period divided by the critical hours for the reporting period multiplied by the number of trains in the auxiliary feedwater system.

COLLECTIVE RADIATION EXPOSURE

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 person-rem. This indicator tracks radiological work performance for SEP #54.

COMPONENT FAILURE ANALYSIS REPORT (CFAR) SUMMARY

The summary of INPO categories for Fort Calhoun Station with significantly higher (1.645 standard deviations) failure rates than the rest of the industry for an eighteen-month time period. Failures are reported as component (i.e., pumps, motors, main steam stop valves, control element motors, etc.) categories.

Failure Cause Categories are:

Age/Normal Use -thought to be the consequence of expected wear, aging, end-of-life, or normal use .

Manufacturing Defect - a failure attributable to inadequate assembly or initial quality of the responsible component or system.

Engineering/Design - a failure attributable to the inadequate design of the responsible component or system.

Other Devices - a failure attributable to a failure or misoperation of another component or system, including associated devices.

Maintenance/Action - resulting from improper maintenance, lack of maintenance, or personnel errors that occur during maintenance activitieson the component..

Testing Action - resulting from improper testing or personnel errors that occur during testing activities.

Initial Installation Error - caused by improper initial installation of equipment

CENTS PER KILOWATT HOUR

The purpose of this indicator is to quantify the economical operation of Fort Calhoun Station. The cents per kilowatt hour indicator represents the budget and actual cents per kilowatt hour on a twelve-month average for the current year. The basis for the budget curve is the approved yearly budget. The basis for the actual curve is the Financial and Operating Report.

CLEAN CONTROLLED AREA CONTAMINATIONS ≥ 1,000 DISINTEGRATIONS/MINUTE PER PROBE AREA

The personnel contamination events in the clean controlled area. This indicator tracks personnel performance for SEP #15 & 54.

CONTAMINATED RADIATION CONTROLLED AREA

The percentage of the Radiation Controlled Area, which includes the auxiliary building, the radwaste building, and areas of the C/RP building, that is contaminated based on the total square footage. This indicator tracks performance for SEP #54.

DAILY THERMAL OUTPUT

This indicator shows the daily core thermal output as measured from computer point XC105 (in thermal megawatts). The 1500 MW Tech Spec limit, and the unmet portion of the 1495 MW FCS daily goal for the reporting month are also shown.

DIESEL GENERATOR RELIABILITY (25 Demands)

This indicator shows the number of failures occurring for each emergency diesel generator during the last 25 start demands and the last 25 load-run demands.

DISABLING INJURY/ILLNESS FREQUENCY RATE (LOSS 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 SEP #25, 26 & 27.

DOCUMENT REVIEW (BIENNIAL)

The Document Review Indicator shows the number of documents reviewed, the number of documents scheduled for review, and the number of document reviews that are overdue for the reporting month. A document review is considered overdue if the review is not complete within six months of the assigned due date. This indicator tracks performance for SEP #46.

EMERGENCY AC POWER SYSTEM SAFETY SYSTEM PERFORMANCE

The sum of the known (planned and unplanned) unavailable and the estimated unavailable hours for the emergency AC power system for the reporting period divided by the number of hours in the reporting period multiplied by the number of trains in the emergency AC power system.

PERFORMANCE INDICATOR DEFINITIONS

EMERGENCY DIESEL GENERATOR UNIT RELIABILITY

This indicator shows the number of failures that were reported during the last 20, 50, and 100 emergency diesel generator demands at the Fort Calhoun Station. Also shown are trigger values which correlate to a high level of confidence that a unit's diesel generators have obtained a reliability of greater than or equal to 95% when the demand failures are less than the trigger values.

1) **Number of Start Demands:** All valid and inadvertent start demands, including all start-only demands and all start demands that are followed by load-run demands, whether by automatic or manual initiation. A start-only demand is a demand in which the emergency generator is started, but no attempt is made to load the generator.

2) **Number of Start Failures:** Any failure within the emergency generator system that prevents the generator from achieving specified frequency and voltage is classified as a valid start failure. This includes any condition identified in the course of maintenance inspections (with the emergency generator in standby mode) that definitely would have resulted in a start failure if a demand had occurred.

3) **Number of Load-Run Demands:** For a valid load-run demand to be counted, the load-run attempt must meet one or more of the following criteria:

   A) A load-run of any duration that results from a real automatic or manual initiation.

   B) A load-run test to satisfy the plant's load and duration as stated in each test's specifications.

   C) Other special tests in which the emergency generator is expected to be operated for at least one hour while loaded with at least 50% of its design load.

4) **Number of Load-Run Failures:** A load-run failure should be counted for any reason in which the emergency generator does not pick up load and run as predicted. Failures are counted during any valid load-run demands.

5) **Exceptions:** Unsuccessful attempts to start or load-run should not be counted as valid demands or failures when they can be attributed to any of the following:

   A) Spurious trips that would be bypassed in the event of an emergency.

   B) Malfunction of equipment that is not required during an emergency.

   C) Intentional termination of a test because of abnormal conditions that would not have resulted in major diesel generator damage or repair.

   D) Malfunctions or operating errors which would not have prevented the emergency generator from being restarted and brought to load within a few minutes.

   E) A failure to start because a portion of the starting system was disabled for test purpose, if followed by a successful start with the starting system in its normal alignment.

Each emergency generator failure that results in the generator being declared inoperable should be counted as one demand and one failure. Exploratory tests during corrective maintenance and the successful test that follows repair to verify operability should not be counted as demands or failures when the EDG has not been declared operable again.

EMERGENCY DIESEL GENERATOR UNRELIABILITY

This indicator measures the total unreliability of emergency diesel generators. In general, unreliability is the ratio of unsuccessful operations (starts or load-runs) to the number of valid demands. Total unreliability is a combination of start unreliability and load-run unreliability.

ENGINEERING ASSISTANCE REQUEST (EAR) BREAKDOWN

This indicator shows a breakdown, by age and priority of the EAR, of the number of EARs assigned to Design Engineering Nuclear and System Engineering. This indicator tracks performance for SEP #62.

ENGINEERING CHANGE NOTICE (ECN) STATUS

The number of ECNs that were opened, ECNs that were completed, and open backlog ECNs awaiting completion by DEN for the reporting month. This indicator tracks performance for SEP #62.

ENGINEERING CHANGE NOTICES OPEN

This indicator breaks down the number of Engineering Change Notices (ECNs) that are assigned to Design Engineering Nuclear (DEN), System Engineering, and Maintenance. The graphs provide data on ECN Facility Changes open, ECN Substitute Replacement Items open, and ECN Document Changes open. This indicator tracks performance for SEP #62.

EQUIPMENT FORCED OUTAGES PER 1,000 CRITICAL HOURS

Equipment forced outages per 1,000 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 (1,000 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.

PERFORMANCE INDICATOR DEFINITIONS

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 start-up 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 operation for at least three days at a power level that does not vary more than + or -5%. Plants should collect data for this indicator at a power level above 85%, when possible. Plants that did not operate at steady-state power above 85% should collect data for this indicator at the highest steady-state power level attained during the month.

The density correction factor is the ratio of the specific volume of coolant at the RCS operating temperature (540 degrees F., Vf = 0.02146) divided by the specific volume of coolant at normal letdown temperature (120° F at outlet of the letdown cooling heat exchanger, Vf = 0.016204), which results in a density correction factor for FCS equal to 1.32.

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 FCS each month.

HIGH PRESSURE SAFETY INJECTION SYSTEM SAFETY SYSTEM PERFORMANCE

The sum of the known (planned and unplanned) unavailable hours and the estimated unavailable hours for the high pressure safety injection system for the reporting period divided by the critical hours for the reporting period multiplied by the number of trains in the high pressure safety injection system.

INDUSTRIAL SAFETY ACCIDENT RATE - INPO

This indicator is defined as the number of accidents per 200,000 man-hours worked for all utility personnel permanently assigned to the station that result in any of the following:

1) One or more days of restricted work (excluding the day of the accident);
2) One or more days away from work (excluding the day of the accident); and
3) Fatalities.

Contractor personnel are not included for this indicator.

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).

LICENSE CANDIDATE EXAMS

This indicator shows the number of SRO and/or RO quizzes and exams that are administered and passed each month. This indicator tracks training performance for SEP #68.

LICENSED OPERATOR REQUALIFICATION TRAINING

The total number of hours of training given to each crew during each cycle. Also provided are the simulator training hours (which are a subset of the total training hours), the number of non-REQUALIFICATION training hours and the number of exam failures. This indicator tracks training performance for SEP # 68.

LICENSEE EVENT REPORT (LER) ROOT CAUSE BREAKDOWN

This indicator shows the number and root cause code for Licensee Event Reports. The root cause codes are as follows:

1) **Administrative Control Problem** - Management and supervisory deficiencies that affect plant programs or activities (i.e., poor planning, breakdown or lack of adequate management or supervisory control, incorrect procedures, etc).

2) **Licensed Operator Error** - This cause code captures errors of omission/commission by licensed reactor operators during plant activities.

3) **Other Personnel Error** - Errors of omission/commission committed by non-licensed personnel involved in plant activities.

4) **Maintenance Problem** - The intent of this cause code is to capture the full range of problems which can be attributed in any way to programmatic deficiencies in the maintenance functional organization. Activities included in this category are maintenance, testing, surveillance, calibration and radiation protection.

5) **Design/Construction/Installation/Fabrication Problem** - This cause code covers a full range of programmatic deficiencies in the areas of design, construction, installation, and fabrication (i.e., loss of control power due to underrated fuse, equipment not qualified for the environment, etc.).

PERFORMANCE INDICATOR DEFINITIONS

6) **Equipment Failures (Electronic Piece-Parts or Environmental-Related Failures)** - This code is used for spurious failures of electronic piece-parts and failures due to meteorological conditions such as lightning, ice, high winds, etc. Generally, it includes spurious or one-time failures. Electric components included in this category are circuit cards, rectifiers, bistables, fuses, capacitors, diodes, resistors, etc.

LOGGABLE/REPORTABLE INCIDENTS (SECURITY)

The total number of security incidents for the reporting month depicted in two graphs. This indicator tracks security performance for SEP #58.

MAINTENANCE OVERTIME

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

MAINTENANCE WORKLOAD BACKLOGS

This indicator shows the backlog of non-outage Maintenance Work Orders remaining open at the end of the reporting month. Maintenance classifications are defined as follows:

Corrective - Repair and restoration of equipment or components that have failed or are malfunctioning and are not performing their intended function.

Preventive - Actions taken to maintain a piece of equipment within design operating conditions, prevent equipment failure, and extend its life and are performed prior to equipment failure.

Non-Corrective/Plant Improvements - Maintenance activities performed to implement station improvements or to repair non-plant equipment.

Maintenance Work Priorities are defined as:

Emergency - Conditions which significantly degrade station safety or availability.

Immediate Action - Equipment deficiencies which significantly degrade station reliability. Potential for unit shutdown or power reduction.

Operations Concern - Equipment deficiencies which hinder station operation.

Essential - Routine corrective maintenance on essential station systems and equipment.

Non-Essential - Routine corrective maintenance on non-essential station systems and equipment.

Plant Improvement - Non-corrective maintenance and plant improvements.

This indicator tracks maintenance performance for SEP #36.

MAXIMUM INDIVIDUAL RADIATION EXPOSURE

The total maximum amount of radiation received by an individual person working at FCS on a monthly, quarterly, and annual basis.

MWO PLANNING STATUS (CYCLE 17 REFUELING OUTAGE)

The total number of Maintenance Work Orders that have been approved for inclusion in the Cycle 17 Refueling Outage and the number that are ready to work (parts staged, planning complete, and all other paperwork ready for field use). Also included is the number of MWOs that have been engineering holds (ECNs, procedures and other miscellaneous engineering holds), parts hold, (parts staged, not yet inspected, parts not yet arrived) and planning hold (job scope not yet completed). Maintenance Work Requests (MWRs) are also shown that have been identified for the Cycle 17 Refueling Outage and have not yet been converted to MWOs.

NUMBER OF CONTROL ROOM EQUIPMENT DEFICIENCIES

A control room equipment deficiency (CRD) is defined as any component which is operated or controlled from the Control Room, provides indication or alarm to the Control Room, provides testing capabilities from the Control Room, provides automatic actions from or to the Control Room, or provides a passive function for the Control Room and has been identified as deficient, i.e., does not perform under all conditions as designed. This definition also applies to the Alternate Shutdown Panels AI-179, AI-185, and AI-212.

A plant component which is deficient or inoperable is considered an "Operator Work Around (OWA) Item" if some other action is required by an operator to compensate for the condition of the component. Some examples of OWAs are:

1) The control room level indicator does not work but a local sight glass can be read by an Operator out in the plant;

2) A deficient pump cannot be repaired because replacement parts require a long lead time for purchase/delivery, thus requiring the redundant pump to be operated continuously;

3) Special actions are required by an Operator because of equipment design problems. These actions may be described in Operations Memorandums, Operator Notes, or may require changes to Operating Procedures;

4) Deficient plant equipment that is required to be used during Emergency Operating Procedures or Abnormal Operating Procedures;

5) System indication that provides critical information during normal or abnormal operations.

NUMBER OF MISSED SURVEILLANCE TESTS RESULTING IN LICENSEE EVENT REPORTS

The number of Surveillance Tests (STs) that result in Licensee Event Reports (LERs) during the reporting month. This indicator tracks missed STs for SEP #60 & 61.

PERFORMANCE INDICATOR DEFINITIONS

OPEN INCIDENT REPORTS

This indicator displays the total number of open Incident Reports (IRs), the number of IRs that are greater than six months old and the number of open significant IRs.

OUTSTANDING MODIFICATIONS

The number of Modification Requests (MRs) in any state between the issuance of a Modification Number and the completion of the drawing update.

1) **Form FC-1133 Backlog/In Progress.** This number represents modification requests that have not been plant approved during the reporting month.

2) **Modification Requests Being Reviewed.** This category includes:

   A) Modification Requests that are not yet reviewed.

   B) Modification Requests being reviewed by the Nuclear Projects Review Committee (NPRC).

   C) 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 canceled. 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 canceled. All of these different phases require review.

3) **Design Engineering Backlog/In Progress**. Nuclear Planning has assigned a year in which construction will be completed and design work may be in progress.

4) **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).

5) **Design Engineering Update Backlog/In Progress**. PED has received the Modification Completion Report but the drawings have not been updated.

The above mentioned outstanding modifications do not include modifications which are proposed for cancellation.

OVERALL PROJECT STATUS (REFUELING OUTAGE)

This indicator shows the status of the projects which are in the scope of the Refueling Outage.

PERCENTAGE OF TOTAL MWOs COMPLETED PER MONTH IDENTIFIED AS REWORK

The percentage of total MWOs completed per month identified as rework. Rework activities are identified by maintenance planning and craft. Rework is: Any additional work required to correct deficiencies discovered during a failed Post Maintenance Test to ensure the component/system passes subsequent Post Maintenance Test.

PERCENT OF COMPLETED SCHEDULED MAINTENANCE ACTIVITIES

The percent of the number of completed maintenance activities as compared to the number of scheduled maintenance activities each month. This percentage is shown for all maintenance crafts. Also shown are the number of emergent MWOs. Maintenance activities include MWRs, MWOs, STs, PMOs, calibrations, and other miscellaneous activities. This indicator tracks Maintenance performance for SEP #33.

PERFORMANCE INDICATOR INDEX

This indicator index is calculated from a weighted combination of eleven performance indicator values, which include the following: Unit Capability Factor, Unit Capability Loss Factor, HPSI, AFW, Emergency AC Power System, Unplanned Automatic Scrams, Collective Radiation Exposure, Fuel Reliability, Thermal Performance, Secondary System Chemistry, and Industrial Safety Accident Rate.

PREVENTABLE/PERSONNEL ERROR LERs

This indicator is a breakdown of LERs. For purposes of LER event classification, a **"Preventable LER"** is defined as:

> An event for which the root cause is personnel error (i.e., inappropriate action by one or more individuals), inadequate administrative controls, a design construction, installation, fabrication problem (involving work completed by or supervised by OPPD personnel) or a maintenance problem (attributed to inadequate or improper upkeep/repair of plant equipment). Also, the cause of the event must have occurred within approximately two years of the "Event Date" specified in the LER (e.g., an event for which the cause is attributed to a problem with the original design of the plant would not be considered preventable).

For purposes of LER event classification, a **"Personnel Error" LER** is defined as follows:

> An event for which the root cause is inappropriate action on the part of one or more individuals (as opposed to being attributed to a department or a general group). Also, the inappropriate action must have occurred within approximately two years of the "Event Date" specified in the LER.

Additionally, each event classified as a "Personnel Error" should also be classified as "Preventable." This indicator trends personnel performance for SEP Item #15.

PRIMARY SYSTEM LITHIUM % OF HOURS OUT OF LIMIT

The percent of hours out of limit are for lithium divided by the total number of hours possible for the month.

PROCEDURAL NONCOMPLIANCE INCIDENTS (MAINTENANCE)

PERFORMANCE INDICATOR DEFINITIONS

The number of identified incidents concerning maintenance procedural problems, the number of closed IRs related to the use of procedures (includes the number of closed IRs caused by procedural noncompliance), and the number of closed procedural noncompliance IRs. This indicator trends personnel performance for SEP #15, 41 and 44.

PROGRESS OF CYCLE 17 OUTAGE MODIFICATION PLANNING

This indicator shows the status of modifications approved for completion during the Refueling Outage.

PROGRESS OF 1995 ON-LINE MODIFICATION PLANNING

This indicator shows the status of modifications approved for completion during 1995.

RADIOLOGICAL WORK PRACTICES PROGRAM

The number of identified poor radiological work practices (PRWPs) for the reporting month. This indicator tracks radiological work performance for SEP #52.

RATIO OF PREVENTIVE TO TOTAL MAINTENANCE & PREVENTIVE MAINTENANCE ITEMS OVERDUE

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. Also displayed are the percent of preventive maintenance items in the month that were not completed or administratively closed by the scheduled date plus a grace period equal to 25% of the scheduled interval. This indicator tracks preventive maintenance activities for SEP #41.

RECORDABLE INJURY/ILLNESS CASES FREQUENCY RATE

The number of injuries requiring more than normal first aid per 200,000 man-hours worked. This indicator trends personnel performance for SEP #15, 25 and 26.

REPEAT FAILURES

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 for the eighteen-month CFAR period.

SAFETY SYSTEM FAILURES

Safety system failures are any events or conditions that could prevent the fulfillment of the safety functions of structures or systems. If a system consists of multiple redundant subsystems or trains, failure of all trains constitutes a safety system failure. Failure of one of two or more trains is not counted as a safety system failure. The definition for the indicator parallels NRC reporting requirements in 10 CFR 50.72 and 10 CFR 50.73. The following is a list of the major safety systems, sub-systems, and components monitored for this indicator:

Accident Monitoring Instrumentation, Auxiliary (and Emergency) Feedwater System, Combustible Gas Control, Component Cooling Water System, Containment and Containment Isolation, Containment Coolant Systems, Control Room Emergency Ventilation System, Emergency Core Cooling Systems, Engineered Safety Features Instrumentation, Essential Compressed Air Systems, Essential or Emergency Service Water, Fire Detection or Suppression Systems, Isolation Condenser, Low Temperature Overpressure Protection, Main Steam Line Isolation Valves, Onsite Emergency AC & DC Power w/Distribution, Radiation Monitoring Instrumentation, Reactor Coolant System, Reactor Core Isolation Cooling System, Reactor Trip System and Instrumentation, Recirculation Pump Trip Actuation Instrumentation, Residual Heat Removal Systems, Safety Valves, Spent Fuel Systems, Standby Liquid Control System and Ultimate Heat Sink.

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. Criteria for calculating the CPI are:

1) The plant is at greater than 30 percent power; and

2) the power is changing less than 5% per day.

The CPI is calculated using the following equation:

CPI = ((sodium/0.79) + (Chloride/1.52) + (Sulfate/1.44) + (Iron/3.30) + (Copper/0.30)+(Condensate O2/2.90))/6

Where: Sodium, sulfate, chloride and condensate dissolved oxygen are the monthly average blowdown concentrations in ppb, iron and copper are monthly time weighted average feedwater concentrations in ppb. The denominator for each of the five factors is the INPO median value. If the monthly average for a specific parameter is less than the INPO median value, the median value is used in the calculation.

SIGNIFICANT EVENTS

Significant events are the events identified by NRC staff through detailed screening and evaluation of operating experience. The screening process includes the daily review and discussion of all reported operating reactor events, as well as other operational data such as special tests or construction activities. An event identified from the screening process as a significant event candidate is further evaluated to determine if any actual or potential threat to the health and safety of the public was involved. Specific examples of the type of criteria are summarized as follows:

1) Degradation of important safety equipment;

2) Unexpected plant response to a transient;

3) Degradation of fuel integrity, primary coolant pressure boundary, important associated features;

4) Scram with complication;

5) Unplanned release of radioactivity;

6) Operation outside the limits of the Technical Specifications;

7) Other.

INPO significant events reported in this indicator are SERs (Significant Event Reports) which inform utilities of significant events and lessons learned identified through the SEE-IN screening process.

SPARE PARTS INVENTORY VALUE

The dollar value of the spare parts inventory for FCS during the reporting period.

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. This indicator tracks performance for SEP #24.

STATION NET GENERATION

The net generation (sum) produced by the FCS during the reporting month.

TEMPORARY MODIFICATIONS

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

1) 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.

2) Jumpers and blocks which are installed for Surveillance Tests, Maintenance Procedures, Calibration Procedures, Special Procedures or Operating Procedures are not considered to be 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.

3) Scaffold is not considered a temporary modification. Jumpers and blocks which are installed and for which MRs have been submitted will be considered as temporary modifications until final resolution of the MR and the jumper or block is removed or is permanently recorded on the drawings. This indicator tracks temporary modifications for SEP #62 and 71.

THERMAL PERFORMANCE

The ratio of the design gross heat rate (corrected) to the adjusted actual gross heat rate, expressed as a percentage.

UNIT CAPABILITY FACTOR

The ratio of the available energy generation over a given time period to the reference energy generation (the energy that could be produced if the unit were operated continuously at full power under reference ambient conditions) over the same time period, expressed as a percentage.

UNIT CAPACITY FACTOR

The net electrical energy generated (MWH) divided by the product of maximum dependable capacity (net MWe) times the gross hours in the reporting period expressed as a percent. Net electrical energy generated is the gross electrical output of the unit measured at the output terminals of the turbine generator minus the normal station service loads during the gross hours of the reporting period, expressed in megawatt hours.

UNPLANNED AUTOMATIC REACTOR SCRAMS PER 7,000 CRITICAL HOURS

This indicator is defined as the number of unplanned automatic scrams (RPS logic actuations) that occur per 7,000 hours of critical operation.

The value for this indicator is calculated by multiplying the total number of unplanned automatic reactor scrams in a specific time period by 7,000 hours, then dividing that number by the total number of hours critical in the same time period. The indicator is further defined as follows:

1) Unplanned means that the scram was not an anticipated part of a planned test.

2) Scram means the automatic shutdown of the reactor by a rapid insertion of negative reactivity (e.g., by control rods, liquid injection system, etc.) that is caused by actuation of the reactor protection system. The signal may have resulted from exceeding a set point or spurious.

3) Automatic means that the initial signal that caused actuation of the reactor protection system logic was provided from one of the sensor's monitoring plant parameters and conditions, rather than the manual scram switches or, manual turbine trip switches (or push-buttons) provided in the main control room.

4) Critical means that during the steady-state condition of the reactor prior to the scram, the effective multiplication (k_{eff}) was essentially equal to one.

UNPLANNED CAPABILITY LOSS FACTOR

The ratio of the unplanned energy losses during a given period of time, to the reference energy generation (the energy that could be produced if the unit were operated continuously at full power under reference ambient conditions) over the same time period, expressed as a percentage.

PERFORMANCE INDICATOR DEFINITIONS

UNPLANNED SAFETY SYSTEM ACTUATIONS - (INPO +DEFINITION)

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

1) The number of unplanned Emergency Core Cooling System (ECCS) actuations that result from reaching an ECCS actuation set point or from a spurious/inadvertent ECCS signal.

2) 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 set point 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.

UNPLANNED SAFETY SYSTEM ACTUATIONS - (NRC DEFINITION)

The number of safety system actuations which include (only) the High Pressure Safety Injection System, the Low Pressure Safety Injection System, the Safety Injection Tanks, and the Emergency Diesel Generators. The NRC classification of safety system actuations includes actuations when major equipment is operated and when the logic systems for the above safety systems are challenged.

VIOLATION TREND

This indicator is defined as Fort Calhoun Station Cited Violations and Non-Cited Violations trended over 12 months. Additionally, Cited Violations for the top quartile Region IV plant is trended over 12 months (lagging the Fort Calhoun Station trend by 2-3 months). It is the Fort Calhoun Station goal to be at or below the cited violation trend for the top quartile Region IV plant.

VOLUME OF LOW-LEVEL SOLID RADIOACTIVE WASTE

This indicator is defined as the volume of low-level solid radioactive waste actually shipped for burial. This indicator also shows the volume of low-level radioactive waste which is in temporary storage, the amount of radioactive oil that has been shipped off-site for processing, and the volume of solid dry radioactive waste which has been shipped off-site for processing. 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 radioactive 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 SEP #54.

SAFETY ENHANCEMENT PROGRAM INDEX

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

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