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Mr. Samuel Collins
Regional Administrator
United States Nuclear Regulatory Commission
Region I
475 Allendale Road
King of Prussia, PA 19406-1415

PSEG METRICS FOR IMPROVING THE WORK ENVIRONMENT
SALEM AND HOPE CREEK GENERATING STATIONS
QUARTERLY REPORT
DOCKET NOS. 50-272, 50-311 AND 50-354

Dear Mr. Collins:

This letter provides a copy of the PSEG Nuclear (PSEG) Safety Conscious Work Environment (SCWE) metrics for the second quarter 2006. PSEG put these metrics in place to objectively measure the effectiveness of the SCWE improvements at Salem and Hope Creek Generating Stations. PSEG conducted an analysis of each metric and decided whether and to what extent the results warrant additional actions.

In 2004, NRC identified concerns with our environment for raising and addressing safety issues. In-depth assessments were conducted into these matters and actions were established to address the identified concerns. PSEG completed the actions to resolve the concerns, resulting in significant improvements in the work environment as well as the Corrective Action and Work Management Programs at Salem and Hope Creek Generating Stations.

Assessments of our work environment conducted in 2006 confirmed that substantial and sustainable improvements have been made. Synergy Consulting Services Corporation completed a survey of the workforce during the first quarter 2006. The survey results showed good performance in the key cultural metrics since the last survey conducted in 2005. The rate of improvement was characterized as strong, providing a solid foundation for sustainable improvement. The Synergy Survey Results Comparisons metric was reported in the first quarter 2006 and will not be resubmitted with this submittal. In the second quarter 2006, PSEG commissioned an independent peer assessment team with extensive management, regulatory, and SCWE-related

experience to assess the work environment at Salem and Hope Creek Generating Stations. The team interviewed more than 170 site personnel, observed station activities and meetings, and reviewed programs, procedures, policies, metrics, past assessments and resulting actions. The team confirmed that substantial SCWE improvements were realized and a solid foundation exists for sustaining these improvements.

Since the NRC identified work environment concerns in 2004, the actions taken have collectively produced substantial and visible improvement at the stations. Maintenance backlogs have been maintained low and the improvements in implementation of the Corrective Action Program remain in place. Operational challenges have been reduced and most safety system performance indicators remain at the annual top quartile performance levels. Insights from recent work environment assessments were used to identify further improvement opportunities. Sitewide communications continue to be used to align the organization and maintain our operational focus.

An overall evaluation of our performance against the "pillars" of a healthy SCWE yielded the following results:

Pillar 1: Willingness to Raise Concerns

The metrics monitoring this pillar are Synergy Survey Results Comparisons and Total Notifications Generated.

The initiation rate for Notifications continues to demonstrate that site personnel have a low threshold for problem reporting. Improved engagement of personnel, effective communication between personnel and their supervisor, and an increased confidence in station leadership have established a culture that values problem reporting and learns from its issues.

Pillar 2: Effective Problem Resolution

The metrics monitoring this pillar are Synergy Survey Results Comparisons, Online Corrective and Elective Maintenance Backlogs, Corrective Action Problem Resolution, Condition Report Activities Overdue, Open Condition Report Evaluations with Due Date Extensions, Repeat Maintenance Issues, Operational Challenges, Unplanned Shutdown Limiting Condition of Operation (LCO) Entries, Unplanned Non-Shutdown Limiting Condition of Operation (LCO) Entries, and Safety System Unavailability (i.e., Emergency Diesel Generators, Auxiliary Feedwater System, Chemical Volume Control and Safety Injection System, High Pressure Injection and Reactor Core Isolation Cooling Systems, and Residual Heat Removal System).

Metrics and plant performance show that problem resolution has substantially improved.

The Corrective Action Program (CAP) remains healthy due to engagement of station leadership and alignment of the organization with expectations for the program's use. Timely evaluations and effective corrective actions improve the ability of the station to resolve problems.

Many long-standing equipment deficiencies have been resolved during planned refueling outages and effective online maintenance has maintained low corrective and elective maintenance backlogs. Effective work management processes, including the Plant Health Committee and the Material Condition Improvement Plan, have sustained these reduced backlogs, minimized operational challenges at the stations, and established a long-term strategy for continued equipment and system health.

The station's focus on equipment reliability has resulted in improved safety system performance as reflected by metrics that remain at annual top quartile performance levels. Performance in prior years is causing the three-year rolling average goal not to be met in some instances. PSEG will remain focused on sustaining annual top quartile performance levels to continue the improvement in the three-year rolling average metrics as historical performance data is replaced. The results of these efforts are also expected to reduce unplanned entries into Technical Specification shutdown Limiting Conditions of Operation, which have not met goal in all cases.

Pillar 3: Alternate Mechanisms to Raise Concerns

The metrics monitoring this pillar are Synergy Survey Results Comparisons and Employee Concerns Program – Concerns Confidentiality/Anonymity Request.

The Employee Concerns Program (ECP) continues to provide an effective, alternate means for identifying issues. During the second quarter, station and contractor personnel actively used the program with no adverse trends discovered in the anonymous or confidential concerns being entered into ECP. Outreach efforts by the ECP staff to communicate the important elements of the ECP program to the workforce continue to yield positive benefits.

Pillar 4: Detection/Prevention of Retaliation & Chilling Effect

The metrics monitoring this pillar are Synergy Survey Results Comparisons and Executive Review Board (ERB) Action Approvals.

In the second quarter, Executive Review Board (ERB) reviews found that none of the proposed personnel actions (e.g., personnel movements, discipline) had retaliation or chilling effect implications, which demonstrates continued strong performance in this pillar. Management actions continue to reflect a sound understanding of and respect for the work environment.

A change management plan was completed to transition the functions of the SCWE Team Leader to the Line Management, the ECP staff, or Human Resources personnel, as appropriate based on the activity. For example, administration of the ERB process was transitioned from the SCWE Team Leader to Human Resources personnel. The Executive Protocol Group provided oversight of these activities to ensure an effective transition.

In summary, actions have been completed to improve our work environment and recent assessments, as well as the performance metrics for each SCWE pillar, indicate substantial improvement and that processes are in place to sustain the improvement. Our organization remains operationally focused with well-defined roles and responsibilities, clear accountability, and consistent direction. PSEG's demonstrated ability to resolve problems has improved plant performance and fostered a healthy work environment that promotes problem identification and resolution. Effective communications remain an essential element to sustain these improvements.

PSEG will continue to monitor and improve performance to industry top quartile levels. If you have any questions, please contact me at (856) 339-1100.

Sincerely,

Attachment

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

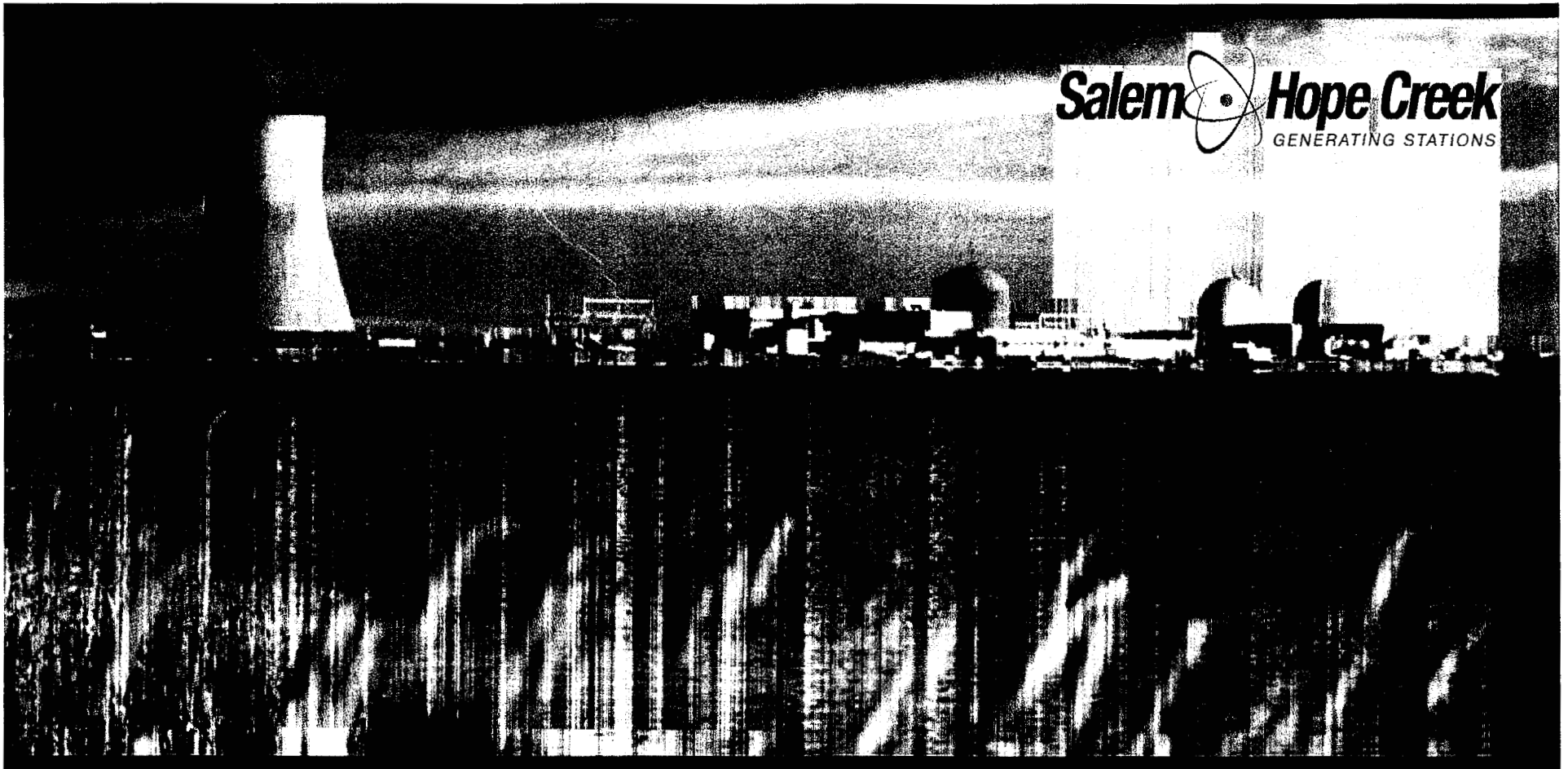
Mr. S. Bailey, Project Manager Salem & Hope Creek
U. S. Nuclear Regulatory Commission
Mail Stop 08B1
Washington, DC 20555-0001

USNRC Senior Resident Inspector - HC (X24)

USNRC Senior Resident Inspector - Salem (X24)

Mr. K. Tosch, Manager IV
Bureau of Nuclear Engineering
PO Box 415
Trenton, NJ 08625

ATTACHMENT



Safety Conscious Work Environment

June 2006

EXECUTIVE REVIEW BOARD (ERB) ACTION APPROVALS

Updated: Monthly

1Q 2006	2Q 2006
G	G

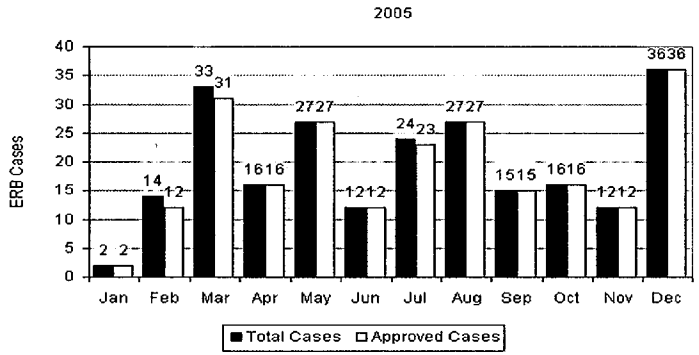
Executive Review Board (ERB) reviews proposed personnel actions to ensure no retaliation or chilling effect implications.

Chart Owner

Safety Conscious Work Environment Manager

Goal: **No Adverse Trend**

History



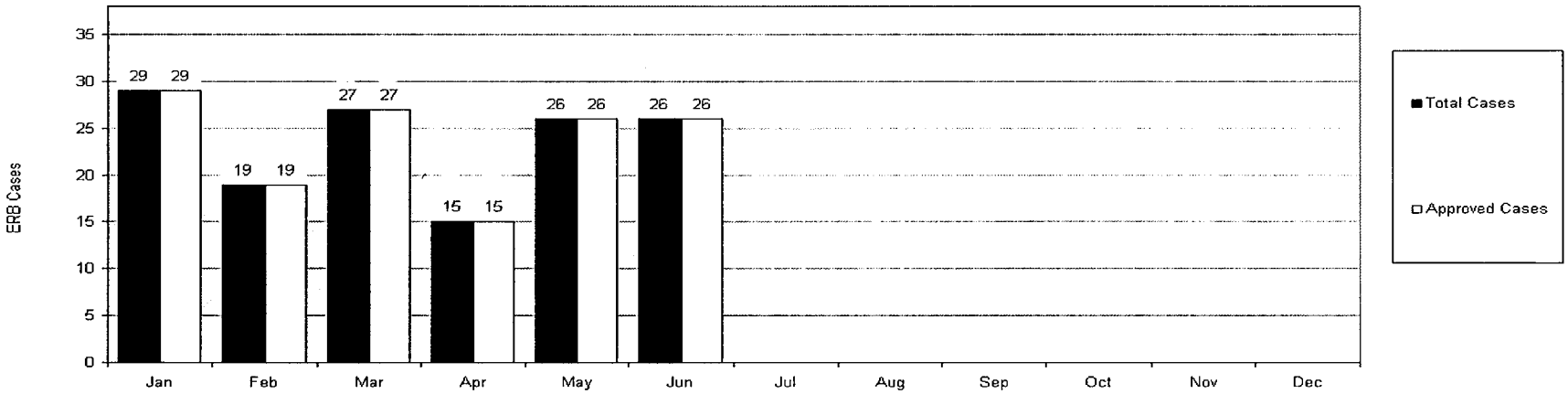
Intent of Metric

The Executive Review Board (ERB) was established to ensure that no adverse action is taken or perceived to be taken against site personnel for raising nuclear safety issues. This Board reviews significant proposed discipline, promotions, transfers and terminations for PSEG employees and supplemental (contract) personnel.

Analysis and Actions

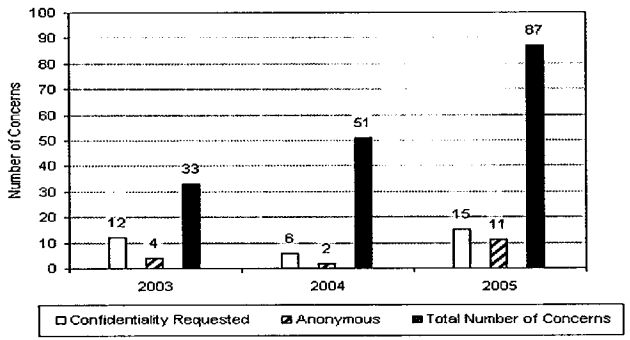
Analysis: The Executive Review Board (ERB) reviewed 67 proposed actions during the 2nd Quarter of 2006. The ERB did not object to any of the proposed actions. The success rate of cases for the Quarter was 100% and is 100% year to date. There continues to be no indication of retaliation or chilling of the work environment.

Actions: Continue to monitor for trends.



Salem • Hope Creek
GENERATING STATIONS

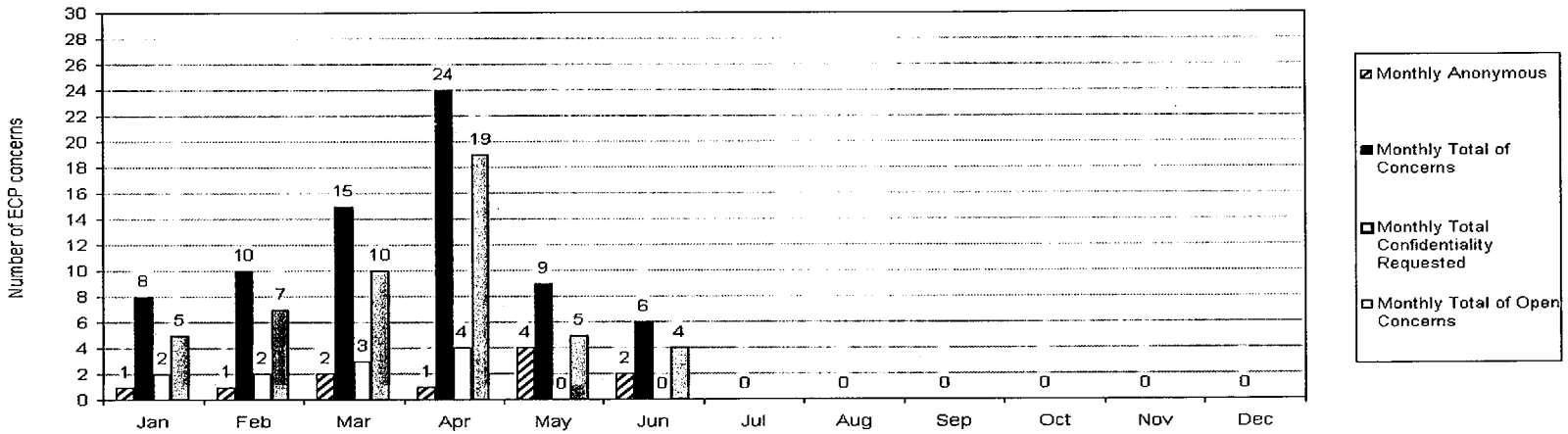
EMPLOYEE CONCERNS PROGRAM - CONCERNS CONFIDENTIALITY/ANONYMITY REQUEST	Updated: Monthly	1Q 2006	2Q 2006	The number of Employee Concerns Program concerns filed anonymously/confidentially versus total number of concerns per month. Chart does not include NRC 30-day requests.
Chart Owner				
Employee Concerns Program Manager		**Goal:**		**No Adverse Trend**



This metric shows the total number of concerns brought to the Employee Concerns Manager. This is an alternate means to have issues addressed outside of line management.

Analysis: An analysis of the 2nd Quarter Anonymous and Confidential concerns identified there is no common theme or organization regarding the types of concerns raised to ECP. The large number of overall concerns in April was attributed to the Hope Creek 13th Refueling Outage.

Actions: Continue to monitor the numbers and types of confidential and anonymous concerns.



Salem • Hope Creek
GENERATING STATIONS

TOTAL NOTIFICATIONS GENERATED

Updated: Monthly

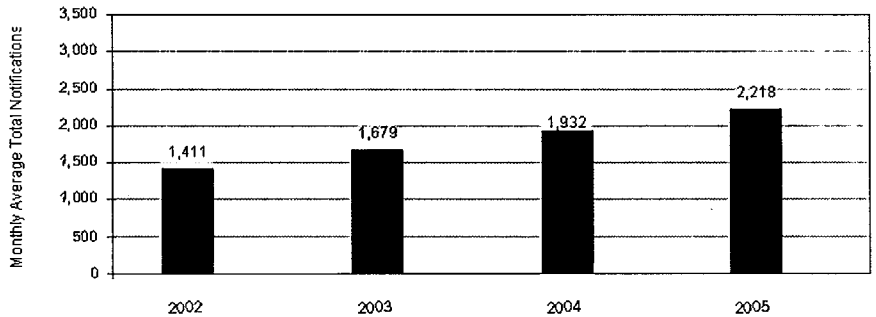
	1Q 2006	2Q 2006
	G	G

Total notifications generated on a monthly basis.

Chart Owner

Corrective Action Program Manager

Goal: **No Adverse Trend**

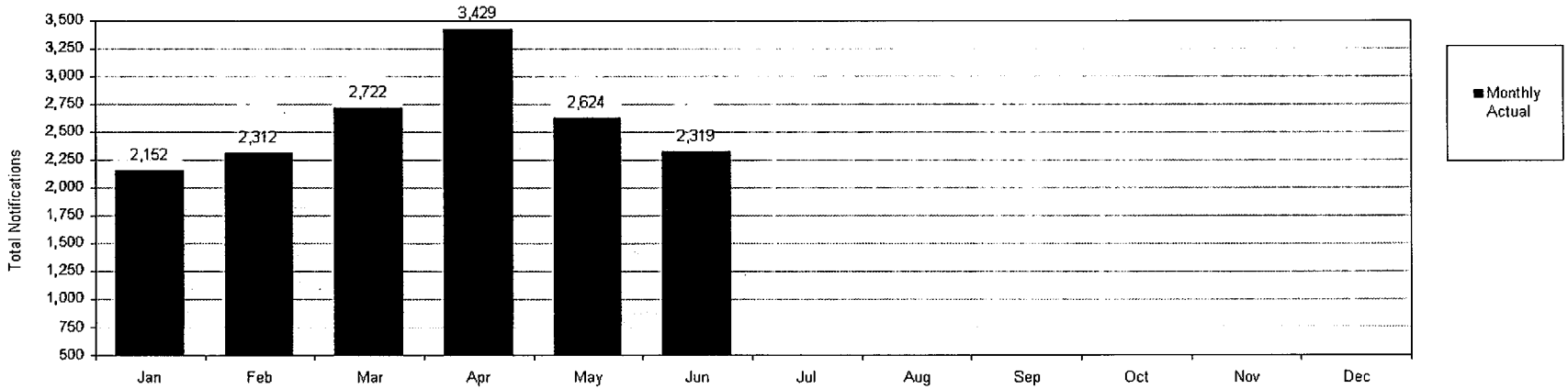


Site personnel write a notification in the Corrective Action Program (CAP) to identify an issue that needs attention. This metric illustrates the total number of notifications written each month by site personnel. Monitoring ensures that the volume of issues is consistent with expected trends, based on past performance as well as industry perspective.

Analysis and Actions

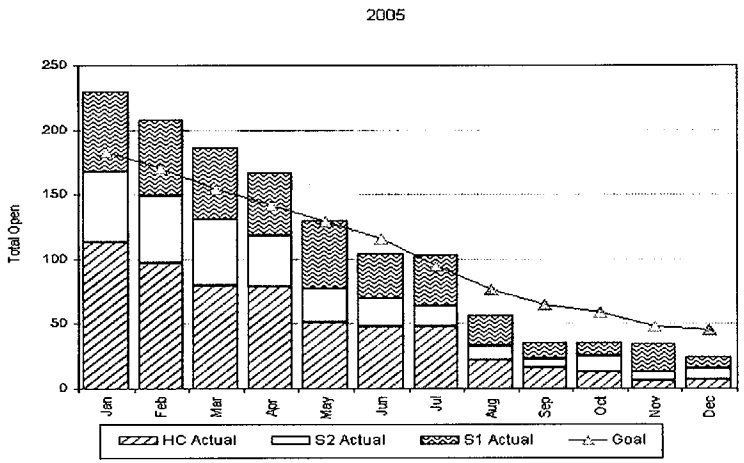
Analysis: The number of notifications in the 2nd Quarter show an increase in the monthly average from the 1st Quarter. Overall there has been an increasing trend in the number of notifications generated for the 2nd Quarter of 2006 in comparison with notifications generated during the 2nd Quarter of 2005.

Actions: No actions are required.



Salem • Hope Creek GENERATING STATIONS

ONLINE CORRECTIVE MAINTENANCE BACKLOG	Updated: Monthly	1Q 2006: G	2Q 2006: G	The number of open online corrective maintenance work items.
Chart Owner				
Salem Maintenance Manager and Hope Creek Maintenance Manager		**Goal:**		**45 per month**

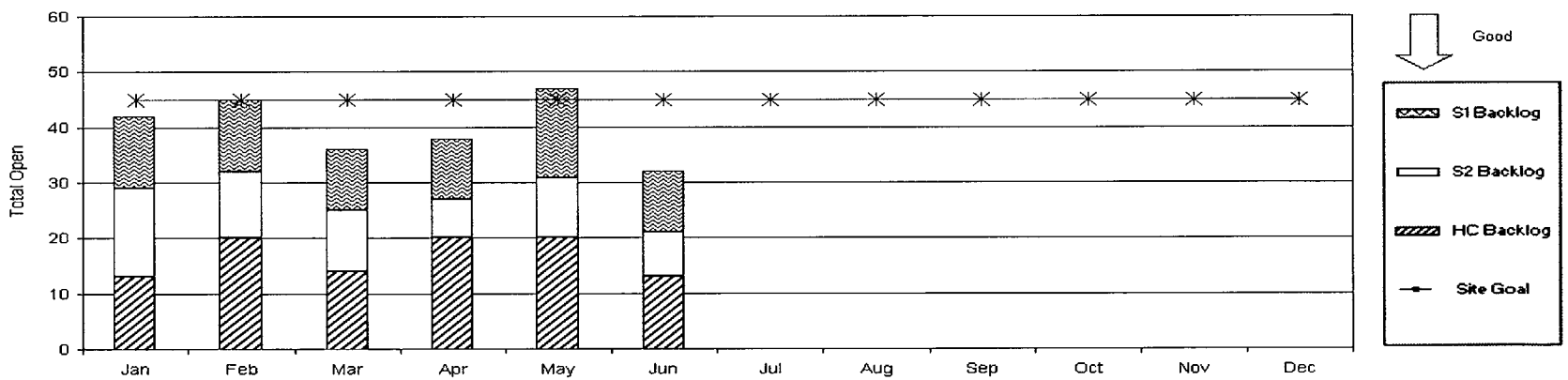


This metric measures the total backlog of on-line corrective maintenance. These are items that have an impact on plant operations and can be fixed while the unit is in service. Benchmarking indicates the industry median at 90, with top performance at 45 for the site. The goal is to achieve top performance by the end of 2005.

Analysis and Actions

Analysis: The average monthly total for the 2nd Quarter was 39. The goal of ≤ 45 for the 2nd Quarter of 2006 has been met.

Actions: Sustain performance at or below goal.



Salem • Hope Creek GENERATING STATIONS

ONLINE ELECTIVE MAINTENANCE BACKLOG

Updated: Monthly

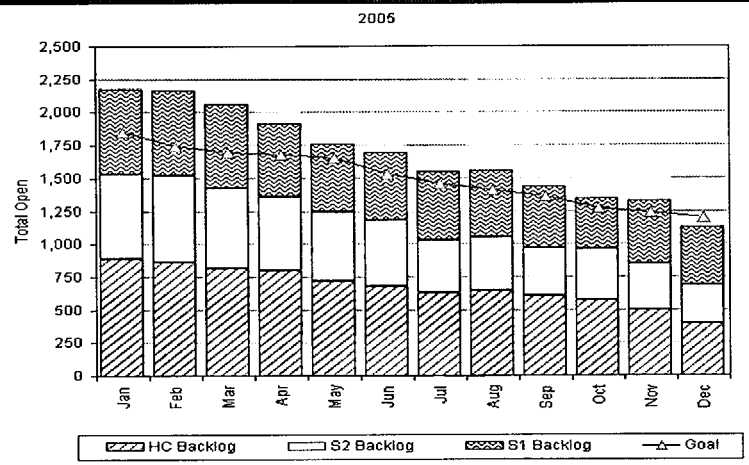
1Q 2006	2Q 2006
G	G

The number of open online elective maintenance work items.

Chart Owner

Salem Maintenance Manager and Hope Creek Maintenance Manager

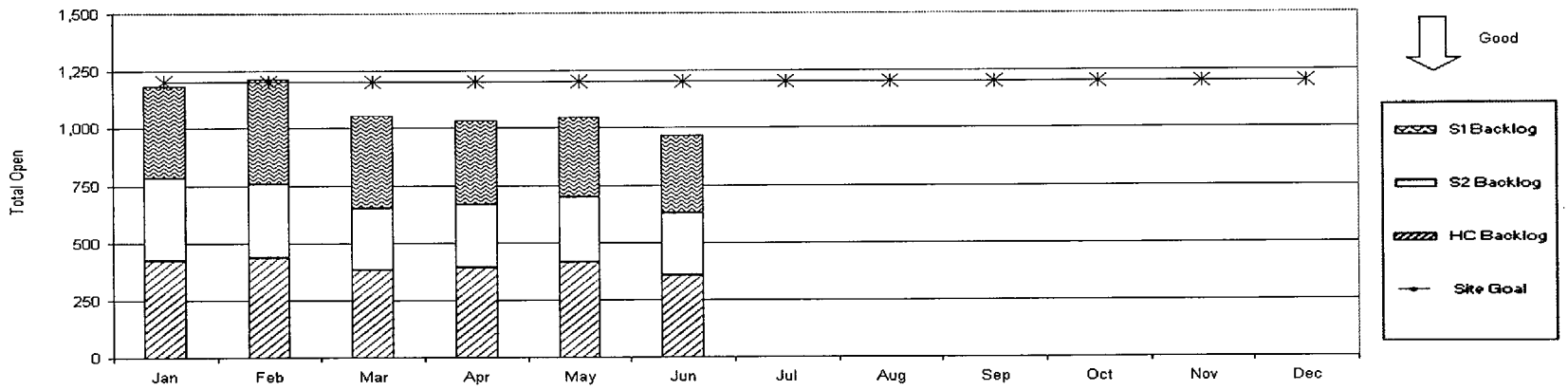
Goal: **1200 per month**



This metric measures the total backlog of on-line elective maintenance. These are items that do NOT have an impact on plant operations and can be fixed while the unit is in service. Benchmarking indicates the industry median at 1450, with top performance at 1200 for the site. The goal is to consistantly maintain that top performance.

Analysis: The average monthly total for the 2nd Quarter was 1015. The goal of ≤1200 for the site was met for the 2nd Quarter of 2006.

Actions: Sustain performance at or below the goal.



Salem • Hope Creek
GENERATING STATIONS

CORRECTIVE ACTION PROBLEM RESOLUTION

Updated: Monthly

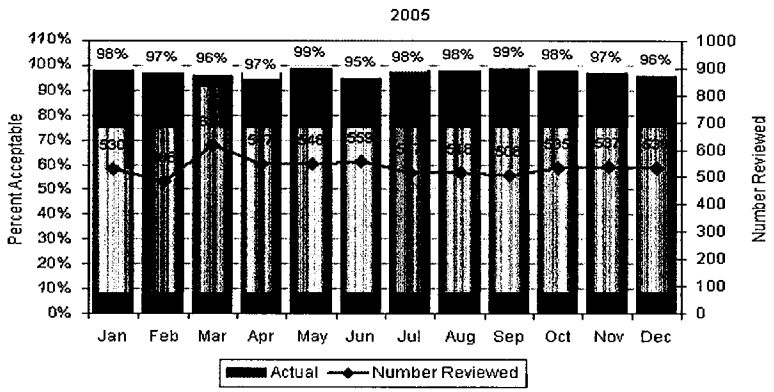
Chart Owner

Corrective Action Program Manager

1Q 2006: G 2Q 2006: G

The percent of corrective action closures determined to be acceptable by Corrective Action Closure Board review, based on the problem resolution criteria. The performance indicator is a monthly value.

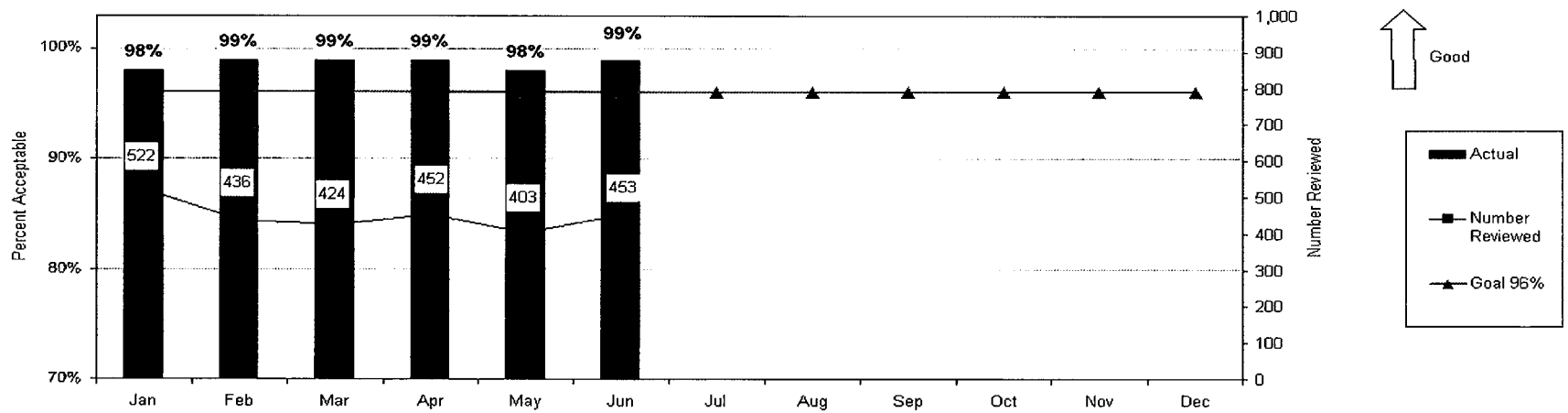
Goal: 96%



Site personnel write a notification in the Corrective Action Program (CAP) to identify an issue that needs attention. This metric tracks the quality of the corrective actions that resulted with a goal of greater than or equal to 96% Closure Board acceptance rate, meaning the correct actions resulted from the notification. Items that are not accepted by the Board are not closed until the issue is reworked and the Board approves.

Analysis: The Corrective Action Closure Board acceptance rate results were within goal for the 2nd Quarter. Specific closure failures are addressed by their department management and personnel.

Actions: No action required.



CONDITION REPORT ACTIVITIES OVERDUE

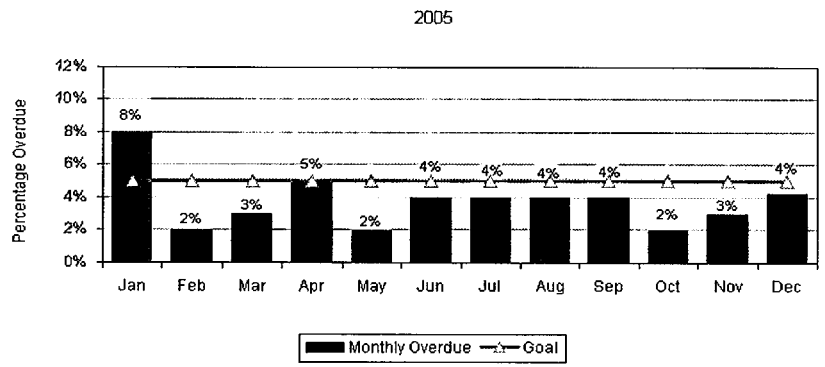
Updated: Monthly

Chart Owner

Corrective Action Program Manager

Percentage of Nuclear Condition Report activities overdue on a monthly basis, measured as activities with an actual finish date occurring after the due date.

Goal: 5%

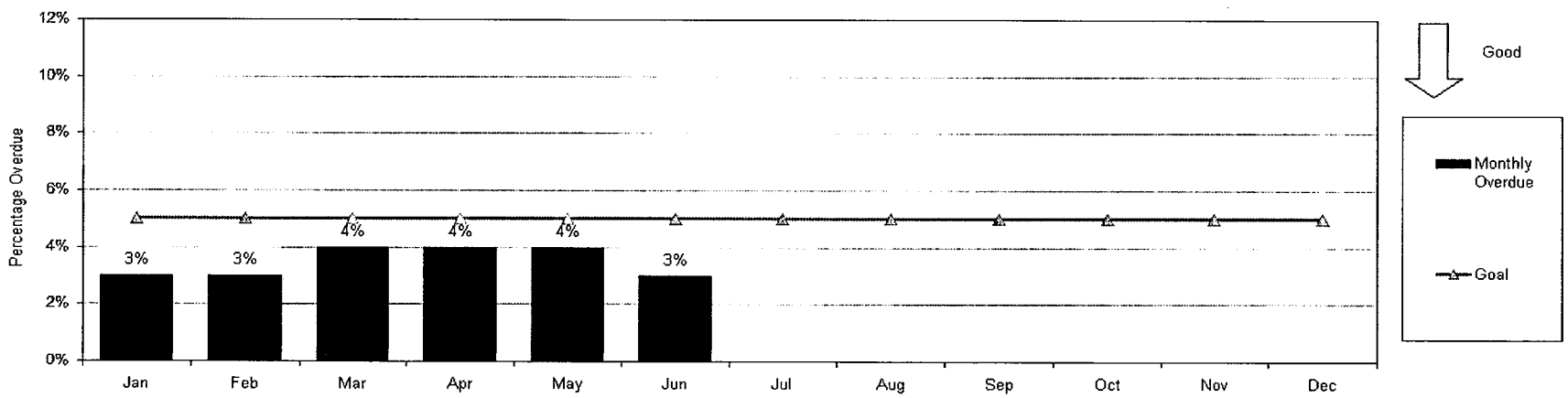


Site personnel write a notification in our Corrective Action Program (CAP) to identify an issue that needs attention. This metric tracks the timeliness of our review and corrective actions by measuring the percentage overdue, with a goal of less than or equal to 5%.

Analysis and Actions

Analysis: Overdue corrective action activities remained below goal for the 2nd Quarter and have consistently remained below goal for more than a year.

Actions: No action required.



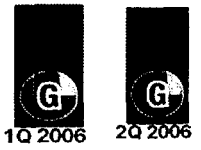
Salem • Hope Creek GENERATING STATIONS

OPEN CONDITION REPORT
EVALUATIONS WITH DUE DATE EXTENSIONS

Updated: Monthly

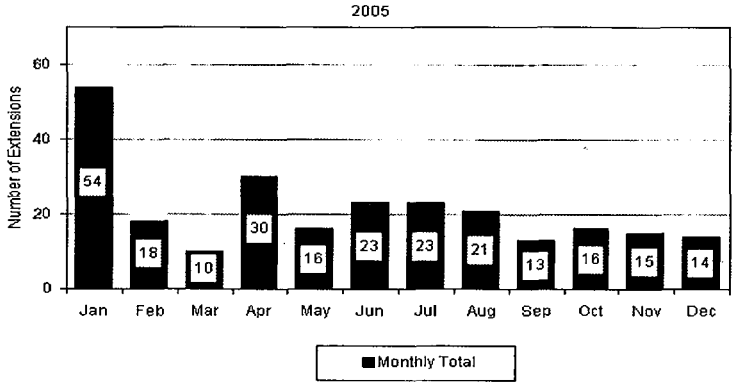
Chart Owner

Corrective Action Program Manager



The number of due date extensions approved for open Nuclear Condition Report evaluations.

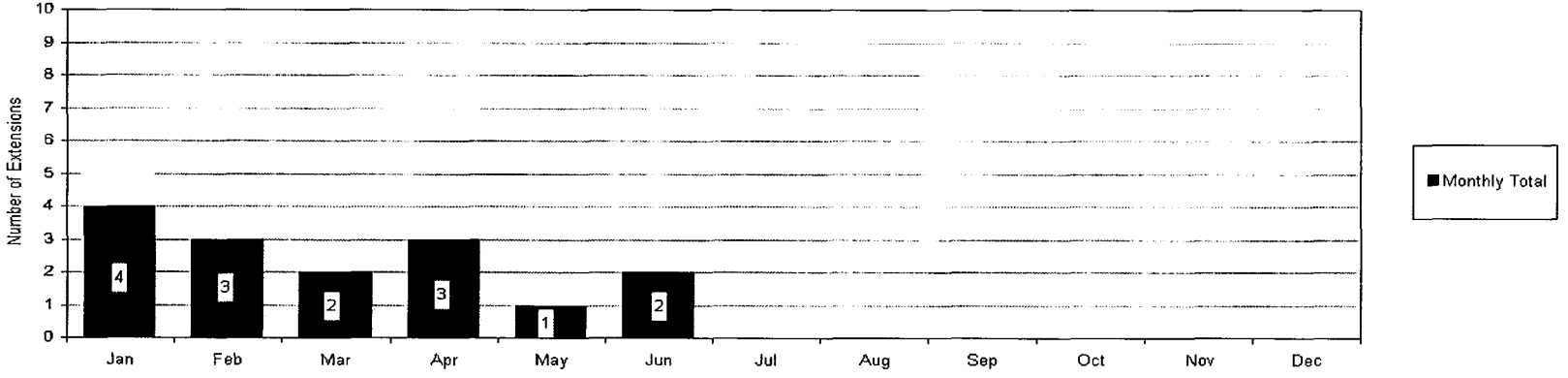
Goal: **No Adverse Trend**



Site personnel write a notification in the Corrective Action Program (CAP) to identify an issue that needs attention. This metric looks at the timeliness of review and corrective actions by tracking the number that have a due date extension, which is allowed by the process. By tracking those that are extended, an improvement trend in overall timeliness is expected.

Analysis: Evaluations with due date extensions continue to be low. There is no adverse trend.

Actions: No action required.



SALEM UNIT 1 REPEAT MAINTENANCE ISSUES

Updated: Monthly

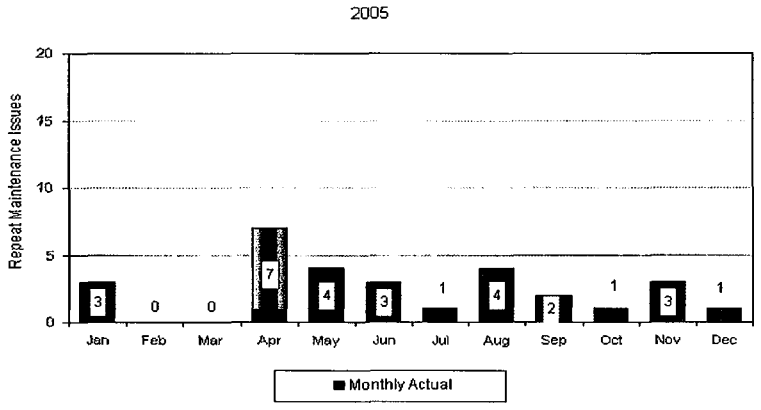
1Q 2006	2Q 2006
G	G

The number of repeat maintenance issues identified on safety-related equipment.

Chart Owner

Salem Maintenance Manager

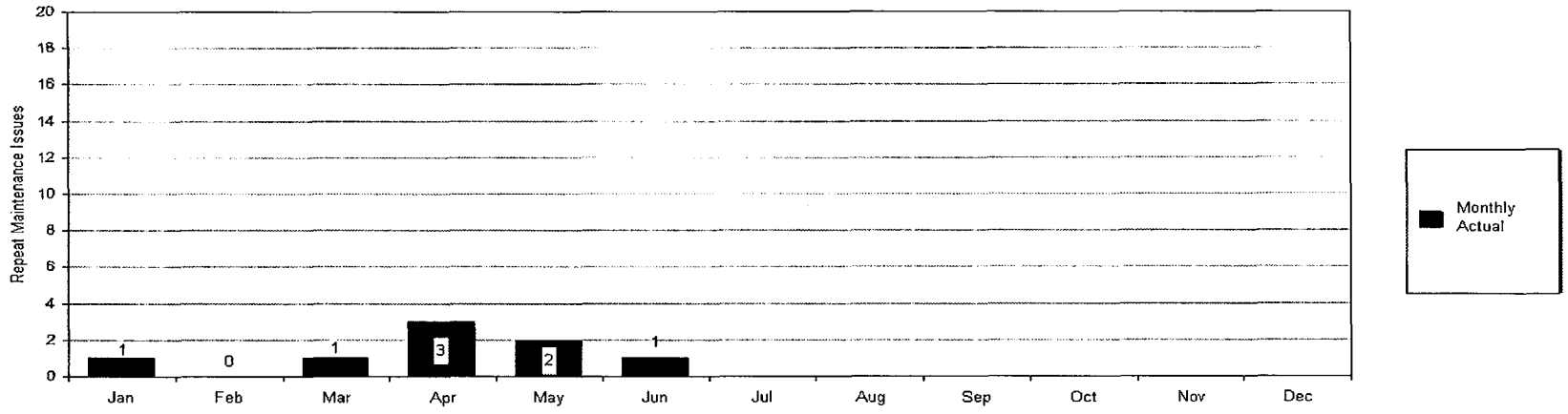
Goal: **No Adverse Trend**



This metric monitors the number of issues that were not fixed correctly the first time on safety-related equipment. Items that have been fixed and need to be reworked within twelve months are tracked. This metric is to ensure a reduction as the corrective action program improves.

Analysis: There was no adverse trend. There was a total of six Repeat issues in the 2nd Quarter.

Actions: The items identified in the 2nd Quarter are being addressed in the Corrective Action and Corrective Maintenance Programs and actions are being implemented. Equipment reliability will be further enhanced through the Plant Health Committee and Material Condition Improvement Process.



Salem • Hope Creek GENERATING STATIONS

SALEM UNIT 2 REPEAT MAINTENANCE ISSUES

Updated: Monthly

1Q 2006	2Q 2006
G	G

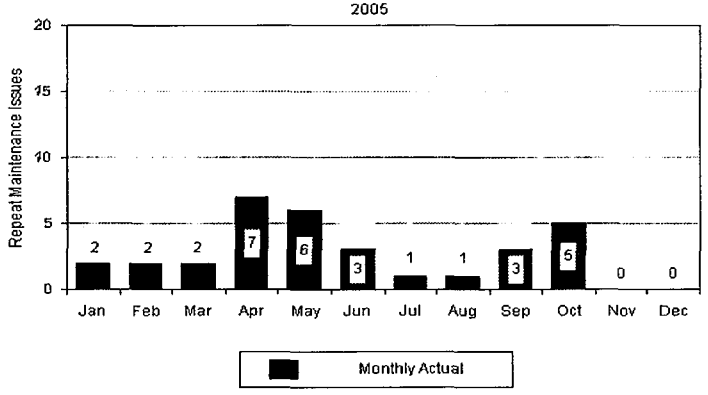
The number of repeat maintenance issues identified on safety-related equipment.

Chart Owner

Salem Maintenance Manager

Goal: **No Adverse Trend**

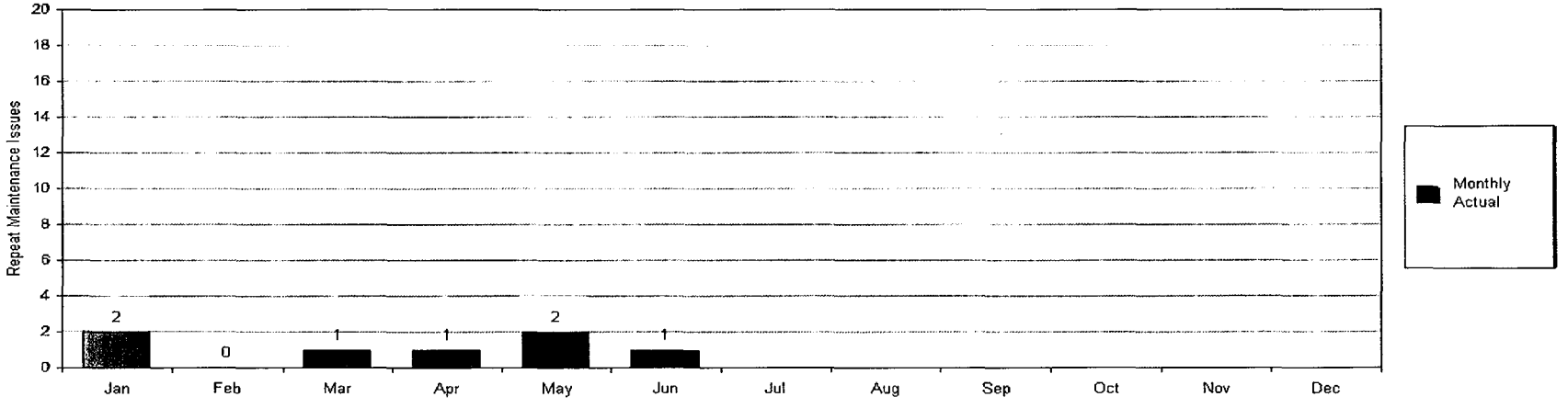
Intent of



This metric monitors the number of issues that were not fixed correctly the first time on safety-related equipment. Items that have been fixed and need to be reworked within twelve months are tracked. This metric is to ensure a reduction as the corrective action program improves.

Analysis: There was no adverse trend. There was a total of four Repeat Issues in the 2nd Quarter.

Actions: The items identified in the 2nd Quarter are being addressed in the Corrective Action and Corrective Maintenance Programs and actions are being implemented. Equipment reliability will be further enhanced through the Plant Health Committee and Material Condition Improvement Process.



Salem • Hope Creek
GENERATING STATIONS

HOPE CREEK REPEAT MAINTENANCE ISSUES

Updated: Monthly

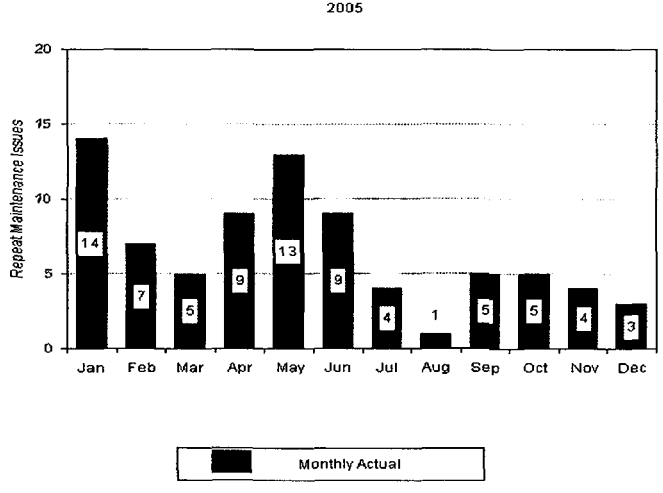
1Q 2006	2Q 2006
G	G

The number of repeat maintenance issues identified on safety-related equipment.

Chart Owner

Hope Creek Maintenance Manager

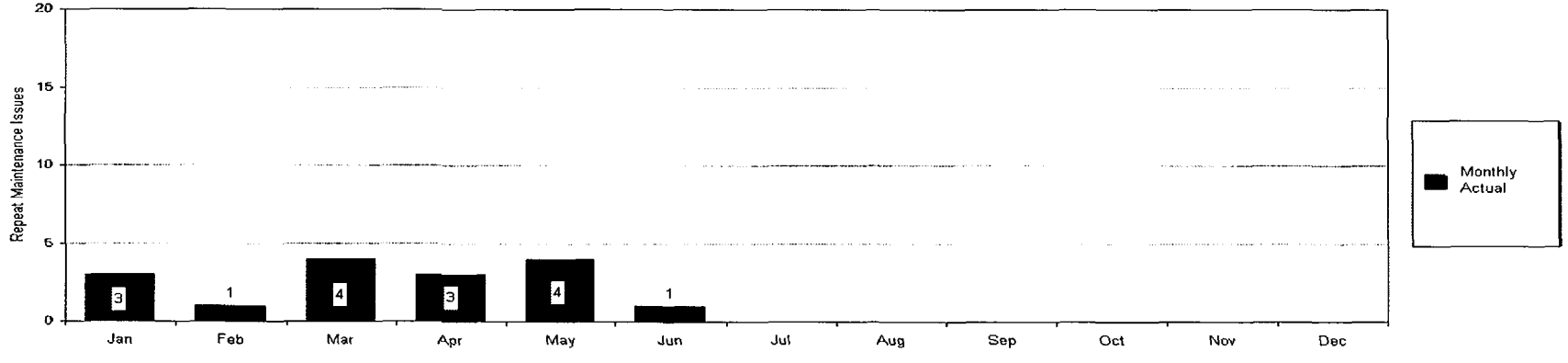
Goal: **No Adverse Trend**



This metric monitors the number of issues that were not fixed correctly the first time on safety-related equipment. Items that have been fixed and need to be reworked within twelve months are tracked. This metric is to ensure a reduction as the corrective action program improves.

Analysis: There was no adverse trend. There were a total of eight Repeat Maintenance issues in the 2nd Quarter.

Actions: The items identified in the 2nd Quarter are being addressed in the Corrective Action and Corrective Maintenance Programs and actions are being implemented. Equipment reliability will be further enhanced through the Plant Health Committee and Material Condition Improvement Process.



Salem • Hope Creek
GENERATING STATIONS

SALEM UNIT 1 OPERATIONAL CHALLENGES

Updated: Monthly

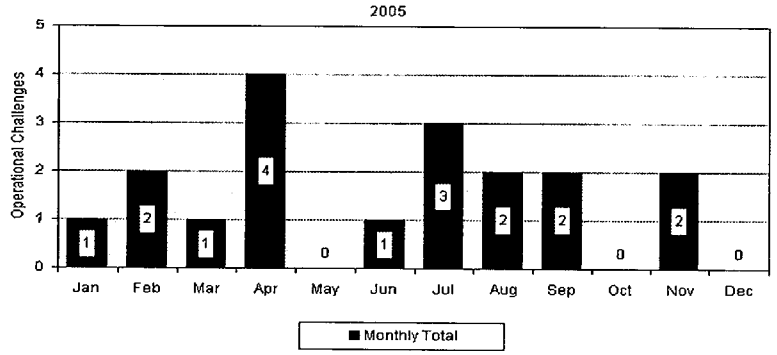
1Q 2006	2Q 2006
G	G

The number of plant operational issues that warrant implementation of the Event Response Team.

Chart Owner

Salem Plant Manager

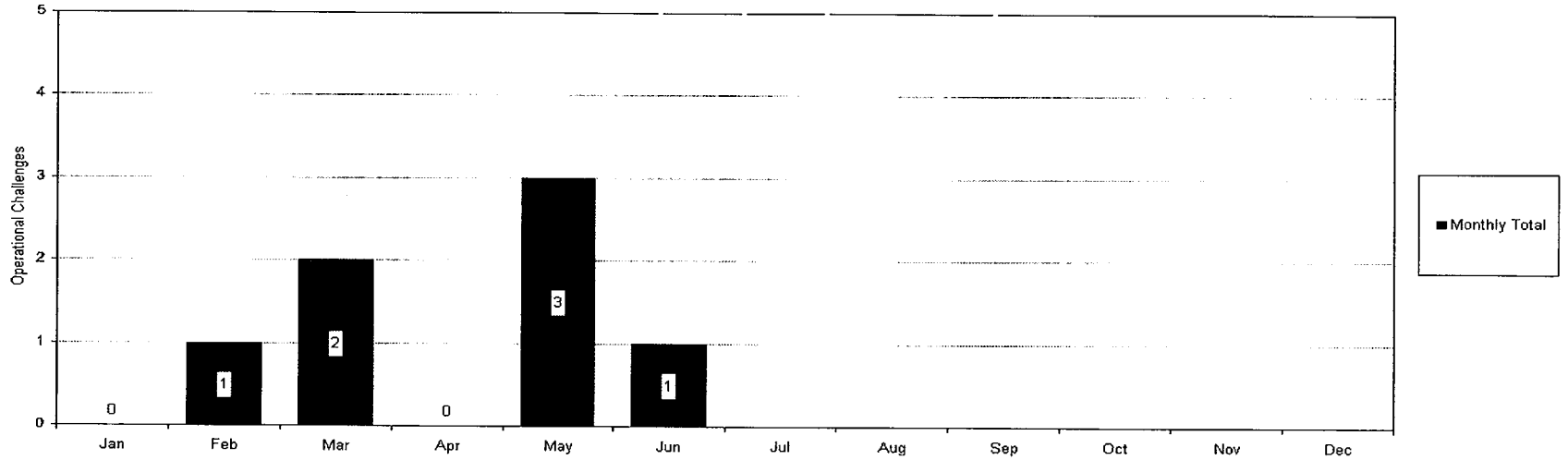
Goal: **No Adverse Trend**



A procedure was established to allow operating crews to request additional assistance to address emergent issues. This metric measures the number of times each month operators engage this assistance. The goal is to minimize the events which require responses to the operating crews. By tracking and reviewing the event responses, common causes and potential trends can be investigated.

Analysis: No adverse trend was identified. There were four Event Response Teams initiated in the 2nd Quarter. This is an average of 1.3 per month for the 2nd Quarter. Previous trends were 2.0 per month in 2004 and 1.5 per month in 2005.

Actions: Maintain focus on equipment reliability improvements to minimize Event Response Team requests.



Salem • Hope Creek
GENERATING STATIONS

SALEM UNIT 2 OPERATIONAL CHALLENGES (Includes Unit 2, Unit 3, and Common)

Updated: Monthly

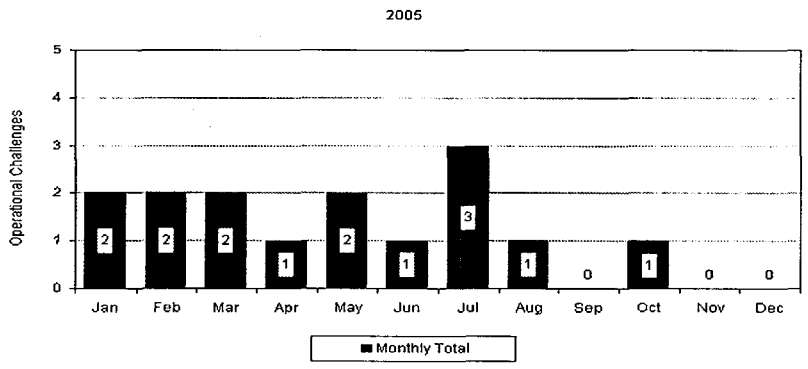
Chart Owner

Salem Plant Manager

1Q 2006	2Q 2006
G	G

The number of plant operational issues that warrant implementation of the Event Response Team.

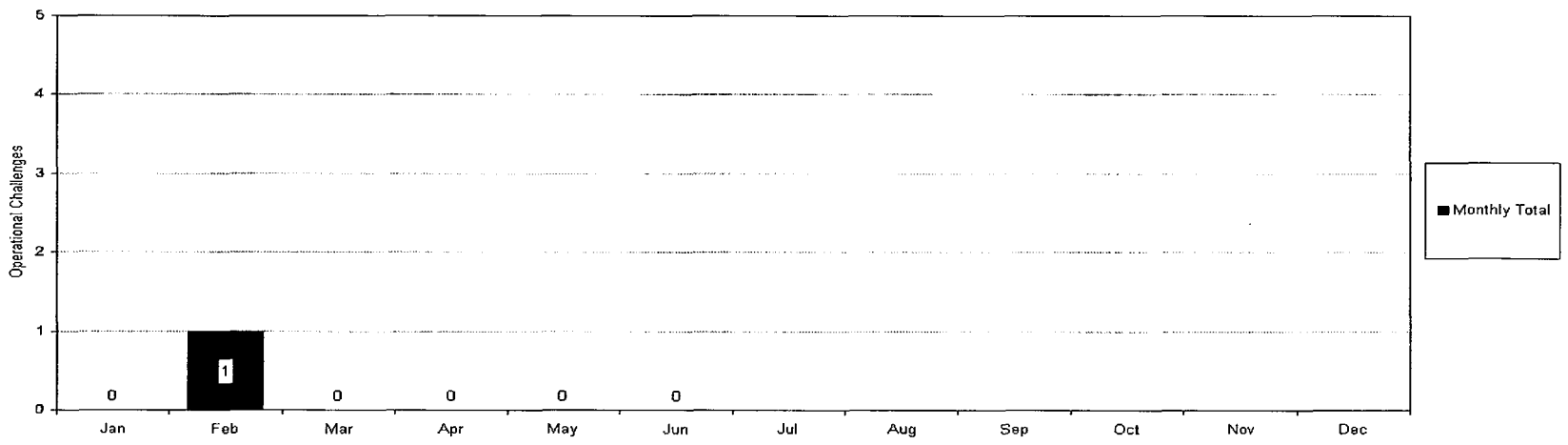
Goal: **No Adverse Trend**



A procedure was established to allow operating crews to request additional assistance to address emergent issues. This metric measures the number of times each month operators engage this assistance. The goal is to minimize the events which require responses to the operating crews. By tracking and reviewing the event responses, common causes and potential trends can be investigated.

Analysis: There were no Event Response Teams initiated in the 2nd Quarter. No adverse trend has been identified. Previous trends were two per month in 2004 and 1.25 per month in 2005.

Actions: Maintain focus on equipment reliability improvements to minimize Event Response Team requests.



HOPE CREEK OPERATIONAL CHALLENGES

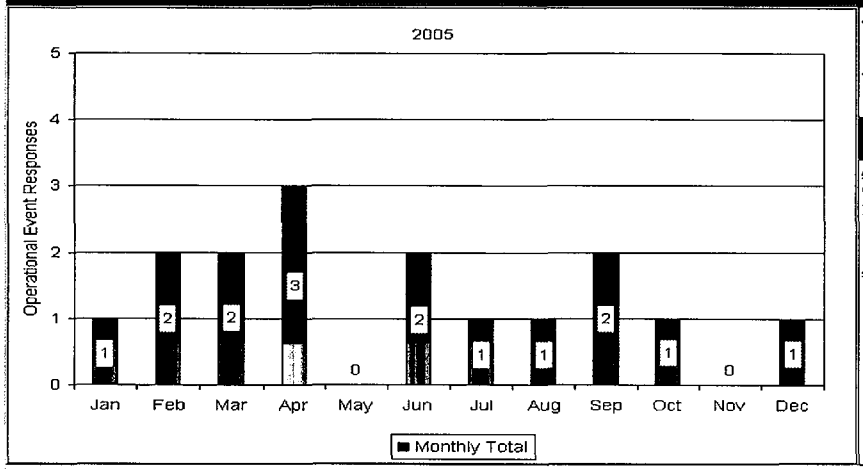
Updated: Monthly

Chart Owner

Hope Creek Plant Manager

1Q 2006	2Q 2006	
G	G	The number of plant operational issues that warrant implementation of the Event Response Team.

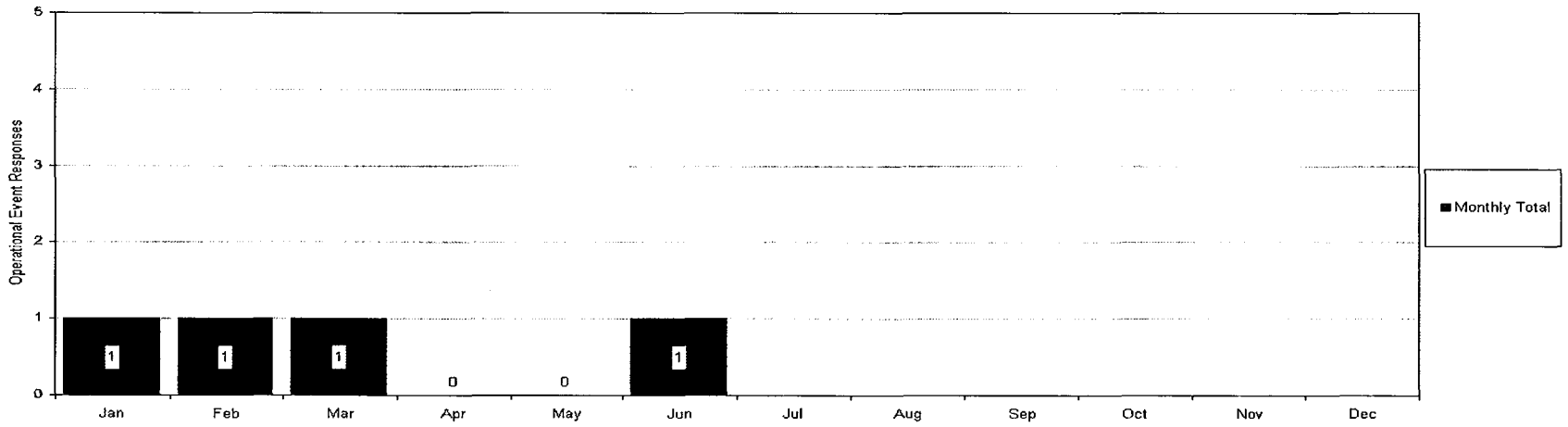
Goal: **No Adverse Trend**



A procedure was established to allow operating crews to request additional assistance to address emergent issues. This metric measures the number of times each month operators engage this assistance. The goal is to minimize the event responses to the operating crews. By tracking and reviewing the event responses, common causes and potential trends can be investigated.

Analysis: No adverse trend was identified. There was one Event Response Team initiated in the 2nd Quarter. This is an average of 0.3 per month for the 2nd Quarter. Previous trends were 1.1 per month in 2004 and 1.3 per month in 2005.

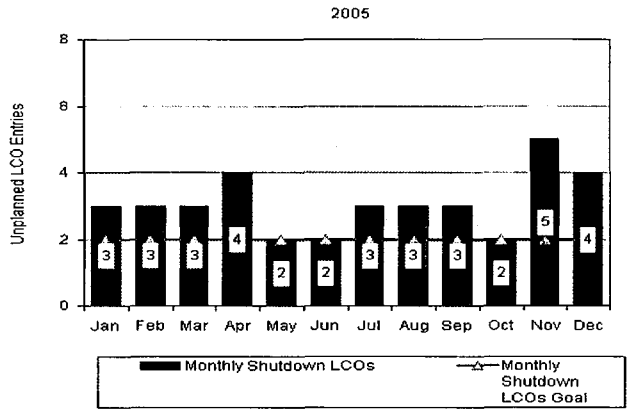
Actions: Maintain focus on equipment reliability improvements to minimize Event Response Team requests.



Salem • Hope Creek GENERATING STATIONS

SALEM UNIT 1 UNPLANNED SHUTDOWN LIMITING CONDITION OF OPERATION (LCO) ENTRIES	Updated: Monthly	R 1Q 2006	R 2Q 2006	The number of Unplanned Shutdown Technical Specification Limiting Conditions of Operation (LCOs) entered during the month.
Chart Owner				
Salem System Engineering Manager		**Goal:**		**2 per Month**

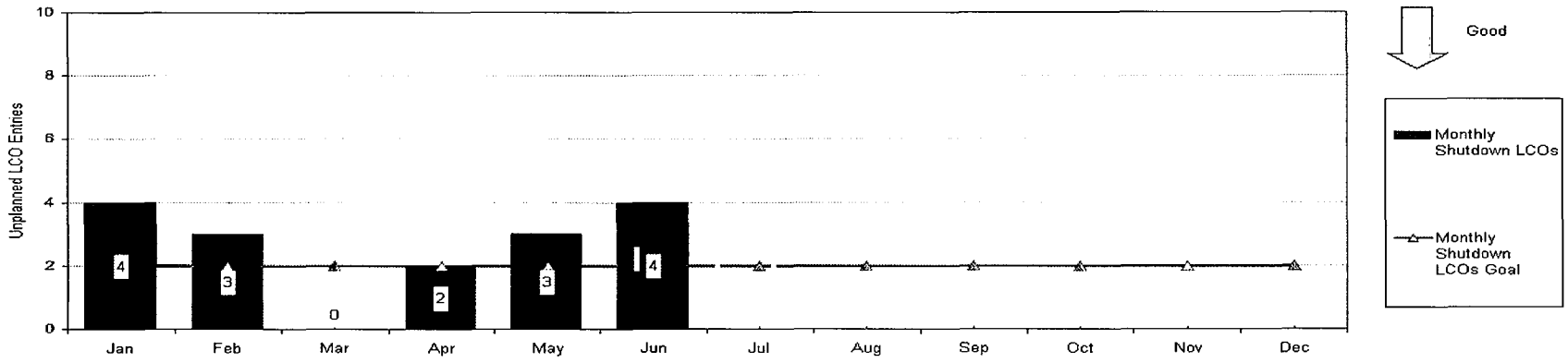
History



Nuclear plants are operated under a fundamental set of rules from the Nuclear Regulatory Commission (NRC) called Technical Specifications. Certain rules require operators to enter a shutdown LCO, meaning the equipment must be fixed in a defined period of time, or unit shutdown is required. This metric measures the unplanned entries made at Salem Unit 1, compared to the expected number at top performing nuclear units (less than or equal to 2/month).

Analysis: For the 2nd Quarter 2006, there were nine Unplanned Shutdown LCOs. The goal of two LCOs per month was not met.

Actions: These issues are being addressed in the Corrective Action and Equipment Reliability Programs.



Salem • Hope Creek GENERATING STATIONS

SALEM UNIT 1 UNPLANNED NON-SHUTDOWN LIMITING CONDITION OF OPERATION (LCO) ENTRIES

Updated: Monthly

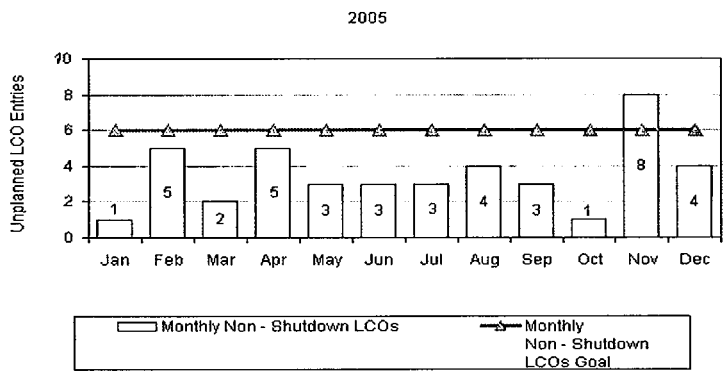
1Q 2006 | 2Q 2006

The number of Unplanned Non-Shutdown Technical Specification Limiting Conditions of Operation (LCOs) entered during the month.

Chart Owner

Salem System Engineering Manager

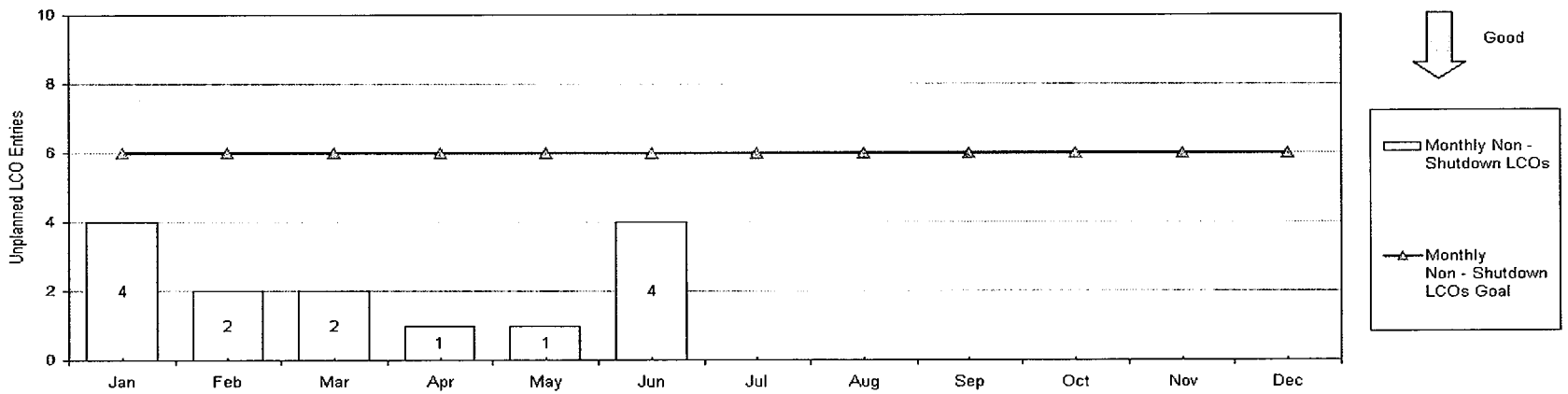
Goal: **6 per Month**



Nuclear plants are operated under a fundamental set of rules from the Nuclear Regulatory Commission (NRC) called Technical Specifications. Certain rules require operators to enter a non-shutdown LCO, meaning the equipment must be fixed in a defined period of time, or you are required to take compensatory measures. This metric measures the unplanned entries made at Salem Unit 1, compared to the expected number at top performing nuclear units (less than or equal to 6/month).

Analysis: For the 2nd Quarter 2006, there were a total of six Unplanned Non-Shutdown LCOs. The monthly goal for this Quarter was met.

Actions: Sustain performance at or below goal.



Salem • Hope Creek GENERATING STATIONS

SALEM UNIT 2 UNPLANNED SHUTDOWN LIMITING CONDITION OF OPERATION (LCO) ENTRIES

Updated: Monthly

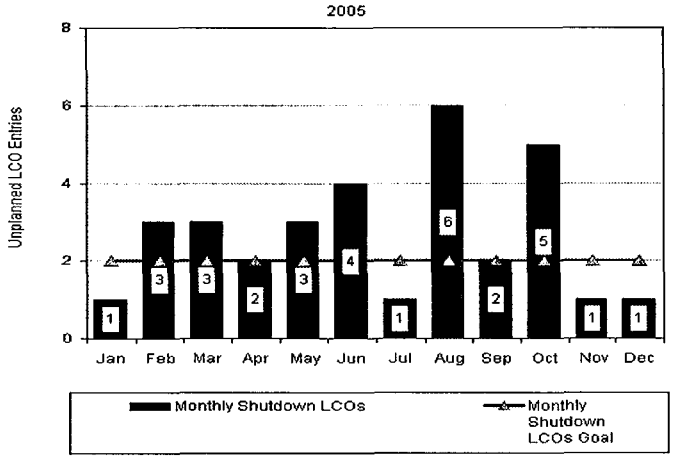
1Q 2006	2Q 2006
R	G

The number of Unplanned Shutdown Technical Specification Limiting Conditions of Operation (LCOs) entered during the month.

Chart Owner

Salem System Engineering Manager

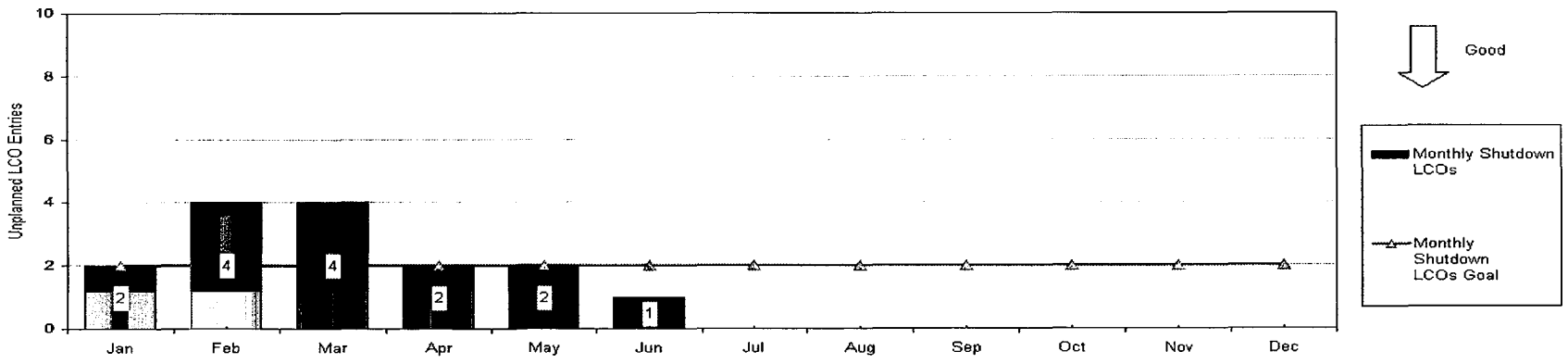
Goal: **2 per Month**



Nuclear plants are operated under a fundamental set of rules from the Nuclear Regulatory Commission (NRC) called Technical Specifications. Certain rules require operators to enter a shutdown LCO, meaning the equipment must be fixed in a defined period of time, or unit shutdown is required. This metric measures the unplanned entries made at Salem Unit 2, compared to the expected number at top performing nuclear units (less than or equal to 2/month).

Analysis: For the 2nd Quarter 2006, there were five Unplanned Shutdown LCOs on Unit 2. The goal of two LCOs per month was met.

Actions: Sustain performance at or below goal.



Salem • Hope Creek GENERATING STATIONS

SALEM UNIT 2 UNPLANNED NON-SHUTDOWN LIMITING CONDITION OF OPERATION (LCO) ENTRIES

Updated: Monthly

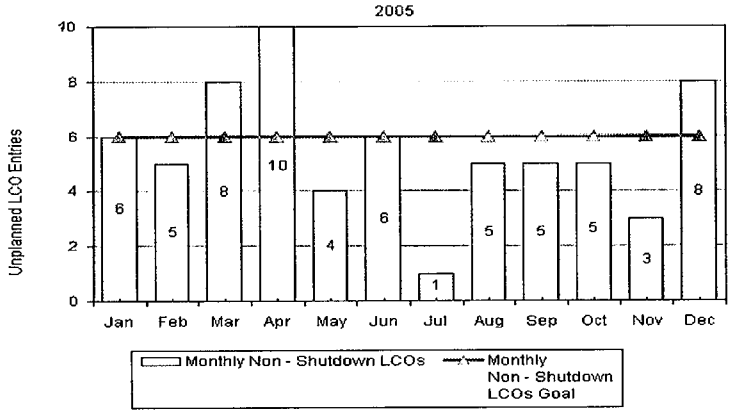
1Q 2006	2Q 2006
G	G

The number of Unplanned Non-Shutdown Technical Specification Limiting Conditions of Operation (LCOs) entered during the month.

Chart Owner

Salem System Engineering Manager

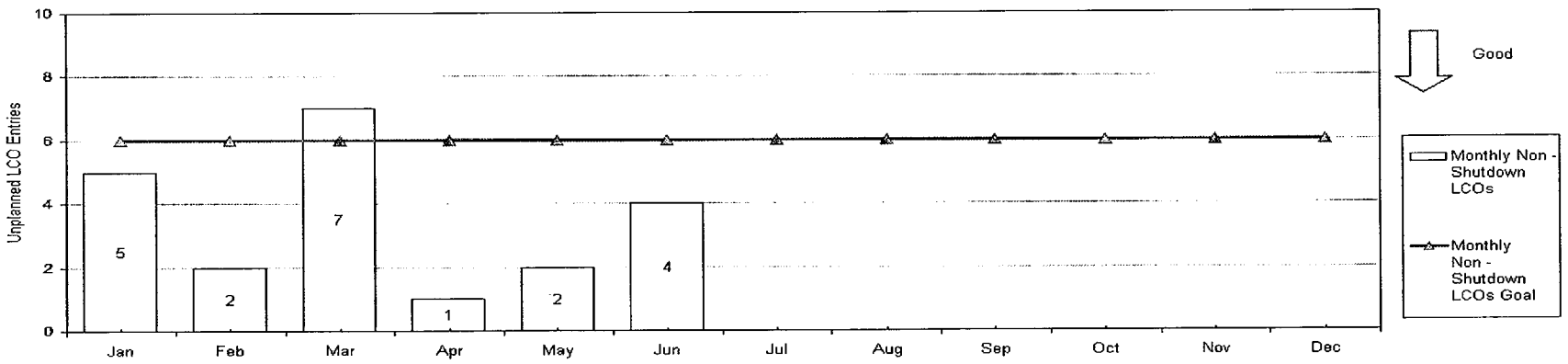
Goal: **6 per Month**



Nuclear plants are operated under a fundamental set of rules from the Nuclear Regulatory Commission (NRC) called Technical Specifications. Certain rules require operators to enter a non-shutdown LCO, meaning the equipment must be fixed in a defined period of time, or you are required to take compensatory measures. This metric measures the unplanned entries made at Salem Unit 2, compared to the expected number at top performing nuclear units (less than or equal to 6/month).

Analysis: For the 2nd Quarter 2006, there were a total of seven Unplanned Non-Shutdown LCOs. The monthly goal for this Quarter was met.

Actions: Sustain performance at or below goal.



Salem • Hope Creek GENERATING STATIONS

HOPE CREEK UNPLANNED SHUTDOWN LIMITING CONDITION OF OPERATION (LCO) ENTRIES

Updated: Monthly

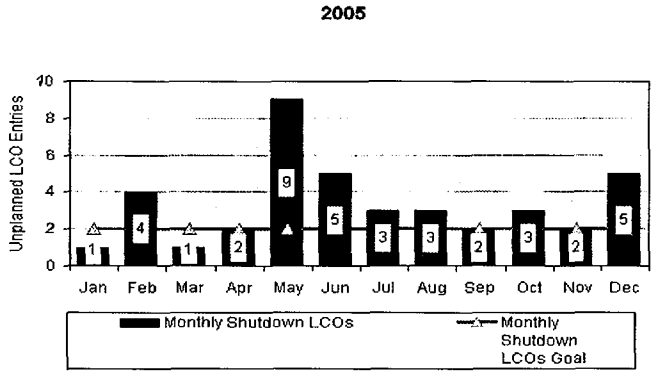
1Q 2006	2Q 2006
R	R

The number of Unplanned Shutdown Technical Specification Limiting Conditions of Operation (LCOs) entered during the month.

Chart Owner

Hope Creek Site Engineering Director

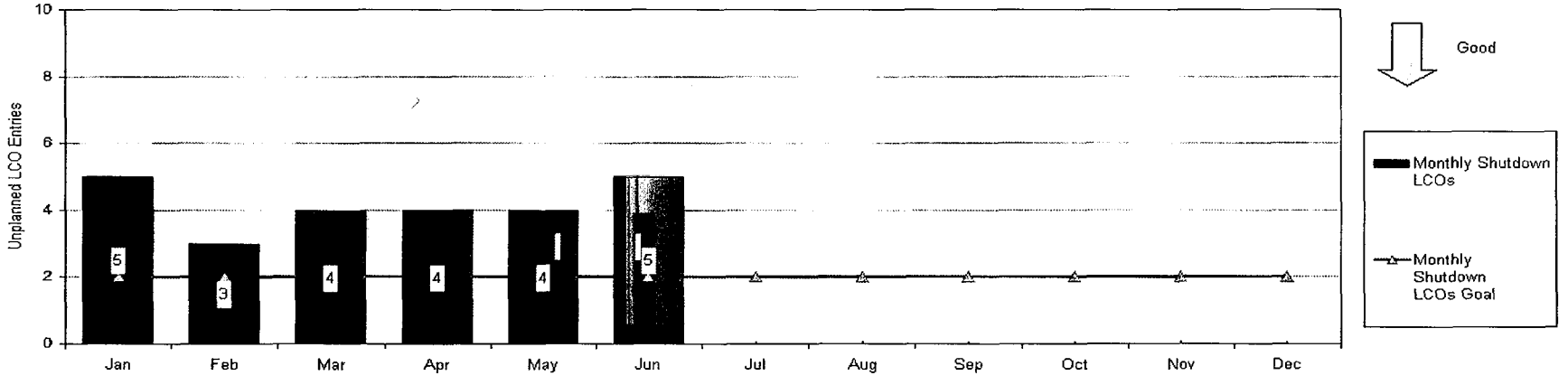
Goal: **2 per Month**



Nuclear plants are operated under a fundamental set of rules from the Nuclear Regulatory Commission (NRC) called Technical Specifications. Certain rules require operators to enter a shutdown LCO, meaning the equipment must be fixed in a defined period of time, or unit shutdown is required. This metric measures the unplanned entries made at Hope Creek, compared to the expected number at top performing nuclear units (less than or equal to 2/month).

Analysis: There were 13 Unplanned Shutdown LCOs in the 2nd Quarter. The goal of two per month has not been achieved during 2006.

Actions: These issues are being addressed in the Corrective Action and Equipment Reliability Programs. Additionally, a common cause evaluation of Equipment Reliability Clock Resets is scheduled for August 2006. Unplanned entries into Shutdown LCOs of < 14 days are considered ER Clock resets and will be included in that evaluation.



Salem • Hope Creek
GENERATING STATIONS

HOPE CREEK UNPLANNED NON-SHUTDOWN LIMITING CONDITION OF OPERATION (LCO) ENTRIES

Updated: Monthly

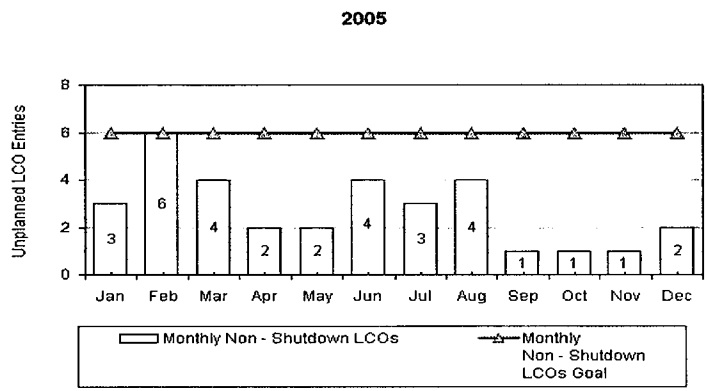
1Q 2006 G | 2Q 2006 G

The number of Unplanned Non-Shutdown Technical Specification Limiting Conditions of Operation (LCOs) entered during the month.

Chart Owner

Hope Creek Site Engineering Director

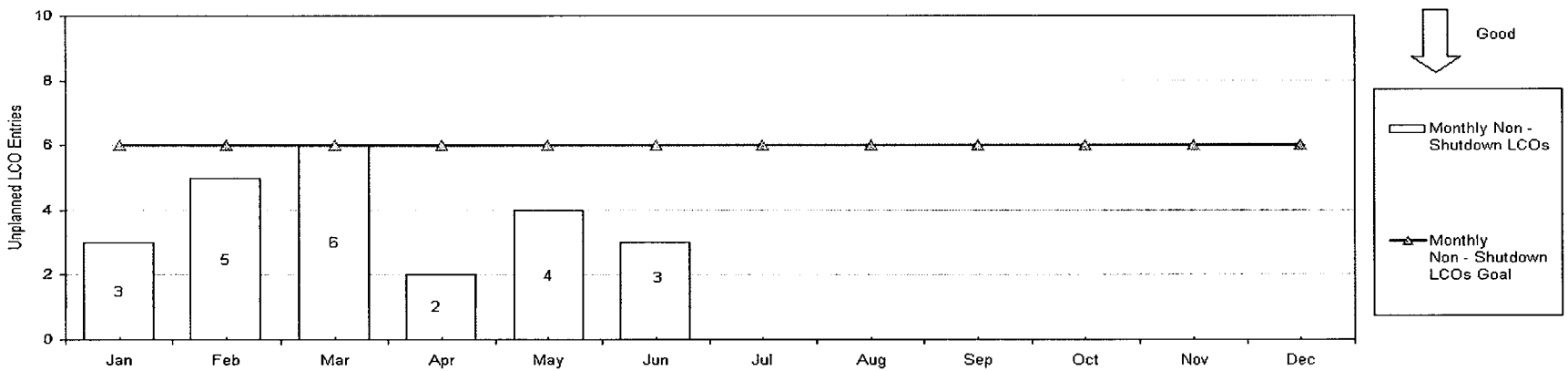
Goal: **6 per Month**



Nuclear plants are operated under a fundamental set of rules from the Nuclear Regulatory Commission (NRC) called Technical Specifications. Certain rules require operators to enter a non-shutdown LCO, meaning the equipment must be fixed in a defined period of time, or you are required to take compensatory measures. This metric measures the unplanned entries made at Hope Creek, compared to the expected number at top performing nuclear units (less than or equal to 6/month).

Analysis: There were nine Unplanned Non-Shutdown LCOs in the 2nd Quarter. The goal of six per month was met.

Actions: Sustain performance at or below goal.



Salem • Hope Creek GENERATING STATIONS

SALEM UNIT 1 EMERGENCY DIESEL GENERATOR UNAVAILABILITY

Updated: Monthly

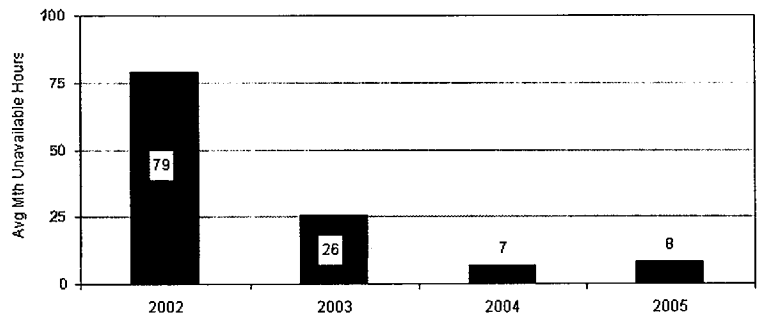
1Q 2006	2Q 2006
G	G

The sum of the planned and unplanned hours that the Emergency Diesel Generators were not available.

Chart Owner

Salem System Engineering Manager

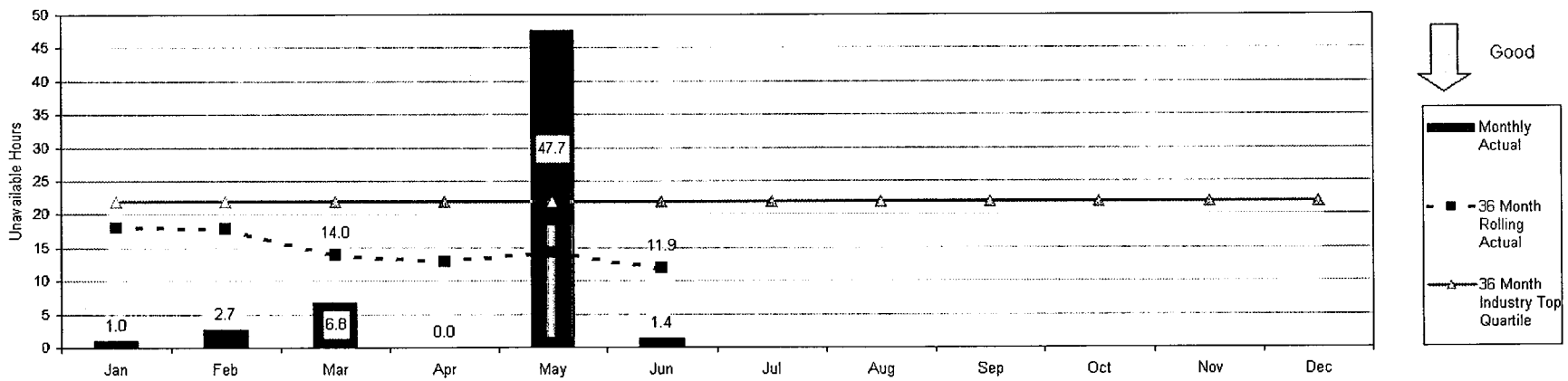
Goal: **21.9 hours per month** (36-month rolling average)



Nuclear plants are designed with a series of redundant safety systems and equipment. This allows equipment to be removed from service for maintenance. This metric monitors the amount of time the Emergency Diesels are out of service, compared against industry top quartile. The total represents the sum of the unavailable hours of the three Emergency Diesel Generators at Salem Unit 1. This is a long-term trend of our performance.

Analysis: Salem Unit 1 Emergency Diesel Generator (EDG) unavailability was 11.8 hours versus a goal of 21.9 hours on a 36-month rolling average. The Quarterly goal was met as projected. In May, 1C EDG incurred 47.7 hours of unavailability to repair a cooling water leak that developed on an engine cylinder head fuel injection nozzle sleeve.

Actions: Sustain performance at or below goal.



Salem • Hope Creek GENERATING STATIONS

SALEM UNIT 2 EMERGENCY DIESEL GENERATOR UNAVAILABILITY

Updated: Monthly

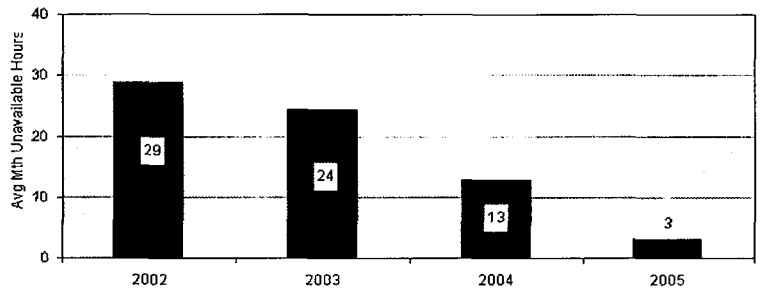
1Q 2006	2Q 2006
G	G

The sum of the planned and unplanned hours that the Emergency Diesel Generators were not available.

Chart Owner

Salem System Engineering Manager

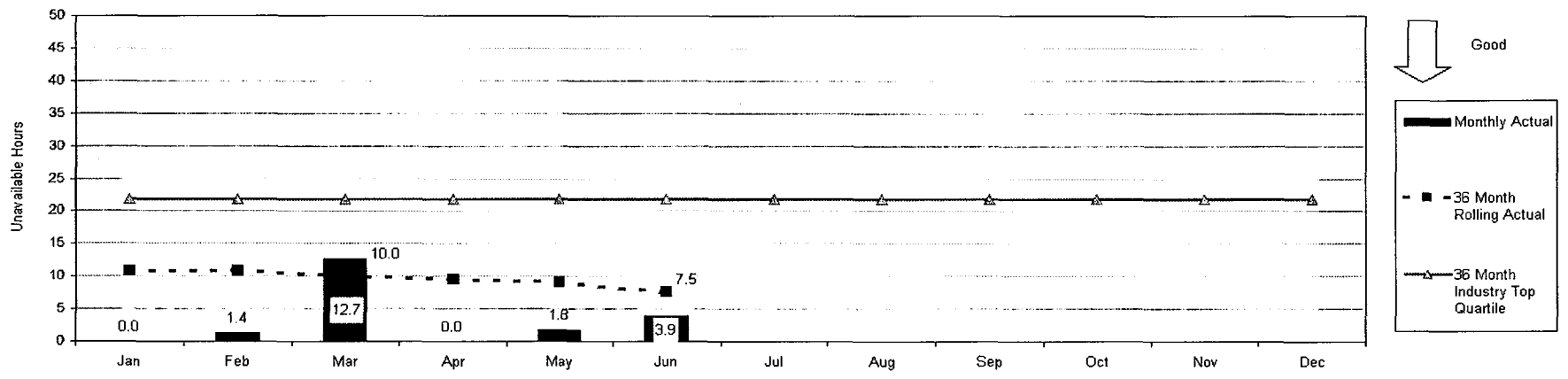
Goal: **21.9 hours per month** (36-month rolling average)



Nuclear plants are designed with a series of redundant safety systems and equipment. This allows equipment to be removed from service for maintenance. This metric monitors the amount of time the Emergency Diesels are out of service, compared against industry top quartile. The total represents the sum of the unavailable hours of the three Emergency Diesel Generators at Salem Unit 2. This is a long-term trend of our performance.

Analysis: Salem Unit 2 Emergency Diesel Generator (EDG) unavailability was 7.5 hours versus a goal of 21.9 hours on a 36-month rolling average. The Quarterly goal was met as projected.

Actions: Sustain performance at or below goal.



Salem Hope Creek GENERATING STATIONS

HOPE CREEK EMERGENCY DIESEL GENERATOR UNAVAILABILITY

Updated: Monthly

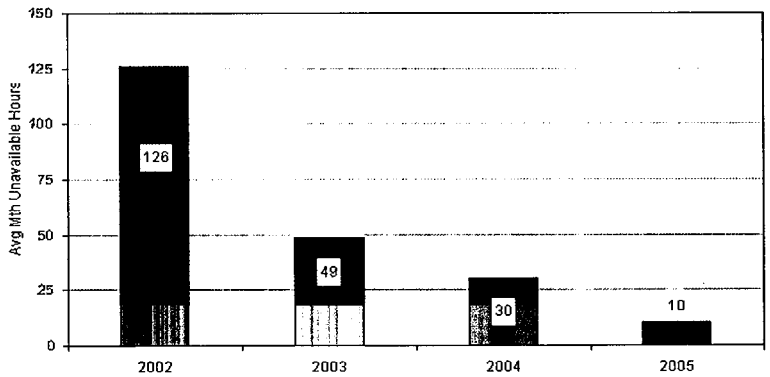
1Q 2006	2Q 2006
G	G

The sum of the planned and unplanned hours that the Emergency Diesel Generators were not available.

Chart Owner

Hope Creek System Engineering Manager

Goal: **29.2 hours per month** (36-month rolling average)

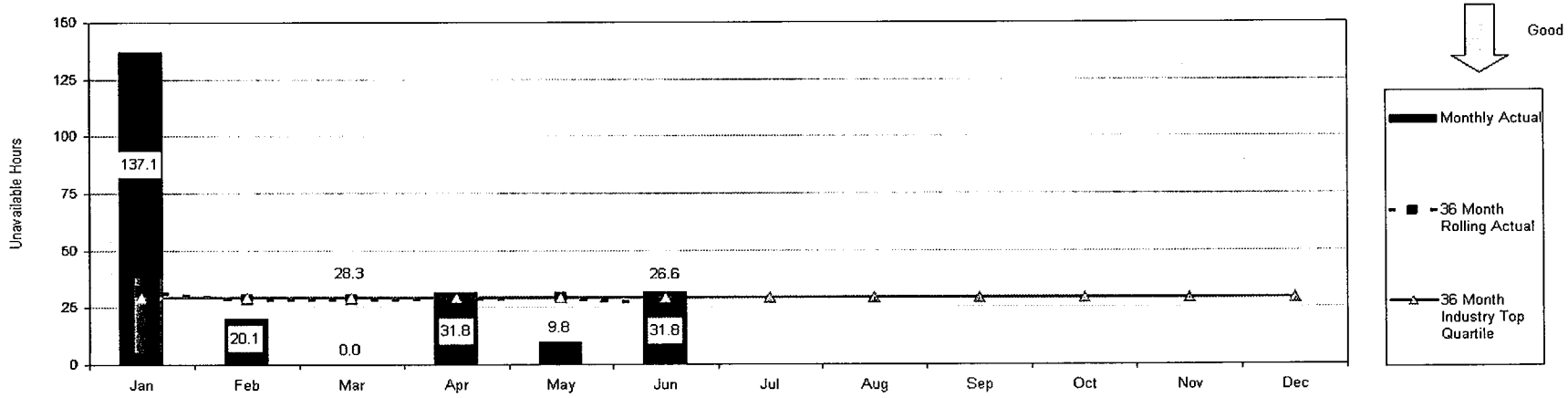


Nuclear plants are designed with a series of redundant safety systems and equipment. This allows equipment to be removed from service for maintenance. This metric monitors the amount of time the Emergency Diesels are out of service, compared against industry top quartile. The total represents the sum of the unavailable hours of the four Emergency Diesel Generators at Hope Creek. This is a long-term trend of our performance.

Analysis and Actions

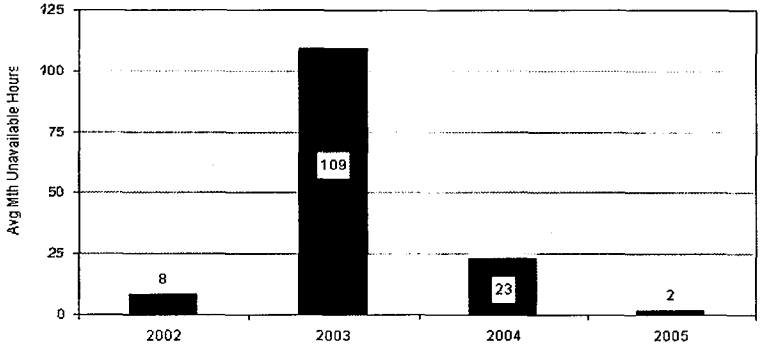
Analysis: Hope Creek Emergency Diesel Generator unavailability met the goal of 29.2 hours on a 36-month rolling average. There were no unplanned unavailability hours in the 2nd Quarter. In April and June, there were 31.8 hours of planned unavailability. The 36 month rolling average goal was met.

Actions: Continue to maintain a high level of availability.



Salem • Hope Creek GENERATING STATIONS

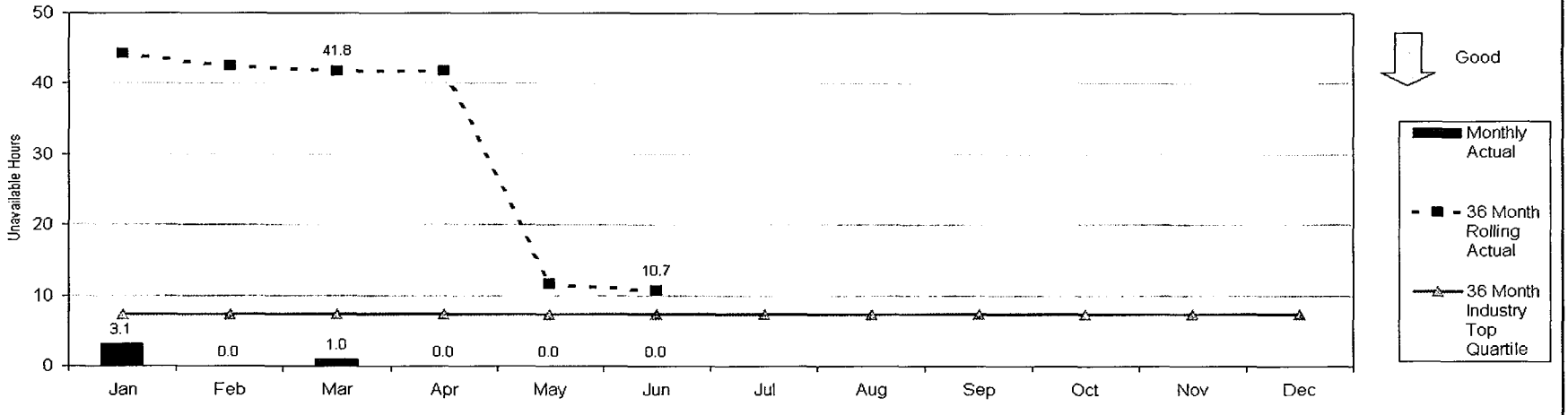
SALEM UNIT 1 AUXILIARY FEEDWATER SYSTEM UNAVAILABILITY	Updated: Monthly	1Q 2006: R	2Q 2006: R	The sum of the planned and unplanned hours that the Auxiliary Feedwater Systems were not available.
Chart Owner				
Salem System Engineering Manager		**Goal:**		**7.4 hours per month** (36-month rolling average)



Nuclear plants are designed with a series of redundant safety systems and equipment. This allows equipment to be removed from service for maintenance. This metric monitors the amount of time the Salem Unit 1 Auxiliary Feedwater System is out of service compared against industry top quartile. The total represents the sum of the three Auxiliary Feedwater Systems on Salem Unit 1. This is a long-term trend of our performance.

Analysis: Salem Unit 1 Auxiliary Feedwater unavailability was 10.7 hours versus a goal of 7.4 hours on a 36-month rolling average. The goal was not met this Quarter due to the impact of previous system performance (2003-2004). A significant amount of unavailability was removed from this indicator in May due to historical system performance issues from 2003 dropping off the 3-year rolling average. Top quartile performance will be achieved in March 2007.

Actions: *Corrective actions implemented relative to scheduling maintenance during refueling outages will continue to improve system availability.*



SALEM UNIT 2 AUXILIARY FEEDWATER SYSTEM UNAVAILABILITY

Updated: Monthly

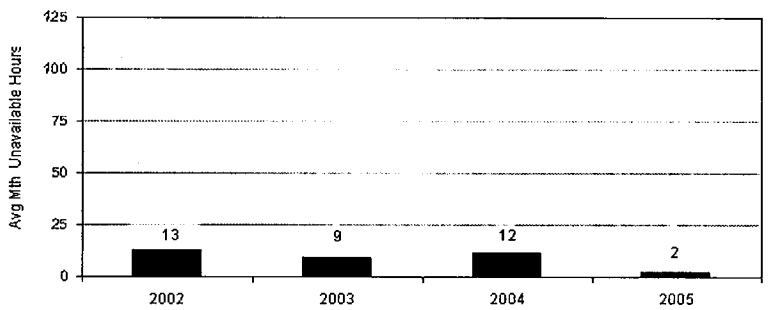
1Q 2006	2Q 2006
G	G

The sum of the planned and unplanned hours that the Auxiliary Feedwater Systems were not available.

Chart Owner

Salem System Engineering Manager

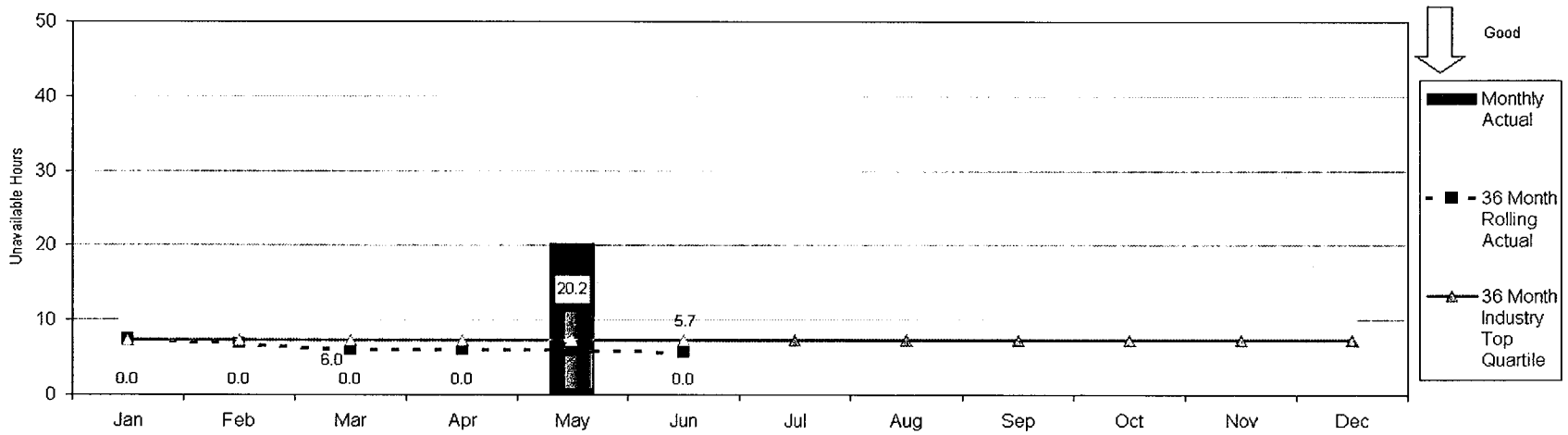
Goal: **7.4 hours per month** (36-month rolling average)



Nuclear plants are designed with a series of redundant safety systems and equipment. This allows equipment to be removed from service for maintenance. This metric monitors the amount of time the Salem Unit 2 Auxiliary Feedwater System is out of service compared against industry top quartile. The total represents the sum of the three Auxiliary Feedwater Systems on Salem Unit 2. This is a long-term trend of our performance.

Analysis: Salem Unit 2 Auxiliary Feedwater unavailability was 5.7 hours versus a goal of 7.4 hours on a 36-month rolling average. The Quarterly goal was met. In May 20.2 hours of unavailability were accrued for the 22 auxiliary feedwater pump when proactive repairs were made to the pump's associated steam generator level control valve. These repairs were completed to prevent a future failure, which would have a negative impact on system reliability.

Actions: Corrective actions which entail performing scheduled maintenance during refueling outages has improved and continued to maintain system unavailability at optimum hours.



Salem • Hope Creek GENERATING STATIONS

HOPE CREEK RESIDUAL HEAT REMOVAL SYSTEM UNAVAILABILITY

Updated: Monthly

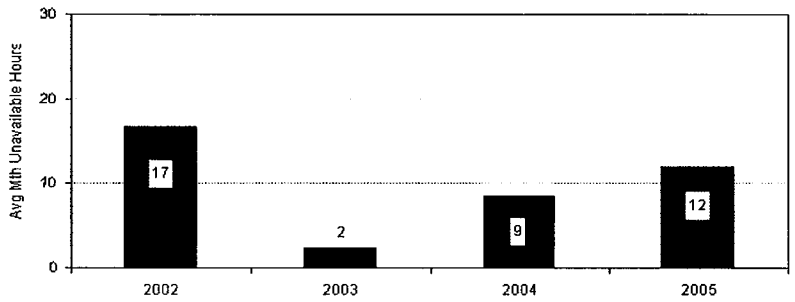
1Q 2006	2Q 2006
G	G

The sum of the planned and unplanned hours that the Residual Heat Removal Systems were not available.

Chart Owner

Hope Creek Site Engineering Director

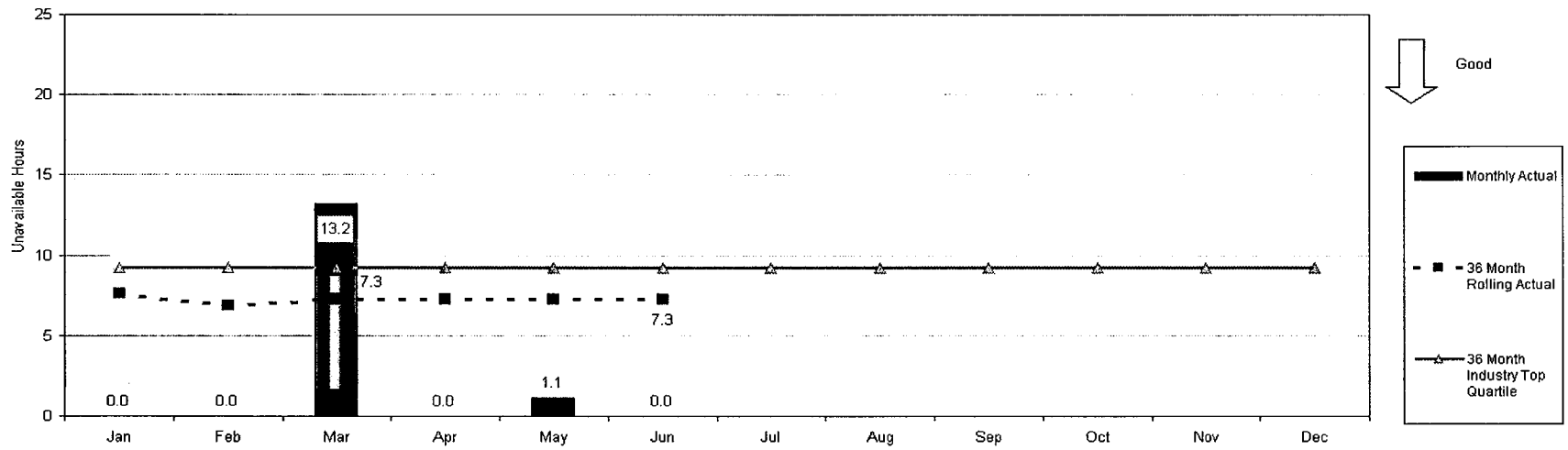
Goal: **9.2 hours per month** **(36-month rolling average)**



Nuclear plants are designed with a series of redundant safety systems and equipment. This allows equipment to be removed from service for maintenance. This metric monitors the amount of time the Hope Creek Residual Heat Removal Systems are out of service compared against industry top quartile. The total represents the sum of both Residual Heat Removal trains at Hope Creek. This is a long-term trend of our performance.

Analysis: RHR System unavailability met the goal of 9.2 hours on a 36-month rolling average throughout the 2nd Quarter.

Actions: Continue to maintain a high level of availability.



Salem • Hope Creek GENERATING STATIONS

SALEM UNIT 1 CHEMICAL VOLUME CONTROL AND SAFETY INJECTION SYSTEM UNAVAILABILITY

Updated: Monthly

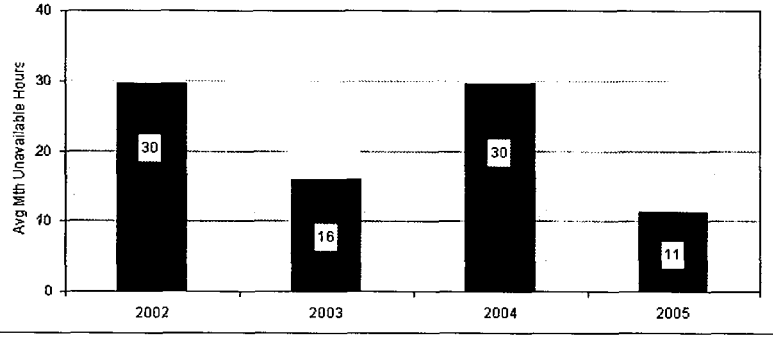
1Q 2006	2Q 2006
R	R

The sum of the planned and unplanned hours that the Chemical Volume Control and Safety Injection Systems were not available.

Chart Owner

Salem System Engineering Manager

Goal: **7.3 hours per month** (36-month rolling average)



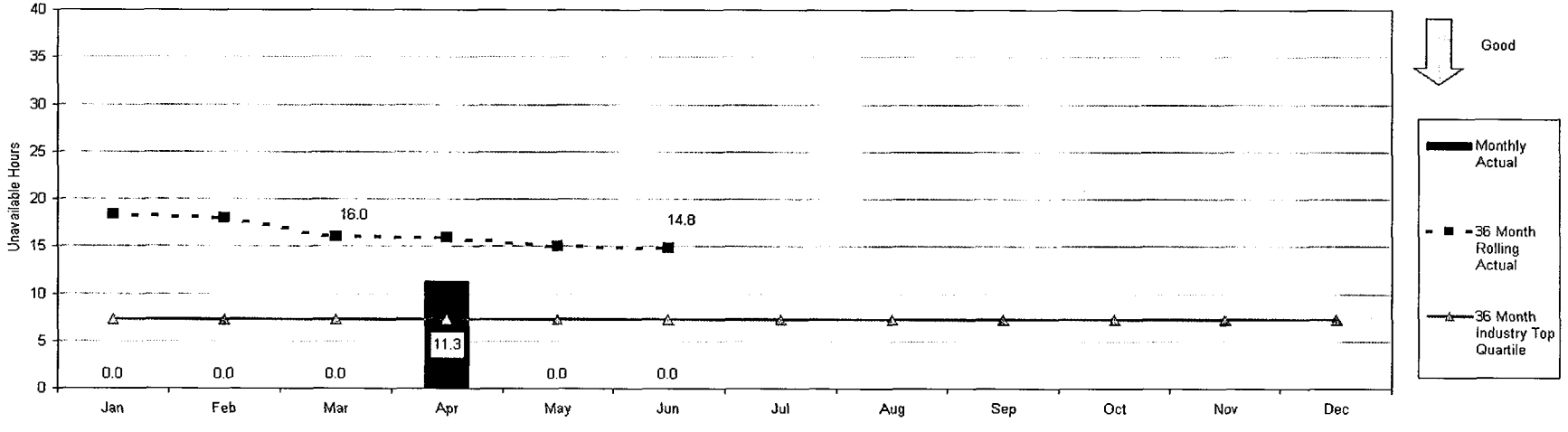
Interpretation

Nuclear plants are designed with a series of redundant safety systems and equipment. This allows equipment to be removed from service for maintenance. This metric monitors the amount of time the Salem Unit 1 Chemical Volume Control and Safety Injection Systems are out of service compared against industry top quartile. The total represents the sum of the four trains on Salem Unit 1. This is a long-term trend of our performance.

Analysis and Actions

Analysis: Salem Unit 1 HPSI unavailability was 14.8 hours versus a goal of 7.3 hours on a 36-month rolling average. The goal was not met this Quarter due to the negative impact of system performance in 2003 through the 1st half of 2005. In April 2006, 11.3 hours of unavailability accrued due to removal of the 12 charging pump from service on two occasions to clean the lube oil cooler, which exhibited biofouling. Continuing at the current level of performance, the goal will be met by September 2007.

Actions: Minimizing unavailability by limiting on-line maintenance work resulted in improved system availability in 2005. This strategy will continue in 2006.



Salem • Hope Creek GENERATING STATIONS

SALEM UNIT 2 CHEMICAL VOLUME CONTROL AND SAFETY INJECTION SYSTEM UNAVAILABILITY

Updated: Monthly

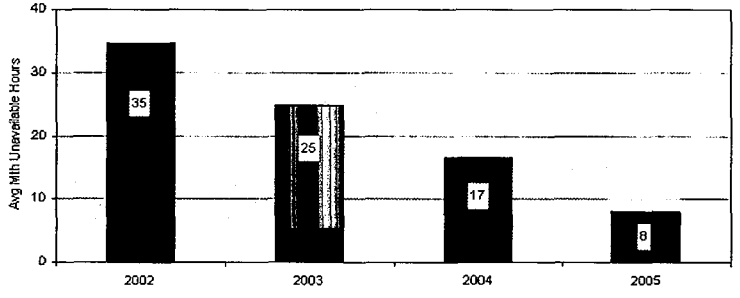
	1Q 2006	2Q 2006
	R	R

The sum of the planned and unplanned hours that the Chemical Volume Control and Safety Injection Systems were not available.

Chart Owner

Salem System Engineering Manager

Goal: **7.3 hours per month** (36-month rolling average)

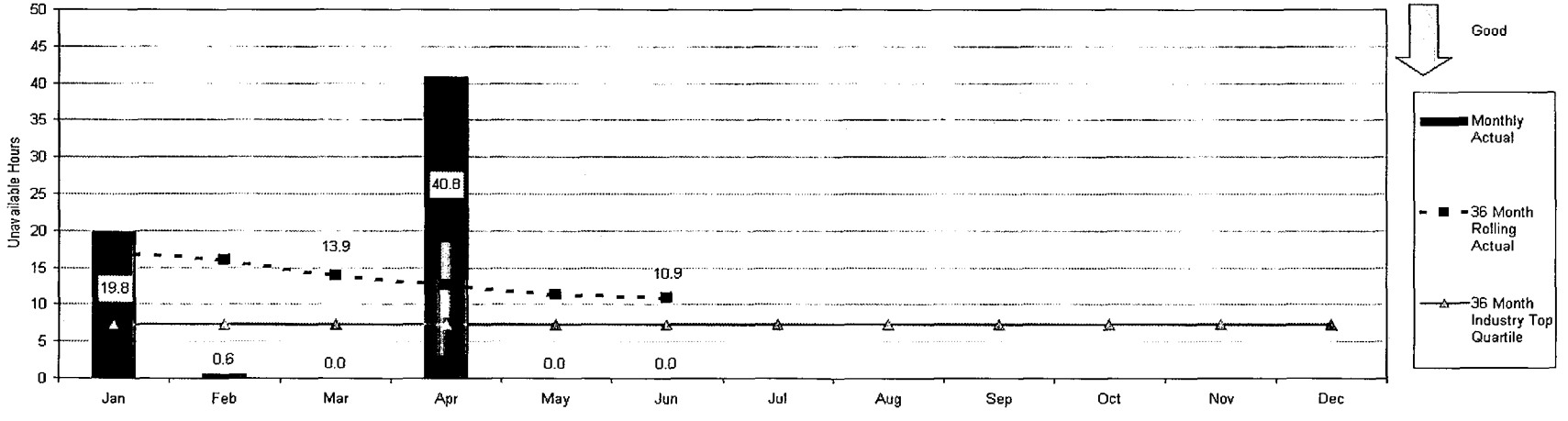


Nuclear plants are designed with a series of redundant safety systems and equipment. This allows equipment to be removed from service for maintenance. This metric monitors the amount of time the Chemical Volume Control and Safety Injection Systems are out of service compared against industry top quartile. The total represents the sum of the four trains on Salem Unit 2. This is a long-term trend of our performance.

Analysis and Actions

Analysis: Salem Unit 2 HPSI unavailability was 10.9 hours versus a goal of 7.3 hours on a 36-month rolling average. The goal was not met this Quarter due to the negative impact of system performance in 2003 through the 1st half of 2005. In April 2006, 40.8 hours of unavailability accrued due to removal of the 21 and 22 charging pumps from service to clean their lube oil coolers which exhibited biofouling, in addition to removal of the 22 charging pump from service to repair the associated discharge check valve which was experiencing unacceptable back leakage. Continuing at the current level of performance, the goal will be met by January 2007.

Actions: Minimizing unavailability by limiting on-line maintenance work resulted in improved system availability in 2005. This strategy will continue in 2006.



HOPE CREEK HIGH PRESSURE INJECTION AND REACTOR CORE ISOLATION COOLING SYSTEM UNAVAILABILITY

Updated: Monthly

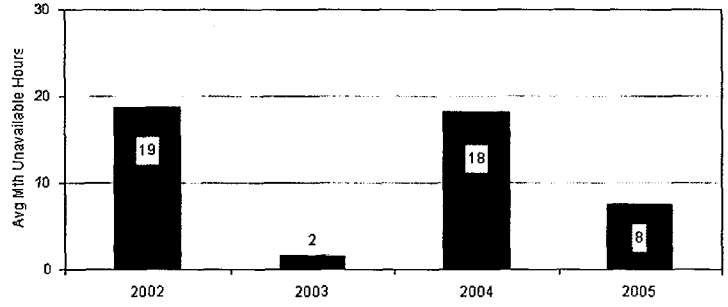
1Q 2006 G | 2Q 2006 G

The sum of the planned and unplanned hours that the High Pressure Injection and Reactor Core Isolation Cooling Systems were not available.

Chart Owner

Hope Creek Site Engineering Director

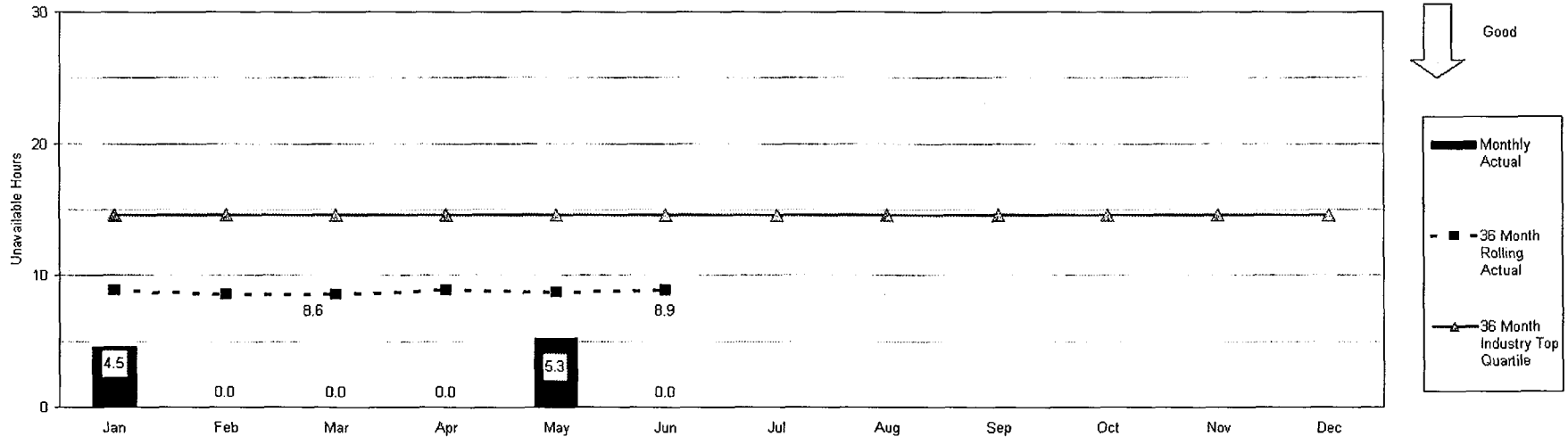
Goal: **14.6 hours per month** (36-month rolling average)



Nuclear plants are designed with a series of redundant safety systems and equipment. This allows equipment to be removed from service for maintenance. This metric monitors the amount of time the High Pressure Injection and Reactor Core Isolation Cooling Systems are out of service compared against industry top quartile. The total represents the sum of both systems at Hope Creek. This is a long-term trend of our performance.

Analysis: Hope Creek High Pressure Injection and Reactor Core Isolation Cooling Systems met the goal of 14.6 hours on a 36-month rolling average.

Actions: Continue to maintain a high level of availability.



Salem • Hope Creek GENERATING STATIONS