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McGuire Nuclear Generation Department
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DUKE POWER

July 31, 1992

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

Subject: McGuire Nuclear Station
Docket Nos: 50-369 and 370
Self Assessment

Dear Sir:

On April 29, 1992, a meeting was held at the NRC/Region II office in Atlanta. At this meeting, Duke Power representatives presented the results of a self assessment of McGuire covering the time period since February 3, 1991. The purpose of this letter is to update the material previously provided. Also attached are the results of an effort that was initiated earlier this year to reduce the backlog of outstanding problem report (PIR's) corrective actions and commitment (MAD) follow-up actions.

If you should have any questions concerning this information, please contact Robert Sharpe at (704) 875-4447.

Very truly yours,

T. C. McMeekin

xc: Mr. S.D. Ebneter
Administrator, Region II
U.S. Nuclear Regulatory Commission
101 Marietta St., NW, Suite 2900
Atlanta, Ga. 30323

Mr. Tim Reed
U.S. Nuclear Regulatory Commission
Office of Nuclear Reactor Regulation
Mail Stop 14H25, OWFN
Washington, D.C. 20555

Mr. P.K. VanDoorn
NRC Resident Inspector
McGuire Nuclear Station

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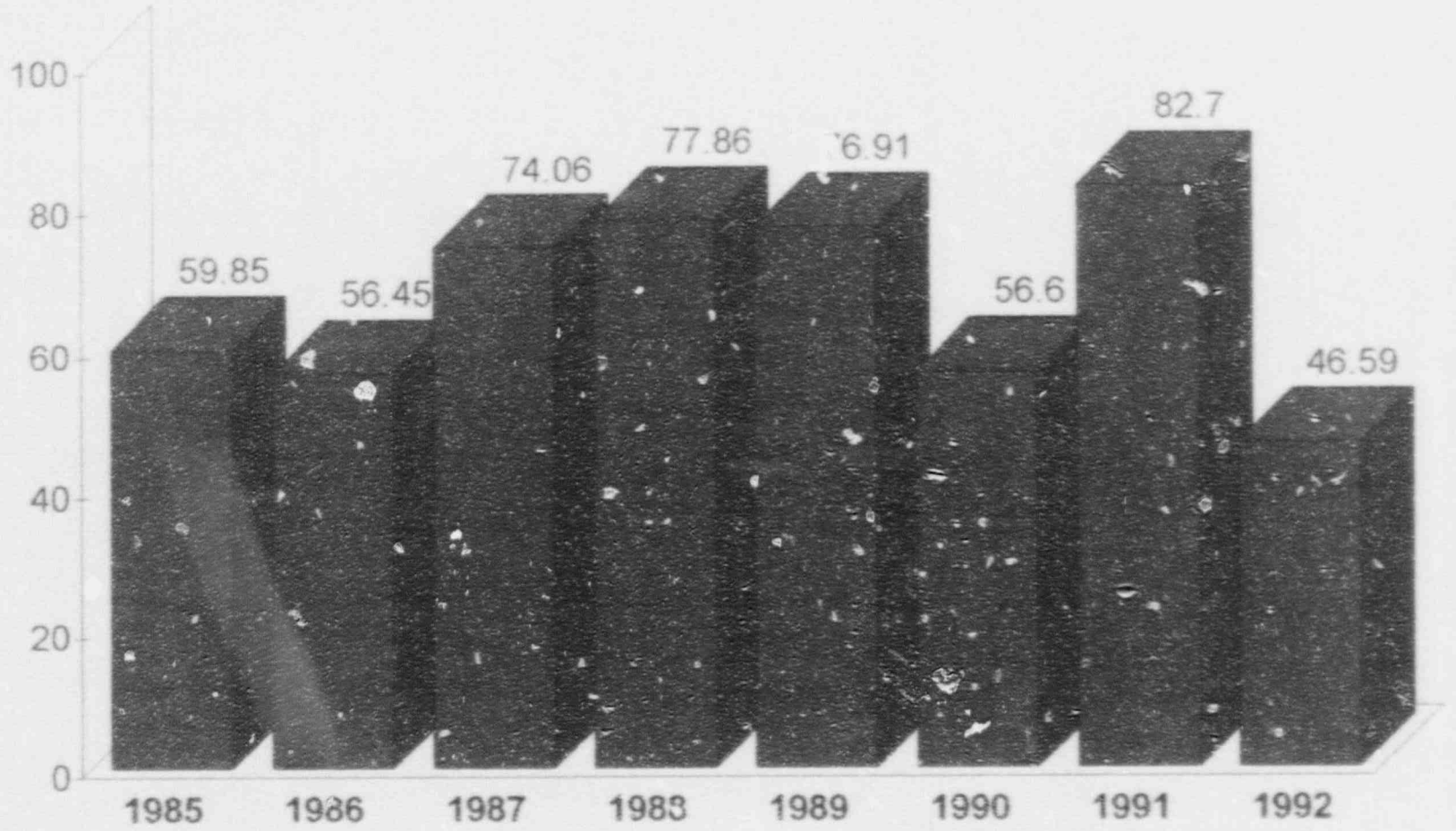
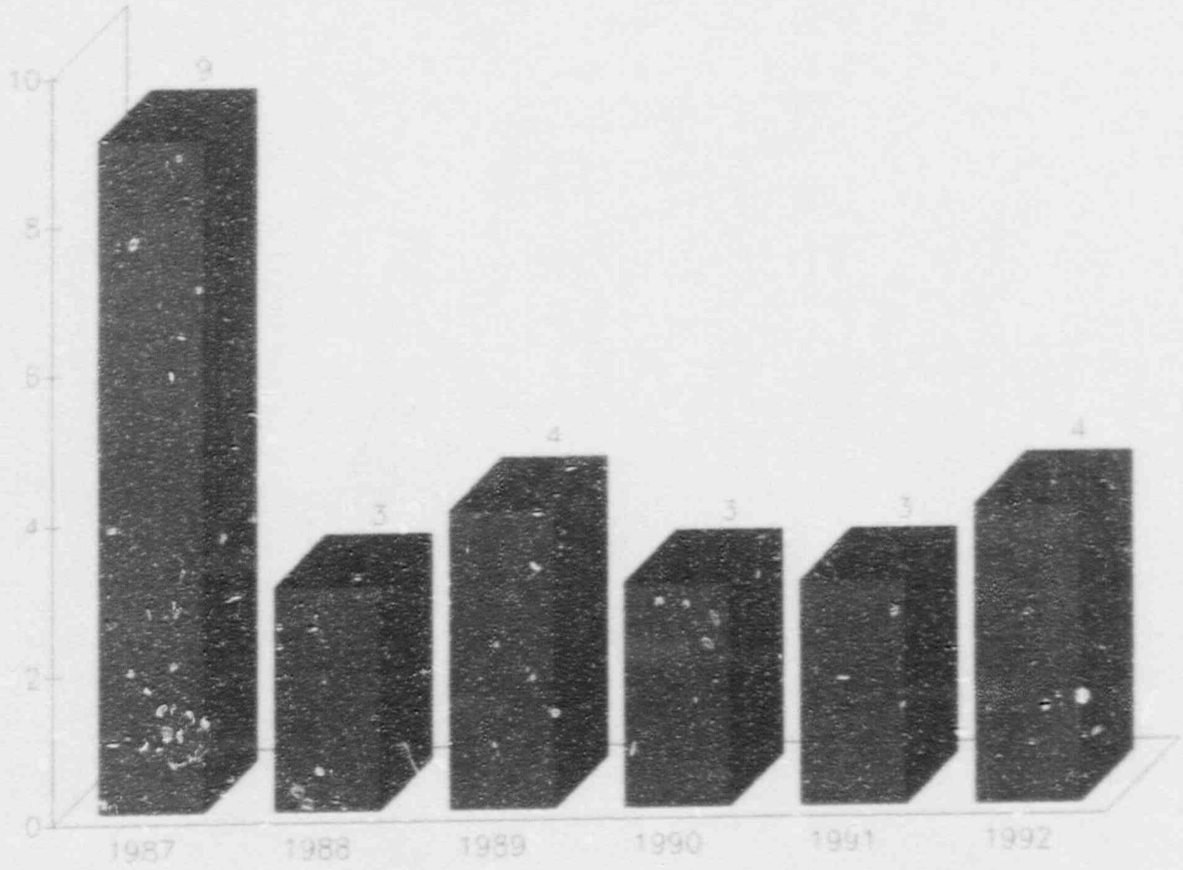
McGUIRE NUCLEAR STATION
YEARLY CAPACITY FACTOR (%)

AS OF JUNE 30, 1992

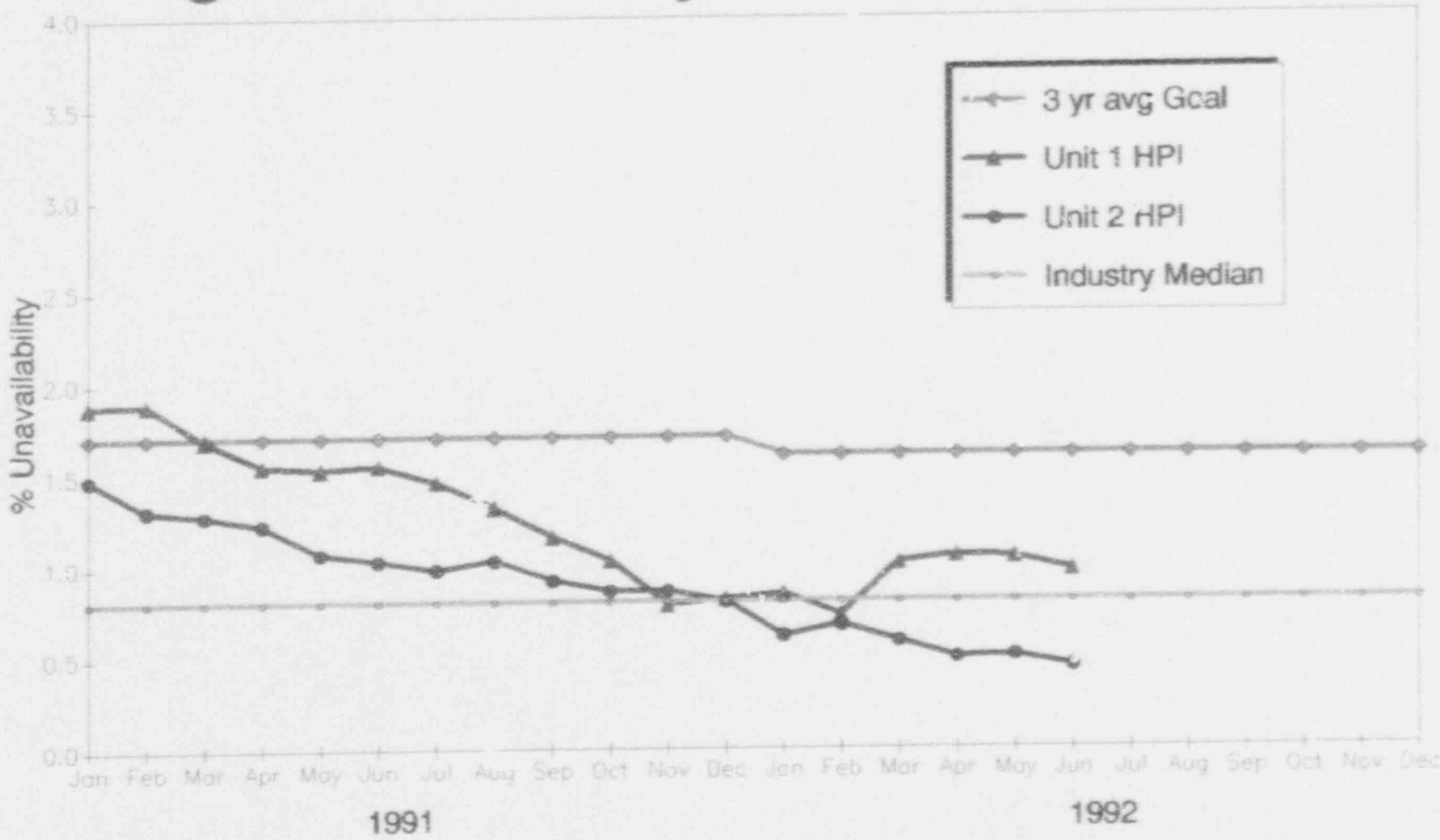


McGUIRE NUCLEAR STATION

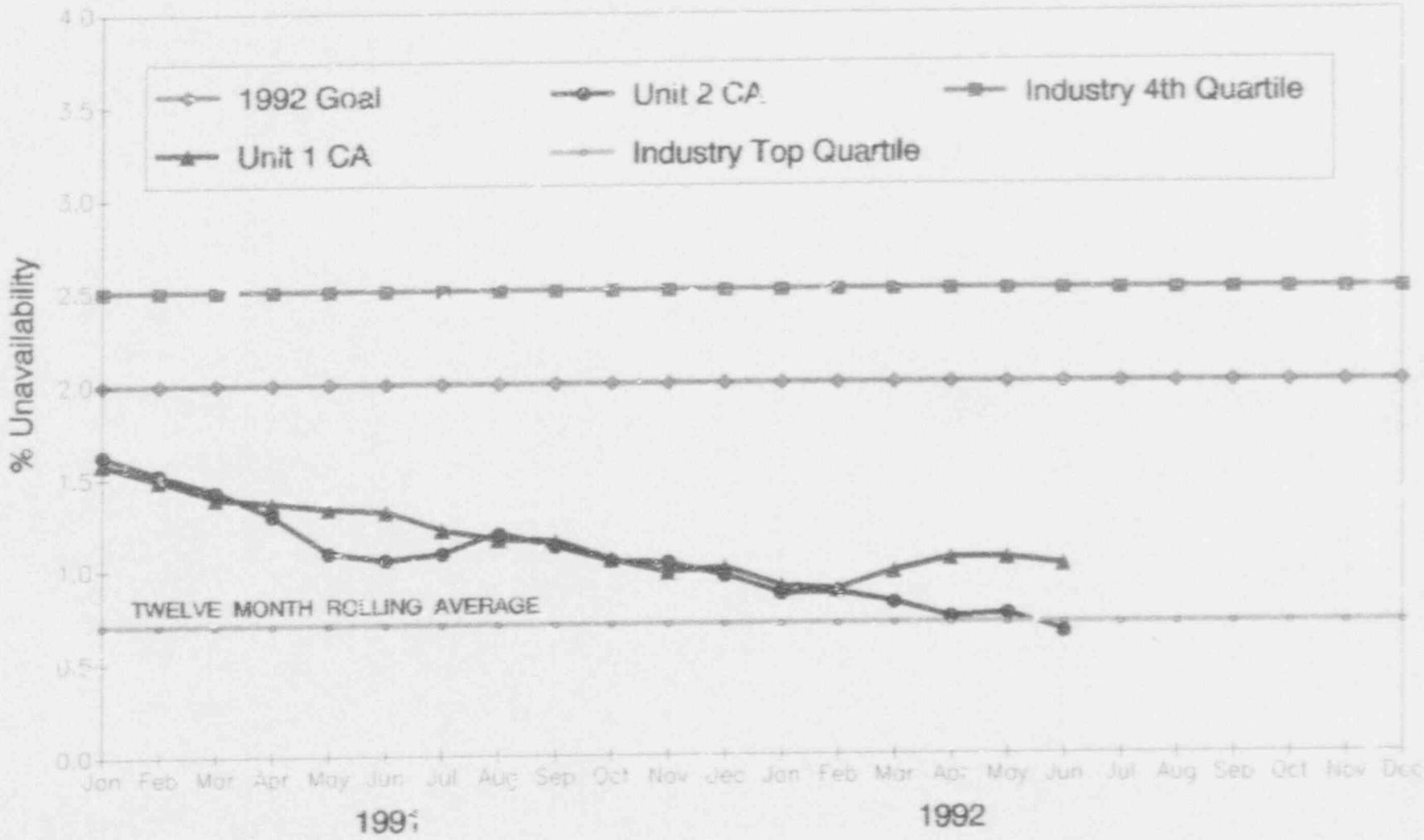
AUTOMATIC REACTOR TRIPS
AS OF JULY 24, 1992



High Pressure Injection Unavailability

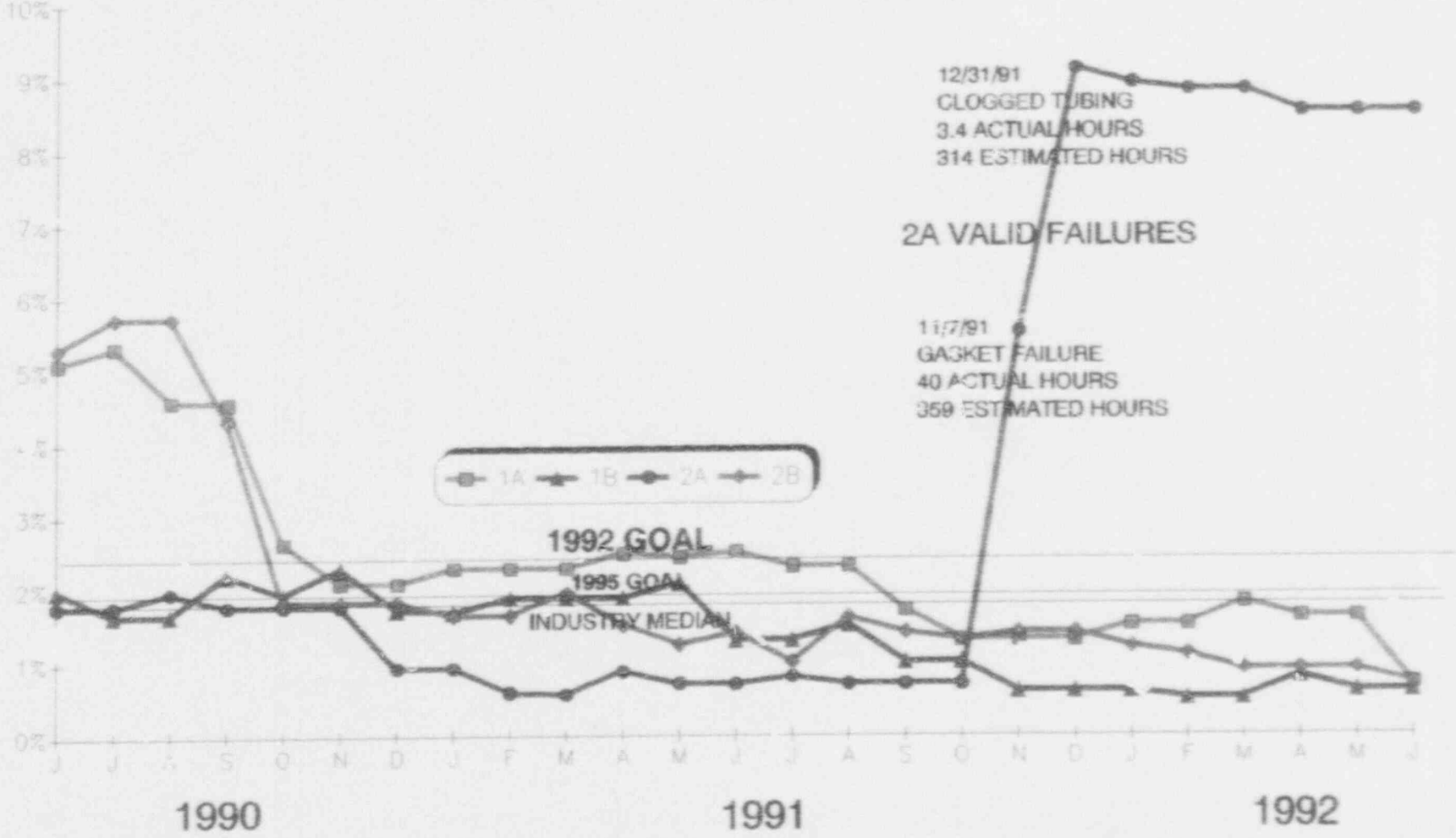


Auxiliary Feedwater Unavailability



DIESEL GENERATOR UNAVAILABILITY

McGUIRE NUCLEAR STATION



ROLLING 12 MONTH TOTAL

RADIOLOGICAL CONTROL

STRENGTHS & INITIATIVES

1. CONTINUED IMPROVEMENT IN CONTAMINATION CONTROL

- Clothing contaminations down by 20% and under station goal for the year
- Decreasing contaminated floor space (~3%)
- Catch Containments continue to be reduced
- QA Surveillance and follow-up improved contamination control

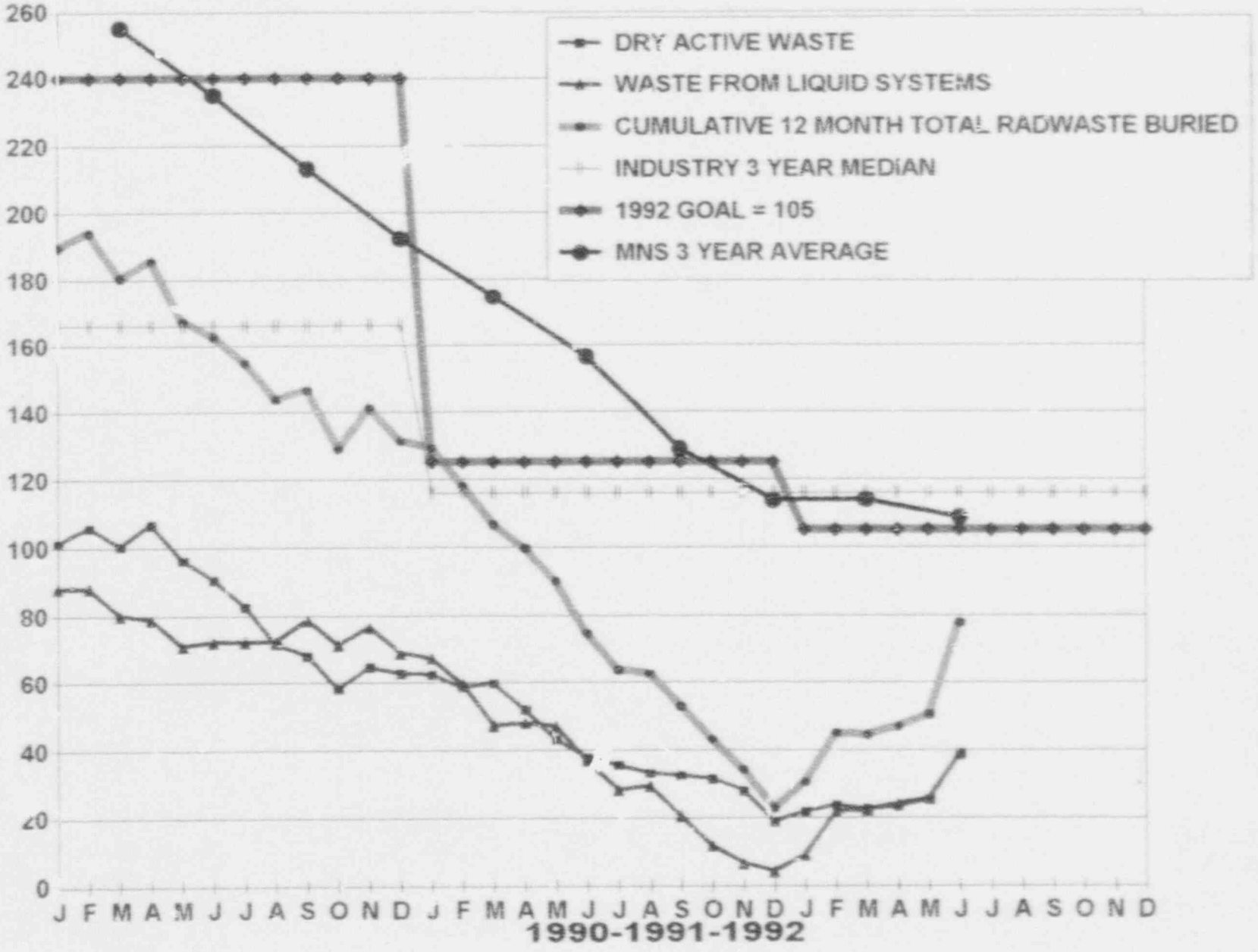
2. CONTINUED IMPROVEMENT IN EFFLUENT CONTROL

- Increased the number of EMFs evaluated daily for anomalies
- Procedure working group continuing to clarify and make procedures more user friendly
- Procedures being revised with one-step statements for IV, NOTES with actions made steps
- IV requirements indicated in bold face type
- Teamed up with Radioactive Material Control Group to modify filter change process to reduce dose

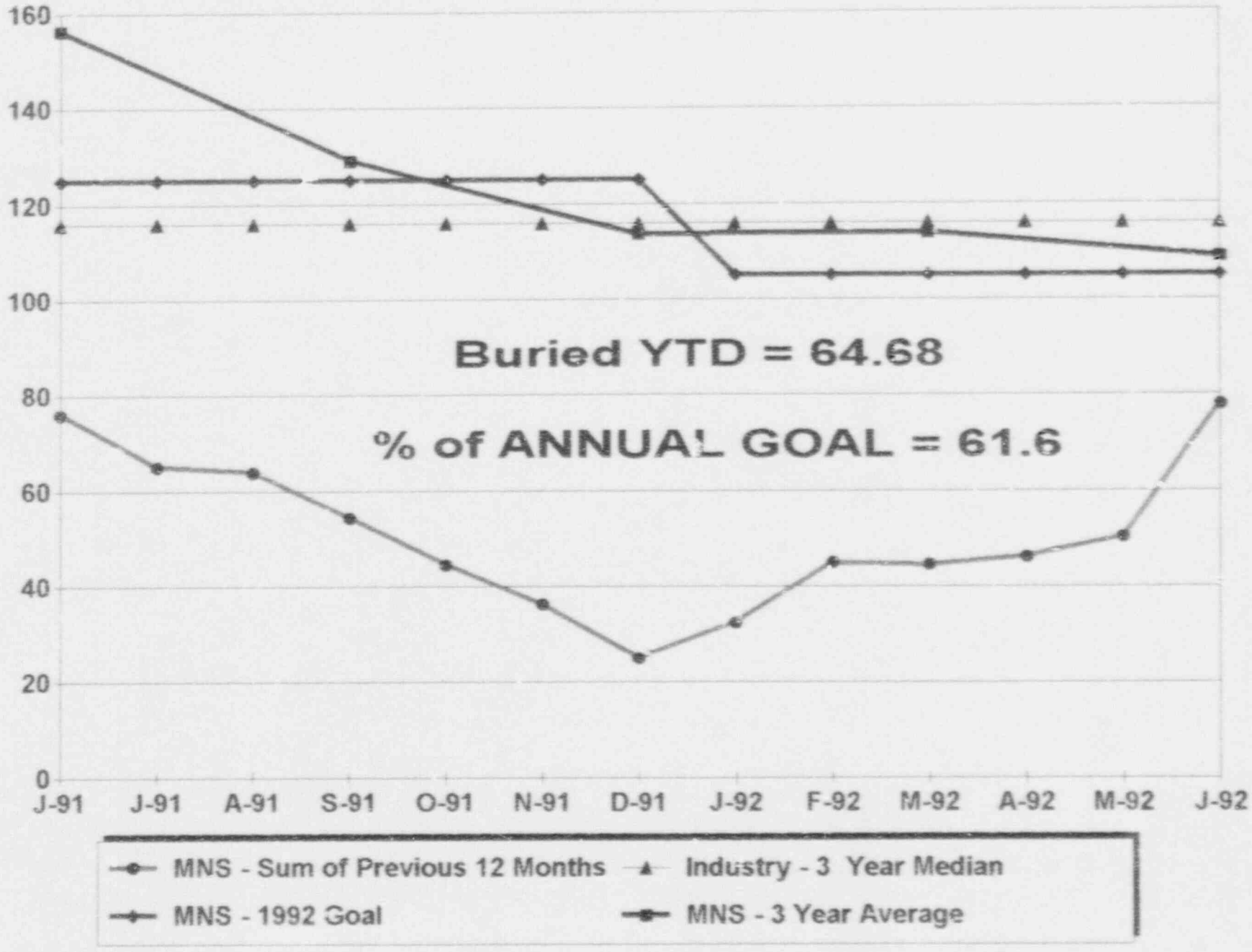
3. CONTINUED IMPROVEMENT IN RADWASTE MANAGEMENT

- Reduced amount of powdex used through more efficient operation of system
- Radwaste minimization working group was formed to determine ways to decrease generation of radwaste
- Increased awareness of radwaste reduction methods through training and incentive program
- Gaseous releases less than 5% of annual limit
- Liquid release is less than 1% of annual limit

McGUIRE- Solid Radwaste Trend



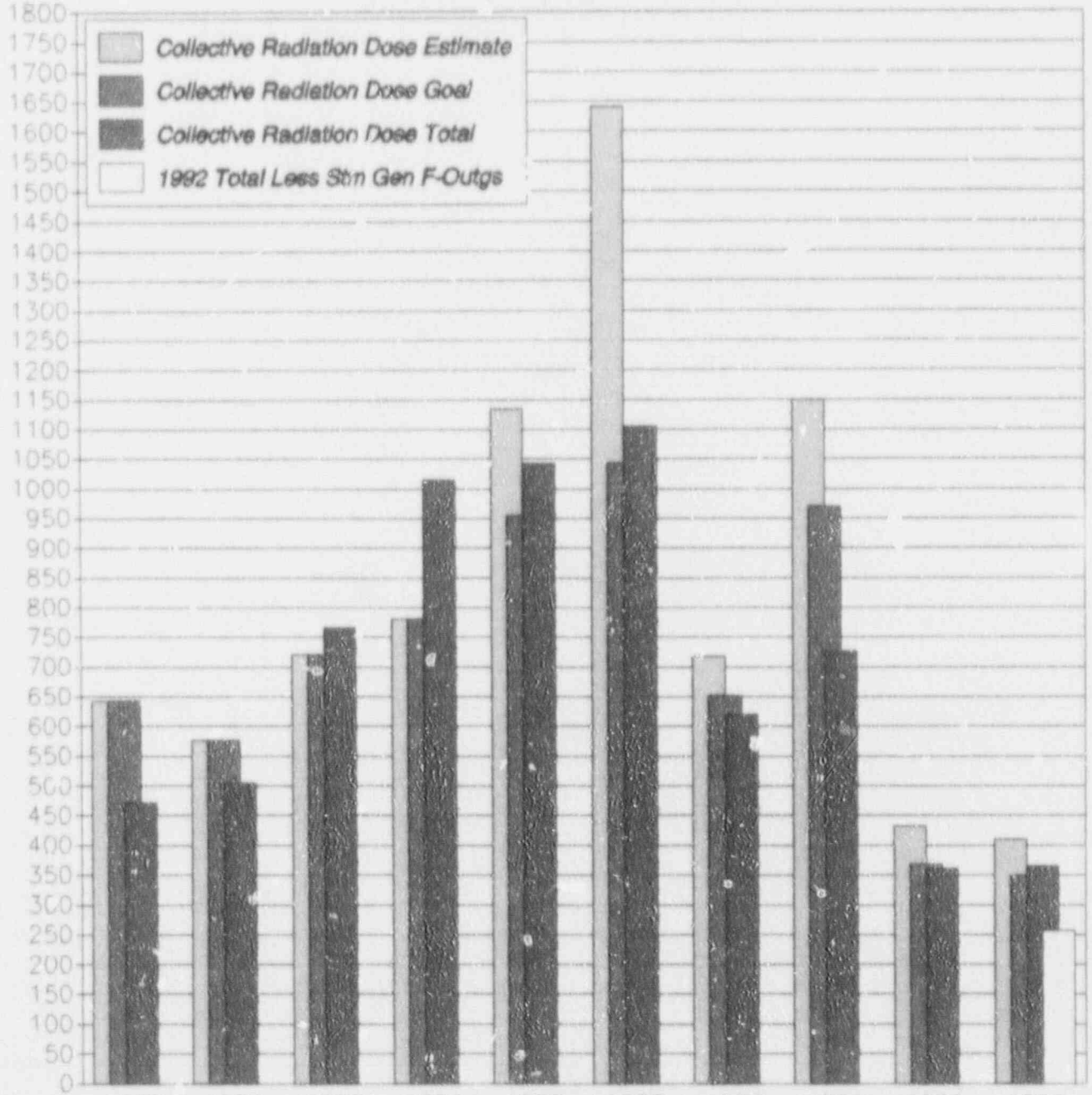
McGUIRE-SOLID RADWASTE



Collective Radiation Dose History

Rem

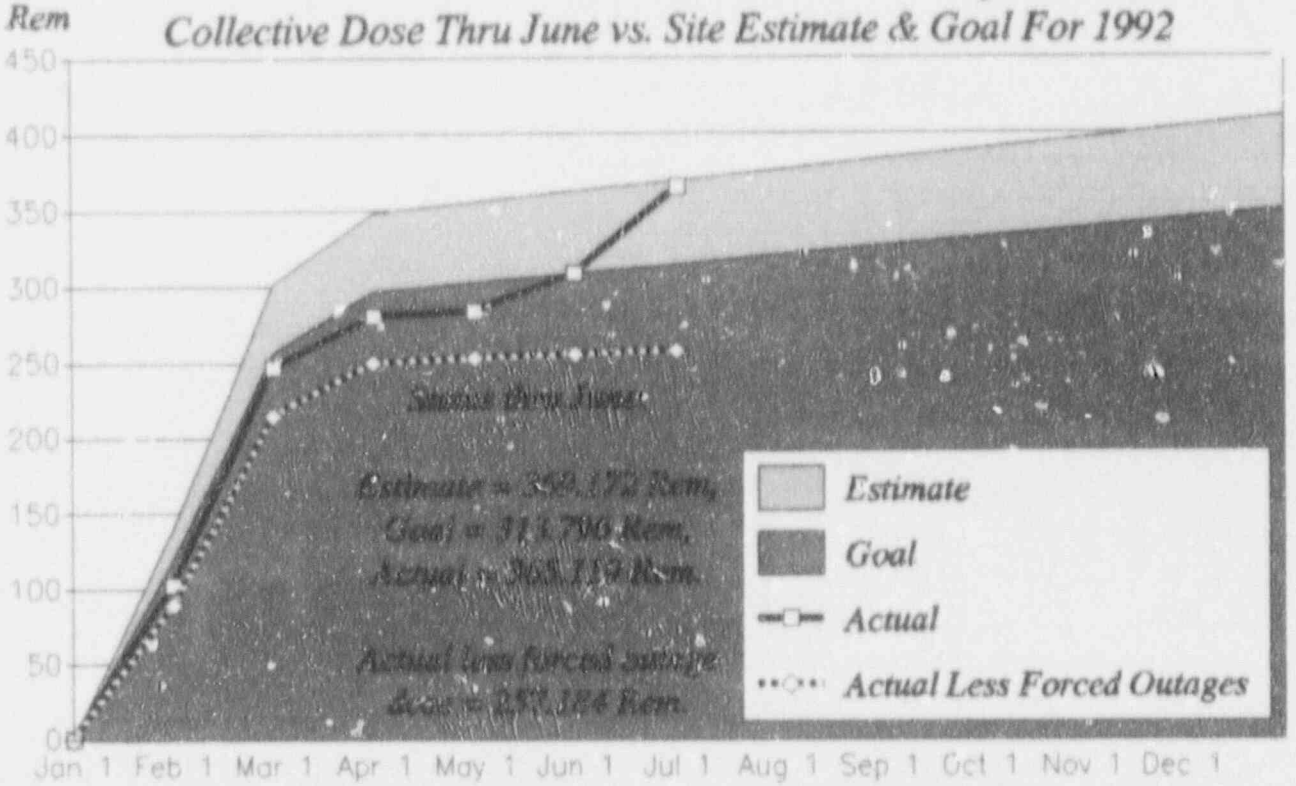
McGuire Nuclear Station

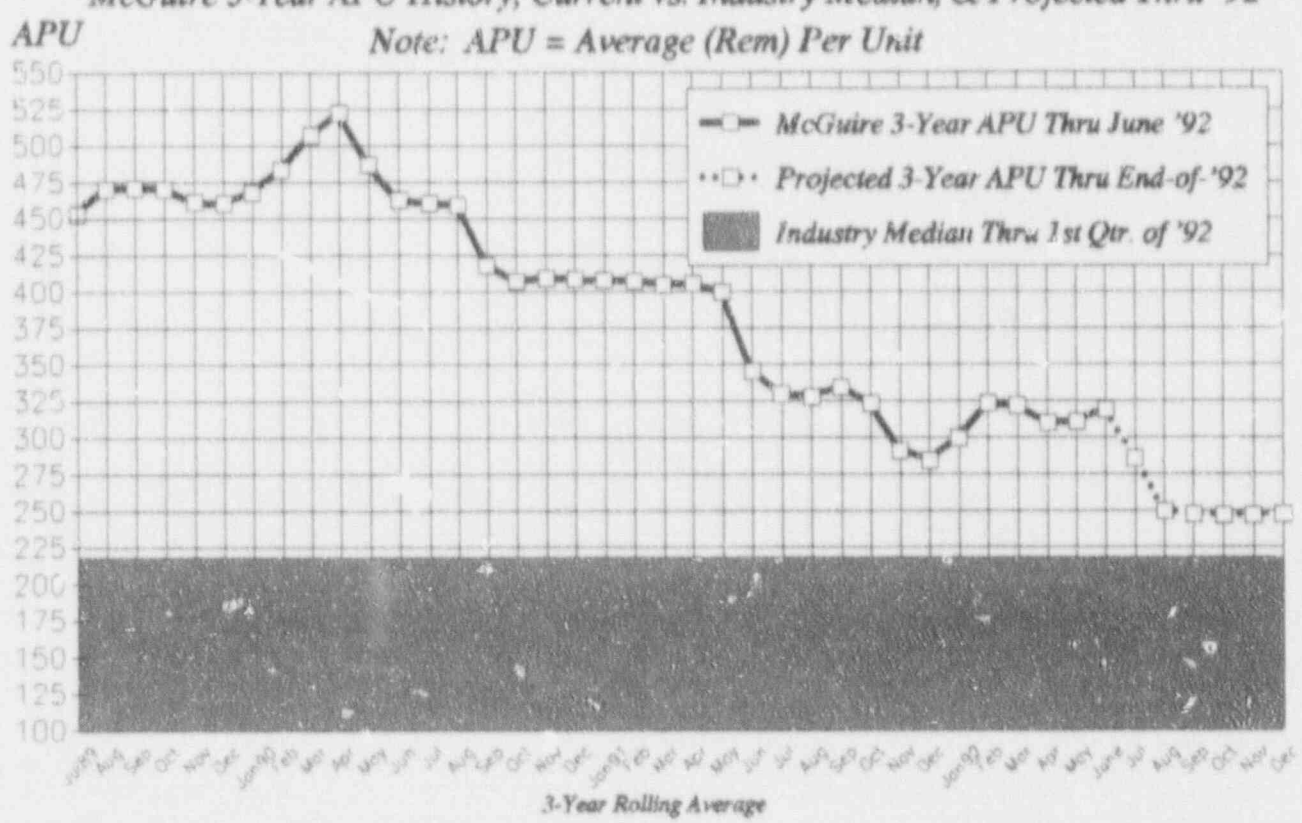


	1983	1984	1985	1986	1987	1988	1989	1990	1991	1992
Estimate...	643	577	721	780	1134	1642	717	1150	433	411
Goal.....	643	577	721	780	954	1043	952	969	368	349
Actual.....	472	506	766	1015	1043	1105	620	727	361	365

1992 Actual Thru June Less Steam Generator Forced Outage Dose > 257

1992 Collective Radiation Dose Performance

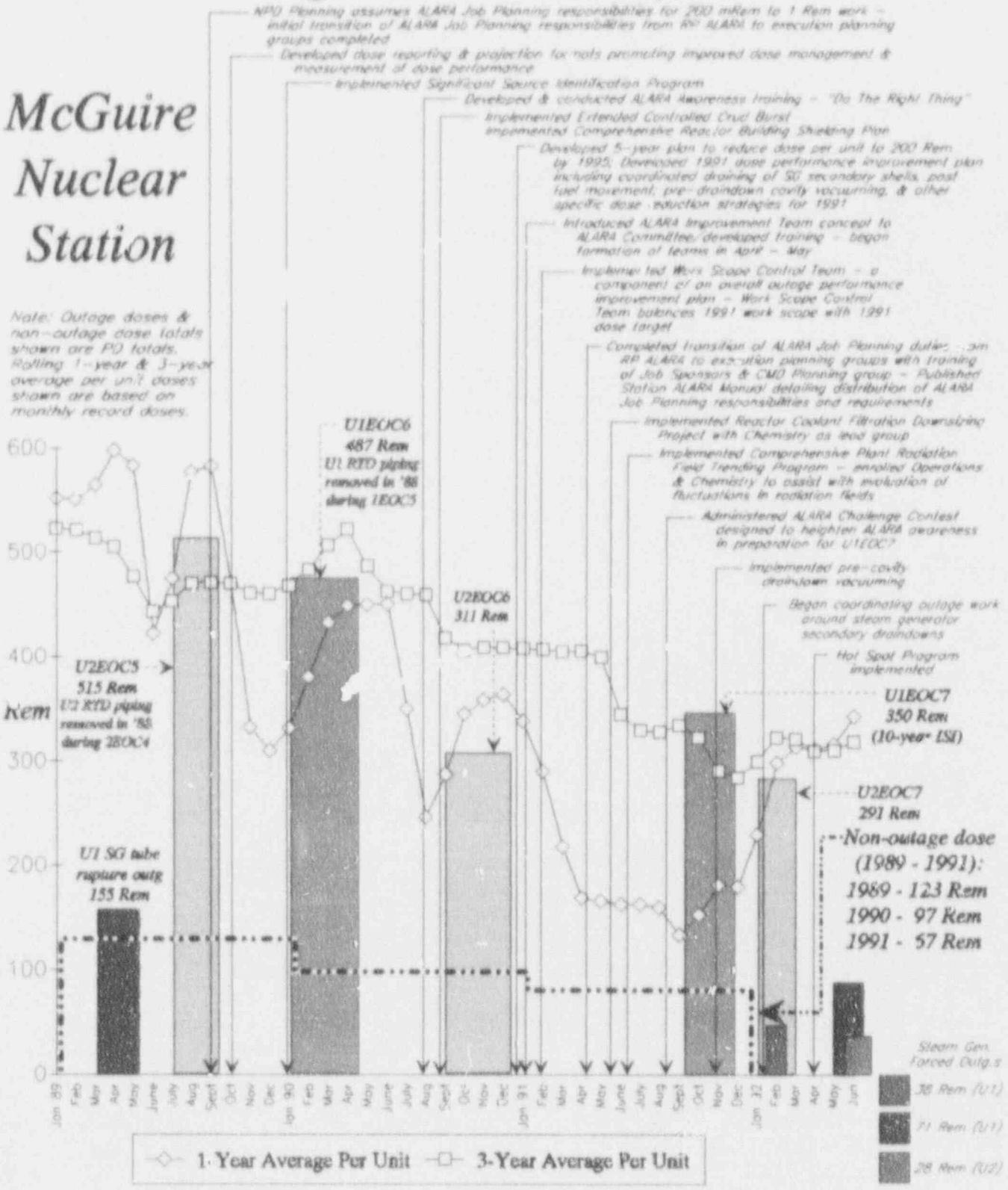




Major ALARA Initiatives - 1989 to Present

Impact Summary

McGuire Nuclear Station



3. IMPROVED MANAGEMENT OF MAINTENANCE ACTIVITIES

- **Managing for Excellence training** has heightened customer awareness and service needs, further increasing teamwork and ownership.

- **Improved safety, quality, and efficiency during outages** resulted from new and/or improved programs. Following are results.

    - Improved communications and increased customer satisfaction
    - Reduced outage lengths
    - Reduced LER's due to maintenance
    - Reduced accumulated radiation exposure
    - Reduce liquid radioactive waste
    - Heightened emphasis on Shutdown Risk Assessment
    - reduced days in mid-loop operation
    - increased Safety System Availability

4. PROCEDURE UPGRADES

- Management has stressed the necessity for having a strong procedure program to fulfill their commitments as well as improving the quality of safe work execution.

    McGuire has improved the procedure upgrade process by involving Site Engineering, Quality Assurance, and Craft Personnel in the task of developing a higher quality procedure. The upgrade process has improved the quality of work execution due to the procedure being more user friendly by incorporating human factors considerations, better drawings, and attachments in the procedure.

    Procedures are upgraded to incorporate the standards of the Nuclear Generation Department Procedure Development Guide, Administrative Policy Manual, and other guidance documents.

- **MECHANICAL MAINTENANCE PROCEDURE UPGRADE STATUS**
  565 Procedures in the Upgrade Program

Percent Complete	Need Validation	New & Major Revisions
43%	47%	11%

- **I & E MAINTENANCE PROCEDURE UPGRADE STATUS**
  888 procedures are in the Upgrade Program

Percent Complete	Priority	Number of Procedures	Criteria
100%	1	246	High potential for Rx Trip High potential for personnel safety Critical Path
64%	2	257	High potential for challenging a safety system Tech Spec and other regulatory required
19%	3	320	Potential impact on plant reliability or performance
0%	4	65	Transmission's procedures – new priority for newly acquired procedures responsibilities (may include above priorities, but prevents re-opening Priority 1 category)

- **REORGANIZATION**

- Reorganization of Duke Power groups will have an effect on the Procedure Upgrade Process. Quality Control, Transmission, and the NSM Teams bring their procedures with them. Maintenance will have over 1450 procedures when the adjustment has been completed and the additional procedures will need upgrading to present standards. As the reorganization progresses, new customers and new or changing needs will demand unplanned resources.

- Other activities that will impact the schedule for changing procedures follow.

  - The new B&W fuel will prompt new procedures.

  - Modifications to systems and components will require procedure changes.

  - Implementation of the Work Management System (WMS) will generate procedure changes.

  - Changes to Procedure Group computer software, hardware and standards will require procedure changes.

  - Unscheduled activities (such as recent S/G outages) that require procedure group support.

- The MNS Procedure Upgrade Program will be a continuing effort for the life of the plant. As guidance documents are revised to incorporate the latest industry standards, procedures will require changes to incorporate these new standards.

- **RISK MANAGEMENT AWARENESS**

- Risk management awareness has been heightened for each individual in Maintenance through the following techniques:

    - Visual aids located in the WCC provide a readily available list of safety related trains and equipment both in and out of service.

    - All daily update sheets list the equipment and trains that must be maintained operable for plant conditions.

    - A dedicated phone line gives the outage status, work in progress, and equipment and safety trains which must be maintained operable.

- The WCC provides a single place to go to begin problem resolution, make decisions priority and direction changes. It improves communication between groups, and removes obstacles to starting work in the mornings. Therefore the WCC was a significant factor in McGuire's improved outage performance.

- An Outage Improvement Team is presently reviewing the accomplishments of the WCC and will make recommendations soon for activities and functions to be continued, changed, or added prior to the 1993 outages.

6. **ENHANCED POST MAINTENANCE TESTING PROGRAM**

- This program continues to be enhanced by identifying additional requirements for testing more components after maintenance tasks. The program has increased emphasis and technical support involvement in the areas of painting, insulation tasks, and equipment identification labeling. During 1991 the testing requirements were made more accessible through a controlled computerized listing of equipment testing requirements.

7. **WORK MANAGEMENT SYSTEMS (WMS) IMPLEMENTATION**

- The station implemented a new computerized work management system in June 1992. The new system has much more information on each job at the station and this data is available to more people. This system allows more detailed job planning, job scheduling, task tracking, failure analysis, and equipment history and data.

- The maintenance planning and station modification planning groups are merging into one organization and will use the same work management computer program. This new organization and common process will greatly enhance control and coordination of station work activities.

MAINTENANCE

CHALLENGES

1. MATERIEL CONDITION BACKLOG IS TOO HIGH

- A task force was established to set standards for plant materiel condition. These standards are addressed in Station Directive 3.11.0. Methods must be developed to reduce the number of general plant materiel condition backlogged work requests.

- The number of catch containments in use continues to decline slowly. The status of the catch containment program is assessed on a monthly basis. See table 1 below.

Table 1. Contamination Control Monthly Summary

Month	Number of Catch Containments Installed	Contaminated Floor Space
December 31, 1991	43	8.5%
January 31, 1992	39	5.0%
February 29, 1992	39	3.7%
March 31, 1992	38	2.9%
April 30, 1992	32	2.9%
May 30, 1992	41	2.9%

2. PROCEDURE ADHERENCE NEEDS FURTHER IMPROVEMENT

- GOALS

- Proper procedure adherence is a goal which Maintenance is continuing to pursue. Several years ago Maintenance defined 100% Quality as a combination of 100% Procedure Adherence and 100% Thought. If there is a problem with a procedure, users are tasked with the responsibility of making changes such that the procedure can be performed as written or, under special conditions, obtaining permission to deviate. There has been increased ownership of procedures by users and this may be the best indicator that MNS is on-track concerning procedure quality and adherence.

- Procedure users today, more than ever, have a heightened awareness of procedure adherence needs. Principles of Managing For Excellence and Foundations reinforce the need to work towards higher quality and will make the job of procedure adherence easier.

- **HUMAN FACTORS**

- There are several new projects which will promote better understanding of procedure adherence, such as:

  - Standardization of certain procedures between stations (those that can be standardized such as maintenance on motors, valves, transmitters, switches, etc.)

  - Changing IV (Independent Verification) to DV (Double Verification) in IAE procedures, consistent with the latest changes in IV philosophy in the Nuclear Generation Department

  - Changes in procedure format has and will continue to provide human factor strengths to procedure performance. Following are some changes.

    - On IAE procedures, adding unit designation in large, bold print at the bottom of every page in Unit 1 and Unit 2 specific procedures to help prevent wrong unit events.

    - Change the procedure font to a slightly larger type-style to provide better visibility/readability.

    - Remove sign-offs from data sheets and place them with the associated steps within the body of the procedure, as applicable.

    - Footnote regulatory and other commitments to ensure applicable steps are flagged in procedures

- **PROCEDURAL COMPLIANCE**

- IAE procedural compliance continues to improve. In 1991, 215 handwritten procedure changes were implemented and 385 procedures were issued as new or revised. This large number of changes is not just an indication of the increase in the total number of procedures over 1990, but reflects the procedure user's concern of maintaining a quality product. The overall number of IAE procedures continue to grow commensurate with the growing needs of IAE.

- **EFFORTS TO IMPROVE PROCEDURAL COMPLIANCE**

- IAE Procedure Adherence Policy: In September 1990, IAE issued a policy on procedure adherence to provide better guidance on adherence concerns for the IAE procedure user while following the required corporate and station guidance document policies

- Mechanical Maintenance personnel have received training in the proper use of procedures. Section 5.0 of the Mechanical Manual allows for some slight variances on procedure usage. These variances must be properly documented per Section 5.0 of the Mechanical Manual. None of the allowable variances affect procedure outcome or acceptance criteria.

- Human Performance Excellence Team (HPET): The team is comprised of various Duke Power group representatives, including QA, Training, and Maintenance. It has led to better communication and feedback between inter-station and intra-station groups.

- Station teams and committees meet to focus on procedure useability, consistency

SECURITY

STRENGTHS & INITIATIVES

1. CONTINUED IMPROVEMENT IN ACCESS CONTROL and AUTHORIZATION

- Trend for Access Control and Authorization events continues to be down. Past corrective measures have proven to be effective.

- BADGE CONTROL
  Badge Control trend also on track. Trend spikes directly related to unit outage periods (increase in non-site assigned personnel). Continuing in our efforts to improve.

2. CONTINUED IMPROVEMENTS IN SECURITY EQUIPMENT/SYSTEMS

Systems Availability This SALP Period

Security Computer	99.7%
Security Doors	99.7%
CCTV System	97.5%*
Intrusion Detection System	92.0%**
Personnel Search Equipment	95.5%**

* Only availability data that was collected during the previous SALP period.
** These systems present challenges.

- CCTV Redesign – All potential vulnerabilities corrected; long term compensatory measure deleted.
- Auxiliary Feedwater Piping Protection – Completed
- PA Lighting – Underway, scheduled for completion July 92
- Containment Access Area – Unit #1: Completed; Unit #2: Completed
- Badge Exit Alarm System – Completed
- PAP Badging Computer Terminal – Completed
  (Reduces demands on Alarm Station operators, increases operator efficiency, and expedites badge transactions)
- PAP On/Offsite Printers Replaced with Video Monitors – Completed (Immediate verification of valid on/offsite transactions allows for a more efficient badge issuance process)

3. CONTINUED IMPROVEMENTS IN SECURITY FORCE PREPAREDNESS

- Revised firearms qualification courses to better align state and federal requirements. Also increased qualification criteria (handgun from 70% to 80%, shotgun from 50% to 70%)
- In the process of upgrading handguns (from standard .38 cal.revolvers to .40 cal. Beretta semi-automatics)
- Above Training & Qualification Plan commitments, night-fire qualification is expected of all armed personnel
- Firearms training program is being revised to reflect a more realistic approach (combat/stress courses)
- Upgraded security firearms instructors' credentials (General and Special Instructor Certification from N.C. Criminal Justice Training and Standards Commission)
- Completed first phase of Tactical Response Team Training curriculum (basic concepts and principles)
- Reorganized security training staff/section (Designated a Training & Qualification 'Supervisor', and assigned five (5) shift OJT Trainers
- Statistically validated job related physical performance and fitness test program implemented

4. CONTINUED MANAGEMENT INVOLVEMENT

- Management attention to the security program continues to be excellent
- Visits to Atlanta for face to face update on security activities (December 1991 and June 1992)
- Monthly review by top site management of security incident reports and trends
- NRC initiatives and policies are closely monitored; Timely and effective implementation is the expected norm
- Corporate representation on NUMARC Security Issue Working Group
- Security Maintenance Focus Group commissioned. Includes representatives from Corporate office and three (3) sites, from multiple disciplines. Evaluating security systems reliability, maintenance history and system upgrade options.

5. IMPROVED PROFESSIONAL DEVELOPMENT

- Employee developmental benefits realized since transition to proprietary security force
  - Initial Management Principles and Concepts Training (IMPACT) for all supervisors
  - Connections/Foundations Training
  - Managing For Excellence Training (four (4) site facilitators from security ranks)
  - Performance Management Training
  - Active participation in employee focus groups (station problem review committee, procedure adherence working group, site communication committee, employee survey focus groups, etc.)
- Utilized temporary (unarmed) security personnel during unit outages (Improved security force effectiveness by limiting amount of overtime worked)

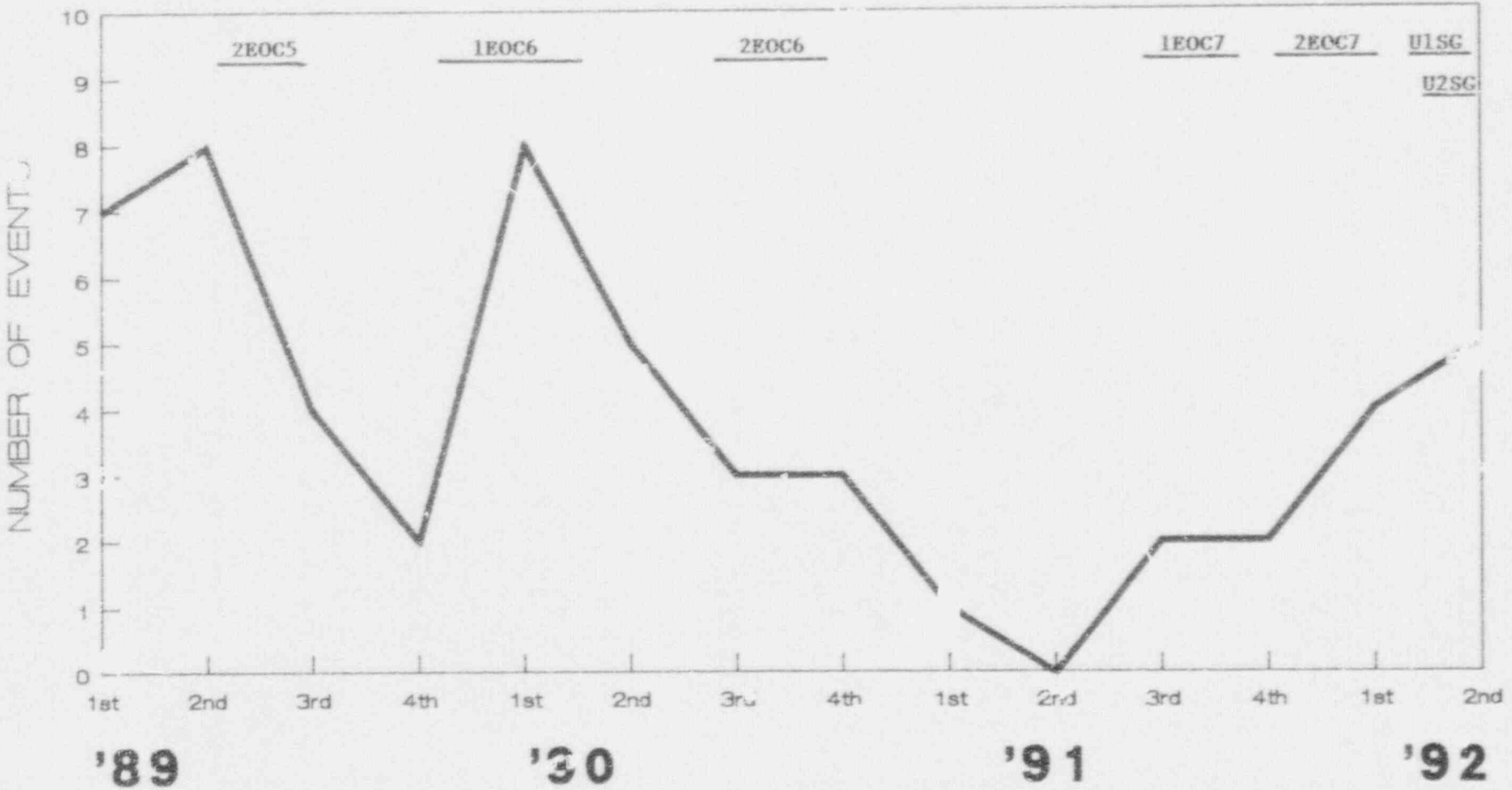
6. EFFECTIVE FITNESS FOR DUTY PROGRAM

From January through December of 1991, McGuire has performed 3171 total drug and alcohol screens of Duke Power employees. Sixteen (16) of these had positive results with a .50% positive rate. Of these sixteen (16) positive screens, nine (9) were for alcohol. Four (4) of the sixteen (16) were at the Duke cut-off level. McGuire has also performed 877 drug and alcohol screens of vendor/contractor employees. Six (6) of these had positive results with a positive rate of .68%. Two (2) of the six (6) positive tests were for alcohol. One was at the Duke cut-off level.

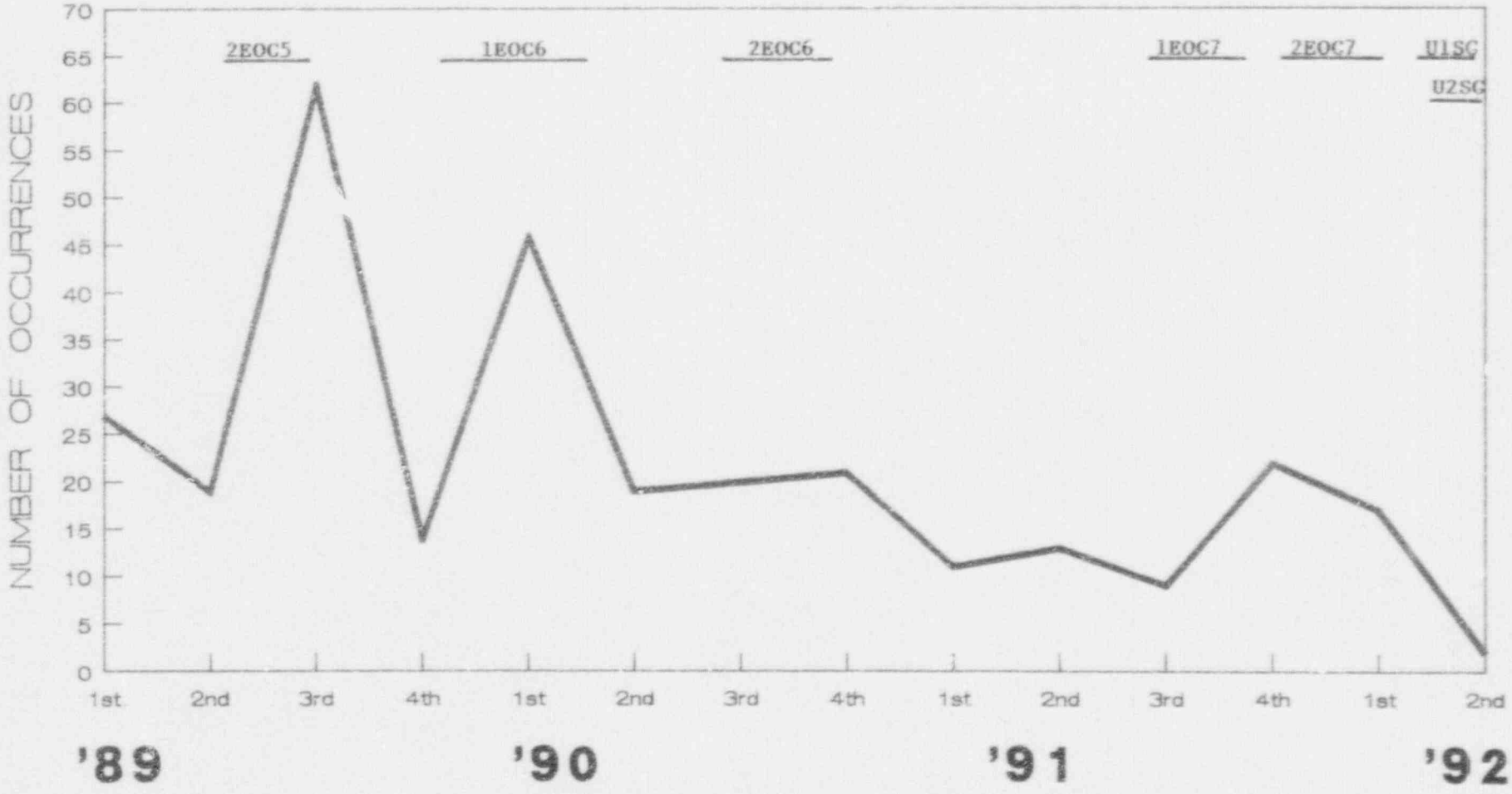
From January through June of 1992, McGuire has performed 1304 total drug and alcohol screens of Duke employees. Eight (8) of these had positive results with a 0.61% positive rate. Of these eight (8) positive screens, two (2) were for alcohol. Four (4) of the eight positives were at the Duke cut-off level. McGuire has also performed 263 drug and alcohol screens of vendor/contractor employees of which none were positive. McGuire experienced one (1) positive alcohol preaccess screen.

This information is random screening information only; i.e., does not include any of the "positives" from DWI arrests, self-referrals, supervisory referrals or For Cause screens.

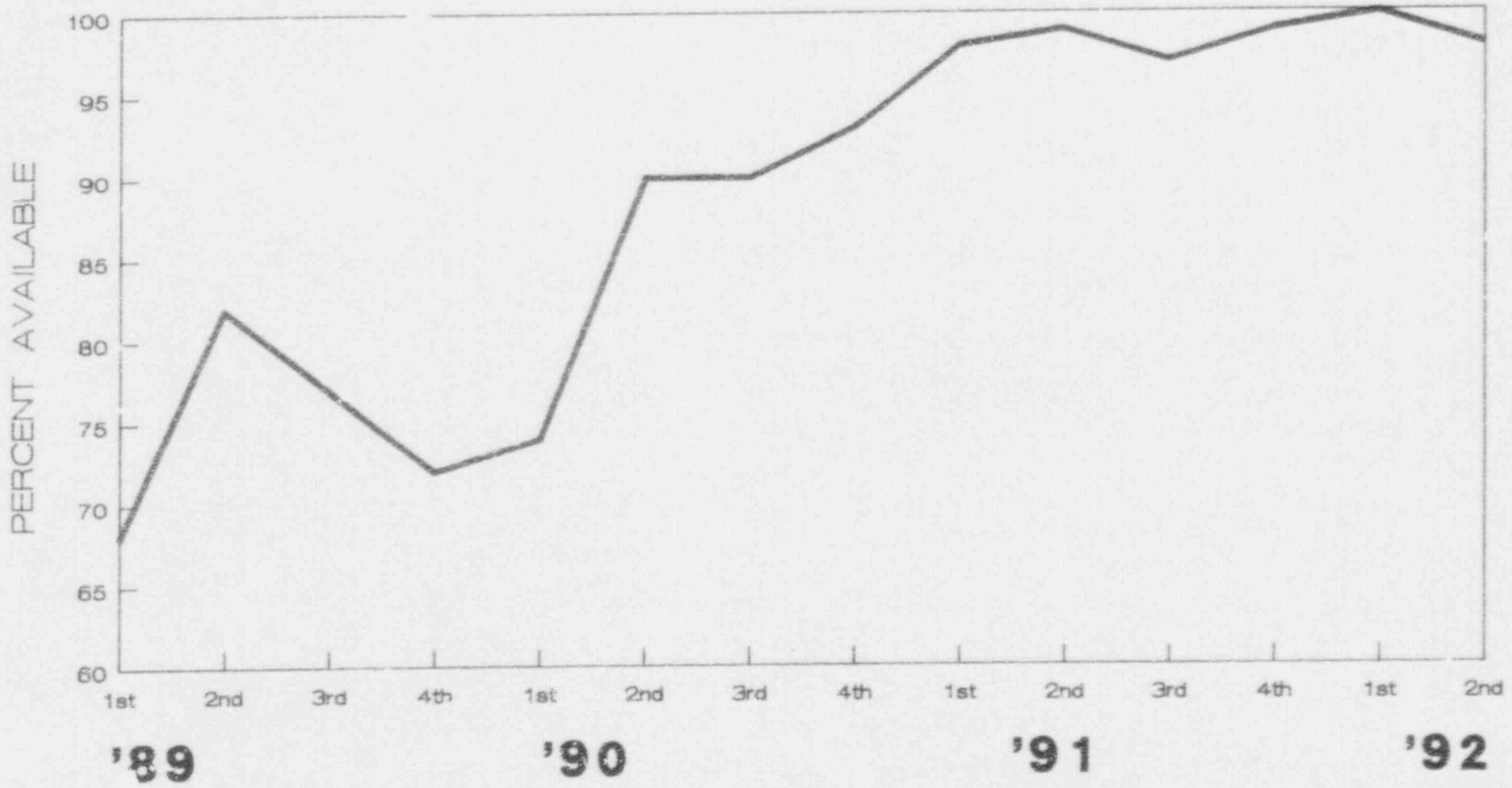
ACCESS CONTROL AND AUTHORIZATION



BADGE CONTROL

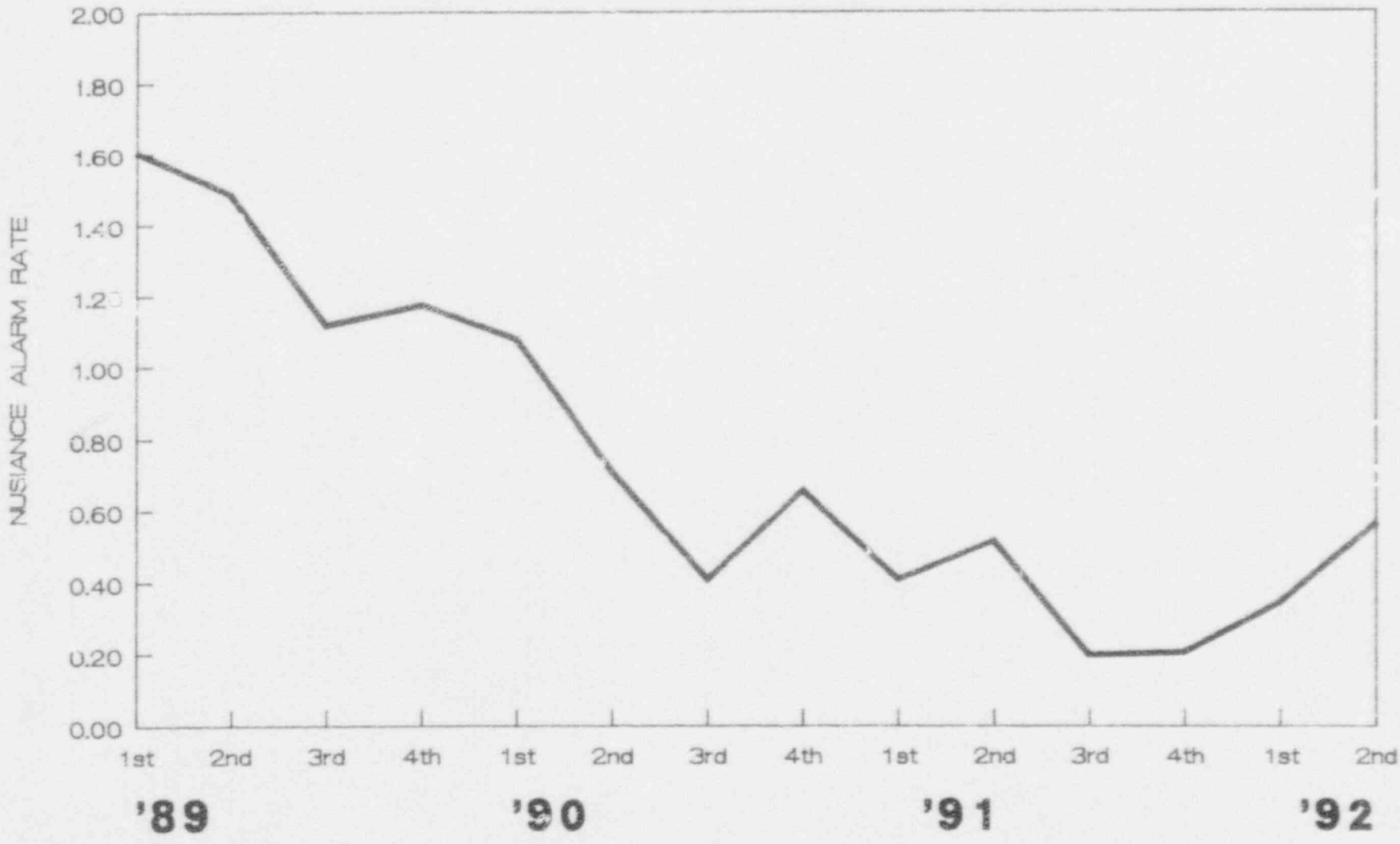


CCTV SYSTEM AVAILABILITY

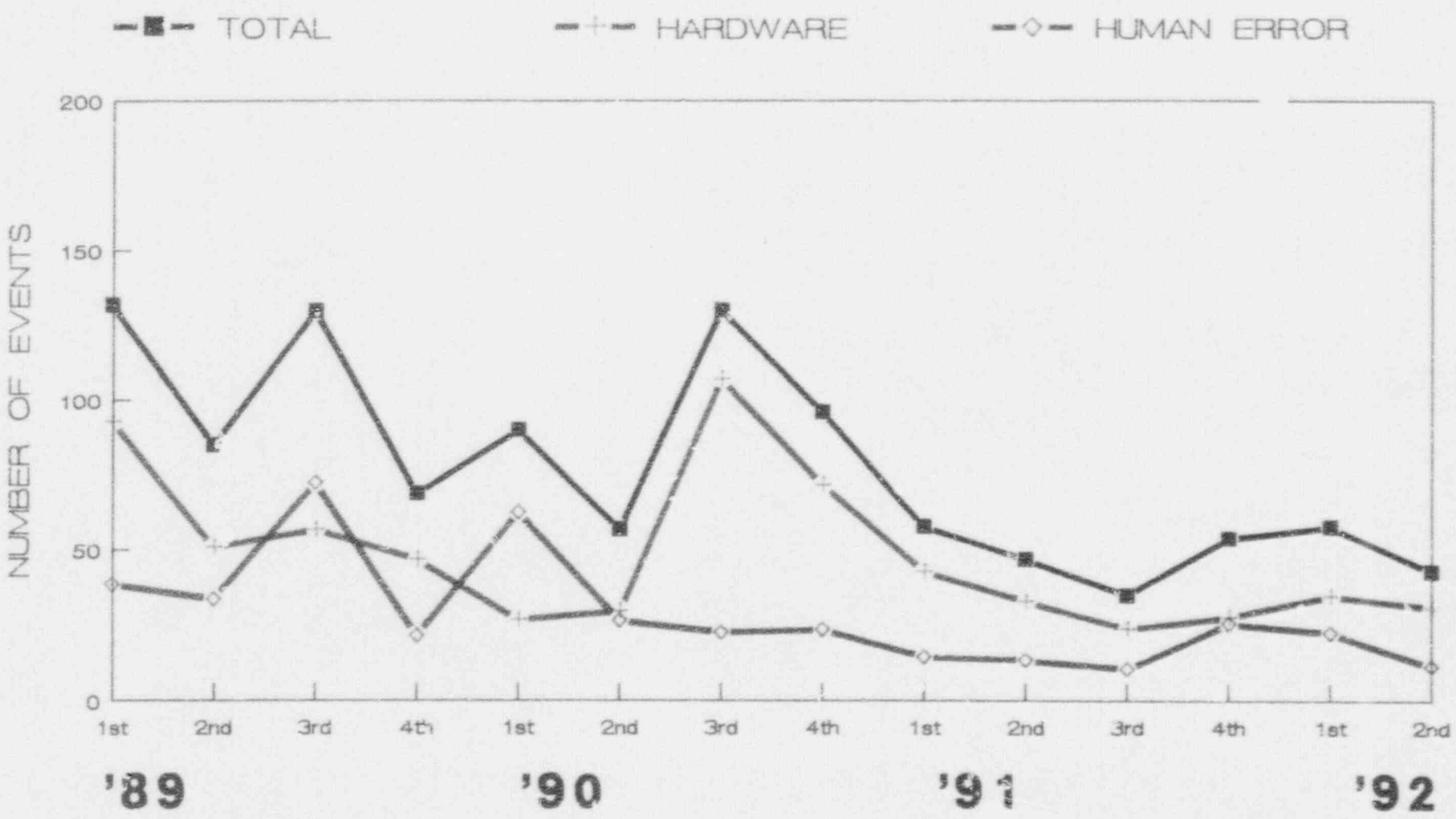


MICROWAVE NUISANCE ALARMS

NUISANCE ALARM RATES

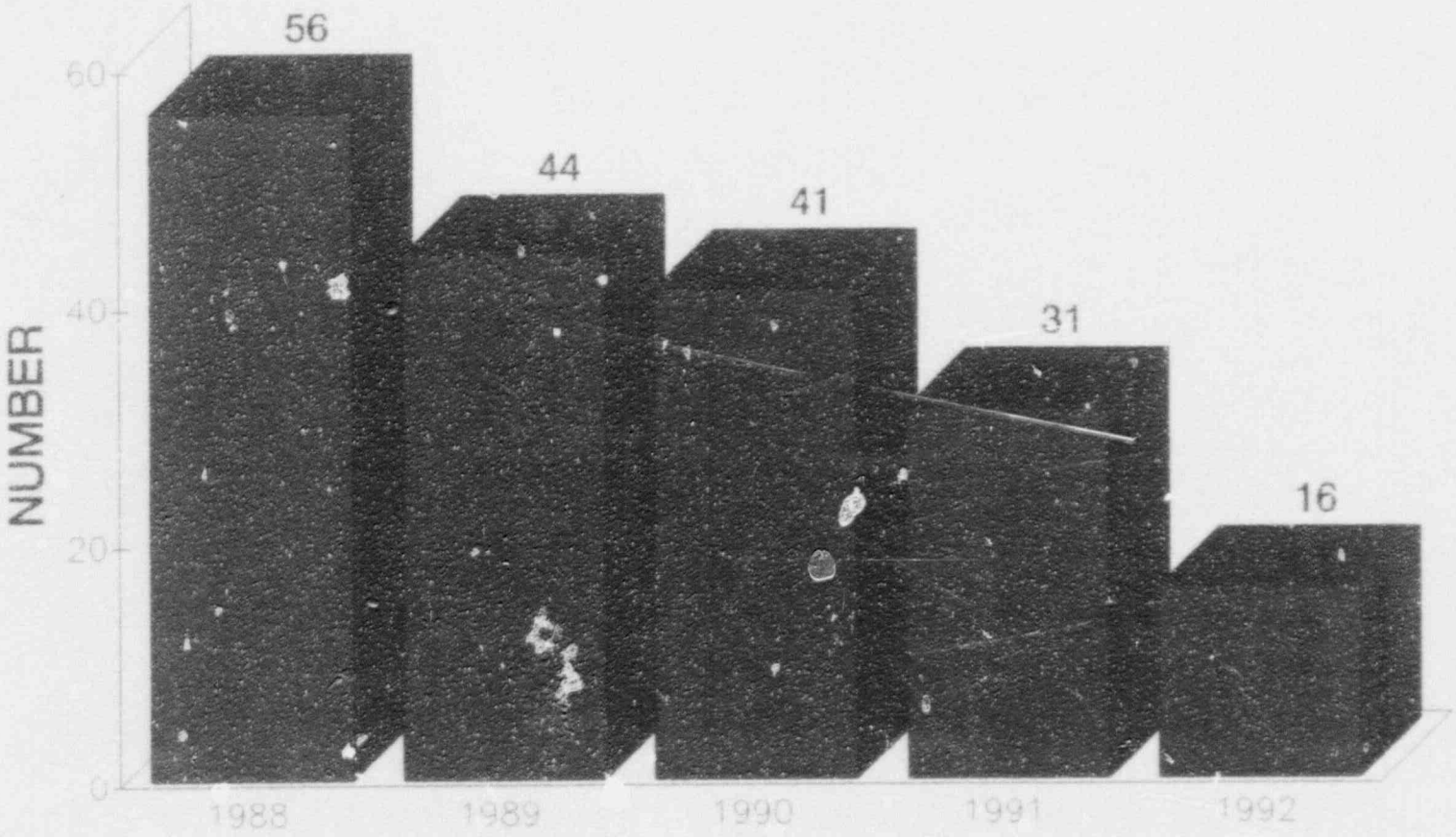


SAFEGUARD EVENT LOG ENTRIES

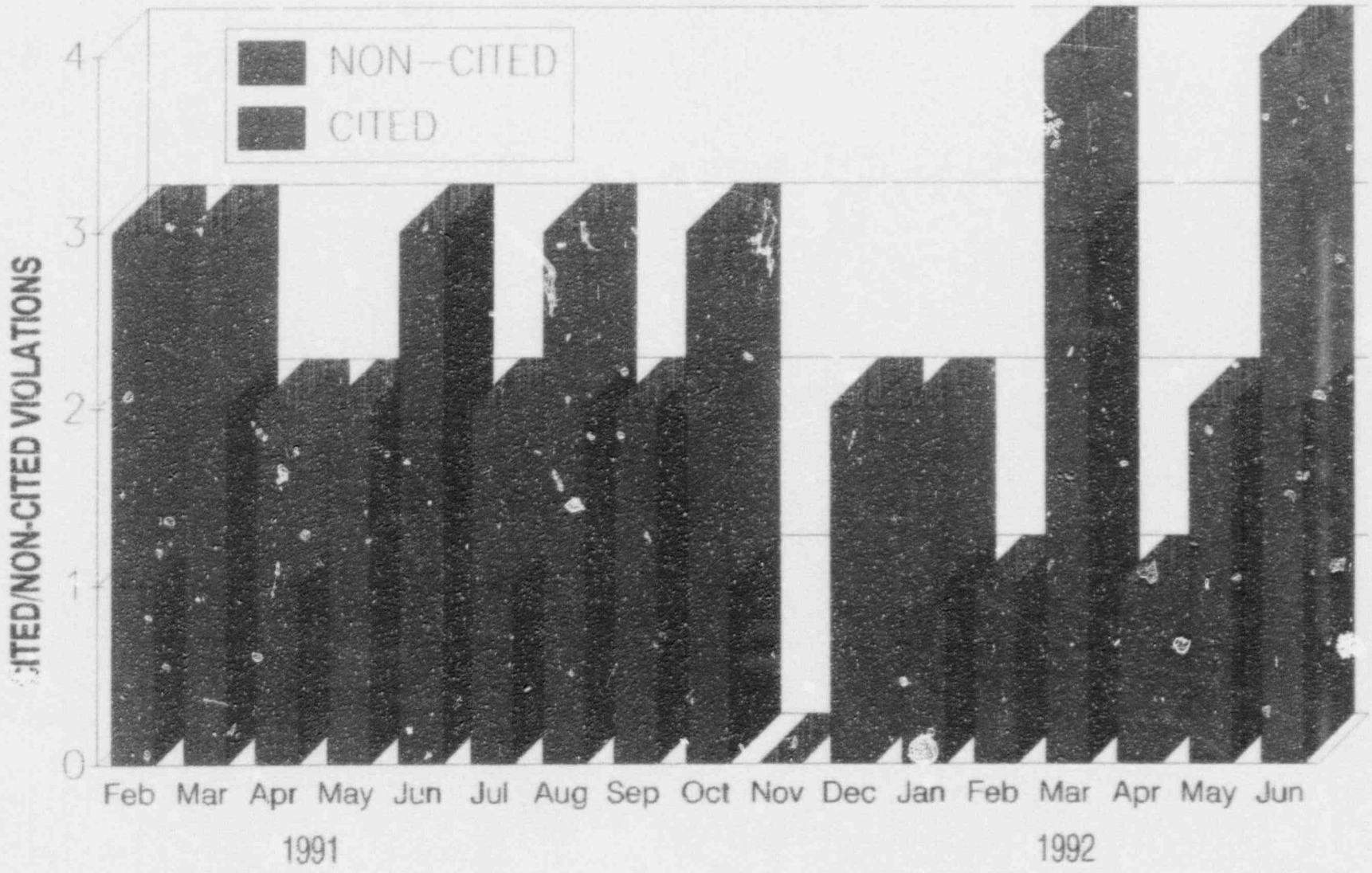


McGUIRE NUCLEAR STATION

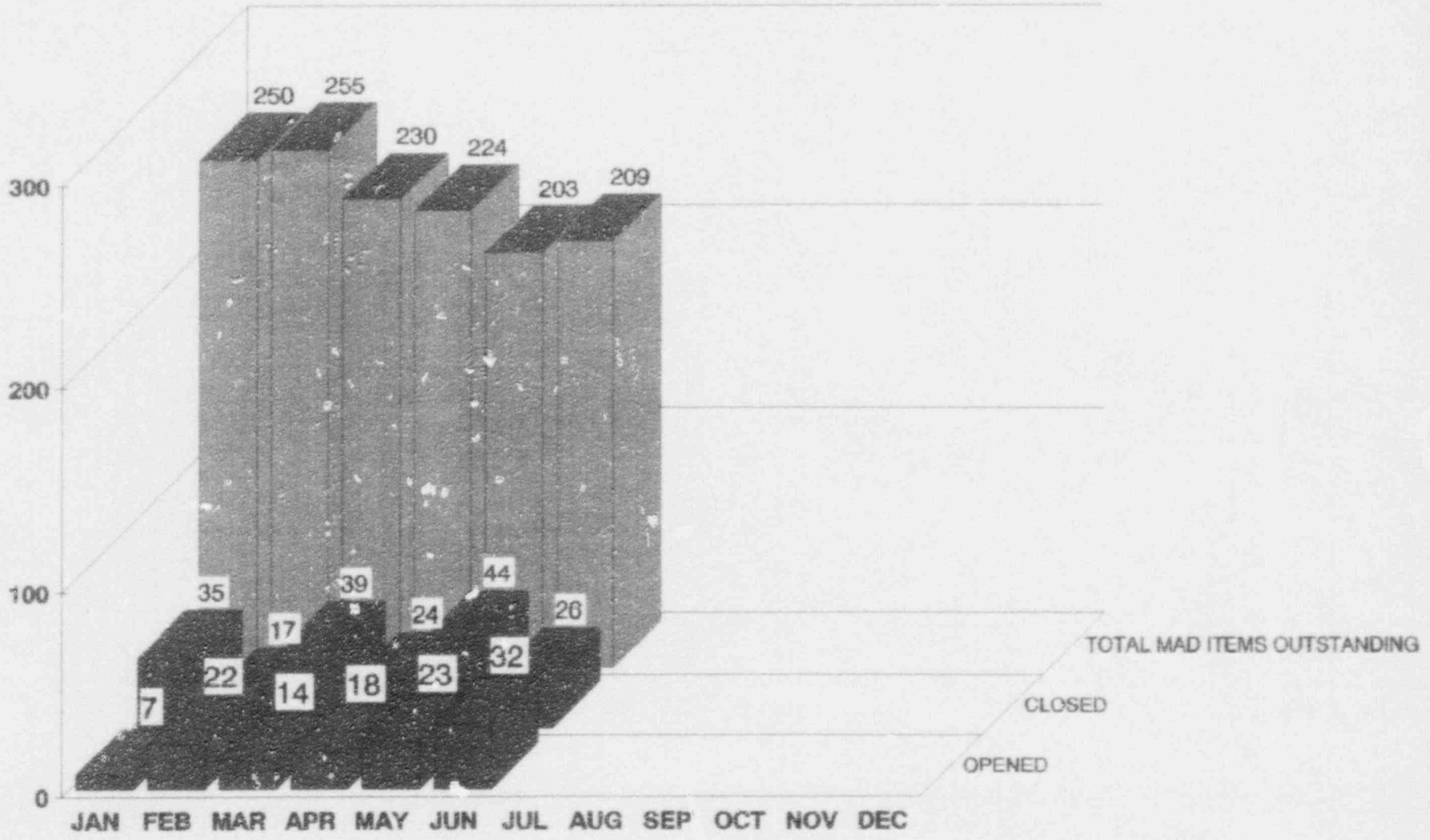
LICENSEE EVENT REPORTS



McGUIRE NUCLEAR STATION
NRC VIOLATIONS



MCGUIRE NUCLEAR STATION
MAD ITEMS STATUS



1992

MCGUIRE NUCLEAR STATION
PIR STATUS