

May 5, 1997

Tennessee Valley Authority  
ATTN: Mr. Oliver D. Kingsley, Jr.  
President, TVA Nuclear and  
Chief Nuclear Officer  
6A Lookout Place  
1101 Market Street  
Chattanooga, TN 37402-2801

SUBJECT: MEETING SUMMARY - SEQUOYAH NUCLEAR PLANT, DOCKET NOS. 50-327 AND  
50-328

Dear Mr. Kingsley:

On April 17, 1997, the NRC staff met at the NRC Region II Office, with Tennessee Valley Authority Management. The purpose of this meeting was to discuss the results of an independent review of Sequoyah Nuclear Plant's recent performance. Enclosure 1 is a list of the individuals who attended the meeting, and Enclosure 2 contains a copy of the material supplied by the licensee at the meeting.

In accordance with Section 2.790 of the NRC's "Rules of Practice," Part 2, Title 10 Code of Federal Regulations, a copy of this letter and its enclosures will be placed in the NRC Public Document Room.

Should you have any questions concerning this letter, please contact us.

Sincerely,

(Original signed by M. S. Lesser)

Mark S. Lesser, Chief  
Reactor Projects Branch 6  
Division of Reactor Projects

Docket Nos. 50-327, 50-328  
License Nos. DPR-77, DPR-79

Enclosures: 1. List of Attendees  
2. Handout Material

cc w/encls: (See page 2)

130077



cc w/encls:

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Mr. P. Salas, Manager  
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Mr. J. T. Herron  
Plant Manager  
Sequoyah Nuclear Plant  
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County Executive  
Hamilton County Courthouse  
Chattanooga, TN 37402-2801

Distribution w/encls: (See page 3)

Distribution w/encls:

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 M. S. Lesser, RII  
 S. E. Sparks, RII  
 F. J. Hebdon, NRR  
 R. W. Hernan, NRR  
 W. C. Bearden, RII  
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OFFICE	DRP/RII					
SIGNATURE	<i>Sparks</i>					
NAME	SSparks.vyg					
DATE	05 / 1 / 97	05 / / 97	05 / / 97	05 / / 97	05 / / 97	05 / / 97
COPY?	YES NO	YES NO	YES NO	YES NO	YES NO	YES NO

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## LIST OF ATTENDEES

### NRC

L. A. Reyes, Regional Administrator, Region II (RII)  
J. R. Johnson, Director, Division of Reactor Projects (DRP), RII  
J. P. Jaudon, Director, Division of Reactor Safety, RII  
M. S. Lesser, Chief, Reactor Project Branch 6, DRP, RII  
D. A. Seymour, Resident Inspector, DRP, RII  
R. W. Hernan, Senior Licensing Project Manager, Office of Nuclear Reactor Regulation

### Licensee Attendees:

O. D. Kingsley, President, TVA Nuclear and Chief Nuclear Officer  
O. J. Zeringue, Senior Vice President, Nuclear Operations

# Sequoyah Nuclear Plant Special Independent Review

- Initiated Sequoyah Review
  - Rate of improvement
  - Performance compared to BFN and WBN
  - Utilized senior managers from BFN and WBN
  - Duration one week with 3 1/2 days in field
- Team Findings Grouped into Two Areas
  - Management methods
  - Excessively broad improvement focus

# Sequoyah Nuclear Plant

## Special Independent Review

- Actions
  - Plan of the Day Meeting
    - Define priorities
    - Coordinate activities and organizational interfaces
    - Cognizance of daily activities
    - Reinforce expectations
    - Highlight specific Management Focus Areas

# Sequoyah Nuclear Plant Special Independent Review

- Management Review Committee
  - Classification
  - Cognizance of problems
  - Review of corrective actions
  - Communicate expectation
- Specific Improvement initiatives
  - Procedure adherence
  - Prejob briefings
  - Sensitive activities
  - SI program
  - Postmaintenance/postmodification testing

# Sequoyah Nuclear Plant Special Independent Review

- Material Condition
  - Switchyard process
  - Designated senior manager

Actions identified will increase rate of performance improvement



## II. POD/MANAGEMENT TEAM MEETINGS

### A. Agenda

#### 1. Daily Agenda

- a. Plant Status
  - Plant Condition/Status
  - LCOs/Equipment In Reduced Status
  - Major Activities Completed In Last 24-Hours
  - Immediate Attention/Priority Work
  - Operations Concerns/Risk Assessment (Ops & Work Week Managers)
  - Disabled Alarms/Instruments Out-of-Service
  - Major Upcoming Events/Site Attention Areas
  - Regulatory Notifications/Near Misses
- b. Integrated Schedule/System Outages/Unit Outage (If Applicable)
  - SI Schedule and Open SI Test Deficiencies
  - Level 2 Schedule Review
  - System Outages
  - Major Evolutions
  - Unit Outages (If Applicable)
- c. Radcon/Chemistry
- d. Industrial Safety
- e. Training Schedule
- f. Security
- g. Housekeeping
- h. Administrative/Plant Impact Issues / Industry Experience

#### 2. POD Day-Of-The-Week Agenda

Days shown below for agenda items may be adjusted by the site.

##### Monday

- Upcoming Licensing / QA Assessments (LIC/QA)
- REP Duty / Incident Forced Outage Response (REP)
- Fire Protection Status Summary (FP)
- Industrial Safety Summary (Ind. Safety)
- Containment Entry WO (Rad/Chem) - PWRs Only

## Tuesday

- System Health Attention Items (1)
- Radwaste Inleakage
- Computer Outage Schedule (Info. Systems)
- Forced Outage Schedule (Sched)
- Training Attendance (Training)

## Wednesday

- Operations Workarounds (Ops)
- Maintenance Performance Indicators (Maint)
- Oil / Water Leakage (Maint)
- Leak Repair Report - Furmanite (Maint)

## Thursday

- TACFs (Tech Support)
- Control Room Panel Deficiency Analysis (Maint)
- Out-of-Spec Routine Readings (Ops)
- ASME Section XI Increased Frequency (Tech Support)
- Installed Catch Containment Devices (Sched)

## Friday

- Summary of Week QA Review
- Summary of Week Licensing (Open NRC Issues, NRC Exits, LER Due Dates) (LIC)
- Outage Look Ahead - Major Milestones (Outage)
- PER Status (QA)
- Monthly Self-Assessment Schedule (2)

- (1) Examples: Rad Monitoring, Maintenance Rule "A1" System Review
- (2) WBN now. Other sites where this is implemented.

## B. Chairman

Operations Manager (or His Designee)

## C. Attendance

1. Site VP
2. Plant Manager

3. Site VP Directs
4. Plant Manager Directs
5. Major Department Managers or Their Designee (maintenance, radcon, chemistry, engineering, systems, modifications, materials & procurement, licensing, site quality)
6. Transmission Power Supply (TPS)
7. Operations Unit Managers, Shift Manager
8. Industrial Safety Manager
9. Scheduling Manager
10. Work Week Manager
11. Managers/Supervisors to Address the Day-Of-The-Week Agenda As Appropriate

### III. MRC MEETINGS

#### A. Agenda

1. MRC reviews all new PERs (levels A, B, C, & D) for concurrence with the classification level and for other corrective action program requirements. New PERs are presented to MRC by the initiating organization (Maintenance, Technical Support, Operations, etc.)
2. MRC reviews all Level A & B PERs for root cause determination and corrective action. MRC will perform a random review of the corrective action for some Level C PERs.

#### B. Chairman

Plant Manager

#### C. Attendance

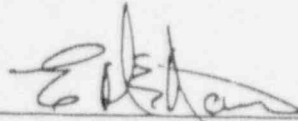
1. Site VP (Periodically)
2. Plant Manager
3. Operations Manager
4. Maintenance & Mods Manager
5. RadCon/Chemistry Manager
6. Training Manager
7. NA&L Manager
8. Site Quality Manager
9. Engineering Manager
10. Training Manager
11. Nuclear Experience Review (NER) Manager
12. In addition to the attendance identified above, each organization may elect to include additional personnel as appropriate.

TENNESSEE VALLEY AUTHORITY  
WATTS BAR NUCLEAR PLANT  
UNIT 1

OPERATIONAL READINESS PROGRAM

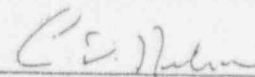
POST MAINTENANCE TESTING  
SELF-ASSESSMENT  
Revision 0

Prepared by:



15/2/94

Approved by:



15/15/94

## I. PERFORMANCE OBJECTIVE

The Post Maintenance Test Program provides the methods, requirements, and responsibilities for preparation, selection, and performance of an effective post maintenance test. A post maintenance test ensures (1) the ability of a particular component or system to perform its intended function; (2) the original deficiency is corrected; and (3) no new problems are created.

The scope of post maintenance testing includes:

Maintenance tests: Visual inspections, go/no-go tests, or other non-quantitative acceptance criteria type tests. These tests do not fall within the scope of the Conduct of Test Program. They are often written in the work document without reference to other existing procedures. They are occasionally included within the post performance section of a site procedure.

Operability and functional tests: These tests prove system or component operation. These are typically more detailed than a maintenance test and depending upon complexity, these tests may or may not fall into the Conduct of Test Program. They range from simple functional tests to Surveillance Instructions which satisfy Technical Specification operability determinations. Simple functional tests are usually covered by a pre-approved site procedure but may be detailed within the work document.

## II. CRITERIA

- Post Maintenance requirements are identified.
- Acceptance criteria and proper review process for the requirements for returning specific equipment to service are established.
- The Work Order (WO) provides specific instructions or cross references a test procedure which provides traceability to post maintenance test data.
- When WOs are received for planning, a review should be conducted to determine post maintenance test requirements and whether or not the proposed repair is to equipment covered by applicable codes or technical specifications or the Post Maintenance Test Matrix. Tests of any equipment affected by code or technical specification requirements should be reviewed by cognizant personnel.

- The Work Orders are reviewed to verify that post maintenance testing requirements listed will provide adequate verification that the equipment will be capable of performing its design function.
- A program is established to control post maintenance testing. When more than one group is involved in the post maintenance test, or there is a situation where the test must be delayed until station conditions permit, performance, then one organization, such as the Operations Department, should be responsible for coordinating testing performance.
- The department performing or having the lead for performing the post maintenance test assigns an individual with overall responsibility for conducting the test and an individual for reviewing test data and determining the acceptability of the equipment.
- If station conditions dictate that post maintenance testing cannot be completed immediately after maintenance is performed or the MR is being held open, some tracking method should be used by the department having lead responsibility for testing until the equipment can be tested. Operators should know the status of equipment on hold for post maintenance testing and minimize the amount of equipment in this condition. This status should be reviewed prior to any scheduled mode change.
- Operational acceptance of the equipment, based on satisfactory post maintenance test completion, is being verified by the Operations Department by signature on the Work Order or other referenced document. Where possible, acceptance criteria should be generated and available prior to the test and should be included or referenced as part of the test instructions.
- If Work Order scope changes are made during equipment maintenance, or means is in place to ensure that post maintenance testing is reviewed for adequacy.

### III. EVALUATION METHODOLOGY

The program objectives and criteria will be verified by:

- Ensure a program owner has been designated.
- Verify that performance indicators are identified and/or in place.
- Verify authority and responsibilities are clearly defined and understood by departmental personnel.
- Ensure personnel understand the necessity for following procedural requirements.
- Verify site interfaces are clearly defined and understood.
- Verify site and corporate interfaces are clearly defined and understood.
- Observe the performance of selected activities to ensure program requirements are adequately implemented.
- Interviews with managers and departmental personnel concerning program requirements, procedures, interfaces, implementation, etc.
- Review of in process and completed documentation for the program being observed.

### IV. OBSERVATIONS

### V. DEFICIENCIES/WEAKNESSES

### VI. STRONG POINTS/GOOD PRACTICES

### VII. RECOMMENDATIONS

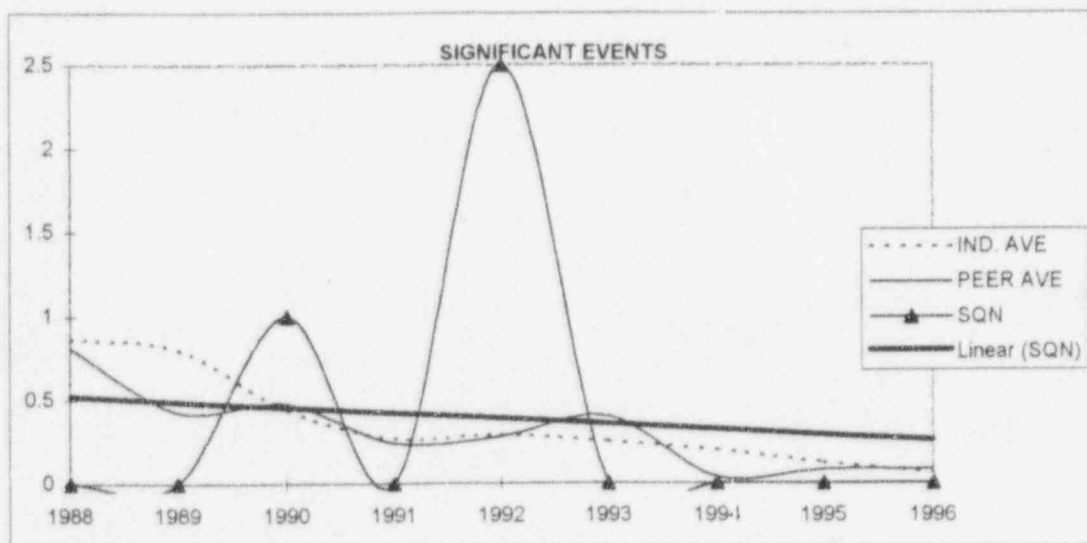
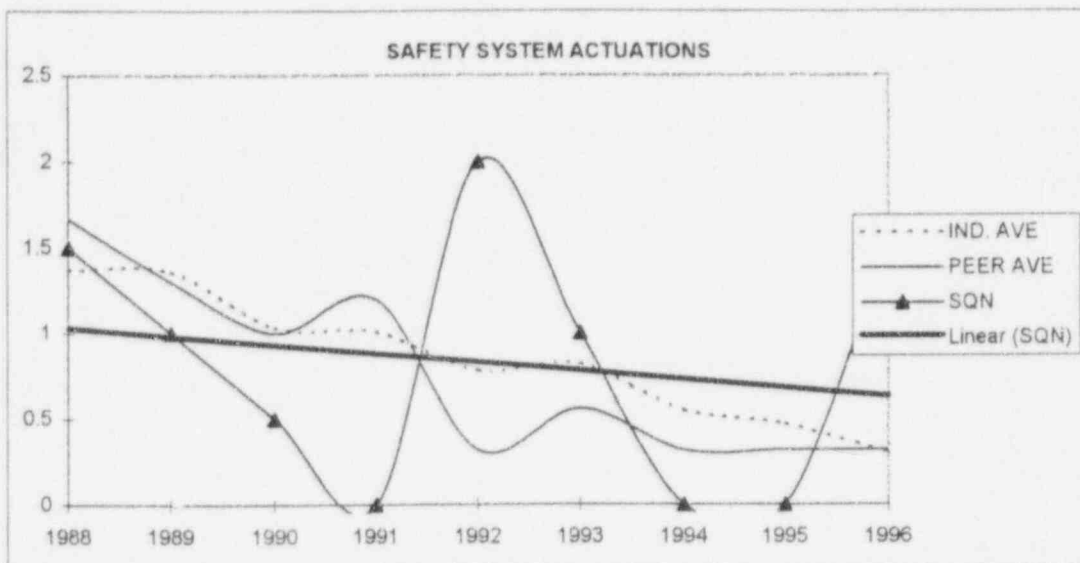
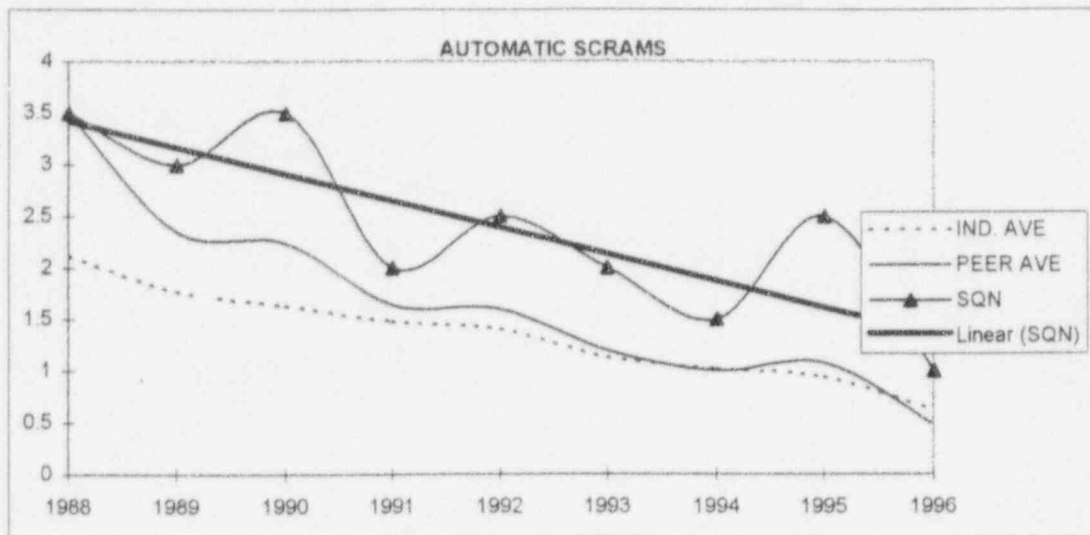


## **SQN PERFORMANCE EVALUATION BASED ON ARTHUR ANDERSEN'S PERFORMANCE INDICATORS**

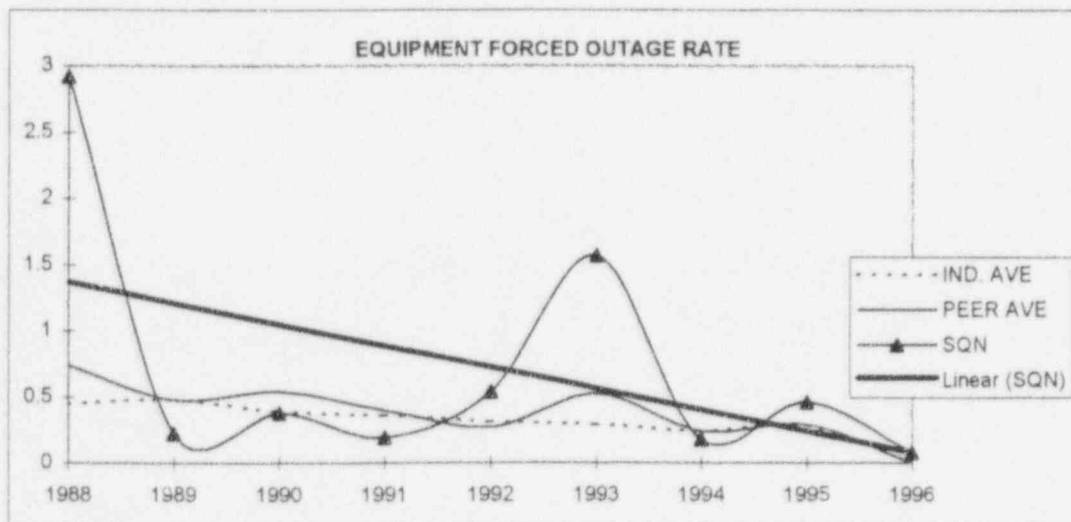
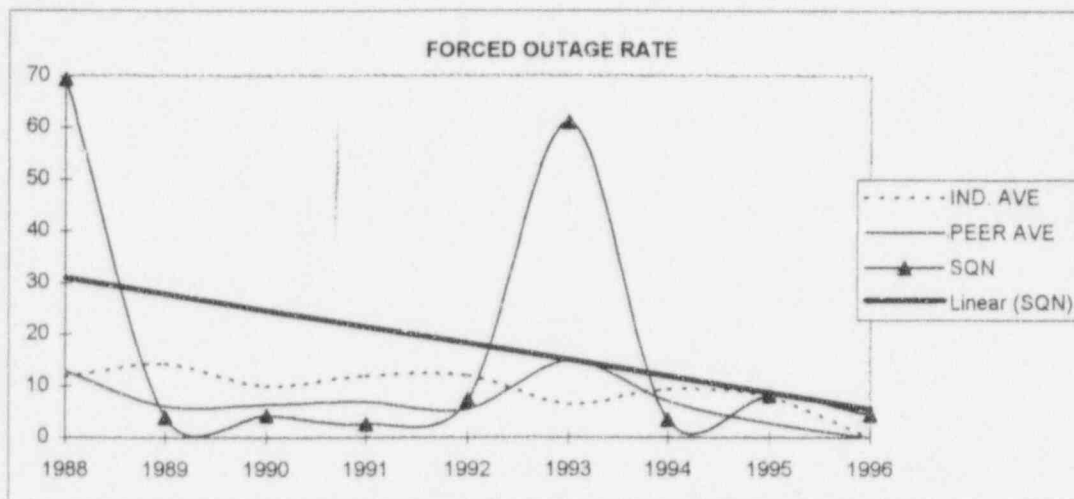
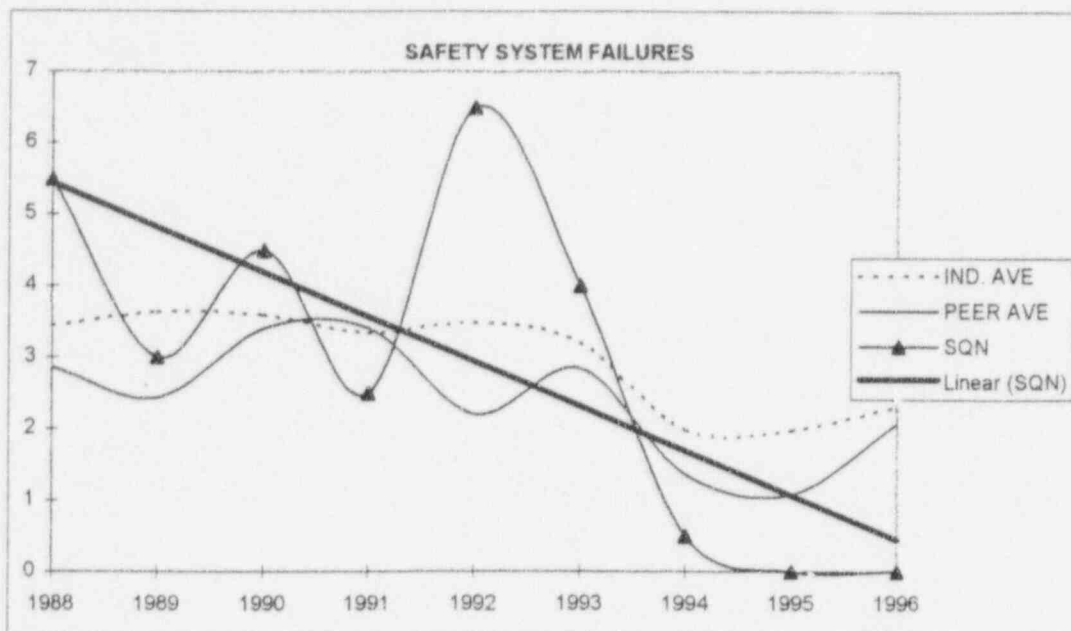
- **TVA has evaluated SQN performance using the same indicators Arthur Andersen employed in its study**
- **Data obtained from NUS Corporation**
  - ☛ **NRC AEOD quarterly information annualized for seven of the nine indicators for period ending on September 30, 1996**
  - ☛ **For the remaining two indicators—allegations and civil penalties—data obtained from documents publicly available**
  - ☛ **NRC AEOD data for the five operations measures that Arthur Andersen used in its “Integrated Performance Model”**
  - ☛ **TVA analyzed data beginning in 1988 to be consistent with Arthur Andersen’s Performance Trend Model**
- **The Arthur Andersen Model is based of “Hits.” That is, deviations from a sliding scale based on industry average. On that basis alone, SQN would exceed their recommended thresholds for discussion in the NRC’s Senior Management Meeting**
- **TVA used linear regression techniques to determine the direction of the trend for each indicator**
  - ☛ **Eight of the nine performance indicators showed an improving trend**
  - ☛ **One indicator showed a stable trend**
  - ☛ **Each of the five operations measures showed improving trends**

- The “primary goal of the Senior Management Meeting is to identify declining trends in the operational safety performance of individual plants so that early corrective actions can be taken.” (Arthur Andersen/SECY-96-93) In light of the improving trends of SQN’s performance indicators, TVA believes that SQN does not warrants increased NRC Senior Management Attention
- TVA took early corrective steps during the 1992-93 period, and has continued to take actions
- Improvements observed. However, SQN has not achieved a level of performance that meets TVA’s goals and expectations
- Also, TVA has validated its technique of evaluating performance indicators. TVA applied its method to the plants currently in the “Watch List”
- SQN is different.
  - ✦ SQN does not show any of the Arthur Andersen’s performance indicators or operations measures with a declining trend
  - ✦ The plants in the “Watch List” have several indicators showing declining trends
  - ✦ On that basis, SQN does not meet NRC’s stated objective for discussion in its Senior Management Meeting: “if a plants safety performance appears to be declining significantly”

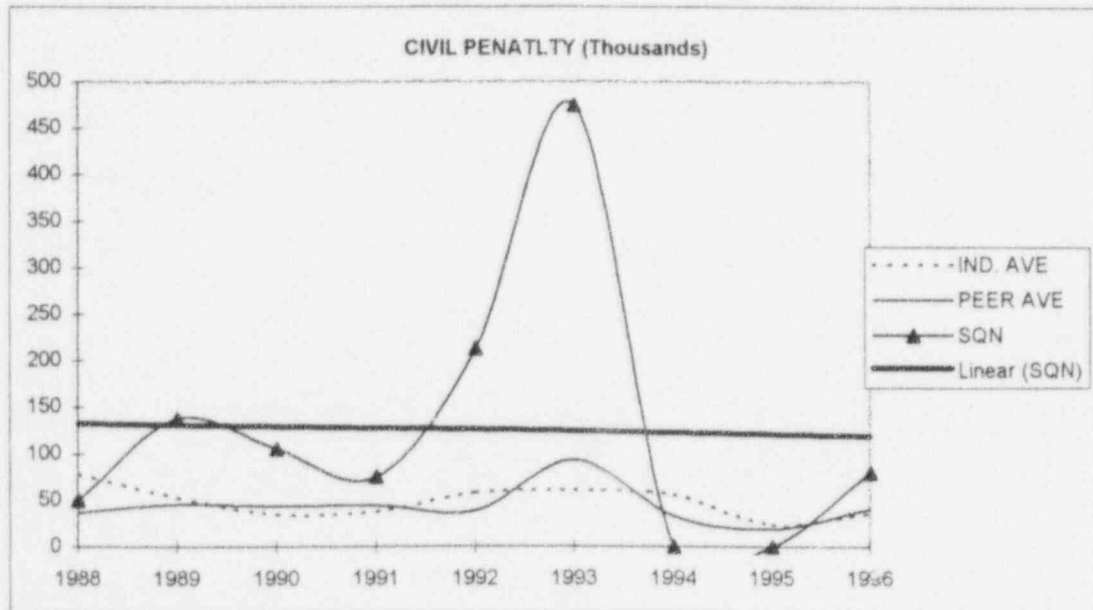
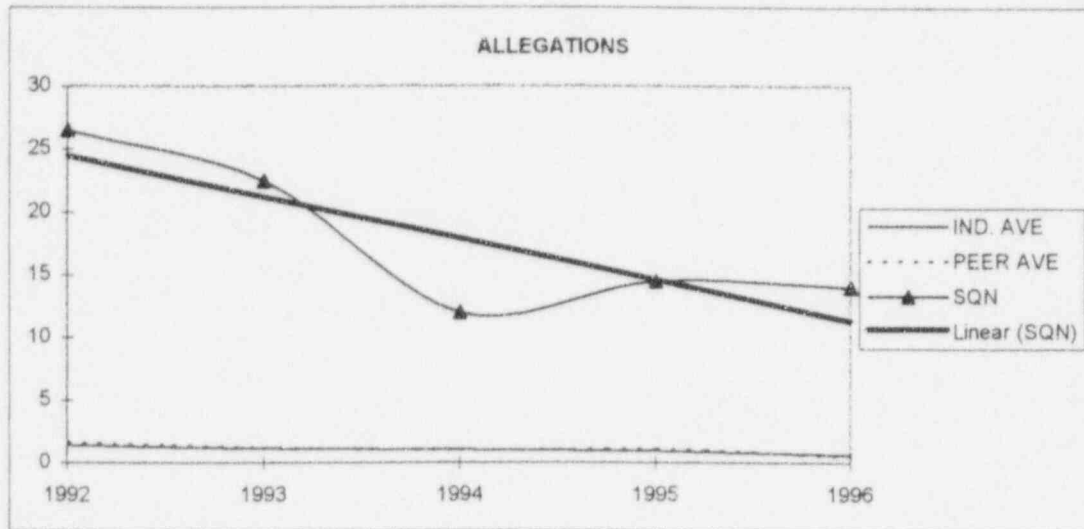
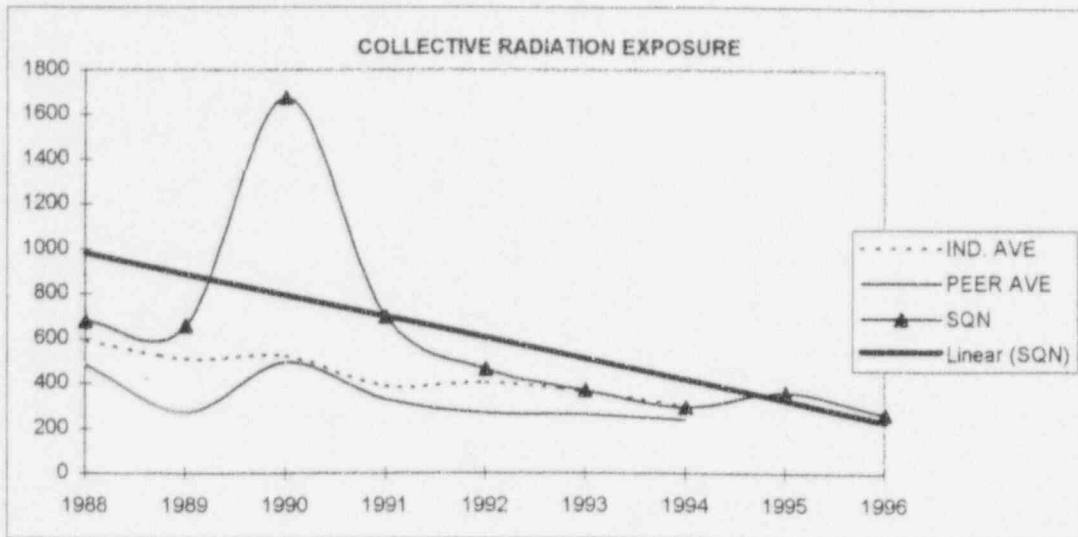
# SQN PERFORMANCE TREND MODEL INDICATORS



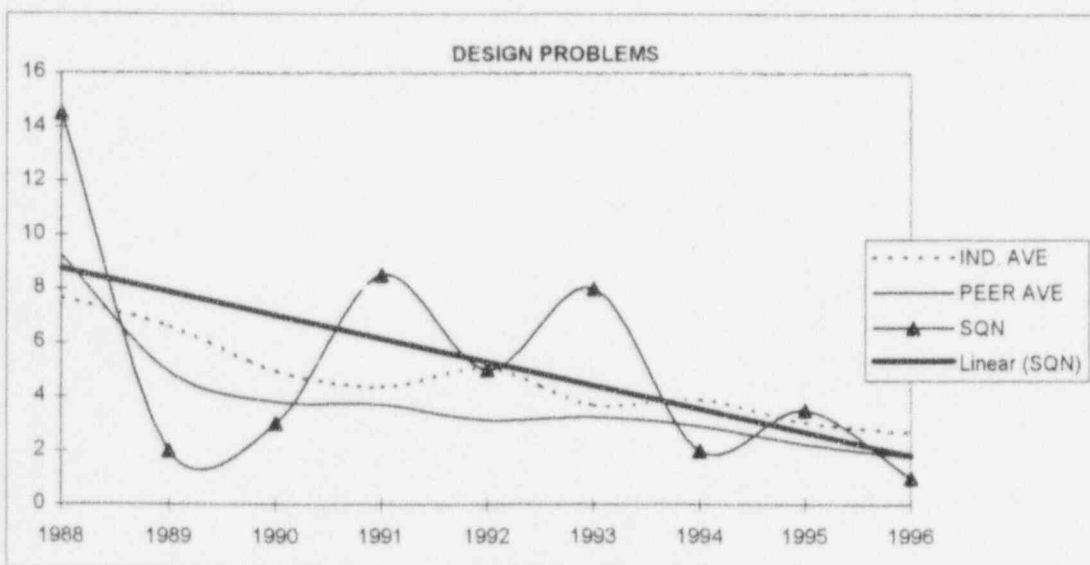
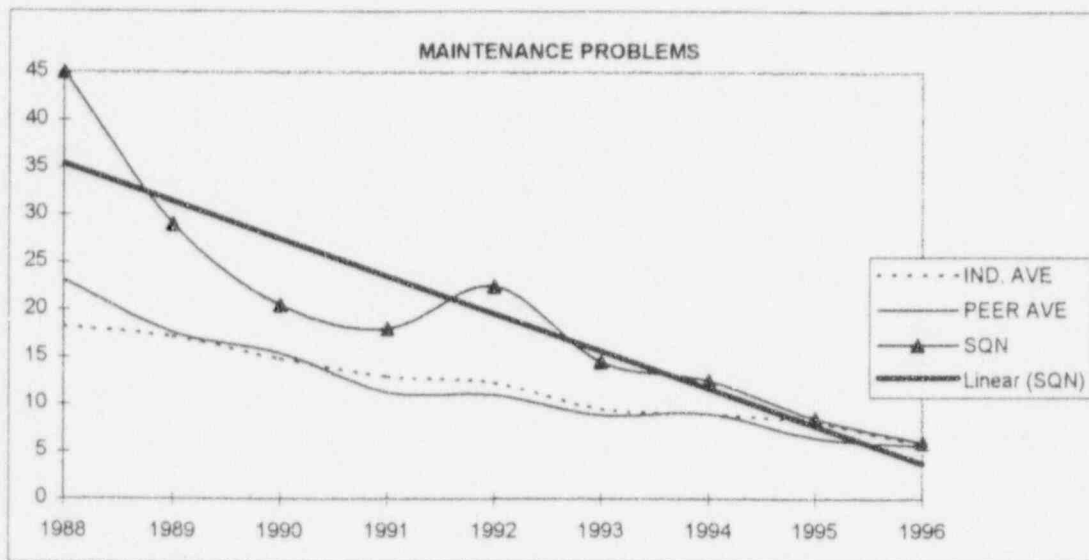
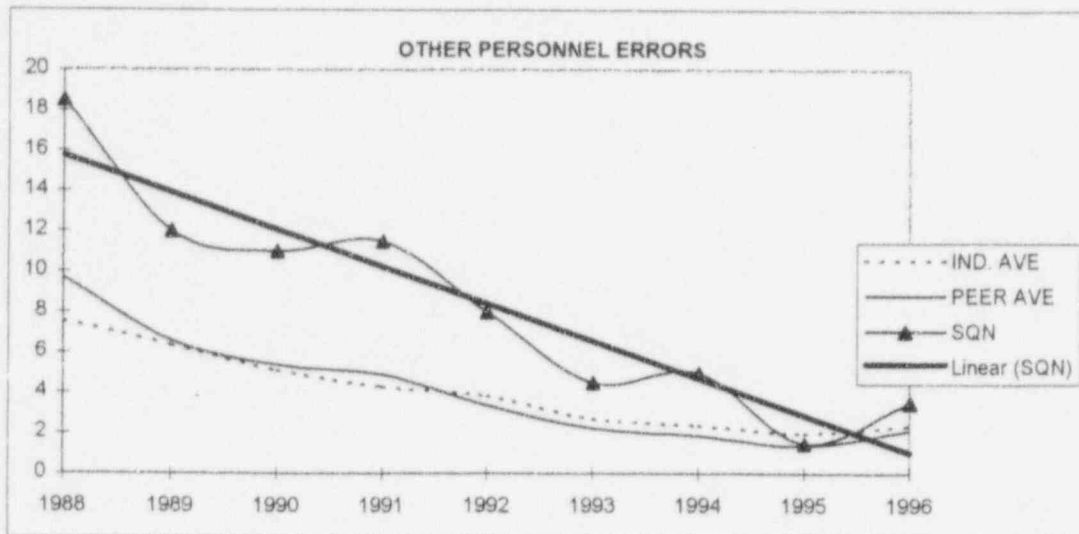
# SQN PERFORMANCE TREND MODEL INDICATORS



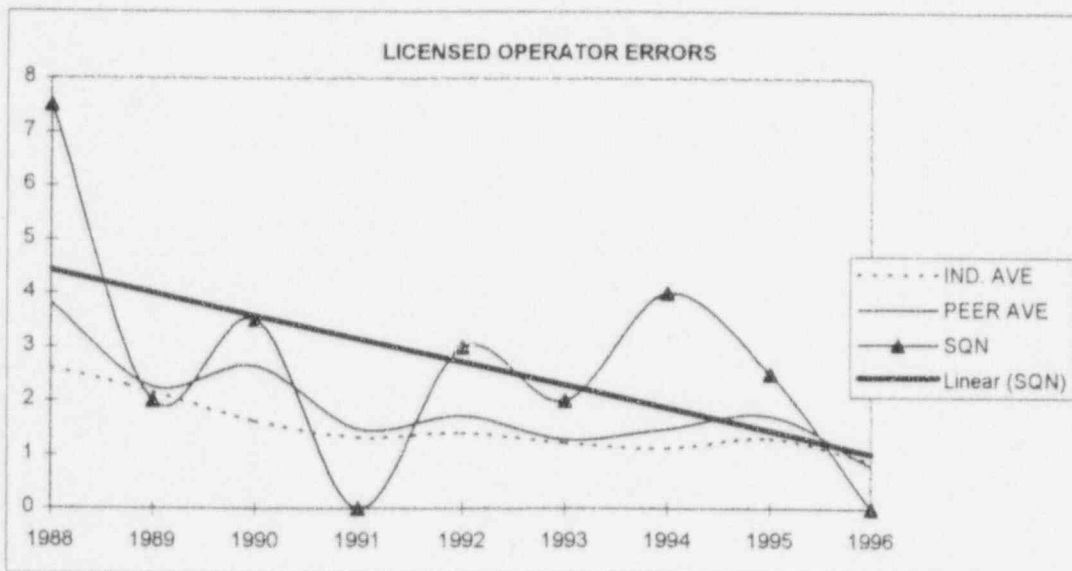
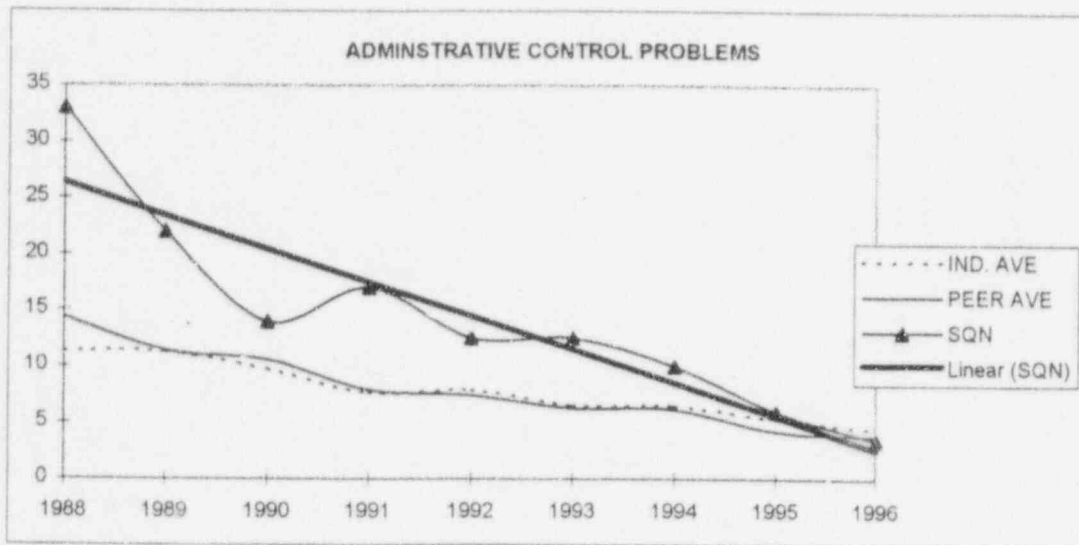
# SQN PERFORMANCE TREND MODEL INDICATORS



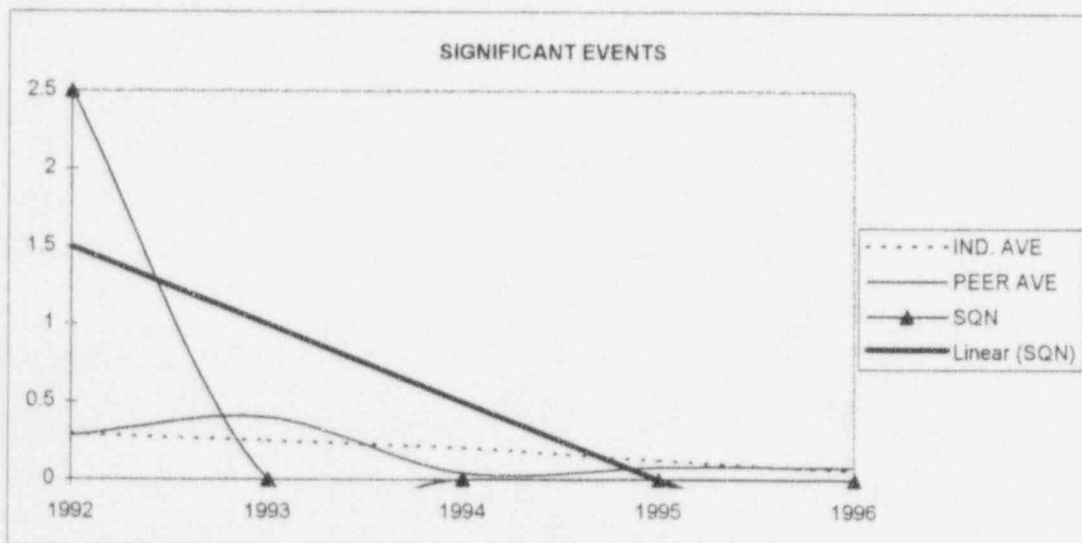
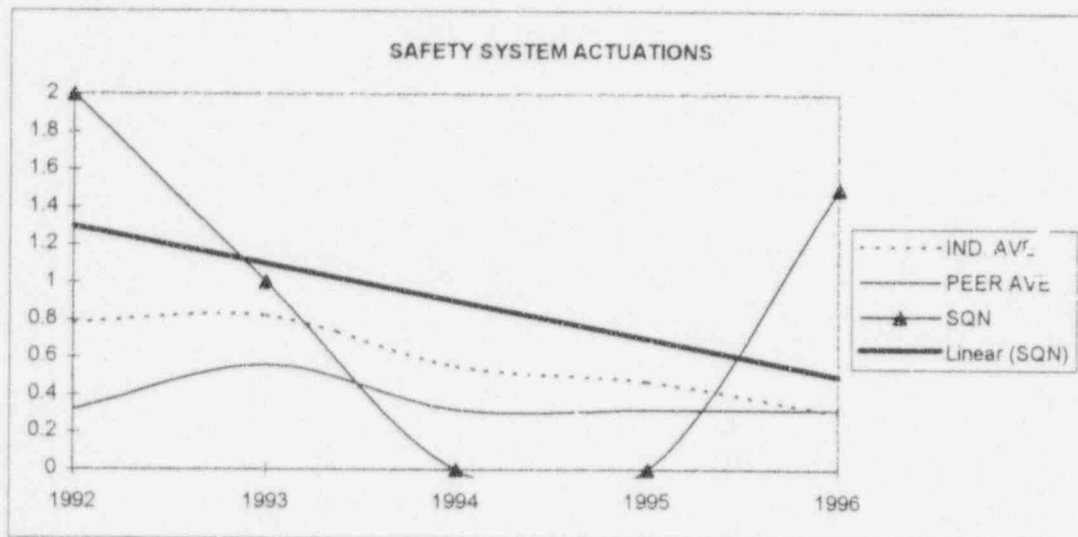
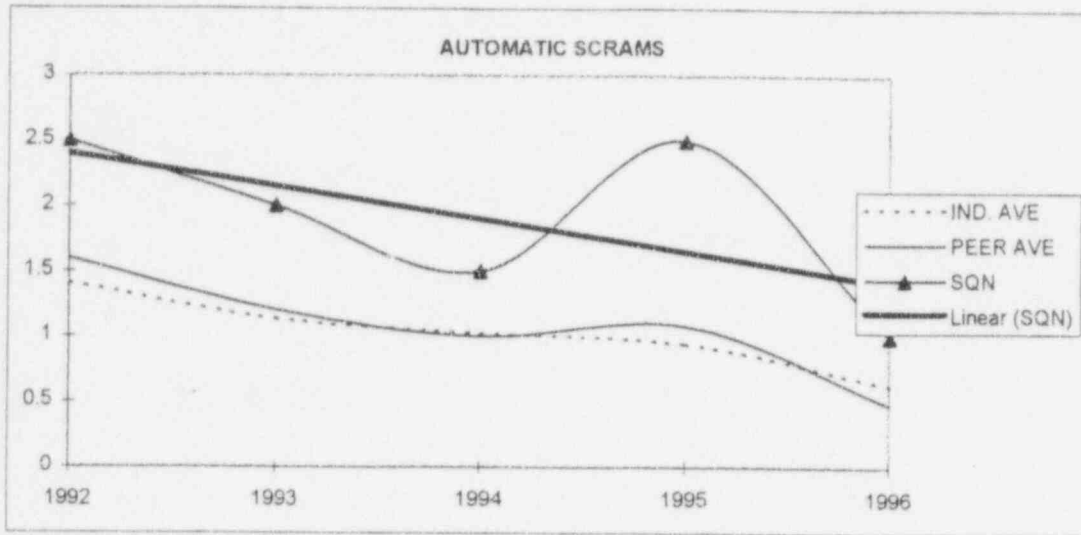
# SQN OPERATIONS MEASURES



# SQN OPERATIONS MEASURES

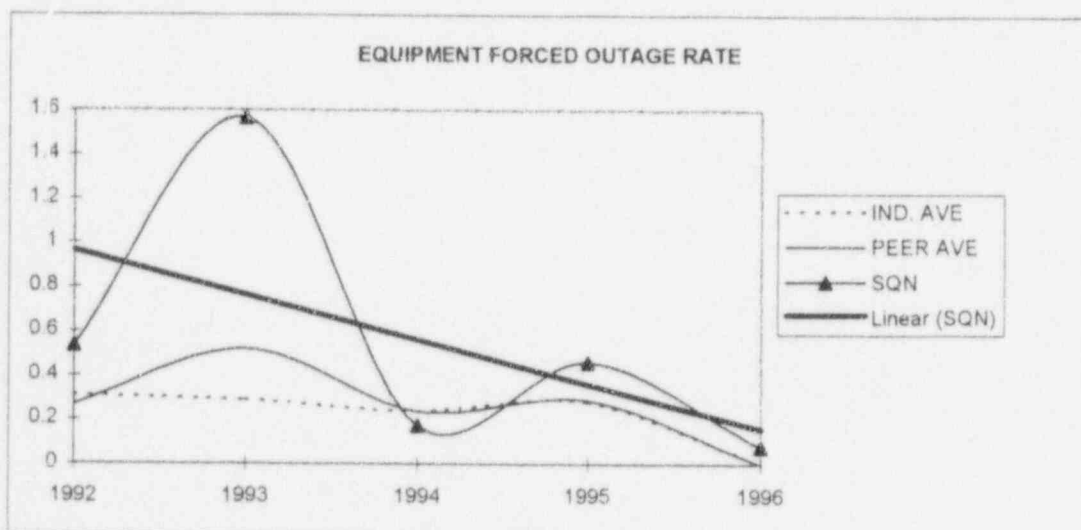
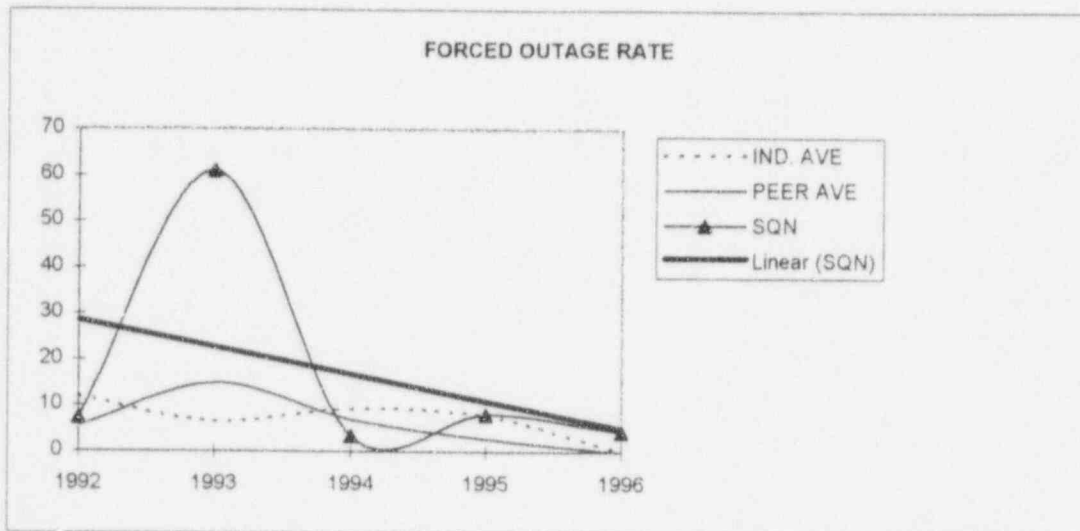
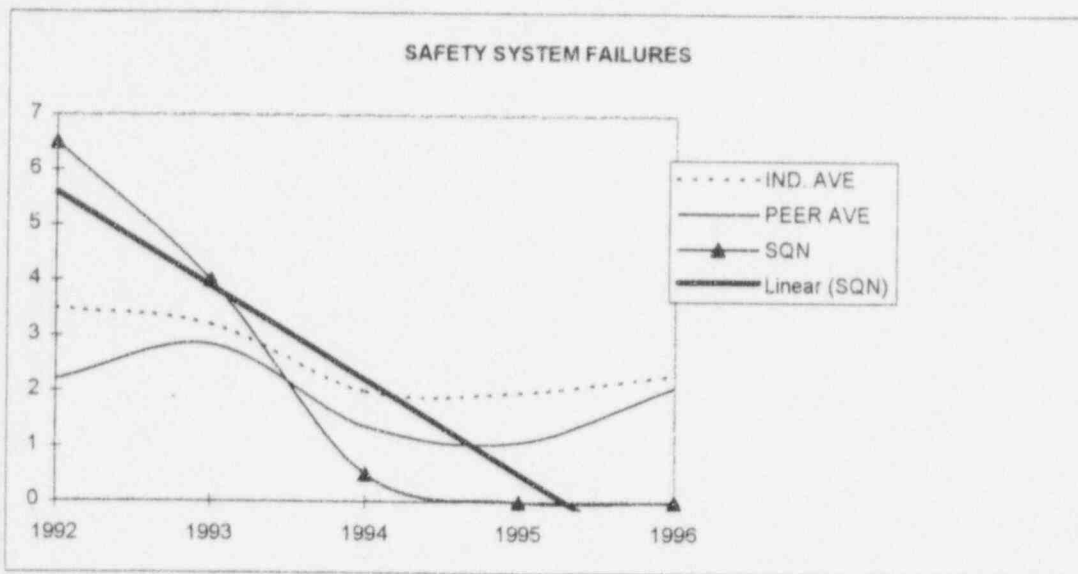


# SQN PERFORMANCE TREND

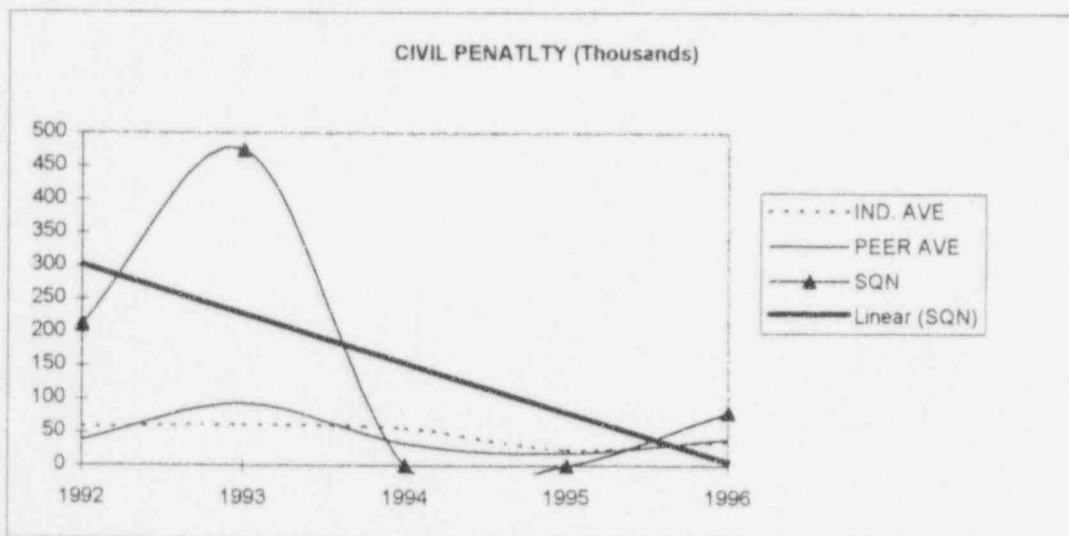
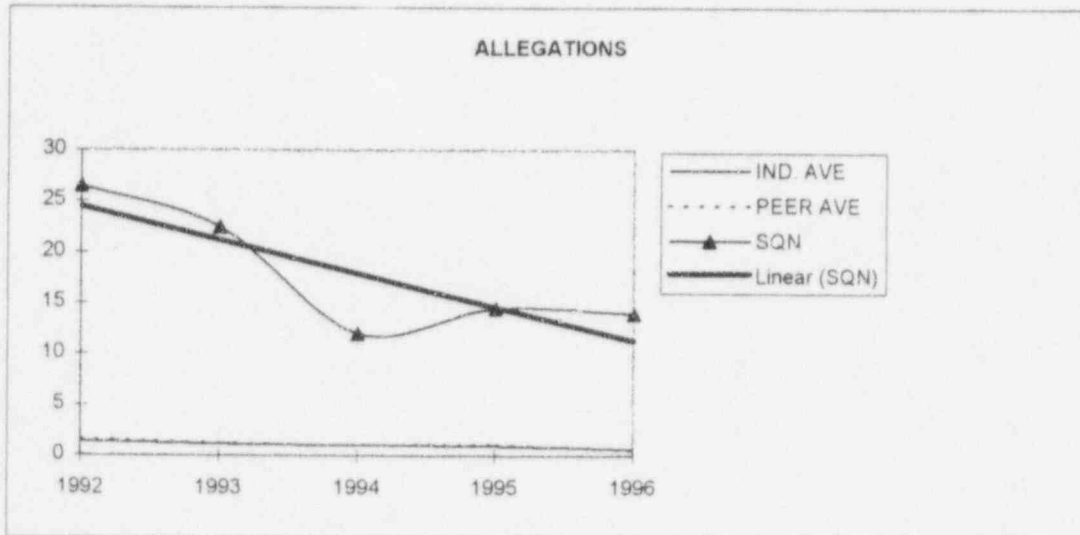
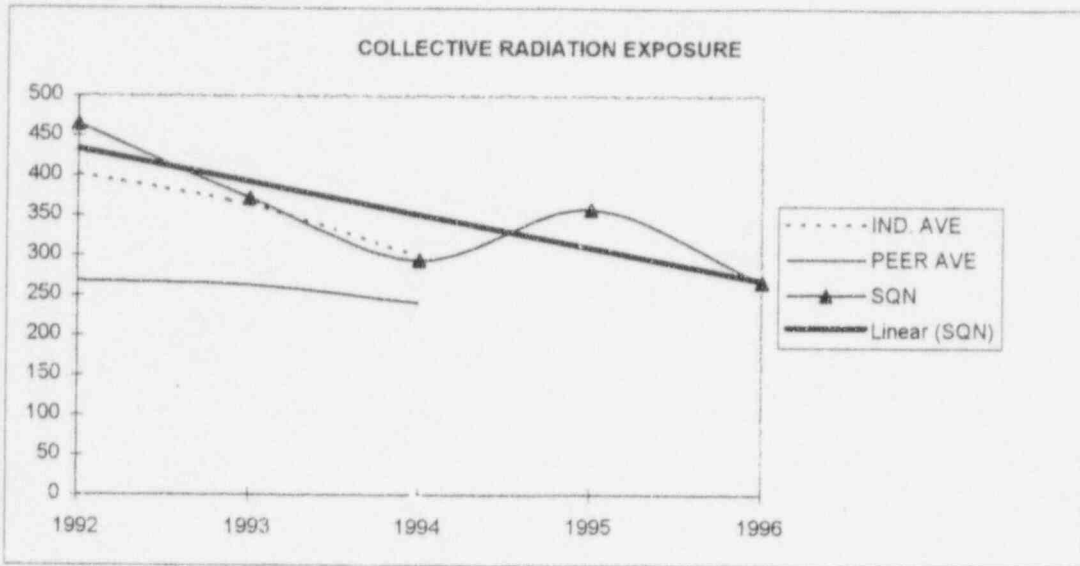




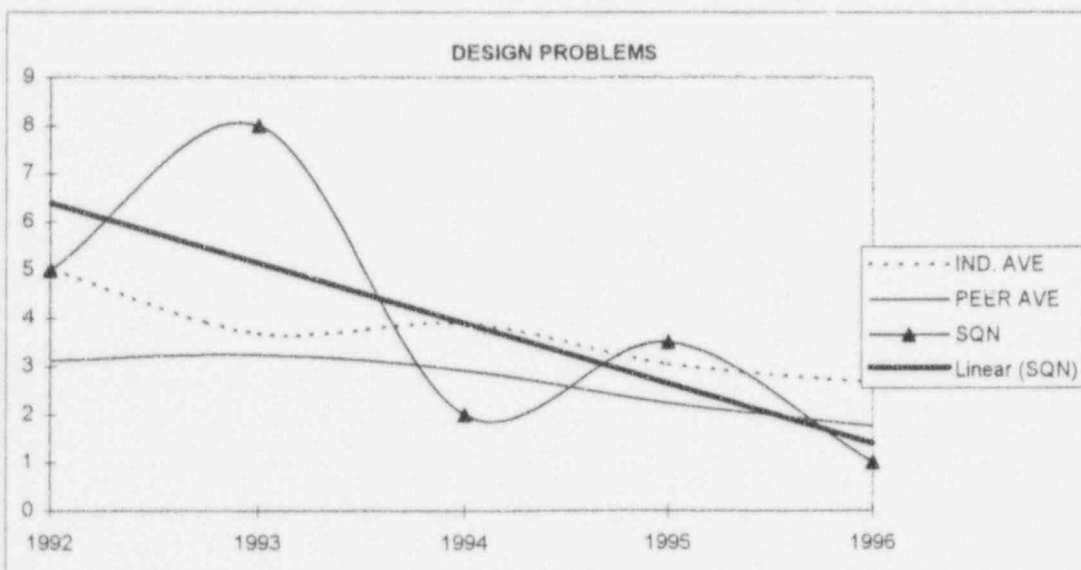
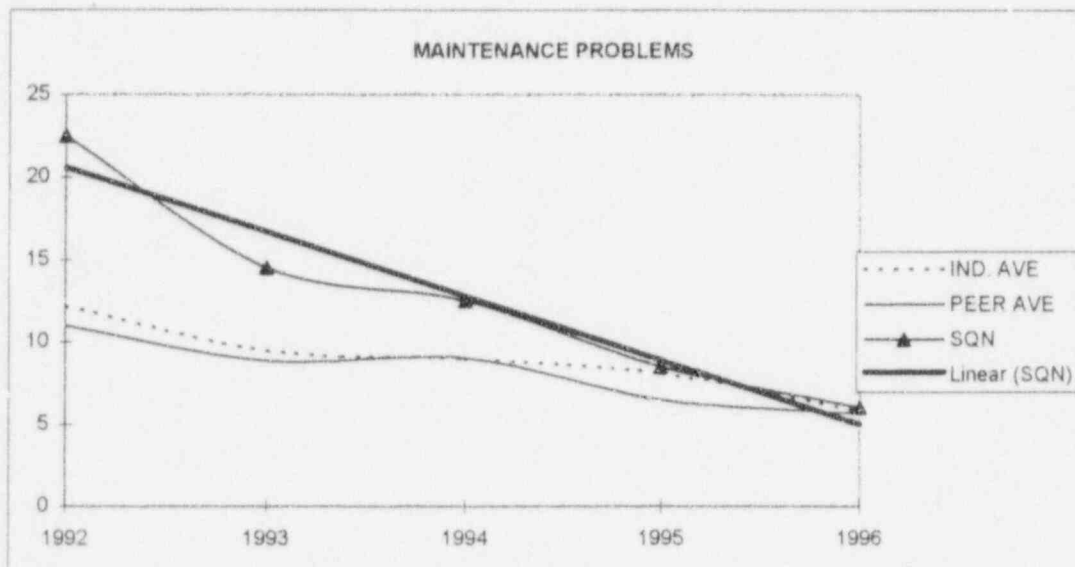
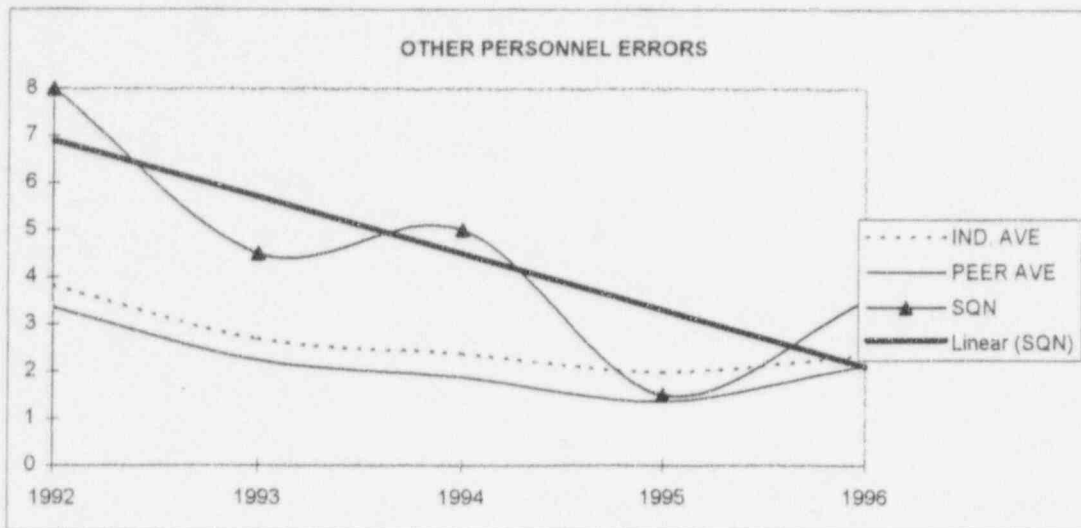
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